

Are Family Planning Programs Effective?: The Effect of FP Programs and Education on Fertility in Indonesia

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Key questions:

1. Are FP Programs effective in reducing fertility?
2. Reducing fertility: education or FP programs?
3. Do FP Programs influence non-fertility outcomes?

For 1 and 2: Many results from numerous empirical studies:

- Small or no effects of FP programs on fertility
- Large and significant effect of education on fertility

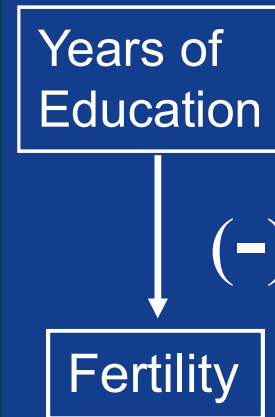
Prior results support education as a driver of fertility reductions but weaken support for FP programs' impacts

However, these conclusions are questionable due to:

- I. Endogenous Selection into educational attainment
- II. FP Programs could increase education levels, so there could be Long-term indirect effects of FP

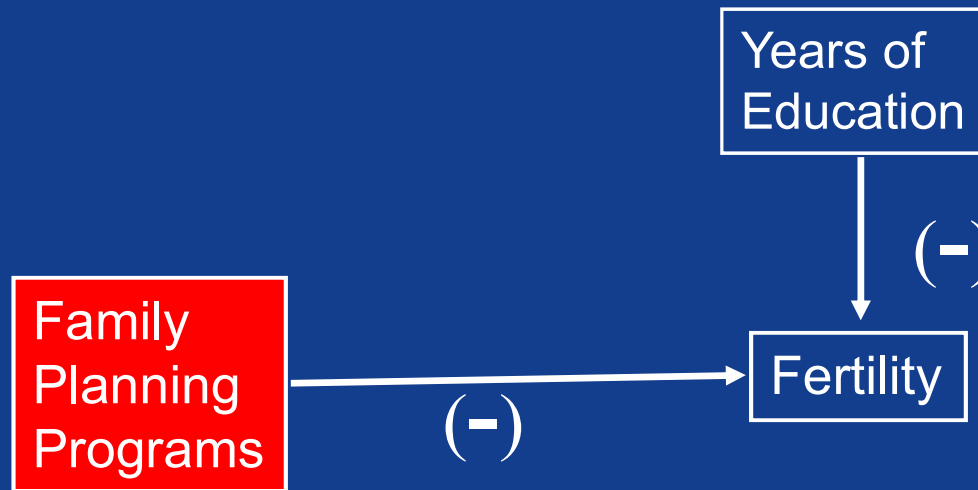
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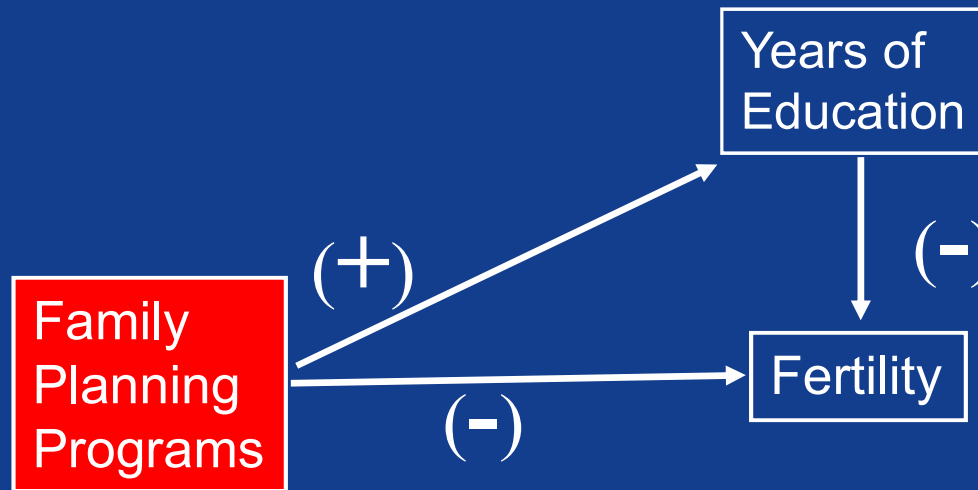
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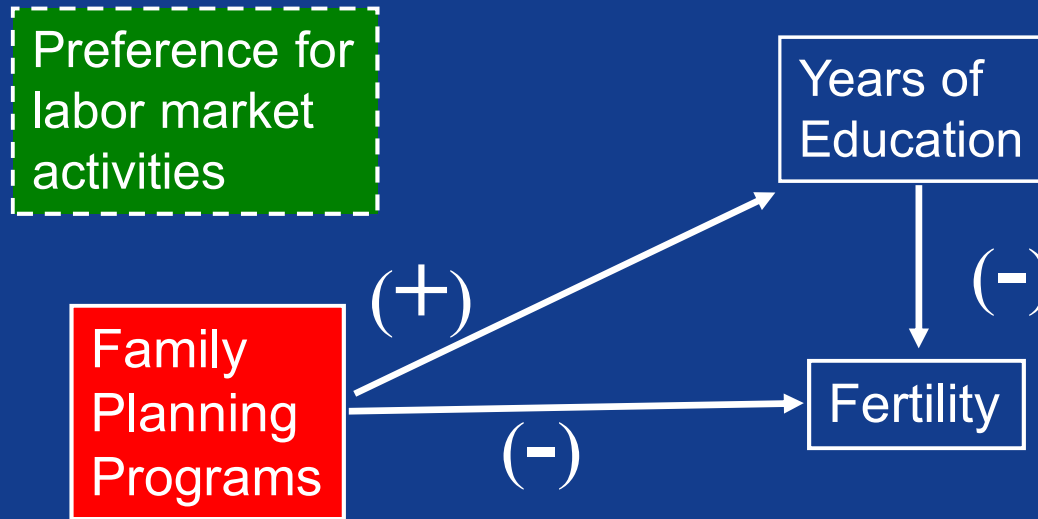
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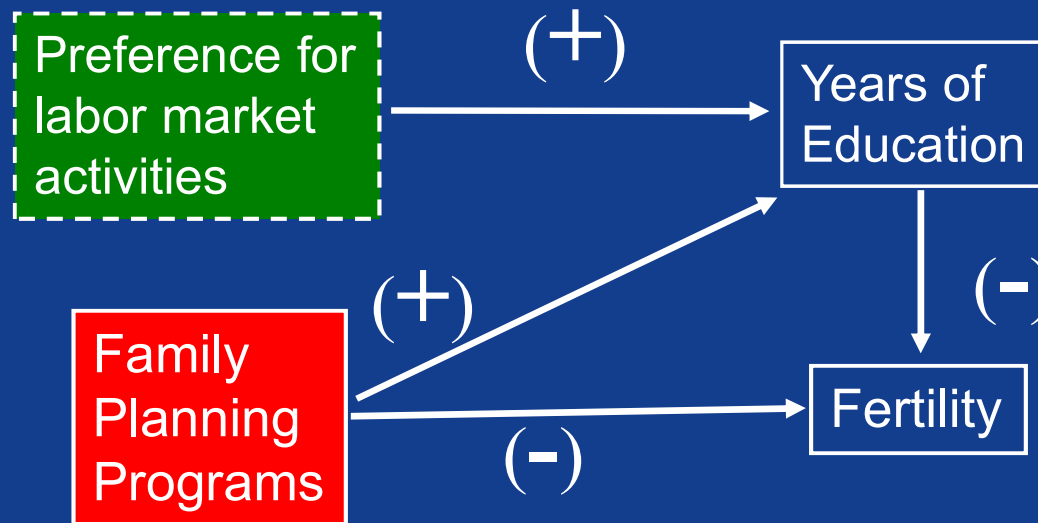
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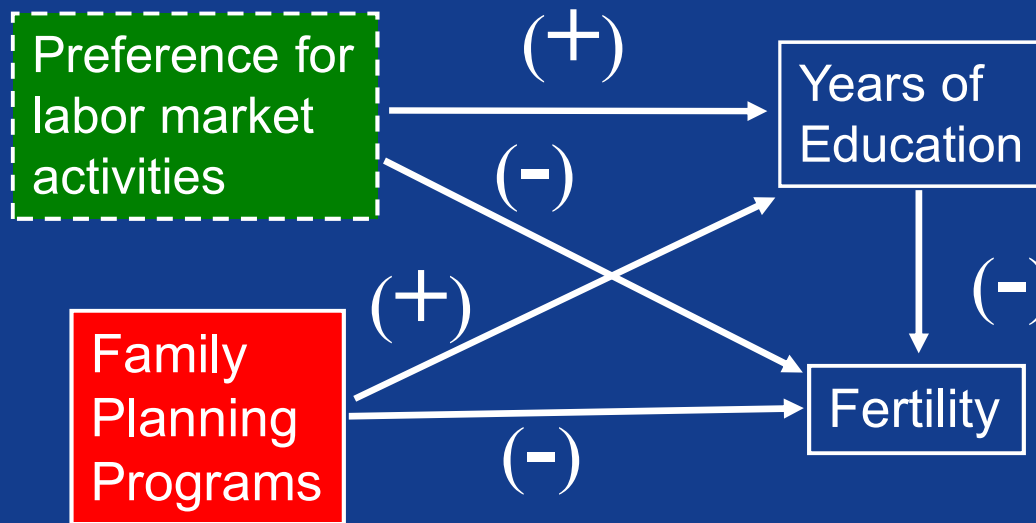
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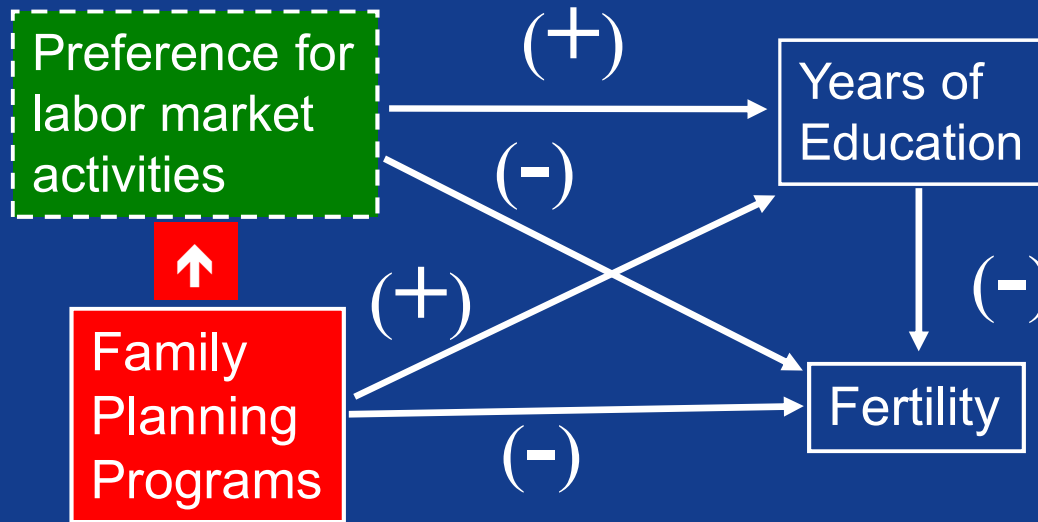
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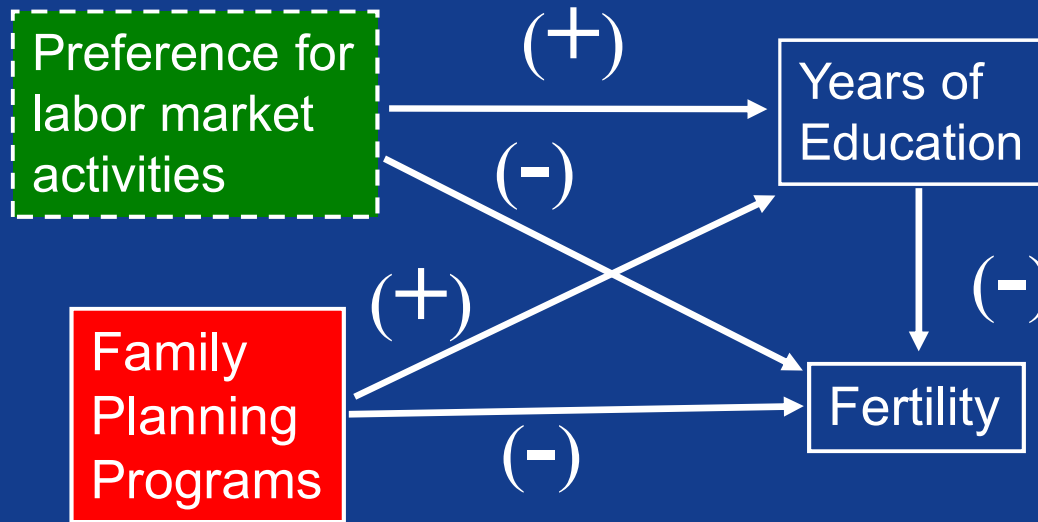


