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The effect of the financial crisis on older households in England

(*paper at http://www.ifs.org.uk/wps/wp1209.pdf*)

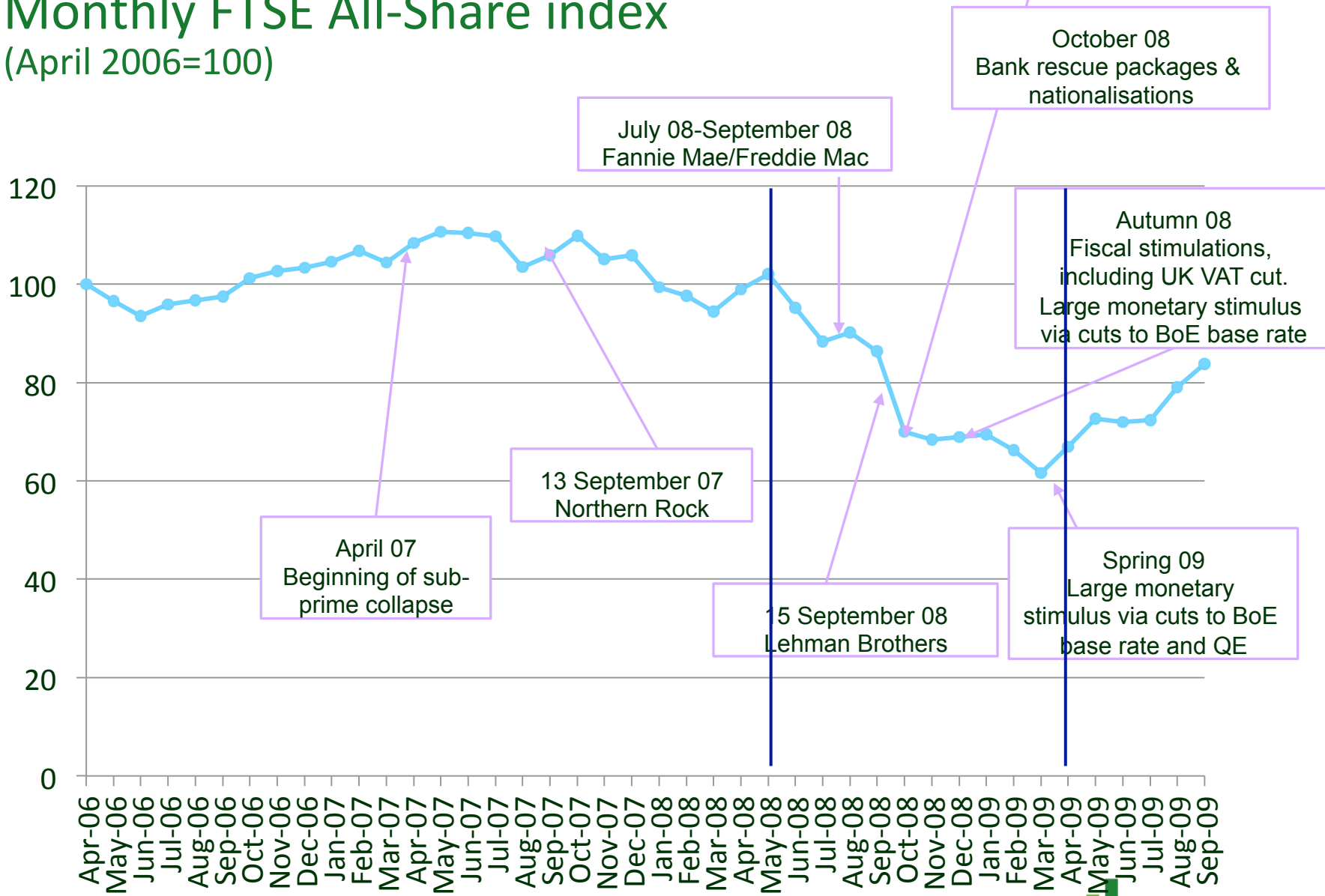James Banks, Rowena Crawford, **Thomas F. Crossley** and Carl Emmerson

Introduction

- Recent financial crisis associated with large asset prices falls

- In the UK in 2008–09

  - FTSE All-Share Index fell by one-third

  - Nationwide House Price Index fell by one-fifth

- Will have caused substantial, largely unanticipated, drops in household wealth

- Retired and particularly near-retired may be especially vulnerable to these wealth shocks.

  - Short horizons, fewer margins for adjustment; less human wealth, more financial wealth

- Aims of this paper:

