

INTERNATIONAL DIFFERENCES IN WEALTH INEQUALITY

THE ROLE OF ECONOMIC, DEMOGRAPHIC AND
INSTITUTIONAL FACTORS

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Welfare and Policy Analysis Seminar

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CENTRE FOR ANALYSIS OF SOCIAL EXCLUSION



Motivation and background

- The GINI project (<http://gini-research.org/articles/home>)
 - Trends in inequalities over the last 30 years across 29 countries, evidence on social, cultural and political impacts and the effectiveness of policies in combating inequality and any harmful effects.
 - Country Reports using a common template
 - 100+ research papers
- Findings to be published in two OUP volumes end of 2013
 - Volume One summarising the research findings across the research papers with input from the country reports
 - Volume Two 25 country chapters using the Country Report template and findings to highlight a particular aspect of the national story

Motivation and background

The role of household wealth

- As a potential 'driver'
- As an outcome

Three research papers (Frank A Cowell, Eleni Karagiannaki, Abigail McKnight):

Mapping and measuring the distribution of household wealth: A cross-country analysis

Accounting for cross-country differences in wealth inequality

Accounting for across time differences in wealth inequality: the US and the UK 1995-2005

Wealth – What do we already know?

- Inequality in wealth is higher than inequalities in earnings and income yet it has received much less attention
- Average wealth holdings have increased over time in many countries and the distribution of wealth has changed
- There exists considerable differences between countries
- Private wealth holdings are influenced by the welfare state
- Wealth holdings vary over the lifecycle

Wealth – Measurement Issues

Components of wealth:

- Private financial wealth
- Business equity
- Housing wealth
- Durables and collectables
- Pension assets

Wealth – Measurement Issues

Unit of analysis:

- Individual
- Family/household

Measuring inequality:

- The distribution is highly skewed
- Zeros
- Negative values (debt)

Structure of the presentation

- **Data source and definitions**
- **Descriptive statistics**
- **Summary inequality measures**
- **Accounting for cross country differences: decomposition analysis**
- **Conclusions and policy implications**

Data and definitions

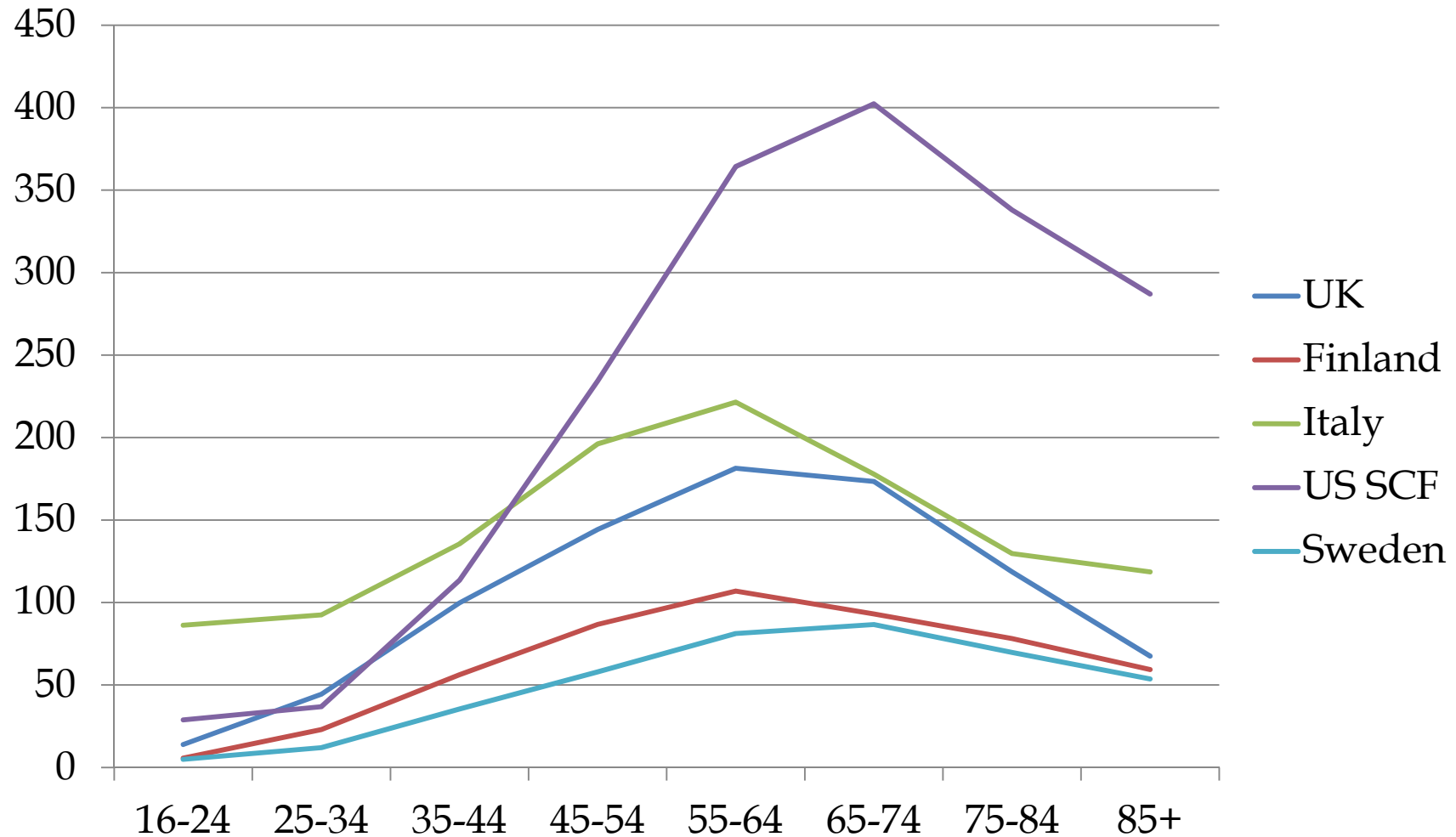
- **Luxembourg Wealth Study**
- Micro-data on household wealth
- A harmonized database with an “acceptable” (but not perfect) degree of comparability for:
 - 1) Financial assets
 - 2) Non-financial assets
 - 3) Liabilities
- Net worth (1) + (2) – (3)
- Not business equity or pension assets
- Currently covers 10 countries:
Austria, Canada, Cyprus, **Finland**, Germany, **Italy**, Norway, **Sweden**,
UK, **US**

