

Source: <http://thepoisedlife.com/1054/aging-joke-unless-want-get-sick-2/>

# INSIGHTS INTO SELECTIVE SORTING AND HEALTH WITH THE ONS LONGITUDINAL STUDY

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# WHAT'S COMING UP

- A. Selective sorting & health: what do we know?
- B. Data & Methods
- C. Comparing Gradients
- D. Exploring Extremes
- E. The forgotten middle?

## A. SELECTIVE SORTING & HEALTH

- ❑ Population **selectively sorted** into different life circumstances through **migration, residential mobility** and **social mobility**
- ❑ **Selective** as opportunities for migration or social mobility vary by socioeconomic status, area, ethnicity and **health**
- ❑ Movement of **differently healthy** groups **between area types** or **social classes** may **influence** health profile of **different area types** or **social classes**
- ❑ **Selective sorting** may therefore contribute to **changing health gradients**:  
Widening? Maintaining? Or constraining?
- ❑ Use of the ONS Longitudinal Study to explore selective migration & health

# A: MIGRATION AND CHANGING HEALTH/DEPRIVATION RELATIONSHIPS?



**Area A**

- Lower social classes
- Overcrowding
- Less green space
- High unemployment
- Poorer health

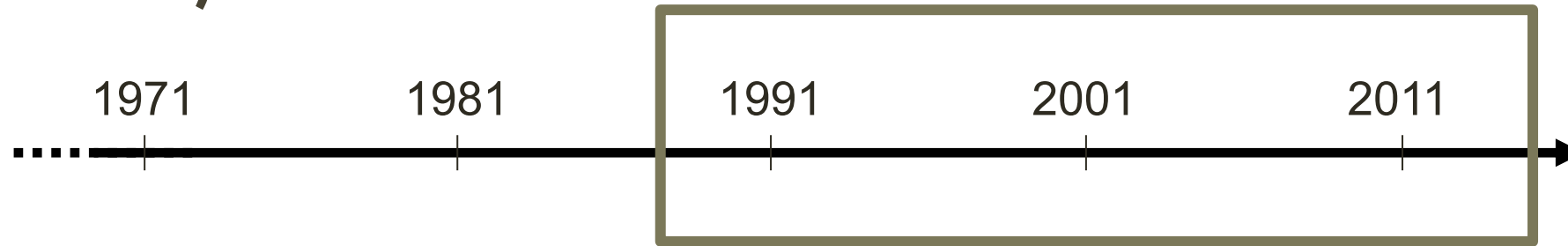
- Differences in health between migrants and non-migrants?
- Differences in health between the migratory flows?
- Size of the migratory flows?
- Health of those 'left behind'?
- Demographic and socioeconomic attributes of migrants and non-migrants?

**Area B**

- Higher social classes
- More sparsely populated
- More green space
- Low unemployment
- Better health



## D. ONS LONGITUDINAL STUDY FOR ENGLAND (& WALES)



Census data: age; sex; ethnicity; marital status; **health status**; social class; educational attainment; **migrant indicators**

Event data: births; immigration; deaths; emigration

~ 1% sample, ~ 500k at each census (cross-sectional) & ~ 350k across the censuses (longitudinal)

SAMPLE: present at **1991 and 2001**, or **2001 and 2011**

## D. KEY VARIABLES

- ❑ Health: Limiting long-term illness (LLTI)
- ❑ Deprivation: Q1 – least deprived, Q2, Q3, Q4, Q5 – most deprived  
→ identify deprivation transitions
- ❑ 10 year migration indicator: address compared to 10 years previously  
→ identify **movers** and **stayers**

## D. ANALYTICAL APPROACH

### Compare gradients

(indirectly) Standardised Illness Ratios

SIRs calculated based on health at end of study period by **destination** deprivation quintile and **origin** deprivation quintile

Calculate Q5:Q1 ratio **with movement**, and **without**

### Transitions at the extreme

(indirectly) Standardised Illness Ratios

SIRs for deprivation transitions for  
**a) movers (migrants) and stayers (area type change);**  
**b) movers and stayers combined: overall influence of selective sorting?**

