

How Contraception Changes Women's Choices and Raises Women's Status

...and may be the most important
technology for global development

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December 7, 2017



Alessandro Pucci (Wikimedia Commons)

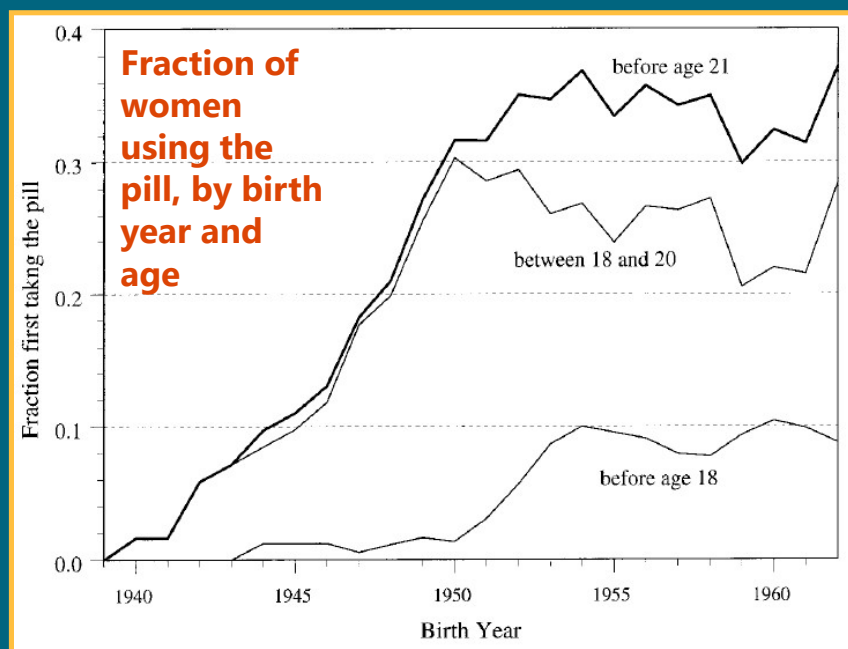
My story



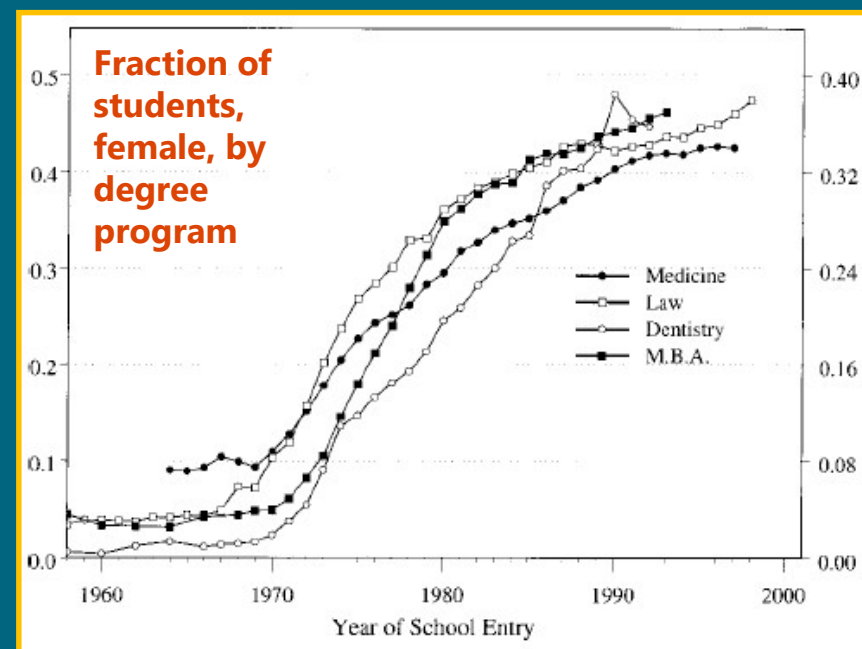
Women's liberation march from Farrugut Square to Lafayette Park, 1970 (Wikimedia Commons).



Power of the Pill: the US story



Source: Goldin and Katz, 2002



Source: Goldin and Katz, 2002

Our research question

Our research:

Is that story generalizable to other developing countries, including poorer ones – and if not why not?