Net Worth 1 by country

	<i>P10</i>	<i>P25</i>	<i>P50</i>	<i>P75</i>	<i>P90</i>	<i>Gini</i>
	<u>thousands 2005 euros</u>					
UK 2000	-0.3	2.7	64.4	153.4	310.4	0.66
Finland 1998	-2.7	0.7	41.0	89.4	159.7	0.68
Italy 2002	0.0	15.9	104.0	212.2	369.2	0.60
US SCF 2000	-6.3	0.3	42.4	155.6	418.4	0.83
Sweden 2001	-13.1	-0.7	15.5	69.4	151.1	0.89

Source: Own calculations based on LWS database.

Age Net Worth profiles by country



Portfolio composition of aggregate wealth

	UK	Finland	Italy	US SCF	Sweden
Total Assets	150.59	78.98	168.52	263.52	77.96
Financial assets	16.89%	16.22%	14.91%	37.92%	28.09%
Non Financial assets	83.11%	83.78%	84.95%	62.08%	71.91%
Total Debt	30.93	12.50	4.67	56.51	27.34
Financial debt	11.25%	31.76%	19.49%	17.64%	na
Mortgage debt	88.75%	68.24%	80.30%	82.36%	na
Debt/Wealth ratio	0.21	0.16	0.03	0.21	0.35
Debt/Net worth ratio	0.26	0.19	0.03	0.27	0.54
Debt/Income ratio	1.82	0.89	0.31	2.26	1.71

