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Spatial and Inequality Impact of the Economic Downturn

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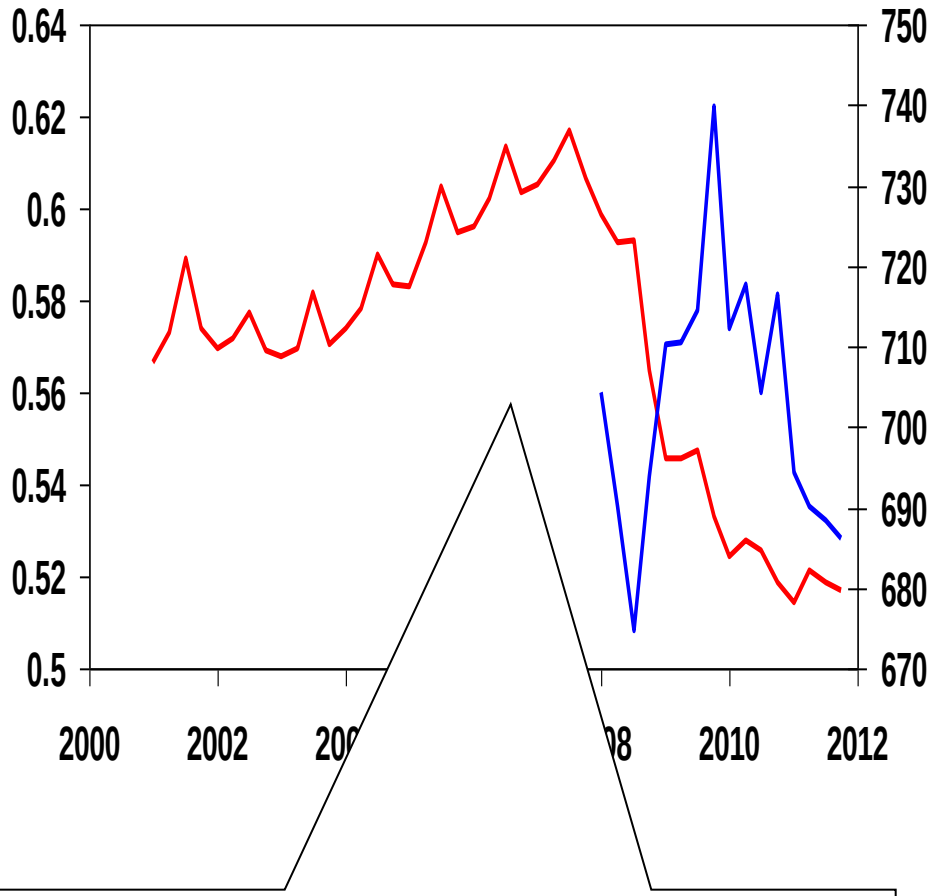
Objectives of Presentation

- Impact of the crisis has been multi-dimensional
  - Labour Market
  - Incomes
  - Prices
  - Tax-Benefit System
- Interested in understanding the relative importance of different components
  - Across the income distribution
  - Across space



- **Lost most of the employment gain of Celtic Tiger**
- **Disproportionately Young or Male**
- **Employment rate of women under 35 higher than men in 2011**
- **Big falls in share of construction (50% fall in share amongst males)**

Drivers of Change

Budget Constraint for a married couple with children 2003-2007 (Adjusted for CPI)

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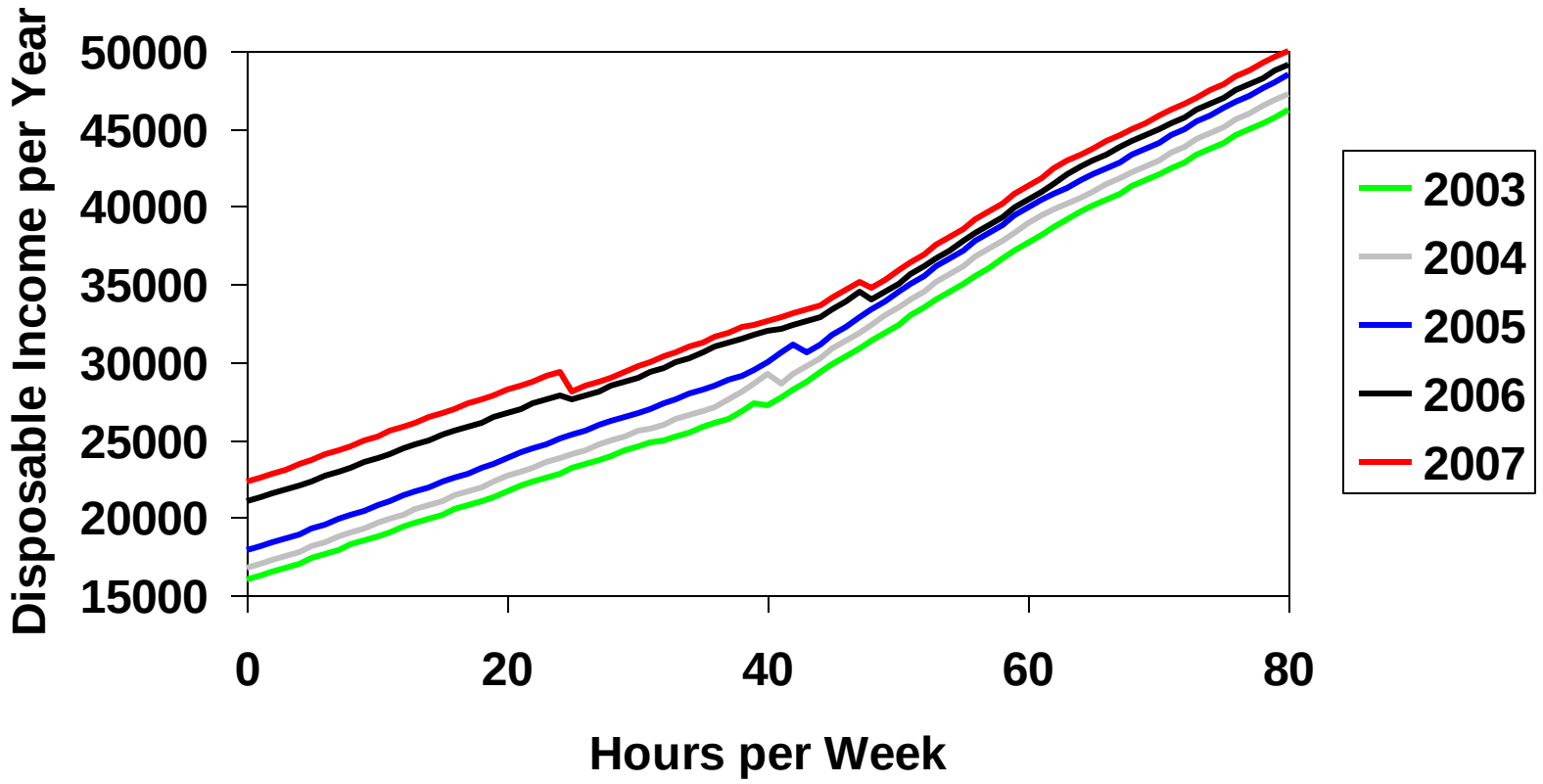

Budget Constraint for a married couple with children 2007-2013 (Adjusted for CPI)

