

# A Demographic perspective on population ageing and its implications for pensions

MICRA Seminar: What Pensions crisis?  
29<sup>th</sup> September 2014

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# Population ageing

Population ageing - Are we heading for a future of protest, destruction and the threat of financial meltdown? (BBC 2004)

Ageing population 'to strain NHS' (BBC 2005)

Politicians urged to face up to the demographic timebomb (Guardian 2006)

Pension reforms are essential because people are living much longer. (David Cameron 2011)

"If you aren't scared about the enormous generational storm we're facing, you must be on a particularly high dose of Prozac" (Kotlikoff, 2004)

# How serious is population ageing?



Lance Corporal Jones



Private James Frazer

# Key points

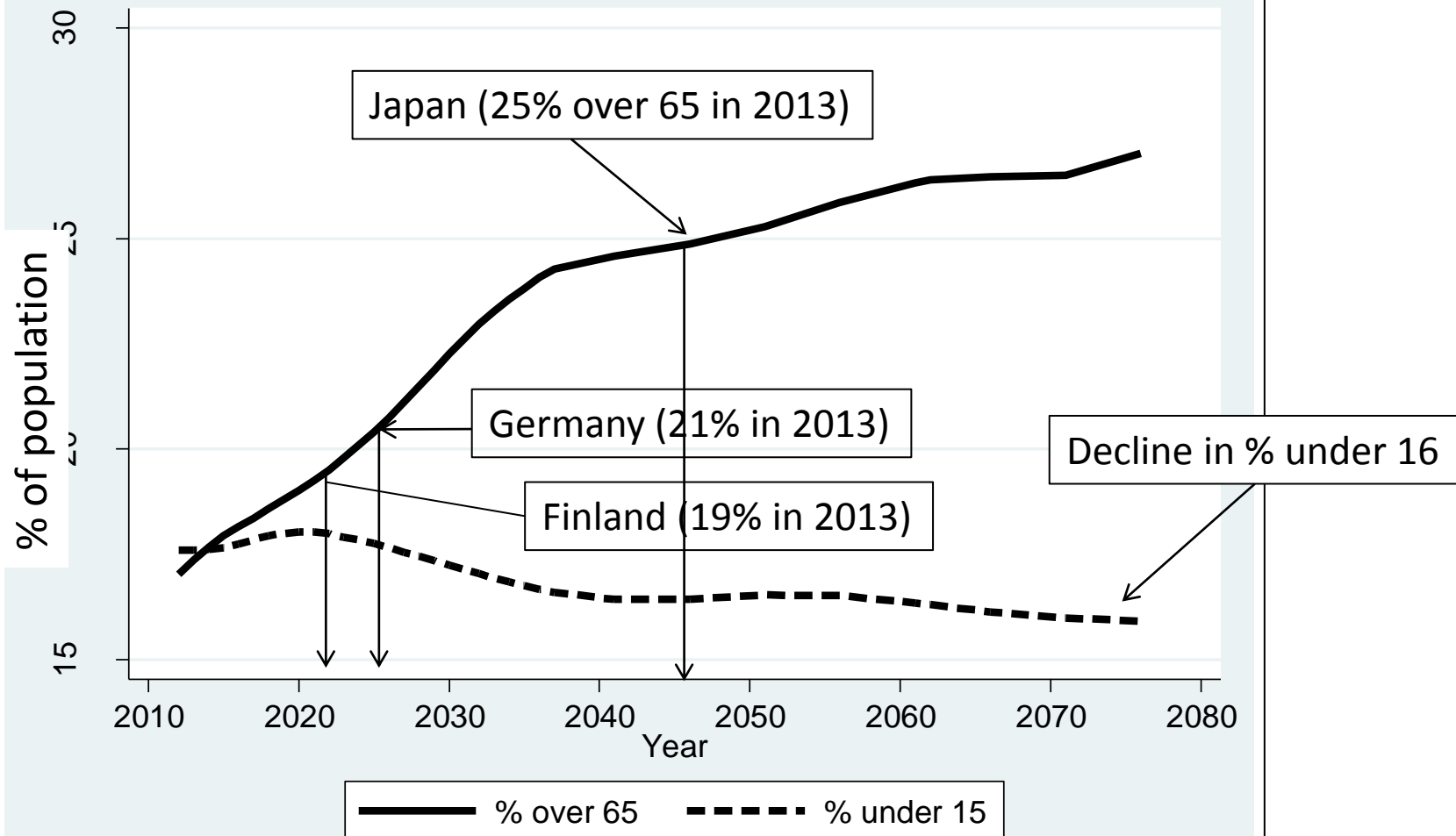
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1. Population ageing is not new, inexorable nor is the extent of population ageing in the UK unusual
2. The main driver of population ageing over the coming 30 years is demographic momentum (larger cohorts will move into the retirement ages) rather than increasing longevity
3. Demographic measures of population ageing are unhelpful and stigmatise the elderly
4. Aspects of pension reform have the potential to widen health inequalities at the oldest ages

Population ageing is not new,  
inexorable nor is the extent of  
population ageing in the UK  
internationally unusual

