



# **Have geographical inequalities in health across Europe increased during the period 1991 to 2008?**

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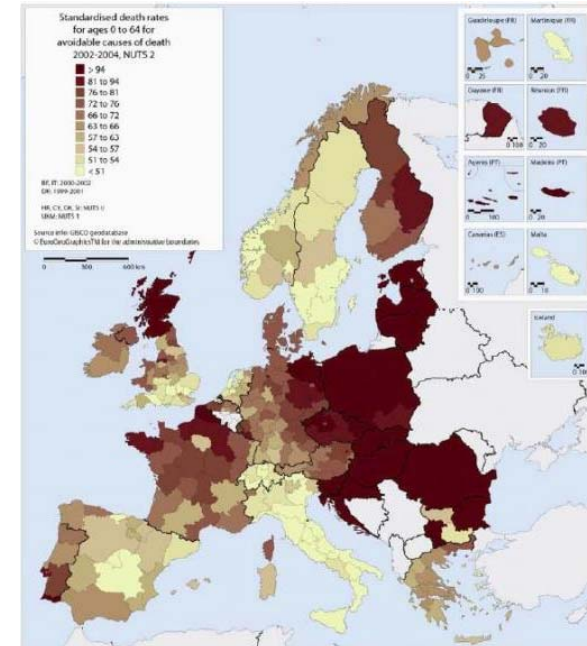
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# Geographical Inequalities in Health

- Geographical health disparities at **multiple scales**
- UK, New Zealand, Australia etc: regional inequalities risen c. 50% past 3 decades (e.g. Pearce & Dorling 2006; Thomas *et al.* 2010).
- Only geographical work in EU - 1990-94, 160 region (Shaw *et al.* 2000)
  - mortality rate between most and least healthy grew by 11%
- Examining **‘socio-spatial’** trends helps understand **social, economic, environmental & political antecedents**



Source: [www.eurohealthnet.eu](http://www.eurohealthnet.eu)

# Research Questions



- 1) To what extent are changes in life expectancy in the EU geographically patterned?
- 2) Have geographical inequalities in life expectancy decreased?
- 3) Have socioeconomic inequalities in life expectancy followed the same trajectory?

# Methods



## A. Geographical Units

Aim to maximise geographical *and* temporal scope:

- **NUTS2** (population c. 2.1m)
- analysed group of **129 regions** in **13 countries** with 1991-2008 data (2008 pop = 272m)



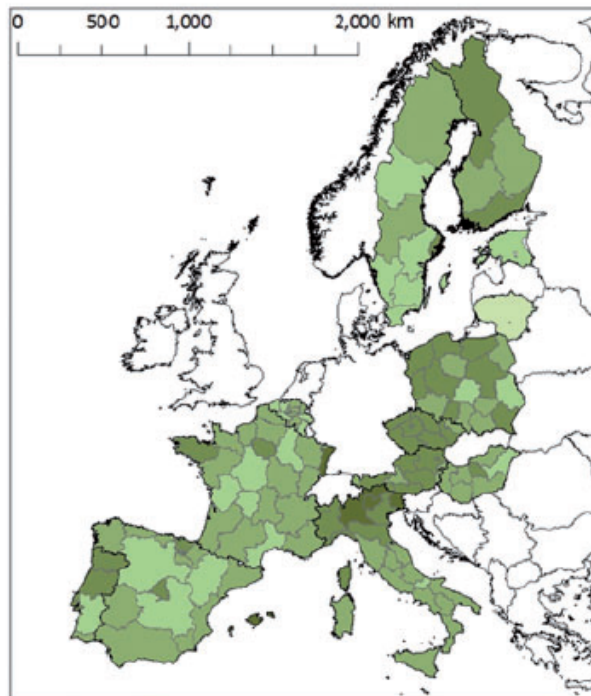
## B. Data

- Mean **household income** (Purchasing Power Consumption Standard)
- Sex-specific **life expectancies**
- Population counts