### The forgotten middle?

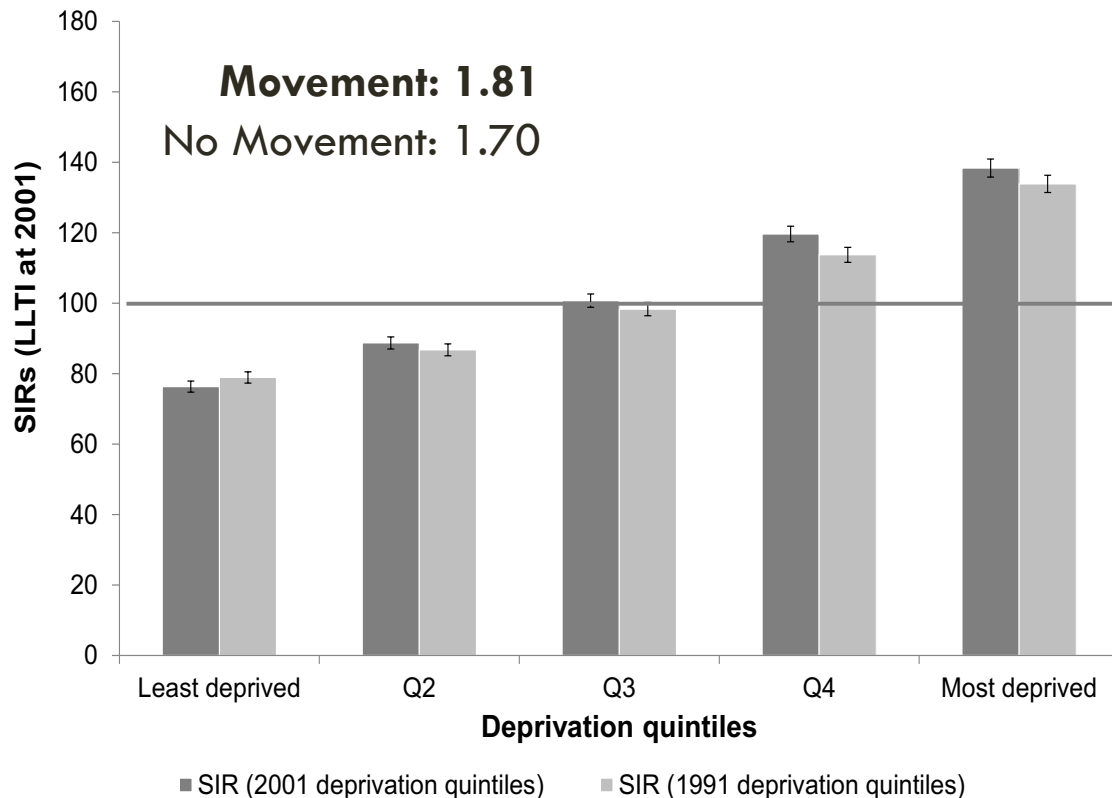
Slope / Relative Indices of Inequality (SII/RII)

SIRs calculated based on health at end of study period