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Demographic Research of the Holodomor: Some Results and Challenges

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Introduction

As mentioned in the previous presentation, there is still little consensus about the number of "Holodomor losses". Some of the technical reasons for this diversity of estimates were discussed in the previous paper. I would like to comment on several definitional problems with this concept, as they are at the heart of the controversy surrounding loss estimates.

In order to count anything, it is necessary to define what is being counted. Before discussing different estimates of Holodomor losses, it is necessary to provide an exact definition of the concept. There is still confusion, especially but not exclusively in the non-academic community, about the meaning of this term. Two dimensions of the concept need to be clarified: population at risk and time period. Different risk populations have been considered when estimating "Holodomor losses", like: Ukrainians in Ukraine, the whole population of Ukraine, Ukrainians in Ukraine and the Kuban region, all Ukrainians in the Soviet Union. Also it has been argued that deaths of "kulaks" during their journey to Siberia and in labor camps during the Holodomor years should be included in the number of "Holodomor losses". Although the almost universally accepted time period of the Holodomor is 1932-33 other time periods, such as, 1926-39 or 1926-37, have also been considered. Some historians have suggested that an even longer period should be recognized, starting in early 1920s. In some cases attempts have been made to include future lost births in the number of losses, because potential parents died during the Holodomor.

This conceptual confusion makes it difficult to compare different estimates of Holodomor losses; it is important to define what we mean by "Holodomor losses". The risk population considered is the total population of the Ukrainian SSR during the 1932-34 period; demographic evidence shows that there were also excess deaths in 1934.There is no direct evidence that Ukrainians were specially targeted during the famine in Ukraine. Due to its nature, the Holodomor affected to a large extent rural area, where the majority of inhabitants were Ukrainian, but other nationalities were also affected by the famine. However, it is still an empirical question if Ukrainians experienced relatively more losses than other nationalities in Ukraine. In order to settle this issue it is necessary to make estimates of Holodomor losses by nationality. If it turns out that there are significant differences in the relative number of direct losses between Ukrainians and other nationalities, then an explanation would be in order.

Given the historical similarity of "Ukrainization" policies in Ukraine and the Kuban region, and the fact that some of the most repressive measures implemented towards the end of 1932 and early 1933 were specifically directed at Ukraine and Kuban, it is an open question if it is justified

to include in the concept of "Holodomor losses" famine-related excess deaths and lost births that took place in the Kuban region. This is a historical issue, not demographic, but it can only be adequately addressed once some basic demographic inputs are in place: a) reliable estimates of losses for the Kuban region and comparisons with losses in comparable regions in Ukraine; b) estimates of famine losses for the different regions of Russia and comparisons of losses in Kuban and similar regions in Russia.

Our team of Ukrainian and US demographers is engaged in a long-term project on the demography of the Holodomor. We started by estimating 1932-34 direct and indirect losses for the different former Soviet republics, in order to have a basis for comparison of losses in Ukraine. More detailed estimates have been made for urban and rural areas of Ukraine by sex and age, direct and indirect urban and rural losses at the oblast level (with direct losses by age), and direct losses for 1933 at the raion level. Also preliminary estimates have been made of monthly urban and rural losses in 1933, and we are currently in the process of estimating famine-related losses in the different regions of the Russian SSR, including the Kuban region, as well as direct losses by nationalities in Ukraine and the Soviet Union.

Once completed, our project will provide a solid basis for more detailed historical research of the Holodomor, and hopefully help settle some of the controversial issues about the Holodomor. Our work has already produced some important results. First, although the relative number of Holodomor losses has been significantly lower in urban than in rural areas, urban losses are not trivial, and we see that the dynamics of the Holodomor was quite different in urban than in rural areas (most of previous research has been predominantly focused on rural areas, while the dynamics and effects of the Holodomor in urban areas have received less attention). Second, as shown by the map of total losses by oblast, there are wide variations in the relative number of losses at the oblast level. These variations provide partial proof of some of the hypothesis presented by different scholars about regional variations, disprove other hypothesis and, as pointed out by Professor Plokhii, reveal a complex dynamic underlying these losses that requires more detailed analysis. Third, variations in losses are even larger at the raion level, presenting even greater challenges for providing a coherent explanation of the different factors contributing to the geographical variations of these losses. Fourth, maps of losses at the regional level do not show a clear relationship with maps of factors considered as key elements in Holodomor losses, like blacklisted localities or collective farms, or levels of collectivization; the picture is more complex and more research is required. Fifth, the extraordinary increase in mortality during the first half of 1933 occurred not only in rural areas but also in urban areas, albeit at a considerable lower level and, with some variations, these sudden increases are also found in rural and urban areas of all oblasts. This is just a partial list, and it shows that there is still much to be learned about the Holodomor.

