

APPLICATION OF COMPARATIVE ANALYSIS OF OFFICIAL POLLS AND EXPERT ESTIMATIONS OF INDICATORS IN DEMOGRAPHIC PROJECTIONS

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During review of current demographic processes in Georgia, besides analysis of official statistical data, the evaluation method is used, which often differs from official statistical data.

During evaluation of demo-statistic data, based on the development of appropriate models for the moment, there was used demographic, epidemiological and migratory transition theories, Cole indexes. UN experts, foreign and Georgian Scientists calculations, determinant analysis of affecting factors of demographic processes, as well as some of the traces of the Institute of Demography and sociology demo-sociological studies and etc.



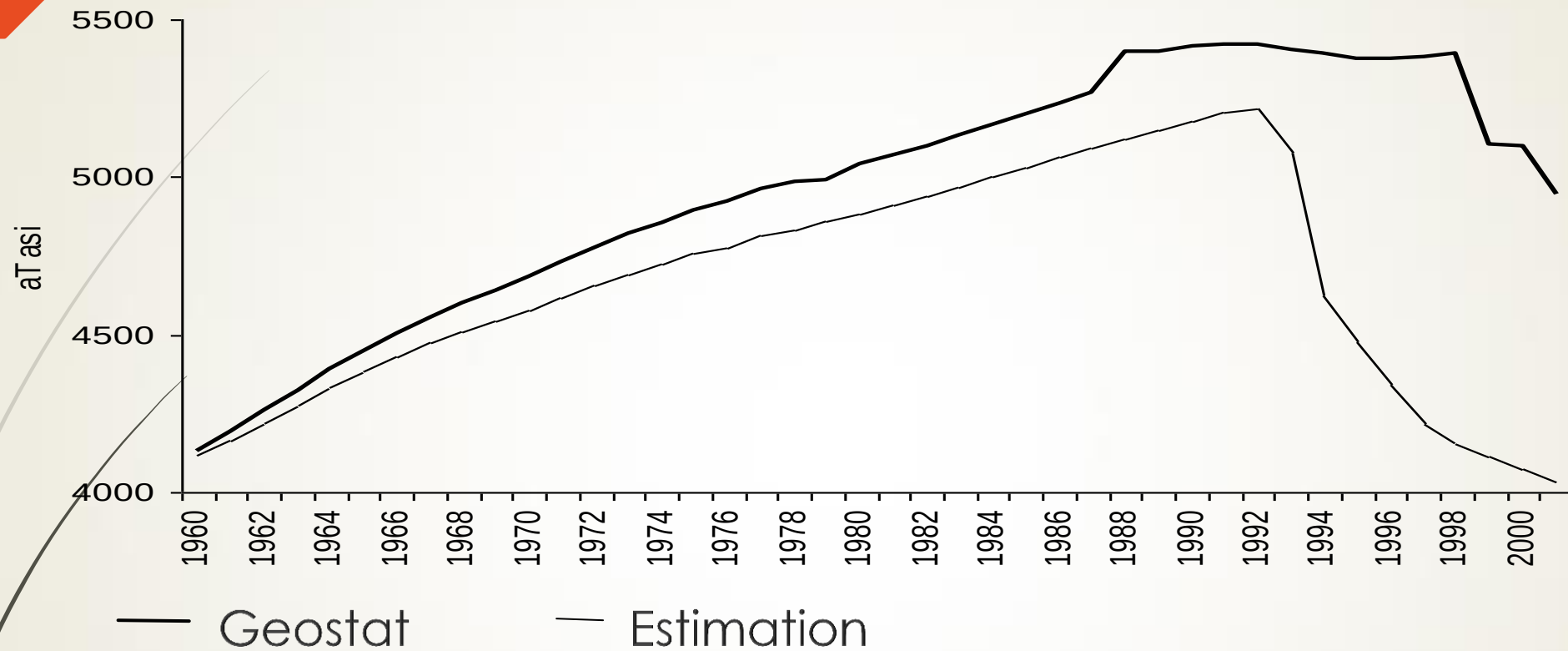
Difference between official and estimated demo-static data

- Based on proper analysis we estimated that number of population counted during population census made in 1970 as well as In 1979, 1989, 2002 and 2014 does not fit number of population of natural movement and emigration between periods of census. The scale of the study period, and the quantity of the article, in order to highlight the issue, consider two periods from 1960 to 2000 and since 2000.
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- **1960-2000**

