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AFTER THE HOLODOMOR: THE ENDURING IMPACT OF THE GREAT FAMINE ON UKRAINE

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Edited by

Andrea Graziosi, Lubomyr A. Hajda, and Halyna Hryn

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Population Losses in the Holodomor and the Destruction of Related Archives: New Archival Evidence

HENNADII BORIAK

THE BIBLIOGRAPHY OF STUDIES of the demographic consequences of the 1932–33 Ukrainian Famine includes hundreds of research papers and dates to the beginning of the catastrophe itself. The declassification of Soviet archives of state statistics in 1987 ushered in the new phase of demographic studies that we have today. Publications of leading historians and demographers—such as Stanislav Kul'chyts'kyi, Stephen Wheatcroft, Steven Rosefield, Robert Conquest, Sergei Maksudov (Alexander Babyonyshev), Vsevolod Tsaplin, Serguei Adamets, Serhii Pyrozhkov, Arnol'd Perkovs'kyi, Oleh Wolowyna, Jacques Vallin, France Meslé, Omelian Rudnyts'kyi, and others—present a wide range of population loss estimates derived from the same set of statistical sources.

In historical literature, the most comprehensive review of these estimates and of the sources used was published in 2003 by Kul'chyts'kyi.[1] At a conference in Kyiv in September 2008, a group of authors from the Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine made public the first official report on the reconstruction of the main parameters of the demographic dynamics in Ukraine during 1927–38.[2] They concluded optimistically: "A massive legacy of statistical data, as yet considerably scattered among archives, is still awaiting analysis."[3] I agree with this prognosis wholeheartedly with only one reservation—namely, that the aforementioned statistical legacy is not scattered, but concentrated in the archives.

As an archivist and historian, and not a demographer, I would like to characterize in some detail the source base, or as demographers say, the demostatistical legacy of the 1920s–1930s. Practitioners typically identify three components of this base:

1. MATERIALS OF THREE POPULATION CENSUSES: 1926, 1937 AND 1939. The 1926 census was performed under remarkably positive conditions and became a leading example of the best methodological and organizational practices. The culture of census taking and statistical processing was more developed in Ukraine in comparison to the all-Union level, especially with regard to data

analysis. For example, census results in Ukraine were published first as a three-part serial entitled "Preliminary Results," followed by a ten-part publication entitled "Brief Summaries," and finally fifty-six volumes of data.[4]

The 1937 census was also prepared and performed appropriately, although some procedures were streamlined. Its tragic fate is common knowledge as it could not hide huge population losses, particularly for Ukraine: the demographic decline amounted to 4.3 million persons compared to 1926. For half a century, a special resolution of the Council of People's Commissars of the Ukrainian SSR (RNK) proclaimed this census defective because of population undercounting. Census materials were classified and individuals linked to the conduct of the census were repressed. The surviving fragments were published for the first time in Moscow only in 1991, and more recently in 2007.[5]

In terms of related materials, there are statistical appendices to memoranda from 1935–37 addressed to party and state leaders of Ukraine from O. Asatkin, head of the Administration of Economic Accounting of the Ukrainian SSR (Upravlinnia narodno-hospodars'koho obliku; hereafter UNHO). This unique document collection from the former party central archives of Ukraine was published in 2003 in Kyiv by Hennadii Yefimenko. The material contains data on the current state of population registration in 1935, preliminary results of the 1937 census based on oblast and raion administrative divisions, and other documents on rational and technical aspects of the 1937 census.

The third census, conducted in 1939, was recognized by the Kremlin as satisfactory in the context of demographic forecasting. A brief census summary was published in the spring of 1941, and the major results in 1992.[6]

2. THE SPECIAL REGISTRATION of the urban population in Ukraine undertaken in 1931 as a consequence of the rapid growth of urban centers. The result was published in a special edition in 1933.[7]

3. STATISTICAL DATA ON THE ONGOING NATURAL AND ORGANIZED MIGRATION. This information was the result of the successful development and implementation of a statistical survey system for tracking population movement in Ukraine. The network of ZAGS (Civil Registry of Vital Statistics) offices became a key unit of state statistics.

Notably, Ukraine successfully developed (in comparison with other republics) a ZAGS program. The national statistics strongly emphasized social and ethnic components, and various combinations were implemented in the processing of current data. In addition to annual summary reports, monthly preliminary reports were released on a regular basis. These materials were openly published in the late 1920s to early 1930s with a high degree of regularity (in particular, in more than 150 issues of the *Statistics of Ukraine* UNHO series). These sources today remain understudied.

Fragmentary data on the payment of agricultural taxes compiled by the People's Commissariat for Finances of the Ukrainian SSR (Narkomfin) can

also be considered here, since estimates of the rural population based on this data should be quite accurate.[8] For that reason the accuracy of the 1934–35 registration data of the Narkomfin with regard to the rural population and, consequently, the demographic decline in Ukraine were subject to sharp criticism by the party leaders.

The three demo-statistical components just described form the basis for research of the famine's demographic consequences. In fact, almost all of these statistical records are in Moscow in the records of the Central National Economic Survey Administration (Tsentral'noe Upravlenie narodno-khoziaistvennogo ucheta) under the Gosplan of the USSR, which are located today in the Russian State Archives of the Economy (RSAE, fond 1562). The extremely good state of preservation of the above documents in Moscow is significant, taking into account the absolute poverty of similar archival fonds of the Ukrainian authorities in Kyiv, above all, UNHO and Narkomfin, which do not have even a single scrap of data from the population census, current statistics, or taxation registry.

Now let us focus on some related new archival sources.

Death Registers

The 1932–33 death registration books of local ZAGS offices are a completely different type of source than the above-noted statistical data, and most importantly, they have not been studied or included in the demo-statistical source base. There has been a broadly held belief since the early 1990s that these books were destroyed during the transfer of ZAGS to the People's Commissariat for Internal Affairs (NKVS) in 1934.[9] But this turns out not to be the case.

In 2007 the seventy-five-year statute of limitation for the 1932 death registers held in local archives of the Ministry of Justice of Ukraine ran out. Until then these records were closed to researchers due to their sensitive personal information. When, against all expectations, the number of books that survived became known, the State Committee on Archives of Ukraine launched a large-scale project to transfer all of these registers to state archives to ensure their preservation. As a result 3,539 books were collected. These represent more than 4,800 localities (in most cases, village councils), amounting to 42 percent of all settlements in Ukraine as of 1933.

The largest number of books come primarily from the northeastern regions: Sumy and Kharkiv oblasts (698 and 593 books respectively). Dnipropetrovsk oblast and Zaporizhzhia oblast have about 260 books each. Vinnytsia oblast has 180, Chernihiv 170, Odesa 165, Cherkasy 162, Khmelnytskyi 103, and 129 books come from Kyiv oblast. Fewer than 100 books are in Zhytomyr oblast (87), Kirovohrad oblast (82), and in the city of Kyiv (77). The smallest number

of books is found in the southeastern regions: Poltava (44), Mykolaïv (64), and Kherson oblasts (15).

Geographically, the following present-day oblasts are represented most comprehensively: Chernihiv (92 percent of the territory), Zaporizhzhia (90 percent), Sumy (80 percent), Kyiv, Khmelnytskyi and Dnipropetrovsk oblasts (all 70 percent), Kirovohrad oblast (60 percent), Zhytomyr oblast (54 percent); least well documented are Luhansk and Cherkasy oblasts (about 50 percent), Kherson (40 percent), Poltava (38 percent), Mykolaïv (24 percent), and Odesa oblasts (20 percent).[10]

According to preliminary estimates, the above books cover from one third to one half of the territory of the Ukrainian SSR. The number of registered deaths amounts to 654,636 for two years. But what does this number tell us?

First and foremost, we are reminded again of the European-like standard of death registration that was practiced. The "Guidelines on Procedure Related to the Recording of Deaths in Death Registration Books" dating back probably to 1930, clearly instructed registrars to handle these records as "state documents" and to store them in good condition in "safe places."[11] Registrars would be penalized for inaccurate or deliberately false registration as well as for the lack of information or for damaging books.

The books were prepared in a single copy, but vital statistic records had to be recopied, and the copies sent monthly to a local state statistical body for processing and then returned for permanent storage. This procedure had been in operation since 1930.[12] And according to the "Guidelines to Archival Matters in Village Councils [...]" issued by the Central Archives Administration in 1932, vital statistics books were to be kept on site and not transferred to city or district archives. Transfer terms and procedures had to be defined by a special order of the All-Ukrainian Central Executive Committee (VUTsVK).[13]

There are at least four types of forms found in these books.

1. The standard (and the most common) form was highly detailed and included nineteen items (according to the above-mentioned 1930 guidelines): (1) name; (2) permanent residence and address; (3) date of death; (4) sex; (5) age; (6) for children less than one year old: date of birth; birth order in the family (e.g., first, second, etc.); mother's marital status, parents' age; (7) citizenship; (8) nationality; (9) marital status of the deceased; (10) social status (independent/dependent); (11) occupation, position; state provision (pension, stipend); other allowance sources; (12) occupational position: worker, employee, artisan; for peasantry: member of kolkhoz (commune, artel etc.) or not; (13) name of enterprise, institution, organization; (14) where died: at home, in hospital, orphanage; provision of medical assistance; (15) cause of death according to the death certificate or the declarant; (16) permanent residence of the declarant; (17) signature of the

declarant; (18) signature of the registration officer; (19) notes, including all mistakes and corrections made during registration.

2. Occasionally a simplified registration form was used even though it was not specified in the 1930 guide. It listed more precise questions with regard to the social status of the deceased person; namely, independent/dependent, means of subsistence, workplace, etc.
3. The third version was the simplified form without the nationality line.[14] It was in circulation since mid-1933. Thus, the ethnic component of the death statistics unexpectedly disappeared, at least, from certain records.
4. Finally, in cases where no registration form was available, blank sheets of paper were used for brief registration; as, for example, in Romankovo village, Dnipropetrovsk oblast (its death record book was published in 1992).[15]

Generally speaking, this was a system which, under normal conditions, could have ensured the efficient registration of natural population trends. Of course, it could not work in full measure under the extreme circumstances of starvation, which paralyzed the work of the ZAGS offices. There is numerous documentary evidence testifying to mortality underestimates. According to the Central Statistics Administration in Moscow in 1933, only 50 percent of deaths were registered in Ukraine.[16] Yefimenko published another piece of evidence—the report by the Deputy Commissar of People's Health Care of the Ukrainian SSR addressed to Stanislav Kosior (June 1933)—which stated: "Without any doubt, official figures related to the number of those who died from starvation significantly deviate from the real situation." To prove the point, the document cites the following data from Kyiv oblast: in Skvira district the number of people who died was two times greater than recorded; in Volodarka district, four (!) times.[17] Countless GPU (State Political Administration) reports also state that in many places vital statistics offices stopped registering those who died because of the high mortality rate or the absence of registrars.

Consequently, in April 1933, Ukrainian authorities resorted to a unique statistical experiment, transferring the ZAGS role in registering deaths to district outpatient clinics, with the aim of merging the medical certification of deaths with legal death records. The "Project to Streamline the Death Registration Procedure" was discussed at the Kyiv Health Care Institute in meetings with leading physicians, demographers, and UNHO experts.[18]

Apparently the enormous scale of mortality, the obvious failure of local registry office workers to provide comprehensive death registration, and pressure from the top to decrease the real mortality figures were behind the attempt to innovate.

According to the minutes of a meeting on 13 April 1933, Kyiv scholars tried desperately to implement the "double" assignment: on the one hand, "to ensure

active participation of health care institutions in death registration procedures as one of the preconditions for improved operational management in the campaigns to lower death overrepresentations" and, on the other hand, to follow their professional ethics—that is, to ensure accurate and appropriate registration of deaths. It was also suggested that local medical personnel would have a better awareness of the reasons for death in a specific region and that this "would enable them to undertake efficient measures against mortality." Unfortunately, the subsequent fate of the project remains unknown.

Thus, it is clear that in the context of the newly available ZAGS record books, the statistics we have are essentially incomplete. Furthermore, extrapolations based on the available data on population losses that attempt to back-calculate the number of deaths that would have been recorded in the hypothetical total volume of books result in unexpected figures that coincide completely with the present-day minimal estimates of Holodomor deaths based on the census and other data. According to preliminary calculations, the probable number of books produced in 1932–33 could amount to 10,000 units. Respectively, the number of death records could amount to 1.5 million registrations. Taking into account the fact that the ZAGS records underestimated the deaths by at least one half, the true number of registered deaths could have amounted to 3 million persons if registered properly.

The "cause of death" vital statistics are truly unique data which, of course, require specific expertise to study. The general clinical presentation of deaths in Ukraine covers about two hundred diagnoses; their typology and frequency varies with region, season, age, sex, occupation, etc. Thus, direct indications of death because of starvation ("exhaustion," "avitaminosis," "dystrophy," "dropsy [edema]," "lack of protein," "unbalanced diet," "starvation," "malnutrition," "bread-free," "eating chaff," etc.) constitute 7–10 percent (for Khmelnytskyi oblast) to 20 percent (Luhansk oblast) and even up to 30 percent (Cherkasy oblast) of the total registered deaths, contrary to the 1.5–2 percent that was stated in an earlier paper.[19]

In most cases (30 to 50 percent of all vital statistics registers) the cause of death was indicated as "unknown," "not identified"; sometimes the identified "starvation" diagnosis was falsified and replaced by "unknown."[20]

The second most frequent category is "old age" and "old age dementia" diagnoses (10–20 percent), and the third, cardiovascular and pulmonary diseases (about 10 percent). Surprisingly, gastric diseases take the fourth and fifth places (7–8 percent). Presumably, the diagnoses of infectious diseases were far from accurate (despite epidemics, "camp fever" and "typhoid fever" diagnoses are rare, at 1–2 percent).

Obviously, such clinical presentations are not true. At the same time, it is possible to assume that further expertise in diagnosis, notwithstanding the falsifications and registration conditions, would allow for a better assessment

of the ratio of natural mortality and mortality owing to starvation. In the given context it would be possible to explain certain regularities in identifying some euphemistic diagnoses ("heart dropsy," "intestinal tuberculosis," "swelling," "dysentery") as well as certain compound diagnoses ("pneumonia-emaciation," "myocarditis-emaciation"). To this end, an "extreme old age" death diagnosis (for a fifty- to fifty-five-year-old person) should fall within the same category.