Some considerations about urban Holodomor losses

Of the 3.9 million total direct losses, about 300 thousand, or 7.5% occurred in urban areas. In rural areas 91% of all direct losses occurred in 1933, while the respective percentage in urban areas is 67%; in 1934 the relative percentage of excess deaths was higher in urban than in rural areas, 18% and 3%, respectively. Thus the temporal distribution of excess losses was very different in urban than in rural areas.

Table 1. Direct (excess deaths) 1932-34 famine losses in Ukraine, in 1,000s and by 100 population, for urban and rural areas

	Excess deaths (thousands)			
	1932	1933	1934	1932-34
Total	250.0	3,529.2	163.3	3,942.5
Urban	43.1	193.9	50.6	287.6
Rural	207.0	3,335.3	112.7	3,654.9

	Per 100 population			
	1932	1933	1934	1932-34
Total	0.8	11.9	0.6	13.3
Urban	0.6	2.7	0.7	3.9
Rural	0.9	15.0	0.6	16.4

In order to compare levels of direct losses between urban and rural areas in a year or period, one needs to standardize the number of losses by population size. The ratio of direct losses per 100 population can be interpreted as the percent equivalent of the total population in that year or period, that is, this ratio is the number of direct losses as the percent of the total population. (For each year we divide the number of direct losses by the respective total mid-population in that year; for the 1932-34 period we divide the sum of all direct losses by the 1933 mid-year population). The overall number of all excess deaths is equivalent to 13.3% of the total population in 1933; for rural and urban populations excess deaths are equivalent to 16.5% and 4% of the respective total populations. Thus, although much lower than in rural populations, additional deaths caused by the Holodomor in urban areas, equivalent to 4% of the total urban population, is evidence of a significant toll of the Holodomor in urban areas of Ukraine.

As the factors that led to the famine are focused on rural areas in most studies, i. e., collectivization, unrealistic quotas for grain delivery and requisition of grain and other commodities, such as potatoes, meat and in many cases of all food, one can pose the question why there were so many extra deaths caused by starvation in urban areas.

Figure 1.- Direct losses by age in 1933, per 1,000 population, for urban and rural populations

Part of the answer comes from the age structures of relative excess deaths in rural and urban areas in 1933.Figure 1 shows that the number of excess deaths per 1,000 population in rural areas starts at a relatively high value of 200 for small children (0-4 years), declines to a minimum of about 64 excess deaths per thousand population in age group 20-24, and then experiences a rapid increase with age, reaching more than 590 excess deaths per 1,000 population after age 65. The age pattern for urban areas is quite different. Relative excess deaths start at 60 per 1,000 population for small children, decline rapidly to a minimum value of eight for age group 15-19, stay constant around that value to age group 25-29, begin to increase slowly at age group 30-34, and take off at a fast rate at ages 40-44, but at a much slower rate than in rural areas.

As shown in Figures 2 and 3, these rural and urban age patterns are very similar in respective areas in all oblasts. Rural areas of Kyiv and Kharkiv oblasts have consistently higher values than the other oblasts for all age groups, consistent with their very high overall relative excess deaths. For the other oblasts differences in age patterns start to appear after age 45, but the overall patterns are very similar for all oblasts. In urban areas, with the exception of excess deaths in the first age group, relative losses follow the same pattern in all oblasts until age 40, and then start to diverge, proportionally to the overall levels of relative excess deaths in each oblast.

