Income Distributions and Mobility

IGEES Annual Conference 2017
Thursday 8th June 2017

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Outline

- ❑ Introduction
- ❑ Data
- ❑ Income Distributions
- ❑ Income Mobility
- ❑ Modelling Factors Associated with Mobility

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Introduction

❑ Previous research typically measures cross-sectional income inequality at a point in time

❑ This research uses longitudinal data to track intra-generational income mobility from 2005 to 2014

❑ The paper examines income mobility during periods:

    ❑ boom (2005 – 2008)

    ❑ recession (2008 – 2011)

    ❑ recovery (2011 – 2014)

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Revenue's Administrative Data

- ❑ Stratified random sample, representative of the population, follows just over 100,000 taxpayers from 2005 to 2014
- ❑ Includes P35 (PAYE) and Form 11 (Self-Assessed) tax returns
- ❑ Unit of analysis are tax units rather than taxpayers
  - ❑ Married couples electing for joint assessment are one tax unit but represent two incomes
- ❑ Six statutory personal tax statuses are
  - ❑ Single male and single female
  - ❑ Married one-earner and married two-earner
  - ❑ Widows and widowers

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Revenue's Administrative Data

Tax record data has several advantages:

- ❑ Coverage of the full taxpayer population
- ❑ Incomes largely free from measurement error
- ❑ Attrition and non-response bias are largely absent

Limitations:

- ❑ Limited demographic information (such as education, gender)
- ❑ Does not distinguish between full and part-time
- ❑ Does not cover those entirely reliant on untaxed benefits or undeclared income

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Income Distributions

Real Gross Income Thresholds

	Bottom Decile	Bottom 25%	Median	Top 75%	Top Decile	Top 1%	Top 0.1%
2005	3,724	10,442	21,355	36,711	59,409	160,276	560,301
2008	5,221	14,362	27,870	47,742	77,913	208,487	702,233
2011	5,052	14,178	26,872	45,509	72,783	192,215	578,223
2014	4,718	13,776	27,505	47,415	76,183	200,580	614,474

❑ Real gross income grew strongly until 2008
❑ After 2008, incomes fell, then grew slowly

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Income Distributions


Life-Cycle of Incomes in 2014
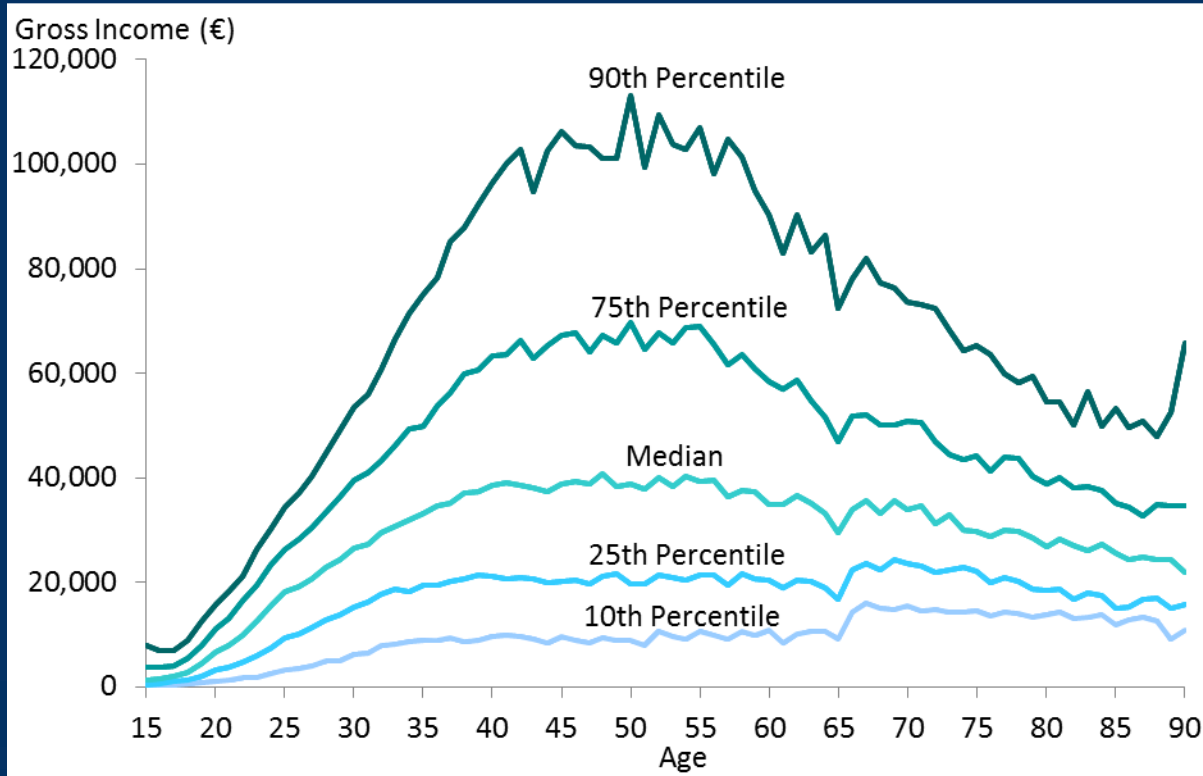
Income Distributions