At a special meeting held by the Ukrainian Institute of National Memory in spring 2008, top managers of health care institutions, public health inspectors, experts in forensic medicine, pathoanatomists, and others examined the death registers and concluded unanimously that extreme starvation resulted in the intensification of all "hidden diseases" and, therefore, that starvation led to death in all registered cases without exception.

It should be noted that together with death registers, the state archives acquired from ZAGS offices include another huge collection of demo-statistical records: birth, marriage, and divorce registers (for 1932–33)—in total, about 7,000–8,000 extra record books. These still remain unprocessed.

The fate of the famine death registers and that of registration officials is equally dramatic: both were repressed. The repressions were launched even before the ink in the books had dried—in the spring of 1934, when the Kremlin became aware of the true scale of the demographic disaster. The official reason for repressions was the false charge of "criminal" birth underestimation and death overestimation. In contrast, in 1933 the Central Statistical Service in Moscow was concerned about quite different statistical deformations in Ukraine: as it was officially stated, ZAGS offices were registering fewer than 50 percent of deaths.[21]

In 2007 Odesa archivists found a remarkable document that can be considered direct documentary evidence of the large-scale actions taken by authorities in the spring of 1934 to eliminate traces of their crimes against the Ukrainian peasantry. On 13 April 1934 the Odesa Oblast Executive Committee sent a "top secret" instruction to all local councils and district executive committees of Odesa oblast (with copies to all party district committees and UNHO inspectors).[22] According to the text, in March 1934 the National Economic Survey Administration carried out an inspection "of civil registry offices in village councils throughout Ukraine" and found that "this work is actually being performed by class enemies, kulaks, Petliura henchmen, special deportees, etc." Moreover, the text also reports that "at village councils [registration] books are kept in such a way that anyone can have free access to them. It was discovered that in some village councils the [registration] books were simply stolen, possibly, for counterrevolutionary purposes." This situation supposedly resulted in a "fraudulent inflation of death rates and underestimation of birthrates," as well as the loss of records at civil registry office archives.

With regard to the supervision of local records, the following instruction

was issued: "Withdraw the death books from village councils: for 1933 from all village councils without exception, and for 1932 according to the list provided by the National Economic Survey Administration. Transfer the withdrawn village council registration books to the raion executive committees for safekeeping as classified material." It goes without saying that such instructions could not have been issued without the participation of the Central Statistical Administration in Moscow. Similar top secret instructions were probably sent to other oblasts of Ukraine; at least, we are aware of two: Vinnytsia and Kharkiv oblasts.[23] The Kharkiv document contains very important and detailed data establishing the chronological point when the vital registers became dangerous: it says that "all death books for 1933 and for 1932, starting from November," should be withdrawn from village councils and transferred to secret departments of raion executive committees.[24]

Today it is clear that this instruction was not followed completely: approximately one-third of the death registers survived, staying at local ZAGS offices. The rest of them, withdrawn and transferred to raion executive committees, were destroyed only later—most probably in the summer of 1941, before the retreat of Soviet troops.[25] It is safe to conclude that the destruction of death registers for 1932–33 is additional evidence of their value and authenticity.

Archives of Administrative and Territorial Reform and the Demography of the Holodomor

Now a few words about another, little-known group of sources, which, like ZAGS records books, can clarify certain points about the dynamics of demographic trends, or perhaps even suggest changes in the final estimates. These sources are surviving fragments from the archive of the Central Administrative and Territorial Commission under the VUTsVK, which holds cartographic and related reference and statistical materials.

1. An official series of administrative maps is of special interest, as the maps reflect the implementation in stages of the 1932 administrative and territorial reform. Of particular interest are the map as of 20 March 1932,[26] including a handwritten list of village councils with the number of inhabitants found within the new administrative units; (0–500 persons, 501–1000 persons, etc.); the map as of 25 October 1932,[27] including handwritten supplements listing the number of village councils and settlements, and raion divisions within recently established oblasts; and two maps as of 1 April[28] and 15 December 1933,[29] including the list of raions and oblasts, with no population data given.
2. New statistical data can be also found in several unpublished directories

on administrative and territorial division that contain population statistics of village councils, raions, and oblasts according to data from TsATK (the Central Administrative and Territorial Commission)—namely, the incomplete *Directory on Administrative and Territorial Division of the Ukrainian SSR* as of 15 November 1933 (includes just a list of city councils as well as counts of urban and rural population);[30] *Directory on Population Number Dynamics in Okruhas and Raions* (prior to oblast division) as of 1 January 1930 and 1 January 1931;[31] *Directory on Administrative and Territorial Division* (including population number statistics) as of mid-1932;[32] *Directory on Village Council Divisions according to Population Numbers*, based on TsATK statistics as of 1 July 1931 and 1 January 1932;[33] and finally, the only book published by VUTsVK at the time, a directory titled *Administrative and Territorial Division of the Ukrainian SSR as of 1 December 1933* (Kharkiv, 1933; 176 pp.).

These directories were based on different initial data. For example, the mid-1932 count according to nationality, population, and number of village councils was based on current statistics—that is, "statistical data of raion executive committees as of July–December 1931"—whereas figures were corrected by current local statistical data "according to the available [in TsATK] materials as of 10 March of the current year [1932]."[34] The summary table from the March 1932 book gives the size of the rural population as 25.5 million persons (78.4 percent of the total population, rural and urban).

The published directory, providing the administrative division as of 1 December 1933, reflects a decrease in the rural population: 24.4 million persons (accordingly, 75.9 percent). The given statistical data is based on the 1926 census and missing the per capita registry outputs of Narkomfin of the Ukrainian SSR for 1932. In addition, "there were certain corrections made on the basis of the current registry of natural and mechanical population movement [i.e., birth, mortality, and migration rates—H.B.]."[35]

The Destruction of Archives in Ukraine as the Logical and Final Stage of Genocide

Trying to answer the question of the fate of Ukrainian statistical archives, we examined closely the respective prewar governmental archives—in particular, some of TsDAVO fonds with the aim of investigating the so-called fond files, in which the "biographies" of fonds are recorded. As a result, we identified a number of clear information gaps, which can hardly be accidental.

First of all, the thematic content of documents preserved at the archives of central governmental agencies in Ukraine for the years 1932–33 is virtually

useless. This testifies to the purposeful and consistent withdrawal of records related to the situation in rural areas. For example, the archives of the supreme organ of state power (VUTsVK) contains just a few files with Narkomzem (People's Commissariat for Agriculture) data on sowing campaigns, information from the Zahotzerno (Organization for Collection of Grain) All-Ukrainian Office, some bulletins of the procurement department of the People's Commissariat for State Deliveries, and dozens of files with the minutes of meetings of oblast and raion executive committees. In contrast, the most numerous files are records of complaints concerning refusals to issue passports; documents related to the closing of churches and synagogues; activities of the Institute of Red Professors; the visit of a Turkish sports delegation; and other issues.

The chronological gaps are even more telling. With regard to the Narkomzem Archives (TsDAVO, fond 27): Compared to 1931, the number of documents for 1932 is 1.7 times lower; for 1933, 3.4 times lower; and for 1934, 40 (!) times lower. An inventory of the archives conducted in 1960 concluded that 129 files were lost before 1939; 86 files "prior to evacuation were designated as waste paper without proper documentation"; 4 files were just empty covers, without documents inside, with important-sounding titles such as "Materials of RNK Meetings" (1933), "Reports on Sovkhoz (state farms) Checkups" (1932), "Sowing Campaign Plans and Providing Sovkhozes with Farm Workers" (1932), and "Minutes of Meetings of Narkomzem Commissions" (1932). No copies of the annual Narkomzem "Bulletin" for 1930–33 are preserved. Seventy-five personal files for the years 1932–33 were destroyed in 1941. Eventually, 77 files dated 1933–34, most of them related to "special food provision" issues, were shamefully destroyed in 1965. Among them were correspondence with regard to food provisions for Narkomzem employees through the "closed distribution establishment" (1933–34), the menu and price list of the Narkomzem cafeteria (1933), and so forth.[36]

In the Narkomfin Archive (TsDAVO, fond 30), the number of available documents for 1932–33 is half of what is available for 1931. The archives of two key departments are entirely missing: accounts payable (*masovykh platezhiv*) and agriculture for 1931–33. The Narkomfin documents for 1934–37 are missing completely. Thus, there are no financial records in the country for this period.

While archival inventories were conducted in 1949 and 1955, some 16,000 files were destroyed because they contained "reflected" (*vidobrazheni*) and "absorbed" (*vkliucheni*) documents (using the archival appraisal guidelines of the time). This, in fact, allowed for a purging of the archive.

UNHO was a powerful body with territorial branches in all districts, responsible for current statistics and the population census. In the UNHO archives (TsDAVO, fond 318), there are just 135 files extant for 1932 and 81 files for 1933. The situation in certain structural divisions of the UNHO archives is

as follows: the UNHO Secretariat has 36 files extant for 1932, 1 file for 1933; the Agricultural Statistics Department, 60 files for 1932, 11 files for 1933; the Population and Health Care Statistics Department, 3(!) files for 1933. There are no other documents left.

The 1957 inventory identified 14 missing files, those with quarterly observation data on collective farm workers and number of dependents for 1932; according to usual explanations, they could have been lost during the war.

In 1965 an inventory assessment was followed by the decision to destroy a large group of still uncategorized statistical documents for 1932. In 1968 came the next blow to the archives of Ukrainian statistics: 102 packets of documents were destroyed.

When the People's Commissariat for Health Care archives (TsDAVO, fond 342) were transferred from Kharkiv to Kyiv in 1934, the All-Ukrainian State Archive was informed that due to lack of space it was not a suitable place for the commissariat's records. When the documents for 1920–31 were finally transferred to the archive in December 1935, 809 files (335 packets) were left in Kharkiv; the other 222 files were transferred to the Ukrainian Institute of Social Hygiene. In total some 1,000 files were not transferred to the state archive. As for the transferred records, they were systematically appraised and disposed of: in 1936, 925 archival units were destroyed without any official registration. In 1957, 29 files were identified as missing; in 1962, another 33 files.

A final purge was undertaken in 1962, and 2,500 files were destroyed in total, including the following records for 1932:

- correspondence with public health and medical institutions on organizing local medical centers, providing premises, placement of patients, reports on food quality examination in public canteens;
- correspondence with different bodies regarding measures against infections;
- correspondence with medical institutions regarding children's placement at kindergartens, financing medical and public health services, acquisition of medicines for hospitals;
- patient histories, bedroom charts of the deceased, living conditions in villages, survey cards, etc.

In terms of the 1933–41 records, there is documentary proof of their destruction by commissariat officials just before the German occupation of Kyiv in September 1941. At the time 12,679 files were destroyed, equal to half of the prewar commissariat holdings. The losses were later routinely officially explained as "actions of fascist invaders."

The archival records of VUTsVK, the supreme organ of state power of Ukraine (TsDAVO, fond 1), were transferred in parts to the All-Ukrainian

State Archive in 1928–34. The first purge of the archives took place in 1937–38: incoming and outgoing correspondence registers (as key archival search tools) were destroyed without official registration. During the subsequent inventory in 1940, 4,270 archival units (1920–33) were destroyed, including 113 files for 1932. In 1945, after the archives' reevacuation from Zlatoust to Kyiv, another 1,500 files were said to disappear. In 1957 more than 1,000 files were removed as waste paper.

In 1965, in the course of an inventory, the archivists found evidence of the previous purposeful destruction of documents; namely, appeals of people in Vinnytsia oblast to the head of VUTsVK. There existed a control card index of destroyed appeals. Considering that the texts of the appeals were missing, a decision was made to destroy the card index as well.

The "fond file" often includes notes such as: "Acquired materials for 1933 are incomplete" (as in case of the archive of the head of the VUTsVK office).

As a result of all these changes, the number of VUTsVK documents for 1932 decreased by 4.6 times compared to 1931; for 1933, by 8.8 times.

Finally, a close study of the the Radnarkom archives (TsDAVO, fond 2) leads to some striking conclusions. First and foremost, it is one of the few archival fonds where no inventory was undertaken during the postwar period and, consequently, where documents were not destroyed at that time. The reason is quite simple: there was nothing more to be destroyed. Chronologically, for the years of 1925–26 about 1,500 files survive annually in contrast with 1936–37, when there are just 2 (!) units annually. For 1928–35 there are no documents at all.

Notably, after the government's move to Kyiv during 1934–38, the Radnarkom documents for 1919–26 were transferred to the state archive. The rest of the documents remained within the government and were preserved by the Radnarkom's administrative office. The fate of both archives was dramatic: the first postwar (following reevacuation) archival inventory in 1949 found that almost 40 percent of the prewar archival fond was missing.

With regard to the records preserved within the government, I would like to present a unique document that I recently uncovered. This is a "Note on the Destruction of Radnarkom Archive," including 1921–40 documents, dated 3 July 1941.[37] On the eleventh day of the German-Soviet War 22,109 files and the incoming correspondence card register (about 2,500 cards) were destroyed, a volume of material generally equal to two full truckloads.

The destruction of the archives was carried out on the orders of S. Sulyma, head of the Radnarkom Secretariat. Without a doubt, this decision had to be taken at the top state level, most probably not in Kyiv. The exact date of the preparations for the destruction of such a large mass of documents still remains unknown. Probably the preparations began before the German invasion, or at least shortly after 22 June. In comparison, the state archive launched its

urgent preparations for evacuation much later, in August 1941. No traces of the detailed inventory of the destroyed documents mentioned in the "Note" have been found.

Records from 1932–33 form 10–15 percent—about 2,500 files, or 100,000 documents—of the destroyed government archives. This is equivalent to the entire documentary record on the Holodomor that has been registered to date by all state archives of Ukraine. Thus, it is possible to assume that Stalin's regime left just half of the aggregate archives on the Holodomor created at all levels of government. Overall, Ukraine lost its entire government archival legacy for the 1930s. In contrast, the archives of the central government bodies in Moscow escaped total destruction.

In the mid-1980s, when Kyiv archivists undertook an effort to partially reconstruct the Radnarkom archives on the basis of its outgoing documents that were received by other state bodies and institutions and kept in their archives, the outcome was discouraging—only about 1,000 such documents were identified for the years of 1932–33.