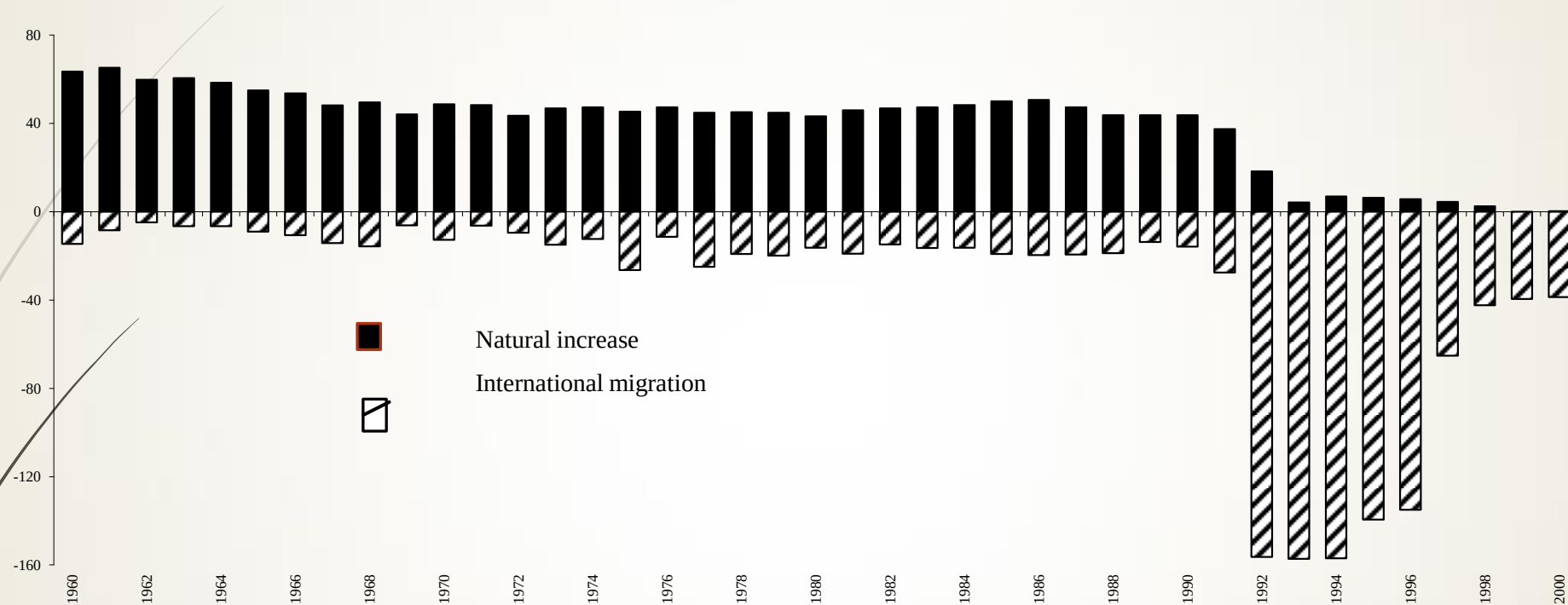
- Reason of the Difference the number of population calculated by Geostat and by authors, is inaccurate registration of natural movement and migration. According to UN experts, in 1960-1965 20 thousand dead person remained unrecorded, while part of the inaccurate registration was 40%.
- Estimated analysis of death rate data of 1960-2000, in contrast to the data of the same time of Geostat, gives the reason to understand newly, as the evolution of life expectancy, as well as the general demographic transition in Georgia

Figure 1. Number of population according to Geostat and our estimations (thousand) 1960-2000



- As pictures shows according to our estimation number of population of Georgian for the period 1960-2000 was always less, compared to data of department of statistics. With this, according to out estimations, since 1992 number of population of Georgia decreases, while according to department of statistic there is an increasing trend of number of population in Georgia.

