

(Somewhat) un-orthodox findings on the family

14.73 –Lecture 12

A Small Family is a happy Family

- Most of international public policy has been predicated on the twin ideas that:
- (1) large families are bad and...

The “unmet demand” for contraception

- (Poor) people are unable to control their fertility



"But I take the pill everytime I become pregnant, and it doesn't help."

© Sidney Harris. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Famous and infamous examples

- The sterilization policy during the emergency in India
- The one child policy in China
- Much more benign: the contraception program experiment in ICCDRB in Bangladesh

A very short history of Malthusianism

- Malthus: Resources are finite (e.g. land)
- So when there are more people, there is less for every one.
- Eventually, high mortality puts population back in check
- E.g. Black death: believed to have killed half of british population between 1348 and 1377 was responsible for high wage growth that followed [PICTURE OF BLACK DEATH?]

After Malthus

- As it turns out, the population grew several fold after Malthus, without catastrophic disasters.
- What could be going on?
 - Technological progress keeps making us more productive with the same resources
 - It is even possible that technological progress is faster when populations are more numerous

Population growth, 5 million BC to 1990

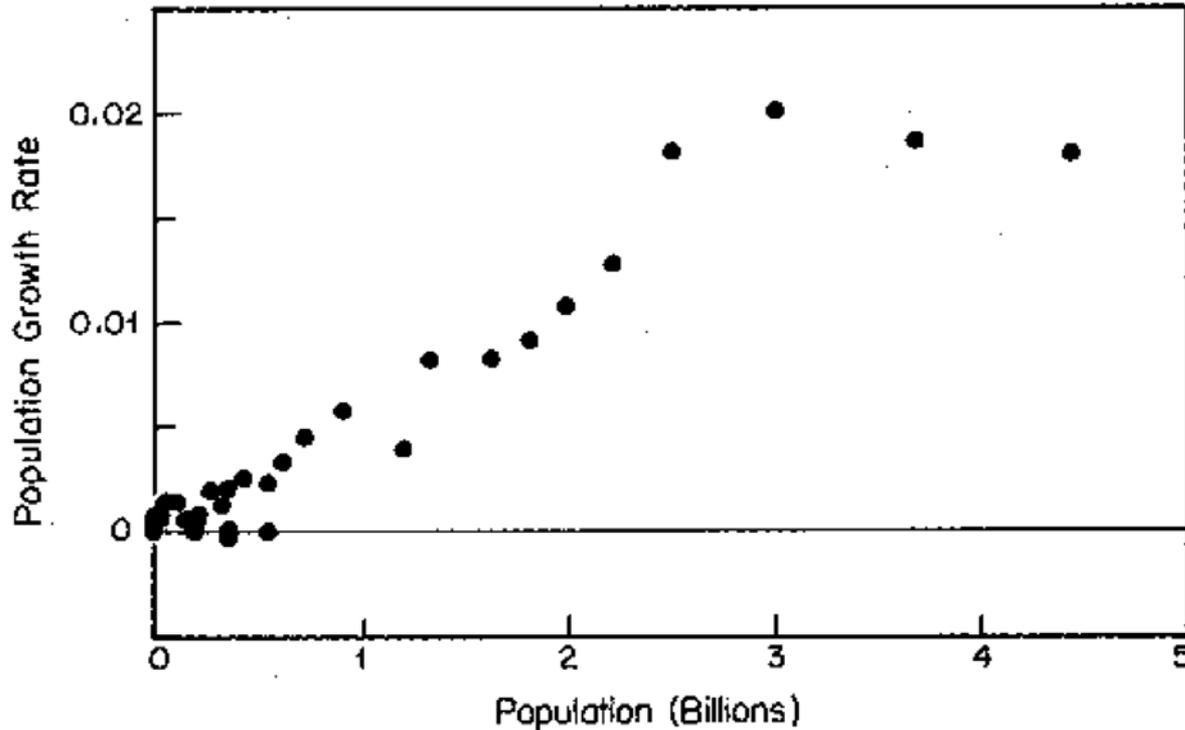


FIGURE I
Population Growth Versus Population

© The Quarterly Journal of Economics. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