*

In conclusion, the Ukrainian demo-statistical base of the 1920s–1930s as a component of government archives has undergone systematic destruction and deformation. Unprecedented actions with regard to the destruction of key documentary groups (specifically, demographic sources) have been consistently and firmly implemented by the regime for decades.

Accordingly, the study of the demographic consequences of the Holodomor must be based primarily on the aggregate demo-statistical data preserved by the Russian State Archive of the Economy in Moscow. Demographic sources of this type are not available in Ukrainian state archives.

Despite all of the repressions in Ukraine's demo-statistical archives in the 1930s, some undamaged and still unused fragments survive; in particular, the basic statistical sources: death registers for 1932–33, remnants of archives of the Central Administrative and Territorial Commission, and current statistics. These materials can help paint a clearer picture of Ukraine's demographic disaster.

Following the repression of the Ukrainian peasantry and national elites, the destruction of archives became the third, final, and absolutely logical action of what should be called genocide. The long-term consequences of this destruction and falsification are evident: our studies are still based on massively distorted archives built up and shaped by Stalin's regime especially for us. As such, the purged archives served as a political tool to be used to construct a "correct" history with "correct" accounts and conclusions. Everyone delving into the Ukrainian archives of the 1930s meets Stalin's ominous smile.

Even in the 1960s, archivists by tradition continued to destroy government records of the 1930s, referring to their lack of "scholarly value and practical significance." Further destruction was unnecessary; at that time the remaining documents did not pose any threat. Most likely, the motive for destruction was psychological rather than pragmatic—namely, fear of the 1930s period as a whole. This is another long-term consequence of the famine.

The inventory procedure (which formally has to be performed prior to any destruction of documents in the archives) is dependent on the prevailing conception of history. Our historiography is still undergoing the process of "correctness appraisal." But the role of the expert in this case is being played by the totalitarian regime, which allows access only to those archives it shaped especially for us.

On the other hand, the contents of the National Archival Fond reflect an image of the state, the nation's self-knowledge and self-consciousness. In this sense, in addition to being "a prominent linguist," Comrade Stalin can also be considered "a genius archivist." His way of forming the content of Ukraine's state archives excluded any possibility for an adequate representation and evaluation of the past.

Notes

1. S. Kul'chyts'kyi and H. Iefimenko, *Demohrafichni naslidky holodomoru 1933 r. v Ukraïni; Vsesoiuznyi perepys naselennia 1937 r. v Ukraïni: Dokumenty ta materialy* (Kyiv, 2003).
2. Ella Libanova et al., *Demohrafichna katastrofa v Ukraïni vnaslidok Holodomoru 1932–1933 rokiv: skladovi, masshtaby, naslidky. Naukovo-ananliychna dopovid* (Kyiv, 2008).
3. Ibid., 84.
4. See ibid., 8.
5. *Vsesoiuznaia perepis' naseleniia 1937 g.: kratkie itogi* (Moscow, 1991); *Vsesoiuznaia perepis' naseleniia 1937 g.: osnovnye itogi. Sbornik dokumentov i materialov* (Moscow, 2007).
6. *Vsesoiuznaia perepis naseleniia 1939 goda: osnovnye itogi* (Moscow, 1992).
7. *Pidsumky obliku miskoï liudnosti USRR 1931 roku* (Kharkiv, 1933).
8. Kul'chyts'kyi and Iefimenko, *Demohrafichni naslidky holodomoru 1933 r. v Ukraïni*, 76–77; online: http://www.history.org.ua/kul/contents.htm, accessed on 11 November 2008.
9. See Illia Shul'ha, "Holod 1932–1933 rr. na Podilli," in *Holodomor 1932–1933 rr. v Ukraïni: Prychyny i naslidky; Mizhnarodna naukova konferentsiia; Kyiv, 9–10 veresnia 1993 r.; Materialy*, ed. S. Kul'chyts'kyi (Kyiv, 1995), 141; Kul'chyts'kyi and Iefimenko, *Demohrafichni naslidky holodomoru 1933 r. v Ukraïni*, 189n73); N. A.

Ivnitskii, *Repressivnaia politika sovetskoi vlasti v derevne (1928–1933 gg.)* (Moscow, 2000), 293; Ivnitskii, "Il ruolo di Stalin nella carestia degli anni 1932–33 in Ucraina (dai materiali documentari dell'archivio del Cremlino del Comitato centrale del Partito comunista dell'Unione Sovietica e dell'OGPU," in *La morte della terra: La grande "carestia" in Ucraina nel 1932–33; Atti del Convegno Vicenza, 16–18 ottobre 2003*, ed. Gabriele De Rosa and Francesca Lomastro (Rome, 2004), 90.

Some historians continue to repeat the same conclusion even in recent publications (2008): "Today death registration books are not found in any archives or at any village council." Olesia Stasiuk, *Henotsyd ukraïntsiv: deformatsiia narodnoï kul'tury* (Kyiv, 2008), 110.

10. Counted by the author.
11. See: State Archive of Odesa Oblast, fond R-8085, list 1, file 1143. Publ.: Bilousova et al., comps., *Holodomory v Ukraïni: Odes'ka oblast' (1921–1923, 1932–1933, 1946–1947): Doslidzhennia, spohady, dokumenty* (Odesa, 2007), 244–45.
12. *Demohrafichna katastrofa v Ukraïni vnaslidok Holodomoru 1932–1933 rokiv*, 9.
13. TsDAVO, fond 1, list 8, file 27, fols. 93–98. The special VUTsVK order was not found.
14. See, for example, State Archive of Sumy Oblast, fond R-8996, list 1, file 45, fol. 232 (June 1933).
15. The original death register has been held at the Archive of the Shevchenko Scientific Society in New York since the early 1950s. Published in: M. Mukhina, comp., *Upokorennia holodom* (Kyiv, 1993), also as an online exhibition: http://shevchenko.org/holodomor, accessed on 5 November 2008.
16. S. Kul'chyts'kyi, "Trahichna statystyka holodu," in *Holod 1932–1933 rokiv na Ukraïni: Ochyma istorykiv, movoiu dokumentiv* (Kyiv, 1990), 78; Kul'chyts'kyi and Iefimenko, *Demohrafichni naslidky holodomoru 1933 r. v Ukraïni*, 65.
17. Ibid., 77.
18. "Proekt ratsionalizatsiï protsesu reiestratsiï smertei liudnosty," State Archive of Kyiv City, fond R-3, list 1, file 105, fol. 10; a facsimile is published in *Natsional'na knyha pamiati zhertv Holodomoru 1932–1933 rokiv v Ukraïni: Misto Kyiv* (Kyiv, 2008), 208; annotation, 362.
19. See Hennadii Boriak, "Sources and Resources on the Famine in Ukraine's State Archival System," *Harvard Ukrainian Studies* 27, no. 1–4 (2004–2005): 129; reprinted in *Hunger by Design: The Great Ukrainian Famine and Its Soviet Context*, ed. Halyna Hryn (Cambridge, Mass., 2008).
20. See, for example, death records from the book for Antonivka village, Stavyshche raion, Kyiv oblast, June 1932: State Archive of Kyiv Oblast, fond 5634, list 1, file 969, fol. 86; facsimile published in Boriak, "Sources and Resources on the Famine in Ukraine's State Archival System," 130.
21. See n. 16.
22. State Archive of Odesa Oblast, fond R-2009, list 1, file 4, fols. 91–92; first published in L. H. Bilousova et al., comps., *Holodomory v Ukraïni: Odes'ka oblast'*, 242–43;

facsimile with transcription and translation in English are in Boriak, "Sources and Resources on the Famine in Ukraine's State Archival System," 136–41; online publication, http://www.archives.gov.ua/Sections/Famine/Citates.php#citate01, accessed June 2009.

23. The Vinnytsia instruction was first mentioned by Shul'ha already in 1993, see: Illia Shul'ha, "Holod 1932–1933 rr. na Podilli," in *Holodomor 1932–1933 rr. v Ukraïni: Prychyny i naslidky; Mizhnarodna naukova konferentsiia; Kyiv, 9–10 veresnia 1993 r.* (Kyiv, 1995), 141. So far the author has not identified this document because of an incorrect reference.

    The Kharkiv instruction issued on 20 April 1934 by the Kharkiv Oblast Executive Committee (State Archive of Kharkiv Oblast, fond R-3683, list 3, file 2, fol. 52) has the same content and almost the same wording, which testifies to the existence of a common prototype—a general instruction that came from the "top" and was immediately re-sent in slightly edited form from all oblast centers to raion institutions. The Kharkiv document was published online: http://www.golodomor.kharkov.ua/docs.php?pagep=18&doc=772.

24. It is worth noting that the same date—November 1932—was designated as a starting point for the set of party documents on state grain procurements destroyed in Bilopillia raion party committee (Kharkiv oblast) in July 1933. See "Note on Destruction," State Archive of Sumy Oblast, fond R-3683, list 2, file 2, fol. 52; published in L. Pokydchenko, comp., *Holodomor 1933–1933 rokiv na Sumshchyni* (Sumy, 2006), 169–70, http://www.archives.gov.ua/Sections/Famine/Publicat/Fam-Sumy-1932-33.php#nom-144. The false justification for this destruction, as indicated in the "Note," was "the expired terms of use," which is not proper for the documents dated between November 1932 and April 1933 (note that the date of destruction was July 1933).

25. A few unique oral testimonies of former village officers (heads and secretaries of village councils) were collected and published by Lidiia Kovalenko and Volodymyr Maniak in 1991. Witnesses recalled different cases related to the withdrawal and/or destruction of death registers under the orders of the GPU. One witness was forced to falsify diagnoses while registering deaths; registration was terminated after March 1933 in his village in Proskuriv (now Khmelnytskyi) raion; another had to rewrite the entire death register in order to enter "proper" diagnoses when the original books were thrown into the fire (Illintsi raion, now in Vinnytsia oblast). One respondent from Troianiv raion (now in Zhytomyr oblast) testified that already during the famine he had to turn over "improper" death books to raion GPU offices (together with birth and marriage books, which were returned to him as "safe" and "proper"). When he asked the GPU officials: "What should I say when asked about the confiscated death books?" he was told: "This is a directive. Nobody except us will ask you." The note with the order to appear at the GPU office with the books he received in hand was also taken back, so that the case would leave no paper trail. Also, there was testimony that the official police reports

to the top contained encoded data on the number of "cattle" purchased (which meant number of deaths registered) or about "cases of anthropophagy" in Kharkiv oblast. See Lidiia Kovalenko and Volodymyr Maniak, comps., *33-i: Holod: Narodna knyha-memorial* (Kyiv, 1991), 49–50, 89, 110–11, 313, 580.

26. TsDAVO, fond 1, list 8, file 211, fol. 2; copy without notes: fol. 3.
27. Ibid., fol. 1.
28. Ibid., fond 1, list 9, file 103, fol. 1.
29. Ibid., fol. 2.
30. Ibid., fond 1, list 9, file 101, fols. 1–9.
31. Ibid., fols. 19–29.
32. Ibid., fond 1, list 8, file 26, fols. 13–66.
33. Ibid., fols. 36–75.
34. Ibid., fond 1, list 8, file 26, fol. 13.
35. *Administratyvno-terytorial'nyi podil USRR: Za stanom na 1 hrudnia 1933 roku* (Kharkiv, 1933), 3.
36. All of the author's estimates and conclusions in this article are based on the data of fond files (*spravy fondiv*) kept at TsDAVO.
37. TsDAVO, fond 2, list 7, file 406, fols. 1–5.

Demographic Consequences of the Great Famine: Then and Now

France Meslé, Jacques Vallin, and Evgeny Andreev

The Great Ukrainian Famine of 1932–33 (the Holodomor) was a tremendous shock that not only dramatically affected the population through a huge and immediate reduction in its number, but also changed its future by creating a starting point for demographic change that was very different from the situation before the crisis.

The Soviet authorities went to great lengths to conceal the short-term consequences of the Holodomor, since officially no famine had occurred. They failed, however, to make a credible case for their claim that the exceptional peak observed in registered deaths for the year 1933 was simply due to errors of registration, but they were successful in barring access to existing empirical data for many years, opening the door to major controversy about the actual number of victims. It was only when the archives were finally opened under Mikhail Gorbachev in the late 1980s that researchers could start to investigate real data and make objective estimations. From the 1990s until today, many estimates have been published about the demographic losses due to the Holodomor—not only those resulting from the dramatic increase in mortality rates but also from the exceptional fall in the fertility rate and from unusual migration flows. However, no attempt has ever been made to estimate its long-term demographic consequences.

After a short review of the literature, we first summarize the conclusions of the most complete recent attempt to give accurate estimates of the short-term losses. In the second part of the article we develop several possible scenarios to compare the current Ukrainian population to what it could have been without such a crisis.

Short-term Consequences: 4.5 Million Population Loss

Since the opening of the archives some historians and statisticians, relying on statistics published before 1989, began to estimate the population losses attributable to the famines and to the waves of turmoil and repression that followed the collectivization of land. Robert Conquest estimated the number of deaths caused by the famine in 1932–33 to be 5 million.[1] However, this estimation, extrapolating the growth rate of the 1920s to the 1930s, obviously overestimates real losses, since it is unrealistic to consider that the high fertility rate of the 1920s, still affected by the adjustment of births delayed by war, could have lasted until the 1930s. A few years later, Stanislav Kul'chyts'kyi, using the same method but with a more cautious fertility hypothesis, estimated the losses of the period from 1933 to 1936 to be 3.5 million.[2]

A fuller reconstruction of population change for the whole of the USSR has since been done by Evgeny Andreev, Leonid Darskii, and Tat'iana Khar'kova.[3] In order to reconstruct the annual series of births and deaths and to produce annual population estimates for the USSR between 1920 and 1959, the authors adjusted the census results for 1926, 1937, 1939, and 1959 and corrected the registered series of births and deaths with the help of population models. However, the hypotheses inherent in the models that allowed them to adjust the data still seem to overestimate fertility and mortality.[4] And, in any case, this estimate at the level of the USSR does not give us specific information about losses in Ukraine.

