

---

## POPULATION ECONOMICS

### Course Description

This course will use an economic perspective to investigate various economic and social causes and consequences of population change. The consequences studied include the economic impact of immigrants on US workers and taxpayers; population aging and the fiscal solvency of public pensions; consequences of below replacement fertility and the likely effect of government subsidies to stimulate fertility. The course will examine the economic determinants of population change and demographic behavior including household formation, marriage, child bearing and rearing, mortality (and especially infant mortality) and key forms of human capital investment including schooling and migration.

After we have developed an understanding of the components of population change we will consider Malthusian theory of economic growth and population dynamics. As one empirical evaluation of Malthus's theory, we will consider historical evidence of preindustrial Britain. As another, we will consider the impact of the industrial revolution on population dynamics in Western Europe and North America. Known as the demographic transition (as societies moved from high-mortality-high-fertility to low-mortality-low-fertility regimes), this development runs counter to the dismal predictions of Malthus. And as a third application, we will investigate how well the demographic transition explains population dynamics among modern developing countries. At the end of the course we will consider consequences of population growth, and especially the relationship between population growth and the environment.

The course will emphasize a microeconomic approach, however, for some topics we will draw on tools from macroeconomics. Methodologically we will cover the basic analytical measures and tools of demography.

### Prerequisites

The course is targeted to two sets of students (a) undergraduate economics majors and (b) graduate students from outside of economics. Prerequisites for the course are: Economics 301 (Intermediate Microeconomics) and Economics 310 (Introduction to economic statistics) or consent of the instructor. Graduate students without intermediate economics but a strong background in demography may take the course but are responsible for filling any gaps in their economics training. Undergraduate and graduate students will be graded separately and independently of each other.

### Exams, Assignments, and Grading

For undergraduate students grades will be determined short assignments spread through out the semester (100 points), two in-class midterm exams (200 points), and a two-hour final exam (200 points). In addition to the assignments and exams taken by the undergraduates, graduate students will write a semester research paper (500 points). The midterm exams will test on the material covered since the previous exam. The final will be a comprehensive exam of the material covered in the course. There will be no make-up midterm exams. Missed midterm exams will increase accordingly the weight assigned to the final exam. The final exam must be taken.

The short assignments are an integral part of the course and will be problem sets or short writing assignments connected to the required reading for the class. Assignments will be either one or two

weeks in duration depending on the subject matter. LATE ASSIGNMENTS WILL NOT BE ACCEPTED FOR CREDIT.

The semester research paper is an opportunity for graduate and honor students to take an in-depth review of some aspect of the economics of population. To encourage early work on the paper, a one page proposal for the paper is due September 29, 2009. We will meet in the first week of October to review the proposal. A two to three page progress report will be due toward the middle of the semester. The final draft will be due in several weeks before the end of the semester so that needed revisions can be made.

As you are well aware, there is concern that the H1N1 influenza will cause a worse than usual flu season this year. If you have a fever and a severe cough, please STAY HOME in order to avoid infecting me (and yes your classmates). It is safe to return to class once you have been fever-free (without aid of medication) for 24 hours. If you must be absent on a day that an assignment is due, email the assignment to me; your message must be received by the end of the class session the assignment is due, unless you have made prior arrangements with me.

### **Required Texts and Related Readings**

David Yaukey, Douglas L. Anderton, and Jennifer Hickey Lundquist *Demography: The Study of Human Population, 3rd. Edition*. Waveland Press, Inc. 2007.

The textbook will provide a systematic introduction into basic population concepts and demography theories. I will supplement the textbook with economic readings that will be posted on the course webpage and/or will be on reserve at the Somers Library (8th floor [lakeside] Social Science Building).

### **Office Hours**

Monday 2:00 to 3:30 pm and by appointment.

### **Exam dates:**

Mid-term 1: October 1, 2009

Mid-term 2: Thursday November 5, 2009

FINAL EXAM: DECEMBER 19, 2009 5:05 PM TO 7:05 PM.

### **Contact Information**

email: walker@ssc.wisc.edu

Course webpage: Learn@UW

### **Economics Department Grievance Procedure**

The Department of Economics has developed a grievance procedure through which you may register comments or complaints about a course, instructor, or a teaching assistant. The Department also uses course evaluations. If you wish to make anonymous complaints to an instructor or teaching assistant, the appropriate vehicle is the course evaluation. If you have a disagreement with an instructor or a teaching assistant, we strongly encourage you to resolve the dispute with him or her. The grievance procedure is for situations where neither the course evaluation nor direct contact is appropriate.

To file a grievance, you should go to Social Science 7238 and request a Course Content Sheet. On it you must provide a detailed statement about what you find unsatisfactory. You must also sign the sheet, provide your student ID number, an address and phone number. The Department investigates grievances fully and will respond in writing.

Your name, address, phone number and student ID will not be provided to the instructor or teaching assistant and will be treated confidentially. The Department uses this information in case the Department Chair or the chair's nominee wishes to meet with the student to gather additional information. The written response is mailed to the address provided by the student.