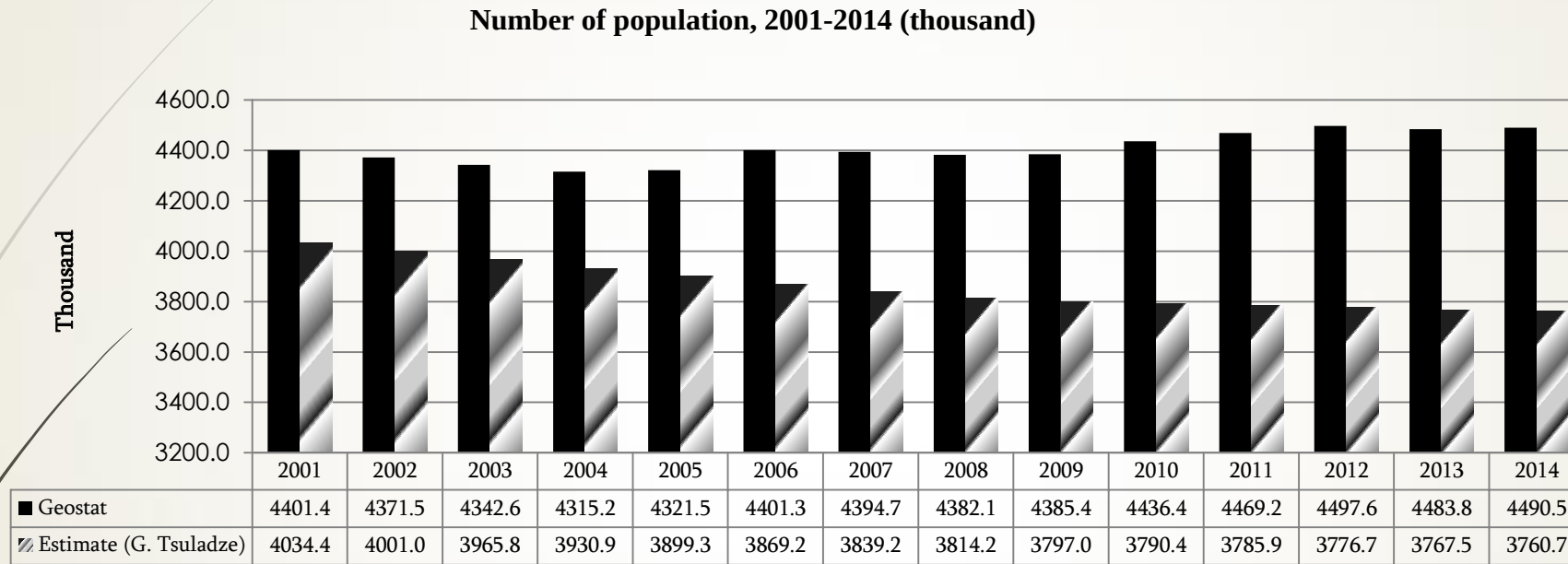
Figure 2 Components of increase (decrease) of population in Georgia 1960-2000 years. (Thousands) Net-migration: 1960-1989 (Geostat); 1990-2000 (our estimation); Natural increase-our estimated data



- ➔ During discussed period of time even though there was reduction of natural increase and it reduced to zero point, its' importance was positive while balance of emigration was negative.
- ➔ Thus, the main component of quantitative formation of population of Georgia was natural increase in 1960-1991, and international migration in 1991-2000.