Several authors have attempted to assess Ukraine's losses, but by relying solely on the 1926 and 1939 census data. Sergei Maksudov gives an overall estimate of 4.5 million for the period 1927–38, without distinguishing between the effect of excess mortality and that of sub-fertility.[5] Serhii Pyrozhkov, on the other hand, arrives at total losses of 5.8 million for the period 1926–39 by comparing the total numbers per generation from the 1939 census to those that would have been given by normal change in mortality and fertility.[6] The use of models and the global results that include the full 1926–39 period and do not clearly distinguish the respective effects of mortality, fertility, and migration are likely to overestimate the consequences of the crisis.

In the framework of a study on mortality and cause-of-death trends in Ukraine in the twentieth century, a painstaking effort was made to reconstitute the multiple factors responsible for the huge demographic fluctuations that struck Soviet Ukraine and to estimate the annual changes in Ukrainian mortality rates by sex and age using all available data.[7] An attempt to correct the data followed a detailed discussion of their quality. This approach not only led to a new estimation of the global losses more strictly focused on the two years of the crisis (1932–33), but also made it possible to distinguish between direct losses attributable to excess mortality and indirect losses linked to the fall in fertility and to outward migration.[8]

Estimating Global Losses

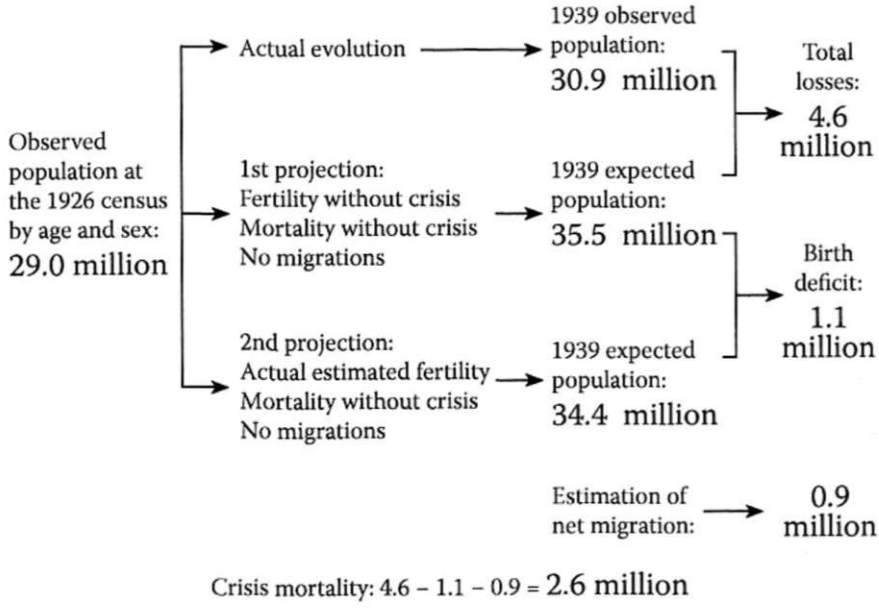
To estimate the global losses due to the Great Famine, we followed the same general principle as in previous studies. We thus calculated an expected population by projecting the 1926 population until 1939 on the basis of the fertility, mortality, and migration rates that would have prevailed without crisis. We then compared that to the observed 1939 population. But, unlike previous attempts, we decided that using vital statistics for the years before and after the crisis (after correction for under-registration) would be much more effective than using theoretical models to estimate fertility rates throughout the period.

This approach obviously relies, in the first instance, on the results of the two censuses, the accuracy of which has rarely been challenged by specialists.[9] Although the masters of the Kremlin tried on many occasions to manipulate the published results of the censuses, the statistical literature preserved in the archives, now accessible, is generally considered to be as reliable as that of many other European countries, at least for the European part of the USSR. Soviet power only falsified the few overall results they published, not the detailed information held in secret archives. Early twentieth-century Soviet censuses, like many others of the time, did suffer from some inaccuracies in declarations of age, which classically leads to "age heaping." To correct these deficiencies for the 1926 and 1939 Ukrainian censuses, we applied methods quite similar to those already used for Russia.[10]

Two life tables were calculated at the start and at the end of the period, based on the 1926 and 1939 corrected census data and on the death statistics by sex and age available for 1926–27 and 1938–39 but slightly corrected for under-registration.[11] Between these two pillars, survival probabilities by age were interpolated for the period 1928 to 1938, assuming that in the absence of crisis, mortality rates would have decreased regularly from their 1926–27 levels to those of 1938–39. These probabilities were then applied, year by year from 1927 to 1939, to the generations included in the 1926 census in order to obtain an estimate of survivors under a "no crisis scenario" on 1 January of each year from 1928 to 1939. Then, to complete the projection, the numbers of births that would have occurred without the crisis had to be estimated. Contrary to mortality rates, the fertility rates observed before and after the crisis cannot be interpolated. The pre-crisis general fertility rate was falling significantly but climbed again, after the crisis, to a much higher level than in 1931. The fall in the late 1920s is entirely consistent with what happened at that time in neighboring non-USSR countries (Poland, Czechoslovakia, Romania, Bulgaria). We considered extending this downward trend in order to estimate the expected births under a no-crisis scenario. However, the rise that followed the crisis cannot be explained solely by a recovery phenomenon. It also relates to the ban on abortion imposed in 1936, and higher fertility rates were used for the subsequent year. A birth series was obtained that combines births registered

by ZAGS[12] from 1924 to 1931 (corrected for under-registration) and estimated non-crisis births for 1932 to 1938. The projection was completed by applying the probabilities of survival if there had been no crisis affecting these births, which finally resulted in an expected 1939 population. While a total population of 35.5 million was expected at the time of the 1939 census, only 30.9 million were actually observed: 4.6 million Ukrainians were missing (figure 1).

Figure 1. Process for estimating the three components of global population losses.



Disentangling Fertility, Migration and Mortality Effects

Among these global losses of 4.6 million exactly how many were caused by excess mortality, a deficit of births, and migration flows? The answer to this question will also provide an estimate of the under-registration of crisis deaths on the part of the authorities.

THE ROLE OF THE BIRTH DEFICIT. The easiest task was to estimate the role of the birth deficit. Repeating the population projection for 1939 but replacing the estimate of non-crisis births with births actually observed[13] leads to a 1939 population of 34.4 million instead of 35.5 million. Conversely, the difference of 3.5 million between the second projection and the population actually observed in 1939 gives an estimation for the extent of losses attributable to both excess mortality and outward migration (figure 1, at left).

THE ROLE OF MIGRATION. Indeed, migration effects are certainly the most difficult to estimate, but the task is not impossible if the various pieces of the puzzle are taken into consideration. Two types of migration have to be identified: forced migration, which has been carefully documented, and voluntary flight from the crisis, which is more difficult to assess.

For the first type of migration, it is possible to rely on a comprehensive study by Viktor Zemskov, who gathered all existing statistical data on various types of deported populations (to camps, gulags, prisons, and so on).[14] Sometimes data are available by sex and place of origin, but even when they are not, proportionate estimations are possible. According to these estimates, 400,000 Ukrainian people were deported to camps outside Ukraine during the years from 1930 to 1938, and 530,000 to gulags. This represents a total of 930,000 forced migrants, of whom 563,000 were male and 367,000 were female.[15]

It is much harder to estimate voluntary migration. According to a Central Administration of Economic Accounting of the Ukrainian SSR (TsUNKhU) report of 1937, net outward migration reached 1.3 million between 1926 and 1936.[16] However, in the absence of reliable migration statistics, this estimate is highly questionable. The number obviously includes—even if this is not stated explicitly—forced migration; moreover, it has probably been exaggerated in order to conceal the extent of crisis-related excess mortality. In fact, true voluntary migration must have been limited. Not only did the regime monitor the movements of the population closely (notably with the introduction of passports in towns in 1932), but there was hardly anywhere better to go in the USSR and fleeing abroad was out of the question. Of course, the famine led some Ukrainians to flee the disaster zone to Russia and Belarus, but most of these refugees were obliged to return to Ukraine quickly since their illegal migration status (linked to the passport requirement imposed in 1932) prevented them from living and working outside Ukraine. Therefore, we preferred to assume that net voluntary migration was almost nil and to confine ourselves to forced migration alone, while acknowledging that net outward migration

may thus be underestimated.[17] The migration effect could thus account for 0.9 million of the total losses.

MORTALITY EFFECT AND UNDER-REGISTRATION OF CRISIS DEATHS. Finally, after subtracting both the 1.1 million birth-deficit effect and the 0.9 million outward-migration effect from the 4.6 million global losses initially estimated, the remaining 2.6 million represents crisis-related excess mortality.[18]

By comparing these 2.6 million deaths resulting from crisis-related excess mortality against the 1.7 million difference observed between deaths registered and total numbers of deaths expected under a non-crisis scenario, we obtain an estimate for the total number of deaths that escaped registration (0.9 million). However, among these, some are the result of the routine under-registration mentioned above, which was taken into account in correcting the 1926–27 and 1938–39 life tables that we used to estimate non-crisis mortality by interpolation. This leaves a total of 530,000 deaths that escaped registration because of the crisis and the regime's acts of concealment.

These half million non-registered deaths were then redistributed across the three years affected by the crisis (1932–34), in accordance with the distribution observed for the 1.7 million registered excess deaths due to the crisis. Most of these non-registered deaths (460,000) were thus attributed to the year 1933.

An exceptional fall in life expectancy

To estimate the annual change in life expectancy over the 1920s and 1930s, it was then necessary to distribute non-registered deaths by age.

For the years 1927–31 and 1935–38, the age distribution of expected deaths can be modeled on that of observed deaths (registered deaths adjusted to account for under-registration), without great risk of error, and annual life tables can be computed taking into account the annual fluctuations in the number of registered deaths.

But there would be a serious risk of error if the same methodology were applied to the three crisis years, since crisis deaths certainly have a different age structure from ordinary deaths. Fortunately, for the years 1933 and 1934 an age distribution of ZAGS-registered deaths was available. For these two years, only unregistered deaths had to be redistributed by age. To do this, an age structure appropriate to crisis deaths was obtained by subtracting, for each age, expected non-crisis deaths from total ZAGS-registered deaths. That structure was then applied to non-registered deaths.[19] The year 1932 was then dealt with on the basis of the results obtained for 1933–34.

Once distributed by age in this way, the unregistered deaths were added to the registered deaths, and mortality rates by age were obtained, allowing us to calculate the life tables for each of the three years by matching all deaths against the theoretical populations calculated previously (with non-crisis mortality and registered births) minus the crisis deaths.

Whereas from 1927 to 1931 life expectancy was almost stable, it fell very

abruptly with the crisis, losing almost 9 years in 1932, then another 28 years in 1933 (table 1). In that year, it fell to just 10.9 years for females and as little as 7.3 years for males.

Table 1. Annual estimates of life expectancy, 1927–39.

Year	Males	Females
1927	43.3	46.8
1928	44.6	48.7
1929	42.8	46.7
1930	42.5	46.9
1931	43.5	47.9
1932	34.5	39.4
1933	7.3	10.9
1934	37.6	42.1
1935	46.3	52.7
1936	47.6	53.0
1937	46.2	51.9
1938	47.9	52.7
1939	47.7	52.5

Ukrainian life expectancy was still abnormally low in 1934, but it then peaked, just after the crisis, in 1935–36. This is a fairly classic immediate post-crisis situation where precisely because of the severe reductions of earlier years mortality is temporarily lower than normal. After a significantly lower point in 1937, life expectancy rose again in 1938–39.

As unbelievable as it may seem, the result obtained for the year 1933 is not exaggerated. First, with rates calculated only from ZAGS-registered deaths by age and from our population estimates, life expectancy would have been 12.2 years for males and 19.5 for females. Correcting the deaths for under-registration, but without differentiating under-registration by age, would have resulted in 10.3 and 14.0 years respectively. By introducing specific corrections for infant and child mortality, the figures of 7.3 and 10.9 years were finally reached. Two successive corrections were necessary in order to ensure data consistency. Second, by comparison with the estimates given by Evgenii Andreev et al. for Russia (15.2 years for males and 19.5 years for females),[20] or by Alain Blum for the whole of the USSR (10.3 years for males and 13.0 for females), it might be expected that life expectancy in Ukraine, which of all the Soviet republics suffered most from the famine, would be significantly below 10 for males and around 10 for females.

Furthermore, some recent research by the Institute for Demography in Kyiv

suggests even lower levels of life expectancy for the year 1933: 4.4 years for males and 6.5 for females.[21] Such results, which assume that the 1939 census underestimated population much more severely than is usually admitted, and which also rely on an extreme hypothesis for under-registration of deaths, might indeed be exaggerated, but they clearly indicate that such is certainly not the case for the estimates considered here.

And even with this rather conservative estimation, the Great Ukrainian Famine of 1932–33 appears to have been far more brutal than the last great famine in Europe, which occurred in Finland in 1868. The Finnish crisis was caused by natural climatic hazard, while the Holodomor resulted from deliberate human action.

Long-Term Consequences: A Comparison with Successive Crises

In this section we shall deal only with demographic consequences, and by "demographic" we mean population growth and structure, not including any indirect consequences, such as the possible influence of the famine on future health and/or fertility of individuals. By global losses we mean all population losses, whatever their origin (excess mortality, birth deficit and crisis migration). The general idea is to estimate what the Ukrainian population size and structure would have been today without the 1932–33 Famine.

However, the Great Famine was not the only dramatic crisis experienced by Ukraine from the 1920s. World War II was, of course, a major shock, but the health crisis that occurred in the Soviet world from the mid 1960s and the fertility collapse of the 1990s also had a major impact on the Ukrainian population, while substantial changes to the national boundaries brought millions of additional people into the country. The effects of the Great Famine will thus also be compared to those of these other major changes.

The Great Famine's Impact over Time

To trace the impact of the Great Famine over time, it is sufficient to make a classic demographic projection. The starting point of the projection is the expected population by sex and age in 1939 without the famine that was previously used to estimate global losses. That population is then increased to fit with the present borders of Ukraine. The projection scenario includes two main hypotheses. First, people who died or were not born because of the famine would have had the same fertility and the same mortality as the survivors. Second, total net migration would have been the same as observed from 1939 to now.

Figure 2, below, displays eight population pyramids showing the progressive changes in Ukrainian populations since 1939, distinguishing both real population and population under a non-crisis scenario, every ten years.

