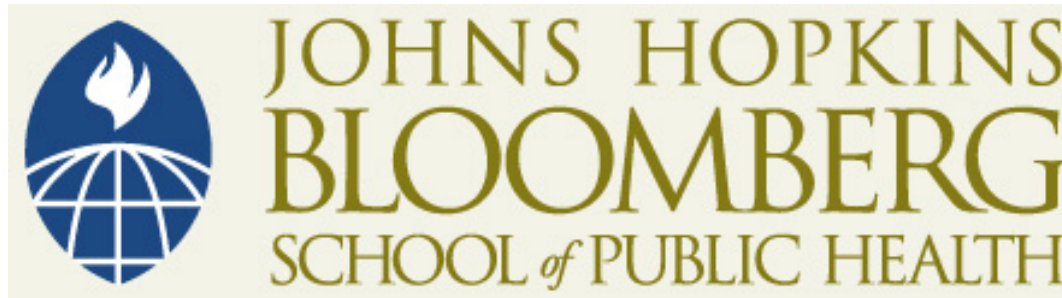


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Session 3

Theories of Fertility Decline

Social and Economic Aspects of Fertility Decline

Population, Family and Reproductive Health

380.655

AY 2008-2009

Objectives of the Lecture

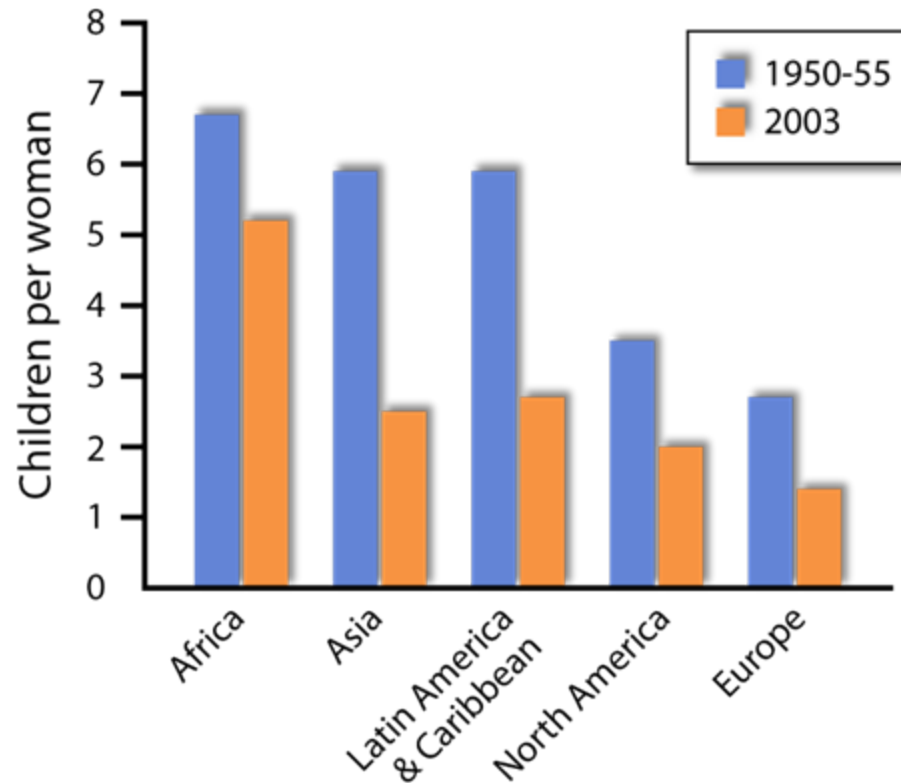
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Fertility has declined virtually everywhere