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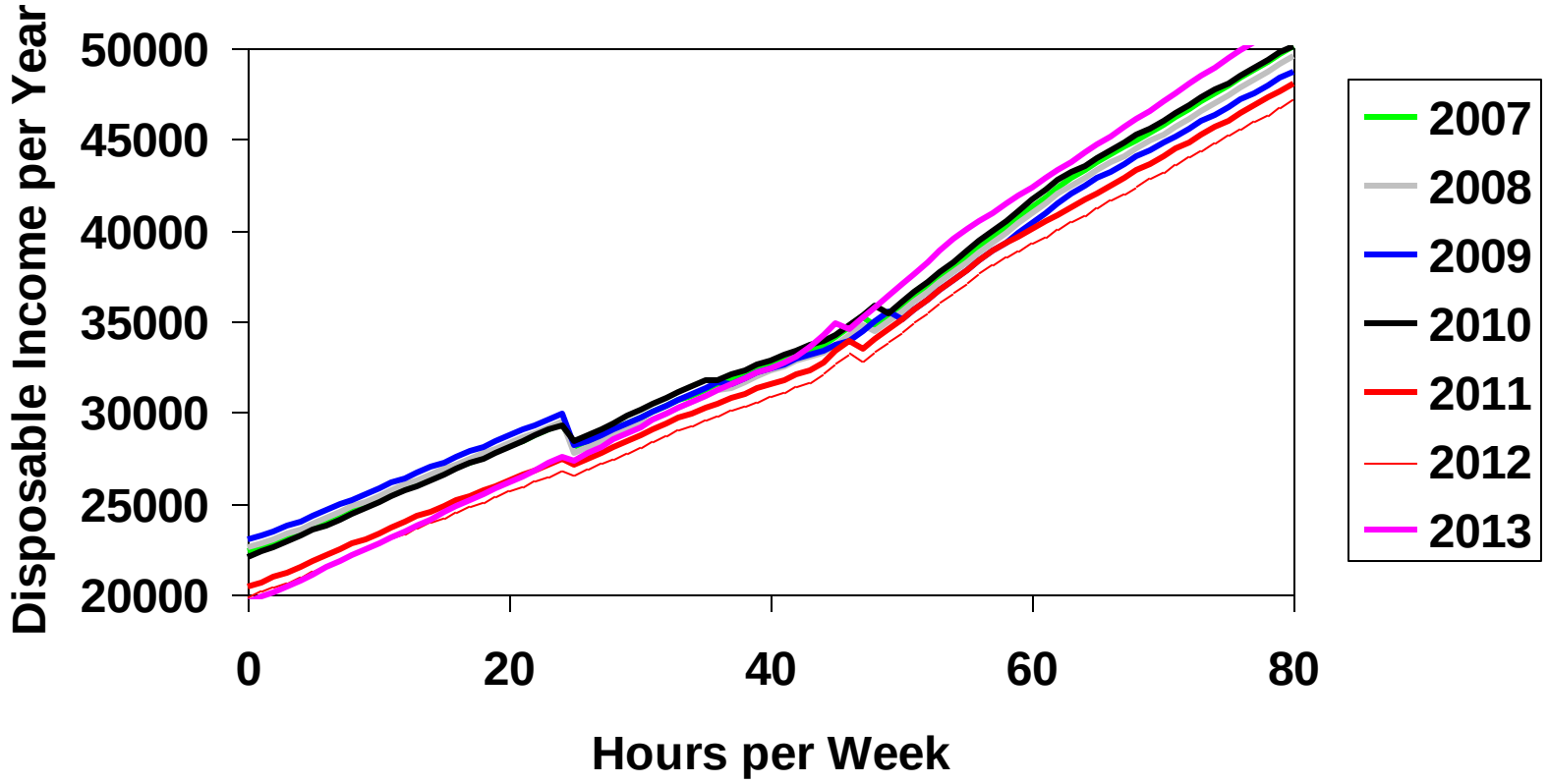
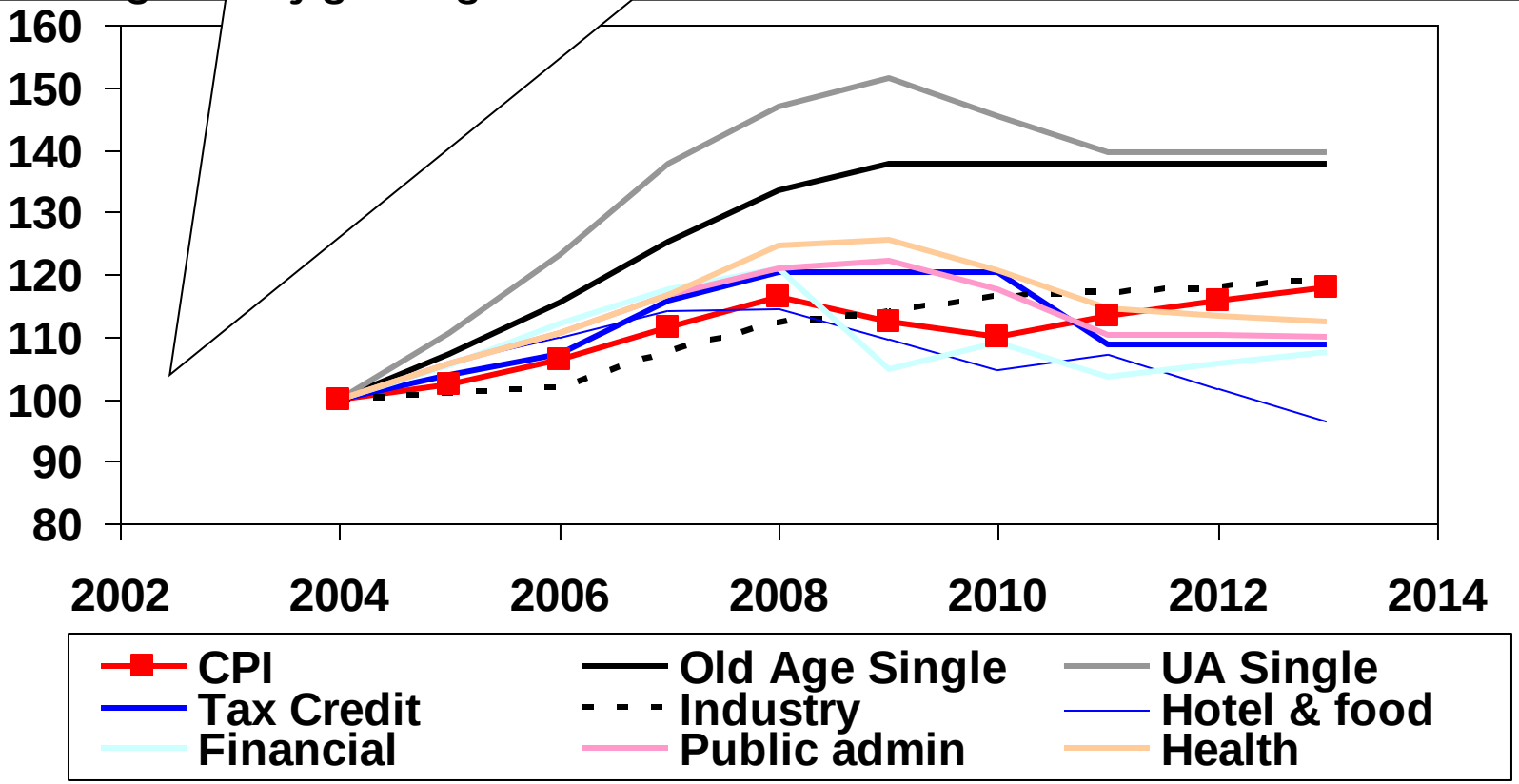


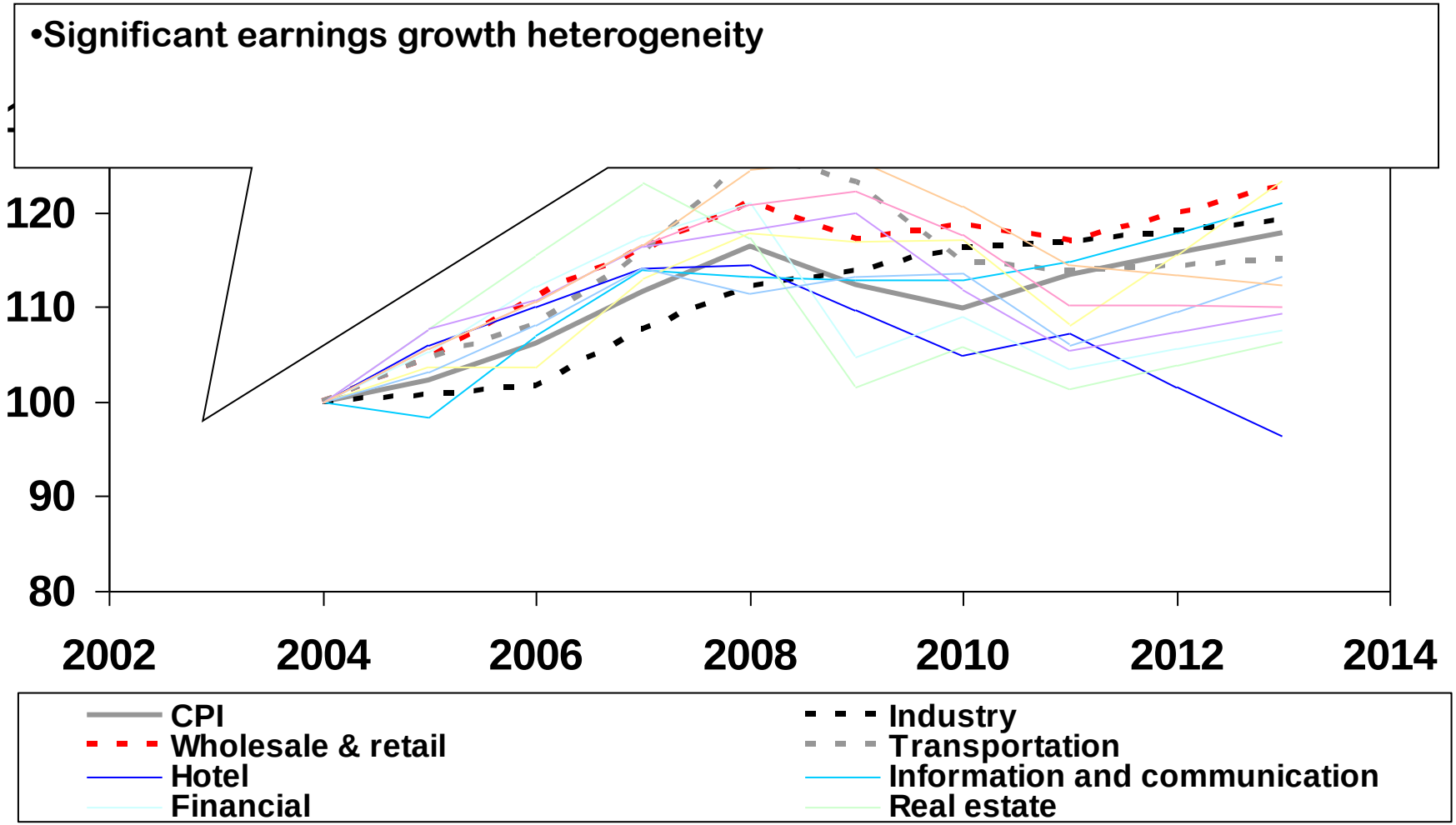
Price and Wage Inflation and Policy Updating (2004-2013)

- Benefits growing faster than CPI
- Earnings mainly growing less than CPI



Price and Wage Inflation (2007-2013)