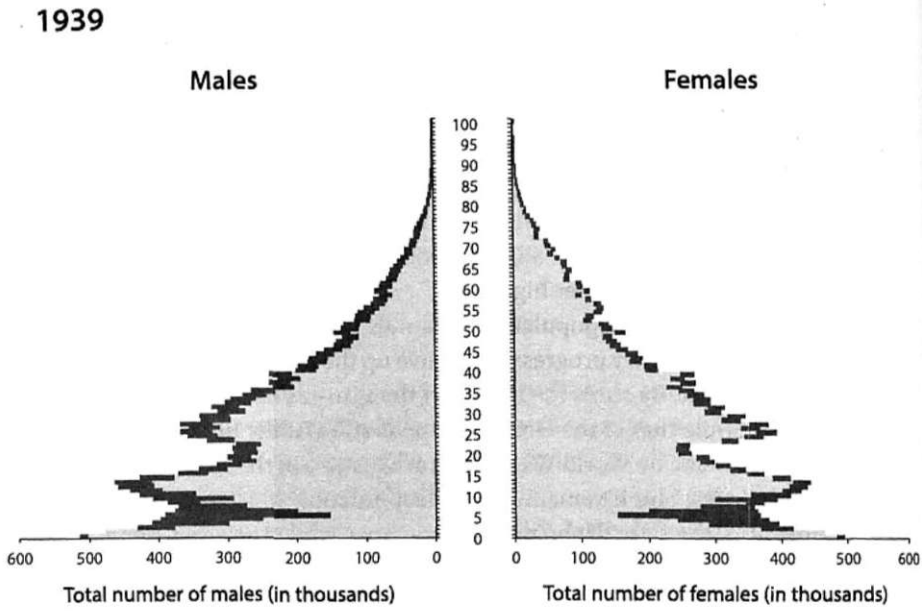
Changes in the central part of these pyramids represent the real history of the Ukrainian population. Surface areas are proportional to population. The stagnation of the total population appears rather clearly and its brutal changes in sex and age patterns even more so. Indeed, the total population was 42.2 million in 1939 (present territory) and is still only 46.5 million in 2007, both because of very large World War II losses and the major effects of recent negative trends in fertility and life expectancy. Consequently, the population pyramid has changed dramatically over time. That of 1939 was already severely affected by two "recent" shocks: the Great Famine, of course, but also the shock caused by the succession of 1916–24 calamities (World War I, civil war, repressions, and famine). Apart from these two dents in the base, for ages above 22 the pyramid has a very regular, slightly concave shape, typical of a population whose past fertility was rather high.

From 1939 to 2007, the population pyramids keep the trace of the two first dents but, with time, they progressively move up the age scale and become less and less prominent. By 2007, the impact of the 1916–24 calamities has already disappeared, while that of the Great Famine is still visible. In between, a new large dent was made by World War II, first at ages 4–9 in the 1949 pyramid and then at older ages, and it remains quite deep in 2007 at around ages 60–65. With time also, the base of the pyramid narrows while the adult population becomes larger because of demographic aging. Finally, the age pattern is dramatically changed by the recent fertility collapse that has narrowed the base of the 1999 and 2007 pyramids dramatically.

The darker edges of the pyramids represent the demographic consequences of the Great Famine. Added to the central part they show what the population pyramid would have been if no famine had occurred in 1932–33. Of course, the dent on the 1939 pyramid due to the Great Famine's birth deficit would have been much shallower, but the birth deficit would still have produced a shallower dent due to the fact that the number of women of childbearing age was reduced by the 1916–24 losses. This second-generation effect would have disappeared sooner than that of the Great Famine; barely visible in 1999, it has disappeared in 2007.

In the same way, the mortality effect of the Great Famine is progressively disappearing, since people who would have survived without it would also have grown old and finally vanished at the top of the pyramid. However, since the Great Famine caused huge losses in all generations, including those that were still or not yet of childbearing age, the number of births in all successive years will be reduced and these new generations of births will in turn also produce fewer births, etc. This explains why the Ukrainian population pyramid still has, and will always have, a darker edge, representing the long-term demographic consequences of the Great Famine.

Figure 2a–b. Actual age pyramids (in grey) as compared to expected populations under a non-famine scenario (difference appears in black) for 1939 and 1949.



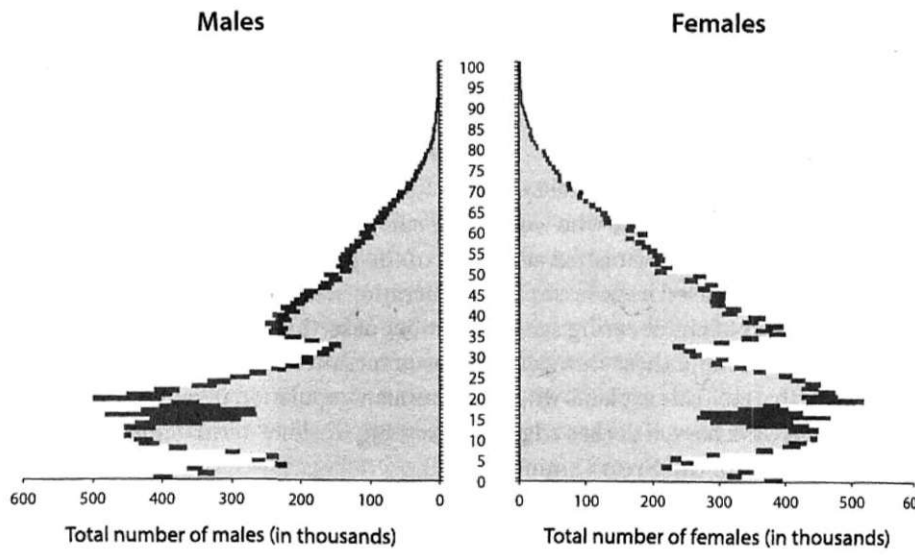
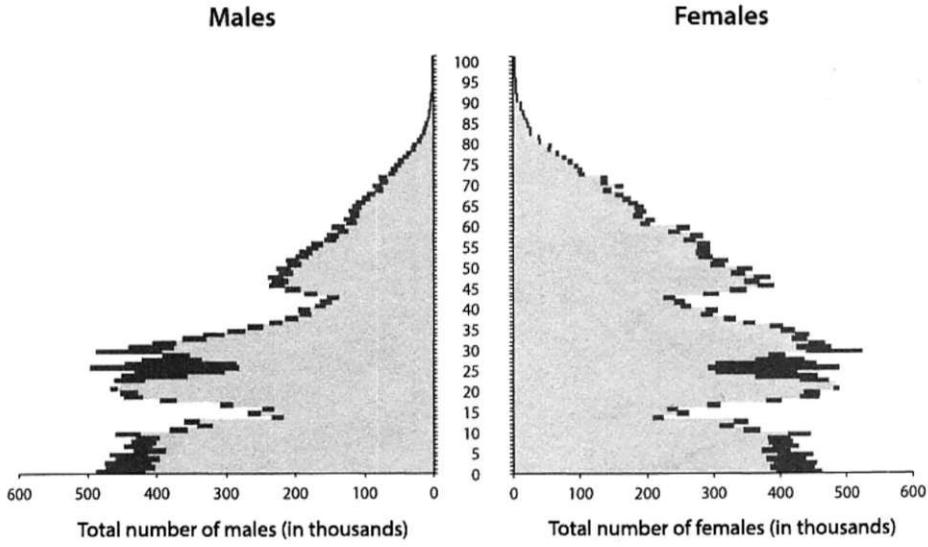


Figure 2c–d. Actual age pyramids (in grey) as compared to expected populations under a non-famine scenario (difference appears in black) for 1959 and 1969.

1959



1969

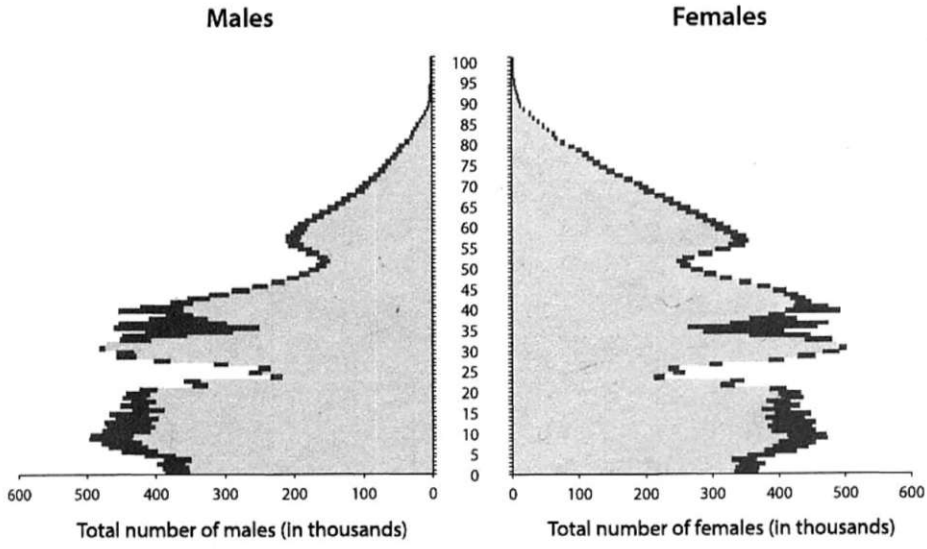
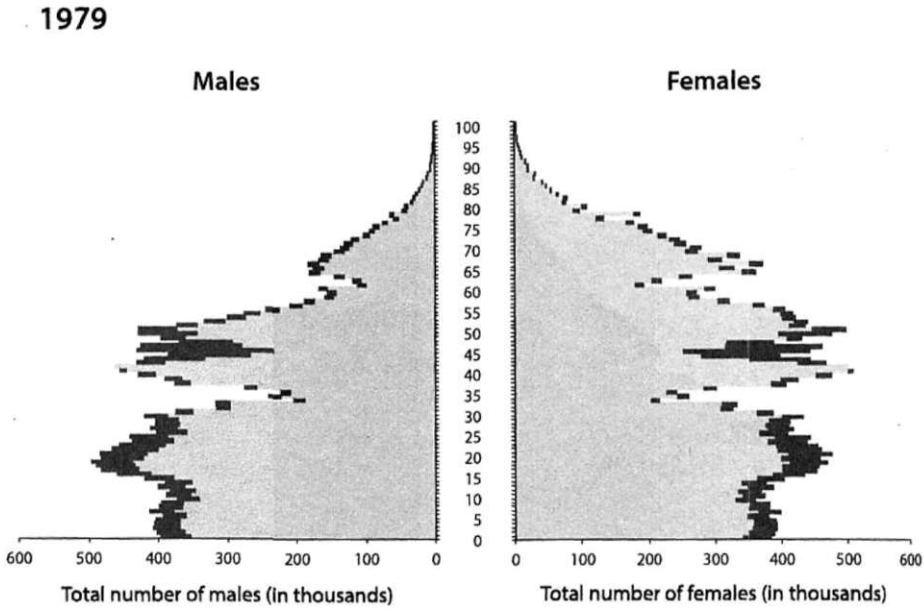


Figure 2e–f. Actual age pyramids (in grey) as compared to expected populations under a non-famine scenario (difference appears in black) for 1979 and 1989.



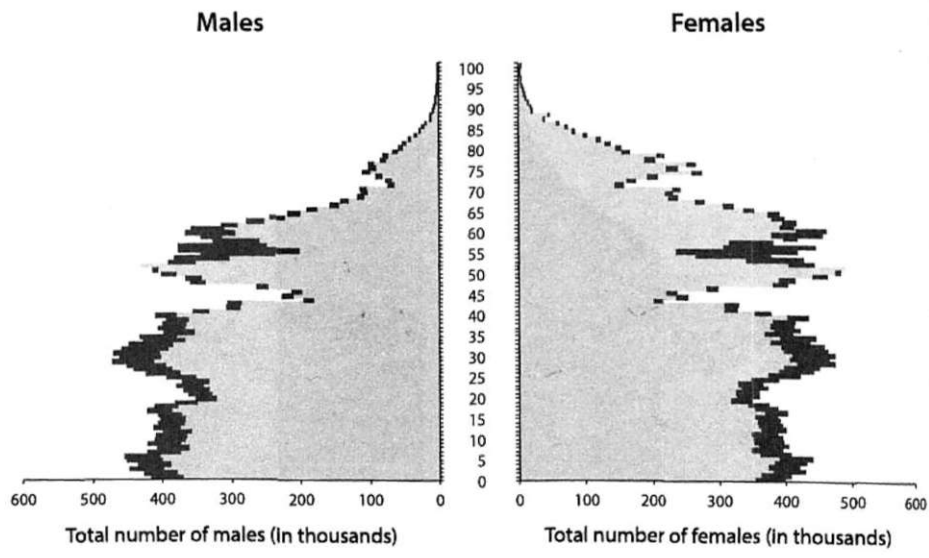
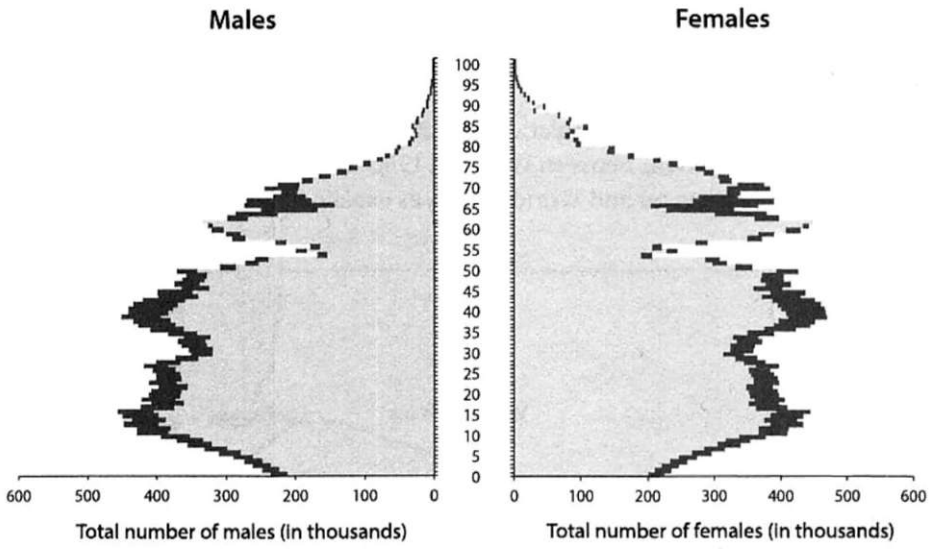
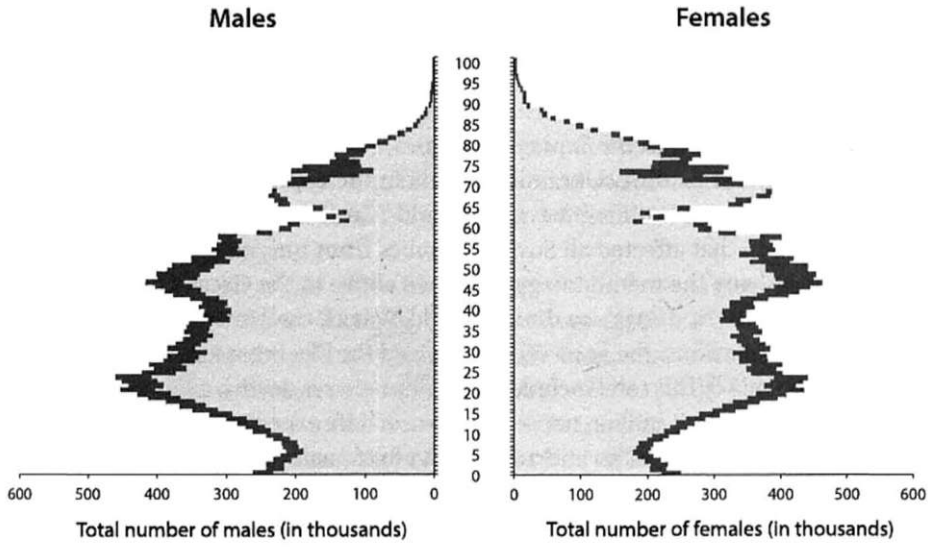