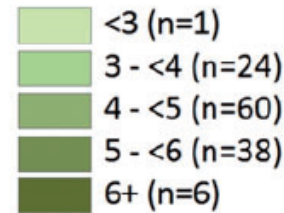


## C. Analyses

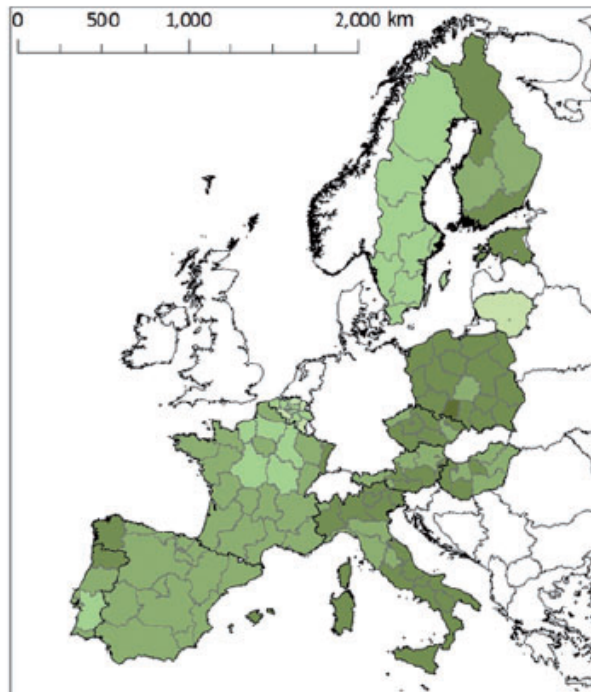
- Analysed i) **geographical** and ii) **socioeconomic** inequalities in life expectancy over time
- Calculated population-weighted average life expectancy for regions sorted by i) life expectancy ii) household income



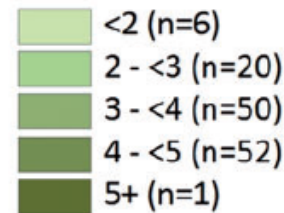
(a) Male life expectancy increase (years)

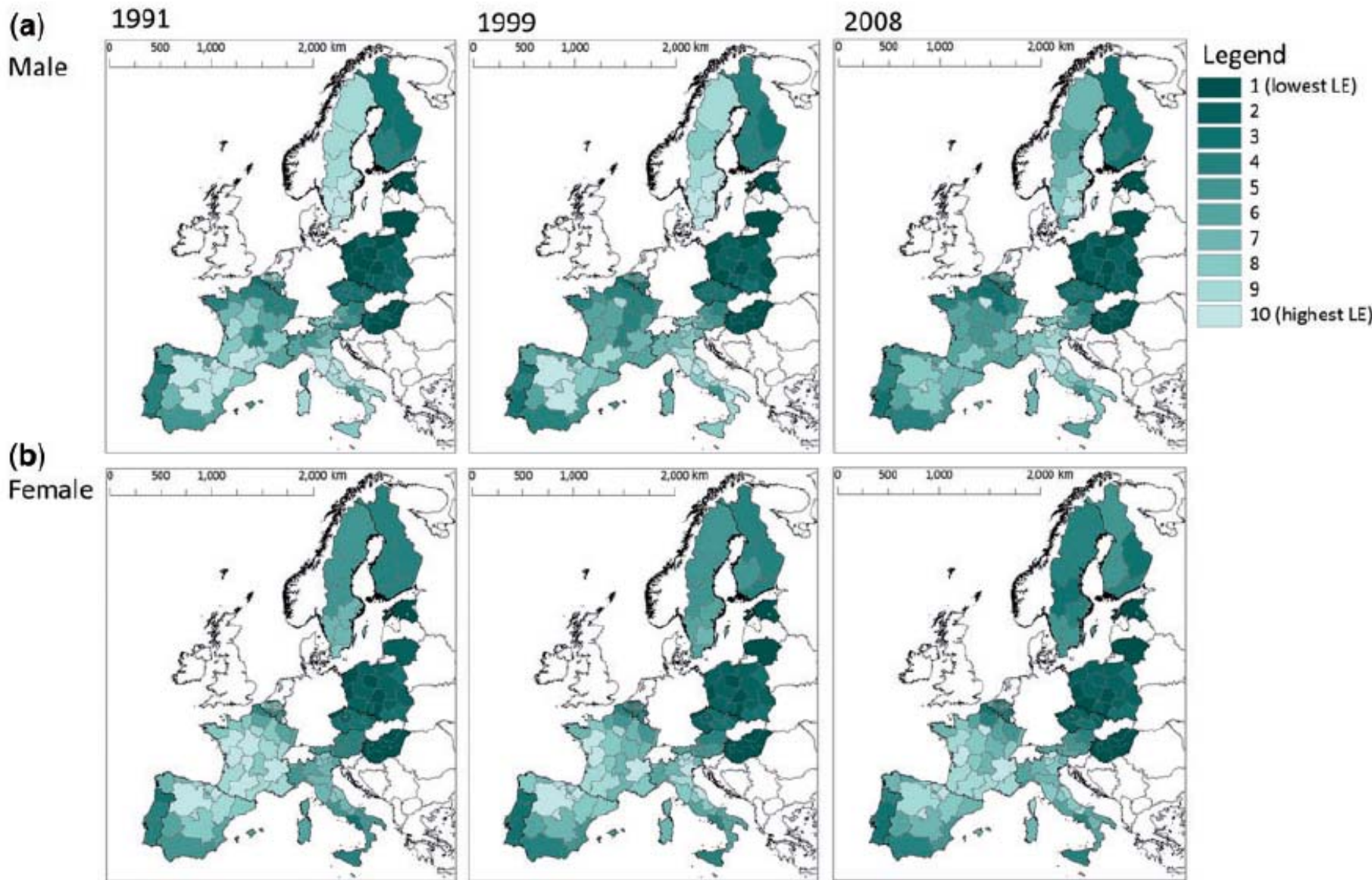


## Life expectancy change between 1991 and 2008 for EU NUTS2 regions



(b) Female life expectancy increase (years)