  - Document the scale and distribution of shocks to wealth

  - Investigate the impact of wealth shocks on consumption and expectations

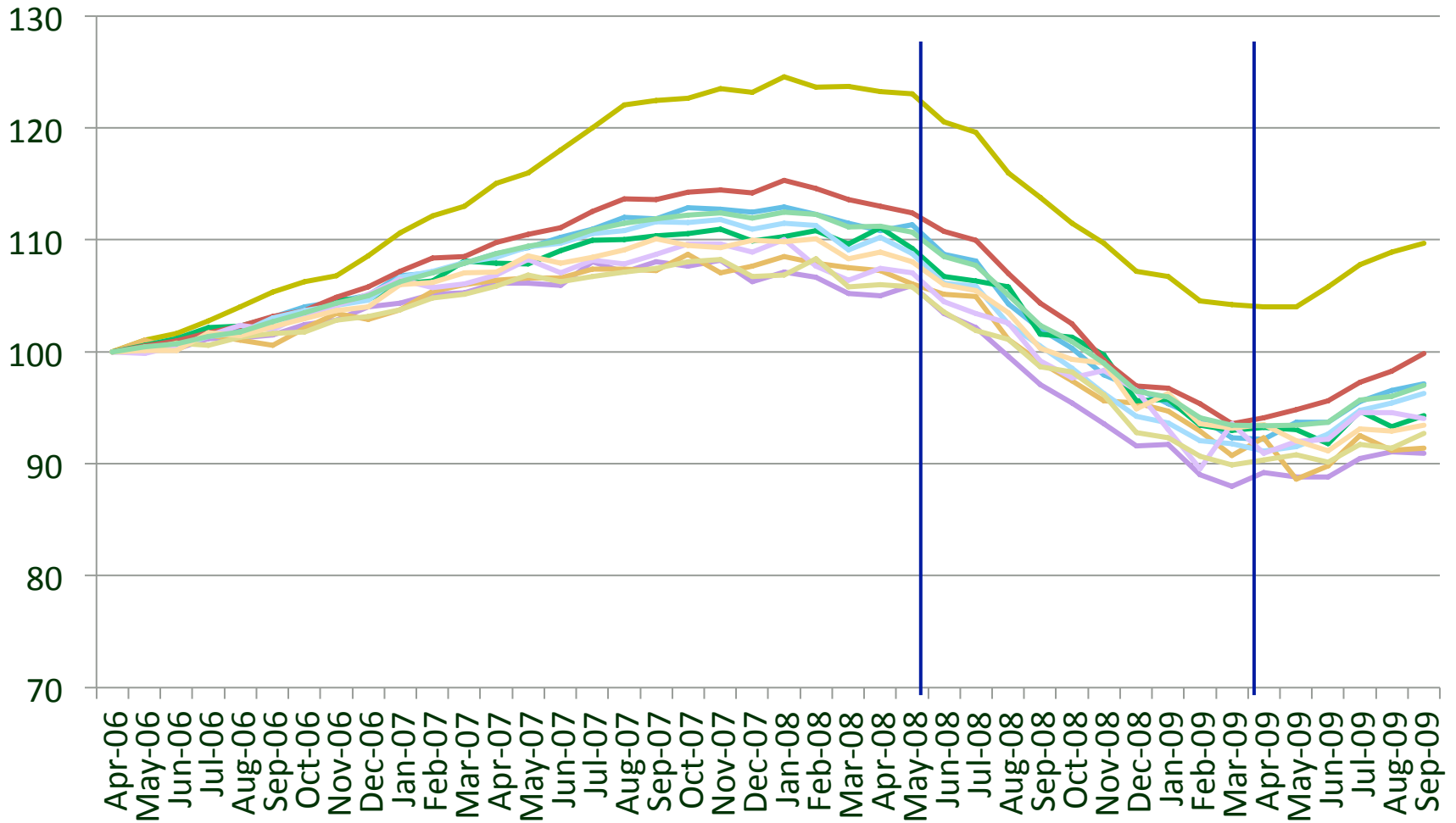Institute for
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Outline

- UK crisis timeline

- Data

- Scale and distribution of financial losses

  - Simulated

  - Actual

- Effects on expenditure and expectations

  - Methodology

  - Results

- Conclusions and future directions

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Monthly FTSE All-Share index
(April 2006=100)

July 08-September 08
Fannie Mae/Freddie Mac

October 08
Bank rescue packages &
nationalisations

Autumn 08
Fiscal stimulations,
including UK VAT cut.
Large monetary stimulus
via cuts to BoE base rate

13 September 07
Northern Rock

April 07
Beginning of sub-
prime collapse

15 September 08
Lehman Brothers

Spring 09
Large monetary
stimulus via cuts to BoE
base rate and QE

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Regional house price indices
UK Land registry data (April 2006=100)

Data: English Longitudinal Study of Ageing (ELSA)

- Representative of household population aged 50 and over in England

- Biennial, Wave 1 (2002-2003) to Wave 4 (2008-2009) available

- Information on financial wealth, debt and housing in every wave

  - Detailed information on the amount held in different asset types

- Full pension details in every wave

  - Sufficient to reasonably estimate pension income/wealth

- Information on *some* components of expenditure in every wave

  - Food consumed in the home, food consumed out of the home, clothes, household fuel

- Quantitative measures of expectations of the future

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Wealth Measurement in ELSA

- Benefit unit level

- Unusually comprehensive

- Detailed questions on pensions, real and financial wealth

- Unfolding brackets with open and closed intervals

- Conditional hot deck imputation (using bracketed responses)

- Estimation of public and private pension wealth

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Estimating pension wealth

- Pension income:
  - pensions in payment (private and state): use self-reported income
  - current DB: use self-reported pension tenure, salary and scheme rules
  - past DB: use self-reported pension tenure, impute final salary under assumption that earnings relative to median for sex/date-of-birth/ education cohort constant over time, apply typical scheme rules dependent on sector of employment
  - current and past DC: take self-reported accrued fund value, accrue at 2% real rate of return to SPA, apply market annuity rates
  - state pensions: take self-reported employment, earnings history calculated as for past DB, and apply state pension rules
- Pension wealth:
  - discounted PDV of these income streams to sex specific life expectancy (plus any survivor benefits)

