Internal and international migration and differences in birth rates across the UK

# Aims and objectives

The aim is to carry out an observational, descriptive study using secondary data in order to answer the question: Does population structure explain differences in trends in numbers of new babies between regions?

Study aims

The aim of the study is to identify whether the differences in number of new babies between regions is due entirely to internal and international migration effects on population structure or whether its due to something else.

# Brief Background

Replacement fertility rates and population structure

The replacement fertility rate is defined as the “level of fertility at which a population exactly replaces itself from one generation to the next” (Craig, 1994).The fertility rate of countries in the developed world is estimated to be at 2.3. The literature has identified that social, political, cultural and economic factors influence fertility rates (Wang and Sun, 2016).Other theories that are thought to be constant drivers in low fertility rates are mortality rates and migration (Sánchez-Barricarte, 2017, Andersson, 2004). Europe has experienced a demographic transition notably in the 1960s a downward trend in fertility rates with many countries falling below their replacement fertility rates. Countries such as Ireland and Norway are the exception to this trend and the literature has identified that once a country falls below the replacement fertility rate they don’t return to it (Goldstein et al., 2009).

Geographic differences in birth rates in the UK

Geographic variations in fertility in the UK have been observed with higher fertility rates in rural areas, smaller settlements and city suburbs. Influences on higher rates within these observed regions are housing conditions, socio-economic characteristics of individuals and residential relocation. The process of social learning has been identified as a factor that influences individuals reproductive behaviour (Fiori et al., 2014). Social interaction theory and diffusion models have been used to explain how socioeconomic development levels within society can go on to affect individual fertility (Entwisle et al., 1986).

Gap in the literature

The literature has identified several drivers to low fertility rates but it is still unclear whether migration patterns are a pathway to low fertility. This study aims to address this gap by identifying differences in birth rates across different regions in the UK and revealing the masked underlying drivers from internal and international migration patterns and their effect on population structure.

# Methodology

Research design

Descriptive analysis of secondary data

Research population and covariates

Independent variable: internal and international migration

Dependant variable: number of new babies born

Covariates: age, sex, expected number of babies born with a region, actual number of babies born, death rates.

Link different data sources for data analysis.

# Data Analysis

Statistical analysis

R studio will be used for statistical analysis. Data will be interpreted and inferences drawn from statistical analysis. An example is linking data on regional population structure with fertility schedules in England and Whales. Initially several codes will be developed for exploratory analysis before generating codes that will be used for dissertation results analysis.

# Training and Conferences

Planned Training

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| --- | --- | --- | --- |
| **Course** | **Date/Deadline** | **Organiser** | **Venue** |
| Using Excel for data management and analysis | 20 March | Glasgow Q step center | Lab M, Adam Smith building |
| What is R | 30 April | Glasgow Q step center | Lab 117, Maths and Stats building |
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Conference presentation applications

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| --- | --- | --- | --- |
| Conference | Abstract submission Deadline | Venue | Date |
| [Autonomy in times of turmoil: What to make of the Social?](http://thesocialsciences.com/2018-conference/special-focus) | 25th April 2018 | Grenada, Spain | 25-27th July |
| [EU public health conference](https://ephconference.eu/ljubljana-2018-abstract-submission-78) | 1st May | Ljubljana, Slovenia | 28th-1st December |
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# Timetable

January/February

* Research proposal Deadline
* Literature review (Get feedback on 1st draft)
* Submit abstracts for conference presentations and apply for funding

March

* Amend Lit review (from Draft feedback)
* Introduction
* Methodology
* Submit abstracts for conference presentations and apply for funding

April

* Amend introduction and methodology (from draft feedback)
* Results (Generate)-Make sure I book enough meetings for anything I’m not sure of.

May

* Results (analysis)

June

* Amend results (draft from analysis)
* Discussion

July

* Finish write up and make amendments
* Write up paper for journal?
* Prepare, attend and present at a conference

August

* Last Minute changes and hand in dissertation!
* Prepare, attend and present at a conference

# References

1. Andersson, G. 2004. Childbearing after Migration: Fertility Patterns of Foreign-born Women in Sweden1. *International Migration Review,* 38**,** 747-774.
2. Craig, J. 1994. Replacement level fertility and future population growth. *Population trends,* 78**,** 20-2.
3. Entwisle, B., Mason, W. M. & Hermalin, A. I. 1986. The multilevel dependence of contraceptive use on socioeconomic development and family planning program strength. *Demography,* 23**,** 199-216.
4. Fiori, F., Graham, E. & Feng, Z. 2014. Geographical variations in fertility and transition to second and third birth in Britain. *Advances in Life Course Research,* 21**,** 149-167.
5. Goldstein, J. R., Sobotka, T. & Jasilioniene, A. 2009. The End of “Lowest-Low” Fertility? *Population and Development Review,* 35**,** 663-699.
6. Sánchez-Barricarte, J. J. 2017. Mortality–fertility synergies during the demographic transition in the developed world. *Population Studies,* 71**,** 155-170.
7. Wang, Q. & Sun, X. 2016. The Role of Socio-political and Economic Factors in Fertility Decline: A Cross-country Analysis. *World Development,* 87**,** 360-370.

COMMENTS: Overall, a good proposal although it needed more information on the statistical analysis. You will need to meet your supervisor soon to flesh this out – and the training you have identified will help (well done for showing this initiative). I look forward to reading the resultant dissertation.