

The Post-Conflict Reconstruction of the Statistical System in Ukraine. Key Issues from an International Perspective¹

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Introduction

Statistics has accompanied the social forms of human civilization since its inception, reflecting also conflicts and wars. Statistics acts as a beacon, especially in turbulent times, capturing the most important aspects of reality, while helping decision-makers navigate key choices in the face of adversity of a radically changing situation. To this end, statisticians of a war-affected country make every effort by adapting the way statistics work to overcome methodological and organizational obstacles in everyday professional work, including innovative development of research instruments to substitute the destroyed or unavailable ones. Historical records indicate that the first statistical tables began to appear in Sumer, Egypt, ancient China, Babylon, and Assyria. Statistics continues its role with increasing scope and importance through centuries, with especially hard time during the Second World War, when conducting statistical research was prohibited in the German-occupied countries. [However, the compilation of statistics in some countries subjected to the most hostile

¹ Based on the presentations given by the panelists at the session *Marshall Plan for Reconstructing National Statistical Offices After Conflict: Practical Guidance from International Principles. The role of statistical societies*: Misha Belkindas; Ronald Wasserstein; Włodzimierz Okrasa and Dominik Rozkrut. The session was organized by Jennifer Park, Committee on National Statistics (CNSTAT); it was chaired by Dominik Rozkrut and commented by Albert Kroese (International Monetary Fund). It took place during the Federal Committee on Statistical Methodology/FCSM-2022 Research and Policy Conference, October 25–27, Washington D.C.

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occupation was conducted, including Poland, where the census was carried out in 1941, by the Underground State]. Currently, we are witnessing how Ukraine gives examples of heroism also in the sphere of official statistics, striving to fulfill its mission of constantly informing state institutions and society despite the extraordinary wartime challenges.

Remarkably, the National Statistical Office of Ukraine has continued to operate since the beginning of the Russian-Ukrainian war. This resilience is a testimony to the essential nature of objective, accurate, reliable, and timely national statistics to inform policy-making, and the steadfastness of the national statisticians behind the numbers. The healthy functioning of a national statistical office has implications for its relationships with bi-lateral and multi-lateral agreements with donor countries and organizations, and therefore, for the security of its country. This year marks the anniversary of the Fundamental Principles of Official Statistics (FPOS, 1992), championed by many esteemed thought leaders, including Józef Oleński (former President of Statistics Poland), Jean-Louis Bodin (INSEE, France), and Katherine Wallman (former, U.S. Chief Statistician and chair, UNECE CES), within the context of the United Nations Economic Commission for Europe Conference of European Statisticians as a way to support the production of national statistics among countries transitioning from centrally planned economies to market economies. The Fundamental Principles of Official Statistics subsequently was endorsed by the highest body of the UN, the General Assembly (2014). There have been additional efforts to develop aspirational and practical guidance for national statistical offices to strengthen capacity. The European Statistics Code of Practice (2005), U.S. Office of Management and Budget's Statistical Policy Directive 1 (2014) (now embedded in the Evidence Act), OECD's Recommendation of the Council on Good Statistical Practice (2015), American Statistical Association's Ethical Guidance for Statistical Practice (2022) are but a few. There have also been efforts to develop implementation guidance for these principles; notably, FPOS (2011, 2015, and 2020).

After the Second World War, the Marshall Plan was implemented to assist in the reconstruction and strengthening of nation states affected by conflict. Similarly, panelists of the FCSM-2022 session hosted by Jennifer Park, Committee on National Statistics (CNSTAT), discussed a set of the following issues:

- What would a Marshall Plan for national statistics in Ukraine look like?
- How can the parameters of the FPOS and other aspirational guidance inform practical steps of such a plan?
- What roles could various entities take to implement such a plan?
- What elements are essential in the short term? Over the longer term?

In the panel discussion summarized below, representatives of the wide spectrum of international statistical community addressed key aspects of the above questions, taking into account the current situation of statistical institutions and the circumstances in which Ukrainian statisticians try to fulfill their tasks in the conditions of war. The vast majority of the problems and challenges – along with practical ways to deal with them – are presented in the articles by Ukrainian statisticians that make up this issue. Additional information was provided by Oleksandr Osaulenko and his colleagues for the purpose of panel discussion.