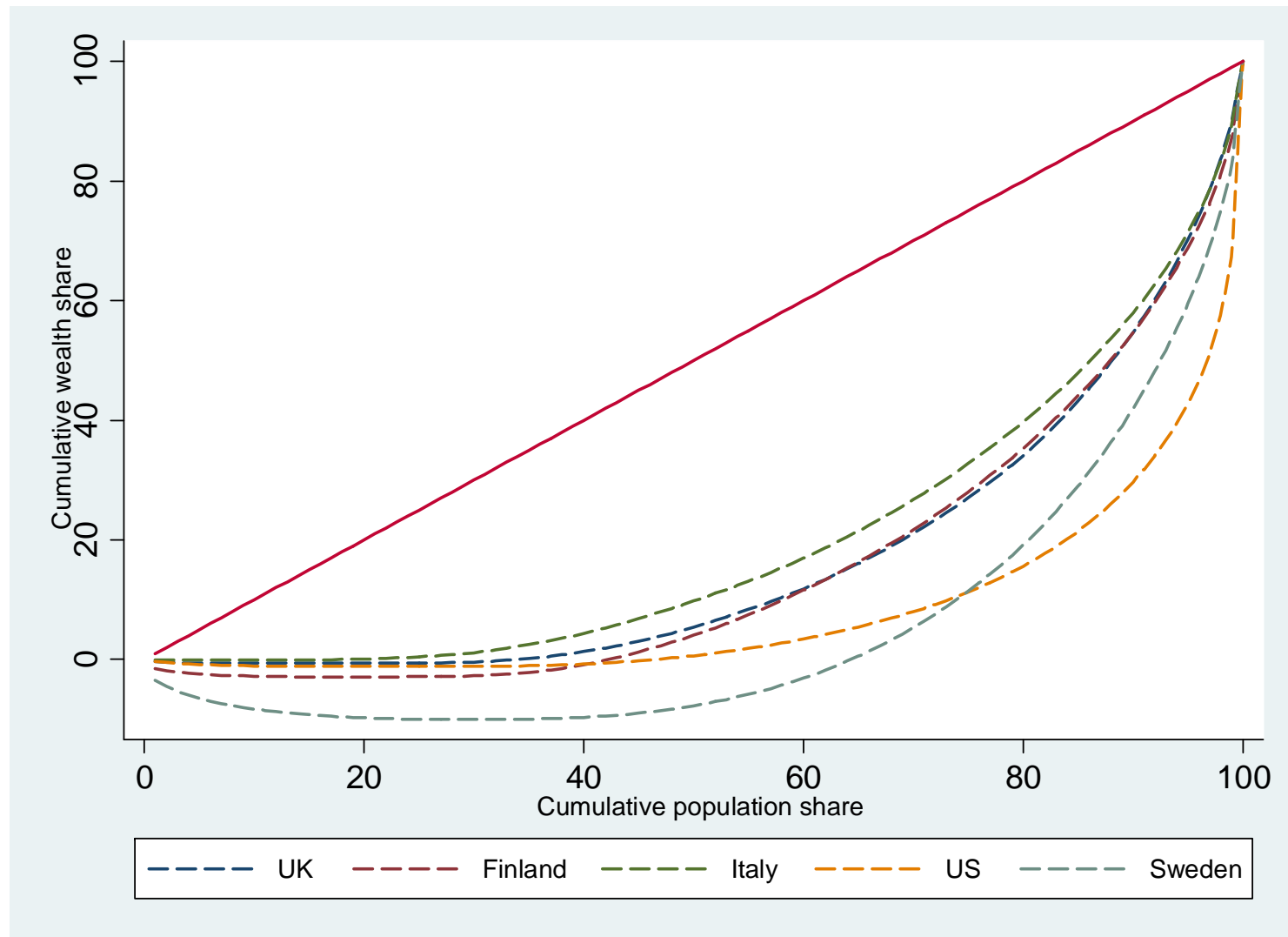
The role of educational loans

	UK 2000	Finland 1998	Italy 2002	US 2001	Sweden 2002
Proportion with educational loans					
All	0.01	0.13		0.12	0.25
16-24	0.03	0.33		0.26	0.47
25-34	0.09	0.39		0.26	0.49
35-44	0.02	0.14		0.12	0.40
45-54	0.03	0.05		0.11	0.26
55-64	0.02	0.02		0.05	0.10
65-74	0.00	0.01		0.01	0.01
75-84	0.06	0.01		0.00	0.01
85+	0.00	0.00		0.00	0.00
Mean value of educational loans					
All		608		1,554	2,952
16-24		1,133		2,830	3,584
25-34		2,156		3,167	7,943
35-44		615		2,391	4,876
45-54		125		1,051	2,015
55-64		81		766	802
65-74		22		9	164
75-84		33		1	37
85+		0		0	5