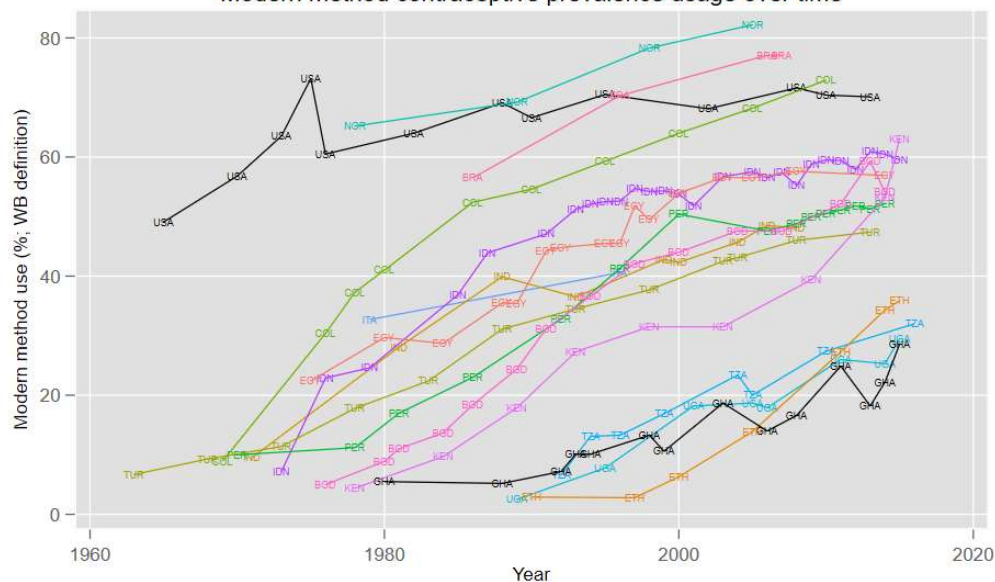
Has the diffusion of **the technology allowing women to plan the *timing of births* made a difference in some (crude) measures of women's empowerment?**

How important is context (women's education, income in absolute terms/relative to men)

How important are "culture", social norms, and "exogenous" policies that affect women's ability to have sex independent of choosing pregnancy?

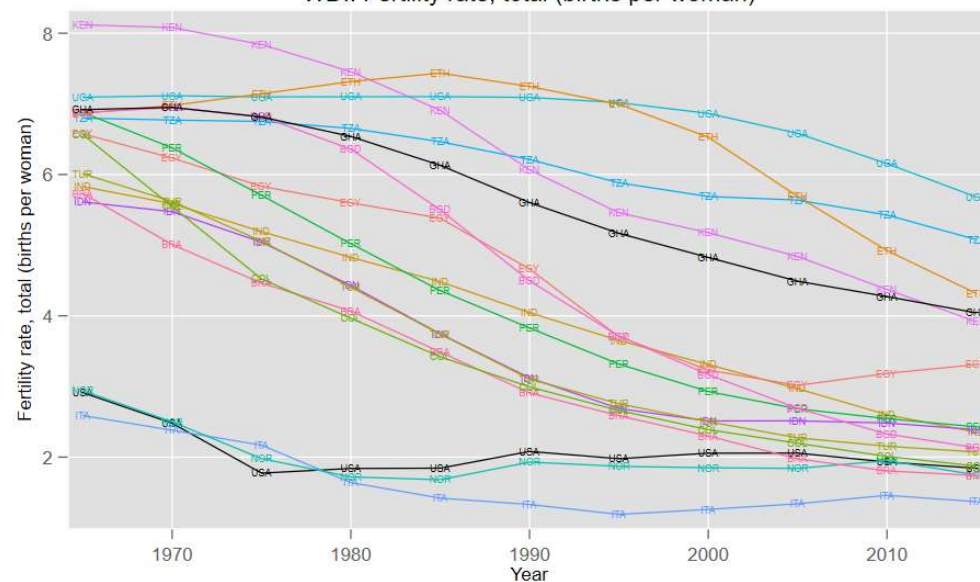
WDI: Use of modern contraception

Modern method contraceptive prevalence usage over time



Source: World Development Indicators, available years

WDI: Fertility rate, total (births per woman)