Shares of Gross Income and Income Tax in 2014

	Gross Income	Income Tax
Deciles 1 - 9	64.8%	40.5%
Top Decile	35.2%	59.5%
Top 1%	*10.0%*	*21.9%*
Top 0.1%	*3.1%*	*7.3%*

❑ The top decile holds 35% of gross income and contributes 60% of all income tax
❑ Income tax does not include USC or social insurance contributions.

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Income Mobility
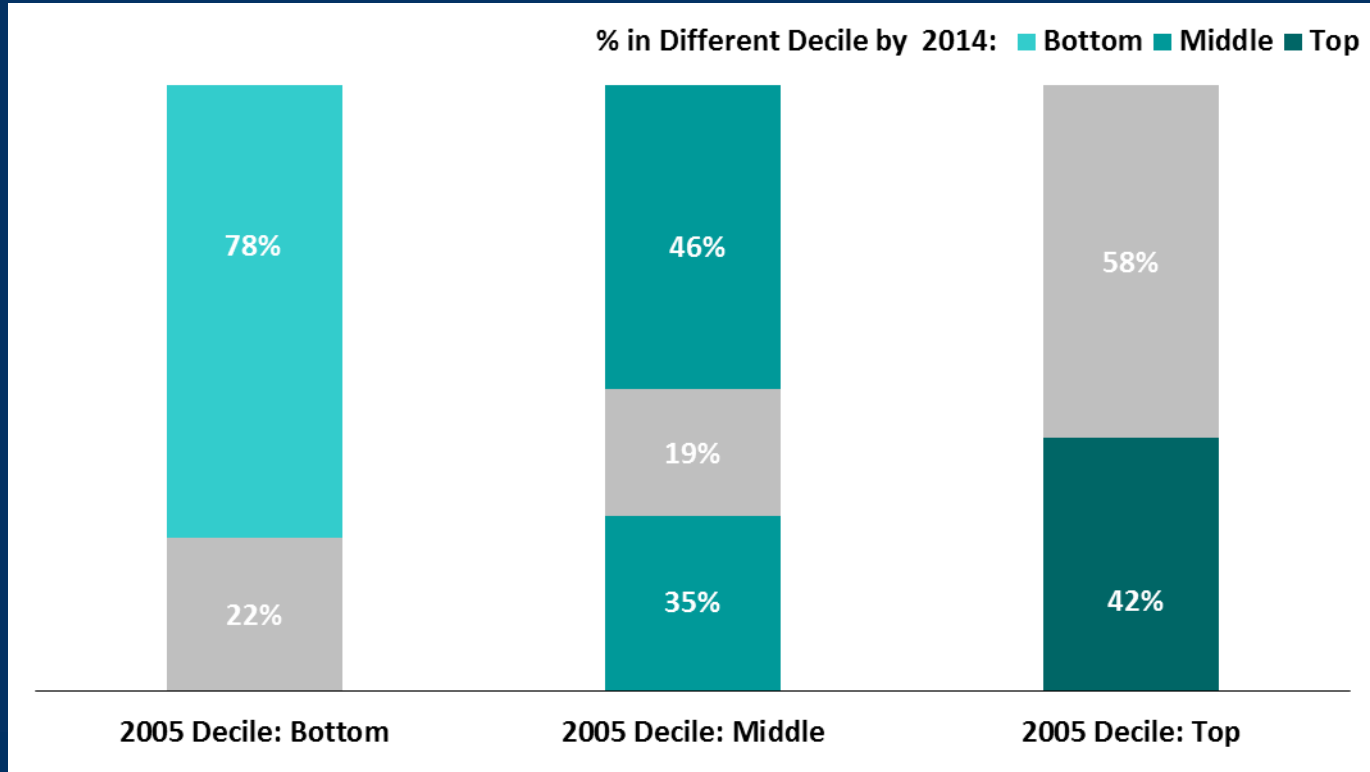