Summary inequality measures

	UK	Finland	Italy	US	Sweden
Gini	0.66	0.68	0.60	0.83	0.89
P90/P50	4.86	3.90	3.55	9.88	9.51
P25/P50	0.04	0.02	0.15	0.01	
Wealth shares					
Top 1%	9.98	13.03	10.76	32.68	17.52
Top 5%	29.83	31.19	28.64	57.31	40.53
Top 10%	45.36	45.34	42.07	70.30	58.10
Interquartile range					
P25-P50	64.70	43.30	104.00	48.70	28.60
P50-P90	246.00	118.00	265.00	376.00	135.60

Lorenz curves for net worth



The role of economic and demographic characteristics

Country Demographics and Income

	UK	FIN	Italy	US SCF	SW
% heads <25	3.8	7.3	0.7	5.6	6.6
% heads 65+	30.6	21.3	32.8	21.1	24.7
Single no children	30.13	38.99	23.29	28.61	48.06
Single with children	7.50	4.79	1.31	9.93	5.57
Single with other adults	8.90	4.37	9.66	1.74	2.21
Couple no children	25.02	25.67	20.35	30.16	23.11
Couple with children	20.42	21.88	26.45	26.78	17.82
Couple with other adults	8.02	4.30	18.94	2.78	3.23
% someone working ¹	54.17	58.00	49.09	72.31	65.61
% Mid edu ²	35.5	49.8	55.8	22.8	54.0
% High edu	12.3	12.3	8.0	29.5	23.3
Income bottom 25%	6,500	6,900	5,900	7,300	7,600
Income 2 nd 25%	12,200	10,900	10,400	14,900	12,200
Income 3 rd 25%	17,700	14,700	15,200	24,100	16,700
Income Top 25%	31,600	22,300	27,600	59,600	25,600
Mean income	17,000	13,500	14,700	25,600	15,400
Income inequality Gini	34	27	33	49	27

Note:

1. The proportion of working household heads has been calculated on the sample of working age households.
2. Education in Sweden is not recorded for persons over 65 years old.

The DFL decomposition

Basic Principle: Reweight the distribution of characteristics in each country so that they reflect the distribution of characteristics in a base country (UK).

More formally:

Let $f^G(w) = \int f^G(w|X)dF(X|G = UK, FIN, IT, US, SW)$ be the density of wealth for $G=UK, FIN, IT, US, SW$

Example: Let's assume we want to compare the UK and IT.

Compare the distribution of wealth in IT with a counterfactual distribution which combines $f^{IT}(w|X)$ with the $F(X|G=UK)$