Is there an Indirect Effect of FP through families beginning to recognize that there are achievable alternatives to having children for young women?

If so, there could be important long term impacts of FP programs. Return to this issue in a few slides.

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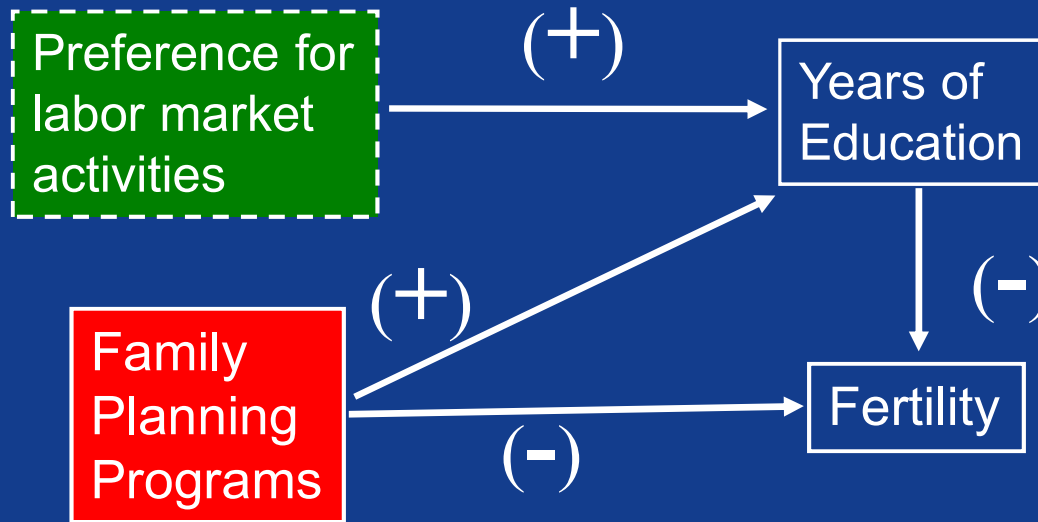
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Survey data: Preferences not observed