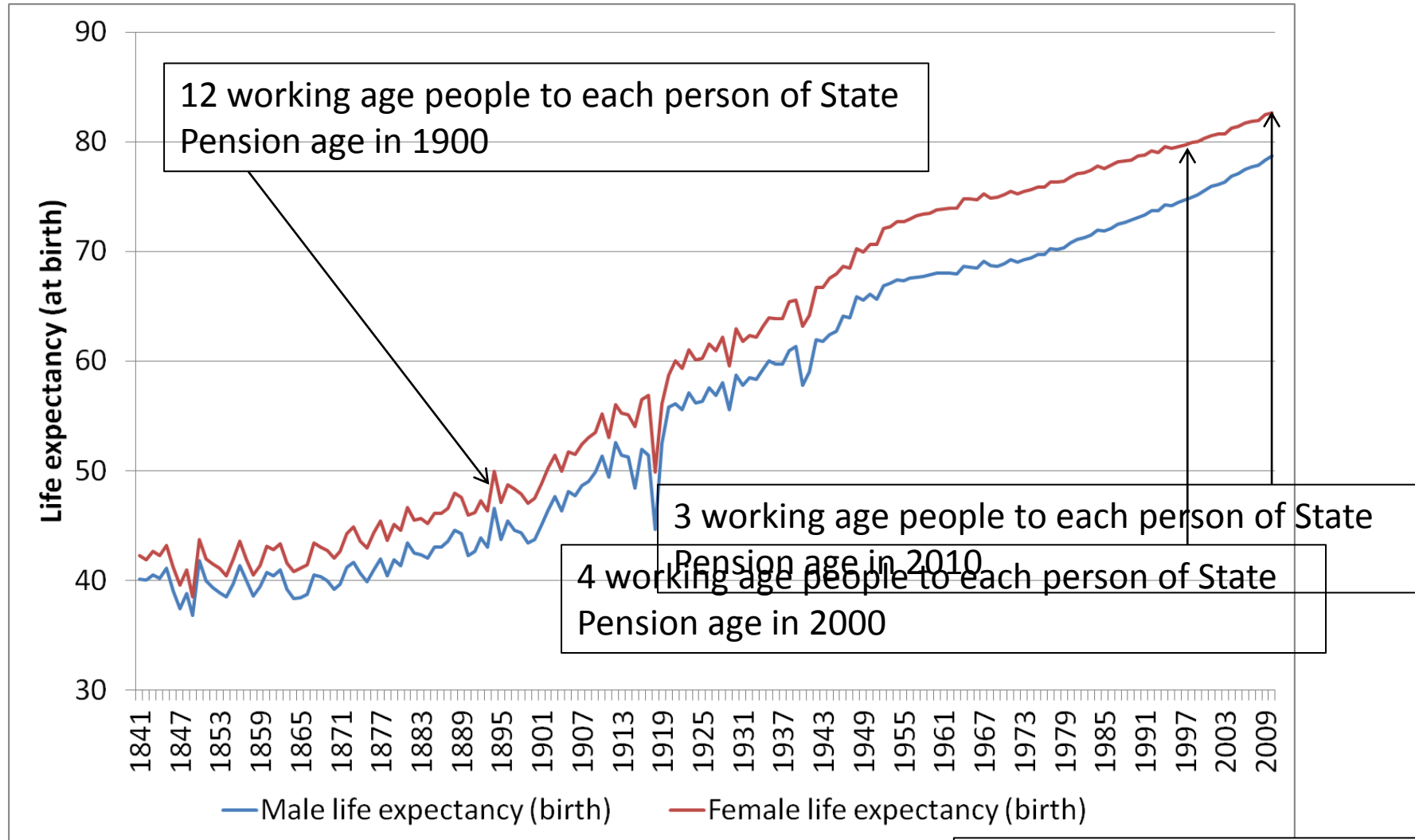
# Population ageing in UK: unique and inexorable?