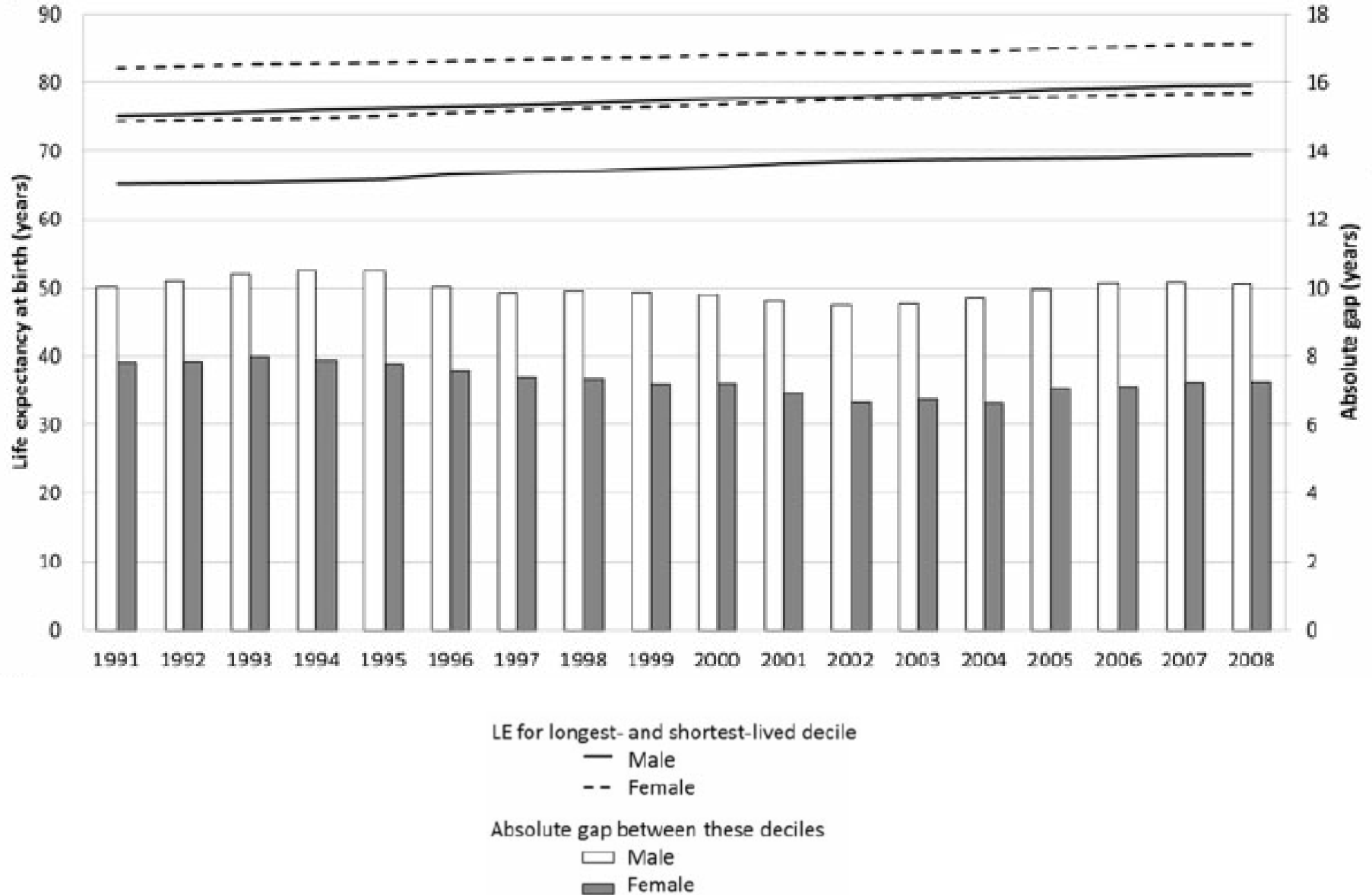


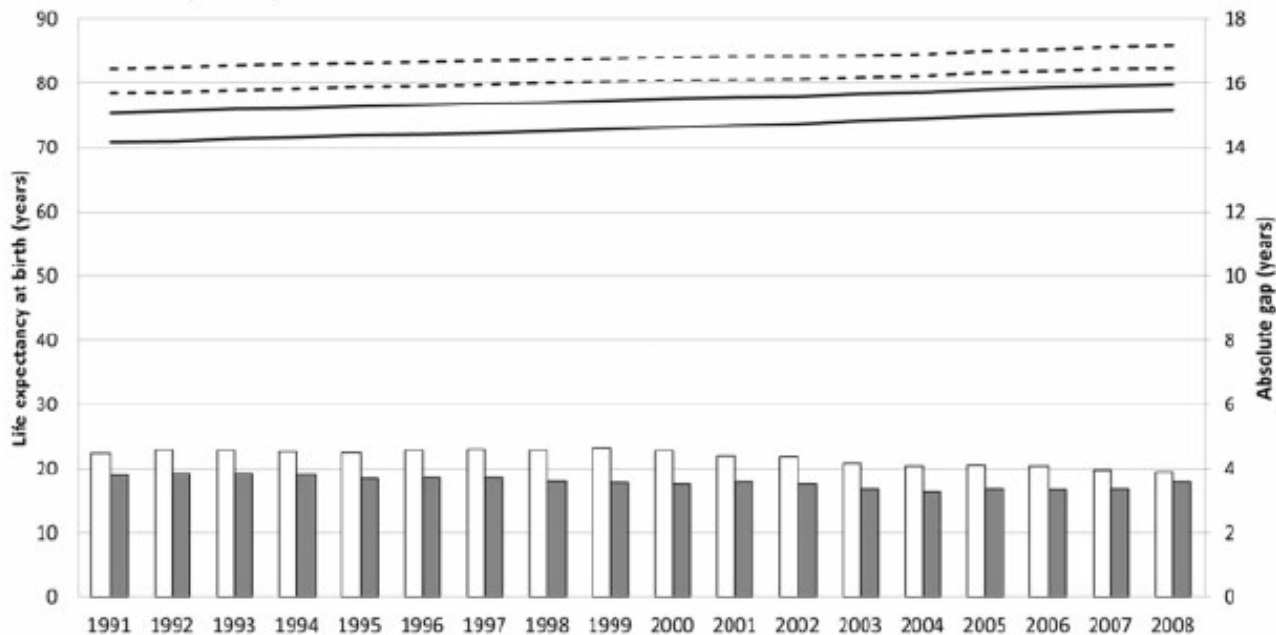


NUTS2 regions grouped by life expectancy deciles for (a) males and (b) females in 1991, 1999 and 2008

# Average life expectancy at birth for regions in the shortest- and longest-lived deciles, 1991 & 2008, & the absolute gap between them

**(a)** All regions



**(b)****Western European regions**

Average life expectancy at birth for regions in the