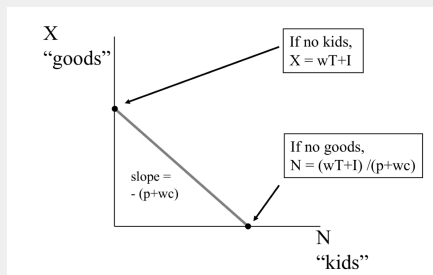


OC Fertility Model(app cost)



X: Goods ($p=1$)
 p: cost/kid
 w: salary
 c: time/kid
 N: # of kids
 T: total time ($T=L+cN$)
 I: other income

Change variables

change I	change W(increase)
Effect: 1. consume more X and N. 2. slope up 3. slope unchanged	Effect: 1. effect on N is ambiguous. 2. slope changes. 3. 2 effect evolved. (1) income: more N. (more \$ can spend on fixed cost of kids) 2. substitute: less N (OC cost of kids increase)

Why marry? Who marry who?(Lab10)

Odds ratio 1: neutral. no positive or negative sorting
 $(F[1,1]F[2,-2])/(F[1,2]-F[2,1])$
 2. A value close to 0 : very negative sorting;
 3. high values (10, 100+) , very positive sorting.

Why called the odds-ratio:
 The numerator is the odds of being in cell [1,1] compared to [1,2], and the denominator is odds of being in cell [2,1] compared to [2,2].
 If there were no tendency to marry one sex rather than the other, the odds of marrying a "male" would be the same for females and males and the ratio would be 1.

income VS substitution effect

a

Becker's QQ fertility model

Utility: $U = U(X, n, q)$

Constrain: $X + p_c q n = I$

$n = (I - x) / (p_c q)$

goods (X)
 number of kids (n)
 "higher quality" child (q)
 I: total income

Graphing Budget constraint



Interaction between q and q

Total child costs = $p_n n + p_q q + p_c q n$

p_n per child price (of any quality) (pregnancy, -contraception, ...)

p_q per quality price (independent of n) (a set of encyclopedias, ...)

p_c price depending on q & N (school fees, visits to doctor, new shoes, ...)

How much does it cost to increase n by +1?

$\pi_n \sim p_n + p_c q$

How much does it cost to increase q by +1?

$\pi_q \sim p_q + p_c n$

reason for low fertility rate:

- (1) costs of contraception fall – causing n to go down because fewer unintended births.
- (2) Price of a unit of quality goes down too – and people purchase more q.
- (3) But price per child goes up. This has a further negative effect on the number of kids, n.
- (4) Which can result in further increases in q and further declines in n until a new equilibrium is reached

C

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why fertility decline irreversibility?

Fertility generally falling over time as wages rise

- Puzzle: why in economic crisis doesn't fertility rise again – as wages go down?
- Possible answer:
 - Norms about child quality appear fairly irreversible.
 - So to reduce pcqn, parents reduce n

Summary (1)

Quantity-quality interaction good for explaining demographic transition (rapid, big fertility declines) • Cost-of-time model good for explaining more recent trends, especially as female wages rise • Can combine two models

Summary (2)

Answers to puzzle of how fertility could fall with economic growth

1. It doesn't (because income effect dominates)
2. It does, substitution effect (cost of time) dominates
3. Parents get utility from quality, too. And so once fertility starts falling, big shifts toward quality.

20

Becker's theory of "gains to marriage"

gains: come from comparative advantage

1. econ ES: Easier and cheaper to
omies vacuum 2 rooms
of
scale

2. hous PG: A clean house, magazines
ehold
public
goods

3. K:ow Biological children, provide utility
n-c- to both parents
hildren

4. K: partners. **Important point: a contract (to stay together) provides incentive to invest in marriage-specific capital. Risky without contract.**
can
build
marria-
ge--
spe-
cific
capital

Comparative Advantage vs Production possibility frontiers

why not just live with roommates?

1. own children
2. Marriage contract



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