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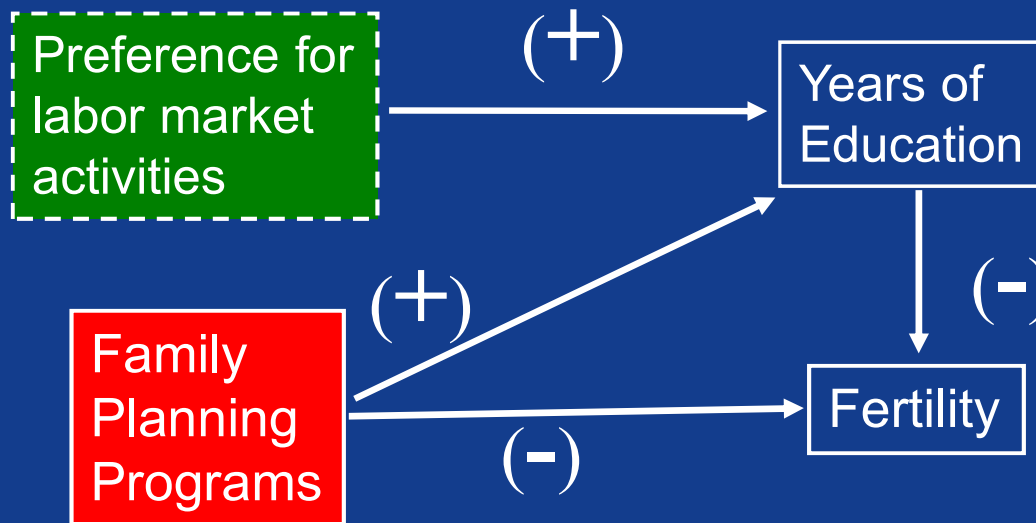
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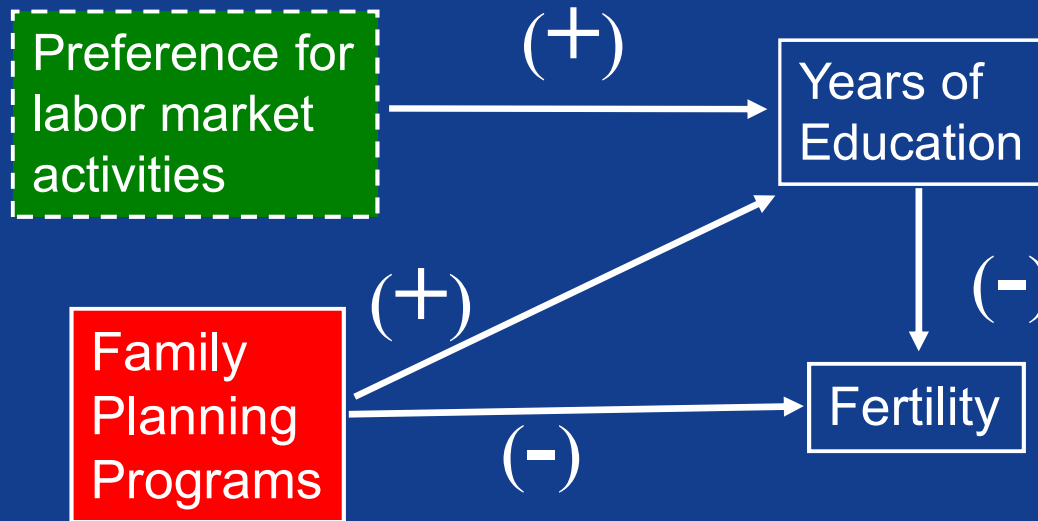


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Simple analysis: Lower Fertility attributed to Education when it is actually due to Education and Preferences

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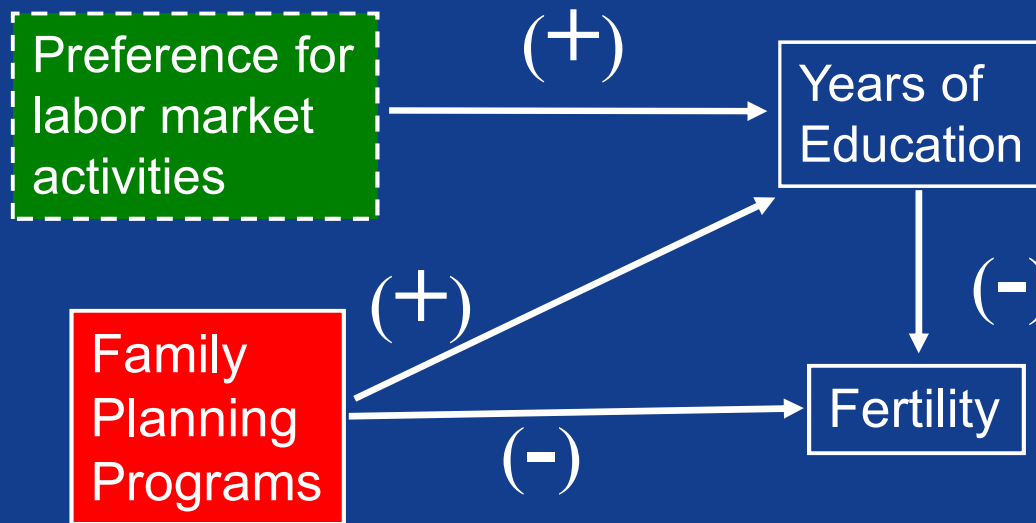
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Consequences: Education effect becomes overestimated

Problem widely acknowledged, but data limitations often prevent corrective actions