shortest- and longest-lived deciles, 1991 & 2008, & the absolute gap between them

**(c)****Eastern European regions**

LE for longest- and shortest-lived decile

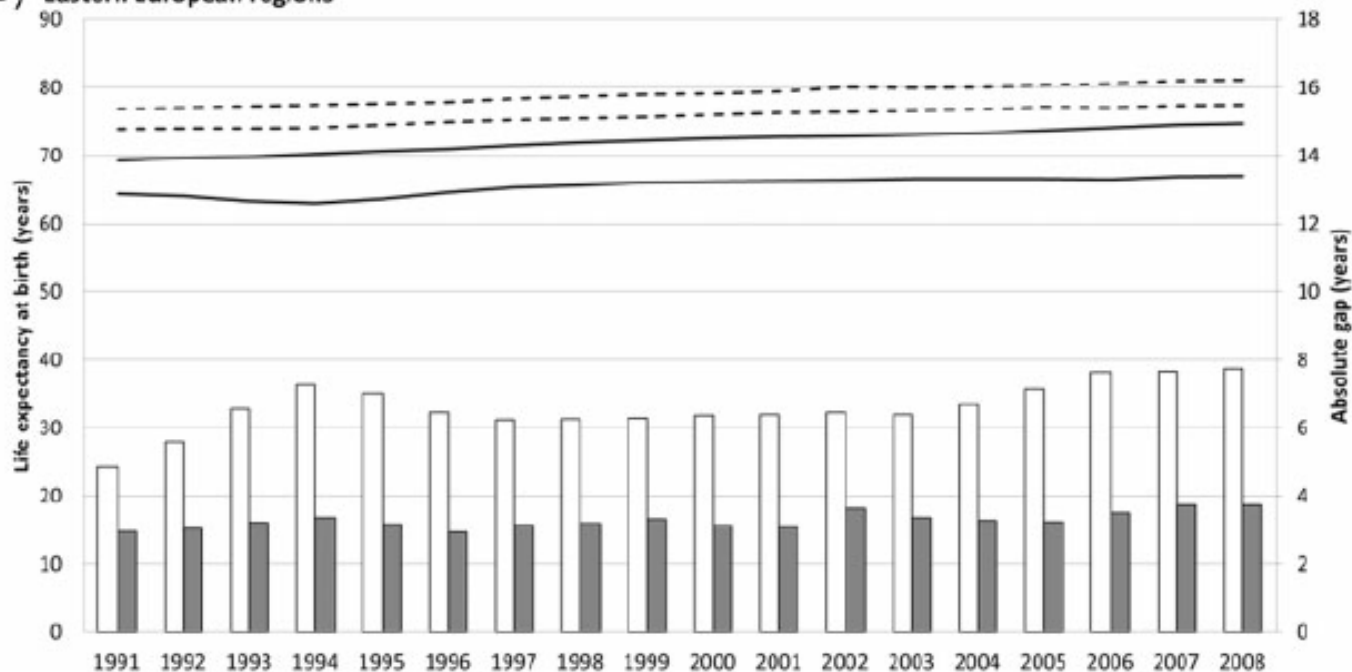
— Male

- - Female

Absolute gap between these deciles

□ Male

■ Female





# Discussion



- First study of health inequalities between **sub-national regions** of EU since 2004 expansion
- Over **long time period** (18 years)

