

**Demography and Ecology Preliminary Examination**  
**August 2008**  
**Morning Exam**

**I. Answer A or B**

**A:** Optimists about the future of mortality extrapolate past mortality improvements into the future. These scholars hold the view that, if there are uncertainties affecting future mortality trends, they derive from social and political factors, not from technological factors. Evaluate this view by considering the role played by technological factors in the historical mortality decline in both developed and developing countries and their expected influence on future mortality patterns and trends, and discuss the political and social factors which represent the greatest uncertainties about future mortality trends.

**B:** What is the Hispanic mortality paradox? What arguments have been proposed in the literature to explain this phenomenon? Do you believe that the Hispanic mortality paradox is real or a statistical artifact? Be sure to discuss intra-group differences and cite empirical evidence to support your argument.

**II. Answer A or B**

**A:** Why do people move? This question has been asked and researched by social scientists over the decades as streams of migration changed the residential pattern of the nation's population, shifted the locus of economic and political power, and altered the character of both origin and destination communities. For the U.S., or for some country with which you are familiar, answer each of the following questions relating to geographic shifts of the population:

- a) Define migration and discuss some of the problematic issues (conceptual issues, methodological issues, data issues, etc.) involved in studying migration.
- b) Discuss the various ways in which social scientists have studied and explained the causes of migration. What are the strengths and limitations of these theoretical orientations?
- c) Describe the dominant migration patterns of the past three or four decades. Include some discussion of migration selection patterns involved in these trends and some of the consequences of these patterns and trends for the sending and receiving communities.

**B:** A familiar argument against migration into the US is that migrants take jobs away from US citizens. Economists, however, tend to believe that as long as immigrants' skill sets are complementary to those of U.S. citizens, immigration will bring economic benefits to U.S. citizens. Elaborate and explain the economic reasoning behind the latter view. Summarize research evidence on the labor market effects (e.g., unemployment, wage rate) of immigration. Be sure to discuss the methodological aspects, i.e., the problems of simple inter-regional comparisons and proposed solutions in the literature.

### **III. Answer A or B**

**A:** Demographers have recently begun to use the term “lowest-low fertility.” What does this term refer to? What is the rationale for specifying a threshold level between low fertility and lowest-low fertility? Discuss the theoretical explanations that have been offered to understand the emergence of lowest-low fertility.

**B:** The Second Demographic Transition is a widely used and widely understood term used to describe recent trends in fertility and family behavior in western industrialized societies. Despite its widespread use, there is much criticism or skepticism regarding the notion of a Second Demographic Transition. Discuss critiques of the theory of a Second Demographic Transition. Discuss the applicability of the Second Demographic Transition to non-Western low-fertility societies? What are the implications of Second Demographic Transition ideas for future trends in fertility?

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**Afternoon Exam**

**IV. Answer A or B**

**A:** A researcher is studying entrance into first intimate coresidential unions – either cohabitation or marriage. This researcher administered a survey to a representative sample of women between the ages of 18 and 29. The survey ascertained each respondent’s current age as well as the timing of their first experience with either marriage or cohabitation. More specifically, the survey ascertained whether or not the respondents had ever cohabited or married and, for those who had, the survey further ascertained whether the first union was a cohabitation or marriage and at what age this first union occurred. Table 1 provides a frequency distribution of respondents who had ever cohabited or married by their ages at first union and by the type of first union. Table 2 provides a frequency distribution of the age of respondents who had neither cohabited nor married by the time of the interview.

Table 1: First Unions by Type of Union and Age at Union (for those ever-unioned)

Age	Marriage	Cohabitation
16 and younger	0	0
17	100	200
18	200	200
19	400	400
20 and older	1300	1200

Table 2: Age at Interview for Those Who Had Never Married or Cohabited

Age	
18	400
19	200
20 and older	400

The researcher decided to examine entrance into first unions using life table methods. The researcher ignored what happened after entrance into the first union, the fact that she was dealing with survivors, and the fact that the data come from women of different cohorts. Please answer the following questions.

- a) What is the rate of entrance from singlehood to marriage at age 17?
- b) What is the rate of entrance from singlehood to cohabitation at age 18?
- c) What is the probability of either cohabiting or marrying at age 18, given that neither cohabitation nor marriage had occurred prior to age 18?
- d) What percentage first marry (without first cohabiting) by exact age 19?
- e) What fraction of the total time between exact age 17 and exact age 19 is spent single (i.e., never-married and never-cohabited)?

**B:** A country, where there has been no migration, has had the same age-specific mortality rates and age-specific fertility rates for as long as anyone can remember and has been growing at the same rate ( $r$ ) each year.

- a) Compare (roughly) the change in  $r$  which would occur from a decrease in death rate at age 5 with that from a decrease in death rate at age 50. Discuss your reasoning. Be specific in your answer.
- b) How would a constant absolute change in death rates at all ages affect the age distribution of this population? Discuss your reasoning. Be specific in your answer.
- c) How would an increase in fertility rates at all ages affect the death rate? Discuss your reasoning. Be specific in your answer.
- d) How would an increase in fertility affect the age distribution of this population? Discuss your reasoning. Be specific in your answer.

#### **V. Answer A or B**

**A:** One occasionally finds in the media someone stating that half of the human beings who have ever lived on the earth are alive today. Evaluate that statement. In particular, state how you would proceed, as a demographer, to demonstrate the truth or falsehood of the statement.

**B:** In low-fertility societies there is a great deal of interest in evaluating and understanding the impact of monetary incentives for childbearing. Propose and describe a study design that would allow you to evaluate the impact of state-provided lump-sum cash transfers to parents following birth of a child. Carefully describe how your study design would allow you to determine the extent to which fertility is sensitive to such monetary incentives and to estimate the expected increase in aggregate fertility for a given transfer amount.

#### **VI. Answer A or B**

**A:** The aging of the large baby boom cohorts is a source of major concern about the viability of public transfer programs and the well-being of older Americans. Apart from the size of the baby boom cohorts (in both absolute and relative terms) discuss how other demographic trends (e.g., mortality, fertility, nuptiality) contribute to these concerns.

**B:** Compare and contrast current patterns of marriage and cohabitation for blacks and whites. How do patterns observed at the end of the twentieth century compare to what was seen at the end of the nineteenth century? Discuss the implications of recent patterns and trends in marriage and cohabitation by race for racial inequality.