Summary of the panel discussion

As an introduction to the session, its co-organizer (with J. Park of CNSTAT) and chairman, Dominik Rozkrut, characterized briefly the situation of Ukraine's state and society including information on the influx of immigrants from the war zone to Poland. He also quoted some results of the household budget surveys (recently conducted by Statistics Poland) concerning the scope and types of assistance provided to the immigrants. The extent of involvement of Polish households in various forms of help to refugees – such as hosting, food, clothes, other in-kind and in-cash assistance – seems impressive: in total, 78 percent of households, i.e. members of every three out of four dwelling units (about 11.5 out of 15.3 million) participated in one or other types of such assistance.

Along with mass relocations, also within the territory of Ukraine, institutions and statistical research centers in several areas are emptying, making it impossible to provide data on a regular basis. However, the Ukrainian system of official statistics continues to function and perform its main functions on a scale that can be achieved in wartime conditions only due to the involvement of its devoted staff in headquarters and regions.

Main features of official statistics in Ukraine⁷

The regulatory framework of the state statistical system's functioning is based on the Law of Ukraine "On Official Statistics", issued by the Verkhovna Rada (the Parliament) to be entered into force on January 1, 2023. The law harmonizes the national statistical system with European principles and standards to make it able to produce high quality statistical information about the economic, social, demographic and environmental situation in Ukraine and its regions. The law is based on the provisions of Regulation (EC) No. 223/2009 of the European Parliament and the Council dated 11.03.2009, which in turn is the basic document within the framework

⁷ This section is based on the presentation by W. Okrasa and O. H. Osaulenko "Statistics in troubled times – the case of Ukraine".

of the implementation of the EU Statistical Compendium and the provisions of the Generic Law on Official Statistics. The Law contains the main provisions of the European Statistics *Code of Practice*.

The State Statistics Service/SSS of Ukraine is a central executive body in the field of statistics – its activities are guided and coordinated by the Cabinet of Ministers of Ukraine. The UA SSS also ensures the development and implementation of state policy in the field of statistics, its offices and staff: 27 regional offices; 6455 employees. According to Ukrainian authorities, national statistical system is reformed and modernized in accordance with the EU/Eurostat principles: 27 (35.1%) of the state statistical observation centers fully meet the requirements of the EU Compendium; 50 (64.9%) of the state statistical observation centers partially meet the requirements of the EU Compendium. The UA State Statistics Service (SSS) strives to fully implement the EU Statistical Requirements Compendium.

The challenges of war – the voice of Ukrainian statisticians

To illustrate the difficulties faced by Ukrainian statisticians, let us quote excerpts from some of the articles contained in this collection:

- *The inability to conduct national statistical surveys makes it difficult to estimate the size of the population due to being limited to existing sources: data from mobile operators, data from administrative registers, and from a special population sample survey, (Volodymyr Sarioglo, Maryna Ogay).*
- *Despite the current extreme situation (...), the CPI must be compiled on an ongoing basis – this is done using Big Data, especially direct cash data, expanding the sample size and improving its design while reducing the burden on respondents and obtaining more reliable transaction price data by incorporating real-time information on household expenditure, (Tetiana Kobylynska, Iryna Legan, Olena Motuzka).*
- *In order to assure operation of the official statistics in Ukraine (under the Martial Law) the involvement of alternative data sources, including Big Data, is necessary. These data should be introduced in parallel or in mix with conventional data sources, to fill the gaps in conventional data due to the war. [Ukraine has an extensive network of private digital services: e.g. Monobank, express delivery “Nova poshta”; mobile phones, social networks, Google analytics, etc. have to be considered too, (Olha Kuzmenko, Hanna Yarovenko, Larysa Perkhun).*
- *The war in Ukraine affects all forms of international economic relations, highlighting the problem of asymmetric economic interdependence in the green transition to climate neutrality, accompanied by raw materials, energy and food crises. The question arises how to minimize the impact of the crisis on the environment as*

part of getting rid of the carbon footprint of the past (Russian) energy model towards building a sustainable circular ecosystem in Ukraine, (Olga Vasyechko).