## 1. Geographical inequalities

- 1991-2008: no evidence of narrowing; relatively consistent over time
- Increased for Eastern European males; radical social & economic reforms

## 2. Socioeconomic inequalities

- Life expectancy increased in richest & poorest regions
- For all regions – absolute gap remained stable
- Increased gap for Eastern European males

## Limitations

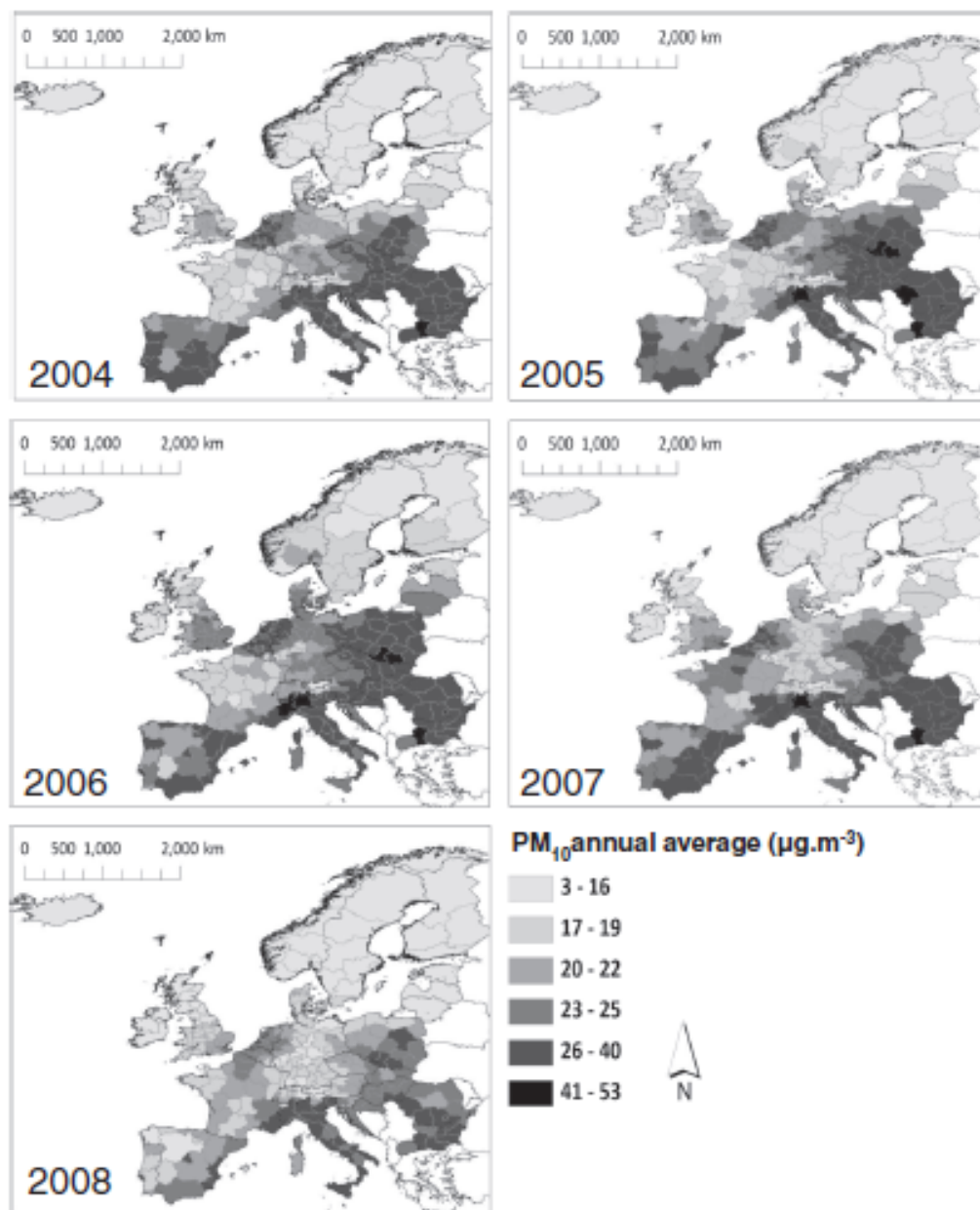
Comparability (13 national administrations); NUTS2 population variations; different no. of regions in each country; one measure of SES; no cause-specific data



# Next steps

- ERC project examining role of the environment in mediating health inequalities in Europe
  - longitudinal analyses
  - changing environments over time
- Current themes:
  - financial crisis & health inequalities
  - environmental justice
  - urban built environment
  - mobility & migration
  - lifecourse perspectives & environmental epidemiology





**Figure 1** Regional population-weighted average concentrations of annual average PM<sub>10</sub> ( $\mu\text{g}\cdot\text{m}^{-3}$ ) between 2004 and 2008. Data sources: NUTS2 and country boundary data: GISCO [42]; PM<sub>10</sub>: derived from EEA AirBase data [26].