by **destination** deprivation quintile and **origin** deprivation quintile

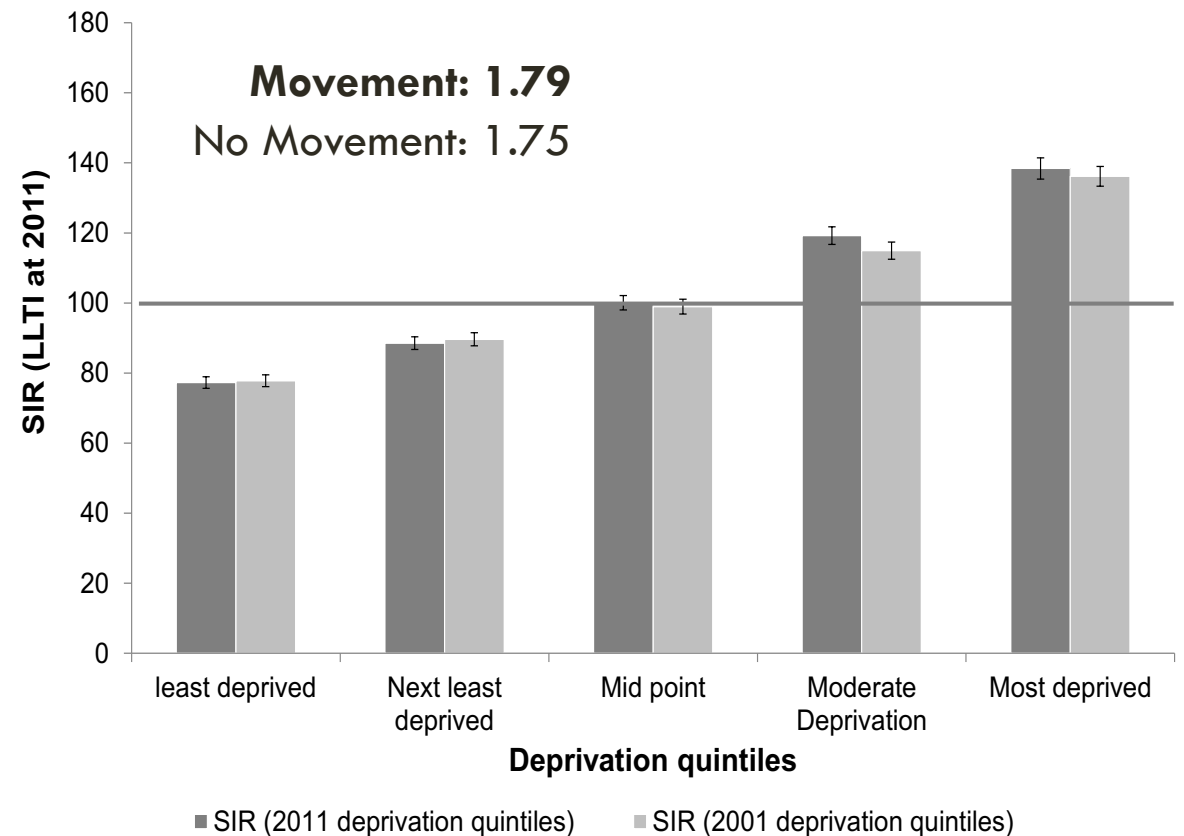
Calculate SII / RII **with movement**, and **without**