- *The war in Ukraine forced auditors to tackle new challenges due to new risks emerging that need to be recognized, systematized, and treated accordingly – including identification of persons involved in terrorist activities and the proliferation of weapons of mass destruction - while complying with the legal requirements concerning both factors associated with military aggression against Ukraine and those involving compliance with International Standards on Auditing, (Tetyana Chala, Oleksiy Korepanov, Iuliia Lazebnyk, Daryna Chernenko, Georgii Korepanov).*
- *The assessment of the scale and effects of forced external migration of Ukrainians as a result of Russian aggression – based on the data of the State Border Guard – shows that “military emigrants” are, in general, people with higher education than the national average, mainly women who easily adapt to life abroad, especially in Poland (due to the minimal linguistic and cultural differences), (Oleg Krekhivskyi, Olena Salikhova).*

Among the hardships caused by the war, statisticians feel the following the most:

- lack of effective sampling frames and data sources;
 - production of official statistics continues using administrative data – this allows the assessment of key macroindicators like Ukraine's GDP, and to publish statistical information on foreign trade in goods, etc.,
 - regional authorities continue to register prices at the points of sale of goods, which allowed to continue producing the Consumer Price Index in Ukraine as a whole, and by regions,
- respondents are legally deprived of the obligation to provide data during Martial Law;
 - however, respondents continue to provide primary data as part of a voluntary activity – reporting rate is over 65%,
- regional offices located in temporarily occupied territories or near the military zones may perform their functions only partially, or not at all;
 - in order to ensure the continuity of the production of official statistics, a back-up system for the collection and processing of data has been established, according to which, for a regional office that is temporarily unable to perform certain statistical tasks, such tasks are delegated to be performed by another office (located in a safer place),
- surveys of household living conditions and demographic data production have been suspended;

- employees of state statistical offices in several regions were forced to migrate (to other regions or abroad);
- frequent air alarms force employees to spend a lot of time in shelters.

Research works, trainings, infrastructure base and technology

Given the extremely difficult circumstances, the tasks performed by Ukrainian statistical institutions during the past 12 months can be considered impressive, embracing 5,292,492 respondent reports processed and the numbers of products based on the statistical research (observations): 19,072 statistical information/reports – 320 Open Data sets – 3,792 press releases – 3,177 data collections – 125,223 users of the “Respondent Account” service – 139 visits to the “Search by USREOU code” service – 180,934 completed international questionnaires based on the results of the state statistical observations – 2,800,936 visits on the SSS official website.

However, drastic cuts in funding resulted in a significant reduction in the scope of the program implemented this year. To be more specific, in 2021, UAH 805,000 (approx. U\$ 22,000) was allocated to two research projects: (i) methodology of conducting sample surveys of the population: “Statistics of income and living conditions in the European Union EU-SILC” (USD 10,000) and (ii) methodology for conducting an integrated survey of short-term enterprise statistics (USD 12,000). In 2022, due to budget constraints, the expenditure on the implementation of these two scientific research works was cancelled. The draft budget for 2023 does not provide for expenses for the implementation of these two projects.

Training and retraining programs cover approximately 1,000 employees per year. In 2021, 269 people were retrained; in 2022 only 15. In 2022, the cost of studying statistics students is UAH 8,150,000 (U\$220,270). Nevertheless, in 2022 there were 110 students, slightly less than in 2021 (120 students).

The infrastructure base and technologies are in a deplorable state. There are practically no sources for the renovation of technical equipment – the last time the fleet of servers and computers was renewed in 2014. The challenges of martial law require an increase in the share of field work as remote work. At the same time, there are practically no laptops, etc. at the headquarters of the UA State Statistical Service and its regional branches. The most urgently needed assistance should include modern technologies for collecting data and creating analytical databases, including “alternative” new sources of information (Big Data, analysis of satellite images, smart statistics etc.)