$$f_c^{IT}(w) = \int f^{IT}(w|X)dF(X|G = UK)$$

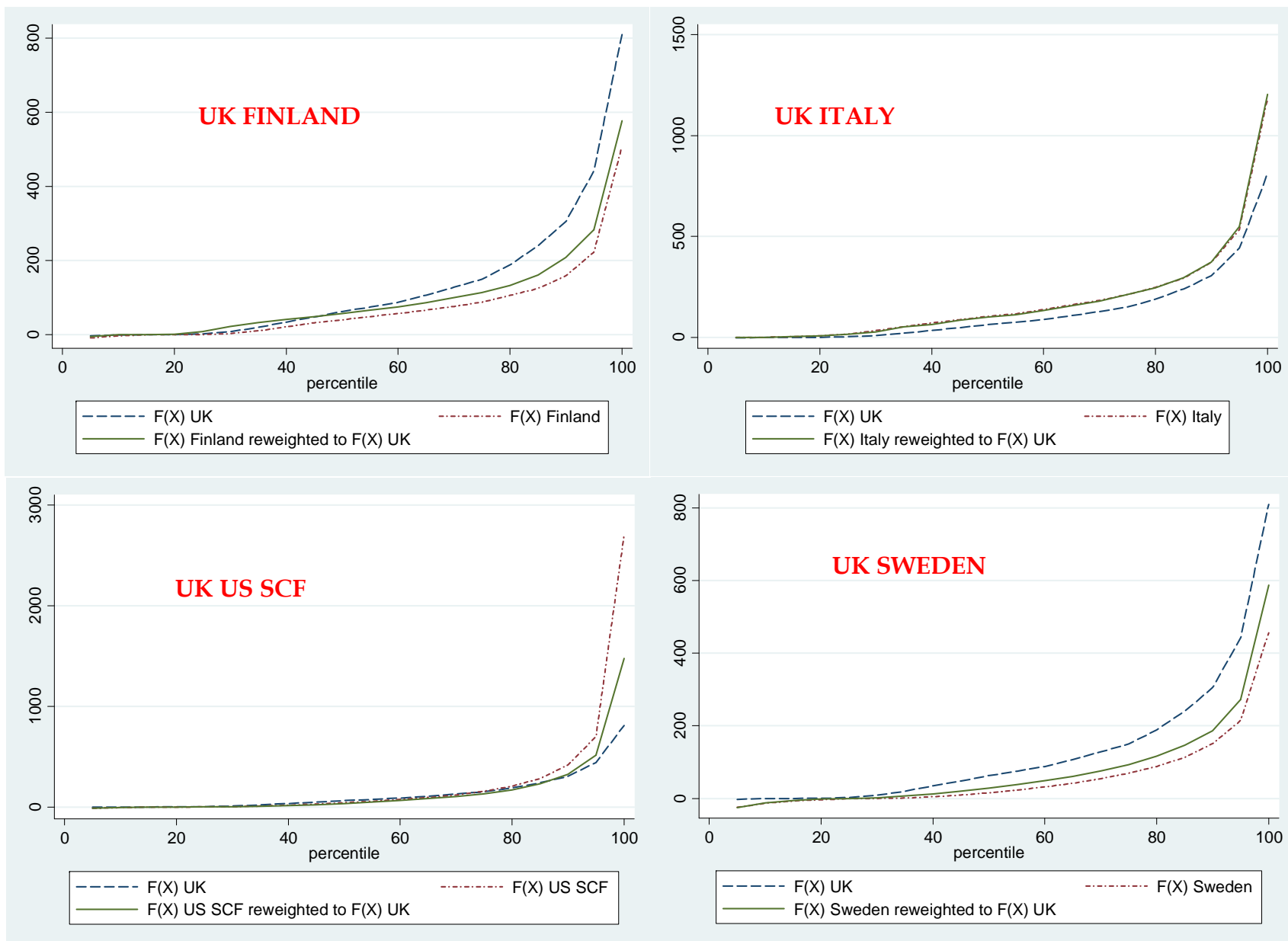
which can be rewritten as:

$$f_c^{IT}(w) = \int f^{IT}(w|X)\Psi(X)dF(X|G = IT)$$

where $\Psi(X) = \frac{dF(X|G=UK)}{d(F(X|G=IT))}$ is a reweighting factor which reweights the characteristics in IT to the distribution of characteristics in the UK.

$$\Delta f = f^{IT}(w) - f^{UK}(w) = (f^{IT} - f_c^{IT}) + (f_c^{IT} - f^{UK})$$

Actual and counterfactual wealth distributions



Inequality measures for actual and counterfactual net worth distributions

	<u>Gini</u>		<u>P90/P50</u>		<u>Top 5%</u>	
	Actual	C/factual	Actual	C/factual	Actual	C/factual
F(x) in UK	0.66		4.86		29.83	
F(X) in FIN	0.68	0.62	3.90	3.51	31.19	28.05
F(X) in IT	0.60	0.62	3.55	3.80	28.64	29.70
F(X) in US	0.83	0.81	9.88	9.78	57.31	49.75
F(X) in SW	0.89	0.85	9.51	7.22	40.53	40.10

Note: The reweighting factor $\Psi(X) = \frac{\Pr(X|D_B=1)}{\Pr(X|D_B=0)}$ used to calculate the counterfactual wealth distribution the distribution of wealth that would have prevailed in each of the countries in question if the distribution of characteristics was similar to that of the UK. Source: Own analysis of LWS.

Demographic change and the changing wealth distributions

Changes in the distribution of household net worth distributions in the UK and the US over the late 1990s and mid 2000s