Projections of the % of population aged over 65 and under 16



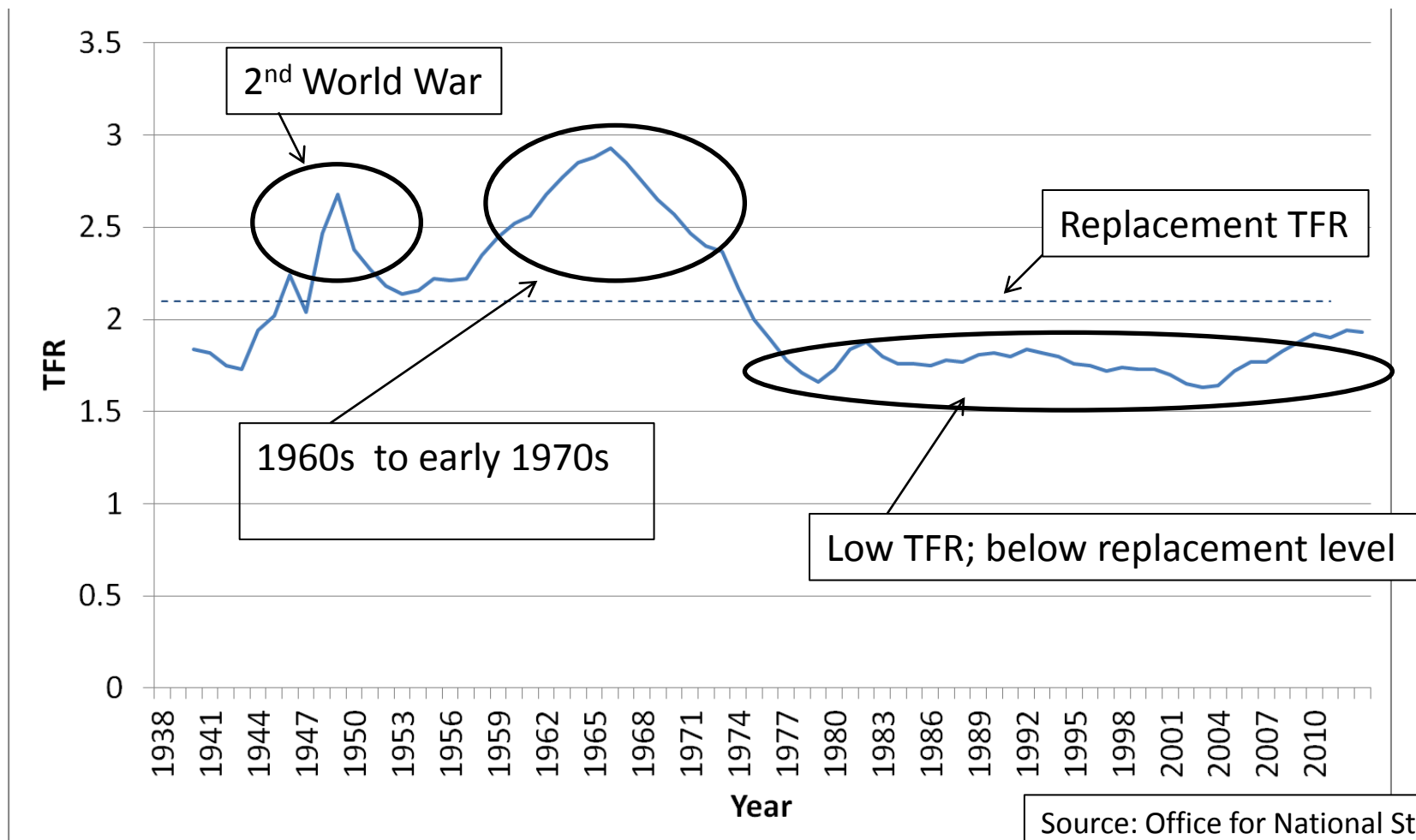
Source: Office for National Statistics

# 1. Increasing life expectancy



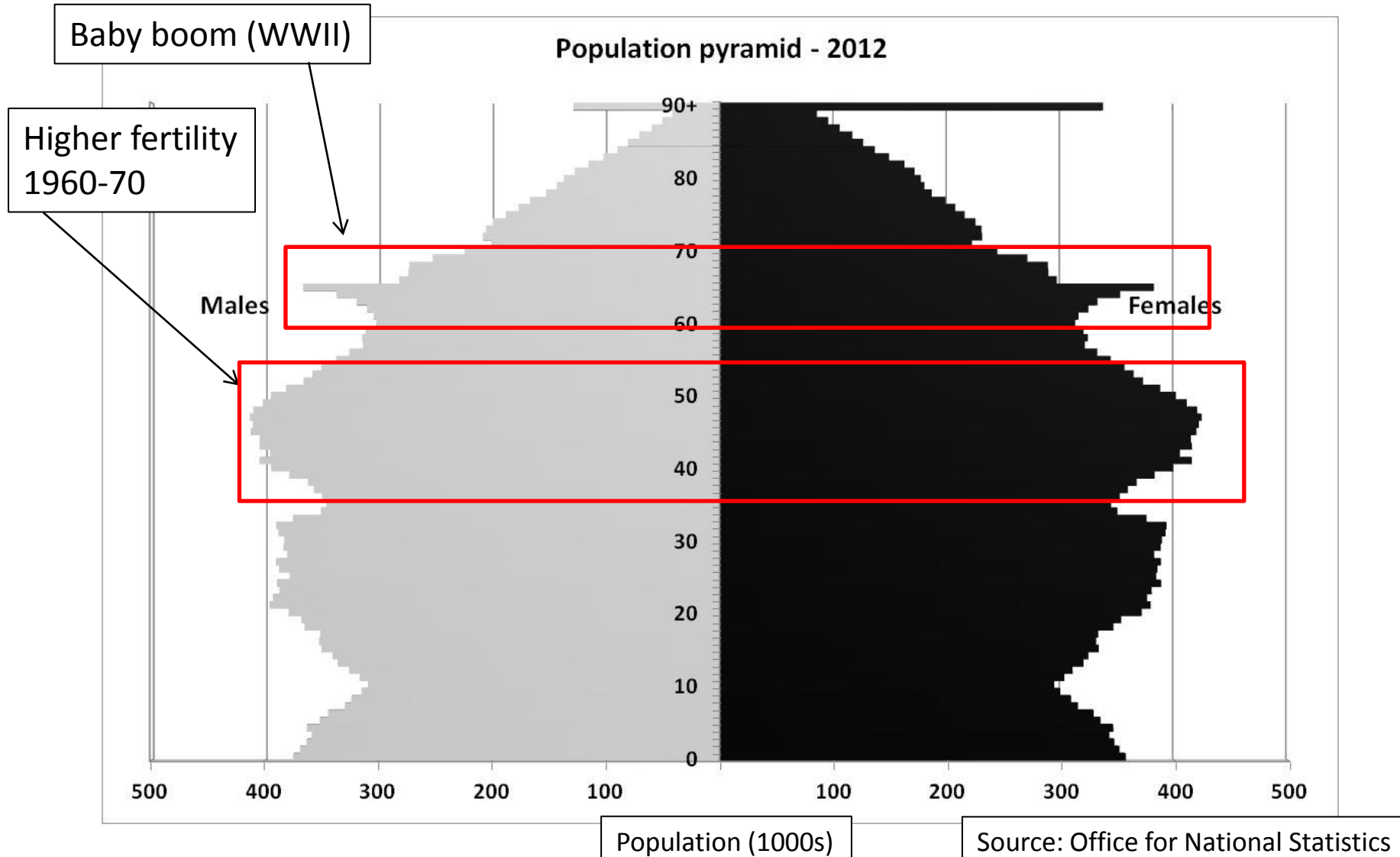
## 2. Low fertility rates

Total Fertility Rate (TFR) in the UK (1938 to 2011)





# 3. Demographic momentum



2. The main driver of population ageing over the coming 30 years is demographic momentum rather than increasing longevity

# ONS population projections

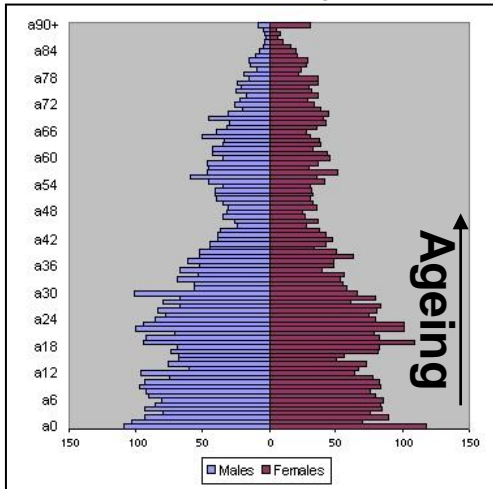
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- Official population projections are a key source of evidence in debates on population ageing
- Population (single year of age and sex) (P)
- + Births (B)
- - Deaths (D)
- + In-migration (I)
- - Out-migration (O)

