

Long-term trends in social class mobility in the UK

Colin Mills
Department of Sociology and Nuffield College
Oxford University

Oxford, 22 October 2018



**Social Mobility
And Its Enemies**
Lee Elliot Major and
Stephen Machin



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Ipsos MORI > News & Polls > News > Opportunities for social mobility are in decline

Opportunities for social mobility are in decline

PUBLIC SECTOR

These are the main findings of research conducted by Ipsos MORI for The Sutton Trust.

20 July 2017 Society / Children / Education



DOWNLOAD

News > 2017 > 12-December-2017 > Why is social mobility declining?

News

Why is social mobility declining?

TUE 05 DEC 2017



The December episode of LSE IQ podcast is now out, asking [Why is social mobility declining?](#)



Next on TV
Today 5:30pm



Weather
The forecast for the next 5 days



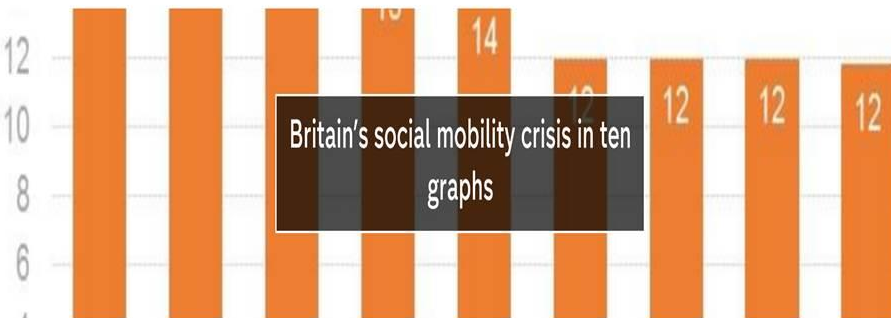
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FactCheck



Britain's social mobility crisis in ten graphs



By Martin Williams
28 Jun 2017

Bagehot

Britain ignores social mobility at its peril

As mobility has become more important it has also become more difficult to promote



Print edition | Britain >
Dec 9th 2017



1. Very simple objective:

1. Try to establish the facts of the matter.

1. Has origin-destination association changed over time in any particular direction?
2. If it has changed, what is the magnitude (in units we care about)?

1. Data sources:

1. No (proper) register data;
2. Some cohort data; 1946, 1958, 1970, 1980/84;
3. Lots of cross-sectional survey data of variable quality and consistency;