Figure 2g–h. Actual age pyramids (in grey) as compared to expected populations under a non-famine scenario (difference appears in black) for 1999 and 2007.

1999

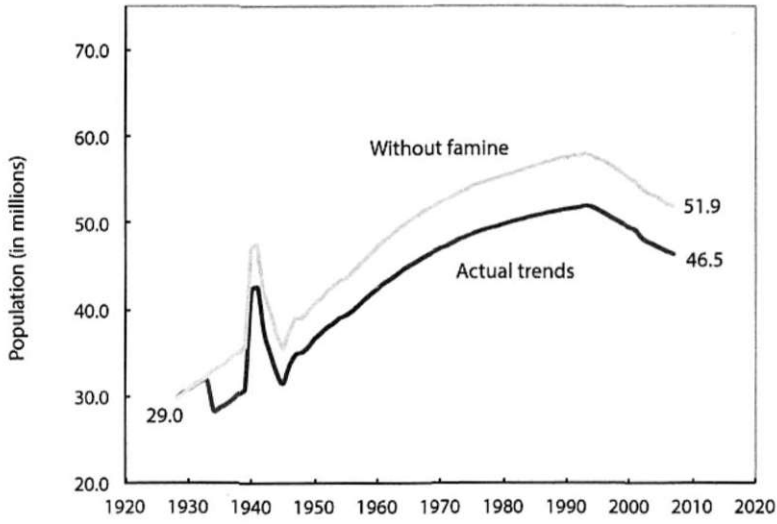


2007



All these changes finally result in a changed trajectory of the total population (figure 3, below). While short-term losses were estimated above at 4.6 million, the 2007 gap between actual and expected populations is 5.4 million. Even though the generations directly affected by the Great Famine are progressively becoming extinct, the famine effects are carried over to the younger generations. Finally, the population deficit observed over time is roughly proportional to the population size.

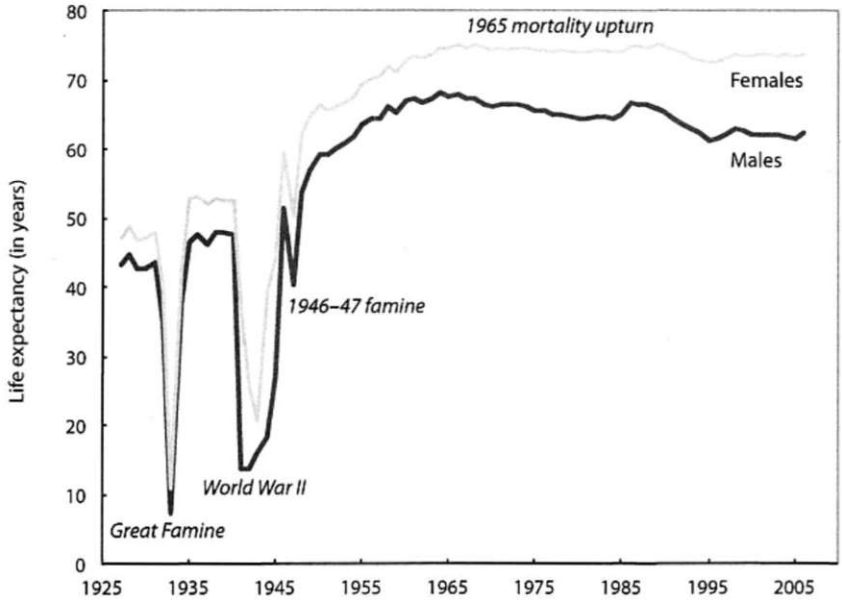
Figure 3. 1927–2007 population trajectories with and without famine. (Fluctuations between 1940 and 1950 are due to territorial changes and World War II, as explained below.)



The Great Famine and the Subsequent Crises

After the Great Famine, Ukrainian trends in life expectancy were strongly affected by two quite different events: World War II and the long-term health deterioration that affected all Soviet republics from 1965 onward (figure 4, at right). Applying the methodology discussed above to the Great Famine, total losses of the period 1939–49 due to World War II, the Holocaust, Nazi and Stalinist repressions, the 1946–47 famine, and the like, were estimated at 13.8 million people.[22] This total includes 7.4 million excess deaths, a birth deficit of 4.1 million and a 2.3 million net out-migration. Life expectancy fell to a low of 13.6 years in 1941 for males and 20.6 in 1943 for females. A second short-term fall of about 10 years occurred with the 1946–47 famine.

Figure 4. 1927–2007 trends in life expectancy by sex.



Despite this series of terrible events, under the communist regime Ukrainian life expectancy increased steadily in the 1950s and succeeded in catching up with Western levels thanks to a dramatic reduction in infectious diseases.[23] Unfortunately, like other Soviet republics, Ukraine failed to enter the next stage of the health transition—the reduction of cardiovascular mortality, and instead of continuing to increase, life expectancy plateaued for females and even decreased for males. Although much less brutal than the Great Famine or World War II, this downturn had major demographic consequences.

The sudden fertility collapse that occurred in 1990 also strongly affected population trends: from 1989 to 1999, the total fertility rate (TFR) fell from 2.0 to 1.1.

To compare the effects of the Great Famine with those of these three new negative events—that is, declining life expectancy, declining fertility, and out-migration—we used the same method of projection, simply varying the basic hypothesis. For the 1939–49 losses, the estimate of the 1949 population under a non-crisis scenario was used as a starting point, and projections were made with mortality, fertility, and migration rates observed from 1949 to 2007. For possible expected mortality trends after 1965, two hypotheses were explored:

keeping constant the 1965 life expectancy (H1) or following French life-expectancy trends (H2) (figure 5, below). Finally, as an alternative to the 1990 fertility collapse, TFR was kept constant at its 1990 level (figure 6, at right).

Figure 5. Life expectancy trends after the 1965 mortality upturn as compared to constant mortality and French trends.

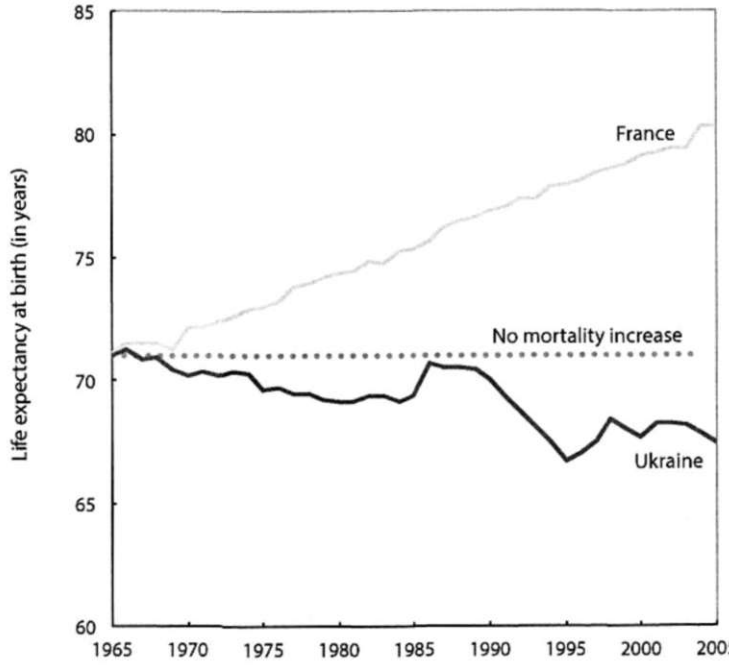
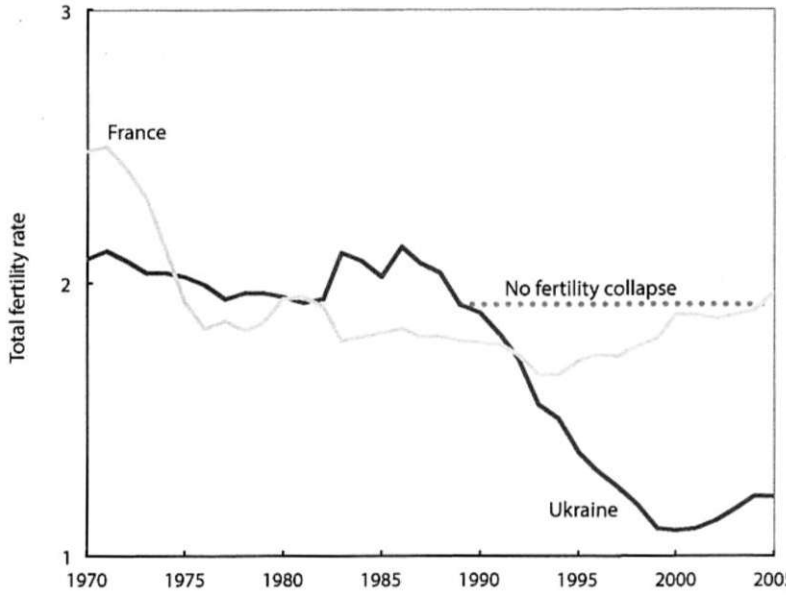


Figure 6. Trends in Ukrainian total fertility rate as compared to constant fertility and to French trends.



We already know that without the Great Famine, the Ukrainian population would have been 5.4 million higher in 2007. By comparison, World War II reduced it by 13 million (table 2), which is more than double, but the war and other traumatic events of the time lasted much longer than the 1932–33 famine. In terms of mortality, especially, life expectancy did not fall so dramatically, but remained very low for several years (1941–45 and 1947).

The deterioration of health conditions that started in the mid-1960s also produced a large reduction in population size over time. If life expectancy had remained constant at its 1965 level, the population today would be 2.7 million higher, and if Ukrainian mortality had decreased at the same pace as that of France, it would be 6.5 million higher. Finally, within two decades, the fertility collapse caused a 3.1 million loss.

Concurrently, another series of events had an opposite effect on population, namely the extension of Ukrainian territory to include parts of Poland (Volhynia and East Galicia), Czechoslovakia (Transcarpathia), Romania (South Bessarabia and Northern Bukovina), and Russia (Crimea). Without these changes, the Ukrainian population today would be 11.4 million less (table 2, below).

Table 2. The impact of various major historical events on 2007 population size.

Events	2007 population	Population impact
Actual population	46.5	
Without famine	51.9	-5.4
Without World War II	59.5	-13.0
No mid-60s mortality upturn		
Constant mortality	*49.2*	*-2.7*
French trends	*53.0*	*-6.5*
No recent fertility collapse	49.6	-3.1
No territory gains	35.1	11.4

Such comparisons are somewhat artificial, however, since each of these events took place at different times and their impact today depends on the time elapsed since they occurred. Figure 7, at right, and table 3, below, compare respective losses at equal times since the event. Figure 7 distinguishes clearly between the impact of brutal events (famine, war) and that of cumulative ones (health deterioration, fertility fall). The impact of the latter starts very low, but it increases steadily with time. On the contrary, the impact of brutal events is generally immediate and the later results are only slightly different, caused by subsequent changes in population size due to other factors. The impact of the Great Famine, for example, is enormous in the first year; it then increases slightly with a normal increase in total population, drops with the World War II population losses, increases again with total population growth and finally decreases with the population decline due to health deterioration and fertility decline. The impact of World War II follows almost the same pattern, but with a specific difference due to the fact that the event itself lasted several years; after the immediate rise, there is also a non-negligible fall due to the population decrease itself.

Figure 7 shows that over thirty-five years, health deterioration after 1965 produced population losses equal to those of the Great Famine observed after the same time interval. And the recent fertility collapse did almost the same in less than twenty years. Let us hope that neither the health deterioration nor the low fertility will last long enough to produce population losses as great as those of World War II (even if this were possible within fifty or sixty years).

Table 3, below, summarizes the trajectories of figure 7 by giving the respective impacts of the different events at 1, 20, 40, and 60 years after their occurrence.

Figure 7. The impact of the Great Famine as compared to those of other negative events by distance from the event in years.