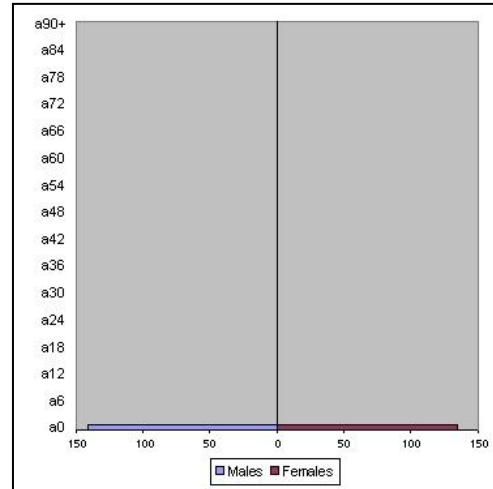
# Cohort-component method

(NB: X axis scales vary)

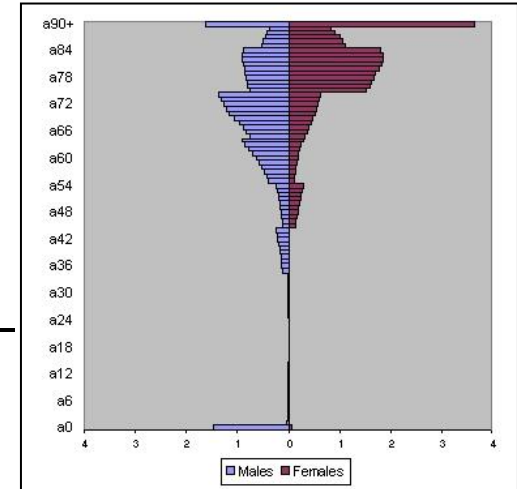
## Population (year $t$ )



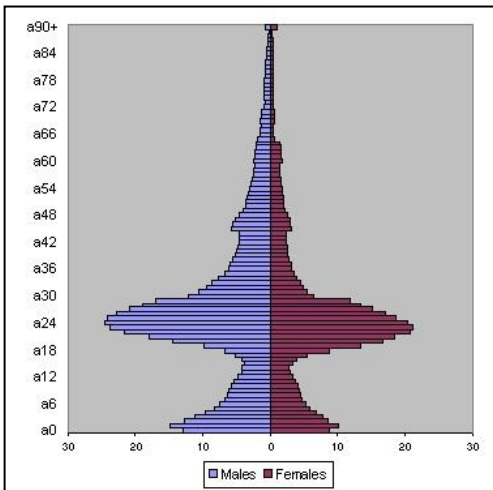
## Births



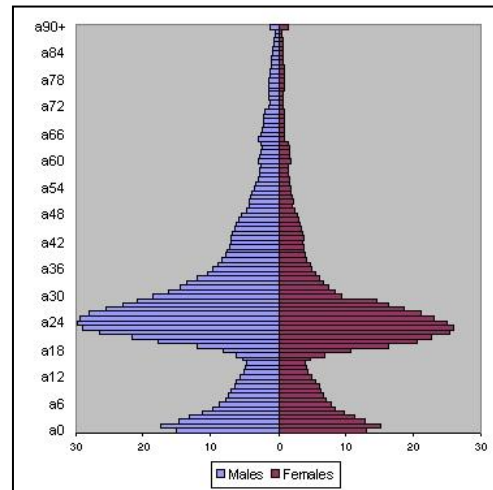
## Deaths



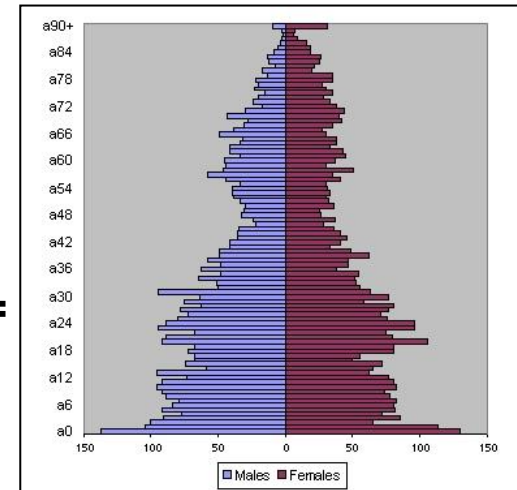
## In-migration



## Out-migration



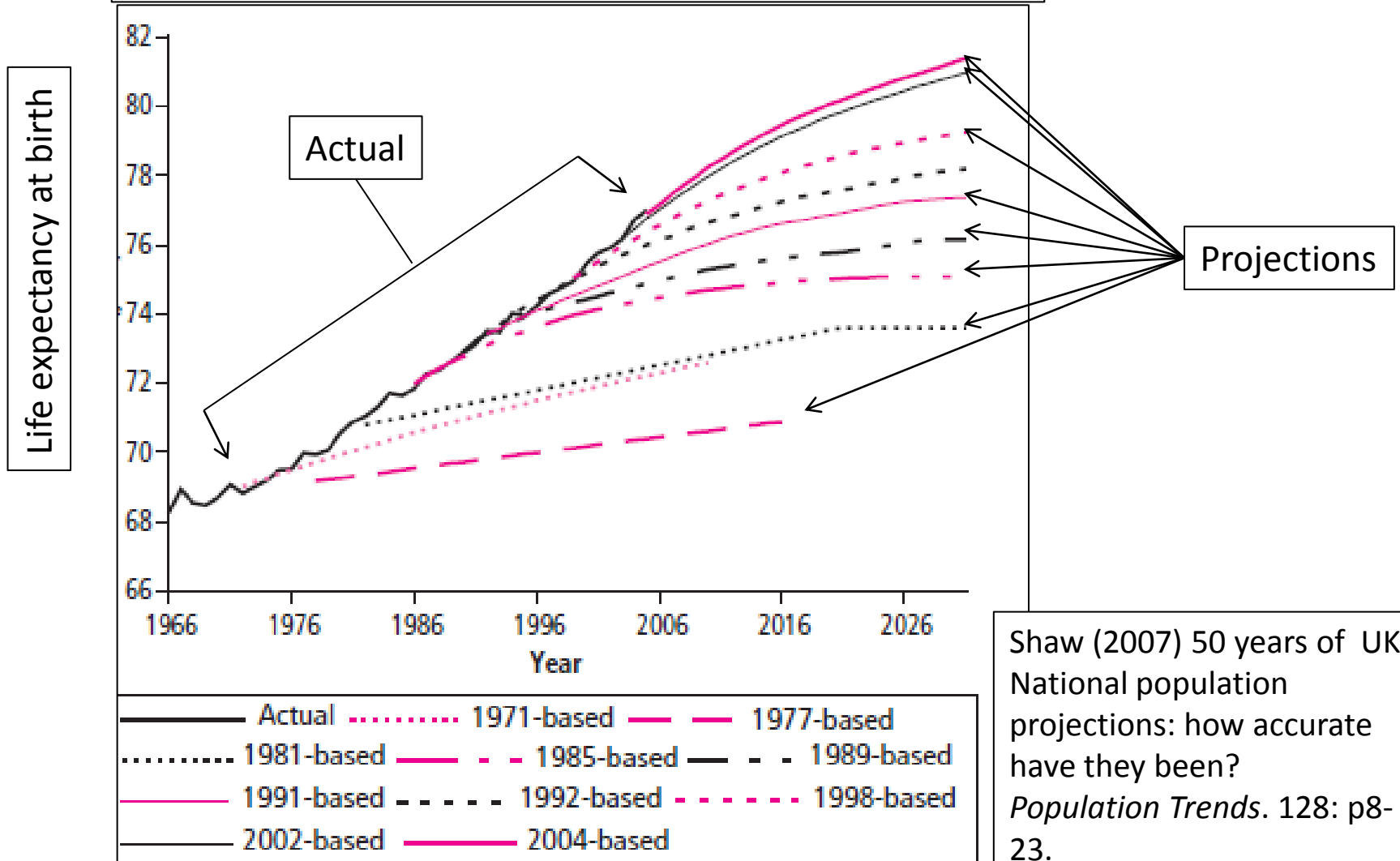
## Population (year $t+n$ )