2. Need to consider all or as much as possible of the relevant evidence;

1. Three overlapping data series defined by consistency in coding of occupational data:

1. “Independent” points of observation: 40

1. 1949-1969 3

2. 1963-1997 34

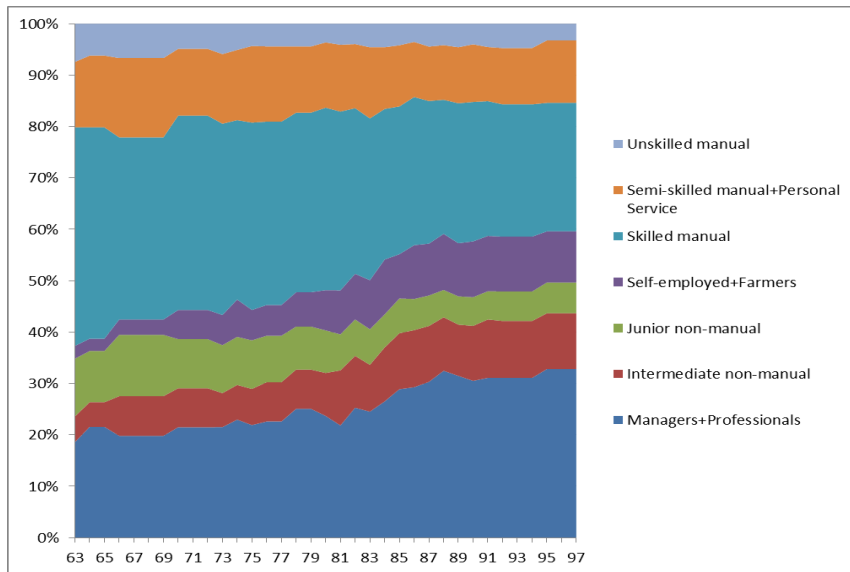
3. 1991-2010 6

2. NB levels are not comparable across series

2. Focus today on series 2. and 3.

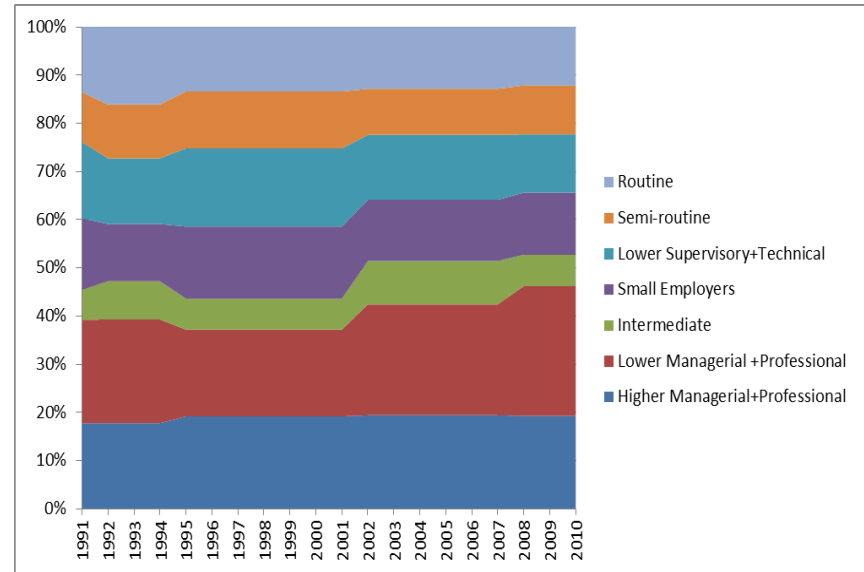
'Class' destination distribution, males

1963-97 (SEG)



Born 1904-1972;
Origins circa 1918-1986

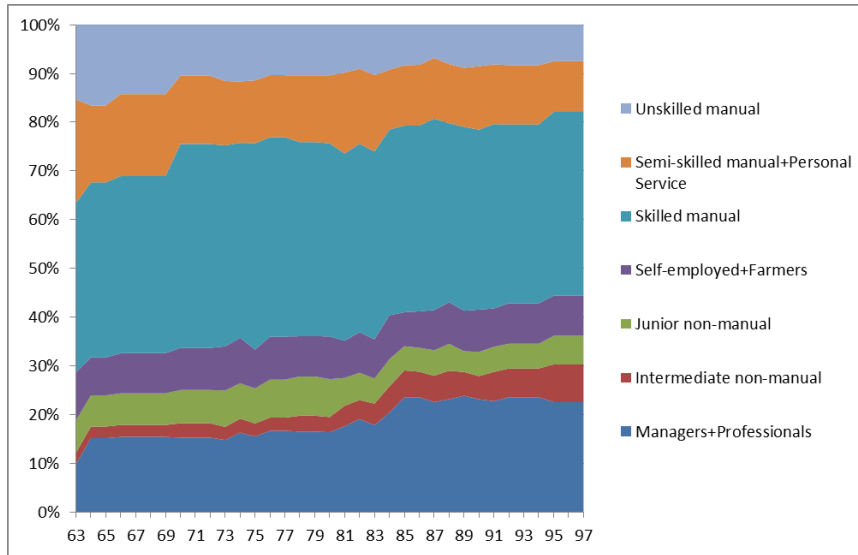
1991-2010 (NS-SEC)



Born 1932- 1985;
Origins circa 1946-1999

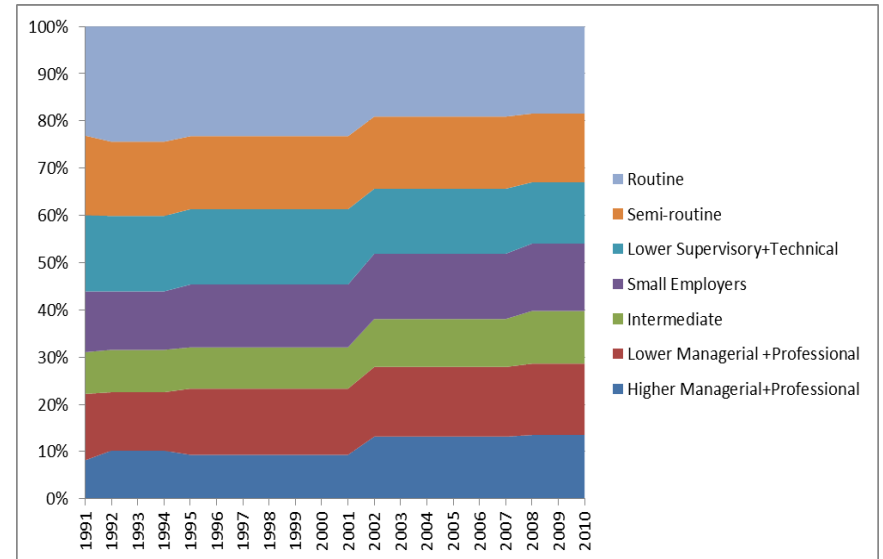
'Class' origin distribution, males

1963-97 (SEG)