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Timing of the ELSA surveys
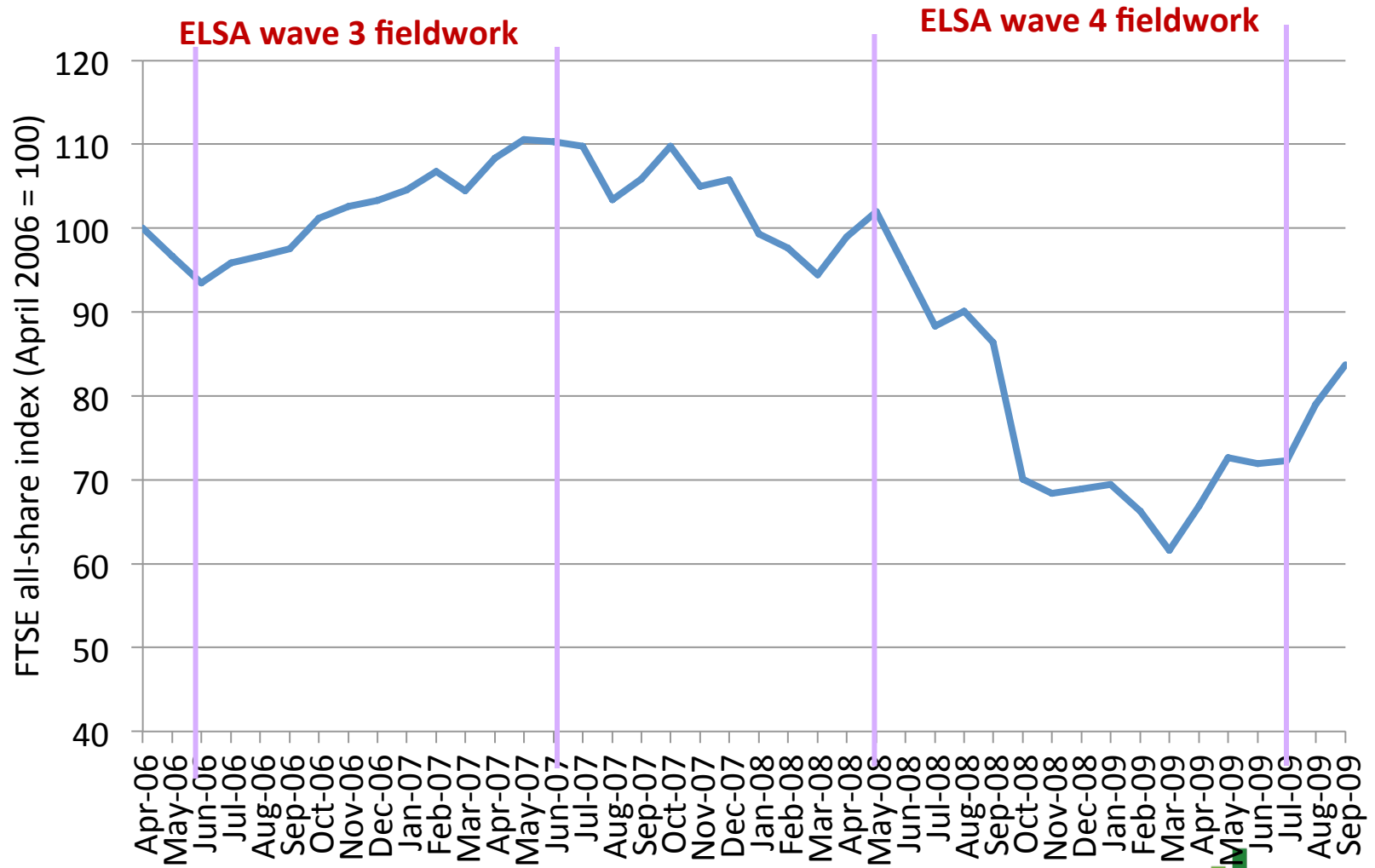
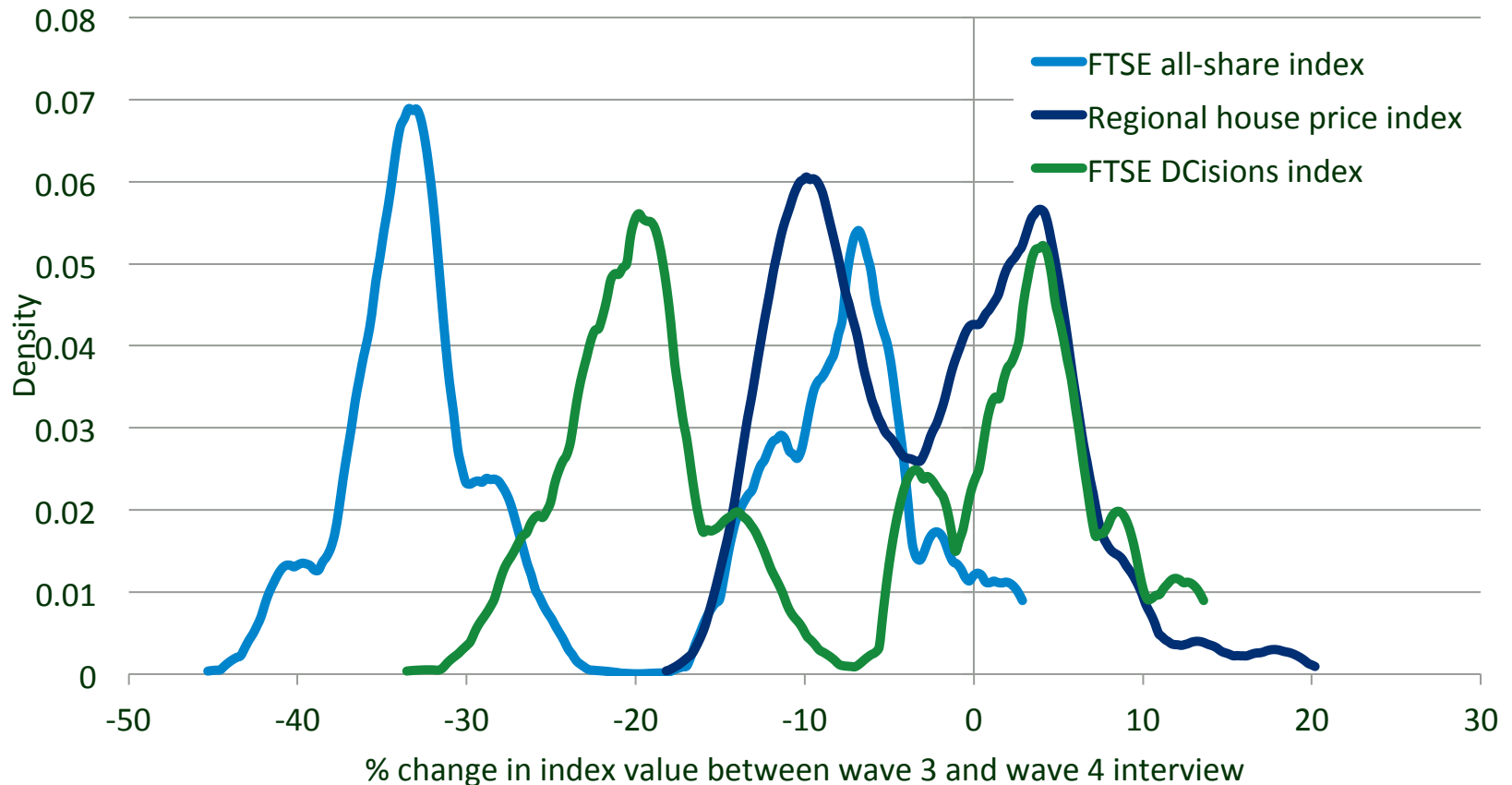# Calculating predicted wealth changes