This is the annual rate of population growth from t to $t+1$ plotted against population at rate t

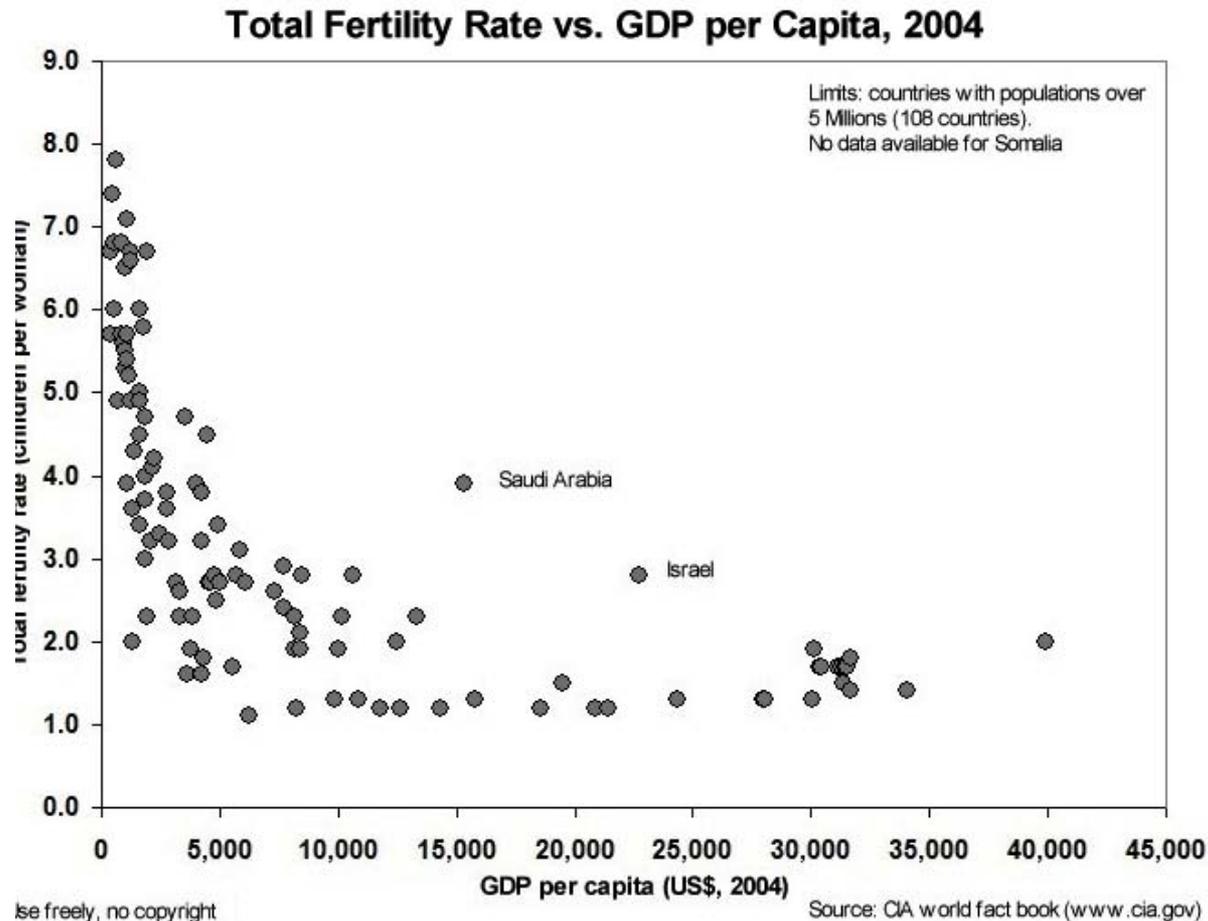
Source: Kremer
(1993)

Malthus all over again

Jeff Sachs Common Wealth: Economics for a Crowded Planet

- “Stabilizing the world’s population is crucial to ensuring peace and prosperity on this already crowded planet.
- **If we ignore this issue we risk a massive and unsettling youth bulge, unbearable environmental pressures and unchecked global migration.”**

And indeed, countries with high fertility are poorer



As usual, correlation could go either way....