•Significant earnings growth heterogeneity



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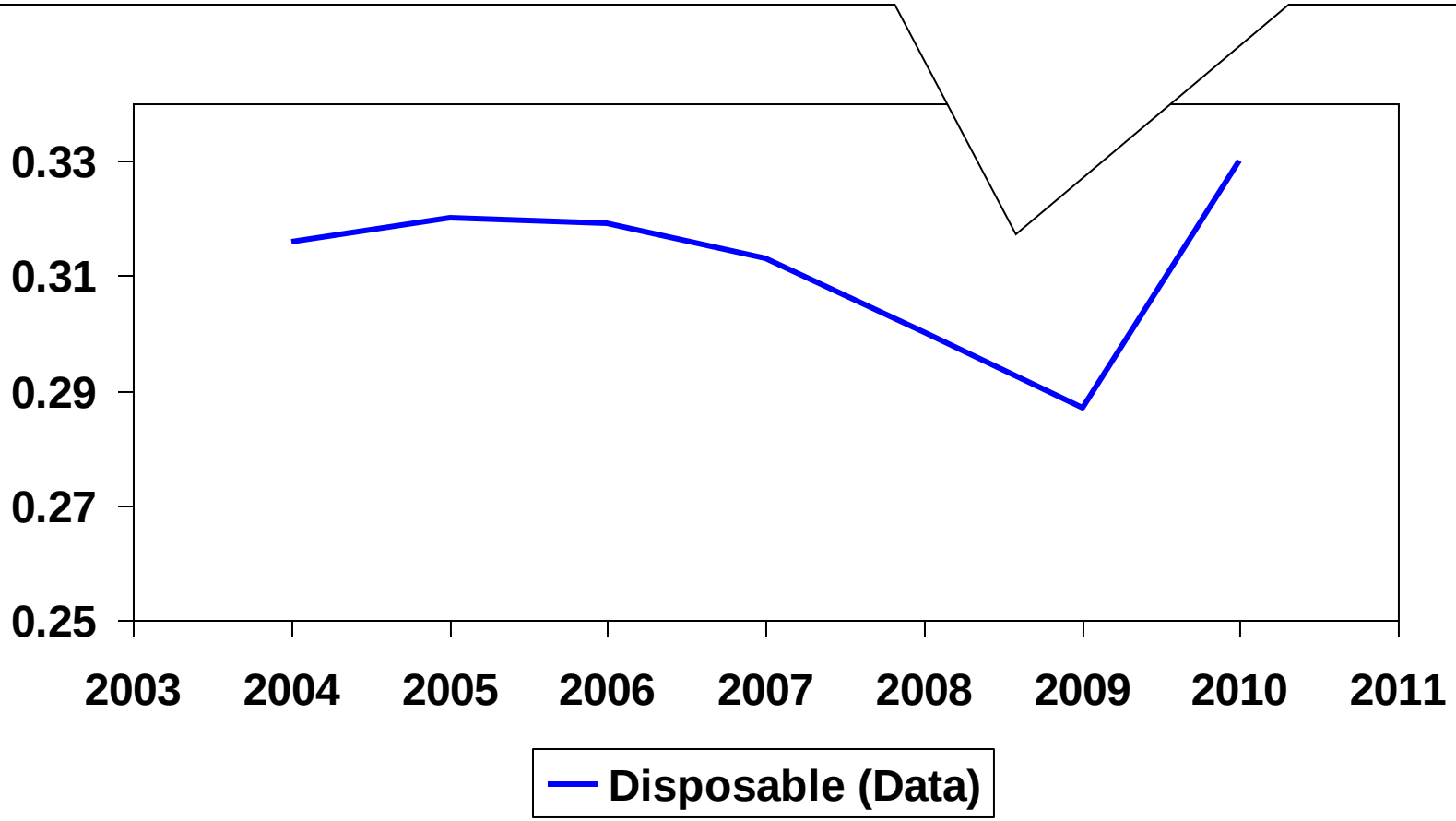
Creating a Microsimulation Model – Using Irish EU-SILC

- Gini rose to peak in 2005, falling over 3 points between 2005 and 2008 with onset of crisis
- Rose Again to 2010 (Issue with 2010 data)

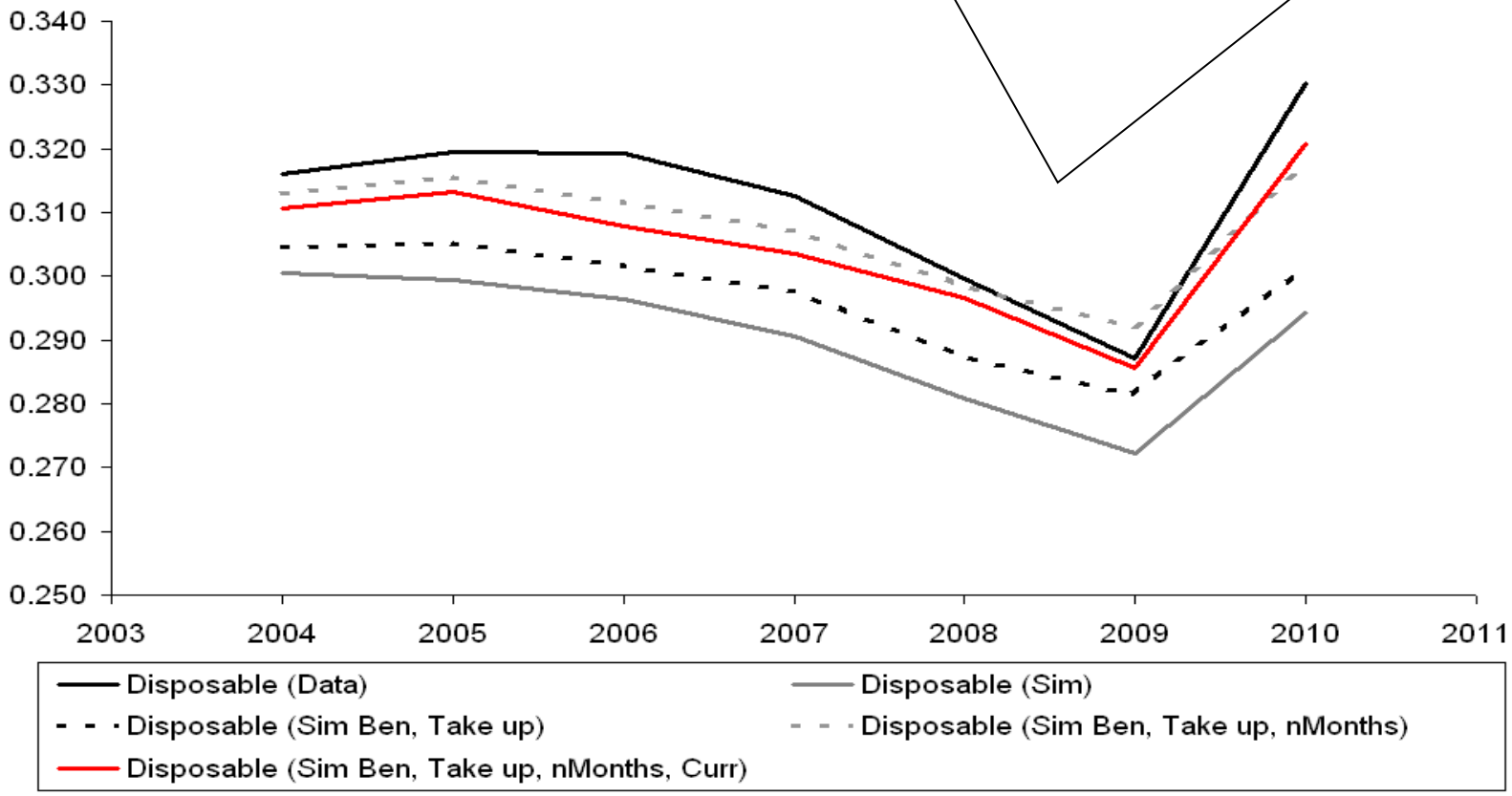


Equivalised Disposable Income (parametric equivalence scale, 0.5)

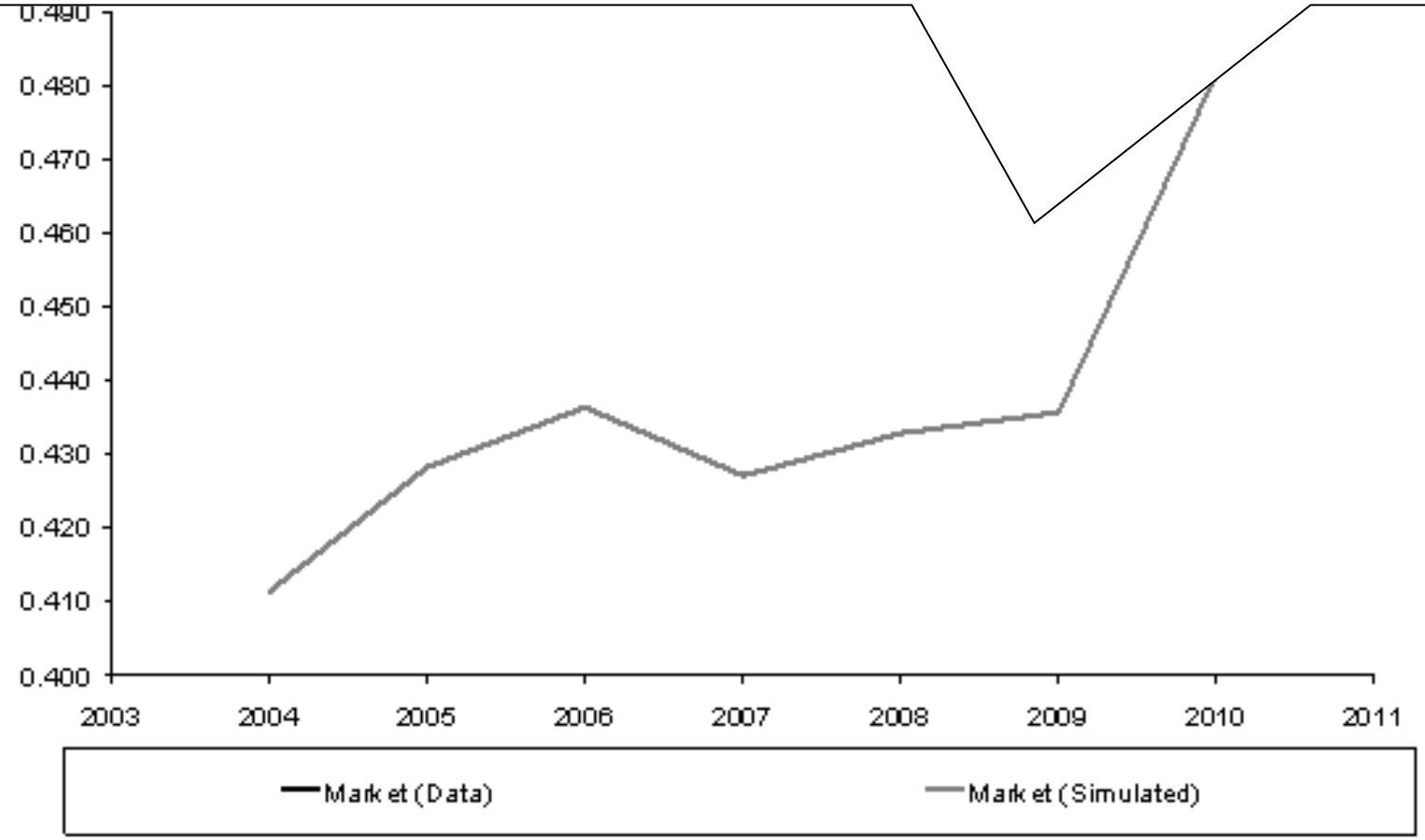
Microsimulation Model

- Microsimulation Model
  - Simulation of policy and socio-economic change at a micro level
- Data Issues with Eurostat version of EU-SILC
- Key Challenge Aggregation of Benefits
- Number of Months Received
- Difference between Actual and Simulation Tax-Benefits
  - Benefit Take-up
  - Tax Differential

