What do we know about the causes of the baby boom?

And what do we need to know?

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EU25 in 2004 (blue) and 2030
Research about baby boom

• Most research about the baby boom is about its consequences for
  – Labor market - Pensions
  – Family relations & care - Health (care) - ...

• Surprisingly little research about the causes
  – Most known work
    • about the USA
    • by economists
  – There is no widely accepted theory
This presentation

1. In order to shed light on the causes, one first needs to know more about the **dimensions** of the baby boom in an **international** perspective
   - Timing of kick off
   - (Intensity, length, volume)

2. Demographic explanations/proximate causes
   - Postponement and catching up
   - Marriage boom & economic growth
   - Rising marital fertility

3. Economic explanations
The start of the baby boom

• Most (economic) theories and empirical studies address only the birth rate as observed after World War II

• Forgotten or neglected: the recovery of fertility starts in most western countries before or during WWII

• By mis-dating the start of the recovery, important baby booms are left out of the picture, f.i. Sweden, Finland, Denmark, Norway
Period TFR 1920-1975

Graph showing trends in Total Fertility Rate (TFR) for various countries including the Netherlands, Norway, Spain, Sweden, Switzerland, the USA, England & Wales, Finland, France, West Germany, Hungary, Italy, Australia, Belgium, Bulgaria, Canada, Czechoslovakia, and Denmark, from 1920 to 1975.
The recovery of fertility

• was not predicted by any expert; on the contrary, virtually all scholars expected further declines as urban, secularized life styles spread through the populations of the West (Van Bavel 2010 in Population Studies)

• was noticed only after WWII (see major comments by Sauvy 1948, Hajnal 1947, Glass )
Explaining the Baby Boom:
1: catch up effect

“Marriage and births postponed during depression and war were made up after the war”
Explaining the Baby Boom: 1: catch up effect

– “Marriage and births postponed during depression and war were made up after the war”

– Can only be a very partial explanation because
  • The recovery of fertility lasted too long; some of the people who produced the baby boom were not even born during the depression and/or still a young child during WWII
  • Also cohort fertility was going up in most countries
Explaining the Baby Boom: 2: post war economic boom
2. GDP growth (black line) and the Baby Boom (blue line)
GDP growth and the Baby Boom

• Results from panel models with lagged effects of GDP growth:
  – During period 1921-45: small positive effect of GDP growth during past year on CBR in current year
  – During later period: if anything, a negative effect of GDP growth on CBR
  ➔ Role played by GDP growth is inconsistent and marginal at most (can explain only 5% of change in CBR)
3: Rising Nuptiality

Wedding of Princess Elizabeth and Philip, Duke of Edinburgh, 20 November 1947
3: Rising Nuptiality

% ever married women aged 20-24
3: Rising Nuptiality

% ever married women aged 45-49
Rising nuptiality and total fertility

1) “Composition effect”: Rising % marrying → marital fertility rates apply to more people

2) “Heaping and duration effect”: lower age at marriage → additional cohorts marry during a given year → the number of recently married people goes up

3) “Exposure effect”: length of exposure to (socially sanctioned) chance of conception goes up; given imperfect contraception, this will affect TFR even if inteneded family size remains constant; should be visible at higher marriage durations

We need age, duration, and parity-specific analysis; is possible based on individual level census data
Hypothesis: inefficient contraception

• Rising cohort and period total fertility can partially be explained by the fact that
  – Nuptiality continued to go up
  – The extent of control over marital fertility had reached its limits given the inefficient contraceptive methods
    “Power of the pill” → baby bust

• Preliminary checks:
  – was the rise of marital fertility strongest in regions where marital fertility had already reached very low level?
Change in Marital Fertility (Coale index $I_g$) in provinces of some Western Countries, 1930-1970
Change in marital fertility Ig between 1930 and 1960 by level of Ig in 1930, Princeton EFP districts

Ig around 1930 explains 58% of variance of delta-Ig
4: « La famille nombreuse »
4. F-index of marital fertility (left axis) and crude marriage rates (right axis)
Economic explanations

• Most cited are: Easterlin 1961, Butz & Ward 1979, Greenwood et al 2005, Doepke et al 2007:
  – All published in *American Economic Review*
  – They are all rather unilateral and tailored to the US experience
1. Easterlin:
Relative Income Hypothesis

Argument:

• Material aspirations are built up during the childhood years

• People who grew up during the Great Depression had low material aspirations

• After the war, these cohort reached adulthood in times of economic boom

• So their income relative to their consumption aspirations increased

• They responded with raising their demand for children
1. Easterlin: Relative Income Hypothesis

Problems:

• many of the parents who made the baby boom did not grow up during the Depression

• Little support has been found for the Easterlin hypothesis outside the United States (Wright 1989)

• Macunovich (1998; 1999) argues that the concept of relative income is often not adequately measured
2. Butz and Ward 1979: relative wages of women

Argument

• During the baby boom, wages of women were low compared to wages of men.
• So the gains to marriage were high and the opportunity costs of having children were low.
• At the same time, the wages of husbands were rising. This generated a positive income effect on fertility.
2. Butz and Ward 1979: relative wages of women

Problem

• Why was there no positive income effect on fertility in the period before the baby boom?
• 19th century couples pioneering family size limitation were typically found in relatively high income circles of bourgeois families.
• These were typically breadwinner families, with the wife staying at home and the husband working out for pay.
3. Greenwood et al. 2005: household technology

Argument:

• the diffusion of new household technology helped women to run their households in much less time than before

• This lowered the time cost of having children
3. Greenwood et al. 2005: household technology

Problem:

• Studies show that parents spend more time on child rearing than ever before
4. Doepke et al 2007: crowding out of women in labor force

The argument:

- Second World War brought large positive shock on demand for female labor
- Exogenous boost in female employment had opposite consequences for young and old women:
  - Older generations who worked already during the war, retained their labor market position afterwards
  - Younger women faced large competition in post-war labor market → lower demand for labor, lower wages, crowded out
- These younger generations ran towards marriages and babies instead
4. Doepke et al 2007: crowding out of women in labor force

Challenges/problems:

• Unwarrented assumption that labor market is driving the appetite for marriage, rather than the other way around → we need sounder causal analysis

• The theory cannot explain the recovery of fertility starting before and during the War

• (In their detailed argument, the assumption that more children would require getting married at an earlier age than before place a critical role (while later stopping would also work))
Conclusions: what we know

1. Usually, recovery of fertility started **before** the end of Second World War
2. Postponement – catching up explain at most a minor part of it
3. Minor and inconsistent relationship between trends in economic growth and birth rate:
   – negative in 19thC,
   – positive towards beginning of World War II
   – negative again after World War II
4. Major role for nuptiality: baby boom = to a large extent a marriage boom
5. Marital fertility tended to recover most where marital fertility was (very) low before the war
Conclusions: what we need to know

1. How can we explain the marriage boom? Why was marriage more popular than ever?

2. Broader historical and geographic perspective: linker with wider proces of demographic transition (time series should not start in 1945)

3. We need to take the role of culture more seriously if we want to understand the marriage and baby boom: religion? Anti-modernist reaction? ...?

4. What role did pro-natalist policies play?

5. How can we understand the unexpected revival of marital fertility. We need more detailed studies by age, period, cohort, parity, and SES

6. The role played by social differences at the micro-level, and new opportunities for women, e.g. in terms of education as well as on the labor market