- Poor country could be poor because they are too crowded
- Or rich country could have lower fertility because they are rich.

It will be difficult to answer this question.... And even harder to predict what population increase would do to the planet...

Are large families worst off?

- Perhaps we can say more about the family
- Note that this is not necessarily the entire answer to what population growth does to countries or the world:
 - Families may not fully take into account the impact of their fertility on others in the community (local, country, world...)
- However, it is still an important question:
 - If true, *could* give a reason to subsidize/encourage family planning, for the sake of children (who do not decide)
 - We need to understand the cost and benefits of large family to design effective policies

The quality-Quantity Trade off

- Becker and Tommes (1976) describe the “quality quantity” trade-off parents face
 - Siblings compete for resources (parental attention, money etc.) so more children means that each get fewer
 - The paper observed that if “quality” is a normal good, then poor parents will tend to want to have more children.

Is there a quality quantity trade off

- We cannot look at children in large and small families: in Becker's world, family size is a choice and it is the family who cares less about quality that will go for large family.
- Look at exogenous changes in family size.
 - “Fertility shocks”
 - Exogenous reduction in family size

Fertility shocks

- Twins:
 - 2 kids when you expected just one!
 - Will increase family size but not one for one (why?)
 - However:
 - We cannot look at the twins themselves. Why?
 - Even looking at other kids may be misleading, if kids demand more attention than other kids.

Fertility shocks

- Gender:
 - In the US, parents want mixed family: Families that have had one boy and one girl are less likely to have a third child than family who had two boys or two girls.
 - In developing countries: further shock due to gender of the child– if parents have a preference for having a boy. Girls will tend to be born in large families.
 - However, sex may not be random any more due to sex-selective abortion.

Evidence from Israel

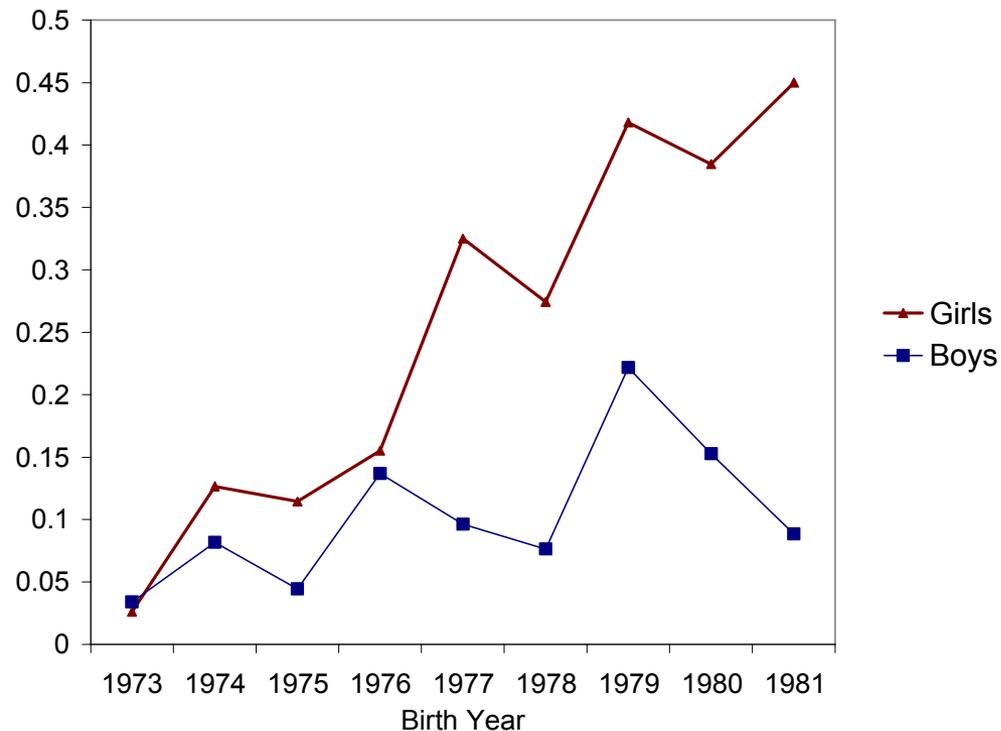
- Angrist, Lavy, Schlosser
- The evidence comes from using both twins and gender composition
- It includes Israeli Arabs who are quite poor.
 - Find no effect at all!