## E. COMPARING GRADIENTS

2001 SIRs by deprivation quintile at 2001 and 1991



2011 SIRs by deprivation quintile at 2011 and 2001



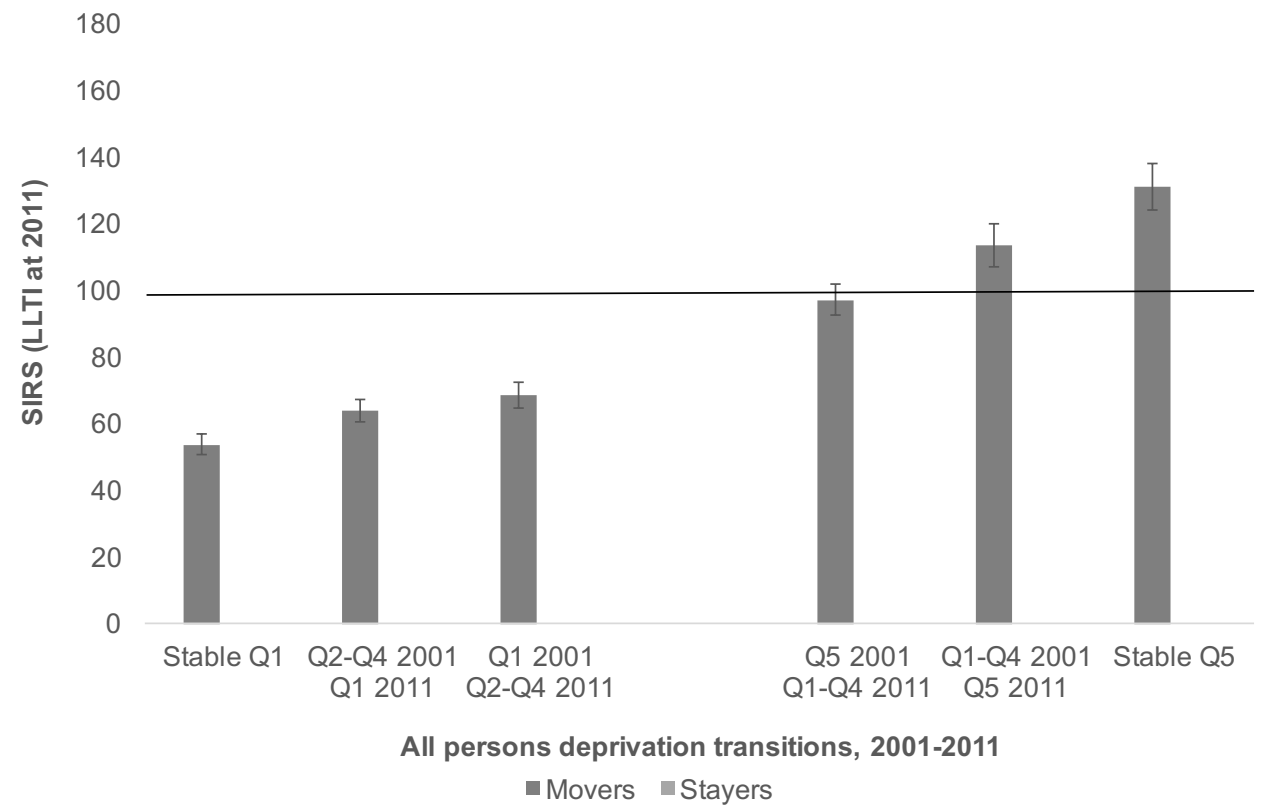
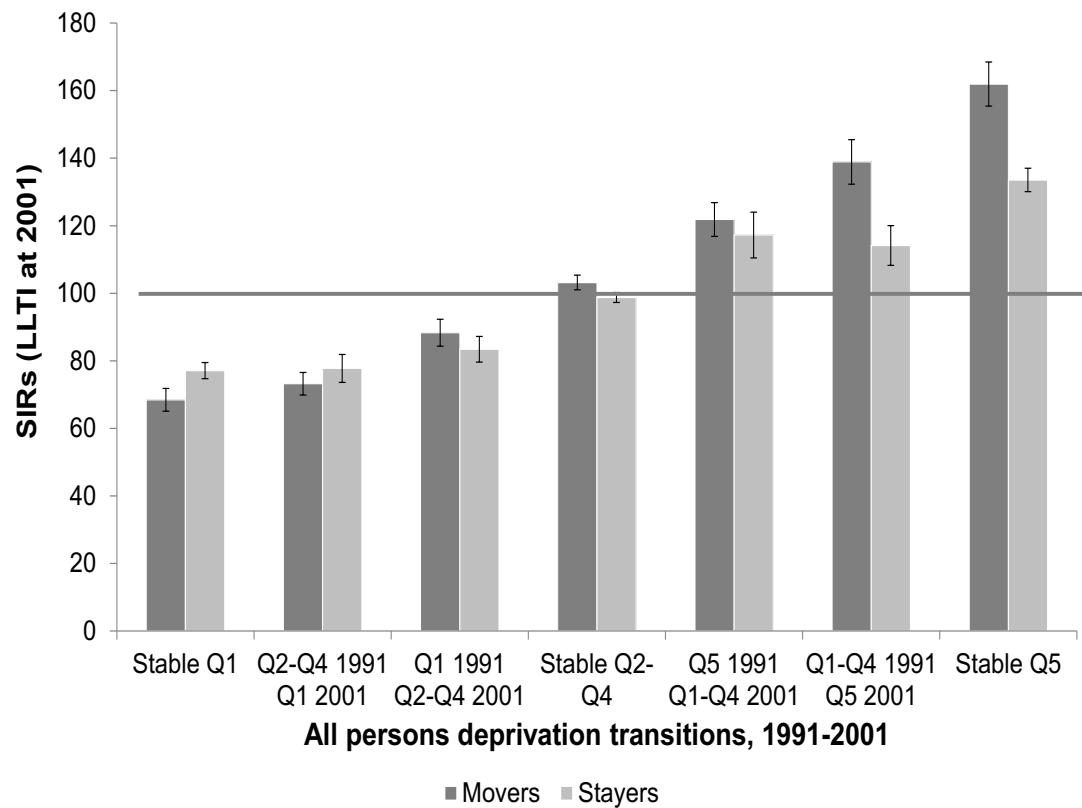


