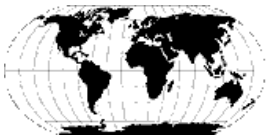

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DEVELOPMENTS AND PROSPECTS FOR POPULATION STATISTICS IN COUNTRIES OF THE FORMER SOVIET UNION

Barbara A. Anderson, Kalev Katus, and Brian D. Silver*

Abstract: This paper examines recent developments and prospects for population statistics in the former Soviet Union, whose dissolution provides both opportunities and problems. It is important for scholars to be aware of past limitations of Soviet data, since the formation of independent states has neither removed bureaucratic impediments to the production of high-quality data, nor has it led to a population more ready to answer questions fully. Temporarily at least, there is a decrease in the amount and comparability of available information, and in some instances, in its quality. We begin with an overview of the system used to gather population statistics in the former Soviet Union and its inherent problems. We then discuss the challenges faced by the newly independent countries and the changes they need to make to achieve global comparability, including a shift toward the use of standard international definitions and away from political restrictions on data availability.

Introduction

With the dissolution of the Soviet Union, a long-established system of accounting in population statistics has also dissolved. Now there is an opportunity for the governments of the successor states to rethink concepts and procedures and to adopt world standards and practices. This has created both challenges and problems.

The Soviet Union used definitions and data-collection methods that often were not comparable with those used elsewhere in the world. Nonetheless, the Soviet state did coordinate the collection, analysis, and publication of population data. The definitions were thus consistent across the various parts of the Soviet Union. For example, even if the definition of infant death used in the Soviet Union did not fit WHO (World Health Organization) recommendations, and even if it resulted in an approximately 22 percent reduction in reported infant mortality rates, the same definition was used in all 15 former republics (Anderson and Silver 1986). The Soviet definition of a family included persons who lived separately from other members but who maintained a "substantial material link", and this definition was employed in censuses throughout the country (Anderson 1986). Similarly, for nationalities (ethnic groups) and languages, although the classifications and coding rules were peculiar to the Soviet system, they were common across the 15 republics (Silver 1986; e.g., USSR, TsSU 1978).

Now the situation is changed. Each successor country can develop its own rules, standards, and practices for data collection and reporting, so statistical standards and practices may develop in 15 different directions. The situation is especially serious now that the new countries are responsible for policy planning and budgeting and thus have an increased need for information. Many of the successor states now find themselves with little capability to proceed with independent planning for the collection and analysis of population statistics. This incapacity was fostered by Moscow under the old regime.

Current problems with and opportunities for population data management are rooted

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in the traditional Soviet structures for statistical institutions. The peculiarities of these structures stem from three characteristics of the Soviet population data system.[1]

1. The General Role of Statistical Offices in Soviet Society

In the Soviet Union, the Central Statistical Office (renamed in 1987 as the State Committee on Statistics, or Goskomstat) in Moscow was responsible for census design and for the collection of all population data reported to the authorities. Branch statistical offices also existed in each of the 15 republics. Most of the data that they gathered was in response to directives from the Central Statistical Office in Moscow; the decision to release data to the public was governed by central instructions and the censor; and the form in which data were published followed templates established in Moscow. An examination of the annual series of statistical handbooks published in the republics reveals near-uniformity in content and format across the republics.

The statistical offices had the main responsibility for collection and management of population data. These data were primarily collected and processed based on the ideological and political motives of those at the very top of society. However, sometimes data were requested to aid in making decisions. In such cases, the statistical office received an order from the Communist Party or the Council of Ministers to prepare specific materials, usually by a very short deadline. Those requesting data often had little understanding of or concern for data quality, so emphasis by the statistical offices on definitions and issues of data quality only caused problems for the statisticians.

At the same time, the offices were not often asked to provide data to the state and the public. It was generally accepted that the publication or distribution of real data could be dangerous for the Communist regime. Hence, one of the major responsibilities of the statistical offices was actually to limit access to data.

For similar reasons, there were two parallel series of published statistical data, those for open use and those for official use only. A great deal more data were collected and made available for internal use by government or party officials or by approved specialists, than were published for general use by the scholarly community or by the public at large. The existence of parallel sets of data does not necessarily mean that the published data were falsified and the closed data were accurate. Instead, the closed data often contained information that was regarded as a state secret or that revealed inconvenient facts about Soviet reality or the performance of political leaders. An example of the latter is "hidden" statistics regarding causes of death, such as suicide, homicide, work accidents, cholera, and plague (Meslé, Shkolnikov, and Vallin 1992).

In addition, the closed data were often more detailed than the open data. For example, the "open" Volume IV of the 1970 census (published in 1973), which was titled "Nationality Composition of the Population of the USSR", provided age distributions by nationality but not by nationality and sex combined. However, a different Volume IV of the 1970 census, with the same title and a nearly identical format, but marked "for official use only" (and "published" in May 1972) provided the age-by-sex distributions by nationality. The totals by age are identical in the two volumes, but only the "official use" volume provides the breakdown by sex. Even today, although the detailed data are "open", researchers who wish to obtain them cannot find them in openly published form. There is little incentive or economic benefit for the statistical offices to publish such "old" data. We obtained them from the Central Economic Archive in Moscow.