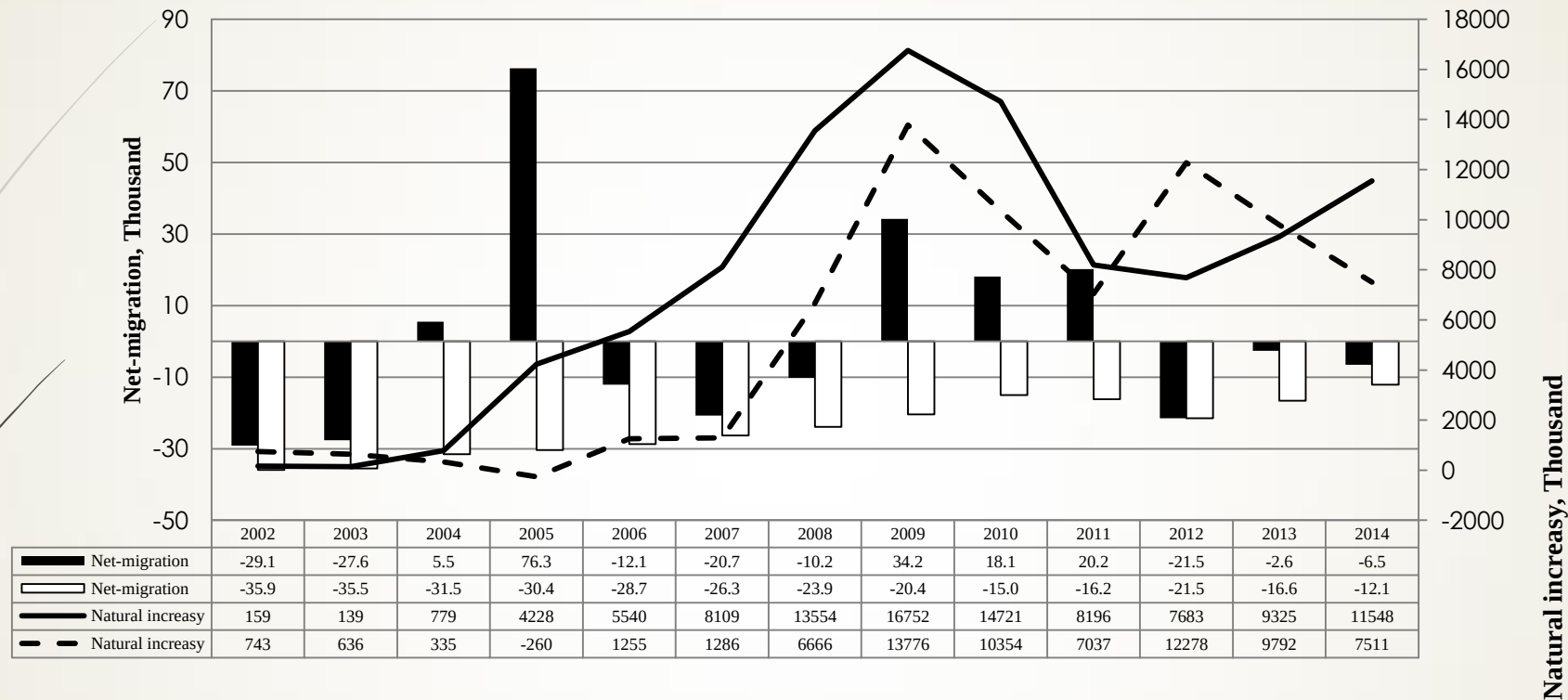
- **2000-2014**

Figure 3. Change of population of Georgia 2000-2014



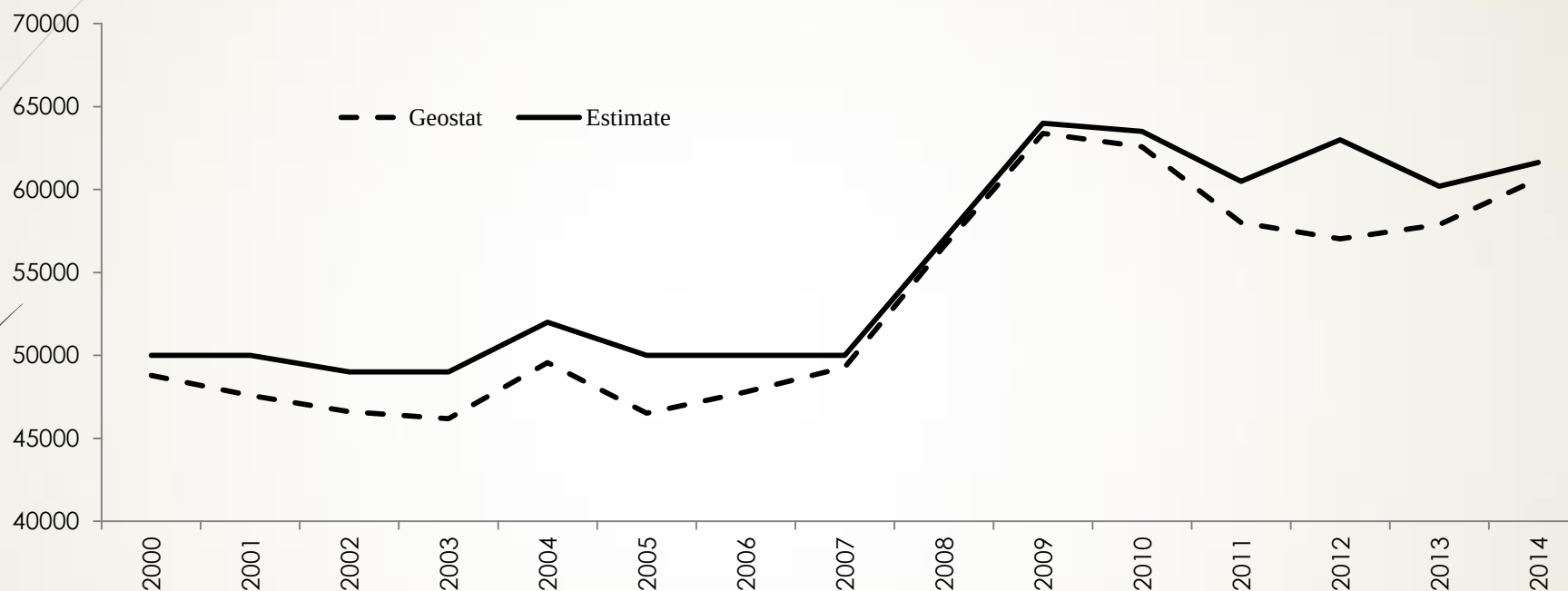
➔ Figure shows, that in 2002, number of evaluated population was 370.5 thousand compared to constant population. In 2003-2014 this difference was growing and for 1st January of 2014 year it reached 729,8 thousand, i.e. 16,3%. At the same time, the population is 4 million according to the data of the National Statistics Office and from 2008 year it is characterized by tendency of growth. In contrast, the evaluation data from 2002 it is below 4 million and has a reduction tendency.

