

Tutor's review on the PhD thesis of Shynar Tuleshova "Regional Mortality Differentiation in Kazakhstan (1999-2008)"

The PhD dissertation of Shynar Tuleshova "Regional Mortality Differentiation in Kazakhstan (1999-2008)" consists of 275 numerated pages including 20 pages of appendices. The dissertation text includes also lists of abbreviations, tables, figures, maps and the list of appendices.

The thesis theme is of a specific importance at least from three principal reasons. First, Kazakhstan represents a country which territory is approximately as large as the territory of the entire Europe. Secondly, differences among individual regions regarding socio-economic conditions and ethnic composition of population are substantial. Thirdly, regional differentiation of mortality in Kazakhstan in the presented detail has not been studied yet. These facts have logically increased an importance and cognitive potential of Shynar Tuleshova doctoral research.

The dissertation's overall goal was realized through particular objectives fulfillment. The main objectives were: (1) to describe differences in mortality developments among regions during the given period generally, in total, and according to sex, age and causes of death, (2) to assess the contributions of age groups and selected cases of death or better their particular groups to the change of life expectancy at birth (LEB) between two two-year periods 1999-2000 and 2007-2008, (3) to analyze differences in association of LEB and indicators of inequality in age at death (length of individual lives) between the same two-year periods, and (4) to investigate the socioeconomic and demographic factors of overall and age-specific mortality intensities and their regional differentiation.

The submitted dissertation has a standard structure and can be labeled as a compact and logically well structured text. It consists of 14 chapters including the introduction and conclusion. The first seven chapters representing the introductory or better saying technical part of the dissertation fills slightly more than 20 per cent of the dissertation real text. The first chapter contains the introductory presentation of the selected theme, researched problem, aims of research and the structure of dissertation. Unfortunately, this part of the text presents mostly statements on existing state and practically no explanation or justification, especially in the case of the dissertation structure presentation. The second chapter is devoted to an overview of literature. Individual publications are sorted according to covered geographical regions. More critical approach of the author in this part of her work would be welcomed. Theoretical part is a content of the third dissertation chapter. Shynar Tuleshova overviews three relevant concepts there: theory of demographic transition, theory of epidemiological transition and theory of spatial diffusion of innovations. In its text, the author is trying to illustrate particular elements of these theoretical concepts by empirical data describing relevant situation or development in Kazakhstan. In the fourth chapter research questions and hypotheses based on the research questions set earlier are correctly formulated. Necessary data availability and quality is discussed in the chapter five. The author is focusing not only on data itself but she also briefly follows the process of data collection and processing in this part. The methods employed are presented in the minutely structured sixth chapter. The methods themselves are divided into basic and advanced demographic methods, statistical methods and

cartographic ones. The chapter seven is closing the introductory part with an overview of socioeconomic, environmental and demographic characteristics of the regions and their changes within the period in question.

The core of the dissertation is represented by the text from the eighth chapter to the chapter fourteen. The chapter eight is an overture to deeper study of mortality and its changes on regional level. As such it provides a basic description of general and age-specific mortality developments on national and regional levels. The chapter nine can be seen an extension and deepening of the description presented in the previous part. Within the intentionally defined age categories the author is tracing overall mortality as well as mortality by widely defined causes of death. Contributions of other, differently defined wide age groups to the changes in LEB in regions are the subject of the tenth chapter. This chapter is organized by the groups of regions defined by the author. In the eleventh chapter organized analogically to the chapter ten, Shynar Tuleshova describes contributions of particular aggregated causes of death to changes of the LEB values on the regional level between the two-year periods 1999-2000 and 2007-2008. Chapter twelve is devoted to investigation of relations between changes in the LEB and heterogeneity of population regarding the length of life. The attempt to identify main factors of regional differentiation of mortality in general and by age is presented in the thirteenth chapter. This investigation is carried out in two horizons only, in the above mentioned two two-year periods. The main findings of the work and also its limits are synoptically discussed in the last, fourteenth chapter reserved for conclusions.

The dissertation theme of regional differentiation of mortality in Kazakhstan between last two censuses was widely elaborated in the submitted text. The relevant differences were studied not only with respects to sex and age but also with respect to causes of death using basic as well as more advanced demographic and statistical methods in a direct connection to existing knowledge on mortality in the territorial framework of Kazakhstan. There is no doubt that the results of this doctoral research has brought new findings and contributed to cognition to the process of mortality in the country and its regions and its territorial differentiation regardless some imperfections and deficiencies. Contributive is namely the part attempting to identify factors of mortality and its differentiation and their potential relations.

Particular weakness can be seen namely in the theoretical part of the research. The presented theoretical concepts are described only in basic contours without discussion of their limits and possible shortcomings. Sometimes missing specifications of partial concepts or used terms complicates orientation in the text and ideas of the author. It is, for instance, the case of gross domestic and regional products or applied methods of factor analysis, where it is not clear what version of the method available in the SAS package was used. The author is also relatively frequently stingy with explanations or justifications of particular steps, decisions and choices adopted in the course of her research. This type of deficiency appears namely in the methodological part of submitted work.

There can be found also some formal imperfections in the text. The author, for instance:

- delimit six groups of causes of death (tab. 2 on page 47) but in the following text she works with seven groups;

- did a misprint in used letters of Greek alphabet used in equation under the item 3 on the page 52;
- forgot closing bracket in the equation under the item 3 on the page 53;
- did not mentioned the source in the case of Fig. 1 on page 59 or in appendices 4, 5, 6a and 6b;
- caused misleading placement of graphs with respect to the text on page 95 or 120;
- she is also using decimal comma instead dot in graphs presented in chapters 10, 11 and 12, etc.

On the other side, it should be stressed that text is well understandable; English used by the author has required quality and practically errors free. Graphs, maps and tables are elaborated with care and except some minor deficiencies they correspond to the purpose of the submitted work. Also references and quotations of literature are in general correct and do not show significant imperfections.

After a careful consideration of all positive and negative features of the submitted text I came to conclusion that the doctoral dissertation Shynar Tuleshova "Regional Mortality Differentiation in Kazakhstan (1999-2008)" can be recommended for its final defense.

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