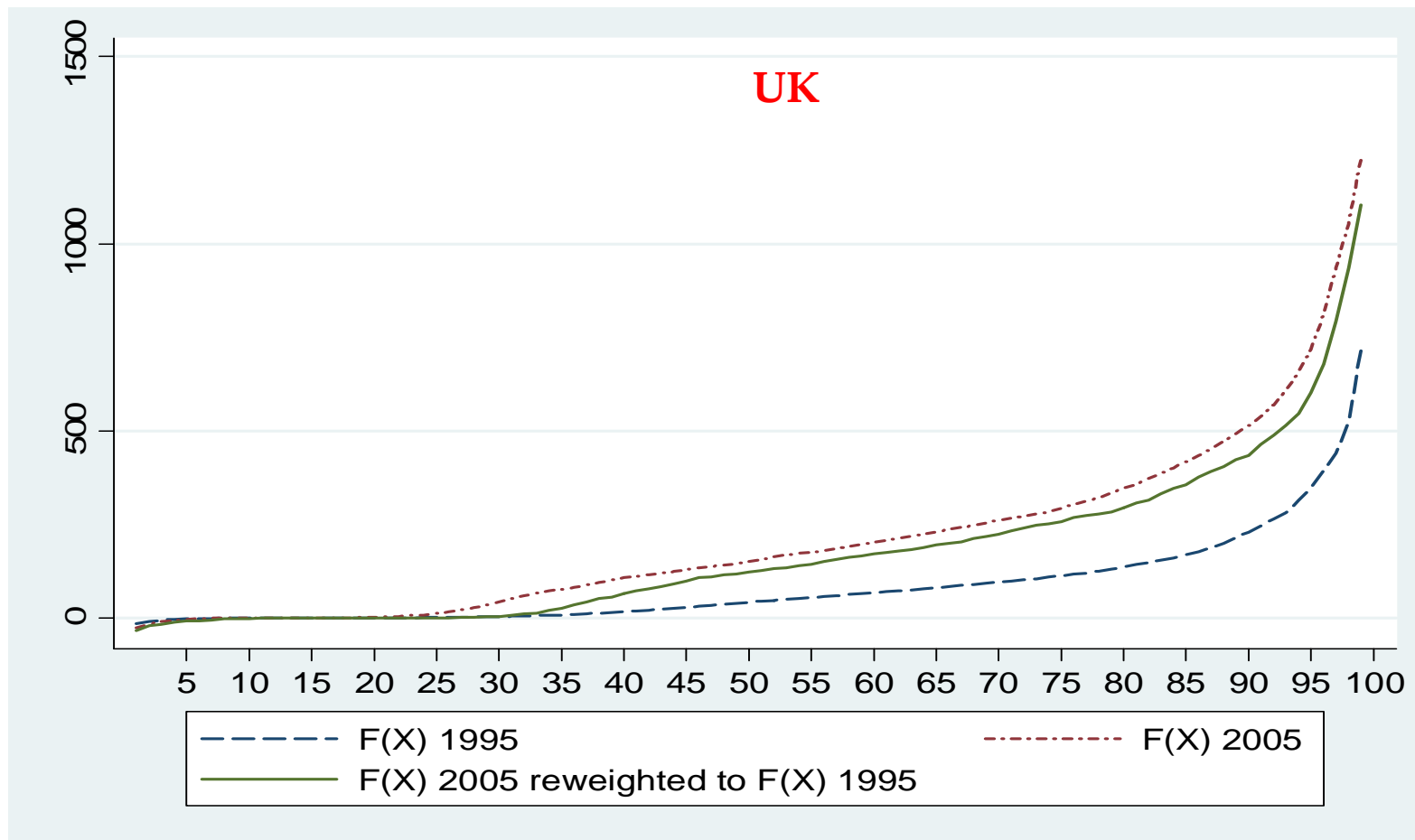
	P10	P25	P50	P75	P90	Gini	P90/P50	P25/P50	Top 1%
UK									
1995	-0.20	1.41	42.41	113.09	230.10	0.69	5.34	0.03	11.99
2000	-0.14	2.89	64.43	152.11	312.23	0.65	4.82	0.04	9.24
2005	0.00	12.16	150.32	293.89	513.66	0.59	3.39	0.09	7.64

Note: Analysis of BHPS wave 5, 10 and 15.