Issues raised by panelists and the views expressed

The presentations referred below concerned on the problem of the type and scope of aid for Ukraine from the two complementary points of view – the national

organization that engages in international projects, which is American Statistical Association (ASA), by Ron Wasserstein, Executive Director of ASA, and the international organization (IAOS), by Misha Belkindas, President of IAOS – towards establishing needed support and coordinate cooperation between national and international offices.

Focusing his presentation on *The role of statistical societies*, Ron Wasserstein⁸ summarized what professional associations do and why it matters to the NSOs, using activities of ASA and some other societies as examples. He concluded some ideas on how associations can help.

Professional societies, such as ASA, conduct a wide spectrum of activities, each of them can provide a platform for arranging for a respective support to UASSS, and eventually other NSOs. These range from facilitating scientific gathering – conferences, networking opportunities – and collaboration in the form of workshops, colloquia interest groups, and knowledge dissemination through meetings and journals to statistical capacity building, including technical training, leadership and communication skills, accreditation/certification, and support education of future.

The indication of this type of activity is also consistent with the results of a survey conducted by ASA among its members, asking them about things they consider fundamental in the activities of a professional society: over 90% of respondents selected meetings and publications. In addition to meetings, professional societies hold smaller gatherings that bring people together to discuss research and methodological interests.

Also, many societies have local or regional groups (ASA calls them “chapters” and has 75 of them) that facilitate gatherings of statisticians. And many have groups organized around statistical topics of interest. Chapters and interest groups (called “Sections” at ASA) often function like smaller versions of the organization, offering their own meetings and networking opportunities, having a newsletter, and so on.

Professional societies serve the extraordinarily important function of disseminating knowledge through meetings and journals. For NSOs, meetings might well be the place where research and methodology can be discussed in an audience of peers in and out of government.

Professional societies serve the function of providing skills to members that they need beyond their formal education. Members provide technical training from the beginning to advanced level through seminars, webinars, workshops, etc. And there are many non-technical skills the statistician needs that NSS’s can provide as well, and often there are few options for getting such training. As one example worth mentioning here

⁸ **Standard disclaimer:** ASA gives the author time and opportunity to speak at events like this. However, the views expressed here are those of the author and should not be construed as an official statement or position of ASA –R.W].

is the ASA project which provides training for individuals interested in serving as experts witnesses in the court system.

Another cluster of envisaged forms of possible assistance concerns setting standards and promoting ethical practice (develop and disseminate guidelines for ethical practice); advocating for the profession and for sound practice, and developing relationships with like societies elsewhere.

He also pointed out four key themes for which this is relevant to the NSOs, especially in the context of their creation or reconstruction: a knowledgeable base of support – an independent voice – a source of skilled workers – a source for international connections.

In conclusion, Ron Wasserstein suggested three channels through which statistical societies can help one another: (i) share structures and governance, (ii) share expertise, (iii) share resources. The NSO's staffs need to engage in research, develop as professionals, meet with other statisticians (in government and out), and so on. But there are other reasons why NSS's bring value to NSO's.

Taking the perspective of an international organization, IAOS, its President, Misha Belkindas, concentrated his presentation, *Building/Redeveloping National Statistical Offices after Conflict*, around the intertwined fundamental issues:

- A. Creation of an international coalition – how to establish it and whom to approach?
- B. What an international coalition should/can do in the case of Ukraine?
- C. What activities are currently going on over there?

First of all, creation of an international coalition should start with identification of potential donors led most likely by the World Bank or a regional development bank, and involve others partners, such as IMF, UNSD, OECD, EU, UN regional commissions, UN specialized agencies (ILO, FAO, others). Also included should be interested countries providing funds and technical assistance (TA), private sector, providers of funds and TA, and international NGOs, such as ISI, IAOS and others. Such a type of endeavors is not unprecedented. The TA project to the countries of the former Soviet Union in the 1990s, with a broad coalition under joint leadership of IMF, WB, UNSD, OECD and Eurostat, can serve as an example. Even more relevant in this context seem to be the projects on strengthening statistical systems of Armenia during the war with Azerbaijan, or in the former Yugoslavia – the case of Bosnia and Herzegovina.