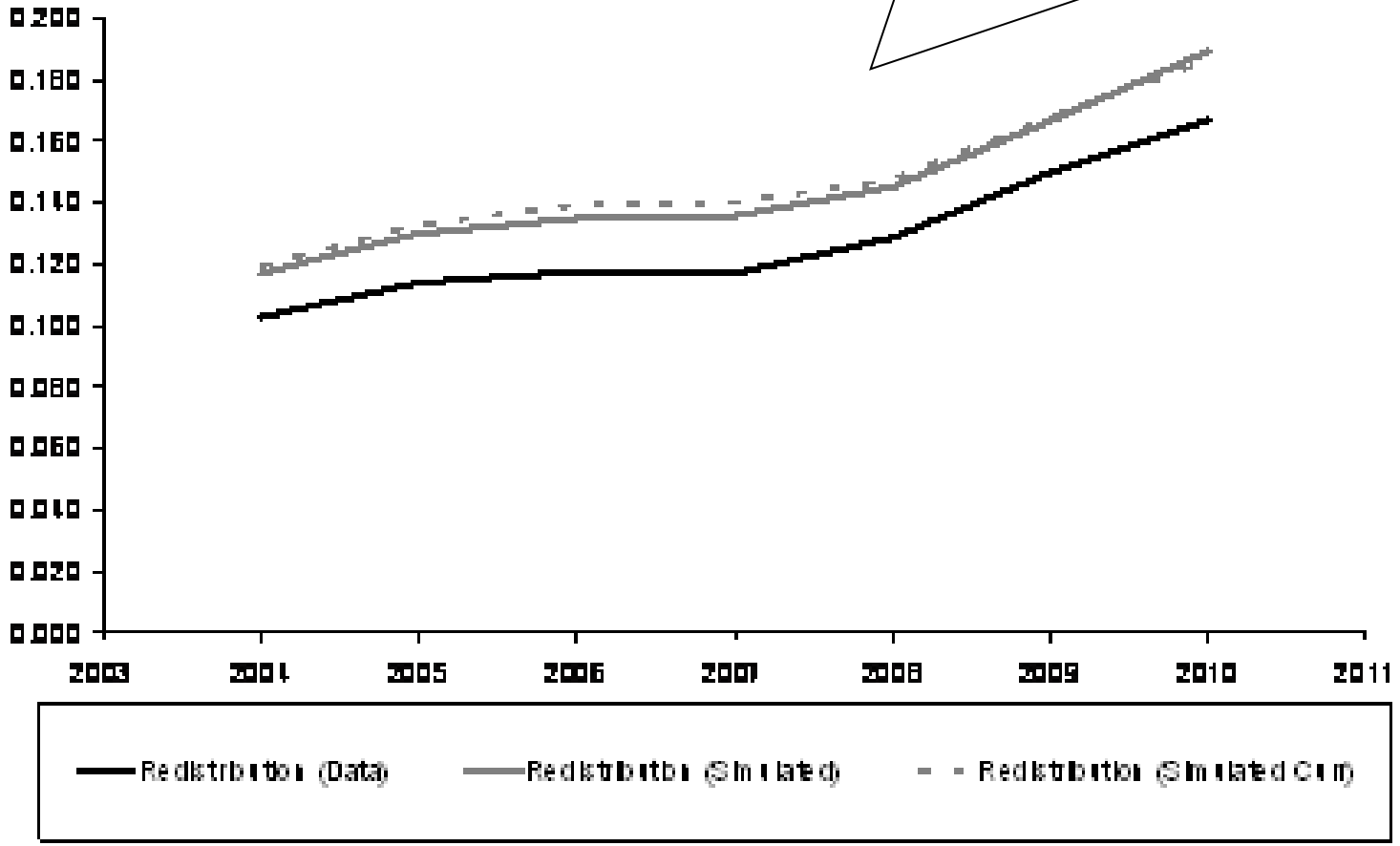
- Assumption of full benefit take-up and 12 months benefit receipt accounts for most of the gap between the simulated and actual
- Trend is captured but at a lower level
- However gap widens in 2010 (Gap fell in revised data)



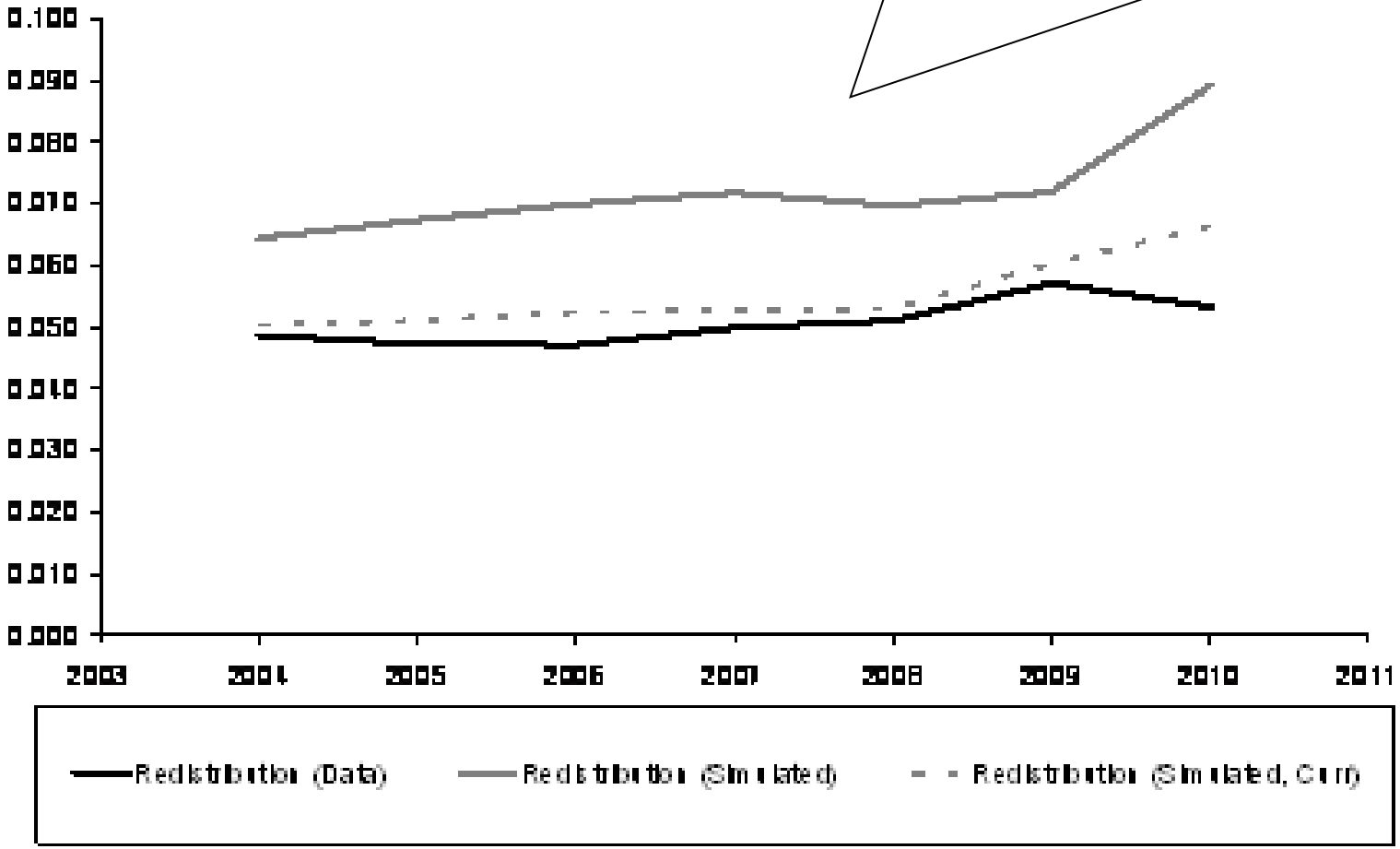
- Rising market income inequality
  - Different sectors impacted quite differently



- Rising Redistributive Impact of Benefits System
  - Simulated similar trend to Actual



