

# Does the macro-economic climate influence fertility behaviour?

An analysis of the Netherlands  
1972-2002

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# Economic models of fertility

- The relationship between economic developments and fertility has been heatedly debated and different positions have been taken (see Murphy 1992)
- A positive correlation between fertility and business cycles
- A negative correlation observed for a long time-span after 1945

# Economic models of fertility

- The Butz-Ward model
- Male wages have a positive effect on fertility
- Female wages have a negative effect on fertility
- The negative impact of female wages increases as more women are active on the labour market

# Problems of the Butz-Ward model

- **Quality of information on wages and other possible independent variables often poor**
- **In some countries data seem to support the Butz-Ward model, in other countries not**
- **Wages and other economic factors, like GDP are often highly correlated with year, making it hard to interpret findings**
- **Model assumes incompatibility between labour force participation of women and having children; this may not be true in all contexts**

# Alternative approach

- **Micro-analysis of fertility behaviour**
- **Including economic macro-variable as a covariate**
- **Controlling for a number of important micro-level variables**
- **Allowing for interaction between economic climate and micro-variables**
- **Using consumer confidence as indicator for the macro-economic situation**

# Central research questions

- Does consumer confidence have an effect on birth timing?
- If so, does this effect differ between educational groups?
- If so, is this effect age-dependent?
- If so, does this effect differ between first, second and third births?

# Why use consumer confidence?

- **Practical argument**

High correlation between GDP and year, not between Consumer Confidence and year, e.g. NL 1972-2002

$r$  GDP-year = .97     $r$  CC-year = .38

- **Theoretical argument**

Thomas theorema: If people define a situation as real, it is real in its consequences

People interpret the current economic situation in terms of their knowledge about recent trends and expected change in the near future

# Hypotheses (I)

- **Hypothesis I**

**If people are optimistic about the economic future, the birth rate will increase**

- **Hypothesis II**

**Low educated women will be more strongly influenced by shifts in consumer confidence than high educated women**

# Hypotheses (II)

- **Hypothesis III**

**The influence of consumer confidence will weaken as women grow older**

- **Hypothesis IV**

**The influence of consumer confidence will be equally strong for first, second and third childbirth**

# Data and Methods

- Pooled dataset of Dutch Fertility and Family Surveys 1988, 1993, 1998 and 2003
- 18,522 women with 9,702 first births, 7,457 second births and 2,403 third births
- Birth cohorts 1950 - 1979
- Years 1972-2002
- Method: Cox regression
- Main time axis first childbirth: Age
- Main time axis second and third birth: Duration since previous birth



# Variables

- **Dependent variable**  
Timing of first, second and third conception leading to a live birth
- **Micro-level covariates**  
Birth cohort (6 five-year birth cohorts)  
Educational level (time-varying)  
Educational level parents  
Religious background parents  
Partner status (time varying, living with a partner or not)  
Migrant status



# Variables

- **Consumer Confidence**

Index based on five questions on evaluation of current general and personal economic situation. The index is published quarterly by Statistics Netherlands

- **Examples of items**

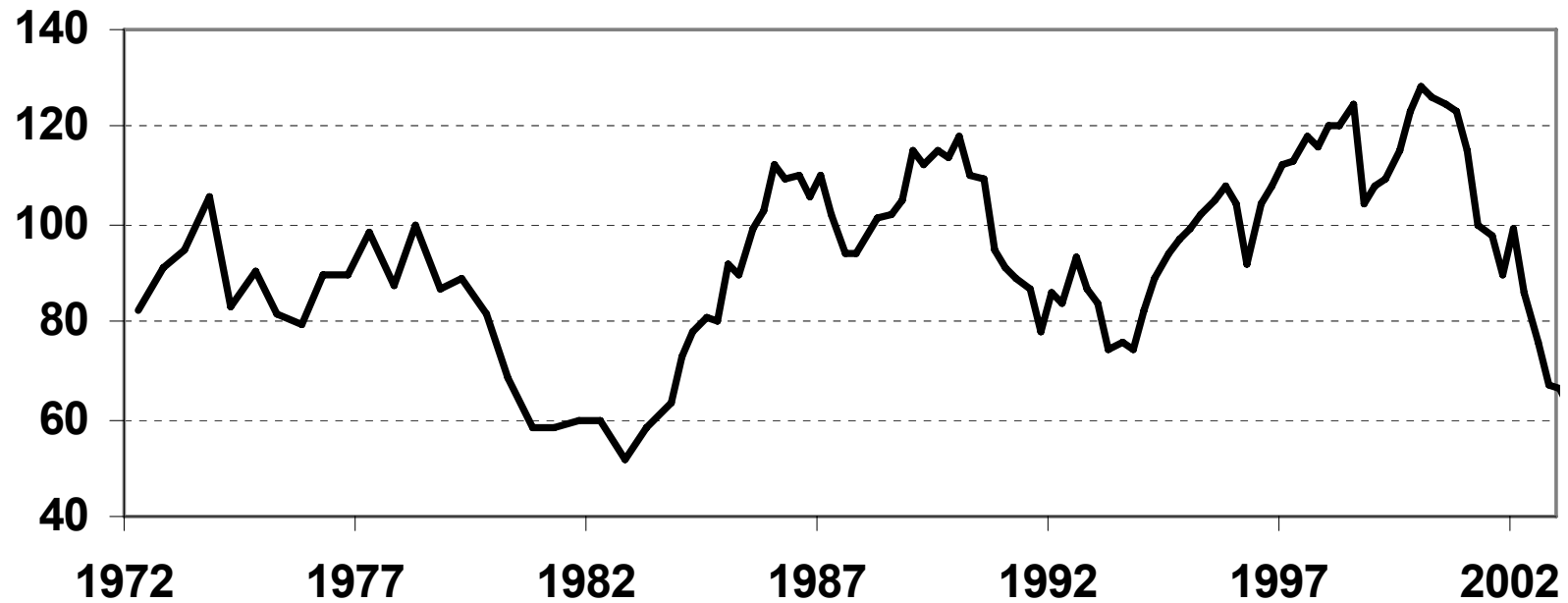
Do you feel that, during the past twelve months the economic situation of the country has become better, has worsened, or has remained the same?