Source: World Development Indicators, various years

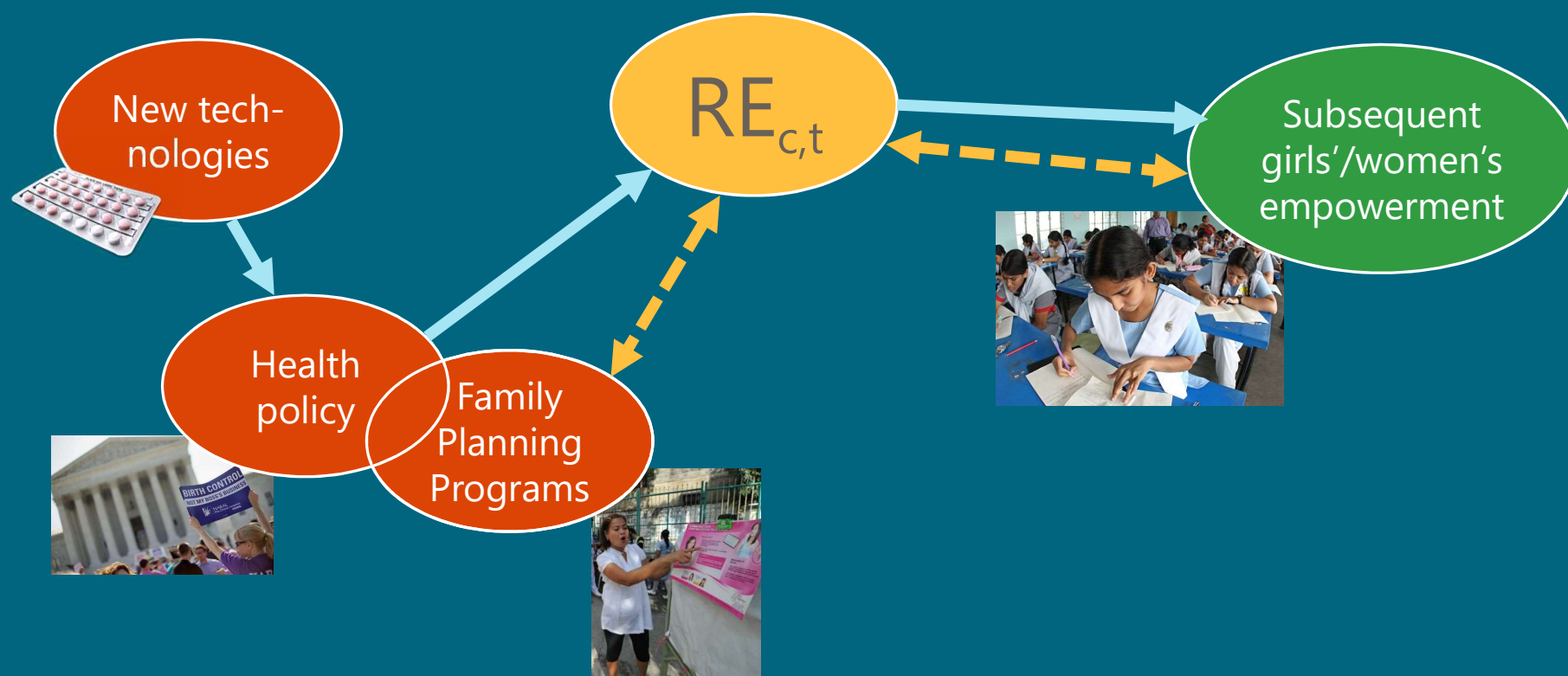
Developing countries: social norms matter for women's agency



is not like



Our model -- including the “reproductive ecosystem”



Methods

The research question again:

Has the diffusion of the technology allowing women to plan the timing of births made a difference in some (crude) measures of women's empowerment?

Two Step Approach:

1. Develop a $RE_{c,t}$ index (PCA?)
2. Incorporate $RE_{c,t}$ concept into a dynamic panel model

Using data from:

- Demographic and Health Surveys (DHS): 207 surveys conducted between 1990 and 2016 across 40 countries (minimum three waves per country)
- World Values Surveys: 240 surveys conducted between 1981 and 2014 across 100 countries
- Family Planning Effort Index: seven waves across 81-90 countries from 1982-2014
 - Quinquennial survey of experts on perceptions of national family planning programs
- World Development Indicators

Step 1. Develop an $RE_{c,t}$ Index

Attitudes/social norms/policy environment relevant to reproduction, e.g.:

Opposition to use of contraception (DHS)

When jobs are scarce, men have more of a right to jobs than women (WVS)

University education is more important for boys than girls (WVS)

Leaders make statements in favor of contraception 1-2 times per year (FPE)

Many women are at work outside the home

And real data reflecting use of contraception to *time* any pregnancies e.g:

Percent women using contraception *before any birth* (DHS)

