

**Oponent's review on doctoral thesis**  
**Shynar Tuleshova: Regional mortality differentiation in Kazakhstan (1999-2008)**

Detailed study of mortality in broad circumstances is the research topic of submitted thesis. Development and variation in mortality and factors responsible for regional differences in mortality are the most important problems under study. The regional mortality trends are studied by sex, age, leading causes of deaths and rural/urban regions in the period 1999-2008, it means under economic recovery and growth in Kazakhstan. Author tries also to find the main determinants of regional differences in mortality in the period under observation.

The thesis consists of 14 chapters (including Introduction and Conclusion) and its extent is 275 pages. Introductory information about goals and objectives of the research and overview of the structure of submitted thesis are the subject of the first chapter. To compare this important part with the whole extent of thesis it seems that given information is very brief and general. Literature overview devoted to the regional differences in mortality generally is given in the second chapter. This chapter represents first of all the list of known research works (3 pages) but no discussion of factors leading to such differences in mortality is included. In chapter three the author very briefly informs about theoretical and empirical framework of the research. It would be interesting to inform in more detailed way about the course of demographic transition with the respect of mortality changes on the territory of Kazakhstan. Research questions and hypothesis given in chapter fourth include all important aspects of the problem under study. They are oriented not only on the expected changes in demographic indicators but the social economic factors are also included. Next two chapters have methodological character. Fifth chapter informs about data sources, their quality, collection and processing. Demographic, social and economic explanatory variables are also defined here in comprehensible way. Sixth chapter is devoted to the explanation of basic and advanced demographic methods and also to the statistical and cartographical methods used in the thesis. This chapter closes so called theoretical and methodological part of thesis. To evaluate the first part of thesis it is possible to state that the methodological issues are well organized and explained but theoretical part seems to be very brief.

Chapter seventh represents an introduction (or transition) to the analytical part of the thesis in spite of the fact that by author is considered as a "theoretical" (see chapter 1.3, p. 26). Basic geographic and social economic characteristics and structures are presented here to understand the following analytical part of thesis. The core of thesis represents chapters 8 -13 which include principal results of research. Chapter eighth is devoted to the regional differentiation in mortality development in Kazakhstan in the period under study. Regional mortality trends by age groups and selected causes of death are studied in chapter ninth. Contribution of age groups and leading causes of death to the changes in mortality in regions is studied in chapters 10 -11. The findings are well organized in three parts: five regions, municipal cities and at the end main findings are summarized. Diversity in age at deaths and expectation of life were taken into account to examine regional mortality differences in chapter twelfth. Demographic and selected social and economic variables were taken into account to study regional mortality differences in chapter thirteenth. Last chapter (Conclusion) has two parts. In the first one the certain limitations of thesis are stated with respect of unavailability of important data (e.g. alcohol use etc.), the second confronts hypothesis with research results.

Statements and explanations in thesis are accompanied by numerous well-arranged tables and figures which enable better understanding of the text. List of references is rather numerous, includes all important titles dealing with the issue and document good orientation of author in the problem under study. Advanced demographic and statistical methods were used by author in analytical part and good knowledge of them was demonstrated. Research of Shynar Tuleshova gives interesting information about recent changes in mortality patterns in Kazakhstan. Notes mentioned above are possible to consider more as suggestion for future research than a critical ones.

The submitted thesis of Shynar Tuleshova fulfils the demand put on doctoral thesis and I recommend it for defense.

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