Population Geography  Class 2.2

Last Time

1) Fertility Terms

2) European Fertility Transition

3) Examine patterns of the Fertility Transition in the Developing world.
Population Geography Class 2.2

Today

1) Review Developing World Demographic Transition Patterns and how they are similar/different from European Transition

2) Examine Determinants of the Fertility Transition among LDCs & explain how it is similar/different from the European transition

3) Examine Population Policy
How many people have ever lived?
Question of the day #2

What would be the world’s population in 2300 at 1995-2000 levels of growth?
Overview of European Fertility Transition

A) Pre-industrial (pre-transition) before 1750
   CBRs = 40s-50s TFRs ~ 4-6 or less

B) Proto industrial 1750 → early 1800
   Slight rise in TFR

C) Victorian Downswing: 1860-70s → 1940

D) Completed fertility transition 1950→
   TFR under 2 in most places
Figure 2:
The General Marital Fertility Rate for Munich and Four Other German Cities

Source: Statistisches Jahrbuch deutscher Städte (1888-1912).
Demographic Transition

THE DEMOGRAPHIC TRANSITION MODEL

STAGE ONE
(Pre-Modern)

STAGE TWO
(Urbanizing/
Industrializing)

STAGE THREE
(Mature Industrial)

STAGE FOUR
(Post Industrial)

Fertility Transition Elsewhere – like mortality: place matters!

**N. America**
Pre-Transition fertility rates higher than for W. Europe
TFR 6-7 (no land-shortage delayed marriage)

**Australia/NZ**
Pre-Transition fertility much like USA
Fertility decline like W. Europe

**Japan**
Pre-Transition fertility controlled as in England by land shortages (late marriage & lower marital fertility)
4 types of fertility situations

Late Marriage +/- natural marital fertility
(Stage I - W. Europe)

Late Marriage – controlled marital fertility
(Stage IV - W. Europe)

Early Marriage +/- natural marital fertility
(Stage I - USA – most of third world)

Early Marriage – controlled marital fertility
(Some Countries with rapid fertility decline, e.g., Thailand, Mexico).
Fertility Transition Elsewhere

Temporal patterns of change

Falling mortality:
- Steady fall: N. Africa; SS Africa; S. Asia; SE Asia
- Declining rate of fall: Latin America + China

Fall in fertility 1950-70-90
- Steady fall: N. Africa; S. America; S. Asia
- Delayed fall: 1950-70 little fall in C. America
- Delayed a bit in SE Asia
- China: relatively little change until mid 1960s
  very rapid fall to 1975, stable since
Figure I. Distribution of 160 countries by total fertility level around 1970 and 2000

Fertility Transition Elsewhere

Demographic Transition in rest of world incomplete

1950s

Most LDCs with **CBRs** > 40/1000

i) N. Africa & Sub Saharan Africa CBR ~ 50 TFR 5-6+

ii) Latin America between 40-50 TFR 5-6

iii) Asia between 40-50 TFR 5-6

**CDRs**

i) N. Africa & Sub Saharan Africa 20-30s

ii) Latin America CDRs = 10-20s

iii) Asia CDRs 20-30
Fertility Transition Elsewhere

1970s

**S.S. Africa:** CBR still ~ 50, CDR down to 20 so RNI = 50-20 = 3%!! Higher than 1950

**Latin America:** CDR down to ~ 10 by 1970
  - CBRs ~ 40 for Central America ~ 35 for South America
  - Therefore 40-10 = 3% RNI for C. America up

**Asia:**
  - China 1970 CDR <10; CBR ~30 → 2% RNI (±/- same)
Fertility Transition Elsewhere

1990s-Today
Both D + B rate fall but at different rates in different places

1) Both rates down; but CBRs > 30; CDRs ~10
   i) N. Africa: C. America + Caribbean; S. Asia
      ii) Not too much scope for farther fall of CDRs
         iii) +/- like stage 3 of European transition

2) Both rates down but CBRs 10-20; CDRs < 10
   i) S. America + China
      ii) less scope for ↓ CDRs
         iii) a bit farther along in transition stage 3

3) SE Asia +/- between these 2

4) Special case of SS Africa—CDRs halved in 40 years but birth rates down hardly at all
Global Fertility Patterns 2004

Global TFR: 2.6 (45 year doubling time)

TFR>5: 10% of World. S.S. Africa, Pakistan, Yemen
Global Fertility Patterns 2004

**TFR 2.1-5.0** 60% of World

High end: TFR 3.0-5.0 N. Africa, S. Asia, M. East, C. Am.

Low end: TFR 2.1-3.0: South Africa, S. Am., India, 3.0
Global Fertility Patterns 2004

TFR < replacement (2.1) 30% of World

China: 1.8! Europe: 1.5. E. Europe, Russia, Italy, Spain, Greece, Japan: 1.3 or below!