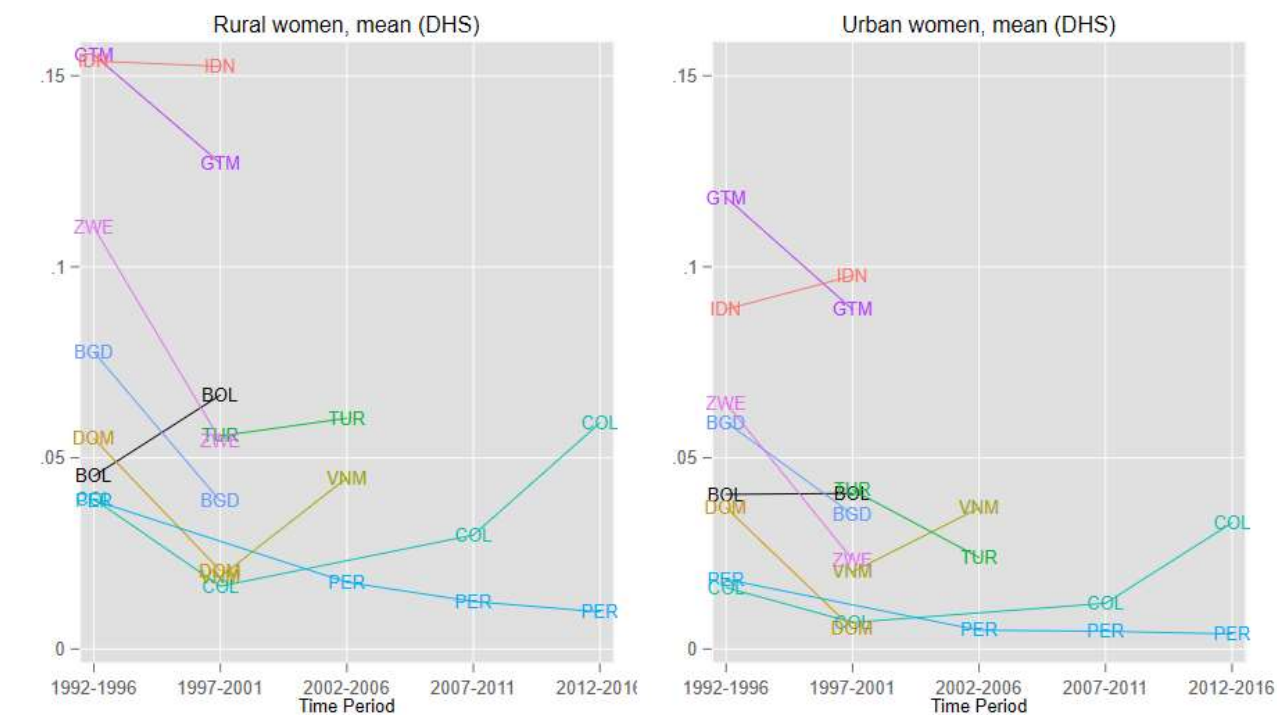
Number of children *before first use* of contraception (DHS)

Age at first birth (DHS)

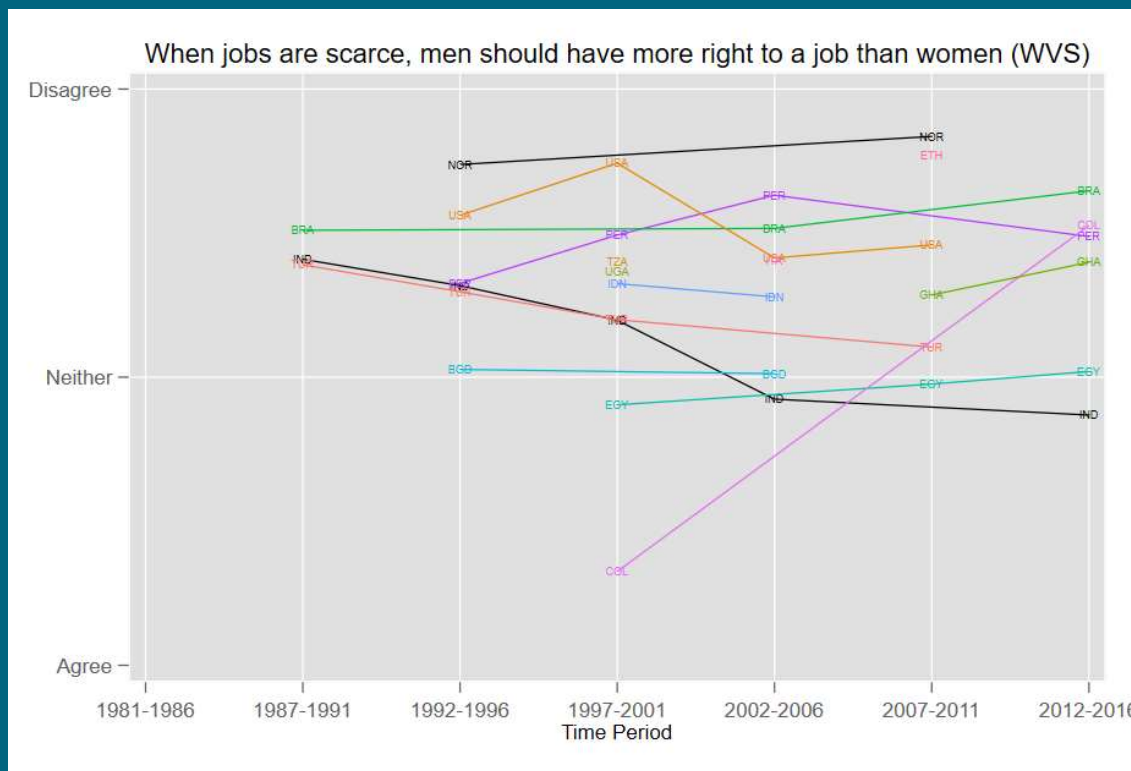
Age at first marriage (DHS)

