Lecture 1
September 9, 2003

Introduction

1. Administrative remarks
   - Days of class and time

   - I will be out of town on December 9th; this together with the September 4th class will be recouped on non football Saturdays. Please look at your calendars to select one. We will do this on Wednesday.

   - Office hours: others are possible but restricted

   - Web site for course:

   - Nature of course: open to undergraduates but amount of reading larger than average

   - Types of reading materials and where to locate them

   - Grading: midterm and type of midterm; final and type of final;

   - Grading papers. What are they? How do we do them? How useful are they?

2. Review of syllabus

2.1. Section 1: lenses and toolkit

   - Nature of demography: point of view and toolkit; special way to look at things but need for other disciplines.

   - Flows and structures: how do vital rates determine structure and vice versa?

     example of stable population
     example of vaccination prevalence or of prevalence of safe sex practices in populations affected by HIV

   The feedback mechanism illustrated above is a fundamental problem in sociology, political science and economics: how do individual choices and actions affect the collective and vice versa. Does the system have equilibria? Is it chaotic?

   - Demographers are good at
     measuring rates: vital statistics (births, deaths and less so migration)
     measuring structures (size, composition, distributions)
     census and surveys (by age, education, income, residence, etc…
-demographers need other disciplines to explain vital rates, relations between structures and feedback mechanisms

**biology:** mortality and fertility curves; two types of relations:
- biological limits
- evolutionary basis: are there evolutionary basis for vital rates?
- evolutionary basis: are there evolutionary basis for size, composition, distribution?

**sociology and economics and anthropology:** determinants
- preferences
- arriving at solutions using preferences, and societal and individual constraints

<table>
<thead>
<tr>
<th>determinants</th>
<th>mortality</th>
<th>fertility</th>
<th>migration</th>
<th>pop size</th>
<th>distribution</th>
<th>composition</th>
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{biology/soc sciences} [--------formal demography-------] ------- feedback effects

[------------------------------------------------population studies------------------------------------]
(includes studies of fertility, poverty, crime, teenage childbearing, forecasting and projections)

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### 2.2. Section 2: History

- the suddenness of population growth: uneventful large chunk and exciting short time
- the preindustrial malthusian regime: what was it all about?
- what became extinct and what survived?
- What happened after 1750-1800???
- Mortality decline: why? It is not an easy question to answer
- Why did fertility decline after 1840 and we are now staring depopulation in Europe?
- Why was Bangladeshi fertility so high up until ten years ago and all of a sudden it is not higher than in Taiwan?

### 2.3. Section 3: Mortality
-the puzzle of mortality decline: temporary evolutionary victory? Permanent gains?
-what exactly happened in Europe around 1750?
-what happened in developing countries around 1930-40?

Antibiotics? Vaccination?
Nutrition?
Public health? Knowledge?
And what about HIV?
And what about the old soviet republics?
And what about the emerging diseases?
And what about the retreat or deceleration in some places where poverty goes up and down with economic cycles?

-the beginning of the population explosion: mortality decline in developing countries

-how old can we get and how sick can we be? Senescence: limits and no limits; illness and no illness

2.4. Section 4: Fertility

Up until 1850 appr. Children Ever Born (CEB) was of the order of 5.3
In Italy and Germany CEB today is 1.2 at most.
What happened? Why did fertility change so much? Why did it change in the way it did? And following the patterns it did?

And why in developing countries it took so long but, then, all of a sudden CEB drops from 6.5 to 2.2 in less than twenty years: Brazil and Bangladesh?

And why Pakistan's fertility is still up there close to 5.5 but not Turkey's?

Where are we going? Is low fertility here to stay?
What do intention data say?
Is low fertility sustainable? Is it desirable?
Are ideas about childbearing that matter?
Availability of means for family limitation?

Or are there deeper structural conditions that have to take place like: changes in women status and labor force participation increased average income disappearance of modes of production that require plentiful labor supply?
2.6. Section 6: Families and households

-the current revolution: from nuclear families to what?

little and late marriage,
lots of divorce,
cohabitation;
step relations multiply

-what was it like in the past? And why? The relation between division of labor,
modes of production and family and household formation

-connection with fertility decline? And with mortality decline?

-if families as we know it disappear, what happens with support of the elderly and rearing
of children? Didn't we evolve in families so that maximum protection was afforded to
children and to elderly? What happens now? Can we sustain this?

2.7. Section 7: Social mobility

-an incursion into migration (international)---------international apartheid
    why does it happen?
    does it solve or create population problems?

-an incursion into migration internal-------------segregation
    why does it occur?
    does it tend to segregate people by class, ethnicity?

-internal mobility--------------the demography of inequality:

    two social classes
    one has higher fertility and same mortality as the other
    wage rates depends on education
    education depends on family background (IQ, opportunities)
    there is assortative mating and no inheritance or bequests
    what's the outcome if fertility is the same for both classes? If differentials
    increase?

    -notice: we are studying interaction of rates and structure as before
The next two sections are about the effects of populations: on economic growth and environment and on transfers

2.8. Section 8: Population and development/population and environment

-Common place: higher population growth causes poverty, underdevelopment.

[Malthus, Hardin the tragedy of the commons; Club of Rome, World Bank, AID]

But what's the evidence?

-Less common place: population growth promotes technology and economies of scale and hence economic growth? [Boserup; Simon]

What’s the evidence?

-Even less common place: Population growth is neutral. Its impact depends on mediating institutions {Hardin's game theoretical approach but with repeated interactions and coordination leads to different results}

The invisible hand in action: does it really work? The evidence we have is mostly for societies who survived. What about the millions of Eastern Island that may have existed?

2.9. Demographic approach to a large problem: Social security

We all get old and we all want to be supported. question is how?
  *children's direct transfers?
  *institutionalized forms:

  —pay as you go? it works only if pop are growing?
  —capitalization: they only work if markets are good?

demography and macroeconomics help us and suggest that neither solution is very good; a mix of both is necessary for optimum results.