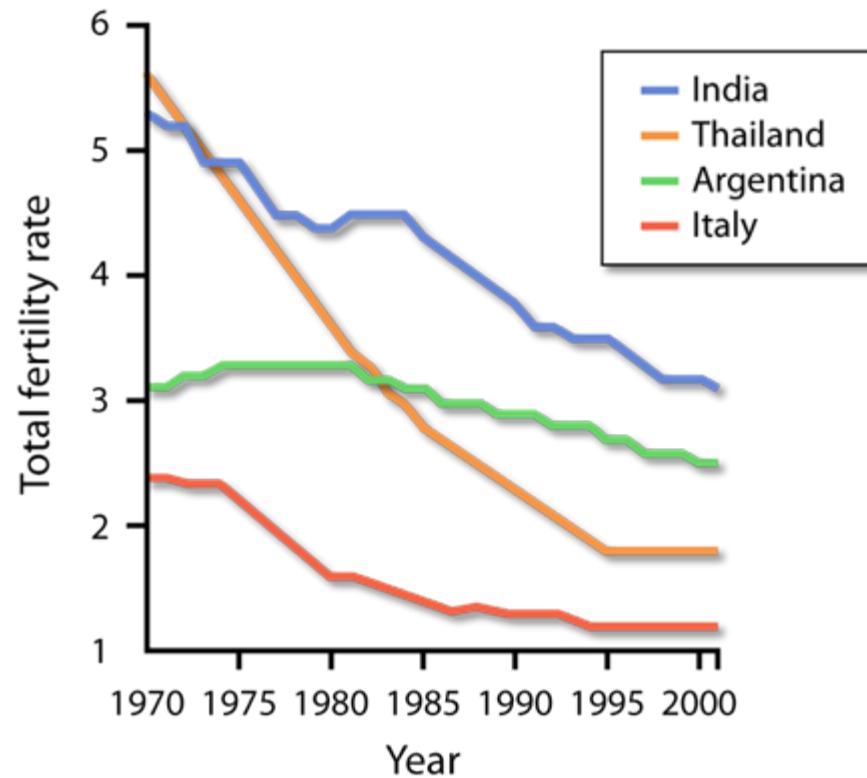
Fertility Levels in Major World Regions, 1950 & 2003



Adapted by CTLT from Population Reference Bureau Staff. 2004.
"Transitions in World Population." Population Bulletin 59(1). Sources:
UN Population Division, *World Population Prospects: The 2002 Revision*
(2003); and C. Haub, *2003 World Population Data Sheet*.

Not the same pattern or degree of decline everywhere

Patterns of Fertility Decline, 1970 to 2001



Adapted by CTLT from Population Reference Bureau Staff. 2004.
"Transitions in World Population." Population Bulletin 59(1).
Sources: Registrar General of India; Instituto Nacional de Estadística (Argentina); Council of Europe; and Population Reference Bureau.

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Modernization Theory

- A body of scholarship that developed over the 1950s and 1960s to guide understanding about the process of economic development
 - Assumed that less developed countries would eventually look like Europe and the U.S.
 - Assumed that social and cultural institutions in Europe and the U.S. before economic development looked like those found in developing world at the time

Changes that would accompany economic development

- Family Change
 - From extended households to nuclear households
 - Assumed that in historical Europe people had lived in extended households
 - From high fertility to low fertility
 - Assumed that in historical Europe fertility rates were as high as those observed

Demographic Transition Theory

- Commonly called DTT
- Decline of Mortality due to increasing living standards (nutrition and sanitation) and medical advances)
- Industrial Economy not compatible with large families
- Decline of Fertility will follow as the night the day
- In order to have fertility decline, one must have economic development

DTT Theorists were Modernization Theorists

- Fertility Decline and family change only one of a plethora of outcomes they were interested in
- Sideline, really
- Modernization Theory reached its heyday before concern about rapid population growth

Rapid Population Growth

- From Paul Erlich's *The Population Bomb* (1969)
 - "The battle to feed all of humanity is over. In the 1970s and 1980s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate..."

Part of the Panic was because of DTT

- If mortality decline and economic development are necessary pre-cursors to fertility decline, then world catastrophe is unavoidable
- Scientists set out to discover what aspects of economic development promote fertility decline in order to hurry it along
 - Fertility decline became the main focus

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European Historical Fertility Project

- Collected Data on Fertility for province (county) sized areas in Europe as far back as they could
- Hypothesized links between levels of economic development (measured various ways) and the onset of fertility decline

Major Method was reconstitution

- Linked baptismal, marriage and burial records from parish registers
- Province level units of geography
- <http://members.tripod.com/tormarton-glos/dyrhamhintonbaptisms.htm>

Developed New Measures

- calculated using information from the vital registration systems and from census distributions of the female population by age and marital status;
- the same type of data and the same procedures were used to calculate the indexes for each province at each date (usually at 10-year intervals);
- where it was considered necessary to correct the data for omissions or inaccuracies, this was done.

