Topic 5: Population Growth: Historical Patterns, Causes, and consequences

By

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Objectives of this topic

Main objectives of this topic are:

♦ To understand the current demographic transitions that most countries went through over time. (Demographic Transition Theory)

♦ To find socio-economic reasons for the patterns of demographic transitions that most countries went through. We consider a macro model by Malthus and then we do household model of fertility choice.

♦ We then discuss (in class debate fashion) the consequences of population growth – good and bad and the political and economic aspects of population growth.

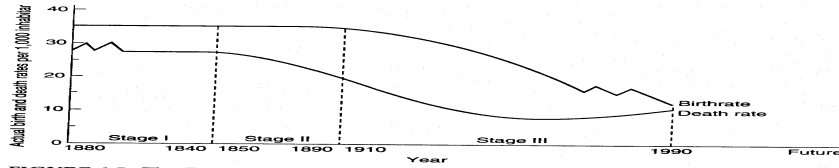# Demographic Transition Theory

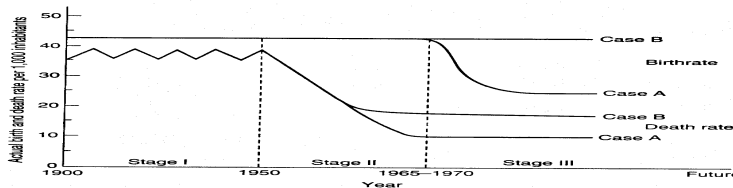FIGURE 6.5   The Demographic Transition in Western Europe

FIGURE 6.6   The Beginning of a Demographic Transition in Third World Countries *Source:* Based on National Academy of Sciences, *The Growth of World Population* (Washington, D.C.: National Academy of Sciences, 1963), p. 15.
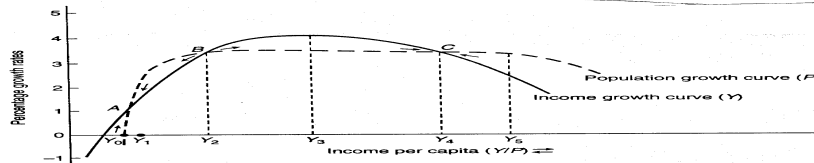

FIGURE 6.7   The Malthusian Population Trap

Household Fertility Choice Model

♦ We consider a simple model to understand the following commonly observed facts:

♦ The fertility rates are high in poorer countries.

♦ We use their characteristics that we discussed in the beginning of the course, namely:

♦ Low wages and employment options for women

♦ Low education of women.

♦ High infant mortality rate.

♦ Weak laws on compulsory schooling and child labor.

♦ Large agricultural sectors.

♦ Weak or completely absent social security and disability pension system.

Components of child-cost or child price.

♦ The components of child cost includes:

♦ 1) mother's time (child care costs, foregone income etc.)

♦ 2) cost of pre-school, school - both direct and opportunity costs (child labor)

♦ 3) cost of health care (preventing infant mortality, morbidity)

♦ 4) cost of goods (food, diapers etc.) required in raising a child.

♦ 5) future transfers from children to parents (old age security etc.)
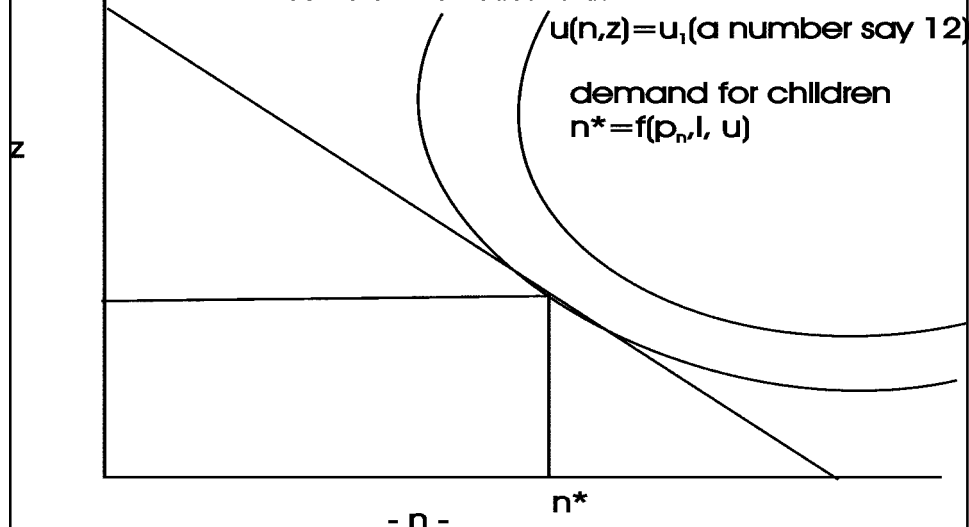
Household Model of Fertility Choice

n = desired number of children
z = aggregate consumption good
p_n = price (i.e., cost) per child
I = income of the household.

$u(n,z)=u_1$(a number say 12)

demand for children
$n^*=f(p_n, I, u)$

z

n*

- n -

Policy Analysis

- Using the previous diagram let us understand what happens to demand for children and the observed number of children for each of the following cases:
- Income effect and substitution effect.
- If household has higher income, because father has higher income.
- If household has higher income
- There are many more.