Persistence of Top Taxpayers Over Time
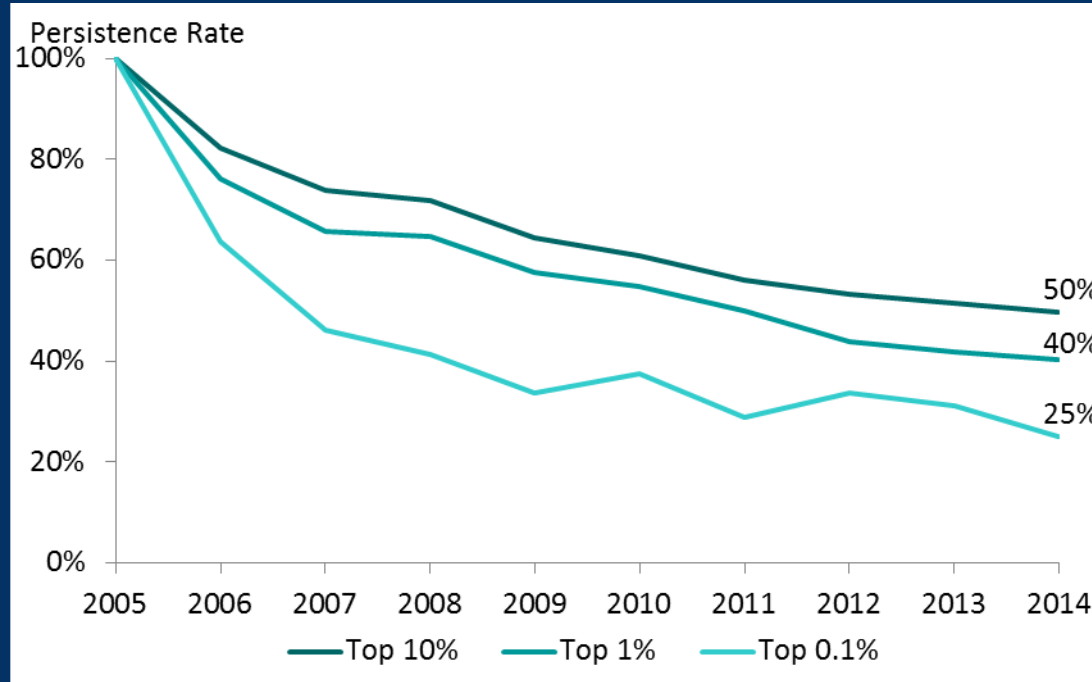
❑ Persistence calculated as the share of taxpayers remaining in a given decile
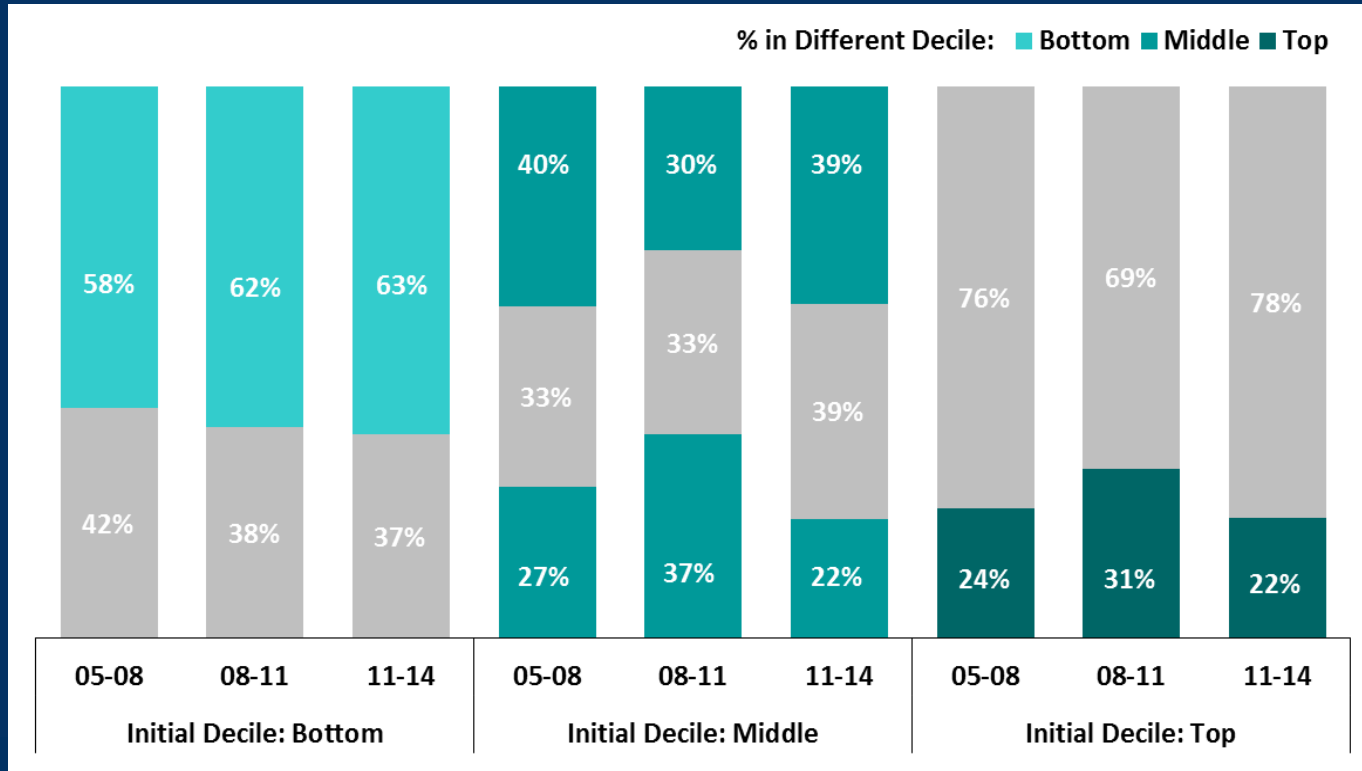
Income Mobility