DHS: Not using FP because opposition

Reason for FP non-use is some source of opposition



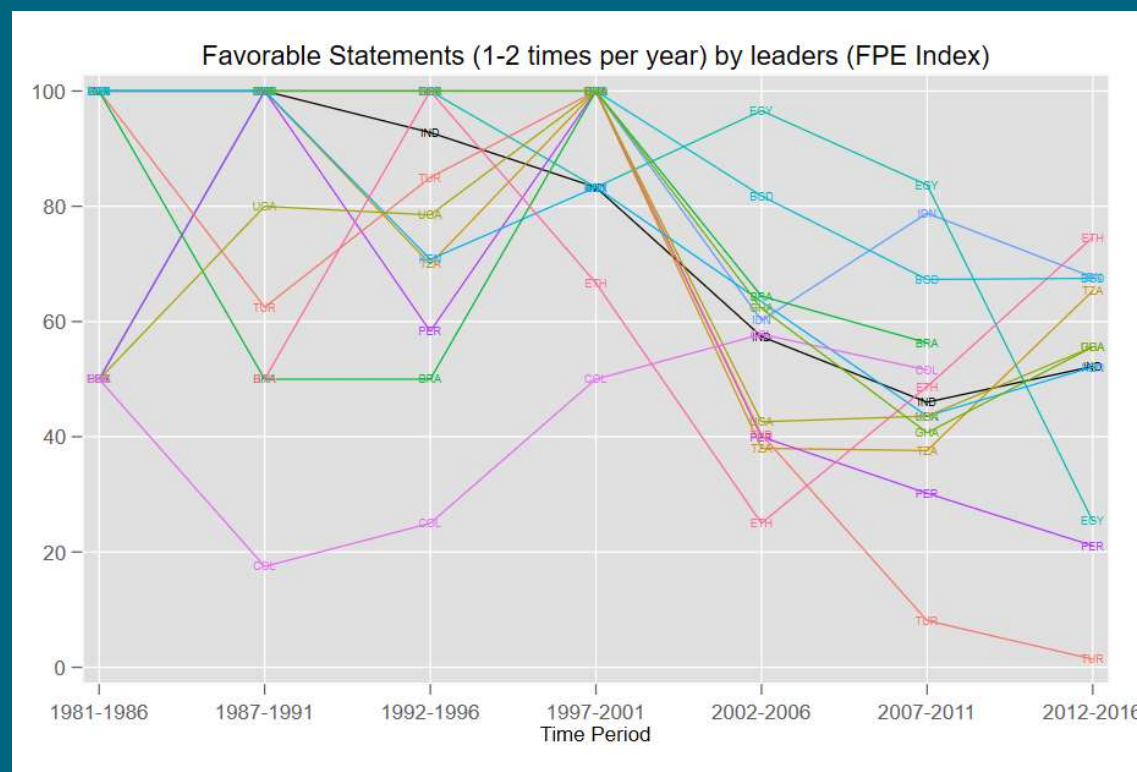
WVS: Jobs more important for wo/men?