Impact of Forced reduction: China One child policy

- Since 1978-79, Chinese government severely restricts the number of a children a family can have
- Each couple can have only one child, or is subjected to heavy fine
- However, since mid 1980s, relaxation in some areas if the first child is a girl.
- She compares **girls**, in **areas** had a relaxation policy, **after** the policy was put in places

Girls live in larger families in relaxed areas

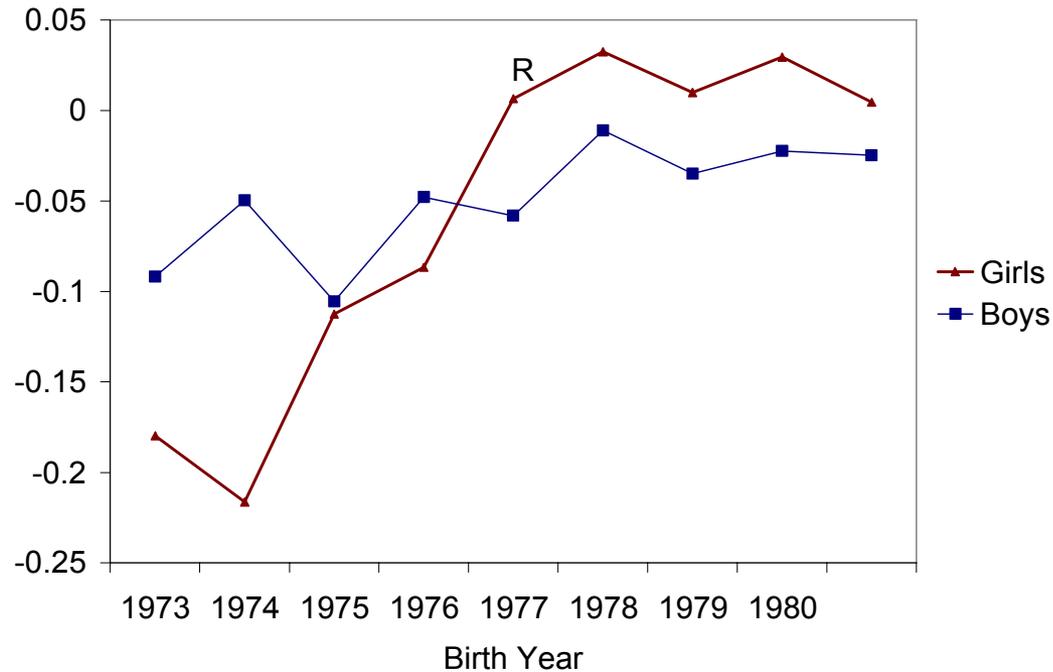
Figure 3A: The Effect of Relaxation on Family Size
Coefficients of the Interactions between
Born in a Relaxed Area * Birth Regions



© Nancy Qian. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

...And they are more educated!

Figure 4A: The Effect of Relaxation on School Enrollment
Coefficients of Interactions between
Born in Relaxed region * Birth Year



© Nancy Qian. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <http://ocw.mit.edu/fairuse>.

Curious findings

- So if any thing, Nancy Qian found that having two children is better than one. However:
 - May be the trade off kicks off later?
 - May be it is good for girls to have a sibling (who is all too often a brother...): both kids gets educated

One more “normal” example

- The Matlab program, in Bangladesh, provided women in treatment areas with regular access to contraceptive, a Community Health Worker that visited women at home, etc.
- Initially, there was a fairly large decline in fertility in the treatment areas:
 - By 1996 women in Treatment areas had 1.2 fewer children.
- However, by 1996 no difference in height, weight, school enrollment, years of education of children born in T and C areas...

