

International Pairfam Conference, 12-13 September 2012, University of Bremen  
Fertility over the Life Course

## Geographical context and first birth in Britain

Francesca Fiori, Elspeth Graham & Zhiqiang Feng

ESRC Centre for Population Change  
University of St Andrews



### Background

- **Spatial variations** in **fertility** have been noted within several European countries, including **Britain**.
- Differences
  - between **urban/rural** areas,
  - and by **settlement size**,show similar patterns of **lower fertility** in cities and **higher fertility** in **less densely populated settlements** (*Kulu 2011; Kulu, Vikat & Andersson 2007*)
- Further, relatively **high fertility** has been found around the **periphery** of large cities (*Kulu & Boyle 2009; Kulu, Boyle & Andersson 2009; Boyle, Graham & Feng 2007*)
- While such variations may suggest the existence of **contextual effects**, a fuller understanding of how **'context'** is understood and measured is required.

## Outline of the presentation

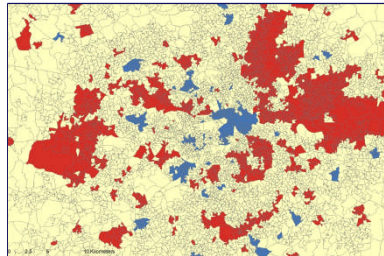
- Definition of context
- Research questions
- Data and methods
- Main findings
- Discussion and conclusion

## A definition of context

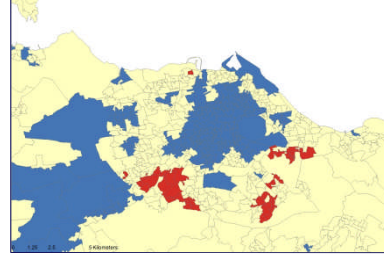
- **Sub-national variations** in fertility are typically identified at a relatively large spatial scale and sometimes ascribed to the influence of 'culture' (e.g. Lesthaeghe and Neels, 2002).
  - Use of **standard geographical boundaries**
  - Need to question what is **meant** by 'culture'
- We focus on **local fertility contexts**:
  - **Geographically** defined, but starting from **small spatial units**
  - Capturing the **immediate social/fertility context** in which an individual lives
  - The local social/fertility context may influence fertility behaviour through mechanisms of **social learning**

## Local clusters of fertility

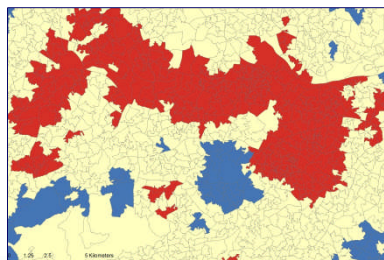
General Fertility Rate: G\* Statistic (90% sig.)



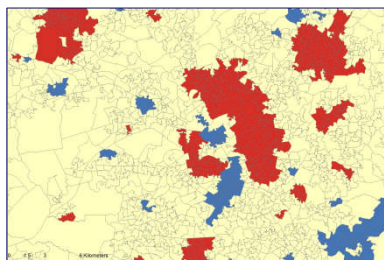
London



Edinburgh



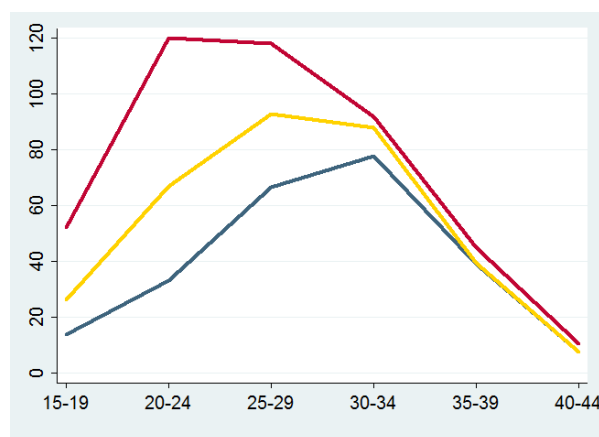
Birmingham



Greater Manchester

## Local clusters of fertility: meaningful geographies

Age-Specific Fertility Rates, by GFR



## Research questions

- Do **local social/fertility contexts** influence the timing of **first births**?
- Do differences persist after accounting for:
  - **socio-demographic characteristics** of individuals and households?
  - **housing** characteristics?
  - selective **mobility**/residential relocation?