The number of copies in the official-use series was usually very limited. As an extreme example, the summary report on the five percent microcensus of Estonia from 1985 was issued in only 56 copies (TsSU Estonia 1986). From 1974 through the mid-1980s, it was prohibited to publish any tabulations in the open series that included age distributions, including age-specific mortality rates (Anderson and Silver 1990). Typically, only very aggregated data could be published openly, according to the criteria of Glavlit, the state censor. More data were published in books for restricted use, but the content of these books was also under Glavlit control, reinforced by controls by the First Section in the statistical offices (the First Section was the department that controlled access to official information and determined who was eligible to use it and for what purpose).

Statistical offices were usually blamed when restricted data were published by anybody,

but they were very seldom blamed when data that were supposed to be published remained unpublished. Moreover, the offices were responsible for "proper" circulation of data even after publication.

At the same time, there were no rules to protect individuals or others providing data to statistical offices from being hurt by the use of that data. Special services could request economic and financial data on enterprises, or information about individuals. Because statistical offices were officially given many control functions under the Communist system, today the public remains suspicious about data-collecting activities, and statistical offices remain unpopular. The loss of credibility due to misuse of information about individuals is not unique to the Soviet Union, of course, and has been a source of opposition to censuses in some Western European countries.

Because of their responsibility for control functions in society, statistical offices were usually managed by Communist Party officials, not by statisticians. These officials usually had little knowledge of or interest in statistics. An important role was played by the First Section in making decisions on the classification of data.

Naturally, there were exceptions to this general situation, and many good specialists occupied lower positions in the statistical offices. This depended more on the individual characteristics, interests, and motivations of the persons involved in population data production than on any formal requirements for becoming a population statistician. One or two good specialists in a statistical office could play an important role in data availability and quality in their particular region; and we would emphasize that there were many well-trained demographers in the Soviet Union who discussed issues of planning for population statistics to the extent possible. Before the 1959, 1970, and 1979 Soviet censuses, all-Union conferences of statisticians were held, during which some of the shortcomings of earlier censuses and plans for the upcoming census were frankly discussed (USSR, TsSU 1958, 1969, 1979). Moreover, once it became more acceptable to publish articles about methodological shortcomings in Soviet data, some Soviet demographers took the opportunity to do so (cf. Dmitrieva and Andreev 1987). Projects were undertaken to reexamine previously taboo topics, such as the number of excess deaths during the Stalin years and the extent of loss of life during World War II (Vishnevskii 1989; Kvasha 1990; Andreev, Darskii, Khar'kova 1993). Demographers also began to turn their attention to many new topics, such as religion, prostitution, unemployment, and emigration (Prokopenko 1990).

It is also important to acknowledge that planning for the censuses was very thorough in the USSR. The central statistical authorities in Moscow issued numerous instructions on the preparation, administration, and coding which resulted in high-quality data overall, though not without some problems (Clem 1986).

The scientific research institutes of the statistical offices also increased the homogeneity in orientation and qualifications of statistical office staff. There used to be three such institutes: in Moscow at the Central Statistical Office of the USSR, in Ukraine, and in Latvia. These institutes played a positive role in improving the availability and quality of population data, especially if the leading personnel in the statistical offices cared to listen to scientists. More generally, the scientific research institutes and the best specialists within the Central Statistical Office in Moscow played an important role in improving the quality of data throughout the country, especially in the less developed regions.

In sum, given the legacy of the Soviet past, statistical offices in the successor states face three critical problems:

1) The statistical staff is trained to give quick answers with low-quality data. Planning is limited, as is the taking of responsibility for producing comparable statistics for defined dates under specified quality criteria. There is no developed practice for openly discussing definitions and data quality when distributing or publishing data.

2) The work routine of the statistical offices needs to be changed to a practice of safeguarding data on individuals and making the definitions and calculation methods available along with tabulations.

3) The statistical offices need to replace bureaucrats with statisticians, and the statisticians need access to policymakers. In some regions of the former Soviet Union there is a serious lack of experienced or well-trained population statisticians to take such positions.

2. Overcentralization

Statistical offices in the previous Soviet Union carried out Moscow's decisions about data collection and coding with very little local input. Often, computerized data tapes were sent to Moscow, where they were processed. The full results of calculations and data corrections were seldom sent back to the republic offices.

Republic statistical offices were also equipped with computing facilities and software from Moscow. Financially, the local statistical offices were part of the Central Statistical Office of the USSR. The main criterion for choosing among hardware and software alternatives was the need for a unified system for the immense country as a whole. This system was expensive, and given the recent revolution in the development of personal computers, is now unsuitable for most of the new smaller countries.

For many decades, republic statistical offices were not responsible for the calculation of even simple demographic indicators. For example, total fertility rates or gross and net reproduction rates were never calculated in the Estonian Statistical Office during the Soviet period; a life table was calculated only once, for the 1959 census year.