Figure 4. Total population increase (decrease) components in Georgia 2001-2014. (Thousand)



- Reason of such contrasting difference between National Statistic office and evaluative indicators is problem of demo-statistic census of population. it is reasonable to compare and analyze separately, as components of natural increase, number of death and birth, as well as migration balance according to our and National Statistic office indicators

Figure 5. The dynamics of the number of birth in 2000-2014



- This figure 5 shows that, in 2007-2009 years, according to National Statistic Office and our estimation number of birth is similar, which demonstrates improvement of registration system during these years. In contrast to these years, difference in previous and following years demonstrates the incomplete registration of birth.

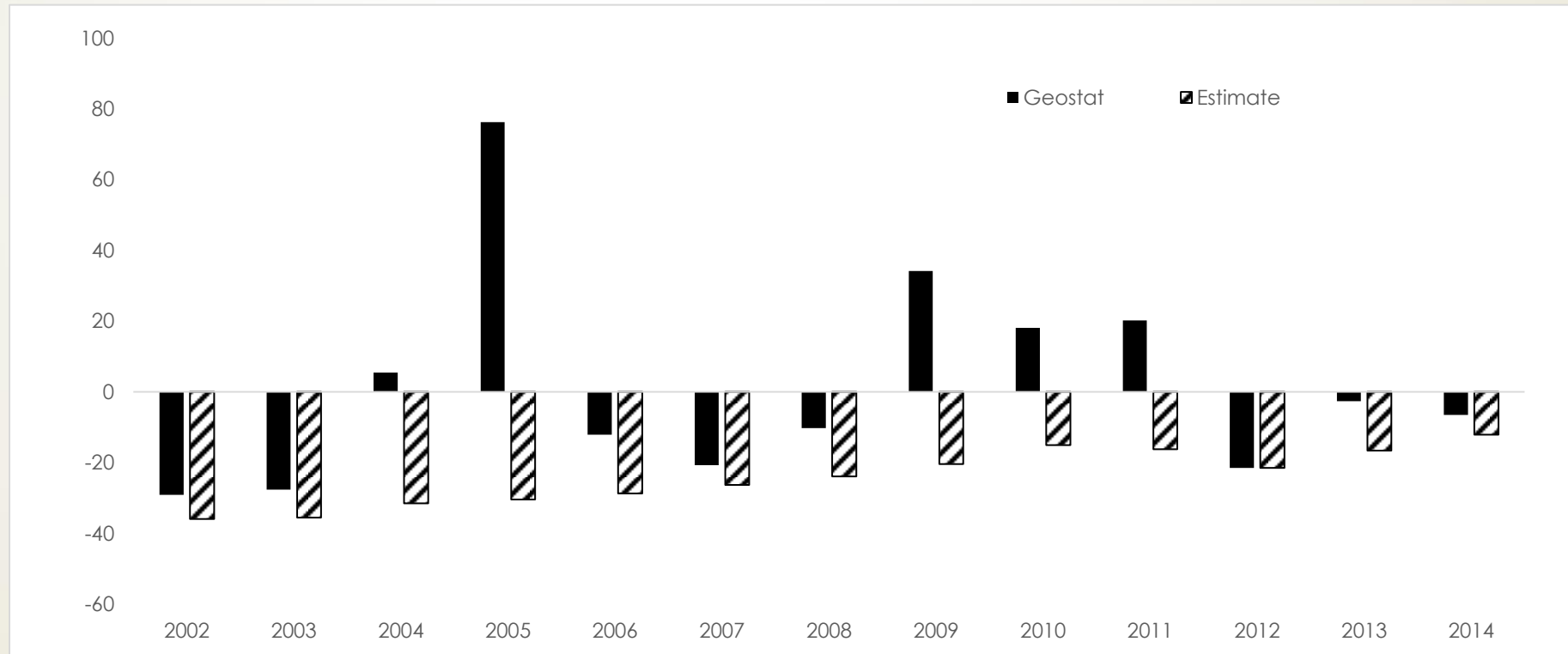
Figure 6. The dynamics of the number of deaths in 2000-2014