## Reading List

### Topic 0: Reference materials

- Bureau, P. R. (2007, July). 2007 world population data sheet.
- Haupt, A. and T. T. Kane (2004). *Population Reference Bureau's Population Handbook* (5th ed.). Population Reference Bureau.
- McFalls, J. A. J. (2003, December). *Population: A Lively Introduction* (4th ed.), Volume 58 of *Population Bulletin*. Population Reference Bureau.
- Staff, P. R. B. (1999). *World Population: More Than Just Numbers*. 1875 Connecticut Avenue, NW, Suite 520 Washington, DC 20009: Population Reference Bureau.
- Staff, P. R. B. (2004a, March). *Transitions in World Population*, Volume 59 of *Population Bulletin*.
- Staff, P. R. B. (2007, Sept). *World Population Highlights: Key Findings from PRB's 2007 Population Data*, Volume 62 of *Population Bulletin*. Population Reference Bureau.
- Staff, W. B. (2004b). *World Development Report*. World Bank.

### Topic 1: Introduction and World Population Growth

- Xie, Y. (2000). Demography: Past, present, and future. *Journal of the American Statistical Association* 95(450), 670–673.
- Yaukey, D., L. Anderton, Douglas, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland Press, Inc. Chapter 3 "Population Growth".

### Topic 2: Health, Morbidity, and Mortality

- Cutler, D. M., A. Deaton, and A. Lleras-Muney (2006). The determinants of mortality. *Journal of Economic Perspectives* 20(3), 97–120.
- Fogel, R. W. (1994, June). Economic growth, population theory, and physiology: The bearing of long-term processes on making of health policy. *American Economic Review* 84(3), 369–395.
- McKeown, T. (1979). *The Role of Medicine: Dream, Mirage or Nemesis?* Basil Blackwell. Introduction and Chapter 8, pp. xi–xvi and 91–113.
- Preston, S. H. (1980). Causes and consequences of mortality declines in less developed countries during the twentieth century. In R. Easterlin (Ed.), *Population and Economic Change*. University of Chicago Press. pp. 289–315 (section 5.1 only).
- Preston, S. H. and P. Taubman (1994). Socioeconomic differences in adult mortality and health status. In L. Martin and S. H. Preston (Eds.), *Demography of Aging*, pp. 279–318. National Academy Press.
- Sen, A. (1993). The economics of life and death. *Scientific American* 268(5), 40–47.
- Smith, J. P. (2004). Unraveling the ses: Health connection. *Population and Development Review* 30(Supplement: Aging, Health and Public Policy), 108–132.

Staff, W. B. (1993). *1993 World Development Report*. World Bank. Chapters 1 and 2, pp. 1–51.

Yaukey, D., D. L. Anderton, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland. Chapter 5 "Mortality", Chapter 6 "Morbidity and Health".

### Topic 3: Fertility

Becker, G. S. (1960). An economic framework for fertility analysis. In N. B. of Economic Research (Ed.), *Demographic and Economic Change in Developed Countries*, pp. 209–231. Princeton University Press.

Cleland, J. (2001). The effects of improved survival on fertility: A reassessment. *Population and Development Review* 27, 60–92.

Hakim, C. (2003, Sept). A new approach to explaining fertility patterns: Preference theory. *Population and Development Review* 29(3), 349–374.

Hotz, V. J., J. A. Klerman, and R. Willis (1997). The economics of fertility in developed countries. In O. Stark and M. Rozenzweig (Eds.), *Handbook of Population and Family Economics*, Volume 1, Chapter 7. North Holland.

Macunovich, D. J. (2000, June). Relative cohort size: Source of a unifying theory of global fertility transition? *Population and Development Review* 26(2), 235–261.

Molyneaux, J. and P. Gertler (2000). The impact of targeted family planning programs in indonesia. *Population and Development Review* 26(Supplement), 61–85.

Schultz, T. P. (1997). The demand for children in low income countries. In M. R. Rosenzweig and O. Stark (Eds.), *Handbook of Population and Family Economics*, Volume 1, Chapter 8. North Holland.

Tsui, A. O. (2001). Population policies options for the developing world: The record. *Population and Development Review* 27(Supplement), 184–204.

Yaukey, D., D. L. Anderton, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland. Chapter 7 "Fertility".

### Topic 4: Human Capital and Schooling

Ehrenberg, R. G. and R. S. Smith (2000). *Modern Labor Economics: Theory and Public Policy* (Seventh ed.). Addison Wesley. Chapter 9 Investments in Human Capital: Education and Training. pp 290–339.

Hanushek, E. A. and L. Woßmann (2007, February). The role of education quality in economic growth. World Bank Policy Research Working Paper 4122, World Bank.

Lam, D. and S. Duryea (1999, Winter). Effects of schooling on fertility, labor supply and investments in children, with evidence from brazil. *Journal of Human Resources* 34(1), 160–192.