# CONCLUSION A

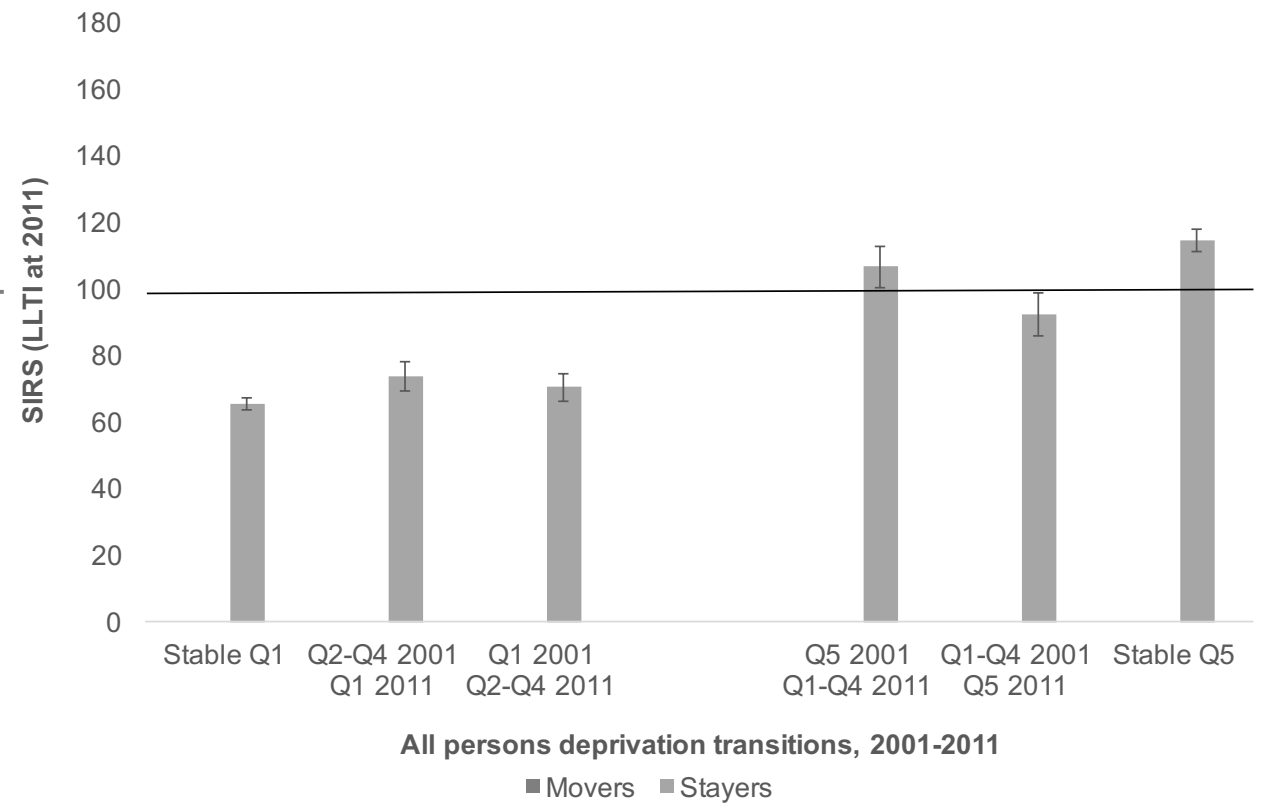
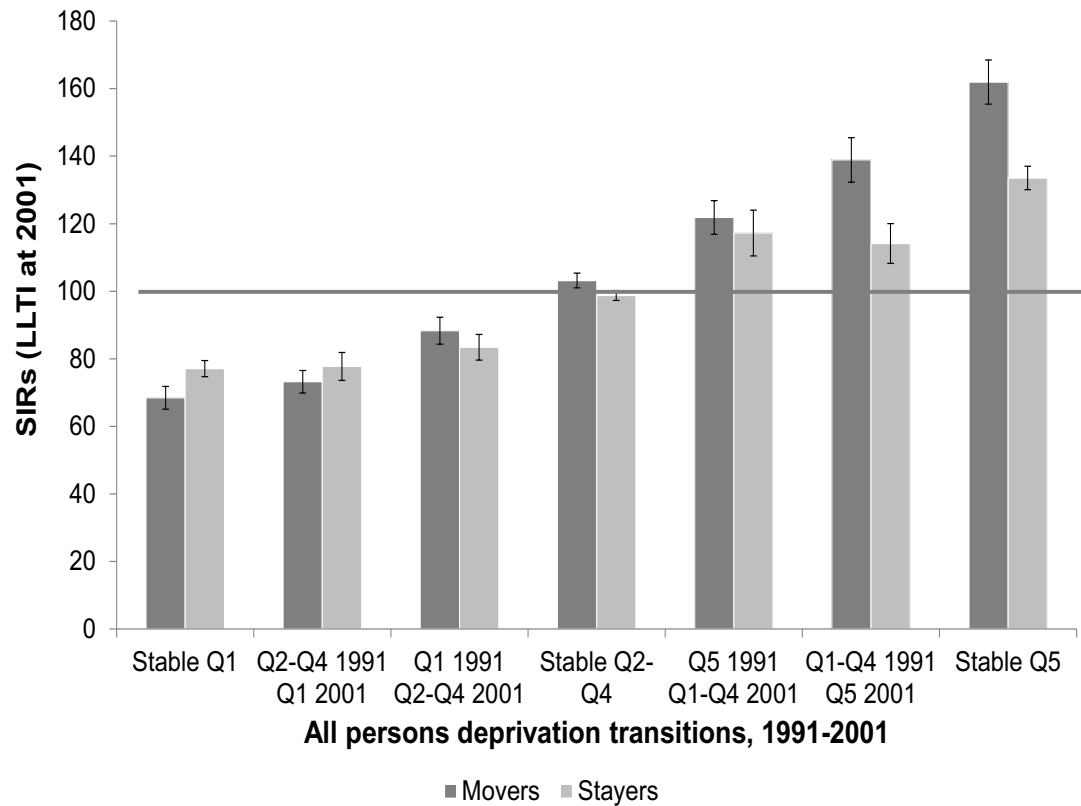
*Health gradients by deprivation are steeper when groups move within and between deprivation quintiles than occur when population ‘put back’ into their origin quintile: movement appears to exaggerate health gradients...*