How do we estimate rates of births, death, migration in the future?

# Its hard to make predictions, especially about the future..... (Niels Bohr)

Actual and projected LE at birth males (1966-2031)



# Variant projections

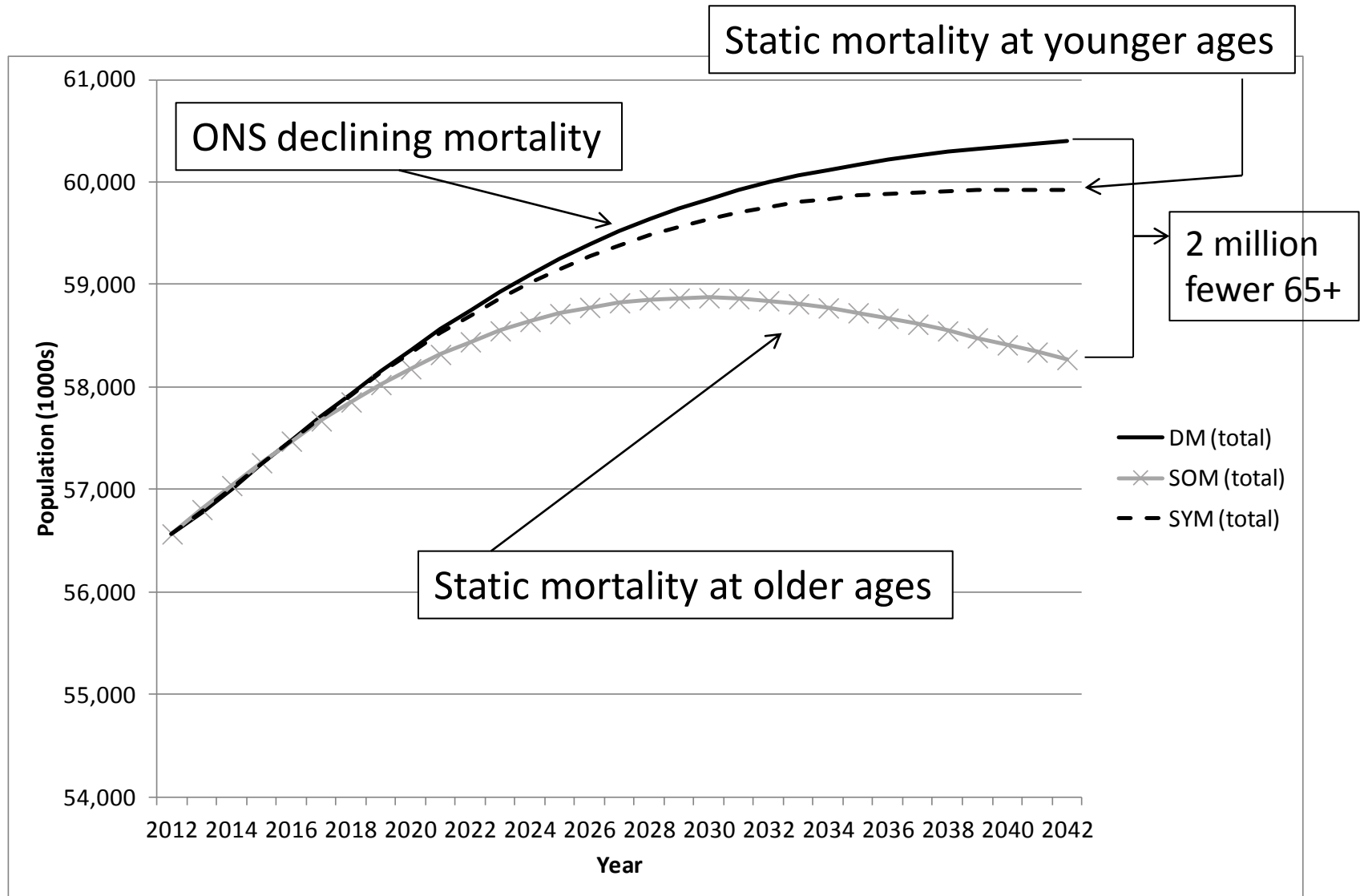
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- ONS produce a set of variant population projections to accommodate uncertainty in components of change (fertility, mortality and migration)
- Variant projections also enable us to test hypotheses
- For example, is the older population growing because mortality rates are declining or because the cohorts entering old age are large?
- ONS do not produce the set of variant projections to answer this question