Norway*
Ethiopia*
Brazil
Colombia
Peru
USA*
Ghana
Tanzania*
Uganda*
Indonesia*
Turkey*
Egypt
Bangladesh*
India

**last observation was not in the final cross-section*

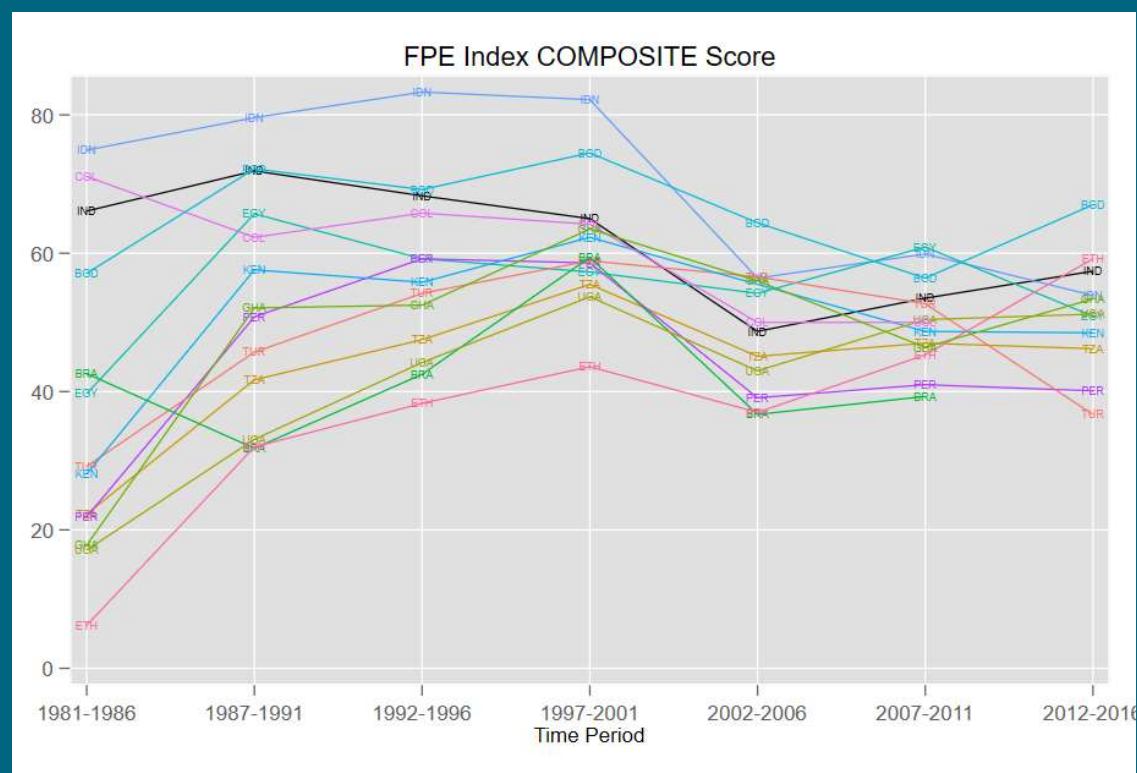
FPE: Statements by leaders



Ethiopia
Indonesia
Bangladesh
Tanzania
Brazil*
Ghana
Uganda
India
Kenya
Egypt
Peru
Turkey