Developed New Measures

I_f

the ratio of the births the women in a given population actually have to the number they would have if subject to a maximal well-recorded age-specific fertility schedule (that of the Hutterites).

Developed New Measures

$$I_g$$

the ratio of the births the *married* women in a given population actually have to the number they would have if subject to the maximal age-specific fertility schedule.

Developed New Measures

$$I_m$$

the ratio of the number of births married women would experience if subject to the maximal age-specific fertility schedule to the number of births all women would experience if subject to that same maximal fertility schedule. This is an index of the extent to which the marital status distribution would contribute to the attainment of maximal fertility in a population in which all births were to married women.

Developed New Measures

I_h

the ratio of the births the *unmarried women* in a given population actually have to the number they would have if subject to the maximal age-specific fertility schedule.

Developed New Measures

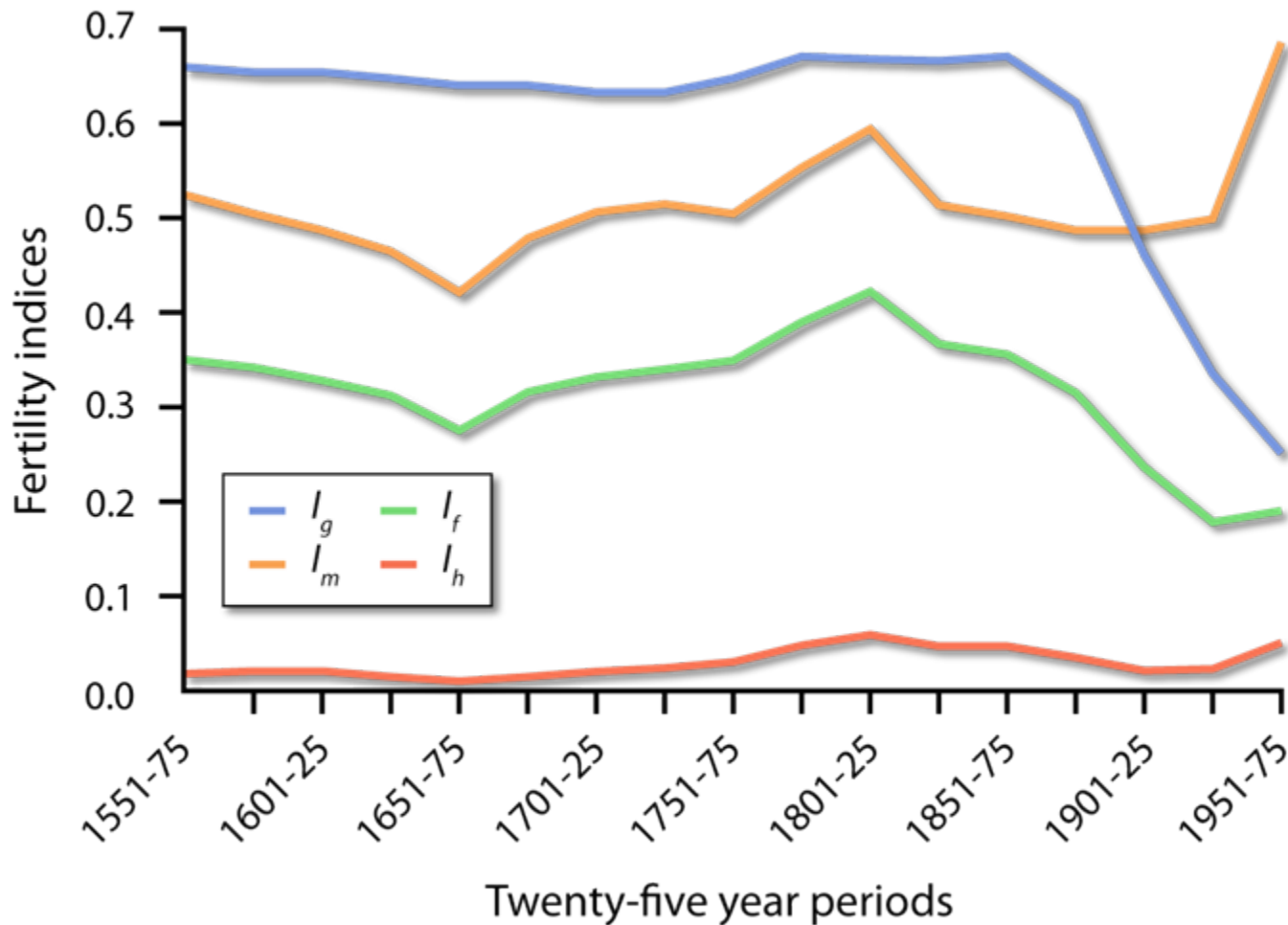
The indices have the following relationship:

