

Duke University

Department of Sociology

GRADUATE QUALIFYING EXAMINATION

POPULATION STUDIES

AUGUST 28, 2006 – AUGUST 29, 2006

THIS EXAMINATION HAS TWO SECTIONS. YOU MUST ANSWER *BOTH QUESTIONS IN PART A AND TWO OF THREE QUESTIONS IN PART B*. YOUR ANSWERS SHOULD BE AS COMPLETE AS POSSIBLE. YOUR EXAMINATION SHOULD NOT EXCEED A TOTAL OF SIXTEEN (16) DOUBLE-SPACED PAGES, EXCLUDING REFERENCES. YOU SHOULD FOLLOW A JOURNAL FORMAT (E.G. DEMOGRAPHY) FOR REFERENCES AND CITATIONS. YOU HAVE 24-HOURS FROM THE TIME YOU PICK UP YOUR EXAMINATION TO RETURN IT TO CLAUDETTE PARKER.

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Part A. Answer the following question (Answer BOTH a and b.)

1. The life table model:

(a) There are two perspectives on the population life table model: (i) the cohort survival perspective, and (ii) the stationary population perspective. Describe these.

(b) In the construction of period population life tables, the estimation of ${}_n a_x$, the number of persons-years lived by those who die in the age interval x to $x+n$ and the associated conversion of ${}_n m_x$ to ${}_n q_x$ are key methodological decisions. Describe four approaches: (i) the piecewise-linear l_x method, (ii) the piecewise-exponential l_x method, (iii) the Keyfitz (1966) polynomial iterative method, and (iv) the method of borrowing ${}_n a_x$ from other populations. What are the limitations of each method? How are they affected by the width of the age intervals used to construct the life table?

Part B. Answer two (2) of the following three (3) questions.

2. Aging: There has been considerable research over the past decade on the effects of fetal development, infancy, and childhood on health and mortality in middle and older ages (the “Barker” hypothesis and related work). Review the major contributions to the demography of aging literature on this topic, assay the empirical evidence, and state your conclusion.

3. Migration: Recent theoretical and empirical analyses of international migration emphasize that migration is a social process rather than a single, bounded event. Elaborate on this position and its theoretical, methodological, and public policy implications. Next, formulate a model of migration as a social process based on life course research. Describe the methodology that you would apply to study such a process, drawing on your knowledge of life tables and event history modeling.

4) Fertility and Family. Professor Atlas examines data for her home country. She finds that the 2005 total fertility rate is only 1.4! The parity specific components (TFR1, TFR2, TFR3 and TFR4+) are .6, .5, .2 and .1. A decade earlier the TFR was 2.0 and all components were correspondingly higher (.8, .7, .35 and .15). In her capacity as advisor to the Secretary of Health and Welfare, she argues that these parameters imply disastrous demographic future requiring immediate policy responses. She argues that these numbers portend, for instance, 40% of women never having children. She also claims that this TFR implies a sharply declining population. She proposes that an educational campaign be initiated to encourage women to have at least two children for the good of the country and that a yearly child allowance of \$1,000 for each child under age 18 (to be paid to custodial parents).

Given this limited information, would you reach the same conclusion? What additional information would you need to assess this situation? Is this level of fertility unusually low? Could very low mortality get this population to “replacement level fertility”? Would you recommend the same policies? If no, what policies would you recommend to remedy the problem (as you define it)?