# Three sets of projections

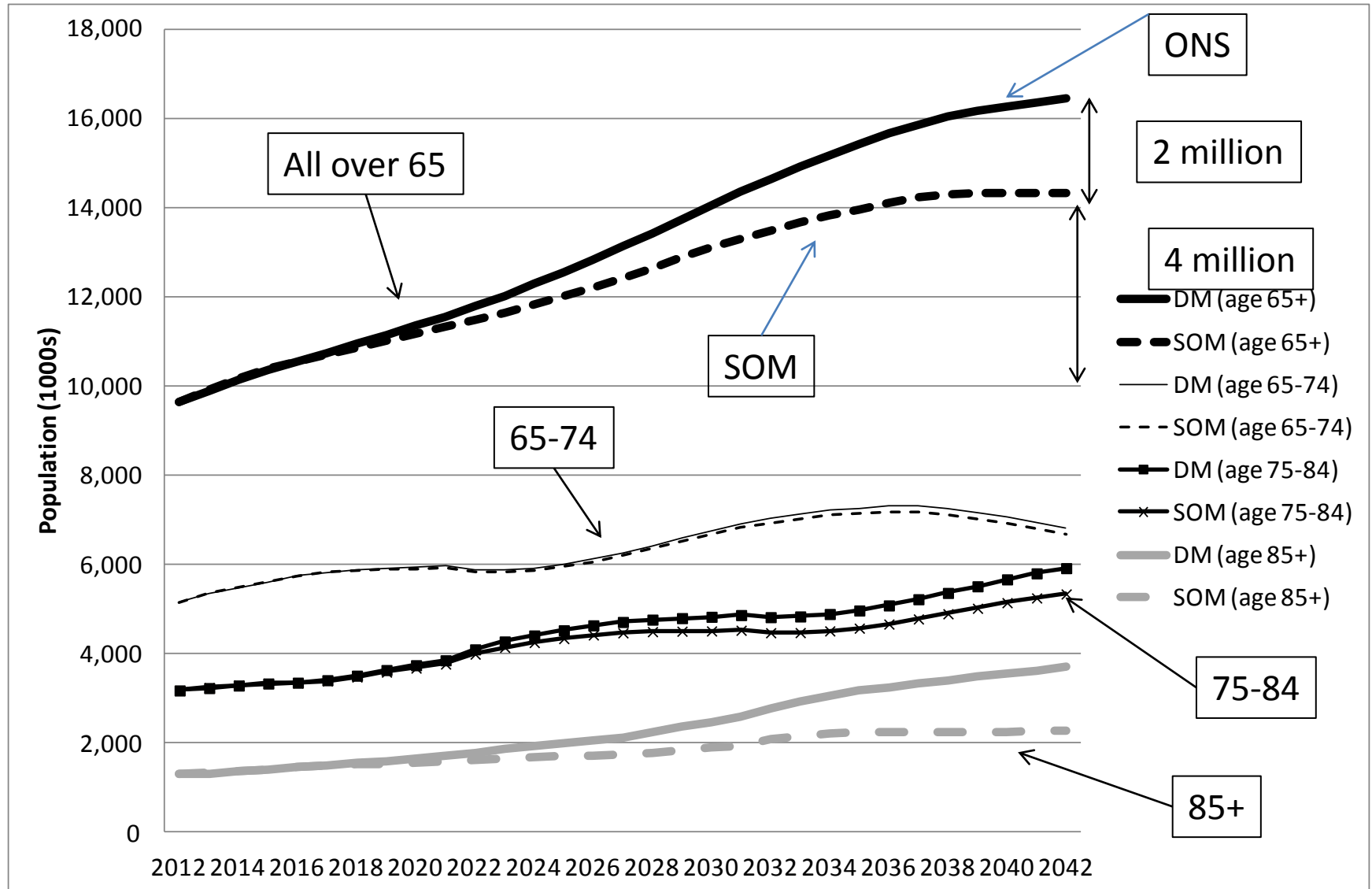
- **ONS declining mortality (ONS)**
- **Static older mortality projection (SOM)** – No change in mortality rates above age of 64
- **Static younger mortality projection (SYM)** - No change in mortality rates under the age of 65
- Assume same projection of fertility rates as the ONS
- No migration – conclusions are not affected through the inclusion of migration
- POPGROUP software – developed at University of Manchester