$$I_f = I_m \times I_g + (1.0 - I_m) \times I_h$$

Results

- In Europe, overall fertility fluctuated a great deal, but marital fertility fluctuated very little

Trends in l_p , l_g , l_h , and l_m for 25-year periods, England 1551-1975



Adapted by CTLT from Wilson, Chris and Robert Woods. 1991.
 "Fertility in England: A Long Term Perspective." Population Studies 45:399-415.

Results

- Fertility decline began at very different levels of development
- Very weak, if any, confirmation of DTT
- The onset of fertility decline followed cultural and particularly linguistic lines
 - Belgium and Spain

Results for Spain

- Table following:
 - East declined the most (French influence)
 - South declined next, but was most backward
 - Center declined steadily, lowest to begin with
 - North stalled

TABLE 16. *Marital fertility (MFR) in four geographical sub-divisions, 1787-1910*

	MFR				Index numbers, 1787 = 100			
	East	South	Centre	North	East	South	Centre	North
1787	282.9	274.0	259.9	278.8	100.0	100.0	100.0	100.0
1797	267.4	277.1	263.8	284.5	94.5	101.1	101.5	102.0
1860	243.0	261.2	241.6	247.1	85.9	95.3	93.0	88.6
1887	215.8	226.7	238.8	247.7	76.3	82.7	91.9	88.8
1900	199.5	230.3	232.2	260.2	70.5	84.1	89.3	93.3
1910	180.4	218.0	228.6	248.1	63.8	79.6	88.0	89.0

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Ideational Theory

- Ideas about ideal family size and birth control practices spread more quickly in culturally homogeneous populations (weak)
- All people want to control family size, they just don't know how, once somebody figures it out, the idea will spread like wildfire (strong)

Timing was serendipitous

- Ideational Theory emerged at roughly the same time as concern with rapid population growth
- Arguments began to develop that perhaps the observed correlation between economic development and fertility was due to economic development requiring fertility decline in order to move forward

Ideational Theory

- Scientific Rationale for the efficacy of family planning programs
- Theory (perhaps not the theorists) is agnostic on the threat posed by rapid population growth or population decline

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Economic Models of Fertility Decline

- Supply and Demand
 - “demand” for children (ideal family size)
 - “supply” of children (ability to control fertility)

Economic Models of Fertility Decline

- Demand for Children
 - Transition from agriculture to industry changes demand from “quantity” to “quality”
 - Associated with Gary Becker

Economic Models of Fertility Decline

- supply of children is the ability to control fertility
 - Fecundity
 - Price of birth control (psychic and pecuniary)
 - Pre-natal, internatal, and post-natal birth control

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Homeostatic Models

- Taken in the long view, rather than the short view
 - Question IS NOT “Why fertility declines?”
 - Question IS “How do people adjust to declining mortality?”

Homeostatic Models

- Hirschman and Wilson/Airey
 - Emphasize historical demography from non-European Settings
 - China, very early, arranged marriage
 - Japan, infanticide and divorce
 - In all Asia, sex composition of sibling sets important reproductive goal
 - Suggests that people aware of fertility limiting effects of behavior, reproductive goals consistent with replacement fertility under conditions of very high mortality

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