- Exposure of wealth to financial crisis measured using pre-crisis (wave 3) holdings of different types of assets

- Predicted losses (or gains) computed using pre-crisis wealth holdings and change in asset price indices between month of interview in wave 3 and wave 4
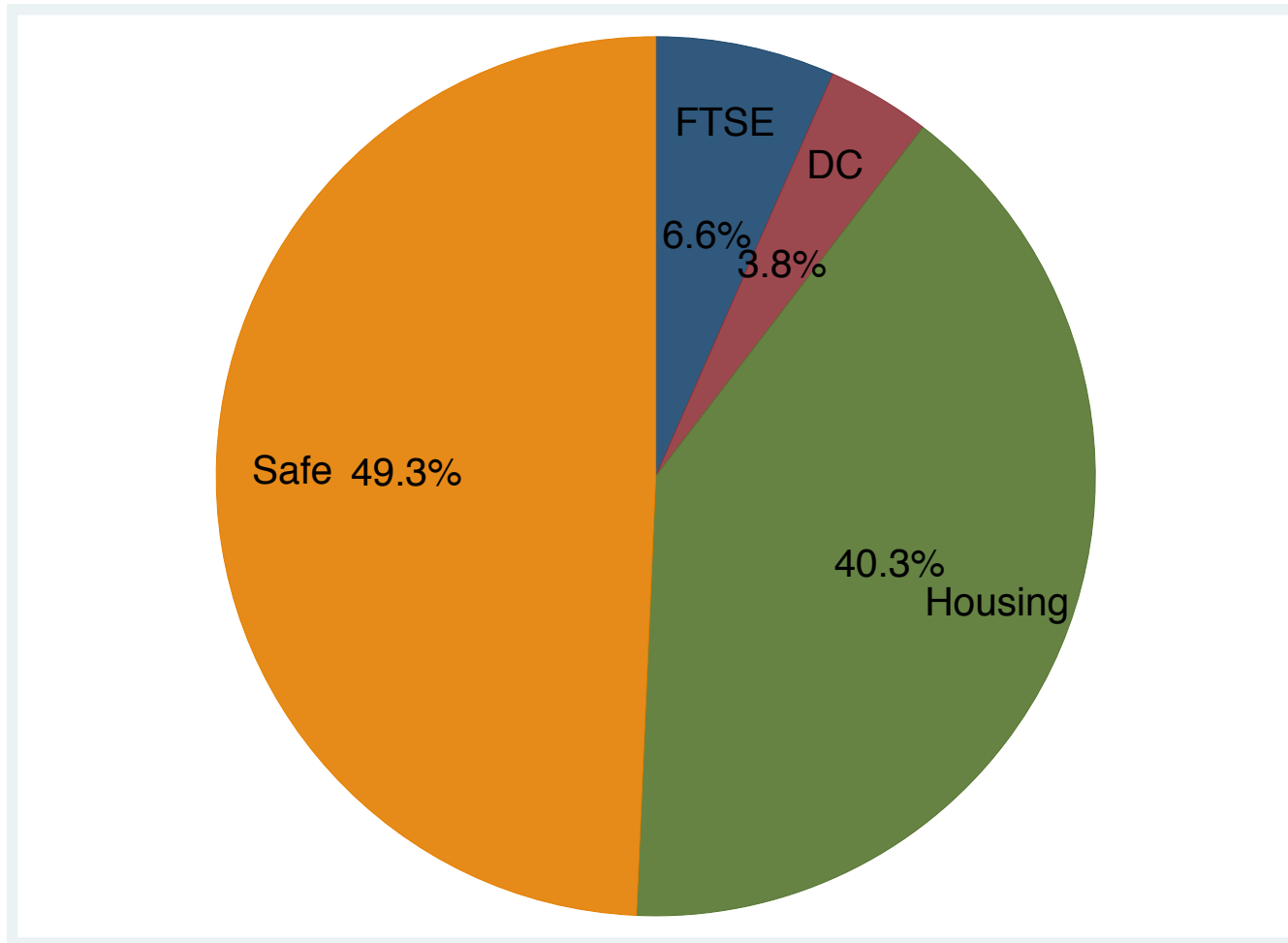
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Classification of asset holdings