Usually, the Central Statistical Office in Moscow provided little detailed information about the methodology employed in their calculations. For example, only rarely were methodological reports on the construction of life tables for the Soviet population published (e.g., Andreev et al. 1975), and these lacked some critical information (Kingkade 1985). As a result, local population statisticians do not now have information on the comparability of demographic indices for different time periods for their countries.

For example, Estonian life tables were recently recalculated from primary data using the same method for all census dates. From comparisons with the "official" tables computed earlier in Moscow, it is clear that different methods were used at different times by the Central Statistical Office in Moscow for calculations based on the earlier censuses. Life-table indicators for the 1970 census year deviate considerably more than the corresponding indicators for other census years (Katus and Puur 1991).

Overcentralization also resulted in offices in the republics having contact only with the Central Statistical Office. No direct contact with statistical offices in other countries was allowed, and there was little cooperation even between offices in neighboring regions of the Soviet Union.

In sum, the overcentralization of the Soviet statistical system left the statistical offices of the successor states with critical problems. The staff was trained to carry out instructions from the center, and their own initiative was unwelcome. Administrative and bureaucratic qualifications were more important than scientific training or perspectives. These offices are finding it extremely difficult to play a leading methodological role in the development of population data systems for their newly independent countries.

At the same time, they have inherited methods and statistics from the past that often are undocumented and subject to error. Many people still think that since the Soviet Union was a centrally planned economy, there was complete and effective monitoring of the population, and that population size and the number of demographic events, such as births and deaths, was completely recorded. A substantial body of Soviet and Western research shows this is not true (Anderson and Silver 1985a, 1990; Blum and Chesnais 1986; Kingkade 1985; Dmitrieva and Andreev 1987).

The capacity of the statistical offices in the separate republics, which was always limited during the Soviet period, is hardly any better today in the successor states. Due to social dislocation, the quality of population data in many parts of the Soviet Union is likely to be lower now than it was a few years ago. Funding that previously came from Moscow is not available. Today, the most talented and well-trained persons for analyzing population statistics are not working in the statistical offices, but in separate research institutes, universities, and nongovernmental associations.

3. Separation of Statistical and Computing Staff

When data processing began to be done on computers, computing centers were formed as separate units within the statistical offices. By the 1980s, the staff of these centers outnumbered the statistical staff. Statistical offices and computing centers remained separate units, and their economic status was also different. Statistical offices formed part of the

government structure funded from the state budget, while the computing centers were for-profit organizations.

These different economic interests converged only slightly under the conditions of a command economy. Computing centers had to accomplish the tasks assigned by the statistical offices and were allowed to be involved in other activities only if they received additional resources. The prices for fulfilling tasks connected with official statistics were more or less fixed.

This separation created problems. Whereas the statistical staff was assumed to have knowledge of data, the computing centers were interested only in technical questions of computation. Each side was proud of its lack of knowledge about the other. The statistical staff gave commands to the computing center and supervised the results. They gave orders on paper and received the results back on paper. No direct computer access was available to the statistical staff up to the end of the 1980s.

From the other side, the computing staff was frank about their lack of interest in population data. They just did what was asked of them. When they had accomplished the assigned tasks, the tapes were often recycled for other purposes, and the computerized data were often lost.

Because they were for-profit organizations, the computing centers were interested in minimizing labor. They were asked to prepare an annual set of tabulations, and the funds for the work usually remained unchanged from year to year. It would take more effort to prepare additional tabulations outside the normal routine, and the computing centers were not interested in additional work. Therefore, it took special effort and extra money for the statistical offices to successfully request any change in the processing of data.

This separation was maintained in part because of the use of mainframe computers in the computing centers. Some of the bureaucratic problems in Soviet statistical offices were also common in the West 20 years ago, as mainframe computer specialists and analysts often had divergent interests. Until recently in the Soviet Union, microcomputers were rare for both computing centers and statisticians. Software was designed in Moscow for each computational operation and sent to the local statistical offices as needed. The use of standard software packages was almost totally absent.

Such separation created many mistakes in data coding and input. Data cleaning was slow and expensive because the mistakes were noticed only when the tabulations reached the statisticians. Sometimes data remained uncleaned due to time or money shortages.

The huge computing centers, especially in the smaller countries, are now losing work. This has made their staff members very eager to find new tasks. These people have experience with the computerization of simple but numerous data sets and with making basic tabulations. In most countries of the former Soviet Union, especially in Russia and the Baltic countries, the staffs of the computing centers have become advocates for the idea of establishing registers, including population registers. The basic problem is that the computing center staffs have little concern for data quality or for how registration data could be used for demographic and policy analysis. Also they have little interest in publishing reports based on the data from the registers, because future profit from selling the data appears to be a major motivation for their efforts to promote registers.

All of these conditions make the reorganization of regional statistical offices into centers of methodology for population data collection, processing, and publication extremely difficult.

The Potential for Change

In this section, we provide an overview of the tasks and challenges faced by the statistical offices of the newly independent states. We do not attempt to provide a country-by-country assessment for two reasons. First, there is little documentary evidence on which to base such an assessment. Hence, we rely heavily on our personal experience and observations in several of the successor states. Second, although a country-by-country study based on on-site interviews and documentary evidence would be valuable, it is beyond our present resources to conduct such a survey.