Transition Matrices
- ❑ Tracks the same taxpayer's income decile at two points in time (creates a two year balanced panel)
- ❑ Measures relative mobility, not absolute changes in income
- ❑ This means that a taxpayer's relative position can fall even as their absolute income increases
- ❑ Does not capture those who enter or leave the workforce (due to unemployment or migration)
- ❑ Estimation sample is restricted to taxpayers aged over 25 to exclude the transition from school to work

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Income Mobility, All Taxpayers Aged Over 25

% in Different Decile by 2014: ■ Bottom ■ Middle ■ Top

2005 Decile: Bottom	2005 Decile: Middle	2005 Decile: Top
78%	46%	58%
22%	19%	42%
	35%	

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# Income Mobility, Boom, Recession and Recovery Periods

Modelling Factors Associated with Mobility

Model relative mobility during the boom, recession and recovery periods

❑ Dependent variable: change in taxpayers' percentile position between two years

❑ Explanatory variables: initial decile, age, region, personal tax status, PAYE / self-assessed and industry

❑ Estimator: OLS

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Modelling Factors Associated with Mobility

Coefficients on Initial Deciles
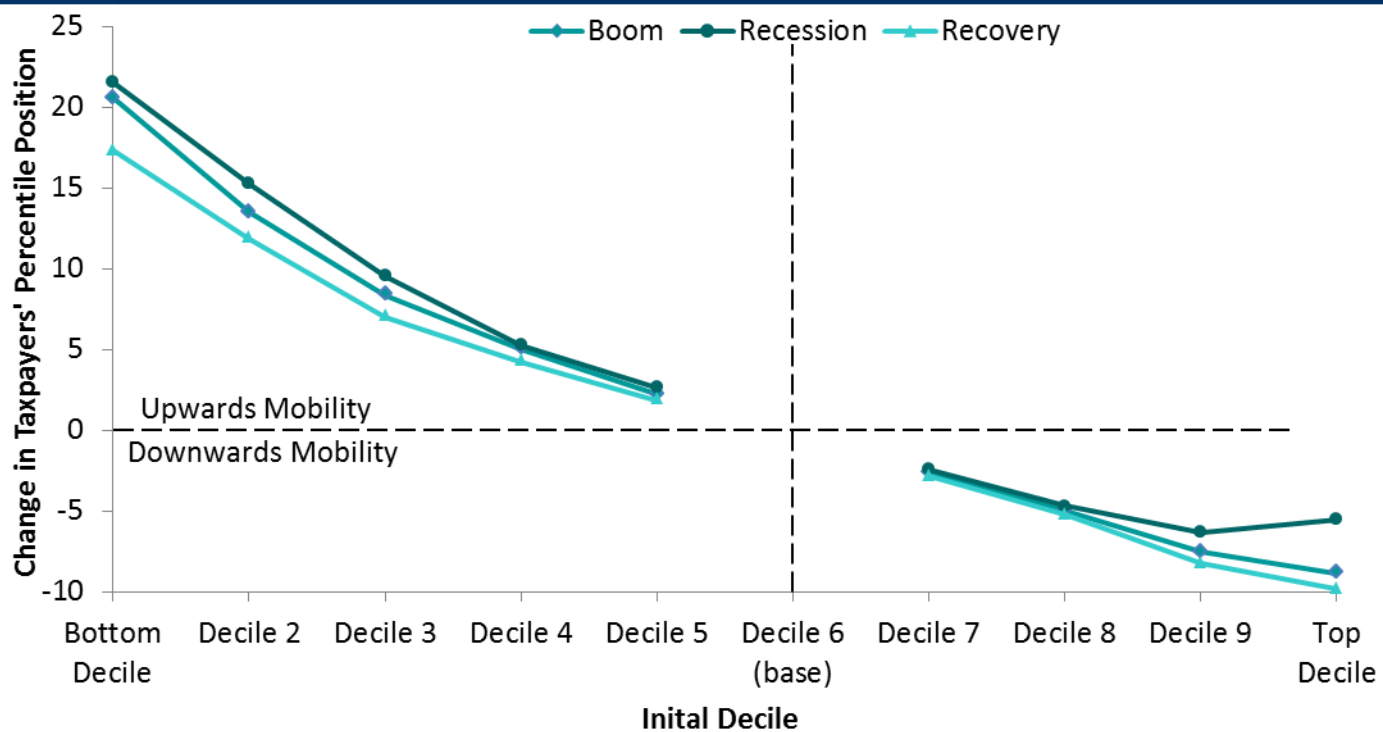
- ❑ The middle (sixth) decile is taken as the base category
- ❑ A taxpayer starting in the bottom decile in 2005 will move up approx. 21 percentiles by 2008