Is contraception availability the key barrier?

- The other part of the conventional wisdom on population policy is that lack of availability of contraceptive is way to reduce fertility
- Concept of “unmet demand” for contraceptive.
- But what is the impact of making contraceptive available on reducing family size?

Evidence from Colombia

- A family planning program was introduced in Colombia by a a young doctor.
- The program did reduce fertility

Table 4: Estimated Program Effects on Completed Lifetime Fertility Among Women Ever Having Children

Dependent Variable:	ln(Births)		Births	
	Cohort Only	All Covariates	Cohort Only	All Covariates
Family Planning Access 15-19	-0.116*** ^B (0.012)	-0.132*** ^B (0.027)	-0.064*** ^B (0.004)	-0.072*** ^B (0.012)
Family Planning Access 20-24	-0.071*** ^B (0.018)	-0.089*** ^B (0.022)	-0.036*** ^B (0.009)	-0.042*** ^B (0.013)
Family Planning Access 25-29	-0.054*** ^B (0.016)	-0.062*** (0.025)	-0.028** (0.011)	-0.038*** ^B (0.010)
Family Planning Access 30-34	-0.030*** ^B (0.010)	-0.042*** ^B (0.010)	-0.015* (0.009)	-0.020** (0.007)
Family Planning Access 35-39	-0.021 (0.017)	-0.014 (0.016)	-0.011 (0.023)	-0.001 (0.017)
Family Planning Access 40-44	-0.030 (0.034)	-0.033 (0.048)	-0.029 (0.045)	-0.002 (0.036)
Family Planning Access 40-44 Lead	-0.009 (0.013)	0.001 (0.002)	0.007 (0.008)	0.004 (0.004)
Cohort Fixed-Effects	Yes	Yes	Yes	Yes
Municipality Fixed-Effects	No	Yes	No	Yes
Municipality-Specific Linear Trends	No	Yes	No	Yes

Courtesy of Grant Miller. Used with permission.

Evidence from Colombia

- A family planning program was introduced in Colombia by a a young doctor.
- The program did reduce fertility
- But the effects were low:
 - 5% more kids per woman
 - 1/10 of the total fertility decline in Colombia over the 1960s

What about Matlab?

- Matlab was a successful program to reduce fertility
- However the effects became lower over time as fertility declined in the country overall
- It may have accelerated a trend, by changing preferences, rather than reducing the cost of contraception per se.
- What determine preferences on family size?

What determine preferences on fertility

- Social norms
 - What your neighbor do (Matlab)
 - But also, what you see in Television:
 - In Brazil, fertility declined faster in regions where Telenovelas became available first
 - Telenovelas present the image of a “small, happy family”
- Costs and benefits of both sex and pregnancies.