Two questions result immediately from the dissolution of the Soviet Union: 1) how and

in what form will data on population be generated and 2) to what extent will there be divergence of definitions, concepts, and data-collection and -reporting systems across the new countries? Although the Commonwealth of Independent States (CIS) countries still coordinate their statistics to some extent, and have recently published a handbook of population statistics as well as a more general statistical yearbook (Statkomitet SNG 1992a, 1992b), the separate members of the CIS, as well as the non-CIS members, are trying to make progress on their own. Some of the new states, especially Russia, Ukraine, and the Baltic countries, have published handbooks of population and economic statistics. However, the State Committee on Statistics of the CIS is not able to fill the gap in the statistical offices of those newly independent countries that have little local demographic capability. Thus, those CIS states are now in a worse situation than before.

All of the countries of the former Soviet Union are beginning to look to future population developments and to the need to resolve numerous issues related to citizenship, and to migration, family, housing, labor, and health policies, all of which require up-to-date and reliable population data. They all need to analyze changes in population composition and behavior, but they have varying capacity to do so on their own and are constrained by serious limits on human and material resources. Below, we discuss some of the major tasks and challenges ahead.

Development of Definitions and Classifications

It is necessary to develop new classifications that make sense in a transition economy, such as new occupational and educational categories. More flexible categories that reflect social reality are also needed, such as classifications of marital status that reflect the existence of unions other than registered marriages.

In addition, there is a need and a desire to adopt world standards. However, there is not always a single world standard for any particular area of population statistics, and the choices among alternative standards are not easy to make.

Labor force concepts are one example. The governments need to develop ways to measure unemployment and employment in countries in which there was no admitted unemployment in the past. They now have an opportunity to move to international definitions and classifications regarding the economically active population, but to do this, they must grapple with the questions that have long troubled statisticians in other countries, such as whether and how to include persons who have worked primarily in the household economy or home production, and how to count the economic contributions of such workers to the national income.

The Need to Collect New or More Detailed Data

New data are needed in areas such as the formation of businesses and enterprises, characteristics of women having abortions or using other means of fertility limitation, detailed information on housing and housing stock, income (in a situation of financial and employment instability, rapid inflation, and currency changes), and estimates of the standard of living and the cost of living.

The Need to Establish Baselines to Monitor Changes in Population Characteristics and Behavior

The vital and census statistics collected during the Soviet period provide an important basis for comparisons of population change over time. The feasibility of such comparisons depends on the quality and accessibility of earlier data. For many types of population data collected as part of the vital registration system, aggregate figures may be the only data available because microdata are either not available or are not available in computerized form.

For some former Soviet republics, even the aggregate data from the Soviet period cannot serve as a baseline. Statistics on infant mortality and on mortality at older ages are notoriously defective for many regions (Anderson and Silver 1986, 1989a, 1994). Birth

registration is also far from complete in some regions, especially in Central Asia (Coale, Anderson, and Härm 1979; Anderson and Silver 1985a). Both age at date of the census and age at death for Central Asian populations are suspect. Patterns of age heaping (preference for ages ending in 0 and 5), which have been documented based on individual-level data for Moslem populations in Xinjiang-Uighur Autonomous Region in China (Coale and Li 1991; Anderson and Silver 1993), accompanied by age exaggeration at older ages, make baseline figures on age-specific mortality for Moslem areas of the Soviet Union almost impossible to rely upon.

Previous data on migration are very deficient due to the lack of recording of rural-rural migration and inconsistent application of migration definitions. Since migration moves were registered only after a *propiska* (residence permit) was issued, and there have been numerous restrictions on receipt of a *propiska*, many actual changes of residence were never registered. It is also clear that the rules about counting permanent and temporary residents were not always enforced (Anderson and Silver 1985b; 1994).

Data on causes of death also suffer from a lack of comparability over time. Although all of the countries of the former Soviet Union are moving toward adoption of world standard classifications, previous (existing) definitions in the Soviet Union differed from WHO recommendations, often contained hidden and ill-defined causes, and were often not published at all for many years or republics. However, some efforts to establish comparability over time have already been undertaken; detailed archival data have been helpful in this regard (Meslé, Shkolnikov, and Vallin 1992).

In short, comparison over time is strongly impeded by noncomparability, low data quality in some republics, the lack of previous publication of data, and the lack of analytic capability in many of the new countries. Although inevitably there must be some reference to past trends and vital events, in some successor countries the previous data are so unreliable, or so sparsely published, that a great deal of work must be done simply to reconstruct the evidence from the past.

Even in the Baltic countries, where population statistics as a whole were very reliable and accurate during the Soviet period, there often are no detailed data on which to build. For example, abortions were reported in the former Soviet Union only by the total number of abortions and the number to women less than 17 years of age, without any other information about the age or marital status of the women, or their pregnancy or abortion histories. Countries that now wish to understand who was having abortions, so they can design effective family planning policies, must construct such data from scratch. Individual records remain in hospital archives, and health ministries rarely collected abortion data broken down according to acceptor characteristics.