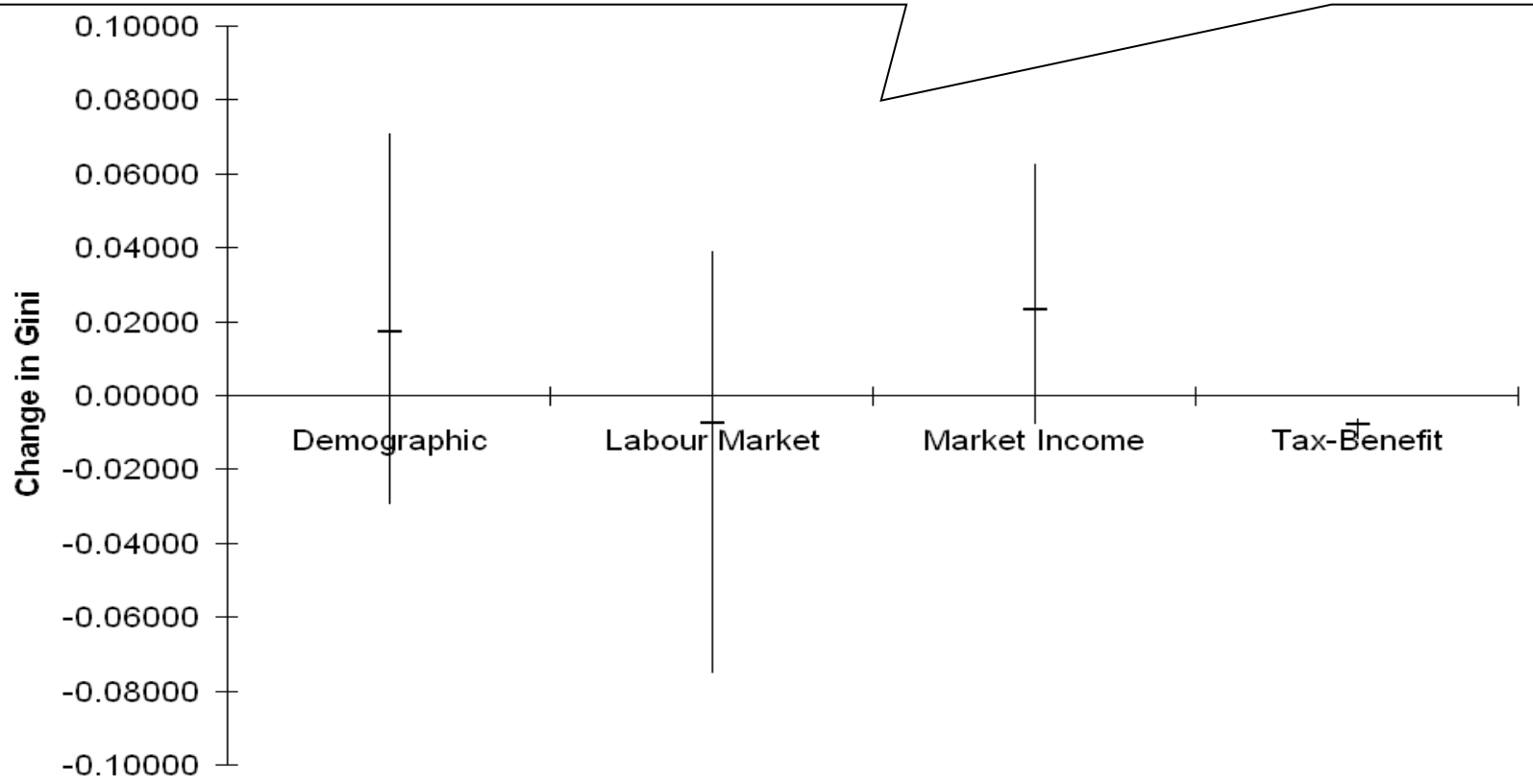
- Rising Redistributive Impact of Tax System
  - Simulated similar trend to Actual except 2010 but likely to change with re-adjusted data



- **Taxes and Benefits more progressive as policy has become more targeted**
  - **However redistribution has been driven the rate or expenditure effect due to greater numbers in receipt of benefits and higher taxation levels**

	Taxes and Levies		Benefits	
	Progressivity	Receipt	Progressivity	Expenditure
2004	100	100	100	100
2005	103	98	106	107
2006	109	97	107	115
2007	107	97	108	120
2008	109	98	106	139
2009	105	113	112	168
2010	110	116	121	185

- Decomposing inequality changes into effects 2007-2010
  - Market Income and Demographic changes have been pushing inequality upwards
  - Labour market structure and policy have been pushing in the other direction



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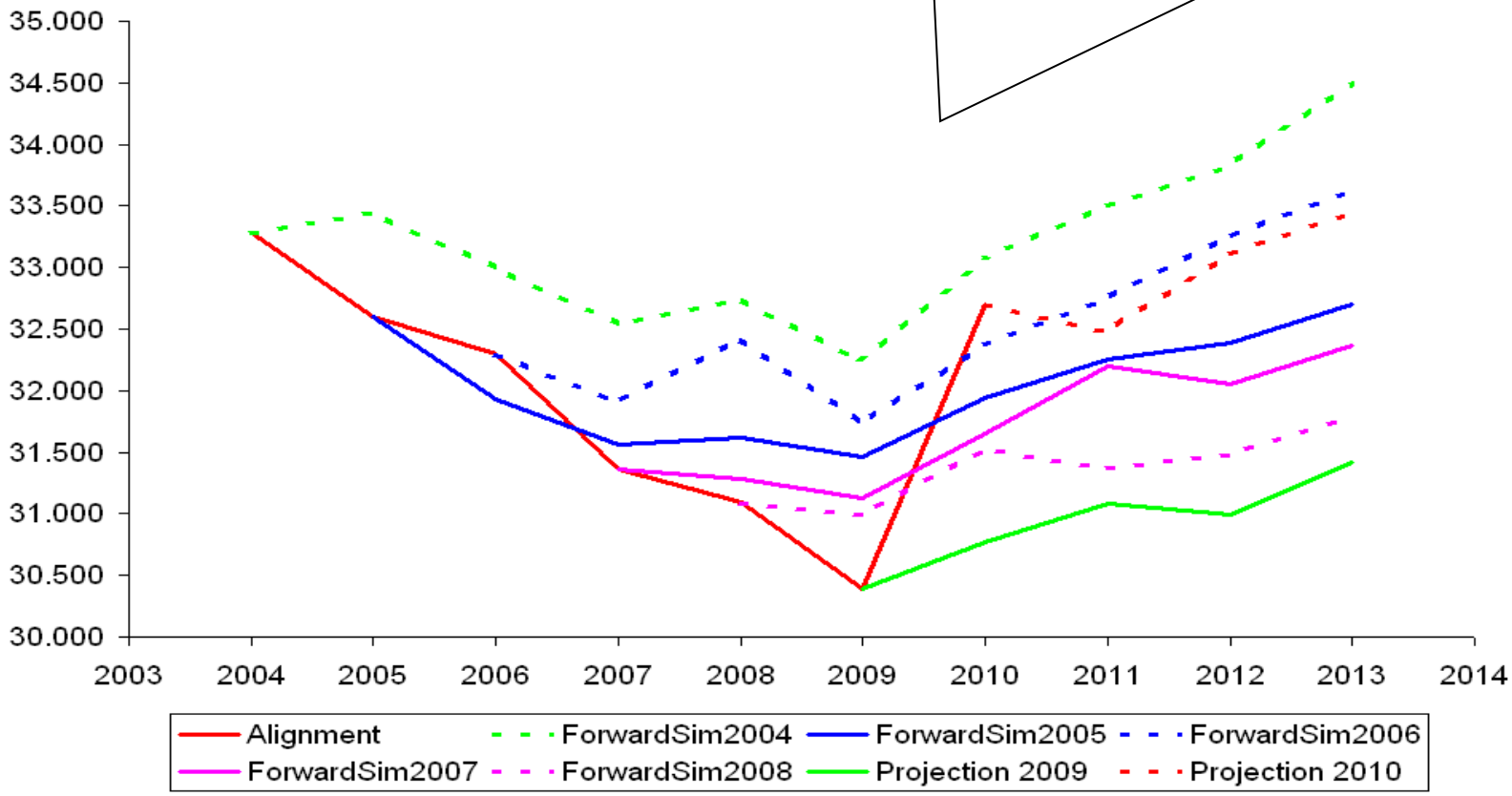
Nowcasting Inequality Levels

Challenges

- Fast moving economic situation
  - Significant policy changes → need quick analysis
  - However data often produced at a lag of two years
  - However other data sources (LFS, Admin Data) more quickly available
- Reweighting tools in this fast moving environment may not give us enough control to adapt to the component changes
- Solution apply a “dynamic” microsimulation model

- In order to project we use alignment or calibration
- Firstly comparing history with alignment → similar trend by higher inequality due to different employment rates between micro data and external data
- Project using the same calibration totals

- Now casting → can pick up major trends
- But there is both error relative to actual and differences in structure of dataset