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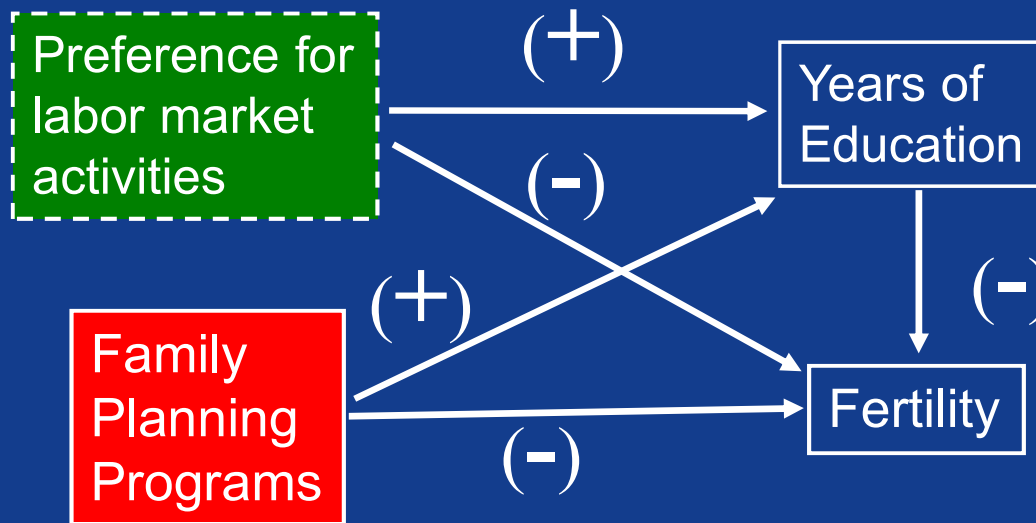
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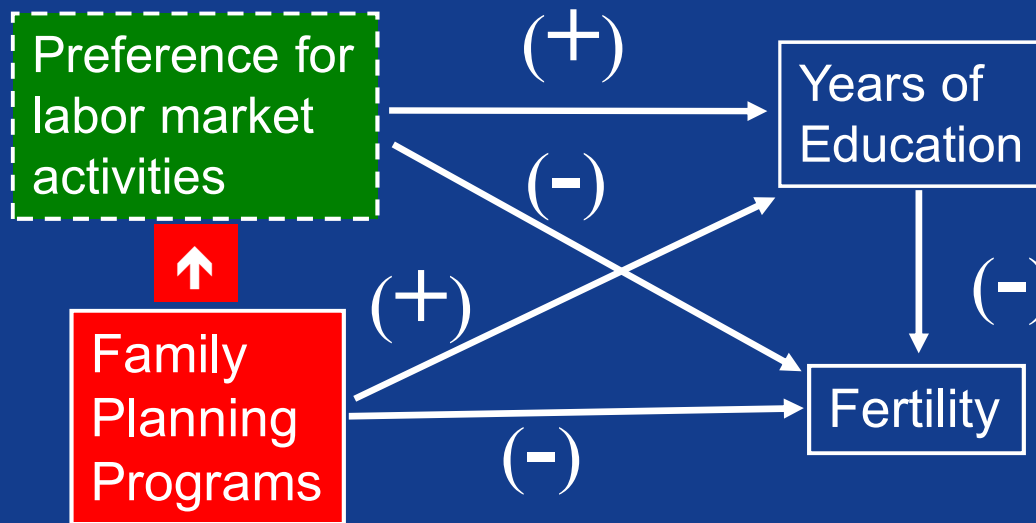
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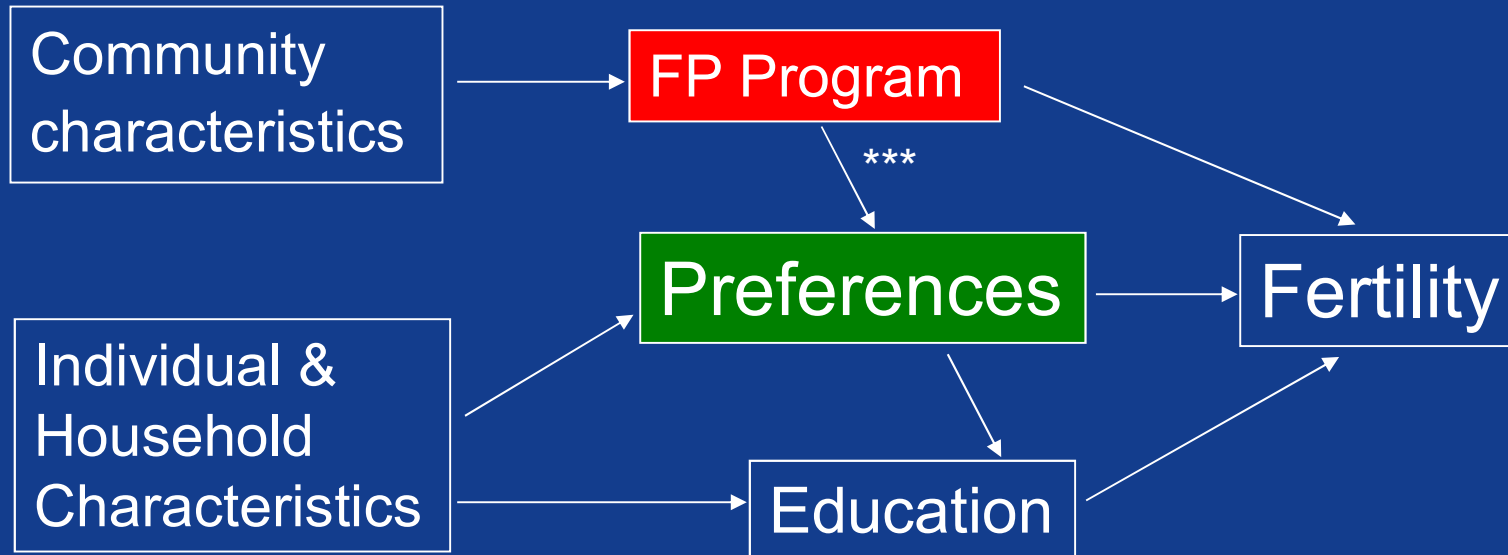
II) FP Programs could Increase Women's Education