*How?*

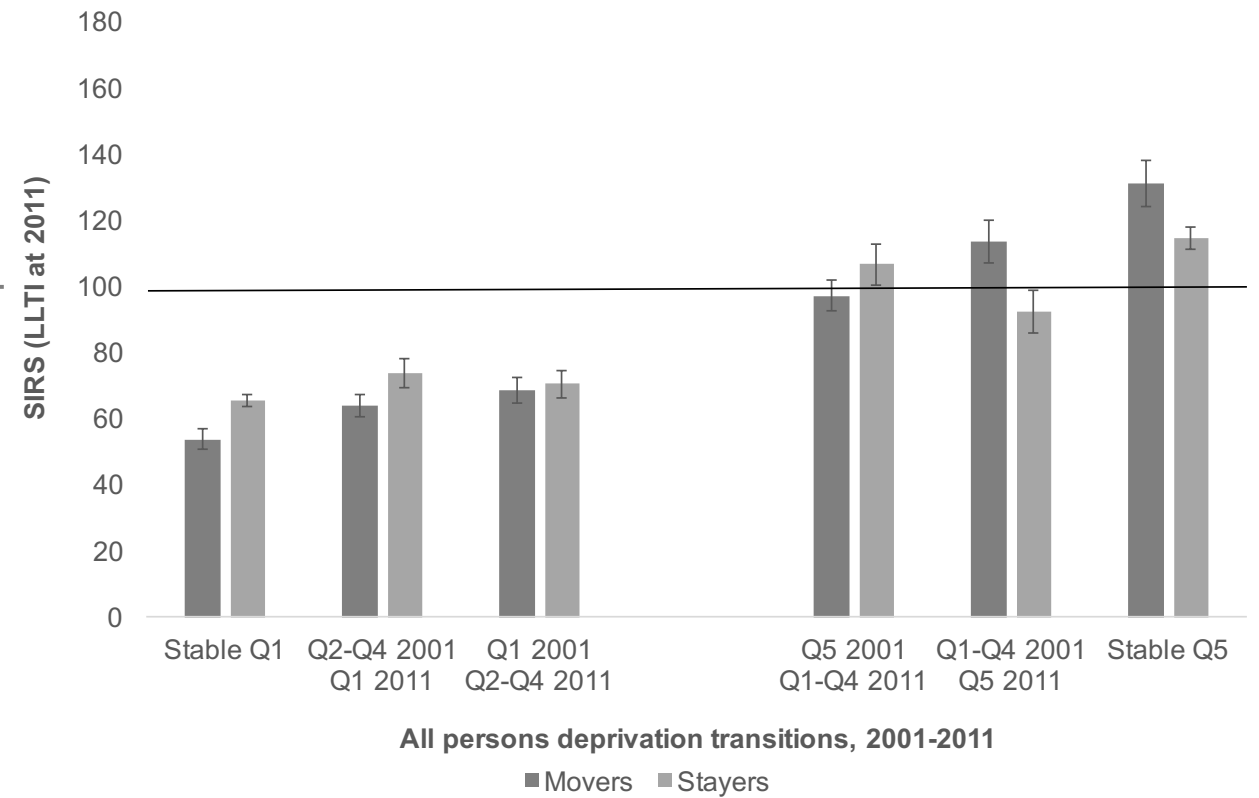
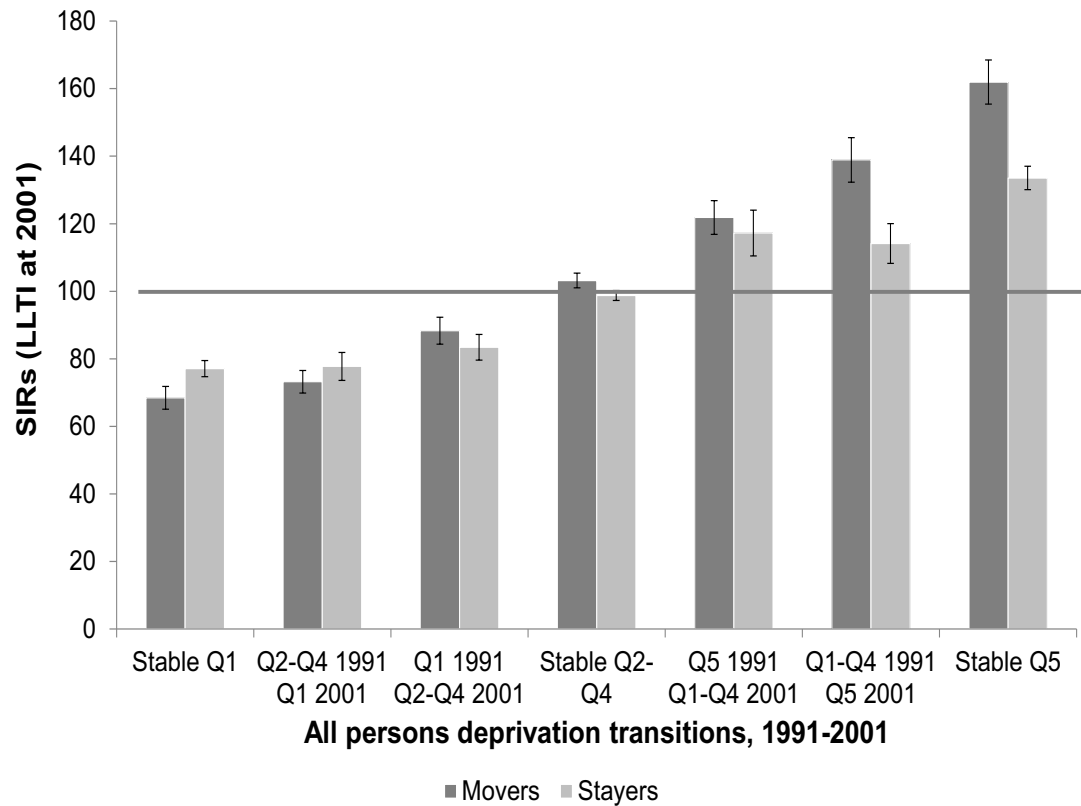
## E. TRANSITIONS AT THE EXTREMES