Born 1904-1972;
Origins circa 1918-1986

1991-2010 (NS-SEC)



Born 1932- 1985;
Origins circa 1946-1999

Social Class Origin by Social Class Destination Turnover Table. Women, 2014 LFS

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
3. Intermediate	246	600	417	114	62	260	91
4. Small Employers	216	754	504	231	117	504	230
5. Lower Supervisory & technical	202	622	522	137	95	381	141
6. Semi-routine	129	568	448	132	118	433	213
7. Routine	176	718	681	168	163	752	398

Source: Payne, G. (2017) The New Social Mobility (numbers corrected)

Notes: Origin = Occupation of highest parental earner when respondent was 14 years old; Destination = current or last occupation.

Immobile

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
3. Intermediate	246	600	417	114	62	260	91
4. Small Employers	216	754	504	231	117	504	230
5. Lower Supervisory & technical	202	622	522	137	95	381	141
6. Semi-routine	129	568	448	132	118	433	213
7. Routine	176	718	681	168	163	752	398

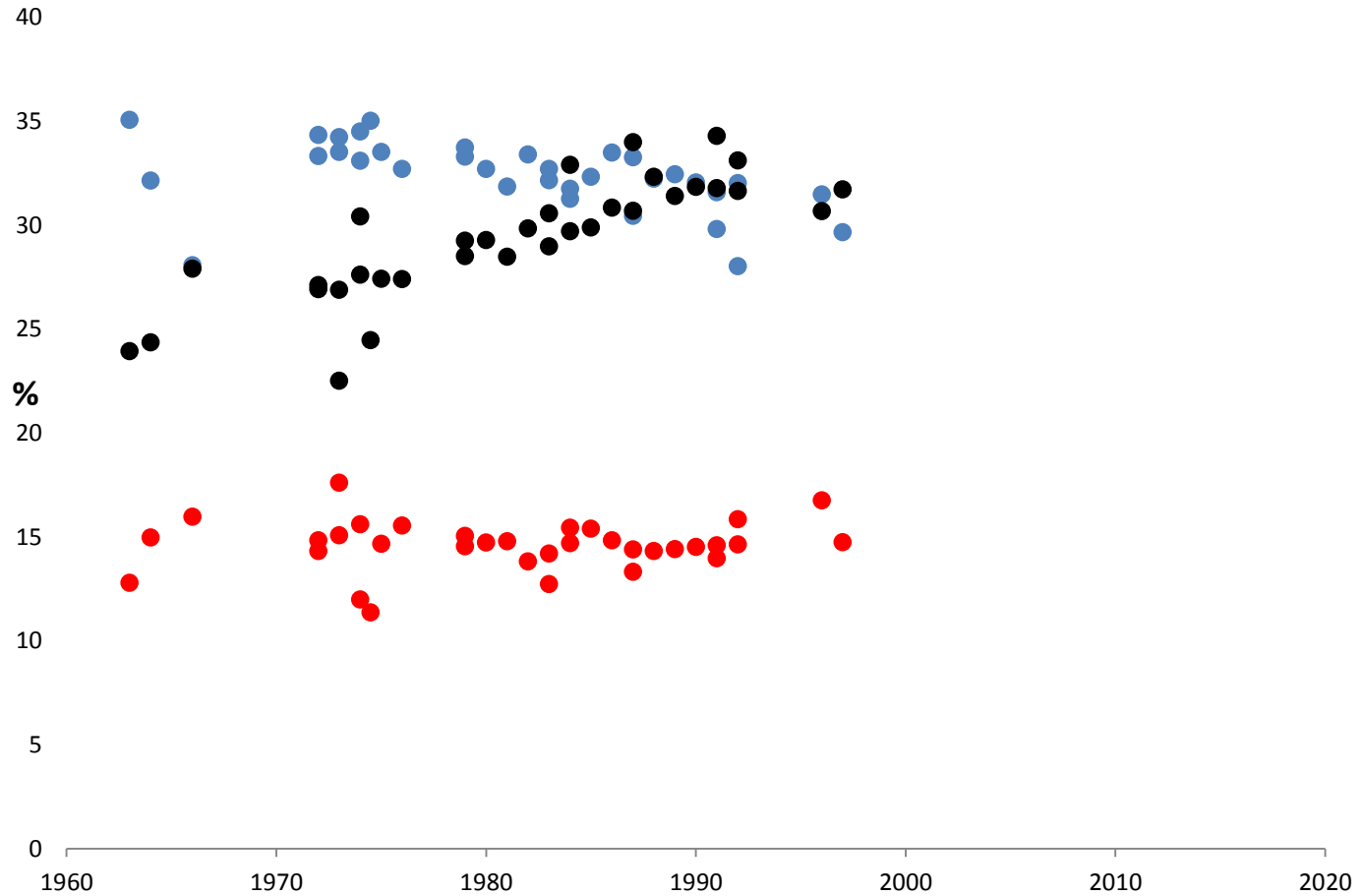
Upward Mobility

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
3. Intermediate	246	600	417	114	62	260	91
4. Small Employers	216	754	504	231	117	504	230
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Downward Mobility

