

POPULATION THEORIES AND METHODOLOGY OF DEMOGRAPHIC RESEARCH

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1990-2019: FORMAL DEMOGRAPHY RESEARCH DEVELOPMENT IN THE BULGARIAN ACADEMIC RESEARCH UNIT

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Abstract: *This article contains a short review of some of the most significant studies in the area of formal demography completed by researchers from the BAS demography research unit. The review covers a 30-year period of existence of the unit (1990 – today) and includes only a fraction of the most important scientific contributions significant for the development of demography, for the explanation of Bulgaria's demographic development and for the improvement of the society's evolution. The results obtained indicate that the studies considered treat the most acute demographic problems faced by the country in the last decades, arising from the established regime of demographic reproduction.*

Keywords: formal demography; scientific contributions of Bulgarian academic research unit.

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INTRODUCTION

Formal demography¹ studies human populations as reproductive aggregates under the influence of births, deaths, and migratory movements (Pressat, Wilson, 1985; Van de Walle, 1982, and others). It deals with the analysis of the state of the population (its number and composition according to different criteria and features), the tendencies of the various processes that have a direct impact on the development of the population, the mutual relations existing between the state of the population and its development, on the one hand, and the demographic processes that determine them, on the other, by studying the patterns of population reproduction and the factors for its development (Preston et al., 2001; Coale, Trussell, 1996; Pressat, 1994; Keyfitz, 1985; Henry, 1964; and others).

Over the last few decades, demographic studies have been intensively developed due to the growing need to track and explain from a scientific perspective the ongoing rapid demographic processes that are changing the face of Europe and the world and placing Europe and other developed countries in a specific position within the world development. The significant changes which have occurred in the demographic reproduction throughout the developed countries by the end of 20th c. and still occurring until today refer both to the size of the values achieved in the demographic process indicators and in some parameters characterising the course of theirs such as velocity, smoothness, etc. They affect almost all Europe's nations, although in a different way and to different degrees (UNPD DESA, 2013). Among these changes, two trends stand out with their significance for the demographic reproduction and with their possible impacts on the socio-economic development of the individual countries. The first trend is to maintain the birth rate below the level of replacement of generations over a long period of time² in European countries (Sugareva, Lilova, 2010; UNECE & UNPF, 2005). The long-term retaining of the fertility at such a low level has an impact on the demographic reproduction through changes in the number of population, its demographic structures, the rate of ongoing demographic ageing and its effects on other processes. The second trend is expressed in the displacement of natural growth from positive net migration (external migration balance) as a major driver of population development and growth for a growing part of European countries (UNPD DESA, 2013; European Commission, 2011; UNECE & UNPF, 2005). Such significant changes in the evolution of the population suggest, in turn, the possibility of a number of consequences for the future economic and social development of the respective countries due to the

¹ Formal demography is that part of demography whose focus is on the quantitative aspect of processes and phenomena and which measures and analyses the elements of a change (which can be an increase, decrease or retaining a constant number, the so-called stationary population) of a population. For the purposes of the demographic analysis and demographic forecasting, a mathematical tool-kit has been developed and is constantly being improved, which includes various methodological approaches based on mathematical models such as demographic tables, the theory of stable population and others. It is also necessary to emphasise that mathematical models in formal demography include stochastic processes (Xie, 2000: 670; Caldwell, 1996; and others).

² For over two decades already.

many connections and interdependencies that exist between the demographic and economic systems of society.

These aspects of the problem apply to Bulgaria to the greatest extent, for at least three reasons. First of all, the level of the total fertility rate in the country is far below the threshold of generational replacement over the last 30 years (Moralisyska-Nikolova, 2019; Sugareva, Lilova, 2010; and others). As a result of this process and the relatively high mortality, if seen in the European context, the demographic development of the country is affected by long-term negative natural growth. However, unlike many European countries, Bulgaria lacks a compensatory migration balance, and this process goes on in a combination with a relatively high (from a perspective of the scale of the country) and a steady negative external migration balance (Borissova-Marinova, Moraliyska-Nikolova, 2011; etc.) As a result, throughout the period under review, there are four intertwined processes in Bulgaria: shrinking demographic reproduction, depopulation (population decline due to emigration), depopulation (population decline due to the predominance of deaths over births) and accelerated demographic ageing with all its consequences. Such a situation has not been observed in the last century in Europe and in combination with the consequences of the long-term structural economic crisis in the country represents a unique overlap of processes and intertwining of factors for the demographic reproduction as a subject of study.

The aim of this article is to give a brief overview of some of the most important studies in the field of formal demography³, developed by scientists in the academic unit of demography⁴ of the Bulgarian Academy of Sciences, focusing on the achieved scientific results with a contributory nature, in a theoretical, methodological and applied perspective. The review covers the 30-year period of the unit's existence: from 1990, when this scientific discipline was institutionalised in the Bulgarian Academy of Sciences with the establishment of the Institute of Demography at BAS⁵, until today. The following exposition deals mainly with the completed research, which were accepted by the relevant Scientific Council of the unit with a recommendation to be published and the results of which were published as monographs. This review only contains some of the most important scientific contributions and achievements of each of the considered studies selected from the point of view of their significance for the development of the demography, their contribution for explanation of the demographic development of Bulgaria and their applicability for the purposes of the improvement of the social development. The exposition has a structure of three parts according to the nature of the scientific contributions, be those contributions theoretical, methodological or applicable.

³ The field is also known in Bulgaria under the name "Statistics and Demography", as recorded in the national classification of scientific specialities.

⁴ The review of the published results from other areas in the demographic research of the unit, such as social demography, ethnodemography and historical demography, is beyond the scope of this article. Such a review should be the subject of separate independent studies.

⁵ The legal successors of the Institute of Demography are the Centre for Population Studies at the Bulgarian Academy of Sciences (2002–2010) and the Demography Department of the IPHS-BAS (after 2010).