**last observation was not in the final cross-section*

FPE: Total Index Score



Bangladesh

Ethiopia

India

Indonesia

Ghana

Uganda

Egypt

Kenya

Tanzania

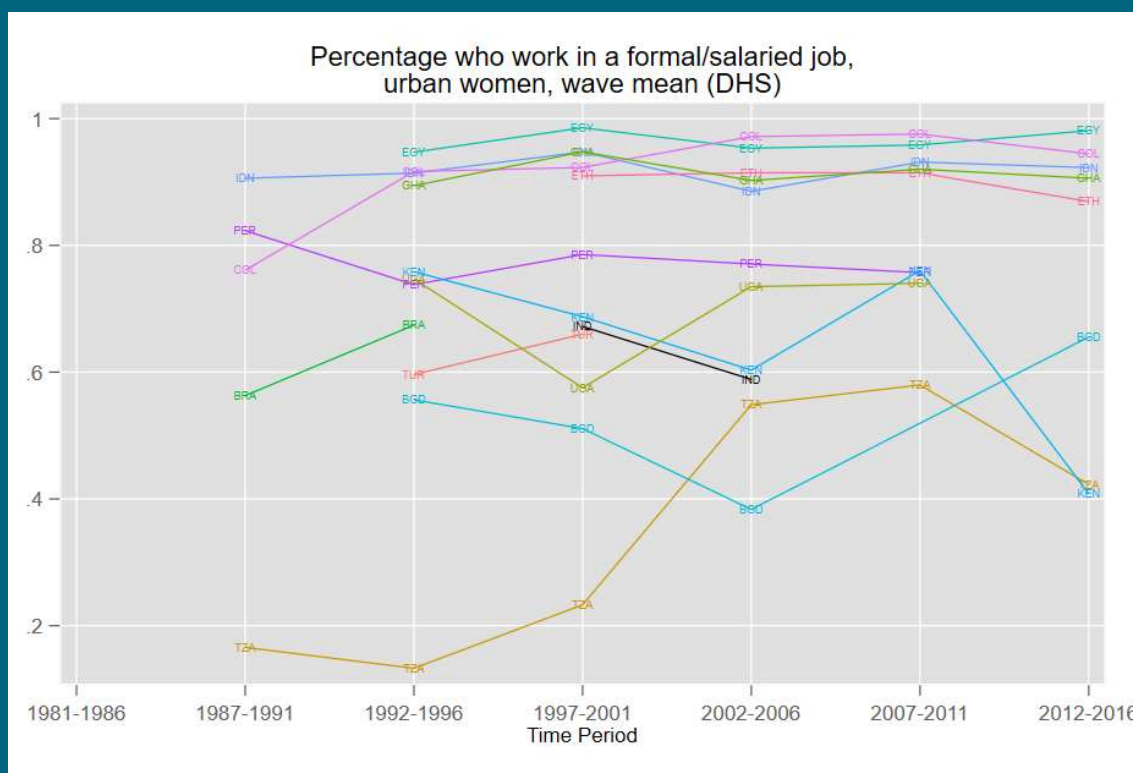
Peru

Brazil*

Turkey

**last observation was not in the final cross-section*

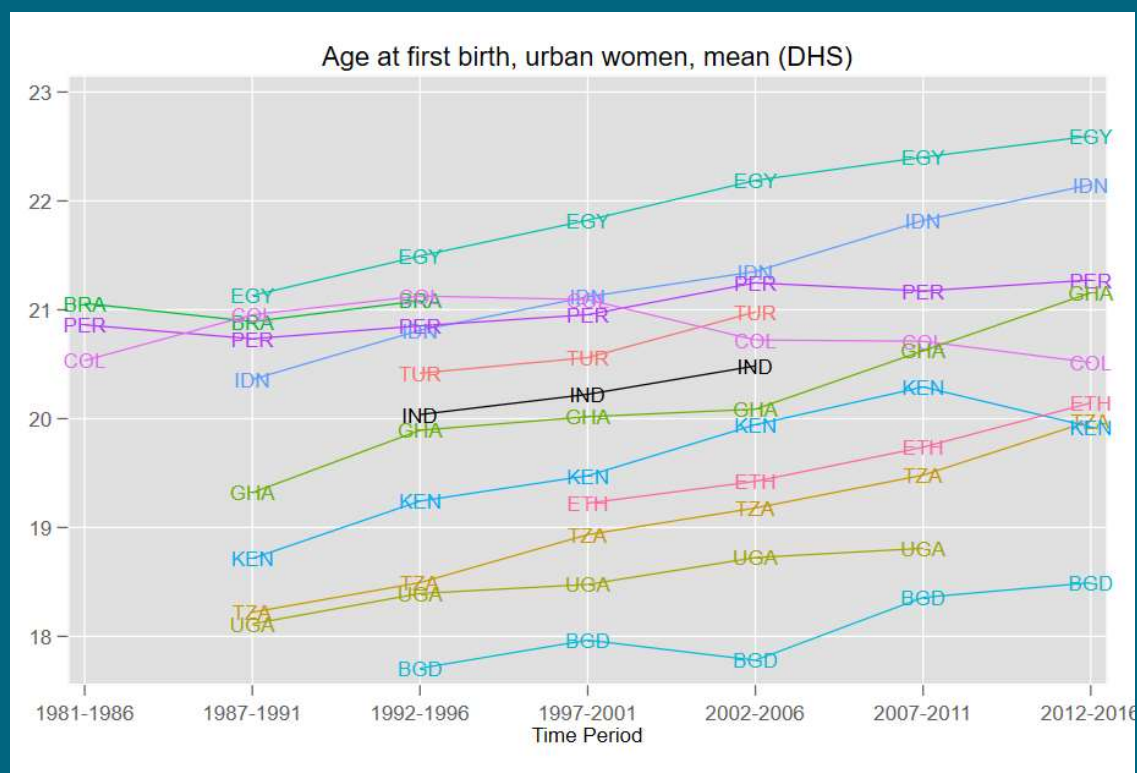
DHS: Women at work outside the home



Egypt
Colombia
Indonesia
Ghana
Ethiopia
Peru*
Uganda*
Brazil*
Turkey*
Bangladesh
India*
Tanzania
Kenya