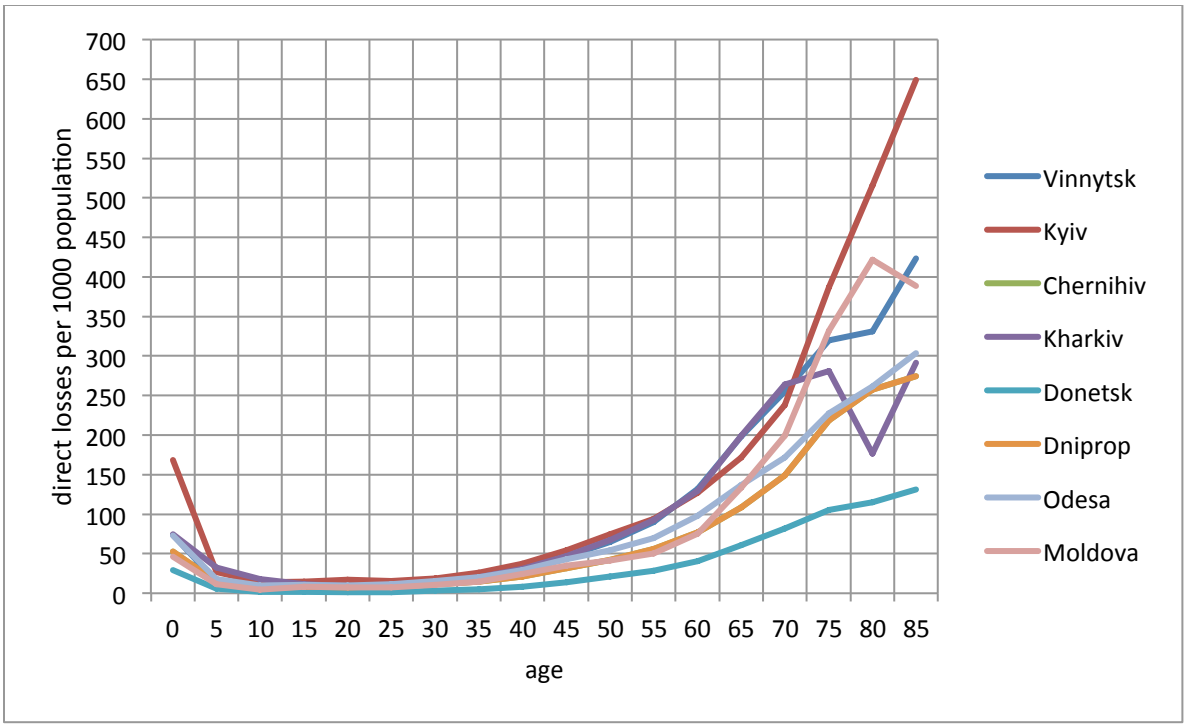

Figure 2.- Direct urban losses per 1,000 pop. By oblast: Ukraine, 1933

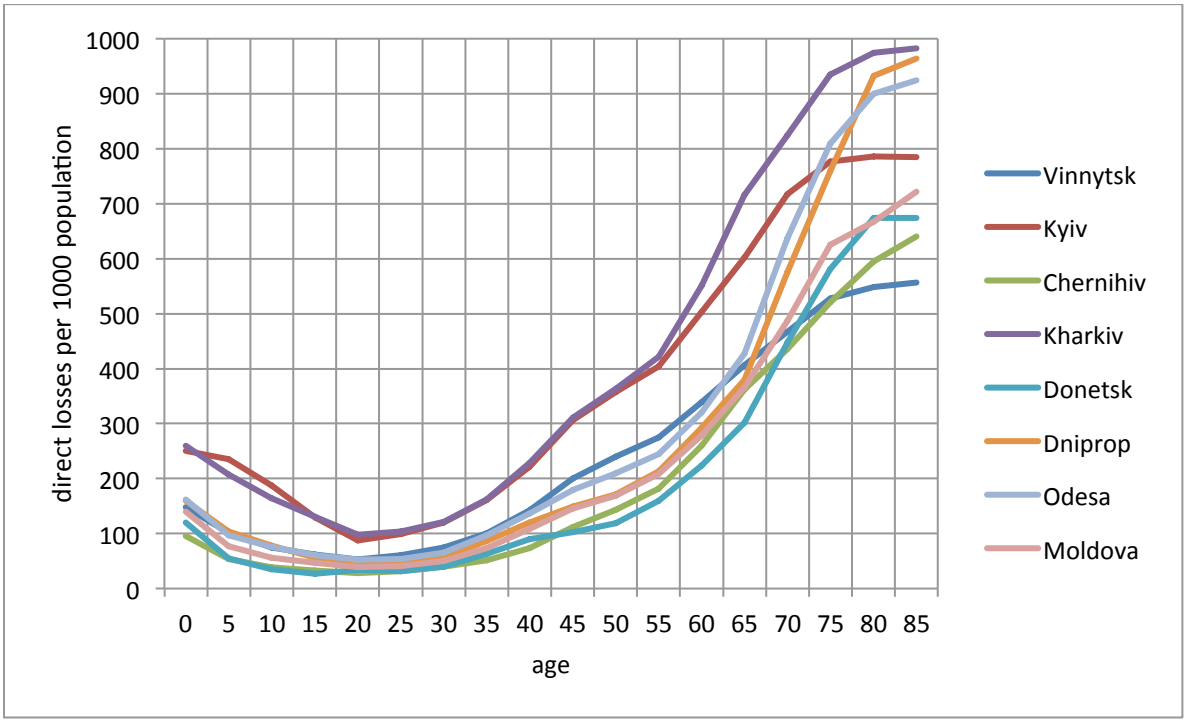

Figure 3.- Direct rural losses per 1,000 pop. By oblast: Ukraine, 1933

The age pattern in rural areas is consistent with the situation in the Ukrainian countryside in1933. The vulnerability of small children is reflected in high values of relative excess deaths for the first age group. The decrease of the relative excess death rates between ages 5 and 20 years is a function of two factors: selection of those who survived the first five years of life and the natural resilience of adolescents. The rapid increase of excess deaths ratios starting at ages 25-29 appears to be the result of draconic grain requisitions, confiscation of practically all foodstuffs in many cases, the prohibition to travel abroad in search of food, and other punitive measures.

Certain segments of the urban population, children, industrial workers and government employees, were protected to some degree by an elaborate program of food rationing. The low excess death ratios for ages 5 to 15 are consistent with the food programs in schools. The low ratios for prime ages 20 to 45 are consistent with the Soviet government's priorities of keeping a relatively fit working force needed for Stalin's ambitious industrialization program, and the need to make sure that certain segment of the governments apparatus, concentrated mainly in cities, would be able to perform their duties.

If city inhabitants were protected by food ration programs, one can ask why there were so many excess deaths in urban areas. A key reason is that only certain groups of the urban population were entitled to these rations. A significant segment of the urban population was not covered by these programs and was condemned to