### **Topic 5: Human Capital and Migration/Immigration**

Ehrenberg, R. G. and R. S. Smith (2000). *Modern Labor Economics: Theory and Public Policy* (Seventh ed.). Addison Wesley. Chapter 10 Worker Mobility, Migration, and Immigration, and Turnover, pp. 340–376.

Lucas, R. E. B. (1997). Internal migration in developing countries. In M. R. Rosenzweig and O. Stark (Eds.), *Handbook of Population and Family Economics*, Volume 1, Chapter 13. North Holland.

Yaukey, D., D. L. Anderton, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland. Chapter 9 "Migration".

### **Topic 6: Household Formation, Marriage, Divorce**

Becker, G. (1993, June). Nobel lecture: The economic way of looking at behavior. *Journal of Political Economy* 3), 385–409.

Bergstrom, T. C. (1996, December). Economics in a family way. *Journal of Economics Literature* 34(4), 1903–1934.

Cherlin, A. J. (1999). Going to extremes: Family structure, children's well-being and social science. *Demography* 36(4), 483–498.

Hajnal, J. (1982). Two kinds of preindustrial household formation systems. *Population and Development Review* 8(3), 449–494.

Yaukey, D., D. L. Anderton, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland. Chapter 8 "Marriage and Householding".

### **Topic 7: Theories of the Demographic Transition**

Lee, R. D. (2003, Fall). The demographic transition: Three centuries of fundamental change. *Journal of Economic Perspectives* 17(4), 167–190.

Malthus, T. R. (1971 [1826]). *An Essay on the Principle of Population or a View of Its Past and Present Effect on Human Happiness*. A. M. Kelly. Pp. 1-13.

Nations, U. (1973). *Population Theory*, Chapter Sections A-E, pp. 33–51. Population Division, Department of Social Affairs, United Nations.

Schultz, T. P. (1981). *Economics of Population*. Addison Wesley. Chapter 2 "PreIndustrial Equilibrium: A Malthusian Perspective," pp. 9–33.

### **Topic 8: Population Debate**

Boserup, E. (1981). *Population and Technological Change*. University of Chicago Press. Pp. 3-28, 200-211.

Broome, J. (2004). *Weighing Lives*. Oxford University Press. Chapters 1 "Weighing Lives" and 5 "Quantities of Lifetime Wellbeing" Pp 1–18 and 78–98.

Council, N. R. (1986). *Population Growth and Economic Development*. National Research Council Press. Pp. 1-10, 85-93.

Mann, C. (1993). How many is too many? *The Atlantic Monthly* 271(2), 47–67.

Simon, J. (1981). *The Ultimate Resource*. Russell Sage. Chapter 14 and Conclusion, pp. 196–215, 345–348.

## **Topic 9: Aging and Consequences of Population Decline**

Bongaarts, J. (2004, March). Population aging and the rising cost of public pensions. *Population and Development Review* 30(1), 1–23.

Demeny, P. (2003, March). Population policy dilemmas in Europe at the dawn of the twenty-first century. *Population and Development Review* 29(1), 1–28.

Fogel, R. W. (2004). Changes in the process of aging during the twentieth century: Findings and procedures of the early indicators project. *Population and Development Review* 30(Supplement: Aging, Health, and Public Policy), 19–47. Chapter 3, Pp. 45–62.

Kohler, H.-P., F. C. Billari, and J. A. Ortega (2002, December). The emergence of lowest–low fertility in Europe during the 1990s. *Population and Development Review* 28(4), 641–680.

Morgan, S. P. (2003, November). Is low fertility a twenty–first–century demographic crisis? *Demography* 40(4), 589–603.

Teitelbaum, M. S. and J. M. Winter (1985). *The Fear of Population Decline*. Academic Press.

Weil, D. (2006, March). Population aging. Technical Report 12147, NBER.

Wise, D. A. (2004). Social security provisions and the labor force participation of older workers. *Population and Development Review* 30(Supplement: Aging, Health, and Public Policy), 176–205.

Yaukey, D., D. L. Anderton, and J. H. Lundquist (2007). *Demography: The Study of Human Population* (Third ed.). Waveland. Chapter 4 "Age and Sex Structure".

## **Topic 10: Population and Environment**

Arrow, K., P. Dasgupta, L. Goulder, G. Daily, P. Ehrlich, G. Heal, S. Levin, K.-G. Maler, S. Schneider, D. Starrett, and B. Walker (2004, Summer). Are we consuming too much? *Journal of Economic Perspectives* 18(3), 147–172.

Cohen, J. (1995). *How Many People Can the Earth Support?* Norton Publishing Company. Chapters 2–4, Pp. 25-75.

Council, N. R. (2001). *Beyond Six Billion*. National Research Council Press. Chapter 1, pp. 15–36.

Hardin, G. (1968). The tragedy of the commons. *Science* 162(3859), 1243–1248.

Portney, P. R. (2000, Winter). Environmental problems and policy: 2000–2050. *The Journal of Economic Perspectives* 14(1), 196–206.

Ruttan, V. W. (2002, March). Can economic growth be sustained? a post–malthusian perspective. *Population and Development Review* 28(1), 1–12.