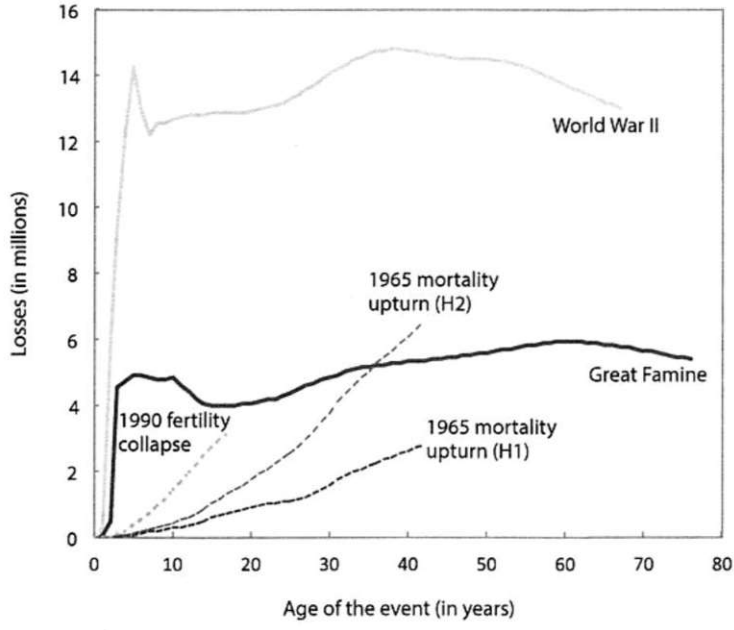


Table 3. The impact of various major historical events on population size at equal times since their occurrence.

	Immediately			
		Population		
	Year	Observed	Hypothetical	Difference
Famine	1935	28.7	33.4	-4.7
World War II	1946	33.5	46.5	-13.0
Constant mortality	1965	45.1	45.1	0
Same progress as France	1965	45.1	45.1	0
Constant fertility	1990	51.6	51.6	0

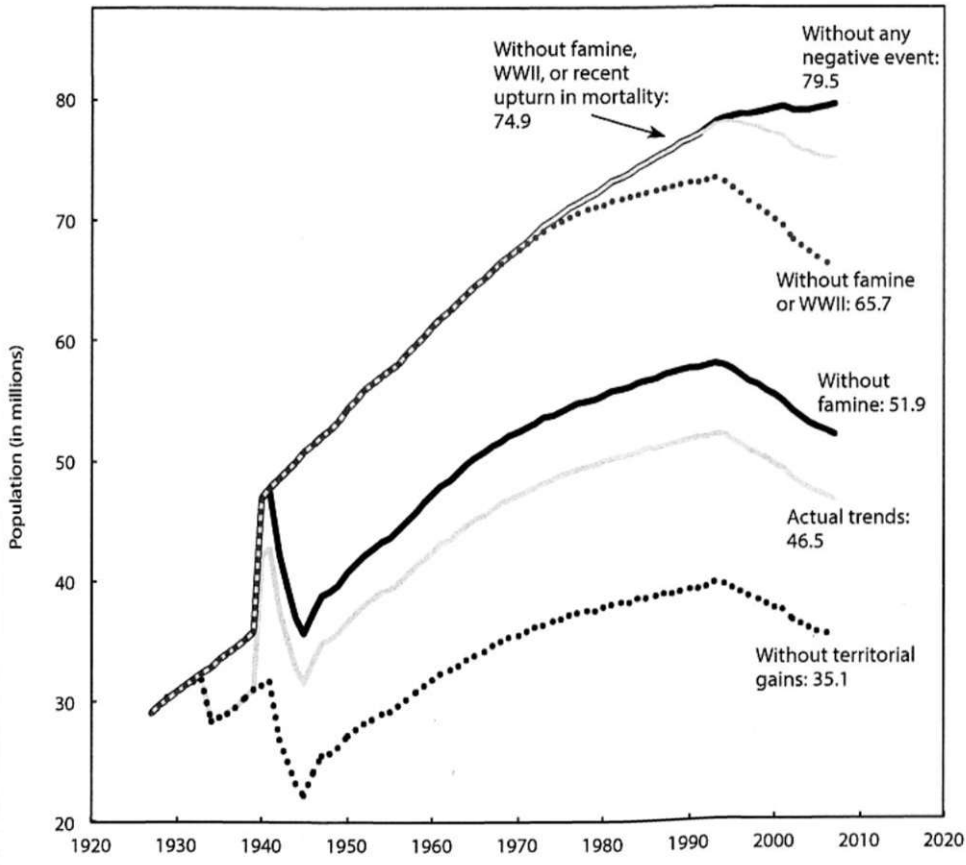
	After 20 years			
		Population		
	Year	Observed	Hypothetical	Difference
Famine	1953	38.5	42.6	-4.1
World War II	1965	45.1	58.4	-13.3
Constant mortality	1985	50.8	51.8	-1.0
Same progress as France	1985	50.8	52.6	-1.8

	After 40 years			
		Population		
	Year	Observed	Hypothetical	Difference
Famine	1973	48.1	53.5	-5.4
World War II	1985	50.8	65.4	-14.6
Constant mortality	2005	47.1	49.7	-2.6
Same progress as France	2005	47.1	53.2	-6.1

	After 60 years			
		Population		
	Year	Observed	Hypothetical	Difference
Famine	1993	52.0	57.9	-5.9
World War II	2005	47.1	60.3	-13.2

While the specific impact of each event was considered above, it is also possible to look at the composite effects of several of them. Figure 8 shows selected trajectories, from the worst set of assumptions to the best. To take territorial changes into account in a simple manner, all these changes are assumed to have occurred in 1940.[24] The 2007 hypothetical population estimates range from 35.1 million (without any territorial gains but with all the negative events in action) to 79.5 (without any negative events but in the present territory). The highest scenario is more than twice the lowest one.

Figure 8. 1927–2007 population trends under various scenarios.



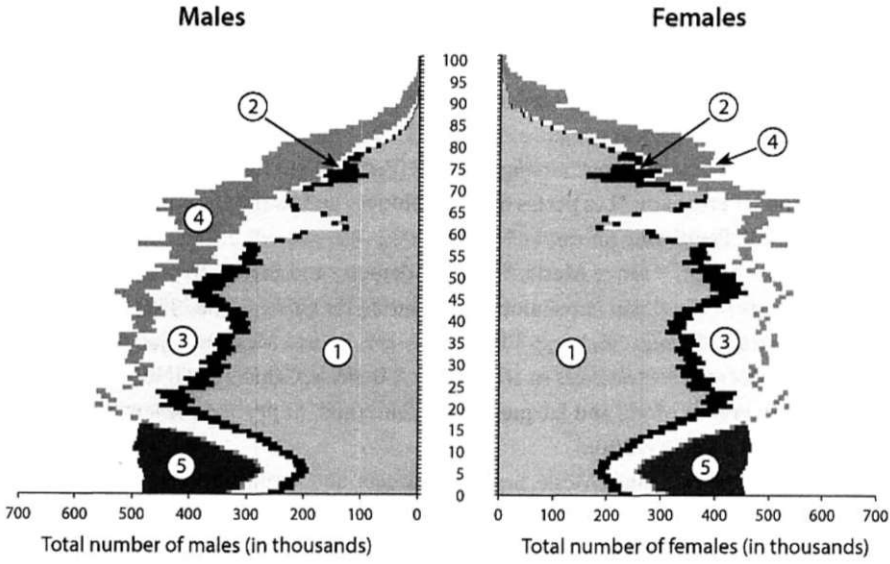
The combined effect of the Great Famine and World War II equals 19.2 million, and all negative effects combined reduce the total population by 33 million. Each of these figures is notably higher than the simple addition of individual effects given in table 2 above (18.4 and 28 respectively). This is because the absolute effect of one event is greater if the population does not suffer from the other ones.

To show how these events marked the Ukrainian population pyramid, figure 9, at right, gives the age and sex distribution of the total population produced with the most favorable scenario (79.5 million in 2007), but also distinguishes what was lost due to each negative event. Surface number 1 represents the actual present pyramid. Number 2 shows the impact of the Great Famine; number 3, that of World War II and surrounding events; number 4, that of a life expectancy lower than French trends; and number 5, that of the recent fertility collapse.

The consequences of these various events are very unequally distributed by age. The top of the pyramid is mostly affected by the consequences of health deterioration, whereas the bottom is drastically reduced by the recent fertility collapse. In between, the Great Famine and World War II affected almost all ages but especially adult ages, depending on the age of those born during the crisis (due to the initial birth deficit) or after (due to the subsequent birth deficits as explained above for the Great Famine). In fact, most of the direct losses (excess mortality) due to World War II and even more to the Great Famine have almost vanished at the top of the pyramid.

Even after seventy-five years and in spite of all the other events affecting Ukraine in subsequent years, the Great Famine still has a visible impact, not only on the total population but also on the population pyramid. Because of the terrible damage inflicted by the Holodomor, even today's youngest generations are substantially less numerous than they could have been.

Figure 9. Impact of the Great Famine and of other negative events on the 2007 age pyramid.



Key:

1. Actual population
2. Consequences of the Great Famine
3. Losses due to World War II
4. Consequences of mortality trends after 1965, compared to France
5. Consequences of the post-1990 fertility decline

Notes

1. Robert Conquest, *The Harvest of Sorrow: Soviet Collectivization and the Terror-Famine* (London, 1986).
2. Stanislav Kul'chyts'kyi, *Ukraine's Demographical Losses from Famine in 1932–1933 according to the General Census of the Population in 1937* (Kyiv, 1995). (Paper presented to the conference "Population of the USSR in the 1920s–1930s in Light of Newly Classified Documentary Evidence," Toronto, 1995.)
3. Evgenii M. Andreev, Leonid E. Darskii, and Tat'iana L. Khar'kova, *Naselenie Sovetskogo Soiuza: 1922–1991* (Moscow, 1993).
4. Sergei Adamets and Vladimir Shkol'nikov, *O dovoennykh tablitsakh smertnosti SSSR* (Moscow, 1995). (Paper presented at the conference "Population of the USSR in the 1920s–1930s in Light of Newly Classified Documentary Evidence," Toronto, 1995.)
5. Sergei Maksudov, *Poteri naseleniia SSSR* (Benson, Vt., 1989).
6. Serhii I. Pyrozhkov, "Les pertes démographiques en Ukraine dans les années 1930 et 1940," *Population* 51, no. 4–5 (1996): 1032–40.
7. Jacques Vallin, France Meslé, Serguei Adamets, and Serhii Pyrozhkov, "A New Estimate of Ukrainian Population Losses during the Crises of the 1930s and 1940s," *Population Studies* 56, no. 3 (2002): 249–64; France Meslé and Jacques Vallin, *Mortalité et causes de décès en Ukraine au XXe siècle*, Cahiers de l'INED 152 (Paris, 2003); France Meslé and Jacques Vallin, *Smertnist' ta prychyny smerti v Ukraïni u XX stolitti* (Kyiv, 2008).
8. Jacques Vallin, France Meslé, Serguei Adamets, and Serhii Pyrozhkov, "The Great Famine: Population Losses in Ukraine," in *Holodomor: Reflections on the Great Famine of 1932–1933 in Soviet Ukraine*, ed. Lubomyr Luciuk and Lisa Grekful (Kingston, Ontario, 2008), 33–48.
9. Serguei Adamets, Alain Blum, and Serguei Zakharov, *Disparités et variabilité des catastrophes démographiques en URSS*, Dossiers et Recherches 42 (Paris, 1994); Alain Blum, *Naître, vivre et mourir en URSS: 1917–1991* (Paris, 1994).
10. Adamets et al., *Disparités et variabilité des catastrophes démographiques.*
11. In particular, infant and old-age mortality rates were corrected.
12. Zapis' aktov grazhdanskogo sostoianiia—that is, local offices for civil registration.
13. Registered numbers of death, corrected for under-registration of infant deaths.
14. Viktor N. Zemskov, "Spetsposelentsy (po dokumentatsii NKVD-MVD SSSR)," *Sotsiologicheskie issledovaniia*, no. 11 (1990): 3–17.
15. Vallin et al., "New Estimate of Ukrainian Population Losses."
16. RGAE, record group 1562, file 329, document 200, p. 191.
17. Vallin et al., "New Estimate of Ukrainian Population Losses."
18. Note also that people who were deported, once outside Ukraine, also suffered from high excess mortality, which is not taken into account here.

19. However, results had to be adjusted for mortality under age 5 on the basis of more precise observations made for the last case of extensive famine observed in Europe—that of Finland in 1868, which was conducted in a context of much more accurate vital statistics. See Kari J. Pitkänen, *Deprivation and Disease: Mortality during the Great Finnish Famine of the 1860s* (Helsinki, 1993).
20. Andreev et al., *Naselenie Sovetskogo Soiuza*; Evgenii M. Andreev, Leonid E. Darskii, and Tat'iana L. Khar'kova, *Demograficheskaia istoriia Rossii: 1927–1959* (Moscow, 1998).
21. Ella Libanova, "Otsinka demohrafichnykh vtrat Ukraïny vnaslidok holodomoru 1932–1933 rokiv," in *Zbirnyk naukovykh prats': za materialamy VII Rehional'noï naukovo-teoretychnoï konferentsiï "Holodomor 1932–1933 rokiv v Ukraïni: prychyny sotsial'no-psykholohichni ta demohrafichni naslidky, pravova otsinka" do 75-kh rokovyn Holodomoru*, ed. L. H. Bilyi (Kyiv, 2009), 266–77.
22. Vallin et al., "New Estimate of Ukrainian Population Losses"; Meslé and Vallin, *Mortalité et causes de décès en Ukraine*; Meslé and Vallin, *Smertnist' ta prychyny smerti v Ukraïni*.
23. Meslé and Vallin, *Mortalité et causes de décès en Ukraine*; Meslé and Vallin, *Smertnist' ta prychyny smerti v Ukraïni*.
24. Most of these changes occurred that year under the 1939 German-Soviet pact. Only Transcarpathia and Crimea were annexed later (in 1945 and 1954, respectively).

Comments on the Demographic Consequences of the Holodomor

Oleh Wolowyna

"Population Losses in the Holodomor and the Destruction of Related Archives: New Archival Evidence" by Hennadii Boriak

Hennadii Boriak's paper provides a very informative description of some of the archival materials available about the Holodomor. He presents valuable information about death registration books that were thought to be almost completely lost as well as about little known and practically unutilized documents such as administrative maps and unpublished reference books on administrative and territorial divisions. A very important contribution is his detailed description of the Soviet government's policy of systematic destruction of documents and data related to the Holodomor.