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Local Economy

Impact of the economic downturn on Unemployment Rate (% Change) – Type of Area

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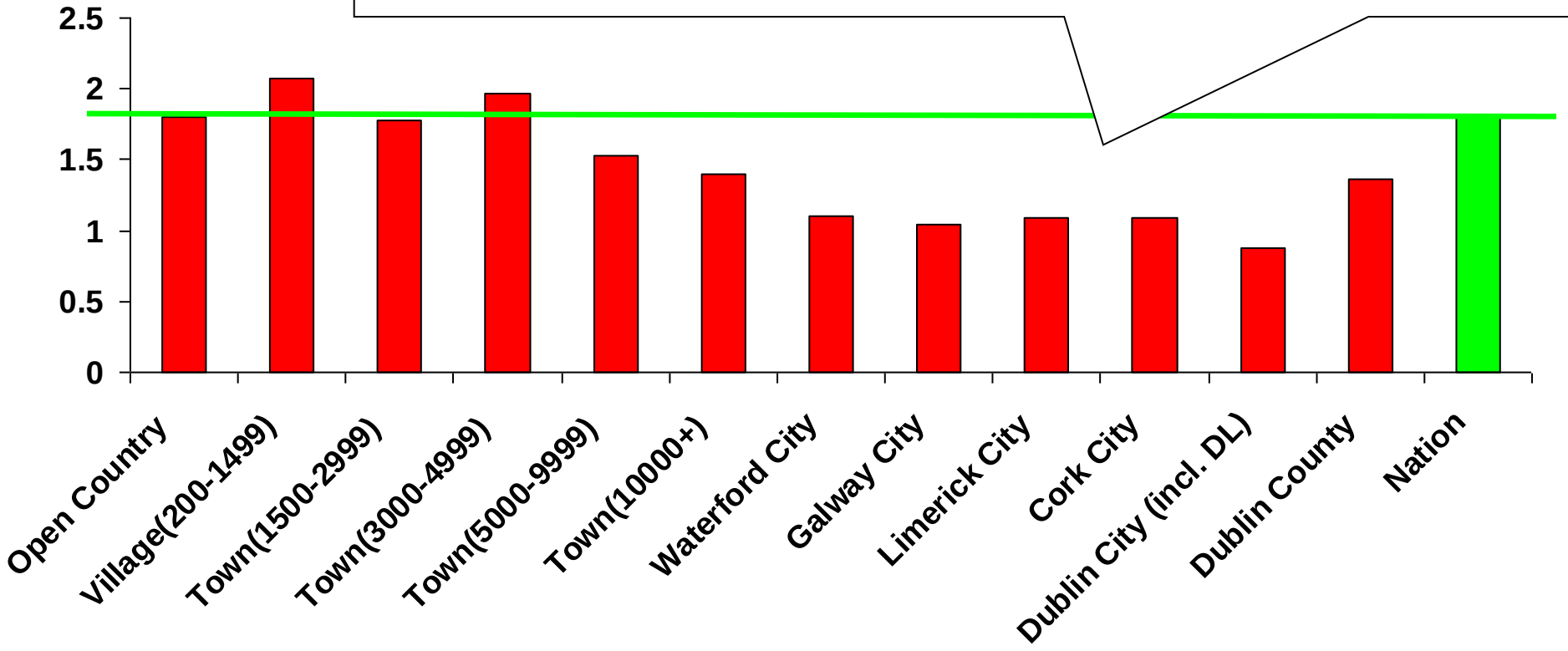
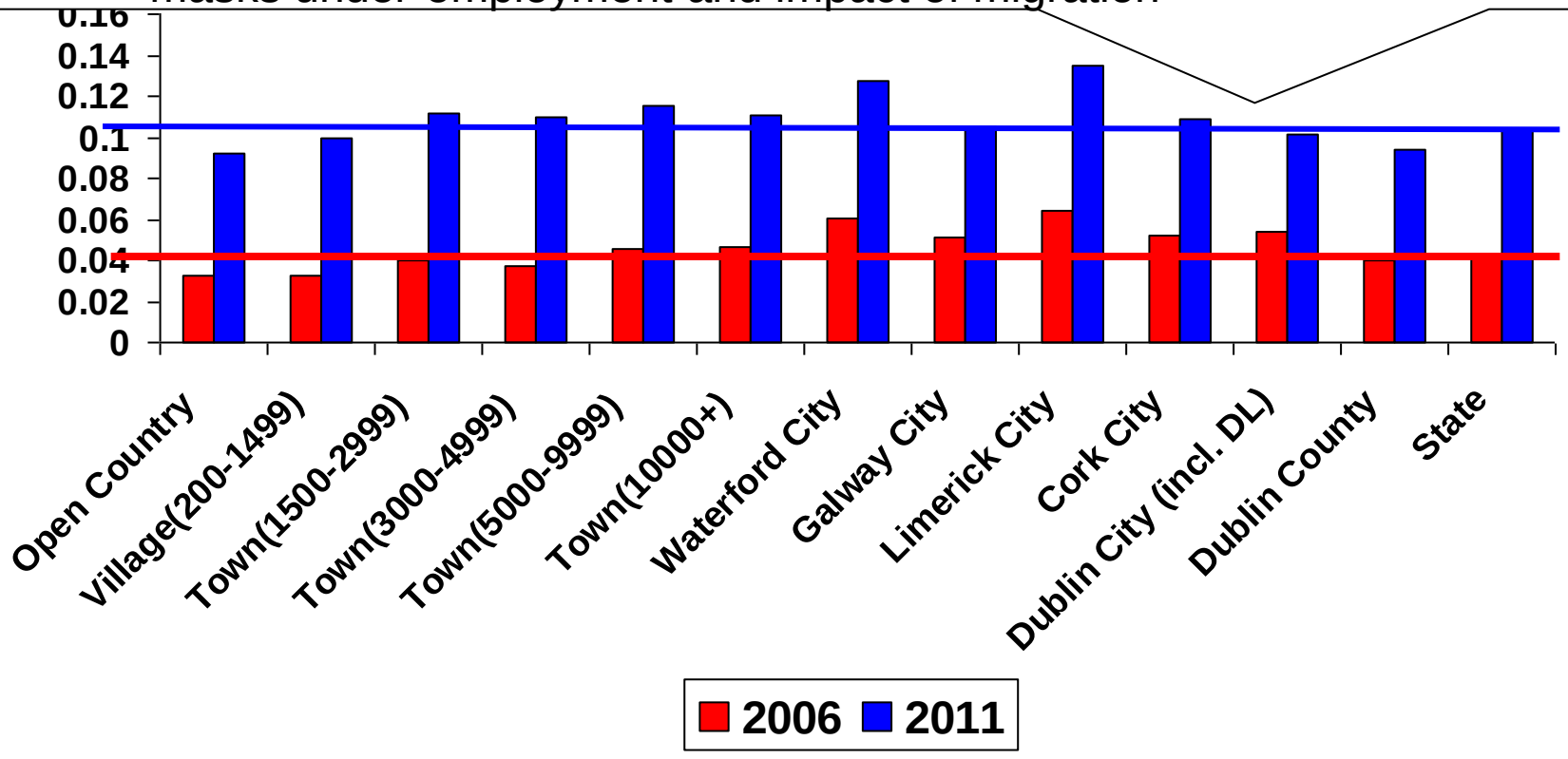
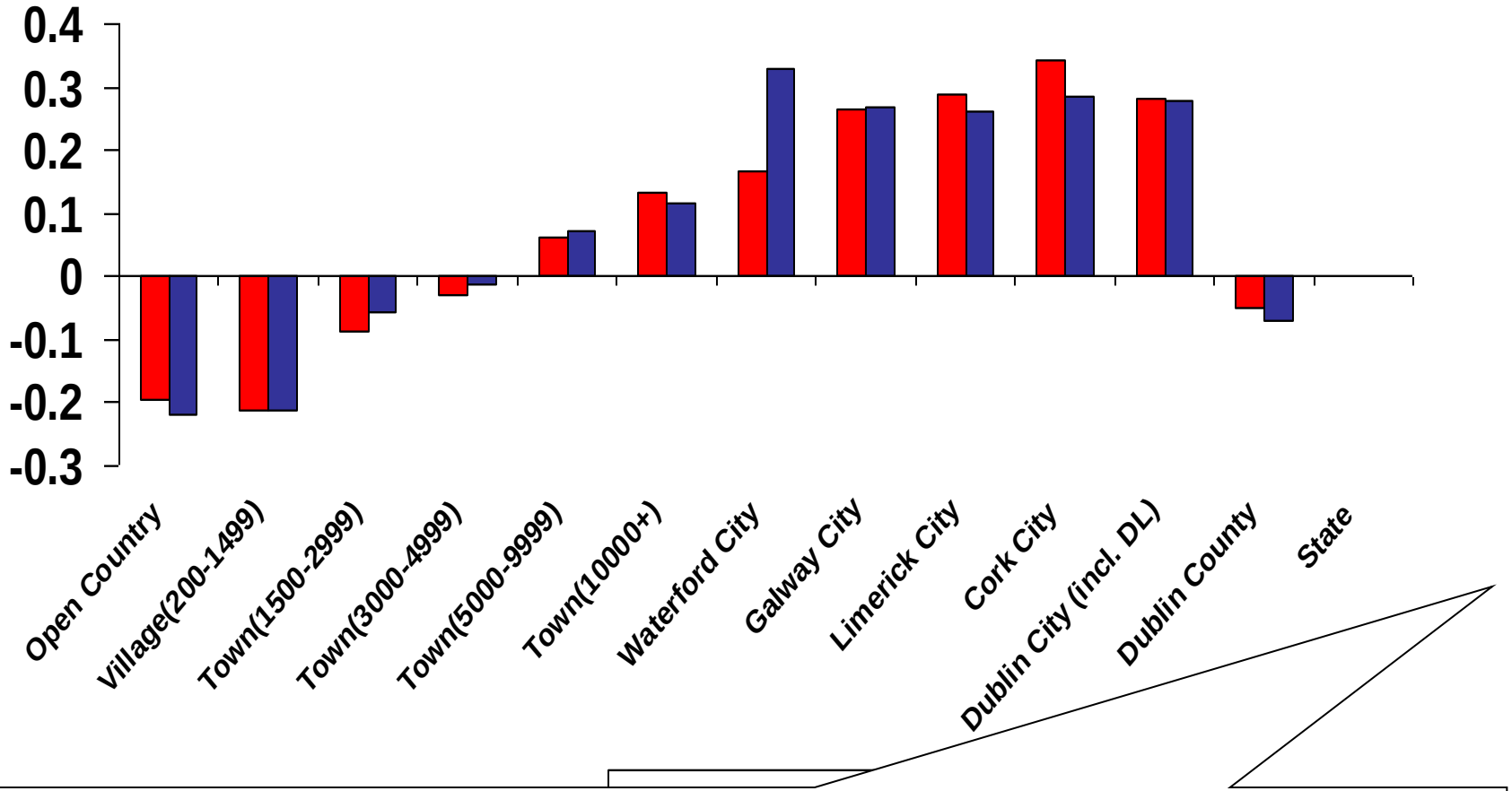
Small and Medium sized towns → biggest impact – change in unemployment



- Levels versus Change
- Unemployment Rates higher in medium sized market towns, Waterford, Limerick
- Market towns went from below average to above average
- Lower unemployment rate in countryside and villages
  - masks under-employment and impact of migration



Net Jobs Share 2006-2011
(Jobs-Employment Divided by Population over 15)

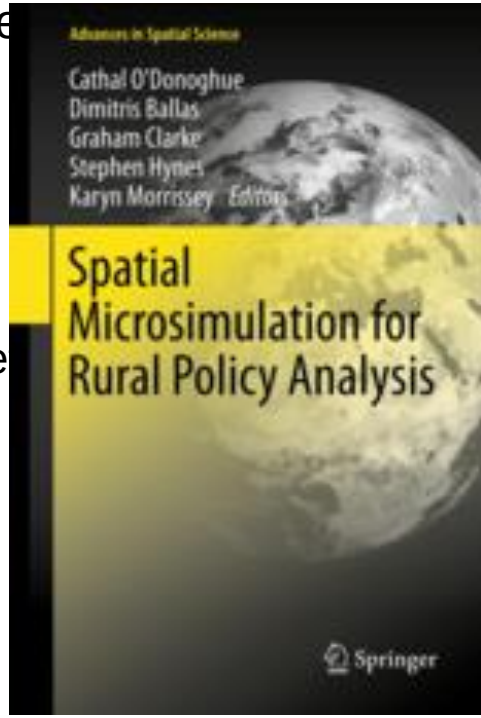


Jobs – where workers work; Employment – where workers live
- Net Jobs – Jobs minus number in employment