US: 2.1 – why so high?
Effect of Immigration Rates on U.S. Population

- 1.5 million per year
- 800,000 per year
- 500,000 per year
- No immigration (300,000 per year)

Population (millions)

Year

1990 2005 2020 2035 2050 2065 2080
## Global Fertility Patterns 2004

<table>
<thead>
<tr>
<th></th>
<th>1970-75</th>
<th>2000-05</th>
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<tbody>
<tr>
<td>High human development</td>
<td>2.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Medium human development</td>
<td>4.9</td>
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<tr>
<td>Low human development</td>
<td>6.8</td>
<td>5.6</td>
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<tr>
<td>High income</td>
<td>2.2</td>
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UNDP Human Development Report 2004
Fertility Transition Elsewhere

Why is it different in the developing world?
Fertility Transition Elsewhere

More rapid growth

• Because:
  – Mortality different
  – Fertility different
  – Migration
  – Some recent growth rates very rapid
  – Population momentum
Fertility Transition Elsewhere

What aspects of the contemporary world favor a potentially more rapid fertility decline?
Fertility Transition Elsewhere

- Potential for more rapid change
- Contraception is available
- Age of marriage is low
- Increasing social legitimization of small families
- NGOs
- Decline much more rapid than in Europe so far
Fertility Transition Elsewhere

What determines fertility today in the developing world?
Fertility Transition Elsewhere

- Economic “modernization”
- Urbanization
- Industrialization
- Reduced Mortality
- Religion
- Culture
Global Fertility Rates

World Fertility Patterns 1997

Map of World Religions

Percentage of married women of reproductive age currently using contraception, by method

- **World**
  - Female sterilization
  - Pill
  - IUD
  - Rhythm/Withdrawal

- **More developed regions**
  - Female sterilization
  - Pill
  - IUD
  - Male sterilization

- **Less developed regions**
  - Female sterilization
  - Pill
  - IUD
  - Male sterilization

*Courtesy of United Nations Population Division*
Percentage of married women of reproductive age currently using contraception, by region
Population Policy

• Governmental and nongovernmental groups attempt to change demographic events within their country
  – mostly fertility and migration

• Pro-natalist and Anti-natalist Fertility Policies
Pro-natalist fertility policy

- 1930s most Euro. fascists states pronatalist
  - taxes on unmarried; cheap loans for newlyweds; 1950s-60s little pronatalist
  - Romania
    - Until 1966 liberal abortion laws → state supplied and was main form of fertility control (80% of all conceptions)
Anti-natalist fertility policy

• Modern origins in late 50s mostly 1960s
  – 1960 censuses showed unexpectedly high rates of growth
  – Natural disasters in developing countries
  – Economists demonstrated per capita income higher if population growth lower in LDCs
  – Development of oral contraceptives and IUD

• Creation of international agencies with population concerns

• Today – over 90% of population in LDC lives in countries with official anti-natalist policies

• Problem was conceived of in Malthusian terms
Current Fertility Practices

• ~400m (of 800-850m) couples use some contraception ~ 50%
  – most couples with or without contraception in LDCs up from <10% in 1950

• Regional variation in contraceptive use
  – Asia: committed to ↓ population growth rate ~ 75% couples use contraception
  – Africa: (except Egypt) – less commitment for family planning ~ 20% of couples use contraception
  – Middle East: little in the way of anti-natalist policy
  – Latin America: mostly supportive, few back anti-natalist program ~ 40% use contraception
World Contraceptive Use 1998

Percentage of married women of reproductive age using contraception
Skepticism for Family Planning Programs

• The assumption of “unmet need” is challenged
  – Poorest are least able to afford therefore won’t demand
  – In some places, it is rational to have multiple births
    (Caldwell’s Fertility Theory)

• Important to distinguish between the micro (within family) vs. macro consequences of high fertility (society)
  – “Tragedy of the Commons”
Resource degradation: Population vs. Consumption

1 U.S. baby will consume >50x more of the world’s resources that an Indian baby over its lifetime
Public Policy

• Currently $5-6 billion spent on unmet need for contraception and high desired family size

• Demographer John Bongaarts argues for an increased effort for tackling “population momentum”

• 8-10 billion by 2100 (UN’s medium estimate)

• USA spends $446.5m (2002) (0.1% GNP)
  – lowest per capita contribution among all industrialized countries
Population Assistance in Relation to GNP (per million dollars of GNP, by donor country, 1999)

- Norway: $409
- Denmark: $319
- Netherlands: $292
- Sweden: $264
- Luxembourg: $184
- Finland: $157
- Australia: $80
- United Kingdom: $66
- United States: $65
- Switzerland: $65
- Canada: $60
Overview of policy

• Population growth still a major concern
  – We are just past the midpoint of today’s explosion in population growth

• Cause number 1: Unmet (latent) Demand
  – Contraception
  – Poor knowledge, supply and quality

• Consequences of unmet demand:
  • 25 million extra births/year
  • 25 million abortions/year
  • 20 thousand maternal deaths/year
Population Growth Cause #2

• **High desired family size** – related to human development programs
  – Education
  – Status of women
  – IMR
  – GNP/capita has little effect
Population Growth Cause #3

• Population Momentum
  – Poorly addressed by policy
  – Policy can reduce effects of momentum by increasing length between generations – i.e. delay births until older ages
  – Delay in birth of only 2.5 years → 1b lower population by 2100!
  – There are laws about age of marriage in China and Indonesia, Sri Lanka, Philippines
    • better education for girls → later marriage
Cumulative Carbon Emissions, 1950 - 1999

World Resources Institute, 2001
AID Agencies

• Offer wide array of services
  – Early programs mostly c. clinics in urban areas

• Provide incentives and disincentives
  – E.g. government taxes on large families

• Mobilize local community interests
  – Convince local leadership that high fertility can lead to village-level problems

• Change social institutions
  – Elevate status of women
Review

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