*Source: International Journal of Health Geographics. 12:34.*

# Financial crisis & health inequalities

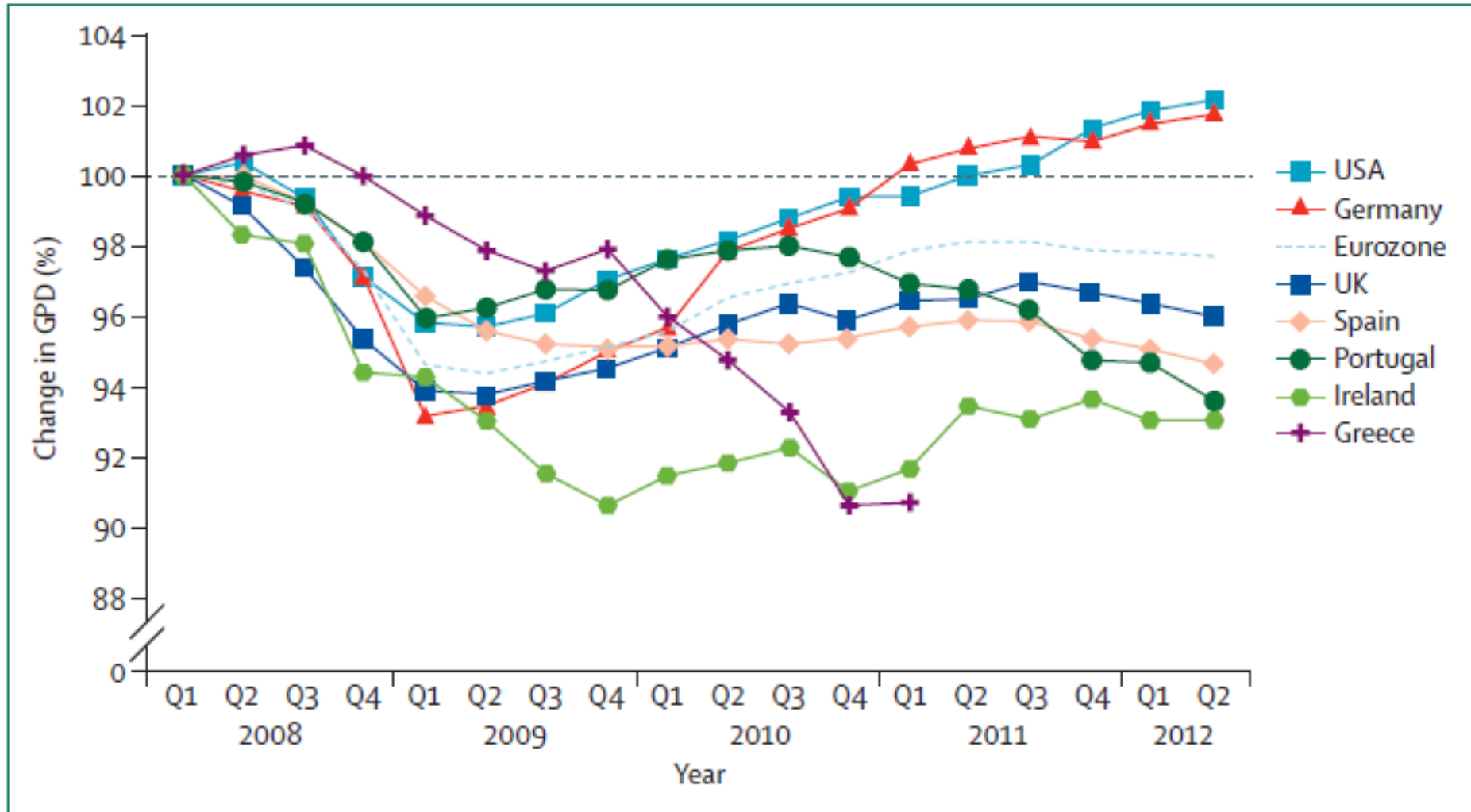


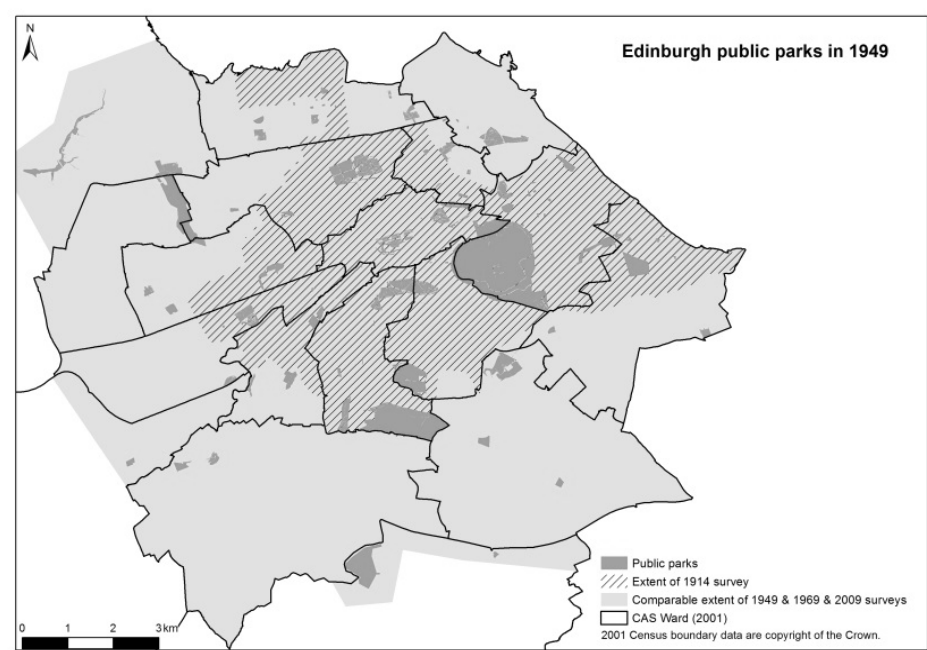
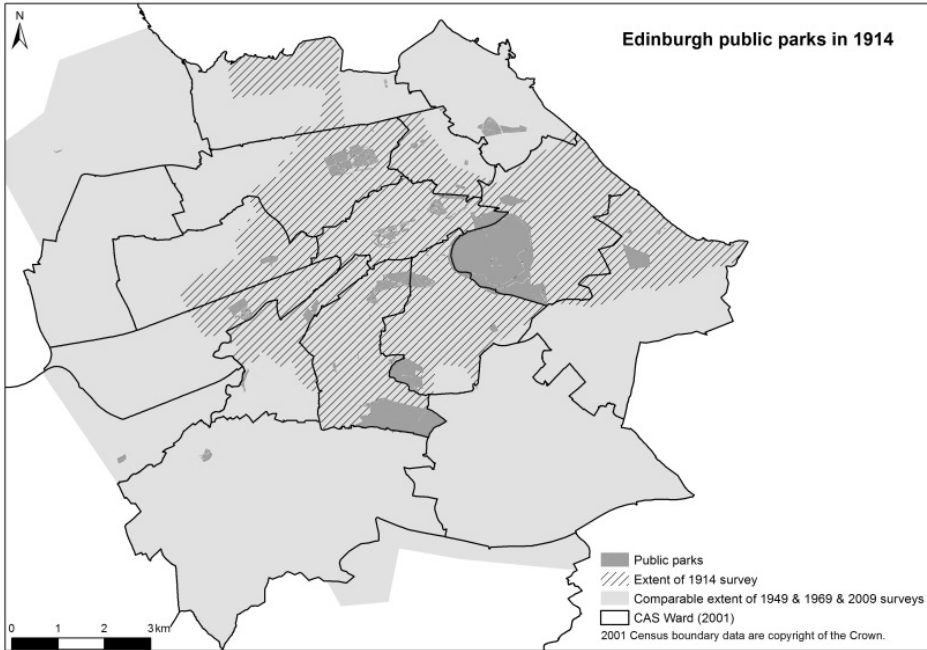
Figure 1: Changes to GDPs in selected countries, 2008–12

GDP in Q1, 2008=100%. Source: Organisation for Economic Co-operation and Development database.<sup>10</sup> GDP=gross domestic product. Q=quarter.