The availability of previously inaccessible, officially closed, or secret data is helpful, but one should not exaggerate their usefulness. Some Western scholars appear to believe that there is a treasure trove of "real" data that could make everything clear about the demographic history of the Soviet Union if only the data were published or the archives opened wide. It is a myth that the Soviet government completely recorded demographic events or controlled its population (Buckley 1993; Anderson and Silver 1985a, 1985b, 1986, 1988). It is also a myth that the dictatorial government of the USSR assured that all officials fulfilled their assigned duty to ensure that information was reported completely and accurately. On the contrary, there were actually disincentives for individuals and officials to fulfill their expected tasks (cf. Anderson and Silver 1985a, 1986, 1988).

The opening up of data makes it possible to understand more about the population than before, but access is still difficult, and much of the newly available information suffers from the same problems as previously published data. There is no substitute for either careful evaluation of the newly available data for completeness and accuracy, or for planning for new data collection.

The Need to Develop New Registry Systems

Many former Soviet countries are planning to develop a population register, but none is in a position to implement one quickly. Whether or not they plan to develop a register,

all these new countries would like to improve their vital registration systems, and many are formulating new rules and laws that fit their own situation.

The main advocates of the population registers are the personnel from the previous computing centers, not the statistics offices. Two examples of conflict between the statistics office and the computing center can be seen in Russia and Estonia. Russia is planning to establish a population register with ten regional centers, with data from the register being considered as a cost-effective alternative to a census. This move is not widely supported by Russian demographers.

In Estonia, the government commission working on the new system of population data collection received cooperation from all ministries, offices, and scientific institutions involved in data collection, analysis, publication and storage, but not from the computing center. The computing center personnel seem primarily concerned with receiving money to implement a population register, which would include only the individual's name, address, date of birth, and personal identification number. This plan was opposed by the other bodies involved because of the very limited analysis that it would allow. This opposition was clearly stated in the commission's final report (Katus et al. 1993).

As they respond to changing conditions, the successor states are likely to diverge in the area of statistics. Even if they want to move to world standards and definitions, their data may end up not being comparable, in part because there is not always a single world standard for the collection of vital statistics data. An example is the definition of "family". In Finland, couples with or without children are counted as members of a family; but if a couple has coresident children as well as coresident parents, then the parents are not counted as members of the family (Tilastokeskus 1993). Instead, the coresident parents in such a situation are counted as a separate family. Hence, the reported data on families in Finland underestimate the prevalence of extended families. Similar definitions are used in Denmark, Norway, and Sweden. Although someone working with the original microdata could calculate the prevalence of extended families, the statistics on families as published in official reports are not comparable to those from most other countries of the world. It is not easy for scholars to re-tabulate the data from the Nordic countries because access to microdata is difficult at best.

If demographers in the successor states of the Soviet Union were to adopt this Nordic approach to defining families they would move from one set of definitions that is not comparable with the rest of the world (cf. Anderson 1986) to another. Although both Estonian and Finnish demographers are interested in comparisons between their societies because of the deep historical and cultural affinity between Estonians and Finns, it is very difficult to compare family structure and composition in Finland, which uses the Nordic definitions, with that in Estonia, which has used the Soviet definition. Moreover, as Estonian statisticians adopt new definitions of families and households, they are not likely to move to the Nordic standard, partly because the substantial Russian-speaking minority population of Estonia has very different patterns of family composition and coresidence from the Estonians, including a larger proportion of multi-generational families.

Statisticians in the other successor states of the Soviet Union face the question of whether to preserve Soviet concepts in order to maintain comparability over time. In the case of infant mortality statistics, the three Baltic countries changed to WHO definitions of live birth and infant death in 1991, but they are able to convert data from the current definition to the older Soviet one if they wish to.

For other types of statistics, comparability over time may be much more difficult and perhaps even undesirable to achieve, in part because of real changes in the composition of the population. An example is data on labor-force composition and occupational structure. The transition from state socialism to a market economy makes the standard Soviet classifications of occupations and branches of industry increasingly irrelevant. Adoption of the International Standard Classification of Occupations (ISCO) and International Standard Industrial Classification (ISIC) codes seem sensible for the statistics offices of the newly independent countries. However, cooperation between formerly Communist countries could help them to develop a common approach in the transformation of their labor statistics.

A somewhat different issue is involved in the decision whether to adopt newly evolving international definitions of the economically active and employed populations. Not only the

successor states of the Soviet Union but also many other countries are likely to seek a balance between the desire for international comparability and the desire for internal validity and comparability over time.

Variability in the Level of Socioeconomic Development

Central Asia had the lowest quality data in the former Soviet Union, and its data quality probably declined further in the immediate aftermath of the breakup. Staff in the statistical offices in Central Asia report that the situation has in fact become much worse. In Uzbekistan, there is now no separate statistical office; it has been merged with the previous planning committee. In this new institution, statistics is not the most important part, and the previous unit of population statistics has been merged with other areas of social statistics. There also seem to be no plans for changing the country's population definitions or classifications.