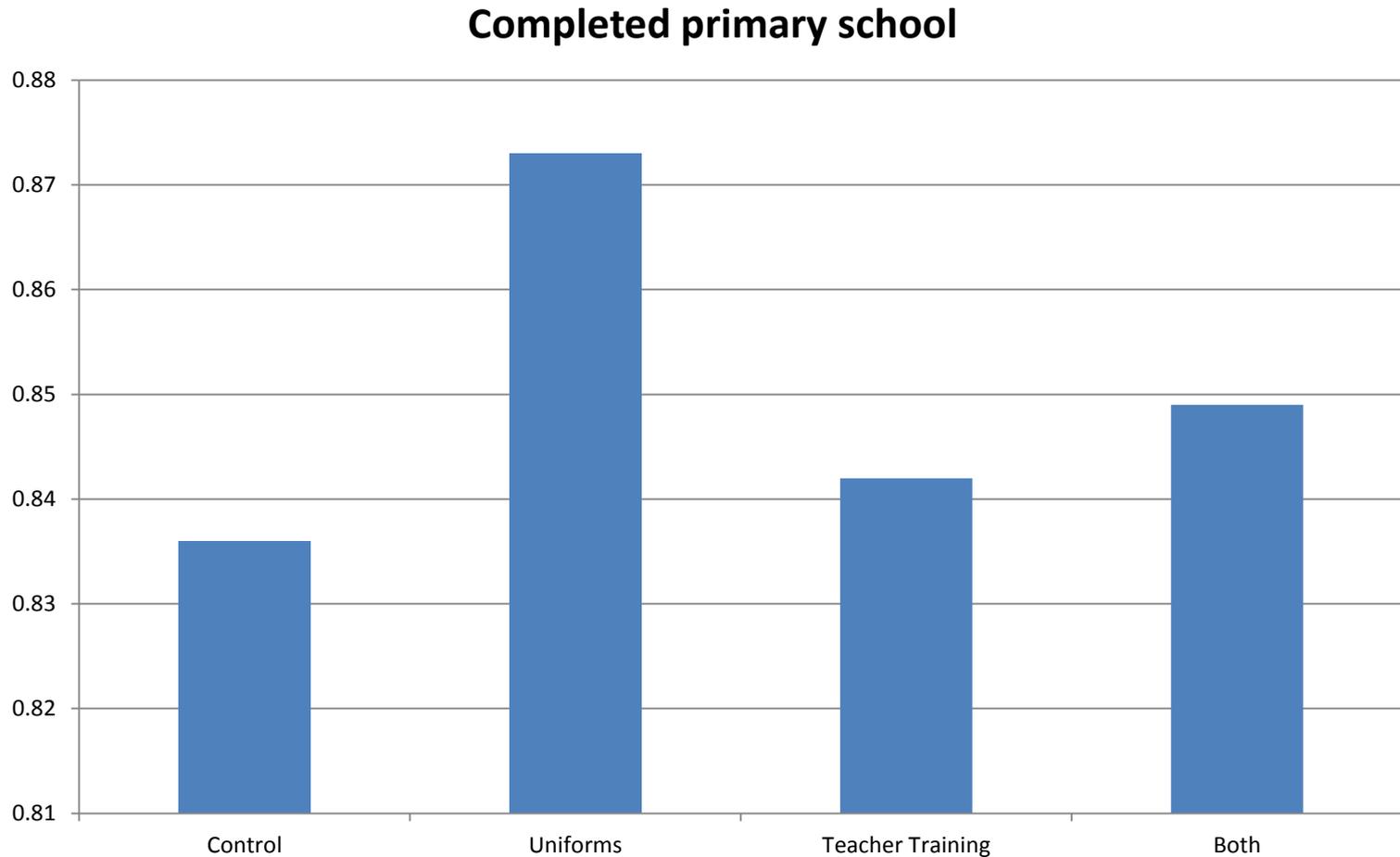
HIV prevention and teen pregnancy in Kenya

- Adolescents are the “window of hope” in the prevention of HIV:
 - Still uninfected
 - Their sexual pattern may not be set yet.
- Programs are developed for schools, with help of UNICEF only, but they are a little bit limited by social norms of what can be taught in school
- ABCD strategy. But really, only A and B in schools in Kenya: abstain till marriage.
- Danger: that kids will decide to get married!