Finding: Exposure to FP programs before the start of reproductive age (7) increases educational attainment, delays marriage, and reduces fertility.

But, why?

Contraceptive knowledge provided by FP programs can change women's plans: Instead of “defaulting” to a young age at marriage and having many kids quickly, contraception gives a woman the opportunity to reap the potential benefits of increased education and labor force participation.

→ FP programs might have a long-term effect through education and expanded horizons.



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- Purpose of our study: To examine the direct effect of FP programs on fertility plus the indirect effects through education, controlling for potential selectivity of schooling

- Method: Structural model of fertility, woman's education, age at marriage, and husband's education

- Data: 1993 Indonesia Family Life Survey
 - 5,025 women age 13-51 in 321 clusters
 - ** Fertility, schooling, marriage, and place of residence histories
 - ** Regional and sub-regional measures of school quality over time
 - ** Linked community & health facility survey:
 - FP Program history: Year FP first offered by different providers

Indonesia

- 190 million people (1993)
- Major changes in fertility:

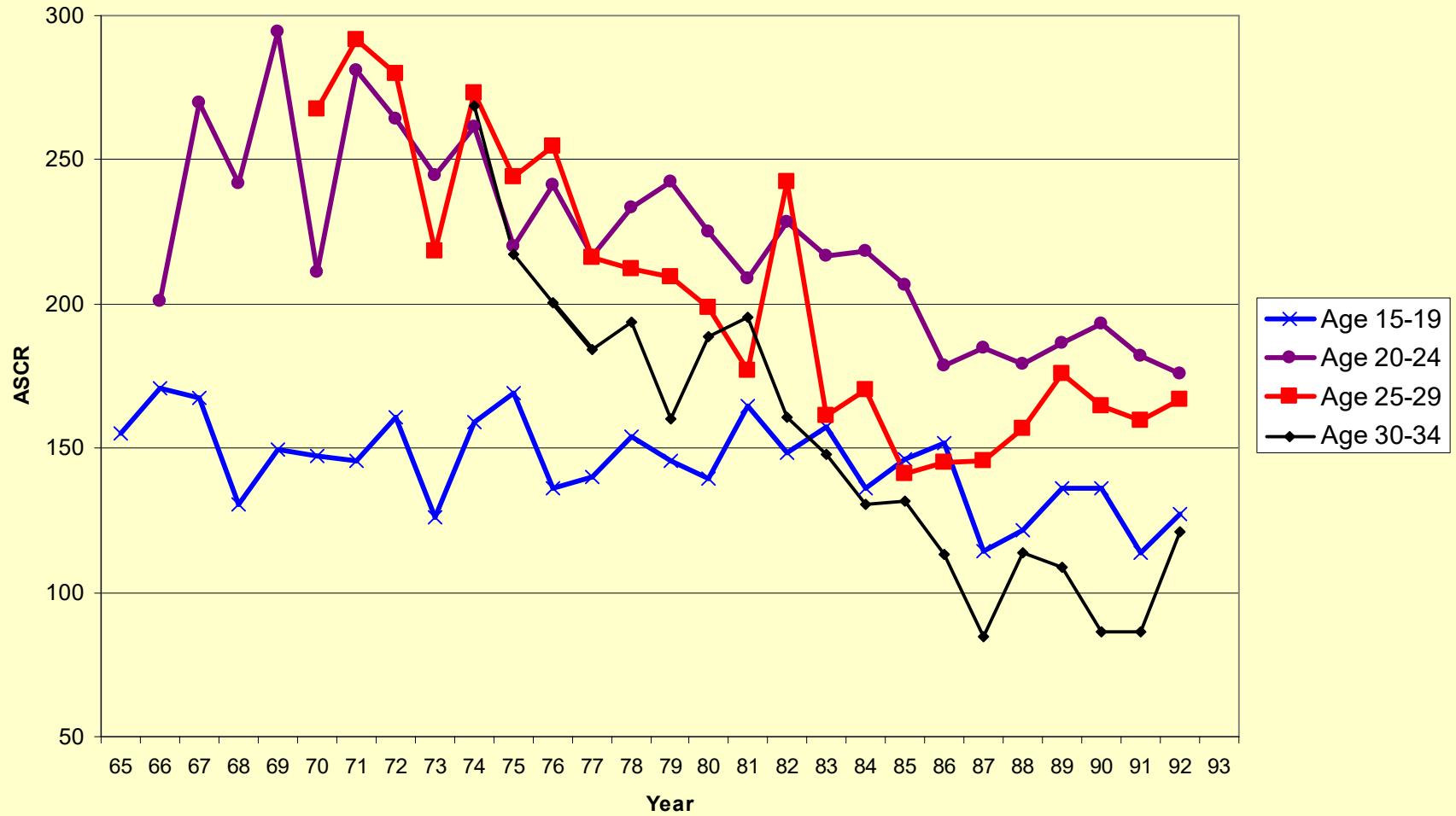
TFR	1971	1994
	5.6	2.8

- Family Planning Program: Started in 1970; implemented in 5-year phases



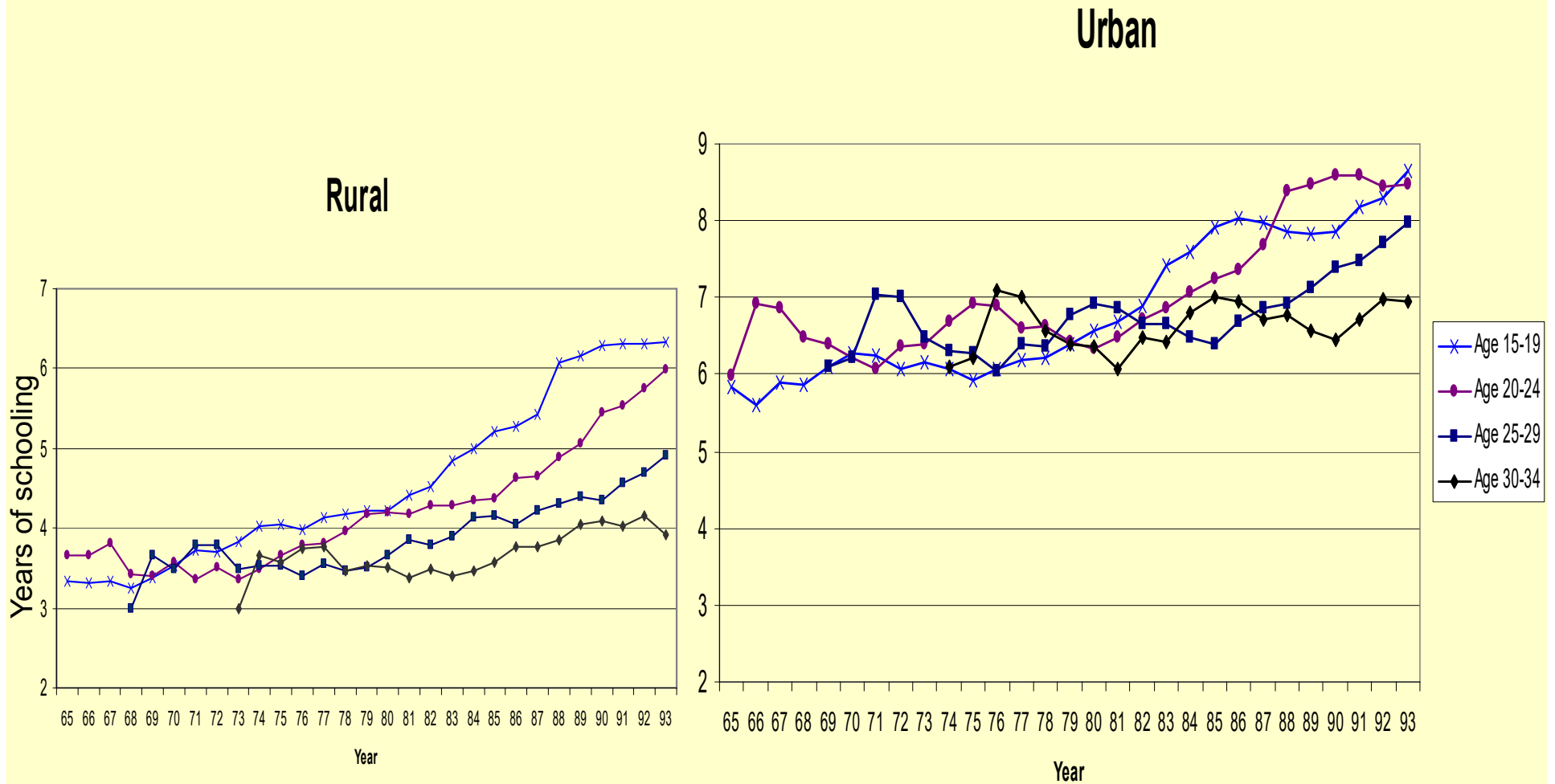
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Age-Specific Conception Rates. Indonesia 1965-1993