The paper begins with a brief overview of the main data sources for studying the demographic consequences of the Holodomor: (1) the 1926, 1937, and 1939 Soviet censuses; (2) the 1931 special registration of the urban population in Ukraine; and (3) yearly reports of registration of vital statistics (births, deaths, and other events). Boriak also mentions data on the payment of agricultural taxes compiled by the Narkomfin of the Ukrainian SSR, described by Kul'chytskyi and Yefimenko.[1]

The description of these main data sources can be complemented by a few observations based on research by demographers at the Institute for Demography and Social Studies of the National Academy of Sciences of Ukraine.[2] As that research points out, during the 1920s and 1930s the vital statistics registration system in Ukraine was one of the best, if not the best, in the whole Soviet Union. However, the original data was affected by deliberate destruction and disruptions in the vital statistics registration system. The database of original

records was destroyed by the Soviet regime in its totality in 1941, while yearly summary reports are available in a piecemeal fashion. Detailed annual reports for the 1926–29 period are available in Kyiv, no complete reports are available for the 1930–32 period, and less detailed yearly reports for the 1933–39 period are available in Moscow. Due to the reorganization of the vital statistics system, no yearly reports were published for the years 1930–32. Fortunately, data for this period were rescued in the form of personal notes of the Ukrainian demographer Korchak-Chepurkivs'kyi, and are available at the Institute for Demography and Social Studies.

One needs to add data on migration to the sources listed in Boriak's paper. The registry of the urban population provides detailed information about migration for the urban population in Ukraine for the whole intercensal period (1926–39), while for the rural population fairly detailed information exists about forced out-migration of special groups such as kulaks, political prisoners, and ethnic minorities like Germans and Poles, as well as information about in-migration of rural settlers from Russia and Belarus.

We have to take exception to the statement that estimates of the rural population of Ukraine based on agricultural tax data, available for 1934 and 1935, "...would be quite accurate." In general, the best method of counting people is a well-executed census or, in some cases, a population registration system of well-proven quality, and population estimates for intercensal years are usually calculated using yearly estimates of births, deaths, and migration. Financial data are, by their nature, often suspect, as it is human nature to underreport this type of data. Also, in this case people not engaged in rural-type activities were not captured by the system, as they were not subject to the agricultural tax. It may be more accurate to state that these data can be used as a complement to estimates based on demographic data. Boriak's contribution is to point out the existence of these data and the importance of including them in the estimation equation.

The discovery of a significant number of original death certificates for 1932 and 1933 opens a whole new chapter of research on the Holodomor. As Boriak points out, this material has positive and negative aspects that need to be carefully evaluated. On the positive side, the certificates provide a very detailed demographic and socioeconomic picture of the deceased, including nationality. However, only a certain proportion of the death certificates have more detailed information, and in some cases the nationality of the deceased was eliminated from the death certificates starting in mid-1933.

On the negative side, the death certificates cover only a fraction of all registered deaths, and it has been shown that the actual number of deaths was significantly higher. It is problematic to formulate generalizations about the total population losses on the basis of research drawing on these limited sources. A total of 3,539 death registration books were found for the years

1932–33, containing 654,636 death certificates. As the official number of registered deaths for these years was close to three million, death certificates are available only for about 22 percent of all registered deaths. If we take into account that during the Holodomor years, and especially in 1933, there was a very high under-registration of deaths (the paper provides ample evidence about this), the relative number of deaths documented in death certificates is even smaller. Demographers at the Institute for Demography and Social Studies at the National Academy of Sciences of Ukraine have estimated that during the period from 1932 to 1933 the actual number of deaths was 4.9 million; thus the death certificates represent less than 15 percent of the total number of estimated deaths.[3]

Boriak accurately describes the many problems associated with the "cause of death" information on death certificates and points out inconsistencies in the data. The validity of the "cause of death" information is questionable even in the best registration systems, and given the demographic, public health, bureaucratic, and political context during the Holodomor period, it is safe to say, with some exceptions, that this information is questionable. Thus, it is difficult to understand the statement that the health experts who examined these death certificates concluded that "starvation led to deaths in all registered cases without exception."

That is not to say that the registered "cause of death" information is not useful. In spite of the fact that in 30 to 50 percent of the certificates the cause of death was registered as "unknown" or "not identified," this information deserves careful analysis. For example, it can provide more detailed evidence about government efforts to eliminate information about starvation as the direct or indirect cause of death. Analysis of patterns of recorded causes of deaths among the different oblasts and localities can provide clues about how well the registration system was functioning (or not functioning) at the regional and local levels.

These certificates can provide very valuable information at the micro-historical-demographic level, and in some cases it may be possible to make some generalizations. As Boriak points out in his paper, the coverage of the death certificates, using the criteria percent of territory covered, varies greatly among the different oblasts, from 90 percent or more in Chernihiv and Zaporizhia to about 20 percent in Mykolaïv and Odesa oblasts. These figures need to be analyzed in more detail in terms of the numbers and types of localities covered, as well as in terms of the proportion of death certificates in relation to the number of registered deaths in each oblast. The representativeness of the death certificates can be also evaluated by comparing the age and sex distribution of deaths with that of registered deaths.

The death certificates constitute a valuable and unexplored resource for a more in-depth understanding of the dynamics and nature of the Holodomor

at the subnational level, and Boriak should be commended for his work in rescuing this valuable resource and bringing it to the attention of the research community. The certificates provide a new avenue of research intersecting demographic, historical, economic, health, and social dimensions.

It is mentioned in the paper that a large number of birth and marriage/divorce registration books are also available. Very preliminary results of the effects of the Holodomor on natality and nuptiality have been presented by researchers of the Institute for Demography and Social Studies, based on national birth and marriage/divorce statistics.[4] Research using these registration books could provide a useful complement to research based on birth and marriage/divorce registration data.

Boriak's paper also describes additional new sources of data for studying the implications of the Holodomor: detailed administrative maps documenting the spatial population distribution in 1932 and 1933, as well as changes in the administrative structure and territorial reform during these years; and unpublished reference books on administrative and territorial division containing population statistics of different administrative units. Together with the demographic analysis based on more standard data sources, these documents can provide more detail about the demographic dynamics at the local level during the Holodomor years.

The final section of the paper makes the case for yet another new line of Holodomor research: analysis of the systematic destruction of Ukrainian statistical archives. Evidence is presented about the massive and systematic destruction of documents related to the Holodomor in order to eliminate evidence about this crime against the Ukrainian people. Interestingly, as Boriak points out, the central archives in Moscow were much less affected by this destruction policy. This is another example of the control and manipulation of the historical record by successive governments, as part of a policy that goes back many centuries. The strategy is to eliminate undesirable evidence in the periphery of the empire and bring all the evidence under control by the central government so that it can be manipulated by selective control of access and selective destruction and falsification of key data and documents.

"Demographic Consequences of the Great Famine: Then and Now" by France Meslé, Jacques Vallin, and Evgeny Andreev

This paper by a team of French demographers is presented in two parts: (1) a summary of their analysis of the demographic consequences of the 1932–33 Famine in Ukraine initially published in 2002; and (2) an estimation of long-term losses in the population of Ukraine due to the Holodomor and other crises, as well as their impact on the age-sex structure of the population.

Estimation of Holodomor Losses

The population reconstruction methodology was applied in the 2002 study to estimate direct (excess mortality) and indirect (lost births) losses by age and sex resulting from the Holodomor. This pioneering research was based on the 1926 and 1939 censuses, detailed yearly registered deaths and births during the intercensal period, and estimates of migration.[5] Comparing the observed 1939 population with the projected population, assuming fertility, mortality, and migration trends had there been no famine, total losses for the 1927–39 period were estimated at 4.6 million. These losses were broken down into 2.6 million excess deaths, 1.1 million lost births, and a 0.9 million net migration loss. It is important to note that these estimates include other losses besides the Holodomor losses, which are restricted, by definition, to the 1932–33 period, although, as it will be pointed out below, there is evidence that Great Famine losses extended to 1934.

The estimation of Holodomor losses was hampered for a long time by lack of access to key data. With the opening of archives in the late 1980s it was possible to base these estimates on real data, as opposed to theoretical models and assumptions. However, all the necessary data and documentation about their quality did not become available at the same time. As time went by, researchers gradually discovered more detailed and complete data, which allowed them to apply more sophisticated methodologies and hopefully to arrive at more reliable estimates of Holodomor losses. To some degree the time when the estimates were made is correlated with the detail and completeness of data used in the analysis.

The estimates presented in 2002 were constrained by some limitations in available registered birth and death data, incomplete information about the quality of census data, and serious limitations in the data used to estimate migration. Work by a team of demographers at the Institute for Demography and Social Studies in Ukraine, using basically the same methodology, had the advantage of having access to a more complete and detailed data set.[6]

A brief comparative analysis of the methodology and results of the two studies is presented in order to illustrate the effects of more complete and adjusted data on the estimation of famine losses. Archival documents and a thorough evaluation of previous research allowed the Ukrainian team to document problems with the 1926 and 1939 censuses and make relevant adjustments to the data, and to include additional deaths during the intercensal period that were not included in the official registration system. Net migration was estimated using more detailed data on forced and voluntary in- and out-migration for Ukraine.

Since the population reconstruction method provides loss estimates on a yearly basis, it is possible to restrict the intercensal estimates to the 1932–34 Holodomor period (the Ukrainian team showed that Holodomor losses

extended to 1934). Direct losses were estimated at 2.6 million by the French team, and 3.4 million by Libanova et al. Both studies estimated indirect losses at about one million. No estimate of net migration is provided for the Holodomor period by Vallin et al. (the estimate for the 1926–39 intercensal period is -900,000), while Libanova et al. estimate a -200,000 net migration for the Holodomor period. It is not possible to make a precise comparison of the net migration estimates. Considering that the methodology used in both studies is practically the same, however, the close to one million difference in the estimates of direct losses can be accounted for by data-related factors: adjustment of the census populations and a more precise accounting of intercensal deaths.

First, based the on work of several Soviet demographers, the Ukrainian team applied corrections to the 1926 census, resulting in an increase of 278,000 to the official total population value. Detailed work by Andreev et al. showed that the 1939 census was deliberately falsified to increase the total population, and thus hide the effects of the 1932–33 Famine and repressions during the intercensal period.[7] The adjustment parameters they developed for the Soviet Union were adapted to the situation in Ukraine, and the official value of Ukraine's total population was increased by 750,000. Second, about 140,000 persons executed during the 1937–38 terror campaign were added to the number of deaths, as they were not counted in the official registration of deaths. Also, urban net migration was estimated using data from the urban registry system that was in place during the whole intercensal period, while rural migration was estimated using data for several special subpopulations, including the settlement in 1933 of peasants from Russia and Belarus in rural areas depopulated by the Holodomor.

Long-Term Consequences of the Holodomor and Other Crises

The second part of the French team's contribution to this volume presents the results of analytical projections estimating the long-term demographic effects of the Holodomor and other crises affecting Ukraine in the twentieth century. The immediate effects of the Holodomor have been studied extensively, while its long-term effects have received, until now, little attention. This pioneering research expands the study of the Holodomor in an important direction. The impact of the Holodomor is estimated by projecting actual trends in fertility, mortality, and migration between 1939 and 2007 and comparing them with a baseline projection that assumes no crisis. As the projections are by age and sex, one can evaluate the effects of the crisis in terms of total population, as well as their impact on the age-sex structure of Ukraine's population at different times.

The individual impacts of other crises—World War II and the 1946–47 famine, the health crisis starting in 1965 with a significant increase in mortal-

ity, and the fertility decline of the 1990s—are also evaluated using projections with relevant assumptions. Taking as a basis the actual population in 2007, it is estimated that by 2007 the Holodomor reduced the population of Ukraine by 5.4 million, World War II and the 1946–47 famine by 13 million, the mid-1960s mortality upturn by 6.5 million, and the recent drastic fertility decline by 3.1 million.

The compounded effect of all these crises is quite dramatic. Assuming that none of these crises had taken place, the expected total population by 2007 would have been 79.5 million, compared with the actual total of 46.5 million; that is, the population of Ukraine would have been about 70 percent higher. As the actual 2007 population includes the western territories annexed to Soviet Ukraine between 1939 and 1945, a gain of 11.4 million, the actual impact of these crises is even more extreme.

This research is only a first step and can be expanded in at least two directions. The first is a more detailed analysis of these impacts in terms of age and sex, both in absolute and relative terms, expanding on the analysis of the impact of the Holodomor in terms of changes in the age-sex pyramid presented in the paper. These detailed projections provide rich material for further analyses on the effects of the different crises on specific population age groups and relevant sectors such as education, labor force, aging, and so on.

A second very important avenue of research could be comparative analyses of the populations of western and eastern parts of Ukraine; that is, an evaluation of the potential demographic impact of the Soviet regime on different parts of Ukraine, and their hypothetical evolution had Ukraine not become part of the Soviet Union. First, one could make a comparative analysis of the Soviet and non-Soviet parts of Ukraine during the period from 1920 to 1939, including the long-term impact of the Holodomor in the Soviet part. World War II and the 1946–47 famine affected both parts of Ukraine, but their effects were most certainly of a different magnitude in different regions. One can also project scenarios assuming that Western Ukraine was not annexed to the Soviet Union and that the later upturn in mortality and drastic decline in fertility could have been avoided. These are just a few ideas for future research in the direction laid out in this paper.

Concluding Remarks

These two papers make important contributions to the study of the 1932–33 Great Famine in Ukraine. Boriak's paper presents a systematic discussion of archival data sources available to researchers and describes newly discovered documents that open new avenues of research on this topic. He also documents the systematic destruction by the Soviet regime of data and documents related

to the Holodomor as part of a policy to destroy evidence about this terrible event. Hopefully, his work will provide an impetus for more systematic research on this policy of destruction.

The paper by the French team is the first systematic attempt to evaluate the long-term effects of the Holodomor (as well as other population crises) on the dynamics of Ukraine's population. The authors document for the first time the extraordinary impact of these crises on the size and structure of Ukraine's population. Hopefully, this will motivate a more in-depth evaluation of the demographic impact of these crises on the social and economic fabric of the country.

The authors of both papers should be commended for opening new avenues of research on this still relatively little known tragedy of the twentieth century.

Notes

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