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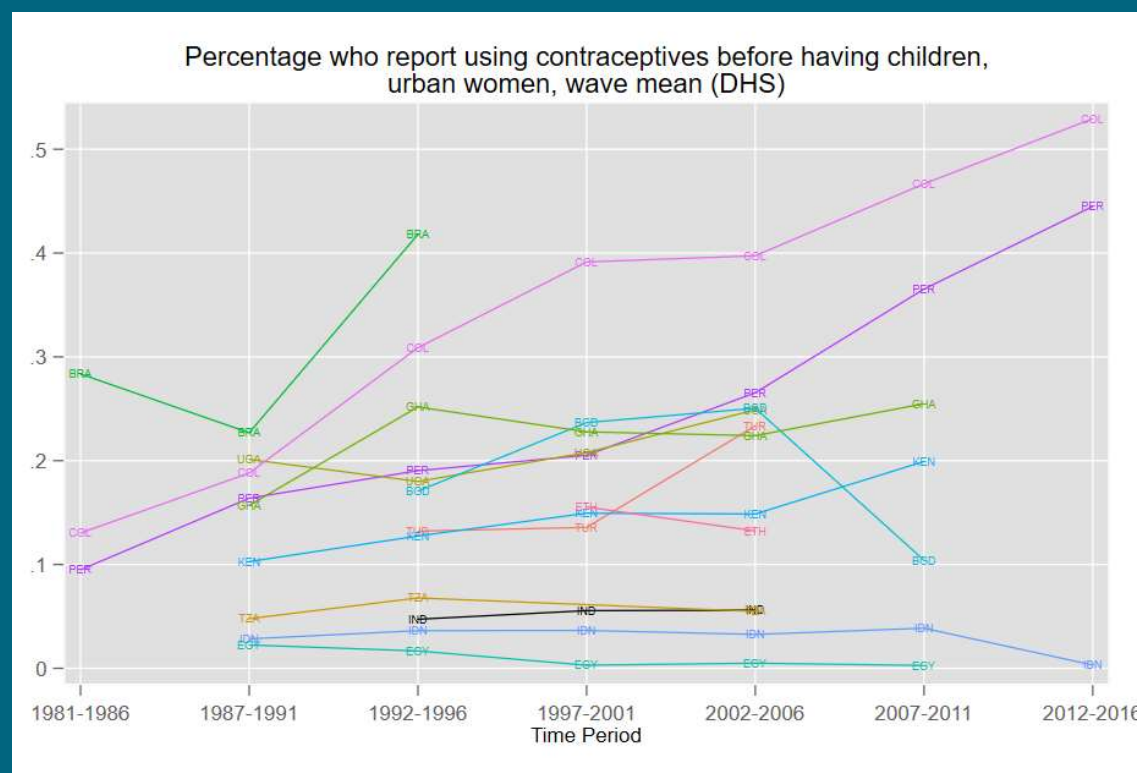
DHS: Age at first birth



Egypt
Indonesia
Peru
Ghana
Turkey*
Colombia
Ethiopia
Tanzania
Kenya
Uganda*
Bangladesh

**last observation was not in the final cross-section*

DHS: Using FP before having kids



Colombia
Peru
Brazil*
Ghana*
Uganda*
Turkey*
Kenya*
Ethiopia*
Bangladesh*
India*
Tanzania*
Indonesia
Egypt*

**last observation was not in the final cross-section*

2. Use $RE_{c,t}$ variables (maybe) in a dynamic panel model

For urban women in country c and time t ,

For example:

(1) Timing variable = $f(RE_{c,t} \text{ variables})$

(2) Women's empowerment variable $_{t=2,3,4...n} = f(\widehat{RE}_{c,t})^*$

* $\widehat{RE}_{c,t}$ represents an instrument; $t = 2,3,4...n$ indicates lags of e.g. girl's education, women's formal labor force participation

Country Reproductive Ecosystem (CRE)



"WOMEN'S EMPOWERMENT

AND WOMEN'S CONTRIBUTION
TO THE ECONOMY IS

MACRO-CRITICAL."

CHRISTINE LAGARDE



The 10-year-old girl



END!

Much to do! Empirical work a challenge

Look forward to your comments – less on circularity/endogeneity – we will worry over that – more on the RE concept and how to capture it....

Thanks again to my colleagues