death by starvation just like most rural inhabitants. Also, the food ration programs had different categories of people, from groups with adequate levels of nutrition to groups with levels near starvation. Additionally, due to negative consequences of the collectivization program, some climatic problems and inefficiencies in the agricultural sector, which contributed to significant reductions in the overall food production and supply in the country during 1932, there was not enough food to feed the cities and rations were gradually reduced even for the more privileged groups.

The overall number of urban losses in 1933 is equivalent to 2.7% of the total urban population in 1933. This number is the average of a significant variation at the oblast level, from an equivalent of 1% of the total urban population in Donetsk oblast to 4.7% in Kyjiv oblast. At the raion level we find urban areas of raions that had very high levels of excess deaths in 1933. Among the 183 raions with urban populations, relative excess deaths were equivalent to eight to ten percent of the urban population of four raions, and 23 raions had excess deaths equivalent to six to eight percent of their urban populations.

A test of the food rationing programs hypothesis requires a systematic analysis of these programs at the oblast level (and in some cases for groups or individual cities), including estimation of the proportion of the population not covered by these programs, disaggregation of the covered population by the size of each category and their average rations, and history of reductions of these rations. If food rationing programs were a significant factor in the level of

excess deaths in urban areas, this should be reflected in a strong inverse relationship between extent and quality of the food rationing programs and level of excess deaths.