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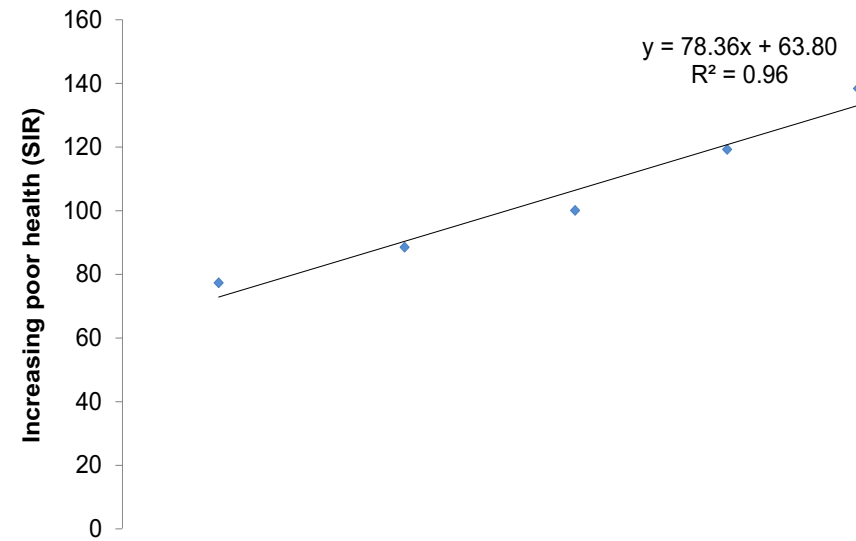
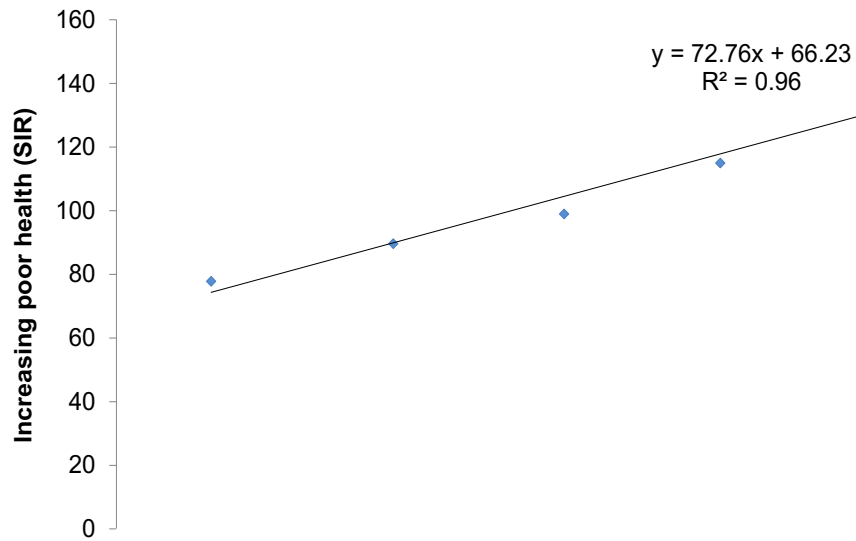


# CONCLUSION B

*Transitions into and out of Q1 and Q5 by **movers** contributes to widening health gradients between 1991-2001 and 2001-2011*