Towns 5000+ →more Jobs than Employed Residents
- Source of jobs for hinterland

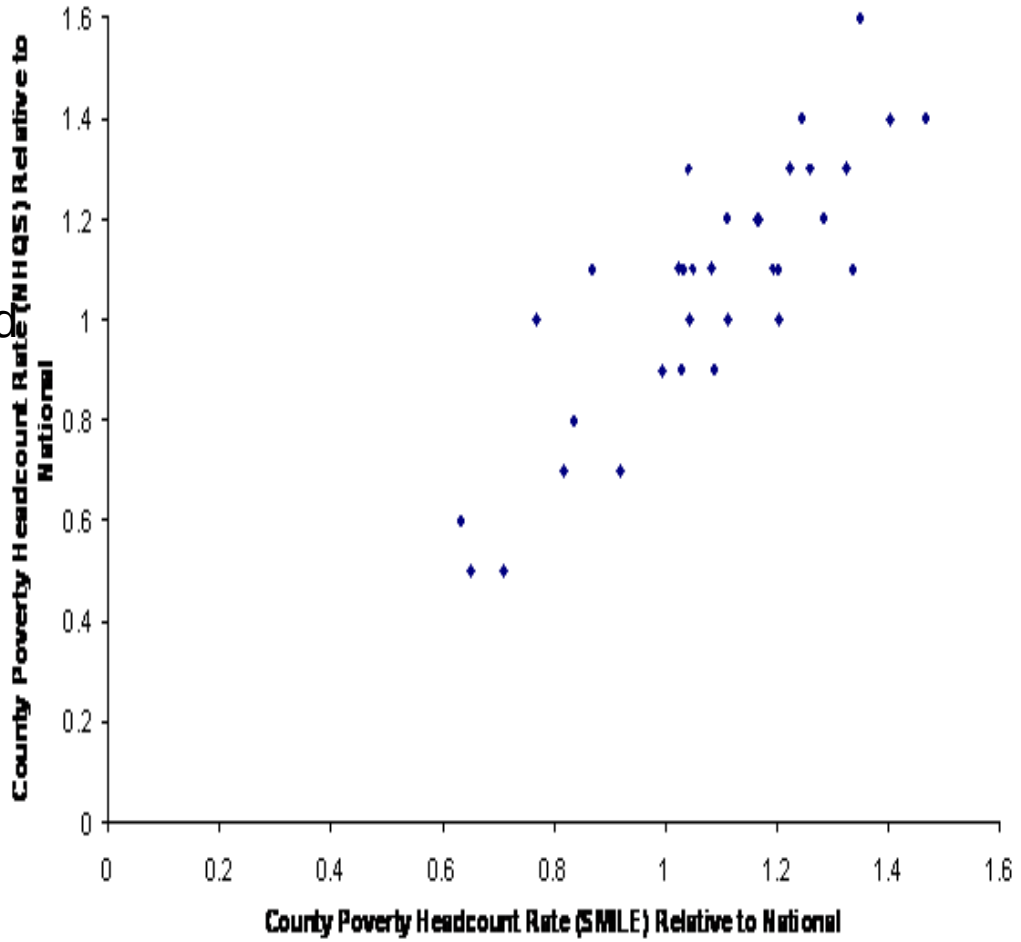
Spatial Income Analysis Challenges

- No spatial income data
  - Census has no incomes
- Income Data has no spatial component
  - Solution → Develop a Spatial Microsimulation Model of the Irish Local Economy
- Baseline Population
  - Utilise Quota Sampling [Farrell et al., 2012]
  - Sampling Households from EU-SILC
  - Calibrated to 3400 districts from 2006 Small Area Census
  - Improve spatial heterogeneity via Aligned Simulation [Morrissey et al., 2012]

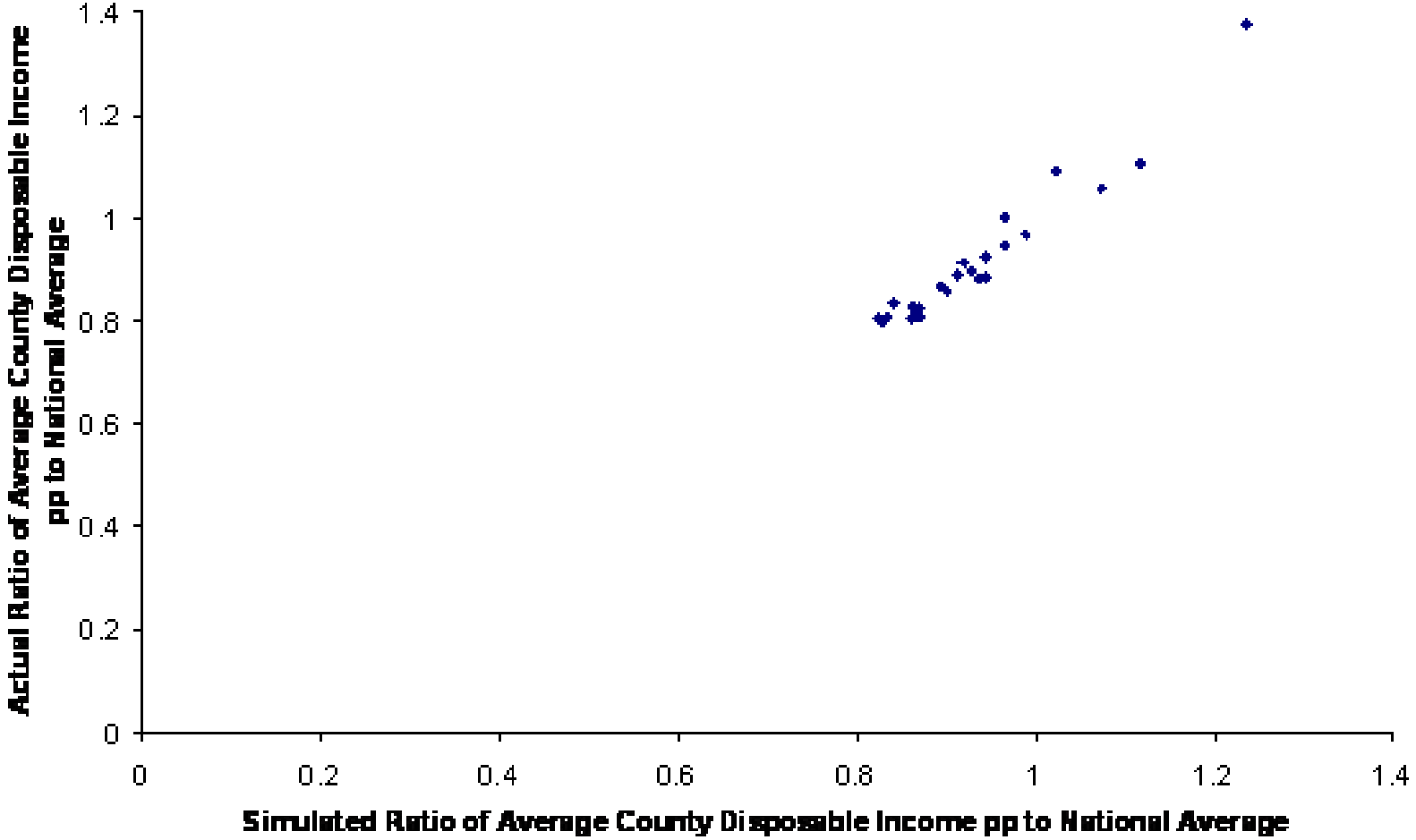


External Validation – County Poverty Relative to External Data

- Match variables
  - Excellent Match
- Compare
  - SMILE Household Poverty Rate by County
  - ESRI Survey on Household Quality
- Correlation 0.85



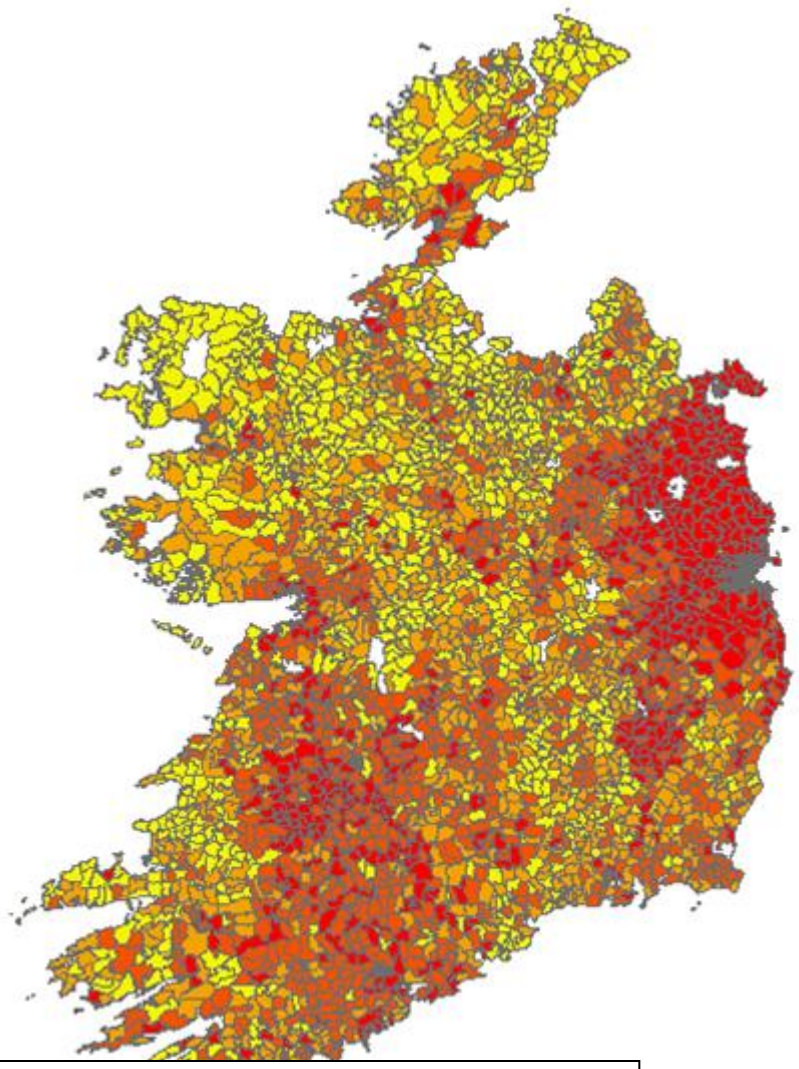
Validation Average Disposable Incomes – post calibration



