

Lifespan variation and life expectancy in UK nations

Introduction

This short notebook will look at how average age of death and lifespan variation have changed in UK nations over the 20th century. The aim is to make what's meant by the following statement clearer:

[Our aim is] That mortality trends improve (and inequalities narrow), such that there is (at least) 'catch up' to the previous trends. This would involve improving the rate of improvement back to the rapid improvement rates seen (for example) during the 2000s and the rates of improvement in inequalities seen between the 1950s and the 1970s.

Let's just look at England/Wales, and Scotland, (as Northern Ireland is complicated by the Troubles and has a smaller population).

Measures

- Improvements
 - Median age of death
 - Life expectancy
- Inequalities
 - 80-20 interval in age of death

The 80-20 interval is the difference in years of age between the age by which 20% of deaths have occurred, and the age by which 80% of deaths have occurred. I felt this was easier to convey than (say) variance in age of death.

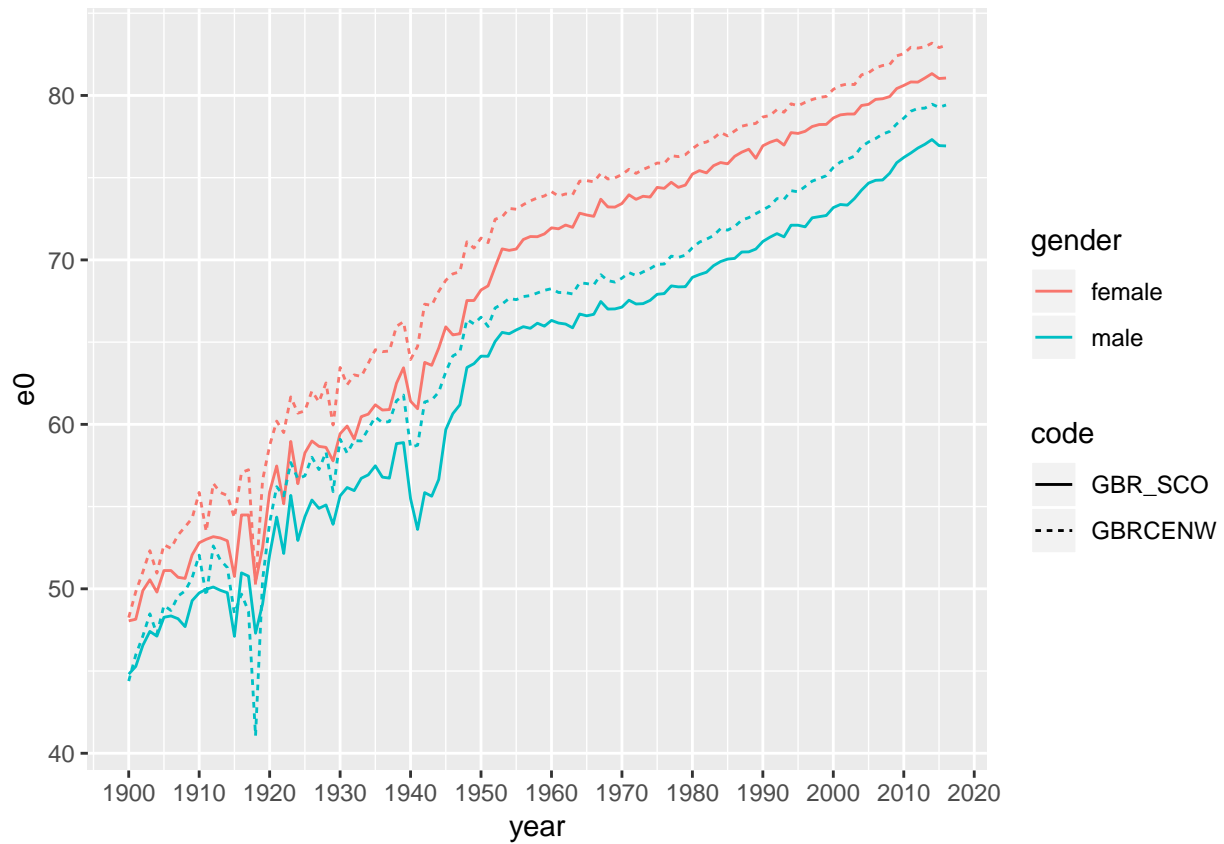
Analysis

Data Prep

Load data

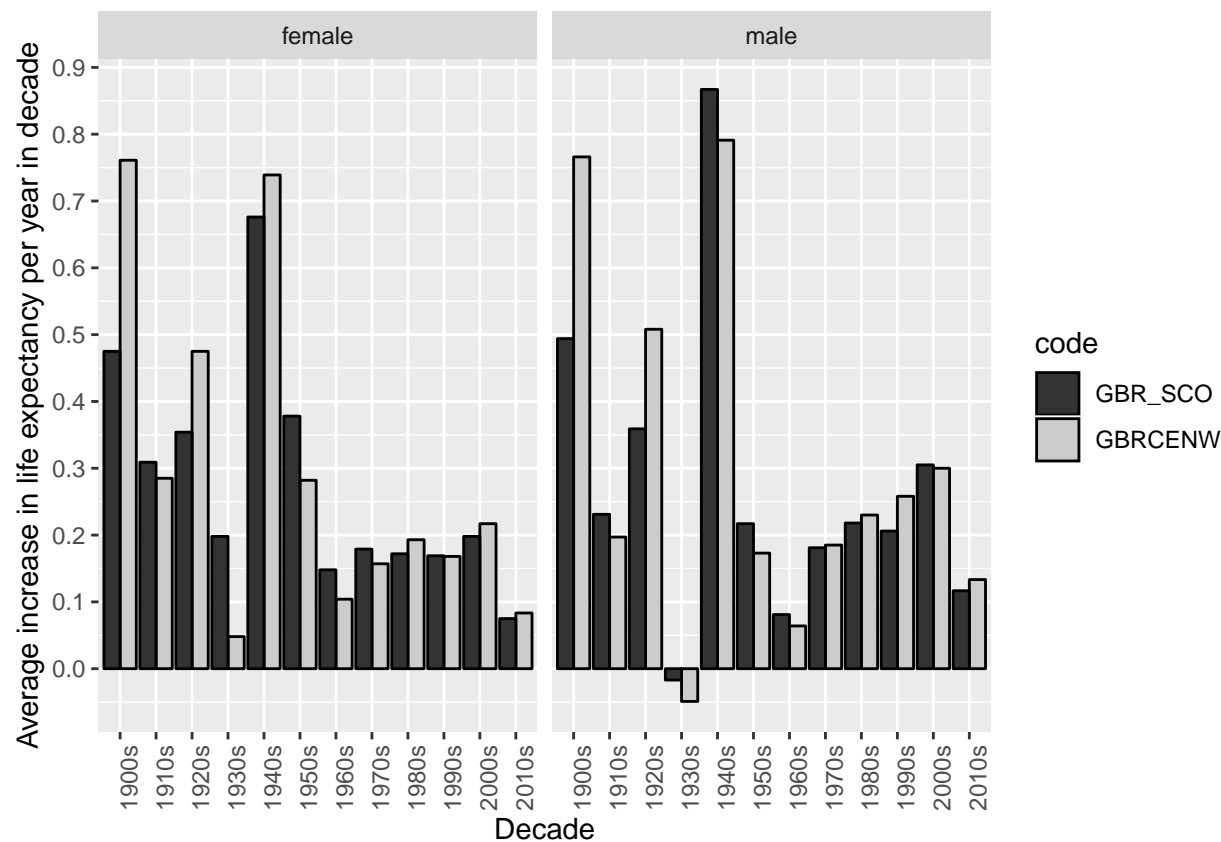
Results

Life expectancy



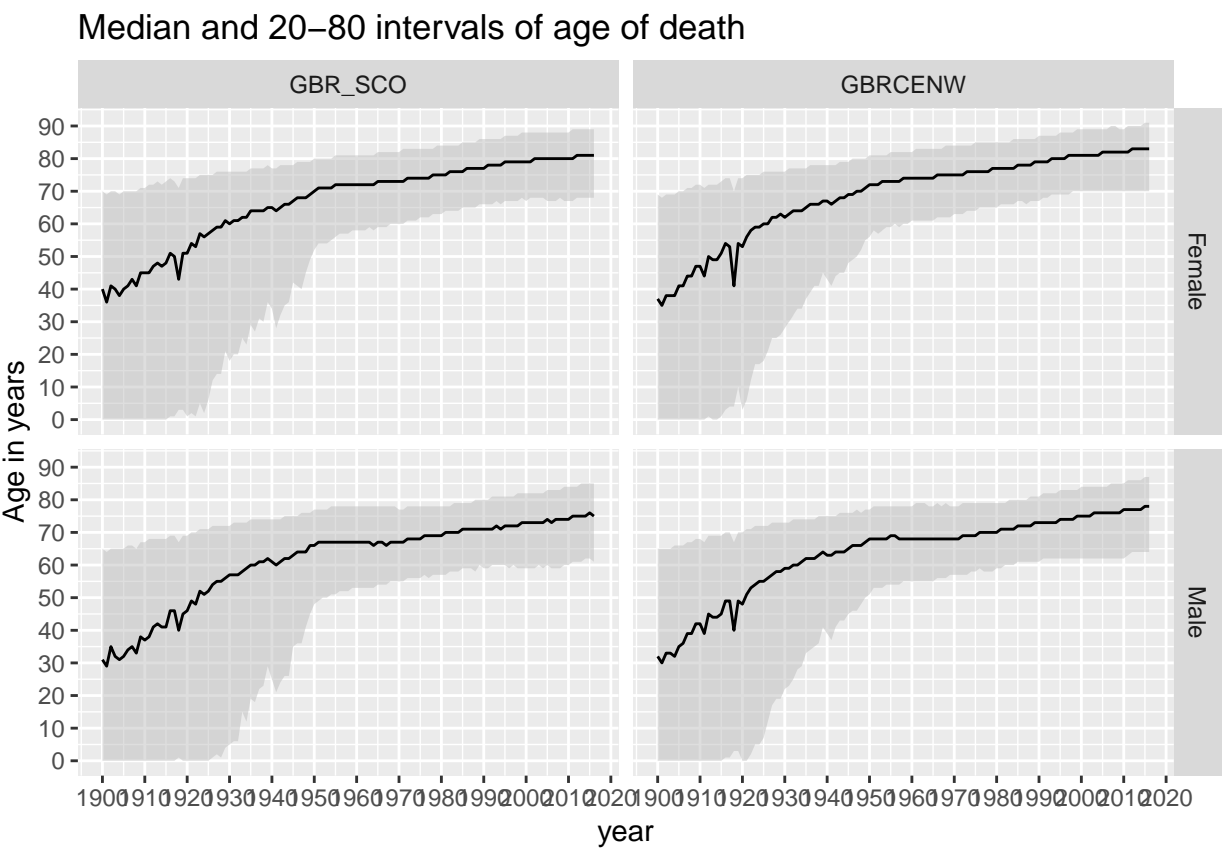
What was the average rate of improvement in e0 by decade?