A test: Duflo, Dupas, Kremer

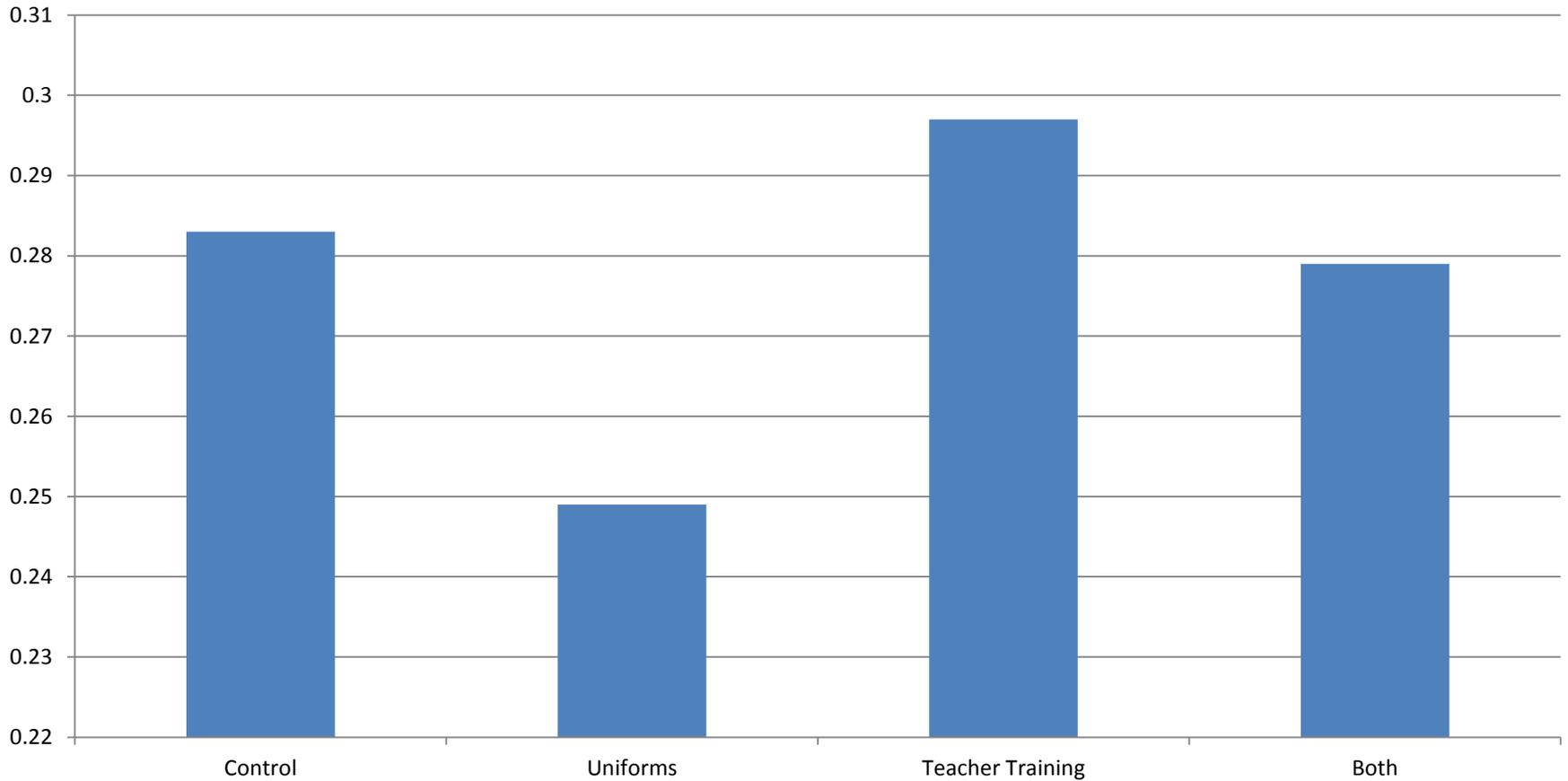
- In 2002-2003 376 schools were randomly assigned to one of 4 groups:
 - CONTROL
 - Teacher training for HIV education: official curriculum
 - Free uniform for all children in grade 7 and 8
- Kids were followed several years later (until 2011)