Spatial Map of Disposable Income

Average Modelled Disposable Income
Relative to State = 100

Open Country	93
Village(200-1499)	97
Town(1500-2999)	99
Town(3000-4999)	96
Town(5000-9999)	101
Town(10000+)	102
Waterford City	100
Galway City	99
Limerick City	104
Cork City	102
Dublin City (incl. DL)	131
Dublin County	122



- **Highest Incomes around cities in the East and the SW**
- **Incomes in rural areas and towns below average due to less to employment rate, but more under-employment, sector of employment and lower skill levels**

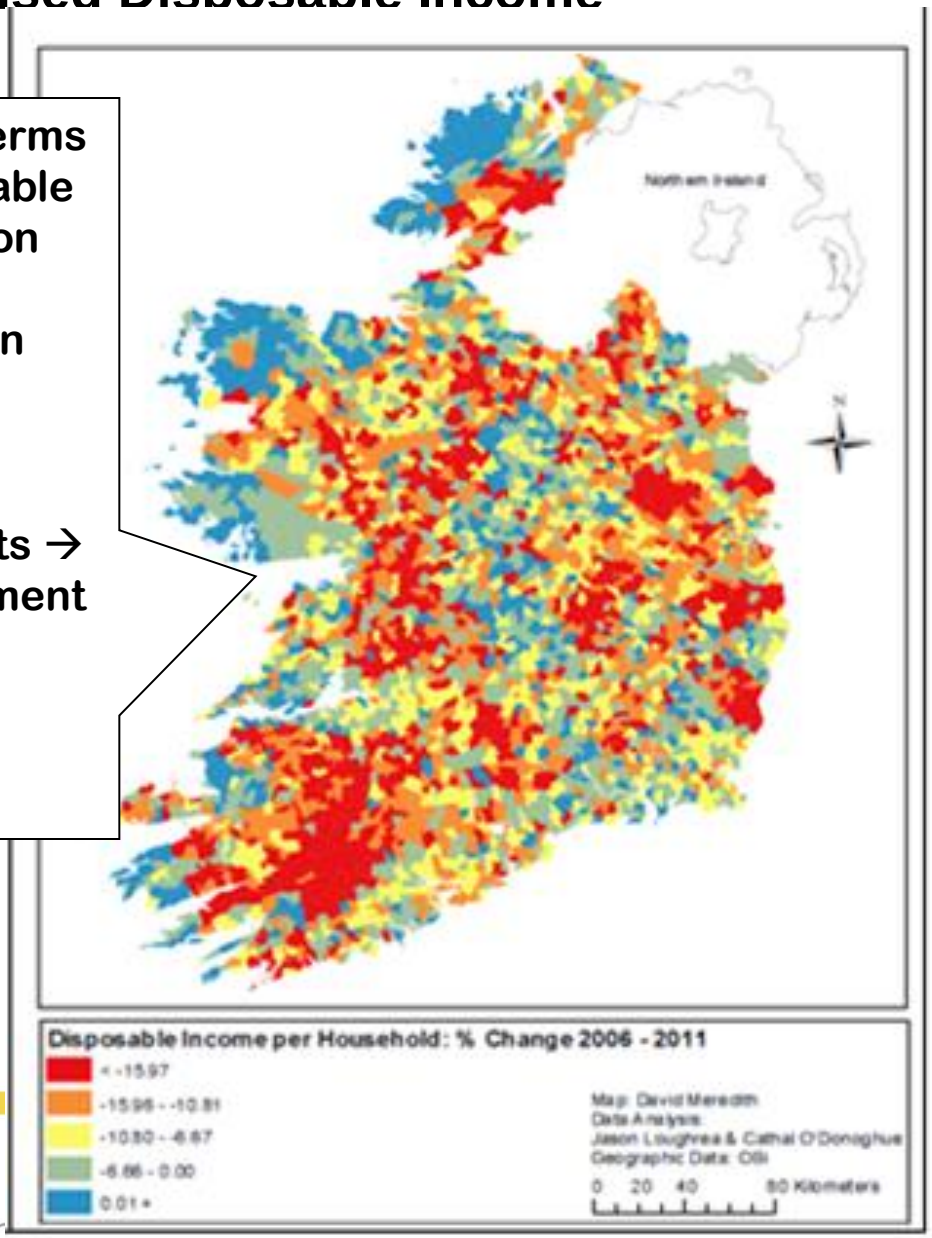
Between and Within District Variability

- **However Most inequality between person within district rather than between district**

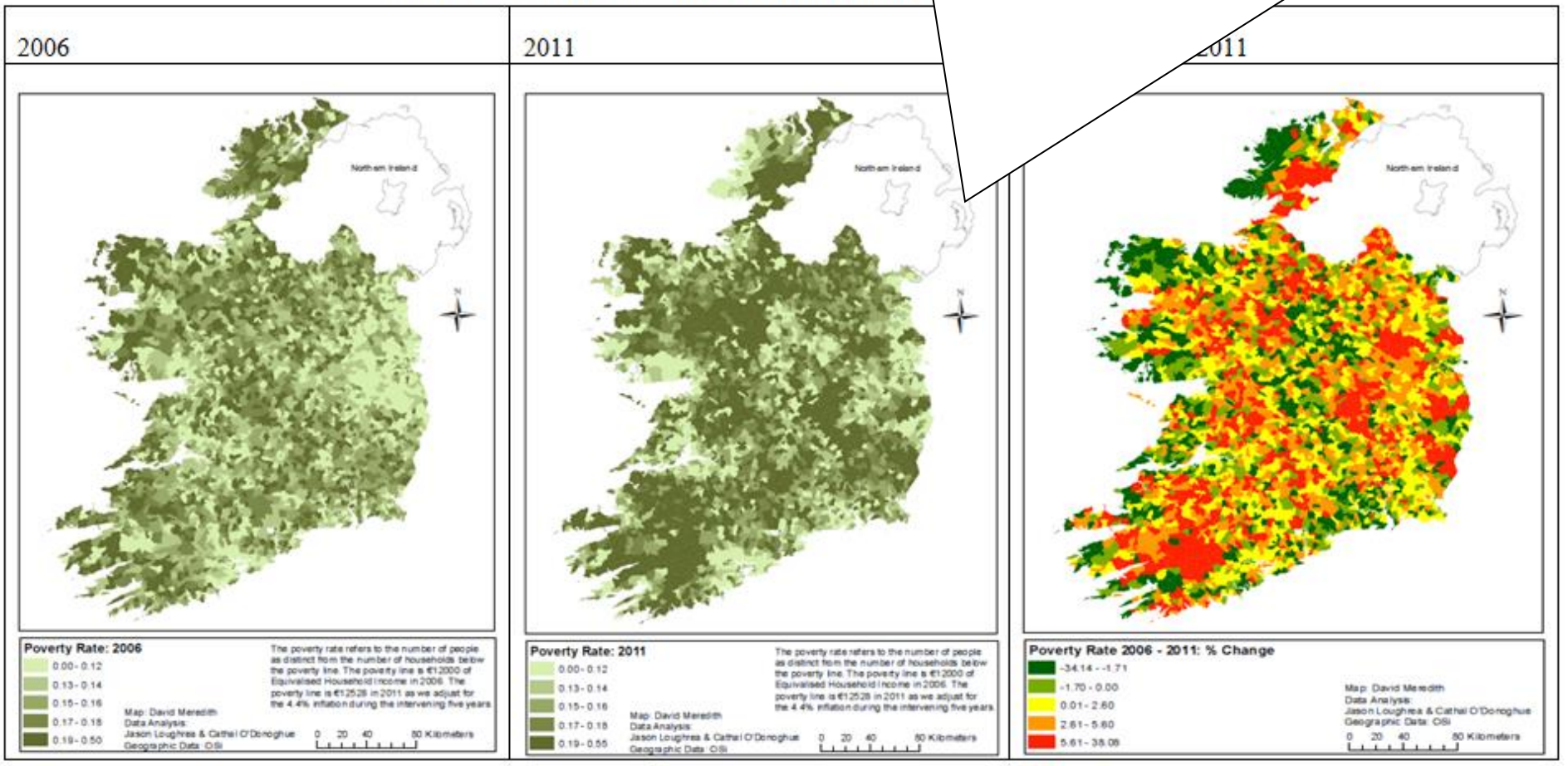
	District
Market Income	
I2	0.46
Between %	5.3
Within %	94.7
Gross Income	
I2	0.31
Between %	5.3
Within %	94.8
Disposable Income	
I2	0.21
Between %	5.6
Within %	94.5

Change in Equivalised Disposable Income

- Model resulting impacts in terms of market income and disposable income using a microsimulation model
- We see a general reduction in living standards (red), but differential effects
- Biggest falls in towns and villages under 5000 inhabitants → reflecting changes in employment



- Higher poverty in Deep Rural areas relative to Commuting Zones
- The pattern of higher poverty spread to wider areas, reflecting the changed employment and income changes



Commission for the Economic Development of Rural Areas

- Given both the **differential degree of economic development and the variable impacts of the economic downturn** between urban and rural areas,
- **the Commission is invited, to develop a strategy guiding medium-term economic development of the Rural Areas for the period to 2025.**
- The strategy will
  - **outline the key actions needed to ensure that rural areas, to the maximum extent will, contribute to and benefit from economic recovery**
  - **identify ways in which rural areas can contribute to and benefit from national economic development strategies**
  - be **cognisant of pressures on the public finances** in making recommendations
  - **inform prioritisation made by Government** and other stakeholders in implementing future actions
- It is expected that the **draft strategy will be presented to the Minister for in September 2013.**

Thank You