Table 2.- URBAN Population by Oblasts: January 1, 1927 and 1939 (in thousands)

Region	Population on Jan. 1, 1927	Population on Jan. 1, 1939	% increase
Ukraine	**5.311,4**	**11.041,8**	107,9%
Vinnytska	535,5	539,2	0,7%
Kyivska	1.063,0	1.515,1	42,5%
Chernihivska	344,6	447,0	29,7%
Kharkivska	984,4	1.900,8	93,1%
Donetska	940,3	3.570,7	279,7%
Dnipropetrovska	570,8	1.740,5	204,9%
Odeska	793,9	1.206,3	51,9%
Moldovan ASSR	78,7	122,3	55,3%

The estimation of Holodomor losses is further complicated by factors like urbanization, preferential government policies for certain regions, and industrial characteristics of different cities. The extent of the urbanization process in Ukraine between 1927 and 1939 is illustrated in Table 2. During this 12-year period the urban population of Ukraine increased by more than 100%. In some oblasts like Vinnytsia the increase was minimal, less than one per cent, while in other oblasts the increase in urban populations was from 30% in Chernyhiv oblast to 280% in Donetsk oblast.

This rapid urbanization process, coupled with an intense urban-rural migration dynamics in 1932-33 caused by the Holodomor and related factors, complicates the estimation of urban losses. Peasants migrating to cities looking for food with some of them dying in the city, and the expulsion of these peasants from the cities with the introduction of internal passports for the urban population, are among factors that may have introduced some irregularities in the registration of births and deaths. For example, a question has been raised about the magnitude of urban deaths of rural migrants that were registered as urban deaths, and to what extent this may have affected estimates of urban excess deaths. This is an empirical question that has not yet been thoroughly investigated.

Timing of excess deaths in 1933

The food situation reached critical levels in the first part of 1933 in both urban and rural areas, as evidenced by a very rapid increase of officially registered deaths between January and June of

1933; the number of registered deaths increased by a factor of 2.5 in urban areas and by a factor of 8.5 in rural areas. Preliminary estimates of 1933 monthly excess deaths in urban and rural areas show even larger increases during this period. The number of excess deaths in urban areas increased from six thousand in January to 31 thousand in June, an increase by a factor of five; the respective numbers in rural areas are 50 and 890 thousand, an increase by a factor of 18.

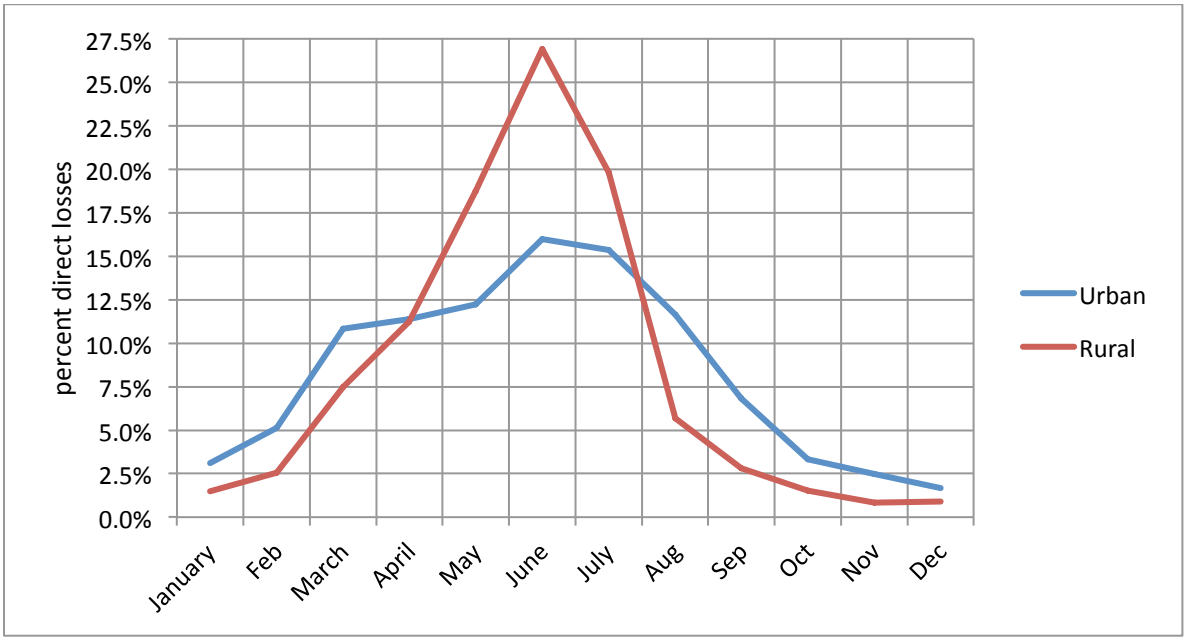

Figure 4.- Monthly percent distribution of direct losses by urban and rural areas

This extraordinary increase in famine-related losses in such a short time period is probably unique among all famines in the 20th century, and surprisingly it has received little attention from Holodomor researchers. Figure 4 shows the monthly percent distribution of excess deaths in urban and rural areas in 1933. In both cases there is a very rapid increase during the first half of the year with maximum values in June, and a high concentration of excess deaths during the April – August period: 67% in urban areas and 82% in rural areas.