Main Finding: Education, girls

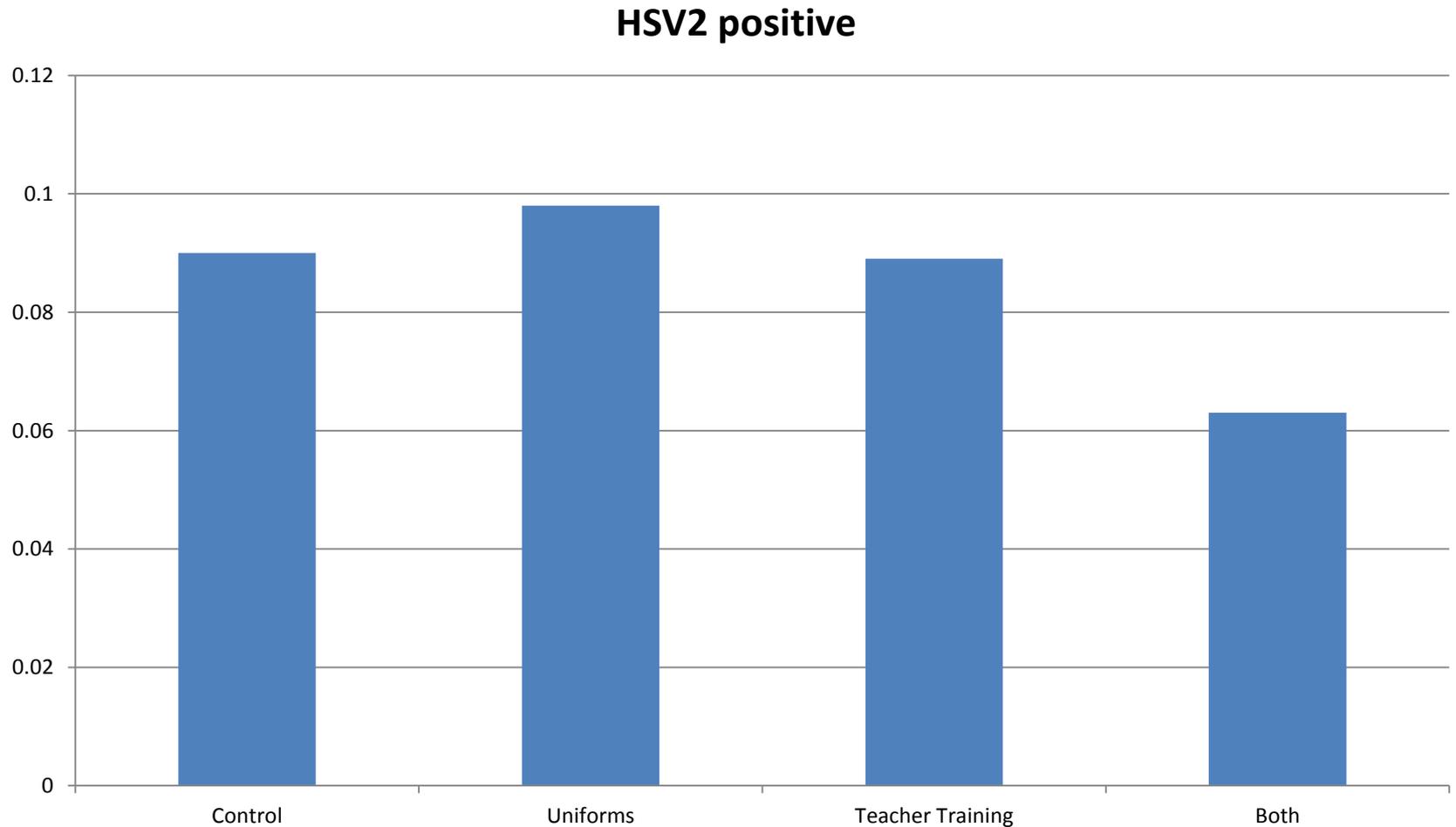


Main finding: Pregnancy

Ever pregnant



Main Finding: HSV2



The explanation

- What is the explanation for these curious findings?
- Why is the combined program the most effective at reducing HSV2, but in between for pregnancies?
- What does it tell us about girls's ability to "say no" (or other form of control...).

Understanding family decisions

- Since it is now clear that fertility, like other decisions, is a decision, we need to understand why it is the best idea for a poor family to have many children
- Affecting those factors is more likely to affect fertility rates and teenage pregnancies than just distributing contraceptives
- It does not mean that contraceptives are not a good idea! It allows people to control the timing of their fertility and live a happier life. Also, even if on average fertility is not very much affected by contraceptive ability, it may make a big difference to an individual's life.

MIT OpenCourseWare
<http://ocw.mit.edu>

14.73 The Challenge of World Poverty
Spring 2011

For information about citing these materials or our Terms of Use, visit: <http://ocw.mit.edu/terms>.