# Projections of total population





# Projections of the older population (ONS versus SOM)



# Decomposition of the change in the population aged over 65 between 2011 and 2041

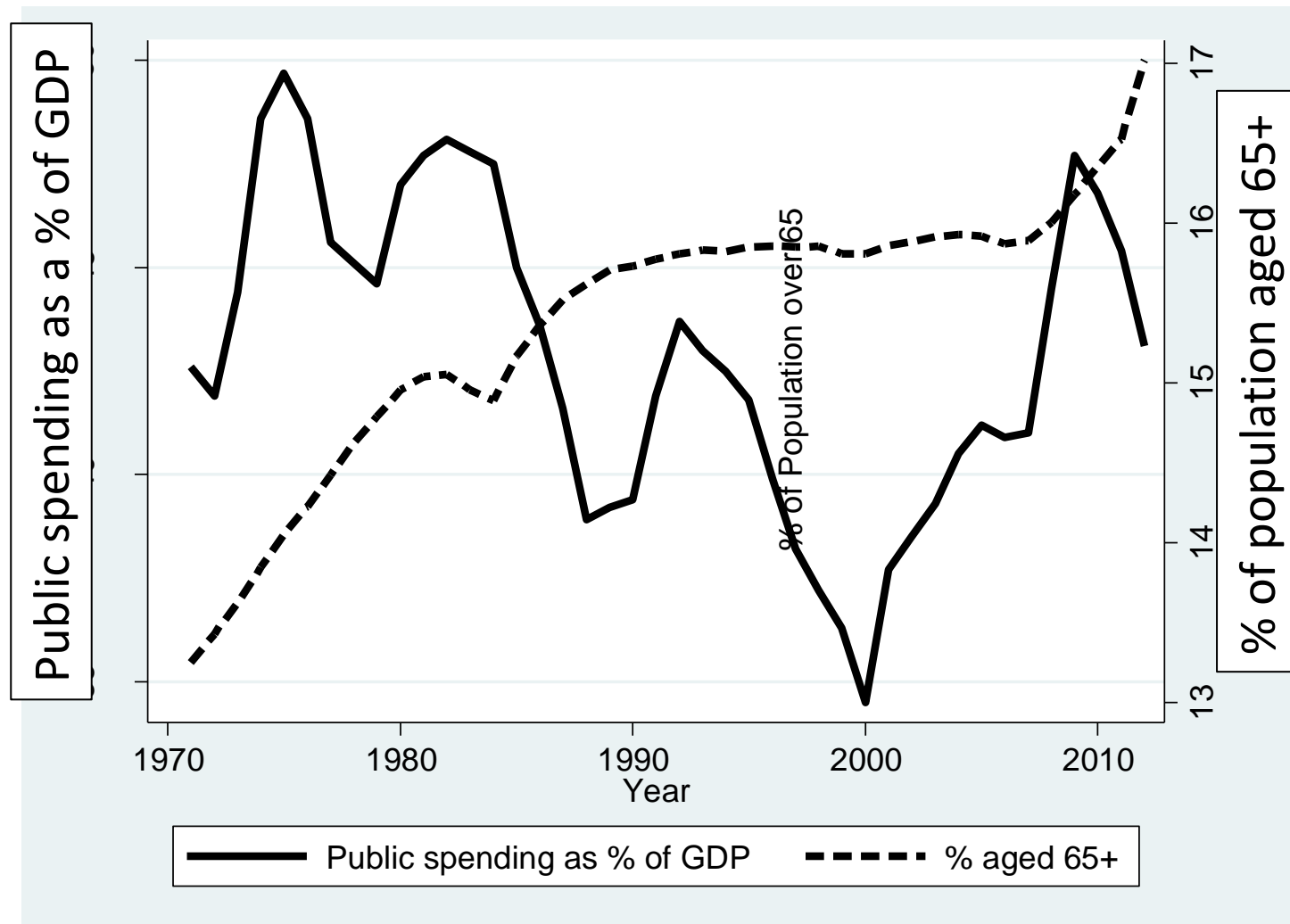
Component of change		Total	
		Number	% of total growth
Total growth in 65+ population		6,798,000	
1	Mortality improvements at the older ages	2,133,000	31.4
2	Mortality improvements at the younger ages	231,000	3.4
3	Population flow from the working to older ages	4,434,000	65.2

Demographic measures of population  
ageing are unhelpful and stigmatise  
the elderly

## Old age 'dependency' ratio: unhelpful?

- The **old age dependency ratio** is the number of working age people to the number of people at State pension age
- **Older people contribute in many ways**
  - Consumers, work, volunteer, carers, pay tax.....
- **Not all those at working ages are 'contributors'**
  - labour market changes substantially outweighed demographic forces in their upward effect on the economic dependency ratio between workers and pensioners
- **What about cost savings associated with population ageing?**
  - education, smaller working age population – fewer unemployed given constant rate of unemployment
  - Same level of public spending (~40% GDP) but different division?

# Is population ageing driving increases in public spending?



Aspects of pension reform may have  
the unintended consequence of  
widening health inequalities at the  
oldest ages