- Unlike the recording of live births, in the period 2000-2014 accounting of death is more violated, particularly in the years 2004-2010
- From dynamics of birth and death, in 2002-2014 natural growth data according to National Statistic Office was 100, 000 person, while estimations showed that it was 71.4 thousand person.

- compared to accounting of population natural increase components, accounting of international migration is in rather bad situation. in 2002-2014 years, net-migration, because of incorrect accounting, according to national Statistic office data was positive and it was 24 thousand, while according to estimations it was negative and its was -314 thousand person.

➤ **Figure 7 net-migration of population of Georgia in 2002-2014 years**



- **Main reasons of the inaccurate accounting of natural movement and migration**

- As our and UN experts researches of different years show, in Georgia, especially in the mountains and in villages of Kvemo Kartli home deliveries are still frequent. This is mainly due to the difficult socio-economic situation in Georgia and expensive childbirth in Georgia. This part is not registered and therefore not recorded in the National Statistic Office indicators of collective birth rate.
- Problem of death accounting is complicated by the fact that some of the villages and regions families sometimes buries their family member without registration, without permission of cemetery land allocation.
- Unlike to natural movement of the population, mainly reason of the inaccurate accounting of migration is wrong methodology. In particular, Border Defense Department registered only visitors, and because of lack of the statistical bases it was not possible to separate duration and other parameters, which would allow National Statistical office to account international migration properly.
- From 2012 year new methodology of international migration accounting developed by National Statistic Office significantly reduced inaccurate accounting of emigration and we hope it will improve.

Table 1. The level of incomplete accounting of population (%) in components of natural movement and in international migration indicators of National Statistic Office in 2002-2014

	Live births	Death	Infant mortality	Net-migration
2002	5,1	4,0	-	23,4
2003	6,1	5,0	5,0	28,6
2004	5,0	5,8	5,2	672,7
2005	7,5	18,8	25,5	1398,5
2006	4,6	15,4	52,7	137,2
2007	1,5	18,3	67,7	27,1
2008	0,8	17,0	23,3	134,2
2009	1,0	7,7	37,4	1600,0
2010	1,5	11,0	85,4	1828,8
2011	4,2	7,3	70,7	1802,0
2012	10,5	2,8	68,0	0,0
2013	4,0	3,8	64,0	84,3
2014	1,6	10,2	64,3	86,2

- as table 1 shows, during last 2 period between censuses, according to differences between National Statistic Office and our estimations, level of inaccurate registration of birth was lower (except 2012) in some years, while in case of deceased persons it was high (except 2012)
- unlike to accounting of natural movement of population, inaccurate accounting level of international migration is very high.

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- ➔ **Difference between our and National Statistic Office estimations of annual difference between the number of population is not surprise anymore between two period between censuses of 2002-2014 years. The difference between the statistics of the number of annual cases amounted to 766 thousand (17%) people, while incase of expert estimations difference was only 2000 (0.1%).**

Conclusion

- Thus, the 2014 census confirmed in conditions of inaccurate accounting unreliability of official statistics. Because of this based projections are wrong. Therefore, while predicting the demographic projections, it is desirable, if not feasible, the calculation of expert estimations of alternative projections on the local level.
- For example, as the population of the various points of the forecast is based on official statistics in the wrong demographic features, so unlike the Georgian experts in estimations rates for 2015 the forecast is much closer to the recorded number of 2014 population census.
- In particular for 2015 year population of Georgian according to UN projections must have been – 4225 thousand, World Bank – 4078 thousand, Bureau of USA population census – 4525 thousand, and according estimative projections 3905 thousand. Same is in other demographic forecasts.



Thank you for your attention