Categories of assets	Assumed asset price change
FTSE exposed assets	
Risky financial assets: *shares, Personal Equity Plans, unit and investment trusts, investment Individual Savings Accounts (ISAs), endowment policies, National Savings products, bonds and gilts, insurance products*	FTSE all-share index
DC pensions (unannuitised)	FTSE DCisions index
Property assets	
Owner occupied main home	Regional house price index
Other property	England average h.p index
Safe assets	
Current and saving accounts, cash ISAs, Tax Exempt Special Savings Accounts (TESSAs), physical assets, DB pensions, state pensions, pensions in receipt, mortgage and non-mortgage debt	No change

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Distribution of index changes
ELSA wave 3 to wave 4 (2006–07 to 2008–09)

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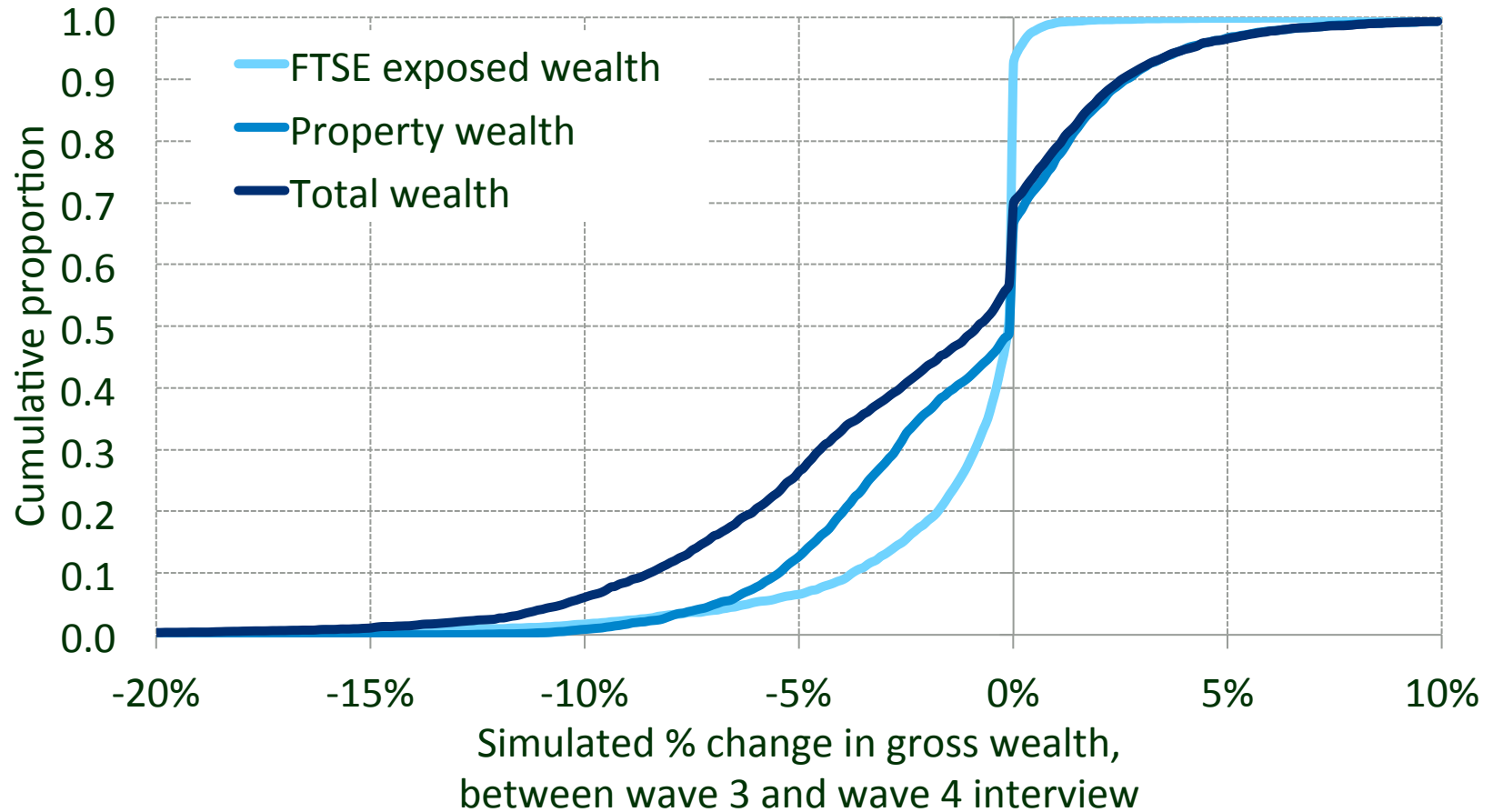
Mean Wave 3 Portfolios
(Gross Wealth)