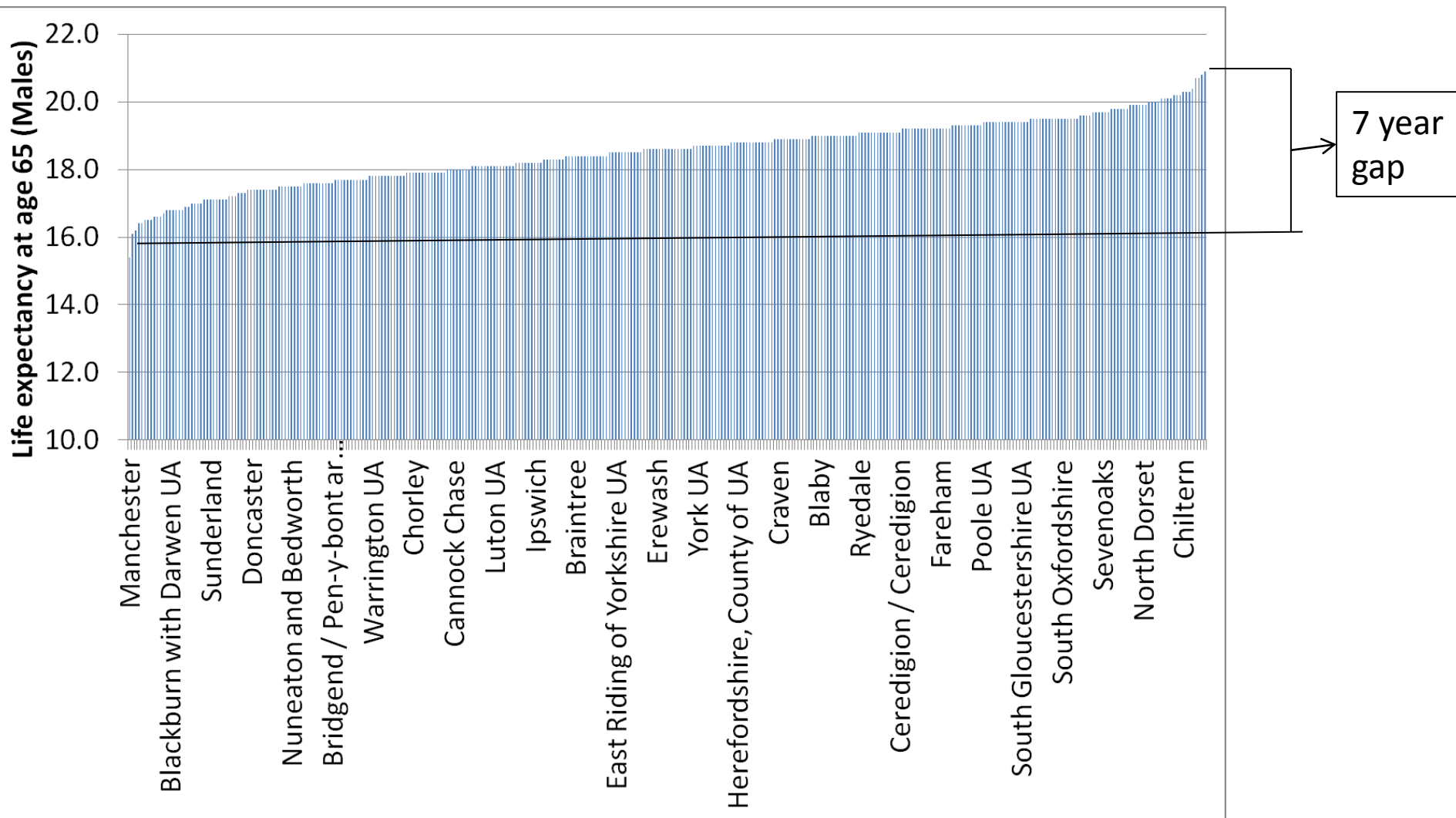
## Increases to retirement age

*"The reason we can't go on as we are is because as the baby boomers retire – and thankfully live longer – the pension system is in danger of going broke". David Cameron (2011)*

*The Norwegian pension system includes a new "life expectancy based adjustment" to the pension age, a plan which Mr Cameron said he found attractive. The Telegraph (2012)*

# Pension reform and inequality

Life expectancy at age 65 for males (England and Wales districts)





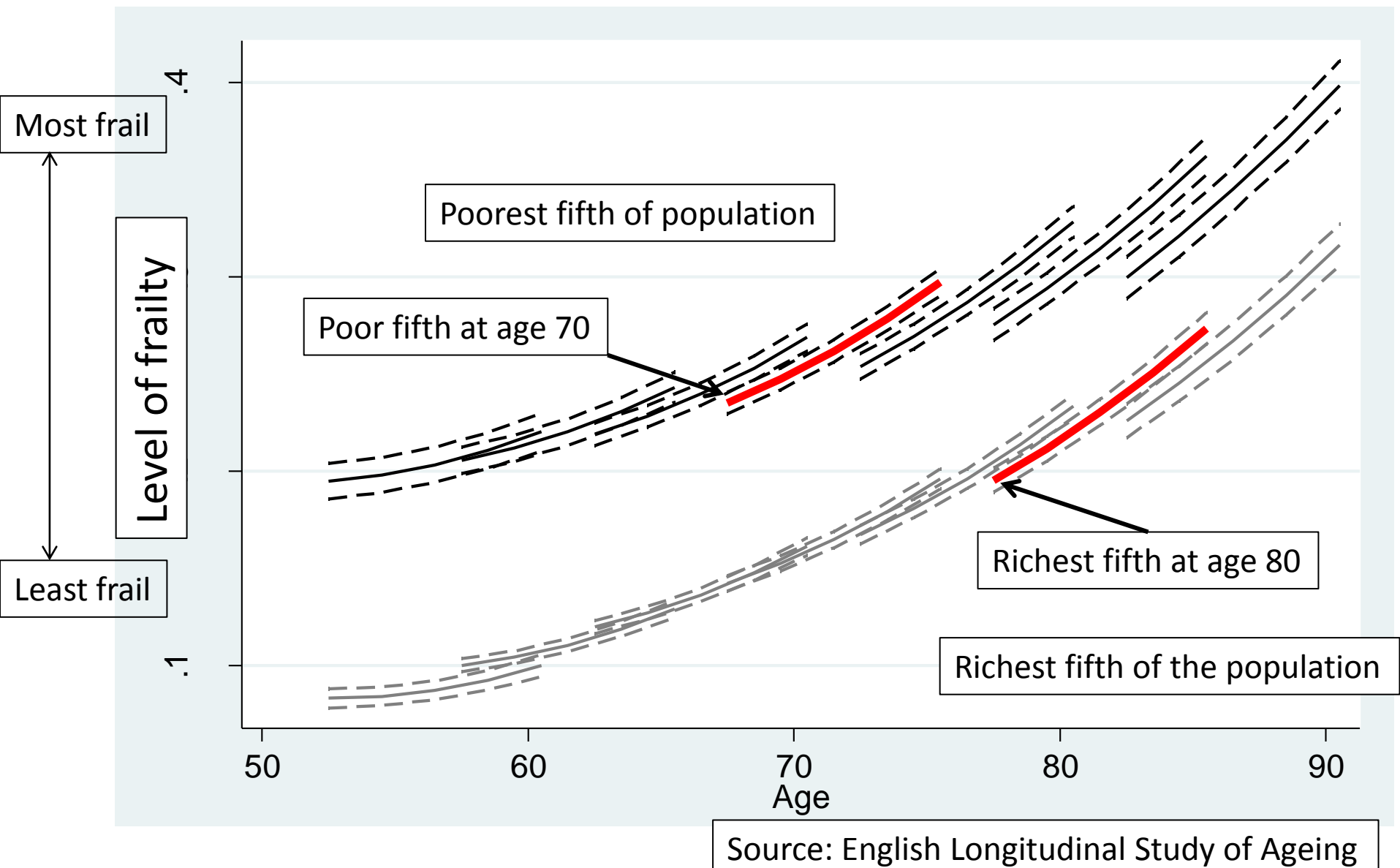
# Retirement age and health inequalities

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*“In Norway and Sweden there is less difference in life expectancy in different parts of the country. A similar system here could end up benefiting the better off who live in areas like the South-east.*

Dr Roz Altman quoted in the Daily Express 10<sup>th</sup> February 2012

# Inequalities in health: ten year gap in frailty



# Conclusions

- Population ageing is not new or inexorable and the UK is not unusual
- Increased longevity in retirement is claimed as a reason for pension reform
- But two thirds of the growth in the older population is a result of demographic momentum (population flow) not increasing life expectancy
- Not an additional burden on an appropriately designed pension system
- Dependency ratio – a problematic measure.
- Policies to increase the Statutory Pension age ignore inequalities in mortality and health with the potential to widen health inequalities

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