Other projects implemented under the banner of the World Bank encompass a multi-country lending facility STATCAP (started in 2004) with loans to Burkina Faso and Ukraine, followed by loans with grant elements to many countries in all the continents. And the World Bank large lending projects in the Kyrgyz Republic, Tajikistan and Uzbekistan, also regional lending programs in Africa, including such

countries like war-torn Somalia. The Inter-American Development Bank has also organized similar types of projects.

In addition to the needs covered by activities of international organizations with appropriate funds, there are several areas requiring assistance for which NGOs may be suitable implementers. However, this would have to be preceded by the creation of appropriate executive structures enabling NGOs to perform their tasks at the central and regional levels.

Such an international coalition, diversified in its interests and abilities to provide need-adjusted assistance, can help with data collection, processing and production of statistical outputs, including problems related to (i) design a data collection mechanism – surveys with imperfect sampling frames, usage of administrative data, other data, other means of data capture, and (ii) procurement and installation of means/lines for data transmission, storage, manipulation and publication, and (iii) design and start of implementation of HR policies with an emphasis on training and retraining of NSO staff; (iv) initiate the development of young cadre, if needed, develop curriculum for local universities, or in neighboring countries; and (v) train data users – policy makers, journalists, civil society. It would be important to also draft, with assistance of international agencies, a new law on statistics which adheres to international standards, and create a political environment for adherence to Fundamental Principles of Official Statistics.

Taking into account the specificity of the disrupted Ukrainian SSS, and priorities for its reconstruction in accordance with the new Law on Statistics (which the Parliament passed recently), it should be mentioned that the Ukraine Government is familiar with a large-scale international aid: the first institutional building loan to the Government was approved by the World Bank in the early 1990s (with a USD 9 million funding for the NSO). In addition, there was a large-scale international Technical Assistance program TACIS, which Ukraine was one of the recipients. The second loan in the amount of USD 32 million was approved in early 2004 and addressed institutional building, HR, data collection, processing, development of specialized software, etc.

The new project will most likely include the following activities towards rebuilding/refurbishing the SSS and its regional offices: purchase of a large amount of IT equipment (servers, PCs, etc.) – attract new staff to the statistical service – launch a large staff training and retraining program – support local universities and the National Academy of Statistical Education in providing equipment, developing a curriculum and providing trainers.

As regards current activities, IAOS received a request from the Institute of Economic Forecasting of the Ukrainian Academy of Sciences, which was tasked by the Government to develop methods for the calculation of the damage caused by the war.

They want to start from the damage done to the agricultural sector, in particular small-scale farming. IAOS has so far approached the ASA Statisticians Without Borders and received a positive answer. FAO agreed to render assistance by including Ukraine in their AGRIS program. World Bank cannot finance Ukraine from their Trust Fund 50x2030 as the country is not eligible – however, IAOS will continue to help on this and will try to obtain sources from a Trust Fund, at least in-kind.

Conclusions

Ukrainians, fighting for the preservation of their state, need – apart from military means of defense – reliable information for the state, its institutions and people, for now and for the fundamental reconstruction of their country in the near future.

The above presentations and discussion provide an illustration of the type and amount of work that is expected on this line based on documentation of disruptions in data production and the general functioning of the state statistical service. The voice of Ukrainian experts is the leading for designing an effective strategy of internationally coordinated activities – including statistical capacity building at each level of the state statistical system's units.

The manuscripts submitted by Ukrainian statisticians for this Special Issue prepared jointly by *Statistics in Transition new series* and *Statystyka Ukraina* reflect the type and scale of the problems and challenges faced by Ukrainian statisticians in the conditions of war.

Reconstruction, modernization and strengthening of the national information infrastructure – with state statistical service as its institutional backbone – should become the goal of various initiatives and missions of the international community of statisticians. Starting with showing the areas of destruction and related needs – identified together with experts from Ukraine – is a project that requires more extensive work.