A major problem in Central Asia has been the undercount of deaths, especially of infants (Anderson and Silver 1986; Baranov, Al'bitskii, and Komarov 1990; Ksenofontova 1994). With recent changes, the proportion of infant deaths recorded is likely to decline. This, in turn, would lead to a decline in the reported infant mortality rate in new states in that region. Some will attribute this to "throwing off the yoke of Soviet imperialism", when in fact it will be mostly due to declining data quality.

The Political Context of Population Questions

When the design of the vital registration system becomes a topic of discussion, some questions that had long been settled and standardized will be reopened. One such question is whether to have an internal passport system. There were many criticisms of the system of internal passports and residence permits under the Soviet regime. However, an internal passport system implicitly exists if there is a population register. In such cases, every individual is given a personal identification number, and his or her changes in residence, marital status, family size, work status, and other events are recorded in local registers.

A similar question is whether nationality or ethnicity is to be a legal category. The definition of nationality (ethnicity, in Western terminology) was politically tainted in the Soviet Union, and changing political orientations affected the tabulation of data by nationality and language (Silver 1986). For example, in Estonia there was a large drop between the 1970 and 1979 censuses in the proportion of Estonians who reported knowledge of Russian as a second language. This was clearly an expression of disapproval of the appointment of Karl Vaino as First Secretary of the Estonian Communist Party in 1978. Similarly, between 1970 and 1979, there was an enormous increase in Uzbekistan in the proportion of Uzbeks who reported knowledge of Russian as a second language. This reportedly resulted from a practice in that republic in which non-Russians with a fairly high level of education were often coded as knowing Russian as a second language, regardless of their actual response to the census question.

In some of the new states, there is opposition both to making nationality or ethnicity an official category and to recording it on documents. However, demographic behavior and social needs differ greatly by ethnic group (cf. Bondarskaia and Darskii 1988), and understanding almost any social process in the former Soviet Union is not possible without information on ethnicity. Even if ethnicity or nationality no longer has a legal status, as it did on internal passports in the Soviet Union, it is something that policy planners and social scientists need to take into account in their analyses of demographic behavior.

In Estonia during 1993, nationality was not recorded on vital registration forms by the civil registry office. This was an effort to move away from previous practices. However, it complicates scientific study of population trends, given the typically substantial differences in demographic behavior between ethnic Estonians and non-Estonians (most of whom are Russian). Beginning in 1994, Estonia is likely to solve this problem by recording nationality on civil registration forms as whatever the person claims, without it being an official designation, and without the person being asked to show any document, such as an internal

passport. In Russia there are also many groups that think nationality should not be recorded on documents.

The issue of the recording of citizenship on documents is very sensitive in countries in which new laws on citizenship are controversial or have not been finalized. In Estonia, in order to encourage full registration of vital events, people are not asked to report their citizenship when they report such events.

Many of the new countries have changed the official state language, which has implications for statistics. The provision of higher education in Ukraine only in the Ukrainian language and the disappearance of the Russian language from official signs in many places conveys a clear message. Moreover, changes in language policy also have affected official registration forms. In Estonia, official forms such as doctors' certificates of the cause of death and vital registration documents are now printed only in Estonian. It remains to be seen whether this causes a problem with reporting and data quality in regions that have a predominantly Russian-speaking population.

Another issue is whether to modify registration forms to provide information that is more useful for policy planning. For example, in the Soviet Union the main purpose of civil registration of births, deaths, marriage, and divorce was to satisfy legal requirements. Although the information was also passed on to statistical authorities, the Ministry of Justice administered the registries, and was not very concerned about the statistical and policy planning usefulness of accurate demographic data.

The statistical offices formerly depended on other ministries and departments to provide them with data on education, health, labor force characteristics, and migration. Often there were problems with gaining cooperation between the different branches of government.

In many countries of the world, health ministries do not work cooperatively with the census and statistical offices. Sometimes this is because doctors and medical specialists who control the collection of medical statistics do not appreciate the utility of making detailed data on health, morbidity, and mortality available for analysis by population statisticians. Given the role of the statistical agencies in the Soviet Union in controlling and checking up on the performance of other government offices, health and hospital officials had reason to minimize the reporting of information that could reflect badly on their own performance. This is thought to be one reason, for example, for the inaccurate reporting of infant deaths (Blum and Monnier 1989).

Now, in some successor states, cooperation between offices of population statistics and health statistics is helping to improve the quality and usefulness of data. New registration forms for births and deaths have been developed that can satisfy more than just the needs of doctors and medical institutions or of the Ministry of Justice. For example, in Estonia, since the middle of 1991, information has been recorded for each live birth and stillbirth on a new "birth card". Information from each case is also being entered into a computer by the office of medical statistics, thereby creating a data base for generating health statistics. This data base is even more useful because of two special features. First, as in countries with population registries, individuals in Estonia are being assigned individual personal identification numbers (PINs). Infants are assigned such numbers at birth. Encapsulated in the PIN are codes for the individual's date and place of birth. The use of the PIN both in birth and death registration makes it possible to link birth and death records, which will permit a variety of scientific analyses to be conducted.