## Data

- **BHPS: British Household Panel Survey, 1999-2008**
  - $\approx$  3850 childless women born 1954-1992, aged 16-45 for some time between 1999-2008
  - 665 conceptions leading to first birth
- Classification of **local fertility contexts** based on a geographical cluster analysis of **vital registration data** at Lower Super Output Areas level

## Method

- Event-history analysis of time to conception (leading to first birth)  
(piece-wise constant exponential model)

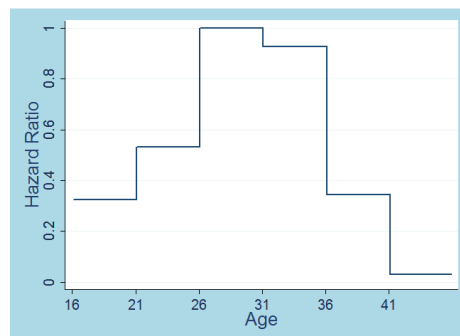
- Stepwise modelling strategy:

1<sup>st</sup> Birth hazard by local fertility context.

Controls added for:

- 1) Socio-demographic characteristics
- 2) Housing characteristics
- 3) Migrant status (selective mobility) and expectancies
- 4) Social exchanges

## The local fertility context



### Hazard Ratio by Age

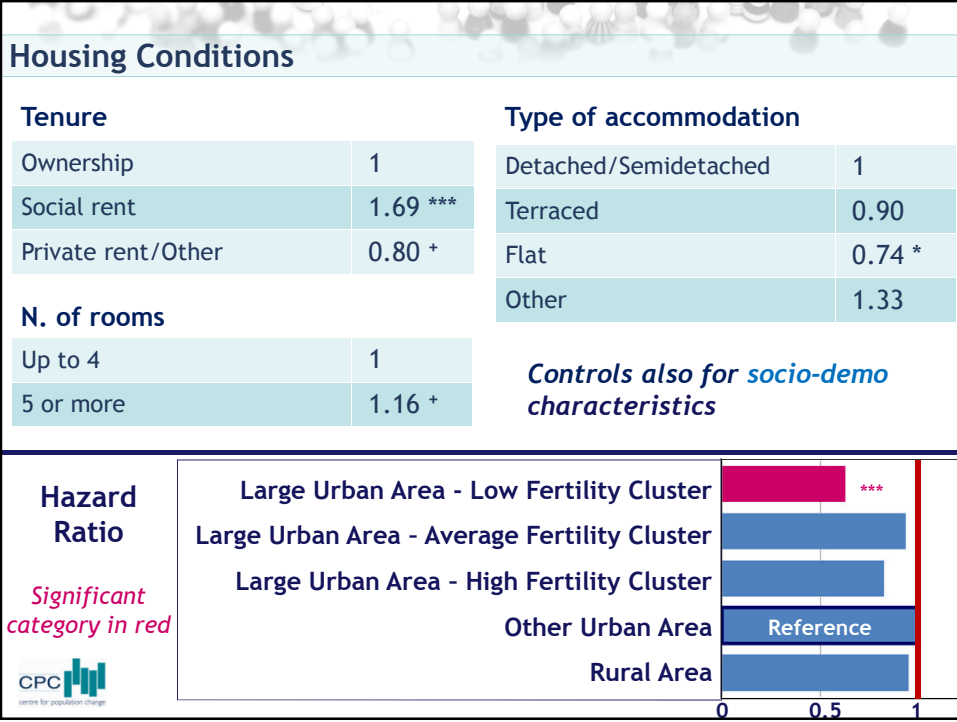
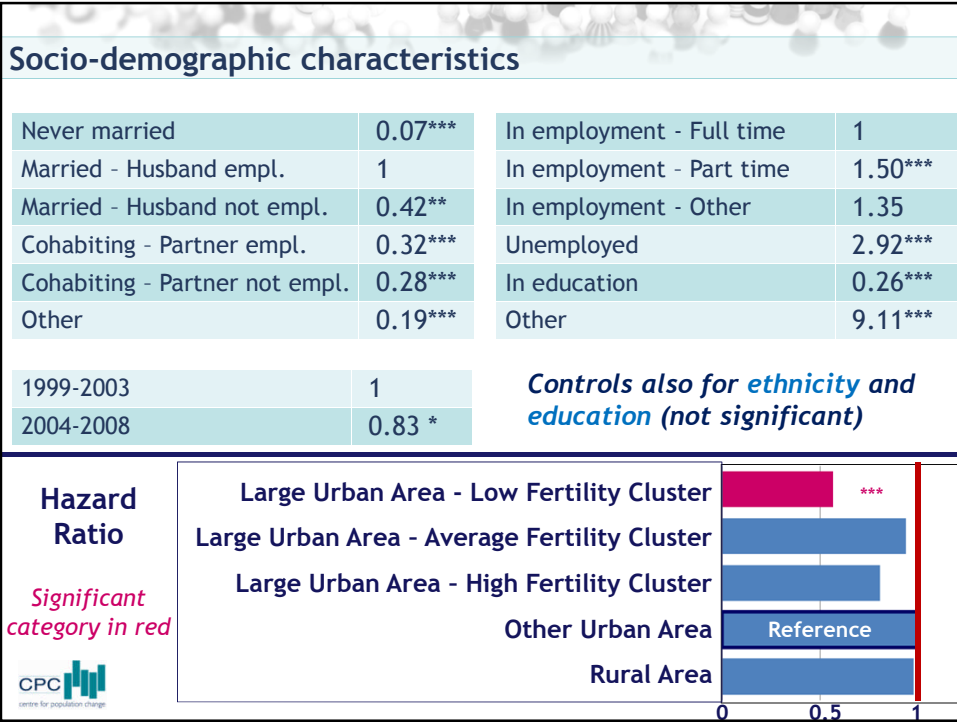
(months since respondent turned 16)