What do you expect about the financial situation of your household? Will it become better in the next twelve months, worsen, or remain the same?



# Variables

Trend in Consumer Confidence



# Results for 1st childbirth

- Effects of control variables

Cohort 1950-54	refcat
Cohort 1955-59	-.13*
Cohort 1960-64	-.27*
Cohort 1965-69	-.30*
Cohort 1970-74	-.42*
Cohort 1975-79	-.30*
Educational level	-.23*
Educational level parents	-.05*

# Results for 1st childbirth

- Effects of control variables

Parents non-religious	refcat
Parents Roman Catholic	.06
Parents Reformed	.16*
Parents Re-reformed	.26*
Parents Muslim	.67*
Parents Other Faith	.28*
Living with a partner	2.32*
Born/raised abroad	.22*

# Results for 1st childbirth

- **Effects Consumer Confidence**

**Model 1: main effect only**

**Consumer Confidence .0026\***

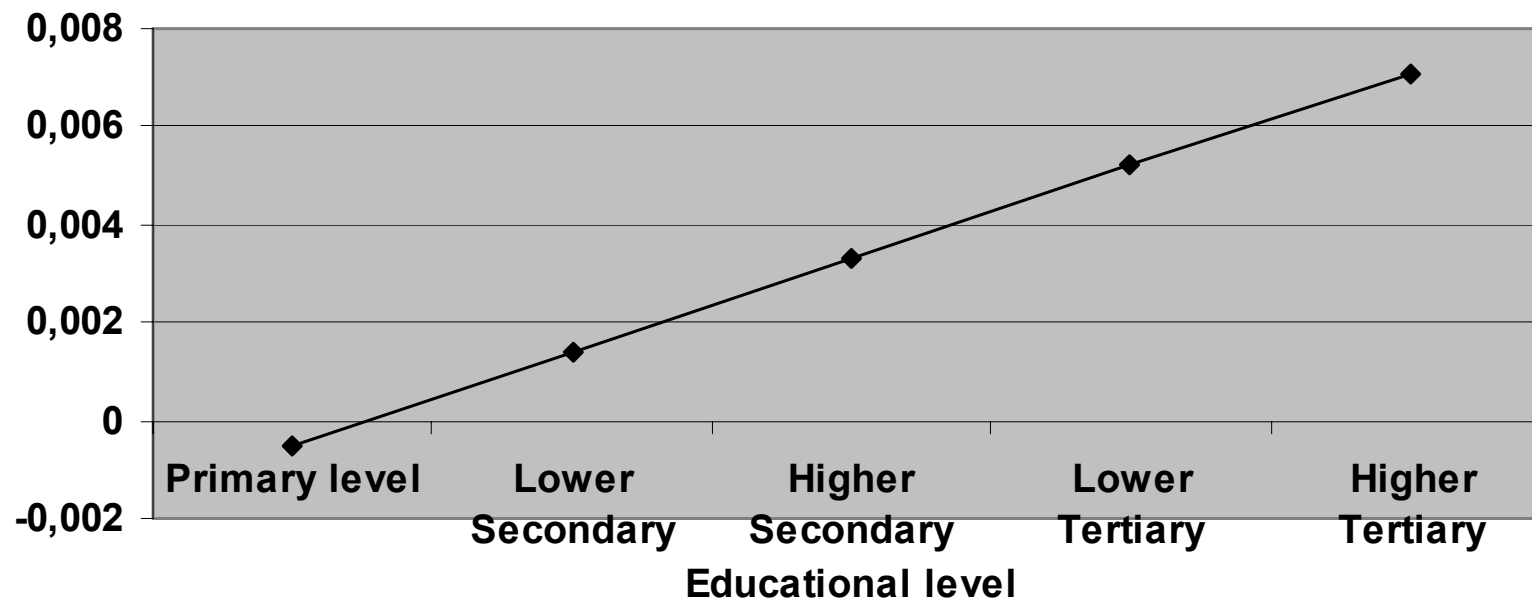
**Model 2: main effect + interaction with education**