Distribution of simulated wealth changes
ELSA wave 3 to wave 4 (2006–07 to 2008–09)

Chart legend:
- FTSE exposed wealth
- Property wealth
- Total wealth

Y-axis: Cumulative proportion (0.0 to 1.0)

X-axis: Simulated % change in gross wealth, between wave 3 and wave 4 interview (-20% to 10%)

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Predicted wealth changes between W3 and W4

- Median simulated wealth change: loss of 1% of gross wealth

- 6% of individuals: simulated loss > 10% of gross wealth

- 29% of individuals: simulated increase in gross wealth

- Total wealth losses on average (mean and median) greater for those in higher wealth quintiles, couples and those still in work

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"Peak to trough" wealth changes

- Simulating wealth change between ELSA wave 3 and wave 4 potentially understates the wealth shock from the crisis
  - Many wave 4 interviews occurred before/during the largest movements in asset prices

- Also calculate simulated wealth change between peak and trough of FTSE all share index (May 2007 to March 2009)
  - Median simulated "peak to trough" wealth change: loss of 8%
  - 38% individuals: simulated "peak to trough" loss > 10%
  - 4% individuals: simulated "peak to trough" loss > 20%
  - No individuals have a simulated "peak to trough" increase in wealth

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Reported wealth changes

- Reported wealth change

  = reported post-crisis (wave 4) wealth – pre-crisis (wave 3) wealth

- Reported wealth changes will differ from simulated wealth changes

  – Anticipated active (dis-) saving

  – Behavioral responses to financial crisis

  – Measurement error

    - Return heterogeneity

    - Imputation and response error

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Comparing reported and simulated changes: total wealth
ELSA wave 3 to wave 4 (2006–07 to 2008–09)
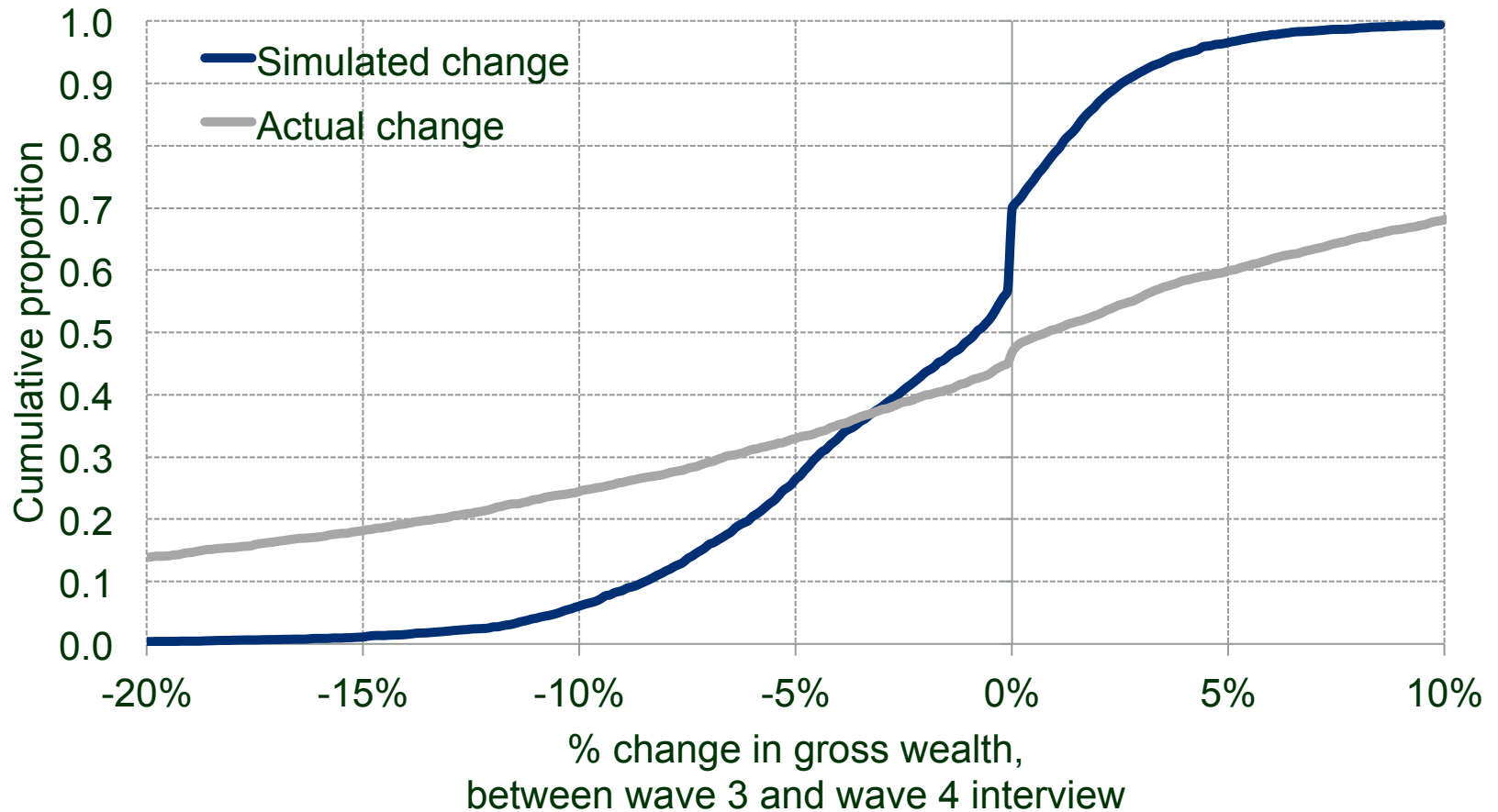
Inter-temporal budget constraint