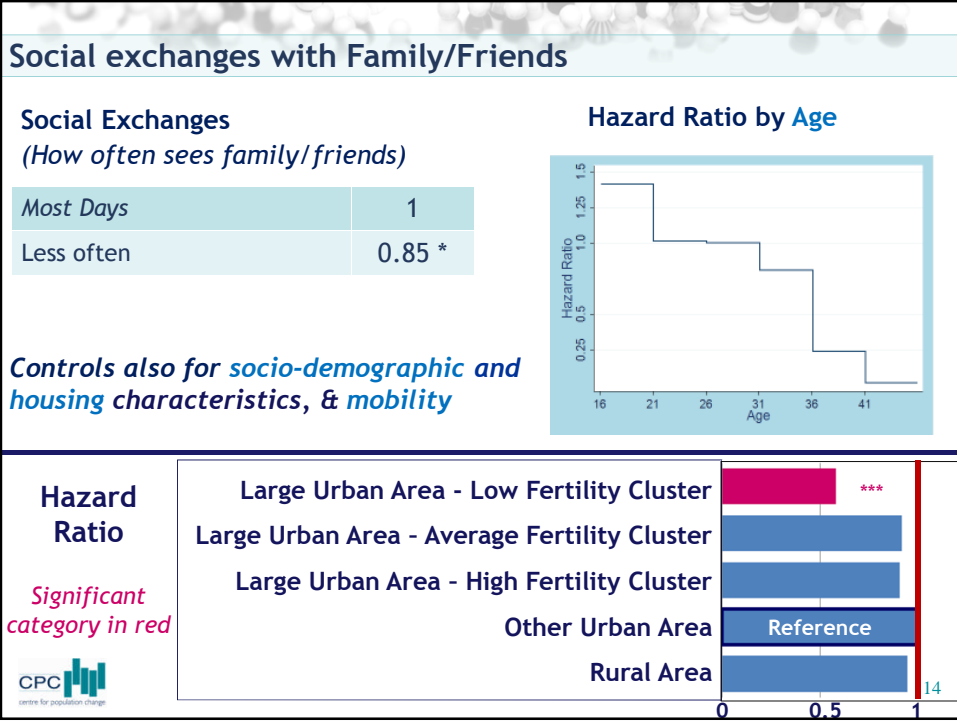
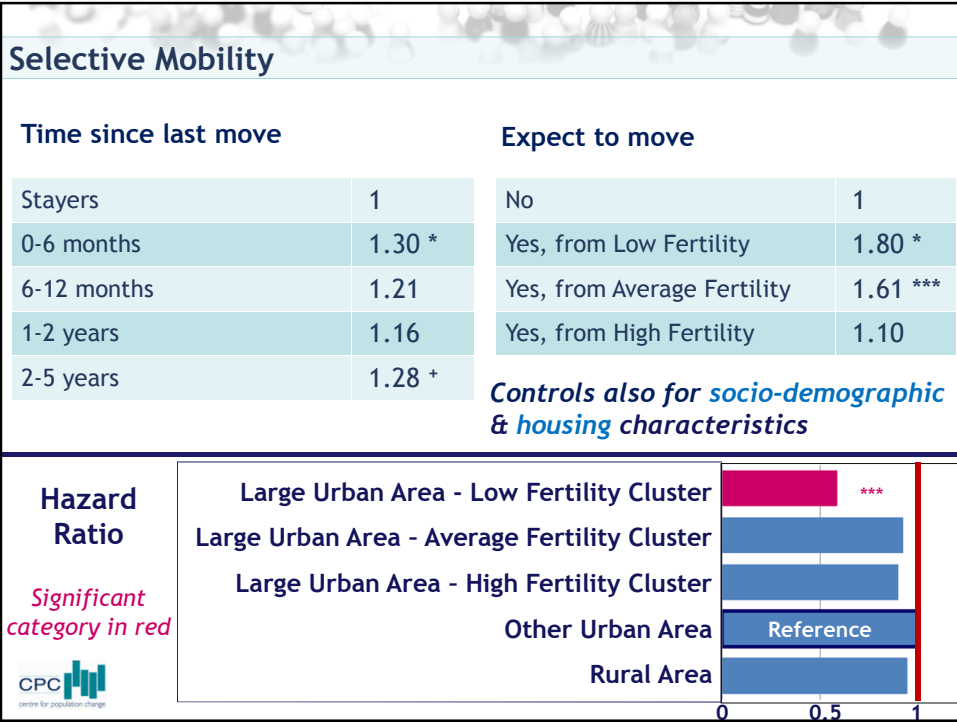
### Hazard Ratio

Significant category in red

Large Urban Area - Low Fertility Cluster	0.35	***
Large Urban Area - Average Fertility Cluster	0.75	
Large Urban Area - High Fertility Cluster	0.65	
Other Urban Area	1.0	Reference
Rural Area	1.0	

0 0.5 1





## Conclusions\1

- Differences in timing of 1st birth **by local fertility context**:
  - women living in **low fertility areas** in **large cities** are significantly more likely to **delay first birth**.
- Women's (and their partners') **socio-economic characteristics**, but also **housing** characteristics are significantly associated with timing of first birth.
- Further, **selective mobility** also contributes to the spatial clustering of fertility.

## Conclusions\2

- Notably, neither individual traits nor housing nor mobility **fully account** for **observed differences** in timing of 1<sup>st</sup> birth.
- Even accounting for more active **social exchanges**, **local fertility context** remains significant for those living in below average fertility areas in large cities.
- Need to distinguish areas **adjacent to large cities**, to determine whether this local fertility context is also associated with the timing of first birth.





**Thanks for your attention**

*e-mail to: [ff20@st-andrews.ac.uk](mailto:ff20@st-andrews.ac.uk)*