The value of the new birth registration forms is enhanced by a second feature: the inclusion of a substantial amount of background information about the mother and father, including nationality; education; occupation; marital status and date of marriage or of nonmarital union; number of previous pregnancies, miscarriages, and induced abortions; and other characteristics. When combined with information about the medical condition of the mother and infant at the time of birth, this social information is a valuable resource for scientific study and policy planning by medical and health specialists and demographers.

There is also a chance to learn more about the errors or completeness of legal records by merging medical and legal records and making comparisons. Generally speaking, medical records are more accurate than legal ones in recording births that occur within a country. However, the juridical records also include those births that occur outside a country. The

latter problem is likely to be a growing one in the future, when the establishment of citizenship will become increasingly important. It is not yet agreed between the countries of the former Soviet Union how they will handle the registration of vital events that occur in one country to citizens of another.

Whether full advantage is taken of the new opportunities depends in part on who has access to the data and on whether policymakers avail themselves of the expertise of demographers and other specialists. It is partly in recognition of the need for more policy planning information that the Baltic countries, Estonia in particular, have taken the lead in developing a medical registration system that is somewhat independent of the civil registration system. Nonetheless, none of the newly independent states has eliminated the dual (even multiple) system of counting vital events in the medical records and the civil registry.

The Difficulty of Tracking Changes in the Population

As new states were created, there was a lag in the development of rules and definitions in areas such as citizenship, residency, alien status, permanent residence, and refugee status. Both social reality and legal definitions differ between countries, and the laws themselves are often controversial.

Furthermore, when there are civil wars and mass population movements, just as when there are natural disasters such as earthquakes, it is impossible to obtain high-quality information about the population. Even at the time of the 1989 census there were problems in obtaining complete population counts in some republics, due to violence in Azerbaijan and the 1988 earthquake in Armenia. These problems were noted in the published edition of the 1989 census results.

Substantial loss of life through war, accompanied by large displacements of population, has occurred in Azerbaijan, Armenia, Georgia, and Tajikistan. At the same time, some of these countries are taking steps to improve their statistics. For example, in Georgia the best demographers lead the ministry for population affairs and the statistical office. However, it is difficult for governments of countries in which there is large-scale civil violence or war to give high priority to the collection of population statistics.

Resources

In spring 1993, it was decided that all the countries of the former Soviet Union would be eligible for United Nations Development Programme funding, but with certain provisos. The main proviso was that funding of these countries from agencies such as United Nations Population Fund needed to come from new money, so that it would not cause a decrease in the funding already provided to eligible countries in the developing world. A concern was that although new countries in Central Asia have the characteristics of less-developed nations the countries in the European part of the former Soviet Union, although very short on resources, have more highly educated populations and more developed infrastructures than most less-developed countries.

There is a struggle within these countries to establish the autonomy of population statistics when other parts of state statistics and of the government generally are seeking financial support from the same international sources. Resources for population statistics are difficult to find at a time when serious economic measures need to be taken to resolve several problems, including the nonpayment of pensioners. In such a situation, it is difficult for members of parliament to justify to their constituency the allocation of limited state funds to population statistics.

The Slow Production and Distribution of 1989 Census Data

The last census of the Soviet Union occurred in January 1989. Although it followed the same basic methodology as previous censuses, it also contained new questions on housing conditions (Kingkade 1989). The first analytic publication from the 1989 census, including data on all the former Soviet republics, was issued by the Russian Statistical Office in 1992 (Goskomstat Rossii 1992).

Unfortunately, as of January 1994, although tabulations of the census data have long been completed, copies of the tabulations are hard to come by, reportedly because of shortages of funds and paper. The Statistics Committee of the Russian Federation has cooperated with a private corporation in Minnesota to produce microfiche copies, which cost more than $900 for a complete set of the volumes. This is not a convenient form for the use of the census. The Statistics Committee has now begun to print the census volumes, using some earnings from sales of the microfiche copies.

The division of responsibilities between the Statistical Office of the CIS and the Statistical Office of Russia is still not clear. In the meantime, local administrators in various departments, statistical offices, and independent researchers in the former Soviet Union suffer greatly from the lack of easy access to the census reports.

Furthermore, most of the statistical offices of the successor states of the Soviet Union either lack the capacity or the interest to use individual-level data from the 1989 or previous censuses, even if such data are available for analysis on mainframe computers. Not all of the countries even have copies of the original data tapes from the Soviet censuses taken in their region.

Estonia is an exception. In Estonia, computerized data from individual cases from the 1979 and 1989 censuses, as well as the 1985 five percent microcensus, are available both on magnetic tape for analysis on mainframe computers and on desk-top computers. The data and documentation were obtained after a two-year process of negotiation and collaboration between the statistical offices in Tallinn and Moscow, and make it possible for Estonian demographers to prepare detailed tabulations of population statistics for distribution to local governments and for use in studies for policy planning and research. Estonia succeeded largely because of the initiative of demographic researchers, not the Estonian statistical office itself, although the cooperation and encouragement of the office were essential. Lithuania now also has its microdata from the 1989 census.