*Movers churning within Q1 in **better** health than stayers who remain in Q1; movers churning within Q5 have **poorer** health than stayers who remain in Q5*

## E. THE FORGOTTEN MIDDLE?



	SII (absolute differences)	RII (relative differences)
No movement	72.76	2.10
Movement	78.36	2.23

# CONCLUSION C

*Steepening slope attributable to worsening health for all deprivation quintiles apart from those in Q1 who see marginal improvements*

*Relative differences in health also increase when movement occurs (compared to putting population back into origin)*

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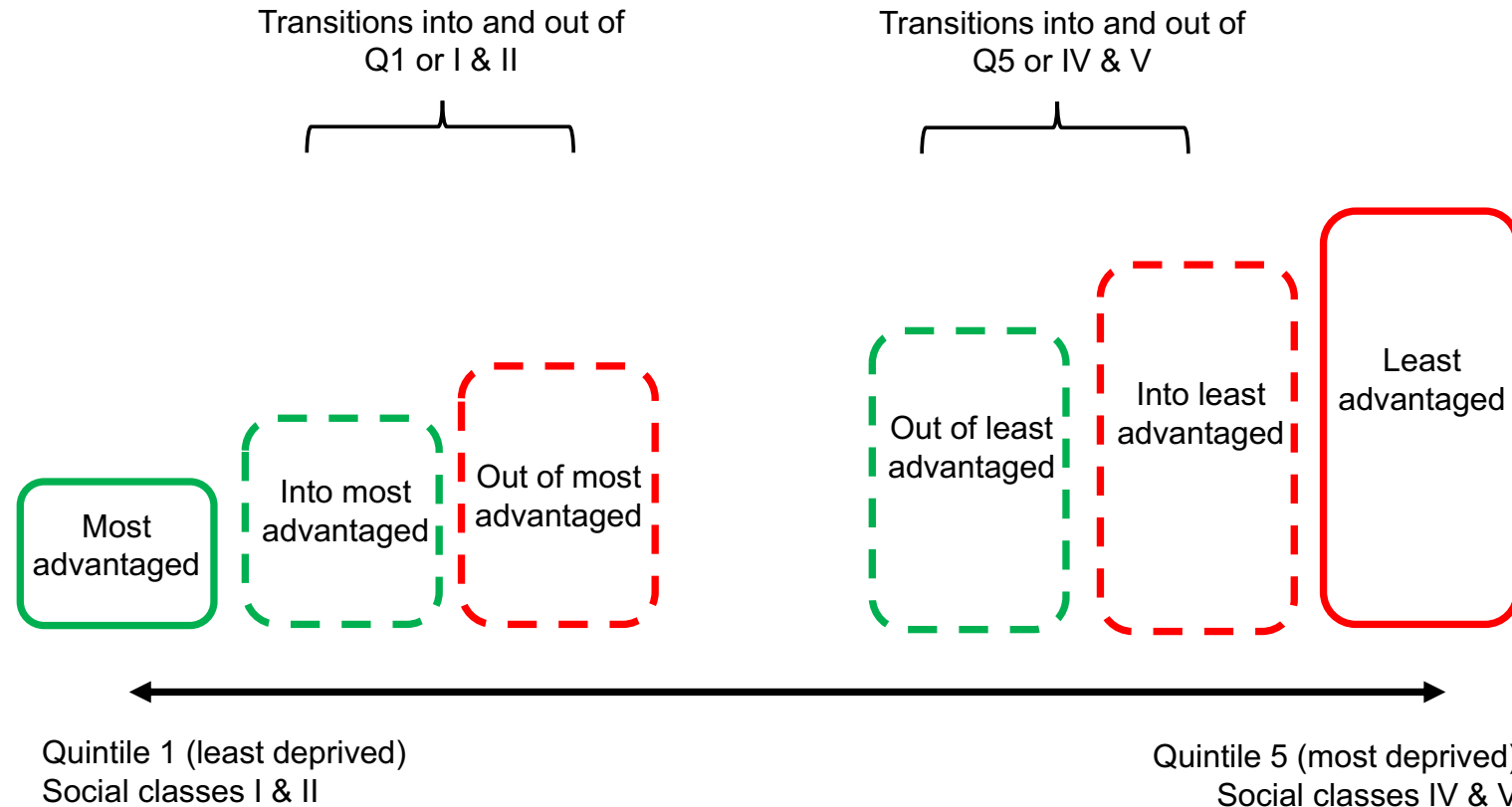
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**THANK YOU!**

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# A: PATTERNING TO HEALTH: IMPACT ON HEALTH GRADIENTS



Widening health gradients?

Maintaining health gradients?

Narrowing health gradients?