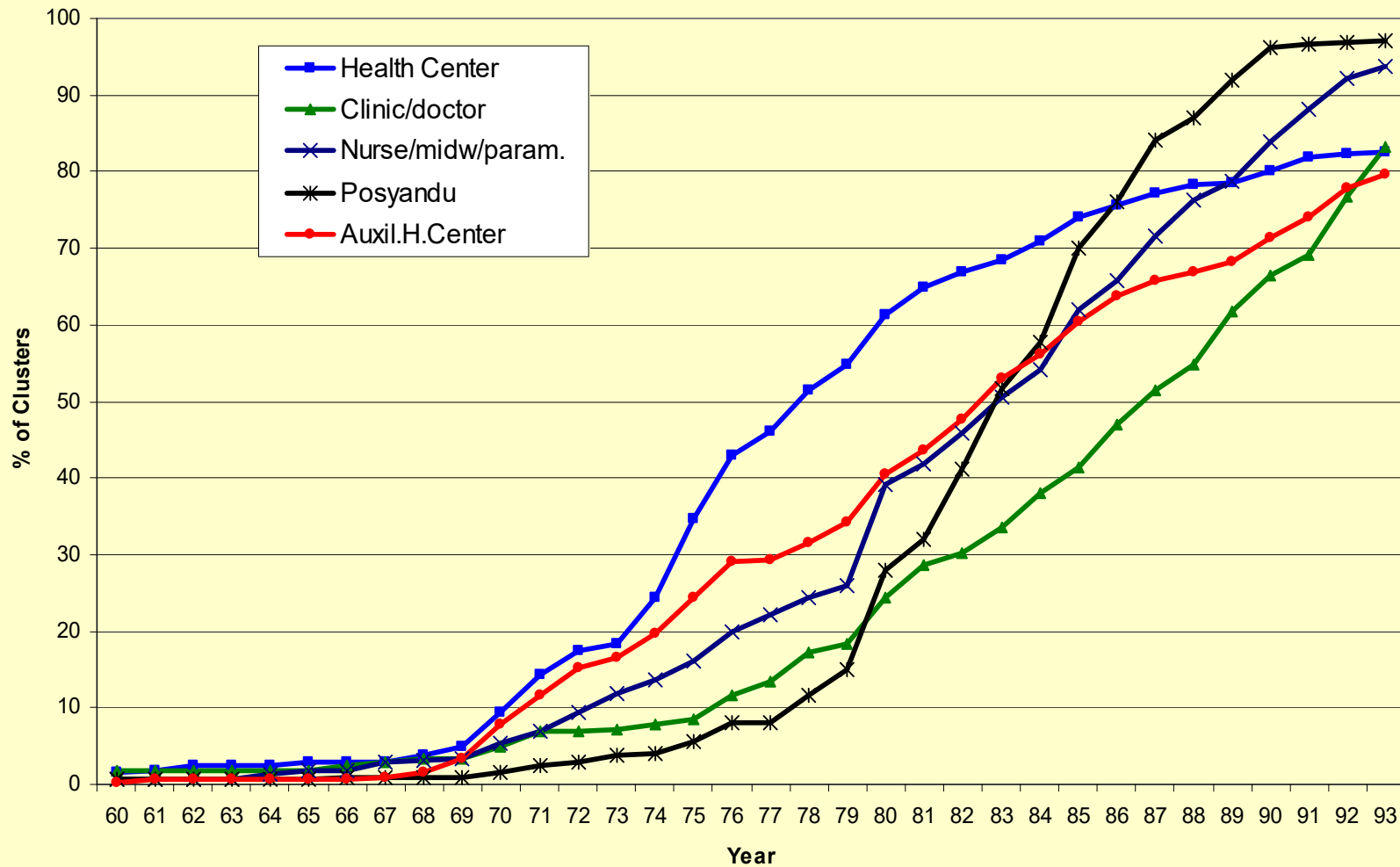
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Average Years of Schooling. Women. Indonesia, 1963-1993



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Percentage of Clusters With Family Planning Services by Facility Type. Indonesia 1960-1993



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So, are FP programs effective?

(Lifetime simulations)

I. Controlling for endogenous/selective education:

	<u>Number of Children</u>	<u>Years of Education</u>	<u>Age at Marriage</u>
No FP program	4.9	4.6	20.0
<u>With FP program</u>	<u>4.0</u>	<u>5.5</u>	<u>20.9</u>
FP Program Effect	- 0.9	+ 0.9	+ 0.9

Simulations evaluated at 1970 govt. health expenditures and 1993 class sizes. Models control for age, migration, place of residency, marital status, husband's education, year effects, FPP at age 7, regional GDP, Govt. expenditures in FP, edu, health

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II. Without controlling for selective/endogenous education:

FP Program Effect	- 0.1	+ 1.2	+0.6
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But, how do FP programs compare to education programs?

Education program: Reduction of student-teacher ratio (class size)
from 17 (“poor” school) to 12 (“good” school)

Total effects (controlling for selective/endogenous education):

	<u>Number of Children</u>	<u>Years of Education</u>	<u>Age at Marriage</u>
Effect of “good” schools versus “poor” schools*	+ 0.01	+ 0.3	+ 0.07

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Effect of “good” schools versus “poor” schools*	+ 0.01	+ 0.3	+ 0.07
Complete FP programs versus no FP	- 0.9	+ 0.9	+ 0.9

In a sense, FP Programs are more effective than education programs

Conclusions (Angeles, Guilkey, and Mroz)

- Effect of FP programs on fertility can be severely underestimated when selective/endogenous schooling is not addressed.
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- The availability of FP programs when a woman is young is a crucial determinant of many outcomes later in the life cycle.
- In Indonesia during the latter half of the 20th century, improved FP programs appear to have been necessary for the observed, substantively large changes in women's education, age at marriage, and fertility.