In the Soviet Union, there was no tradition of making public-use samples of individual-level census data available to independent researchers. Indeed, even detailed tabulations of the data were often suppressed. For example, single-year age distributions have not been published for any of the postwar censuses. Although these are now available to researchers in government archives, they were previously treated as "secret" or for "official use only". Much detailed information remains in restricted central archives in Moscow.

It remains to be seen how accessible state statistics are going to be in the new countries. The increasing availability of microcomputers enables researchers to work at their desks, but unless there is a strong commitment to publication or release of data, research will suffer. Continuing paper and staff shortages have substantially cut down on the release of official data. In the area of population statistics, many researchers in the former Soviet Union (as well as many specialists abroad) sometimes wish for the "good old days" of the late 1980s when *glasnost'* brought out numerous volumes of data on population, health, education, labor, agriculture, and other phenomena. The limited distribution of the materials that are published has had the odd effect of making some researchers in the former republics less aware of and less able to gather information on circumstances in neighboring republics than before.

Fortunately, there are also exceptions to this general rule. For example, Russian demographers have started to prepare annual reports on the population of Russia. The focus of their first issue is the main trend in data on the population of Russia (Vishnevskii and Zakharov 1993). However, the possibility for comparing changes in their own country with those in other countries with similar backgrounds who are confronting similar challenges remains limited.

Interest and Opportunities

Improved Data Collection for Policy Planning

In many of the new states, there is a strong desire to collect data and to plan policies better than was done in the Soviet Union. Many planners and other officials are open-minded and willing to try new things, but are limited by a lack of trained personnel, severe financial problems, and the demands associated with the construction of new state institutions.

In the Soviet Union, the statistical offices used vital registration and censuses but never surveys, except for the Central Statistical Office in Moscow. Consequently, most of the new countries lack knowledge about sampling, interviewer training, and other issues that are important to the taking of surveys, although awareness is growing of the potential contribution of survey data to policy planning. External funding and training can help, and the Demographic and Health Surveys program is being expanded to several countries of the former Soviet Union.

Improvements in the Use of International Definitions

There have already been substantial improvements in the adoption of international standards. Since the Soviet definition of live birth and infant death differed substantially from that recommended by WHO, the three Baltic countries moved to a definition closely related to the WHO definition in January 1991. As expected, this led to increases in the reported infant mortality rate, but the offices of population statistics realized that this was the correct thing to do. Russia moved to the WHO definition in 1993; the statistical office in Russia anticipates that this will contribute to a 15% to 20% increase in the reported infant mortality rates (Baiduzhy 1993).

Cooperation Among Countries in the Same Region

The Baltic region has always been the most advanced in social and economic development within the former Soviet Union, and cooperation between the statistical offices of the Baltic states began in the Soviet period. Latvia, Lithuania, and Estonia signed an agreement in July 1993 to seek to produce common tabulations of population and medical statistics data; and Latvia and Lithuania expressed an interest in adopting the new Estonian vital registration forms. Turkey has increasingly offered technical assistance to the new Central Asian states, especially Kyrgyzstan, and other countries in the region may follow.

Conclusion

All of the successor states recognize the need to improve on Soviet practice in the collection of population statistics. At the time of a census, many hypothetical issues become real. The definitions and practices in future censuses in these countries will determine the possibilities for use of population data for policy planning and scientific research for some time to come.

In 1992, the statistical administration in Moscow proposed that a microcensus for the CIS be conducted in 1994 and approached the other former republics to try to convince them to cooperate. However, at this time (December 1993), because of the costs involved, it appears that only Russia will conduct a microcensus.

It seems likely that all the successor states will seek to participate in a round of censuses in the year 2000 (or perhaps in the year 1999, if they wish the census to be held ten years after the date of the last Soviet census). To prepare for such censuses, the new states need to develop definitions, classifications, and forms.

Because of immediate problems, however, none of the countries is yet engaging in concrete plans for the next census, although all have discussed the need and are reflecting

on whether they can gather the resources to do it. In every case, the cooperation as well as technical and material assistance of international agencies and other countries will be needed.

Recent problems with population statistics in the countries of the former Soviet Union hopefully reflect a transitional phase. There were substantial improvements in publication of data and scholarly analysis of previously forbidden topics in the last years of the Soviet period. The stimulus of preparation for the next census may be sufficient to overcome recent difficulties in many of the new countries.

Bringing many new countries and societies into the realm of world statistics and demographic analysis is not easy. It remains very difficult to do "normal" work in these countries. The historical incapacity, lack of technical support and financing, and lack of trained personnel make the collection and reporting of data haphazard in many regions. But we may be able to learn much from the way social, economic, political, and demographic processes develop in the new countries as they emerge from the former Soviet Union.

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NOTES

[1] The following discussion refers primarily to the situation for Soviet population statistics. On the more general functions of the statistical offices, especially in economic statistics and concerning the Central Statistical Office in Moscow, see Feshbach (1960, 1962, 1972), Shenfield (1992), and Treml and Hardt (1972).

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