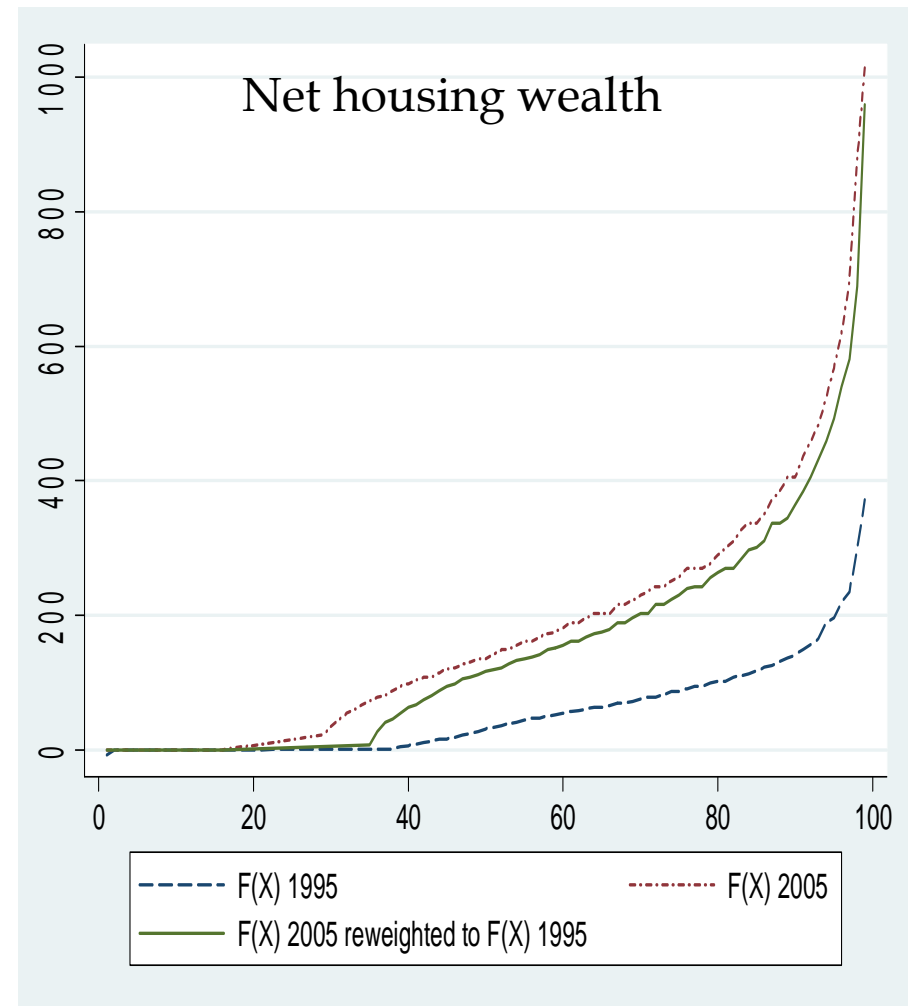
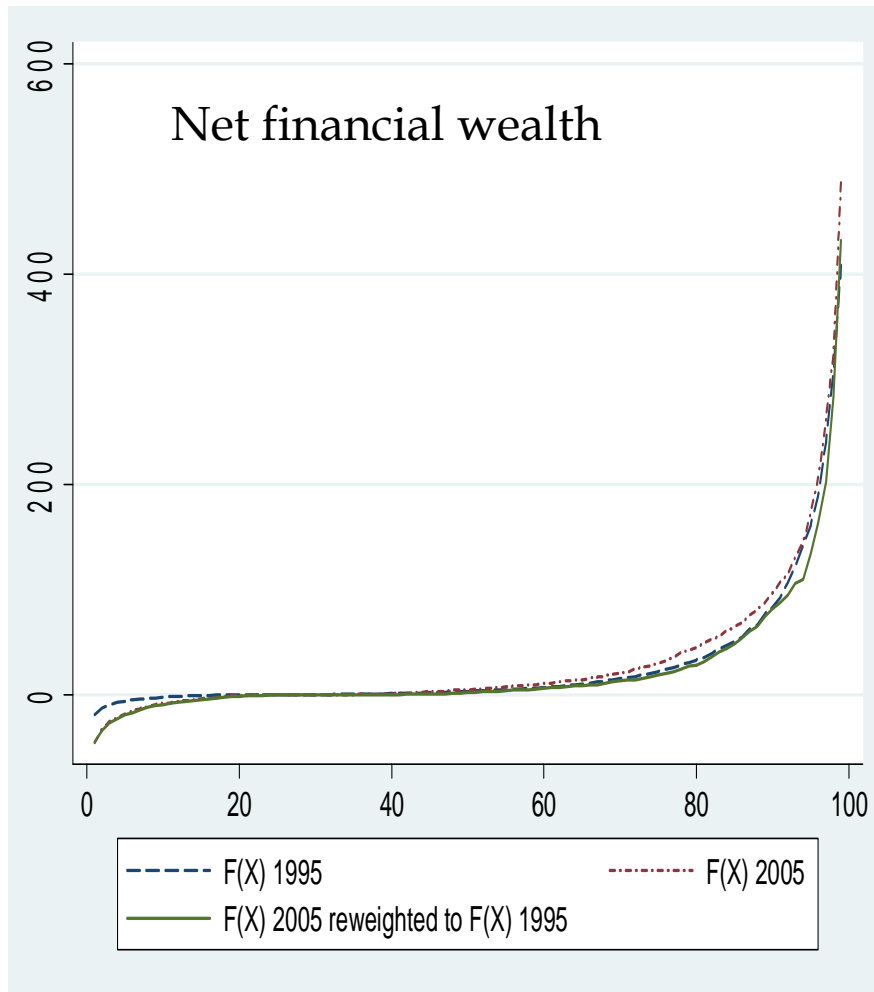
Changes in the distribution of characteristics in the UK 1995-2005