**Consumer Confidence .0033\***

**CC \* Educational level .0019\***

# Results for 1st childbirth

## Effect of Consumer Confidence by Educational Level



# Results for 1st childbirth

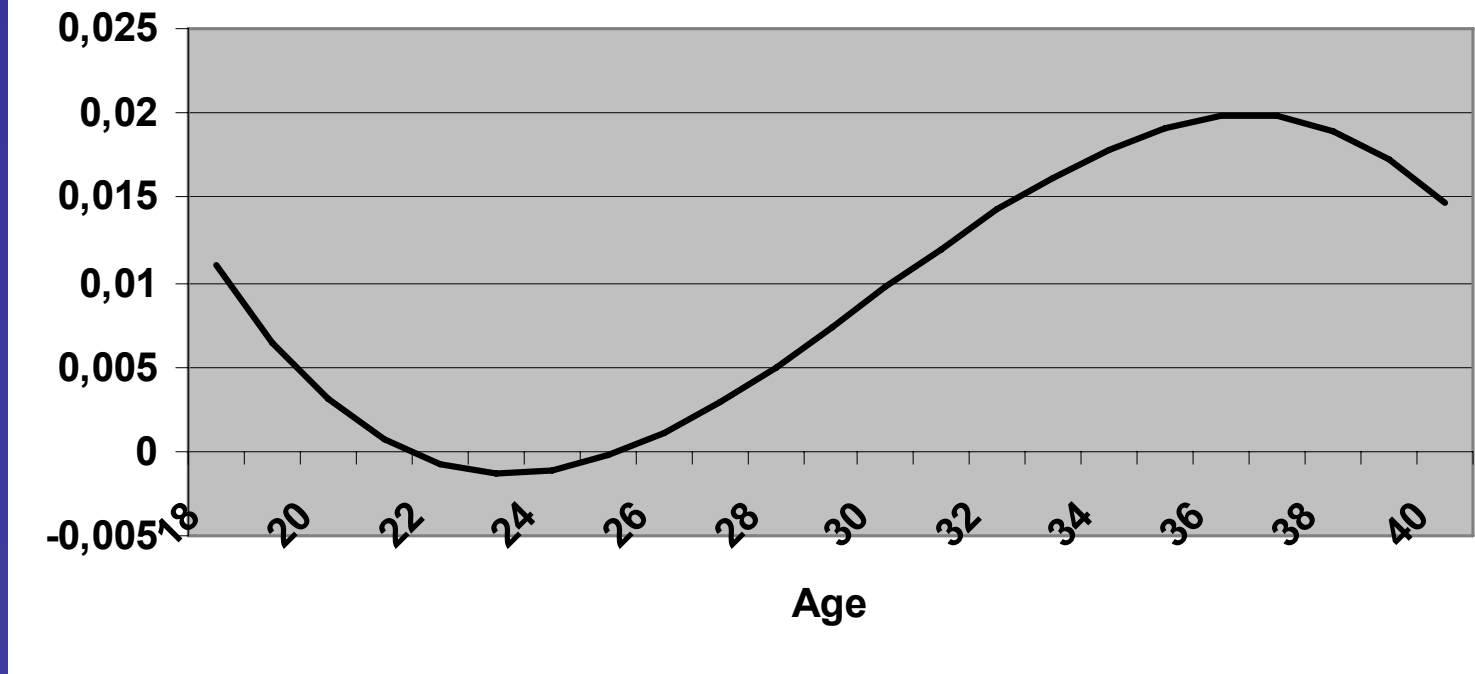
- Effects Consumer Confidence

Model 3: main effect + interaction with education +  
interactions with age

Consumer Confidence	.0110*
CC * Educational level	.0018*
CC * (time/12)	-.0052*
CC * (time/12) * (time/12) /10	.0064*
CC * (time/12) * (time/12) * (time/12) / 100	-.0018*

# Results for 1st childbirth

## Age-Varying Effect of Consumer Confidence



# Results for higher parities

- **Effects Consumer Confidence**

**None of the main or interaction effects with Consumer Confidence are significant**

# Conclusions (I)

- **Consumer Confidence influences entry into parenthood, but does not influence progression to higher parities → Consumer Confidence seems to influence tempo rather than quantum**
- **Higher educated are more strongly influenced by shifts in Consumer Confidence than low educated → Given their high human capital and the fast depreciation of this human capital highly educated women may be particularly unwilling to risk losing touch with the labour market during economic bad times and therefore postpone**

# Conclusions (II)

- **Consumer Confidence influences entry into parenthood more strongly after age 30 than before age 30 → A selection process may be operative; women who get their first child early may have a strong motherhood motivation and be unwilling to take economic circumstances into account**

# Conclusions (III)

- This research makes clear that the economic mood influences entry into parenthood in the Netherlands. An interesting issue for further research is whether this is true in other countries as well. A hypothesis that could be tested is, for instance, that welfare state regimes buffer the impact of economic swings. The impact of economic mood swings could be stronger in countries with a weak welfare state than in countries with a strong welfare state.