Another way of getting a better sense of this sudden increase in excess deaths is by looking at the average daily excess deaths for each month. In urban areas the average number of excess deaths in January 1933 is 195, and it reaches a maximum of 1,034 in June. In rural areas the average number in January 1933 is 1,600, and in successive months it increases to 3 thousand in February, 8 in March, 12.5 in April, 20 in May and 30 thousands in June. Thus the average daily number of excess deaths in June 1933 for the entire country is 31 thousand. Having reached maximum values in June, these averages experience a gradual decrease to about one thousand for the whole country in November and December, with about 90% of them in rural areas.

Such an extraordinary increase in mortality in a very short time period indicates that something drastic happened in the later part of 1932 and early 1933. Obviously a significant part of the

population in some regions was being totally deprived of food. It is telling that this period coincides with a set of repressive measures targeting almost exclusively Ukraine and the Kuban region, like: confiscation of all grains and later meat and potatoes from kolkhoz and independent farmers who did not fulfill their grain quotas, confiscation in quite a few cases of all foodstuffs during the searches for hidden grain, harsh penalties to peasants who did not return "stolen" grain, closing of borders to stop peasants traveling to Russia and Belarus looking for food, and their arrest and return to their places of residences if caught outside the country.

A detailed analysis of the causes of this sudden mortality increase has not been done so far. Some of the elements that need to be documented and evaluated are: a) the extent and timing of total or almost total confiscation of foodstuffs in different areas; b) timing, quantity and distribution of food assistance during the first half of 1933; c) government policies and regional political factors in the implementation of the food aid program. For example, if in certain region there was already a high degree of starvation, a 1-2 month delay in food assistance could mean the difference between life and death for hundreds of thousands. Once these, and perhaps other factors, are documented and evaluated, they need to be contrasted with the levels of excess deaths in different regions.

Concluding remarks

Research on the Holodomor has entered a new phase. Two initiatives contributing to this are: a) the Harvard GIS Holodomor project has sponsored an extensive program of collecting, systematizing and analyzing quantitative data on different factors related to the Holodomor; b) the realization that there are still many original documents stored in different archives has revitalized the search for and analysis of these documents. Detailed demographic analyses, coupled with the collection and systematization of statistics on different factors related to the Holodomor, have revealed a complex dynamics that challenges some previous conclusions and raises many new research questions.

This complexity cannot be fully understood by compartamelized research within individual specialties. For example, historical research is often required for interpreting demographic results, while demographic results provide a solid foundation for historical analysis. More generally, the next stage in Holodomor research requires a multidisciplinary approach. The dynamics of the Holodomor is a function of many processes: climatic, agricultural, demographic, historical, political, ecological, etc. Factors such as harvest yields, grain procurement quotas, food requisition, punitive actions, collectivization, decrees and directives, food rationing programs, food assistance, resettlements of peasants, internal and external migration, industrialization policies, etc., are all interrelated, and an integrated conceptual framework is required to guide researchers in the collection, analysis and interpretation of these data, specification of their interrelationships and their relevance to Holodomor losses. Such an interdisciplinary approach requires coordinated efforts of specialist in different disciplines, like

historians, demographers, economists, agricultural and meteorological experts, anthropologists, political scientists and cartographers.

Hopefully multidisciplinary, coordinated, evidence-based research will result in several positive outcomes: a) generally accepted definition of the concept of “Holodomor losses”; b) consensus on the number of Holodomor losses; c) empirical evaluation of some currently proposed hypothesis and generalizations like, other regions of the Soviet Union suffered as much as Ukraine, or that Ukrainians were specifically targeted; d) understanding of the dynamics of the Holodomor and key factors responsible for the losses.