	UK BHPS	
	1995	2005
% heads <25	4.47	3.28
% heads 65+	32.95	33.68
Single no children	35.51	35.52
Single with children	5.57	6.49
Single with other adults	4.8	4.51
Couple no children	26.94	28.06
Couple with children	20.85	18.87
Couple with other adults	6.33	6.55
% Mid edu	29.34	40.21
% High edu	9.79	14.43
Income bottom 25%	5,575	8,849
Income 2 nd 25%	9,913	14,778
Income 3 rd 25%	15,193	20,853
Income Top 25%	27,355	35,508
Mean income	14,418	20,024

The effect of demographic and income changes in accounting the changes in wealth



Note: The reweighting factor $\psi(X) = \frac{\Pr(X|D_B=1995)}{\Pr(X|D_B=2005)}$ used to calculate the counterfactual 2005 wealth distribution reweights the distribution of characteristics in 2005 to match the distribution of characteristics in 1995.



The role of demographics and changing income distribution in accounting the change in net worth inequality in the UK

	Gini		Top 1%	
	Actual	C/factual	Actual	C/factual
<u>Net worth</u>				
F(x) in 1995	0.69		12.15	
F(X) in 2005	0.59	0.61	7.65	8.48
<u>Net financial wealth</u>				
F(x) in 1995	0.89		23.44	
F(X) in 2005	0.98	1.07	21.28	22.60
<u>Net housing wealth</u>				
F(x) in 1995	0.66		10.14	
F(X) in 2005	0.57	0.60	7.54	8.13

Conclusions and policy implications

Conclusions

- Economic and demographic factors shape the distribution of wealth and account for some of the differences in wealth inequality across countries and changes over time in the UK
- Most of the differences between countries (and across time in the UK) in the distribution of household wealth are unexplained by these factors
- Income inequality and wealth inequality
- There remain measurement challenges but these are not insurmountable and nor do they eclipse the value of research in this area

Policy

- Home ownership
- Debt
- The protective role of assets during recessions

Additional slides

Data I **

1. Luxemburg Wealth Study (LWS)
2. BHPS waves 5, 10, 15 (years 1995, 2000 and 2005)

Cross country analysis (LWS)

- UK: BHPS 2000 (wave 10)- wealth ref period calendar year
- US: SCF 2001 + PSID 2001 -wealth ref per previous year
- Italy: Survey of Household Income and Wealth 2002 (SHIW 2002) – ref period calendar year
- Finland: Household Wealth Survey 1998 (HWS) –ref period preceding calendar year

Across time analysis (LWS & BHPS)

- UK: BHPS waves 5, 10 and 15 – covering wealth in 1995, 2000 and 2005
- US: SCF 1995, 2001, 2004 and 2007 from LWS (in the summer expanding LWS to include SCF 1995)
- Italy: Italy still need to

Data II **

- Unit of analysis = Household
- Net worth $NW = TFA + TNF - TD$

$$TFA = DA + RA, \quad TNF = HS + IR, \quad TD = HSD + NHD$$

TFA: Total Financial assets

DA: Deposit accounts

RA: Investment

TNF: Total non-financial assets housing wealth

PR: principal residence

IR: investment real estate)

TD= Total debt

Not including private and public pension entitlements