Figures



Lifespan variation

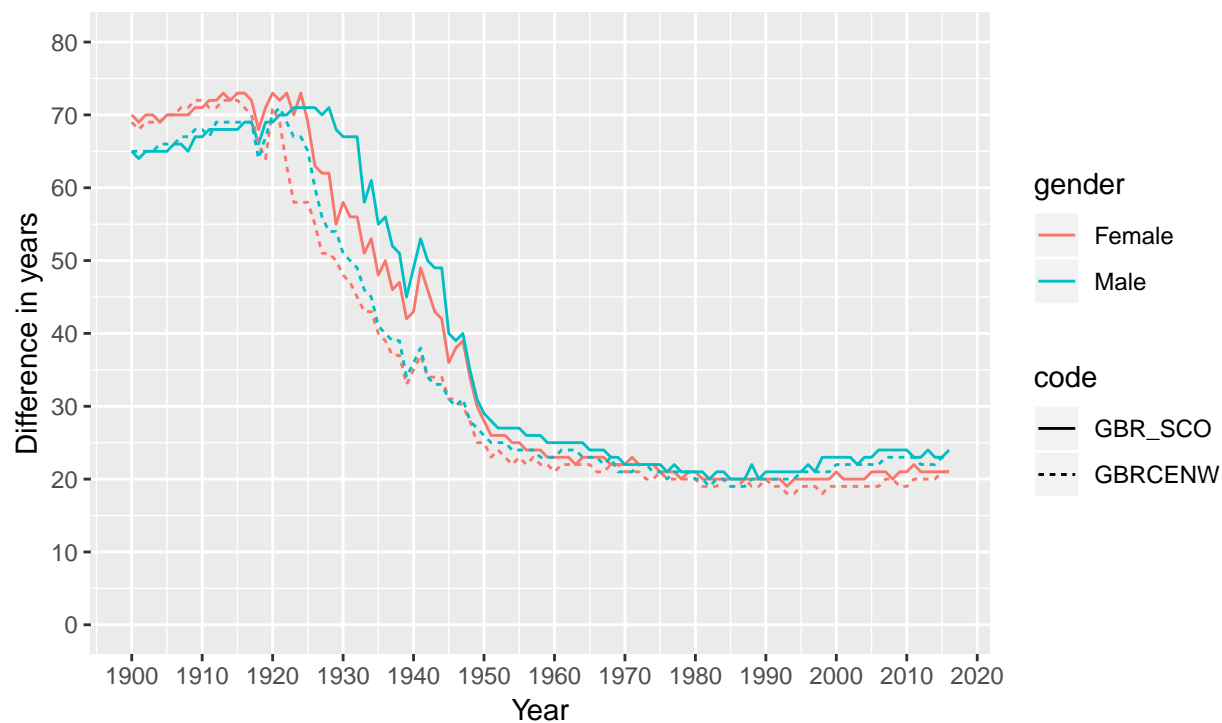
Figure



20-80 interval over time

80–20 interval in ages of death

Difference between age by which 20% of deaths have occurred and age by which 80% of deaths have occurred



Conclusions

We should aim for 80-20 intervals of 'only' around 20 years, and average annual live expectancy improvements of at least 0.15 years/year averaged over ten years.