- ❑ Upward mobility is greater in the recession than during the boom

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Modelling Factors Associated with Mobility

Coefficients on Selected Variables

	Boom	Recession	Recovery
Age 25-34	5.41**	4.13**	4.37**
Age 35-44	1.93**	1.98**	2.20**
Age 45-54 (base)	-	-	-
Age 55-64	-3.29**	-2.59**	-3.20**
Age 65+	-5.64**	2.01**	-2.84**
Dublin (base)	-	-	-
Borders Midlands West	-2.61**	-1.94**	-1.93**
East South East	-1.85**	-1.72**	-1.16**
South West	-1.83**	-1.03**	-0.77**
Large Cases Division	4.14	12.18**	4.81
Single Male (base)	-	-	-
Single Female	0.40	1.28**	-0.84**
Public Administration and Defence (base)	-	-	-
Construction	-7.69**	-10.82**	-0.14
Information and Communication	-0.32	1.87**	4.26**

** denotes significantly different from zero at 1% level, * denotes significantly different from zero at 5% level

- Younger taxpayers are the most mobile

- Mobility is greater in Dublin

- Single females have higher mobility during the recession but not in the recovery period

- Construction sector has greater downward mobility in recession

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Conclusions

❑ Mobility is high at the bottom of the distribution

❑ Mobility is lower at the top of the distribution

❑ Mobility was greater during the recession

❑ Younger taxpayers have greater mobility consistent with the life-cycle of earnings

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Thank You

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