Wealth + discounted future earnings

=

Current consumption + discounted future consumption + discounted bequest

Thus, possible responses to wealth shocks:

- Consume less now

- Consume less in the future

- Work more

- Bequest less

Consumption expenditure

- We have measures of 4 areas of household spending:

  - amount spent on food consumed in the home

  - amount spent on food consumed out of the home

  - amount spent on fuel in the home

  - amount spent on clothes

- We also total of spending on these 4 areas, which comprised about 30% of non-housing spending for over 50 households, per crisis.

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Empirical specification (expenditure)

- Basic specification:

$$\Delta\text{Expenditure}_{w3w4} = \alpha + \beta\Delta\text{Wealth}_{w3w4} + \gamma\%\Delta\text{Price}_{w3w4} + \delta Z + \varepsilon$$

$\Delta\text{Expenditure}_{w3w4}$ is change in real expenditure between 2006–07 and 2008–09

$\Delta\text{Wealth}_{w3w4}$ is change in real wealth between 2006–07 and 2008–09

$\%\Delta\text{Price}_{w3w4}$ is percent change in specific price index between 2006–07 and 2008–09

Z is individual and household characteristics: age (10 year bands), education, change in number of people in the household, change in number of earners in the household

- $\Delta\text{Wealth}_{w3w4}$ is potentially endogeneous

  – Instrument for the actual change in wealth using predicted wealth changes

  – (use wave 2 asset holdings to help deal with bias from measurement error)

- Also test for

  – separate effect of changes in different components of wealth

  – different effects by whether below or above age 70

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Wealth effects on consumption

Change in:	Food in, real £/yr	Food out, real £/yr	Fuel , real £/yr	Clothes, real £/yr	Total, real £/yr
Total net wealth (£100s), Real	0.102	0.055	-0.090*	0.734*	0.703***
	0.104	0.052	0.050	0.422	0.265
price of (…) /RPI	35.129***	-16.455***	3.567*	-1.107	21.894
	7.785	5.691	1.875	19.773	16.882
Net housing wealth (£100s), Real	0.029	0.001	-0.025	0.218	0.125
	0.049	0.021	0.023	0.206	0.123
Pension wealth (£100s), Real	0.314	0.153	-0.082	0.536	1.883
	0.304	0.157	0.145	0.626	1.149
Net non-pension non-housing wealth (£100s) , Real	0.031	-0.013	-0.089	1.174	0.504
	0.216	0.095	0.092	1.075	0.622
price of (…) /RPI	32.011***	-19.245***	4.047**	-4.532	-0.329
	9.024	6.845	1.858	21.885	23.473
Sample size	5,606	5,679	5,155	5,674	5,036

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Empirical specification (expectations)