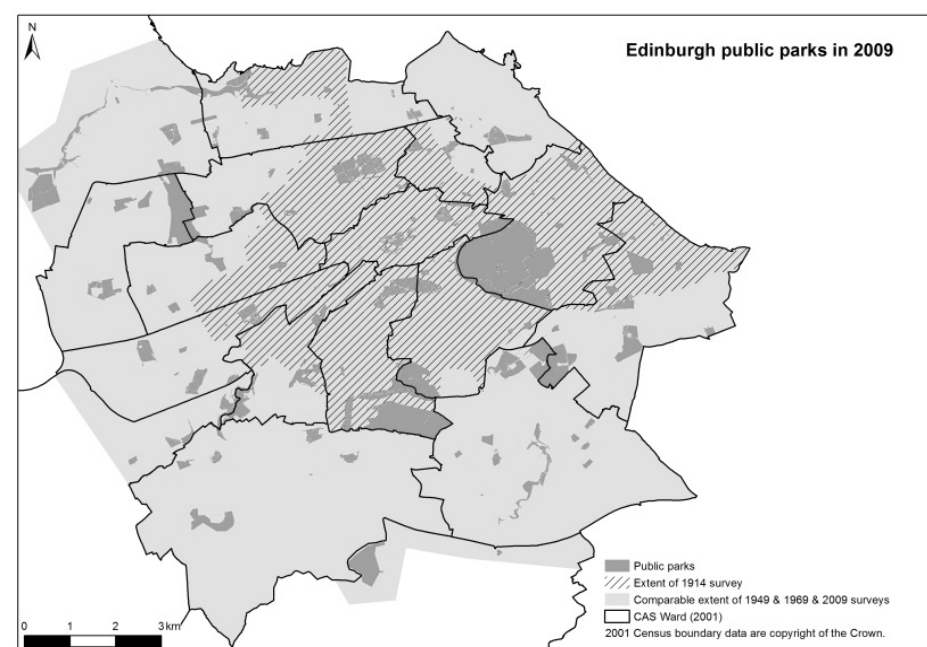
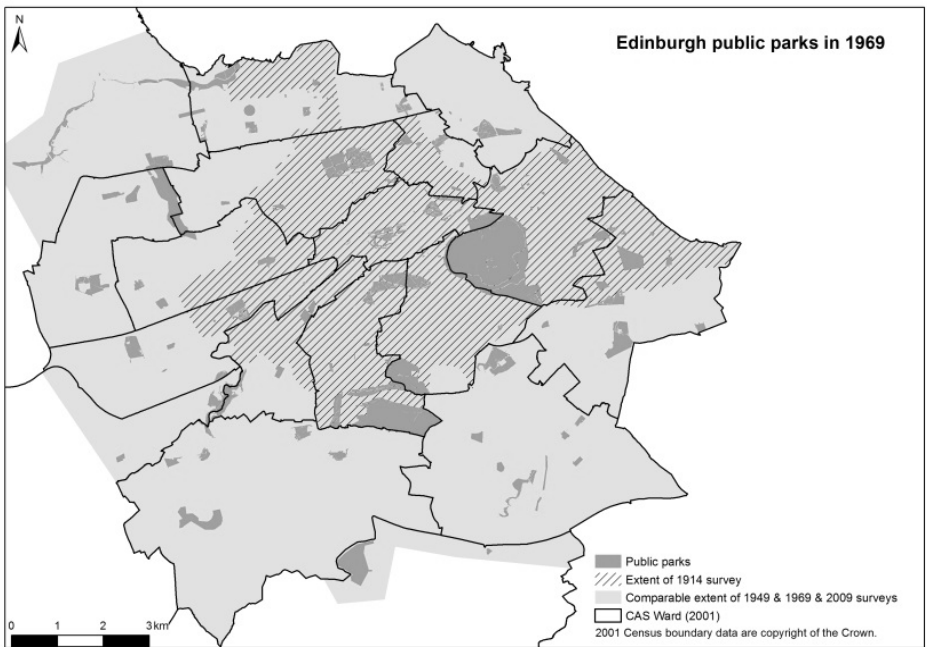
# Regional Impacts of Housing Benefit Changes (source: Pearce, 2013)

| Region               | Number of Claimants Affected | % of Working-Age Claimants Affected | Average Weekly Loss 2013/14 |
|----------------------|------------------------------|-------------------------------------|-----------------------------|
| NE England           | 50,000                       | 37%                                 | £13                         |
| NW England           | 110,000                      | 43%                                 | £14                         |
| Yorkshire/Humberside | 80,000                       | 43%                                 | £13                         |
| East Midlands        | 40,000                       | 27%                                 | £12                         |
| Eastern England      | 60,000                       | 31%                                 | £13                         |
| SEt England          | 40,000                       | 22%                                 | £15                         |
| SW England           | 30,000                       | 20%                                 | £15                         |
| London               | 80,000                       | 22%                                 | £21                         |
| Wales                | 40,000                       | 46%                                 | £12                         |
| Scotland             | 80,000                       | 33%                                 | £12                         |
| Great Britain        | 660,000                      | 31%                                 | £14                         |

- Widening geographical inequalities in health?
  - Alter social geography of EU
  - Widening environmental disparities
  - Disrupt migration, mobility patterns
  - Further stigmatise communities



## Development of public parks in Edinburgh, 1914 – 2009



# Conclusion



- Despite a multitude of policy initiatives over past two decades, socio-spatial inequalities in EU have not reduced
- As health inequalities transcend national borders, efforts to reduce them may require EU wide coordination
- BUT comparable data available only to 2008
  - Crisis in financial sector
  - Austerity policies across Europe
- Key agenda for geographers, public health researchers and others

**Further details:** Have regional inequalities in life expectancy widened within the European Union between 1991 and 2008?  
*European Journal of Public Health*. In Press.

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