- Consider 2 questions:
  - "[Including property and other valuables that you might own] what are the chances that you will leave an inheritance totalling £150,000 or more?"
    - 2006/7 median = 80%
  - "What are the chances that at some point in the future you will not have enough financial resources to meet your needs?"
    - 2006/7 median = 30%
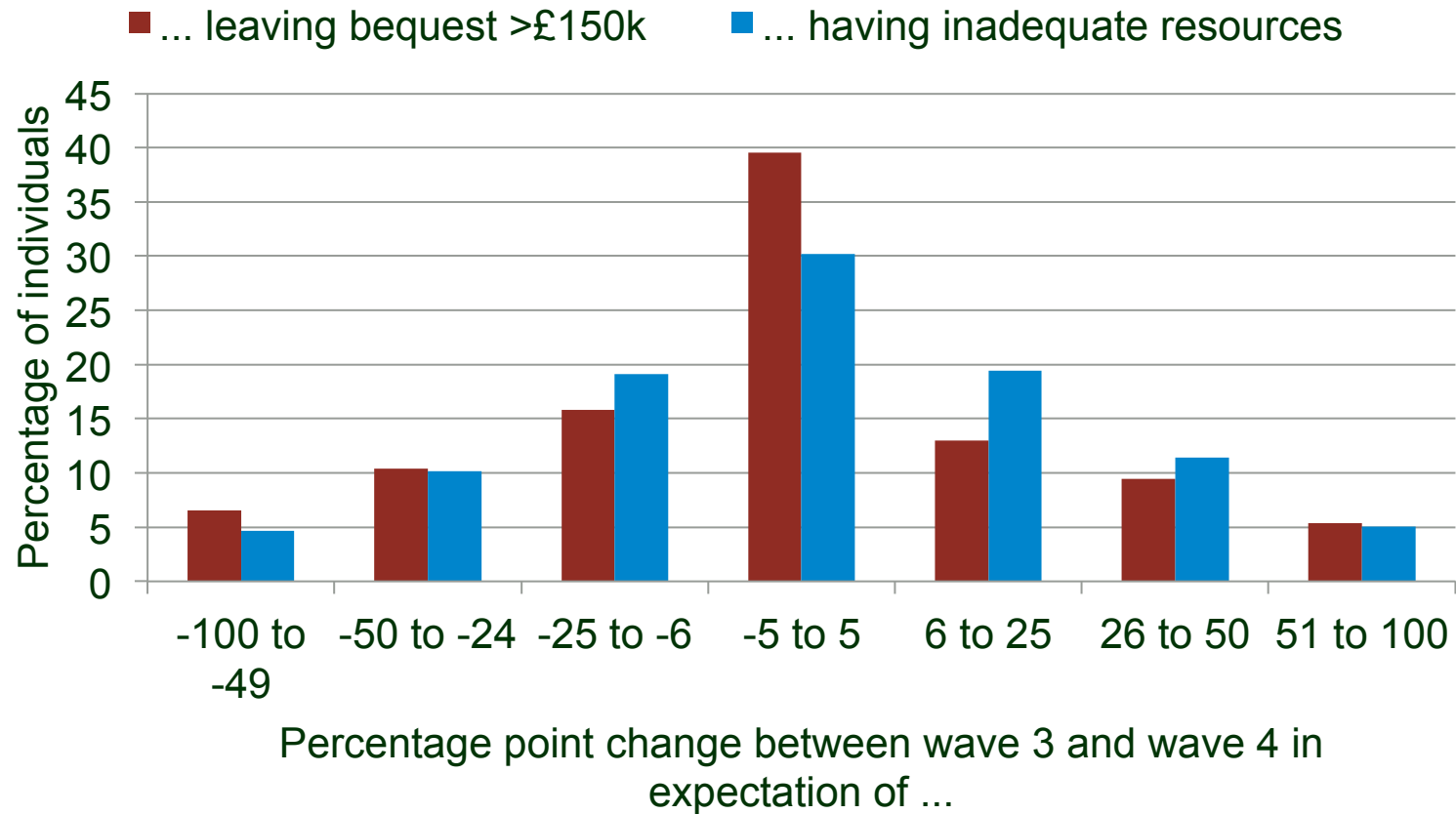- Use broadly same specification as for consumption

$$\Delta Expectation_{w3w4} = \alpha + \beta \Delta Wealth_{w3w4} + \varepsilon$$

$\Delta Expectation_{w3w4}$ is change in reported % chance between 2006–07 and 2008–09

$\Delta Wealth_{w3w4}$ is change in [nominal/real] wealth between 2006–07 and 2008–09

(Test sensitivity to inclusion of Z vector – makes little difference)

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Changes in expectations

Wealth effects on expectations - bequests

- Effect of changes in wealth on the expected chance of leaving a bequest of greater than £150,000

Nominal change in (£10,000s):	All	Aged 50-69	Aged 70+
Total net wealth	0.439**	0.296	0.780*
	(0.205)	(0.192)	(0.456)
Net housing wealth	0.226***	0.143*	0.387**
	(0.075)	(0.078)	(0.158)
Pension wealth	0.931	0.754*	-0.757
	(0.501)	(0.455)	(1.480)
Net non-pension non-housing wealth	0.109	-0.109	0.352
	(0.245)	(0.307)	(0.424)
Sample size	4,511	2,982	1,529

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Wealth effects on expectations – future inadequacy

- Effect of changes in wealth on the expected chance of having inadequate resources at some point in the future

Real change in (£10,000s):	All	Aged 50-69	Aged 70+
Total net wealth	-0.143	-0.046	-0.324
	(0.152)	(0.142)	(0.466)
Net housing wealth	-0.016	0.047	-0.642
	(0.067)	(0.093)	(1.949)
Pension wealth	-0.465	-0.514	-14.533
	(0.463)	(0.402)	(59.09)
Net non-pension non-housing wealth	0.177	0.417	-1.502
	(0.270)	(0.462)	(5.18)
Sample	5,569	3,515	2,054

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Conclusions and future directions

- Individuals are simulated to have experienced significant wealth shocks due to the financial crisis and resulting asset price changes

- Results suggest a marginal propensity to consume out of wealth shocks towards the low end of the range suggested by theory and past literature

- Very small effect of wealth shocks on probability of leaving a moderately large bequest

    - Arises largely from housing wealth losses

    - But £150,000 cut off perhaps not that relevant: mean 2006 net housing wealth ~ £200,000. Mean peak-to-trough loss of housing wealth £33,000 and w3 to w4 losses smaller.

- No effect on perceived 'adequacy' of future resources

- Perhaps small effects due to individuals believing the asset price shocks are not permanent (Christelis et al., 2011)?

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Conclusions and future directions

- Next work on:

    - health and wellbeing effects

    - Incorporating wave 5 to track through on-going economic slowdown

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