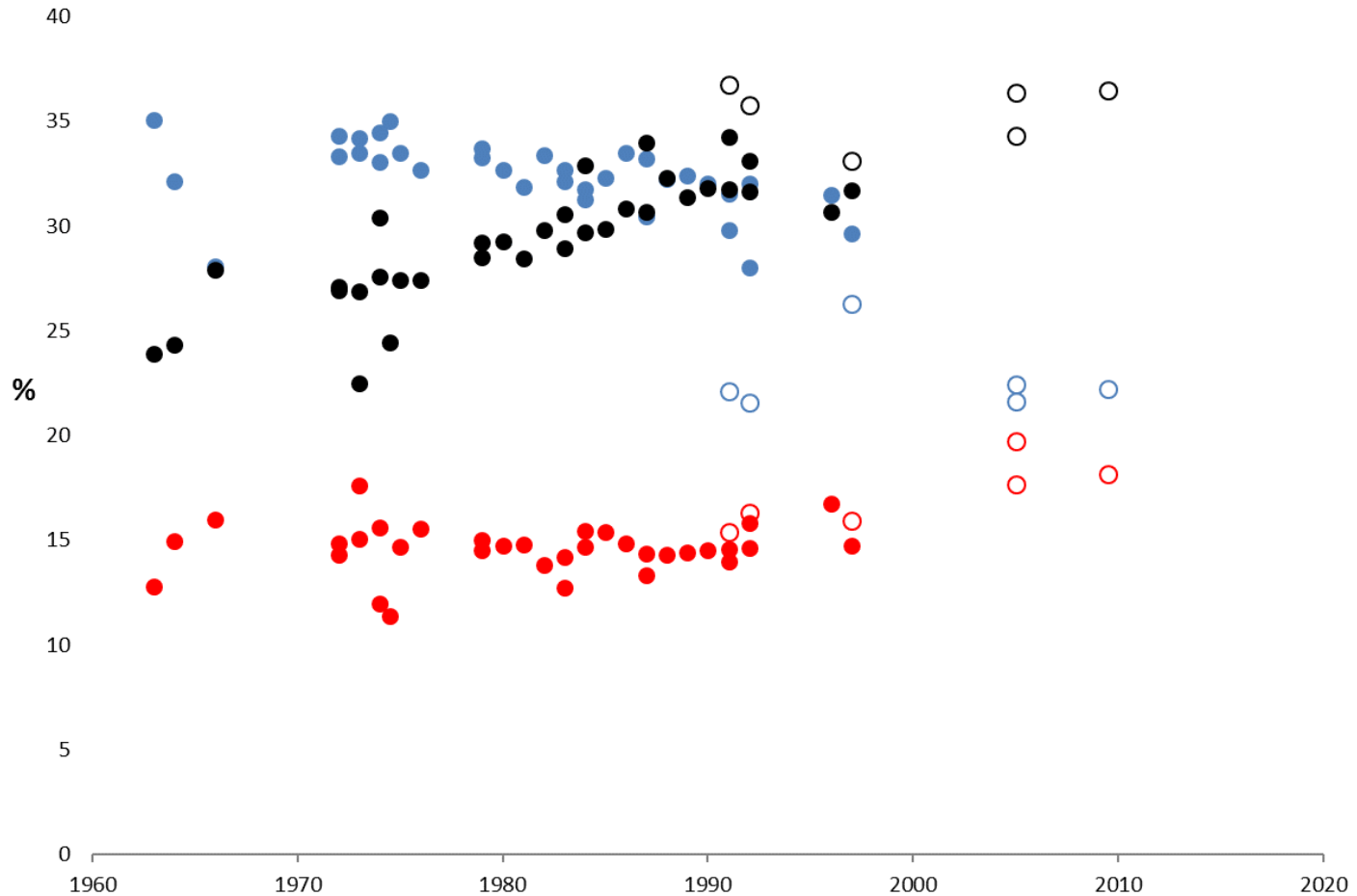
	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
3. Intermediate	246	600	417	114	62	260	91
4. Small Employers	216	754	504	231	117	504	230
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Absolute Mobility, 1963-1997, UK, Men.



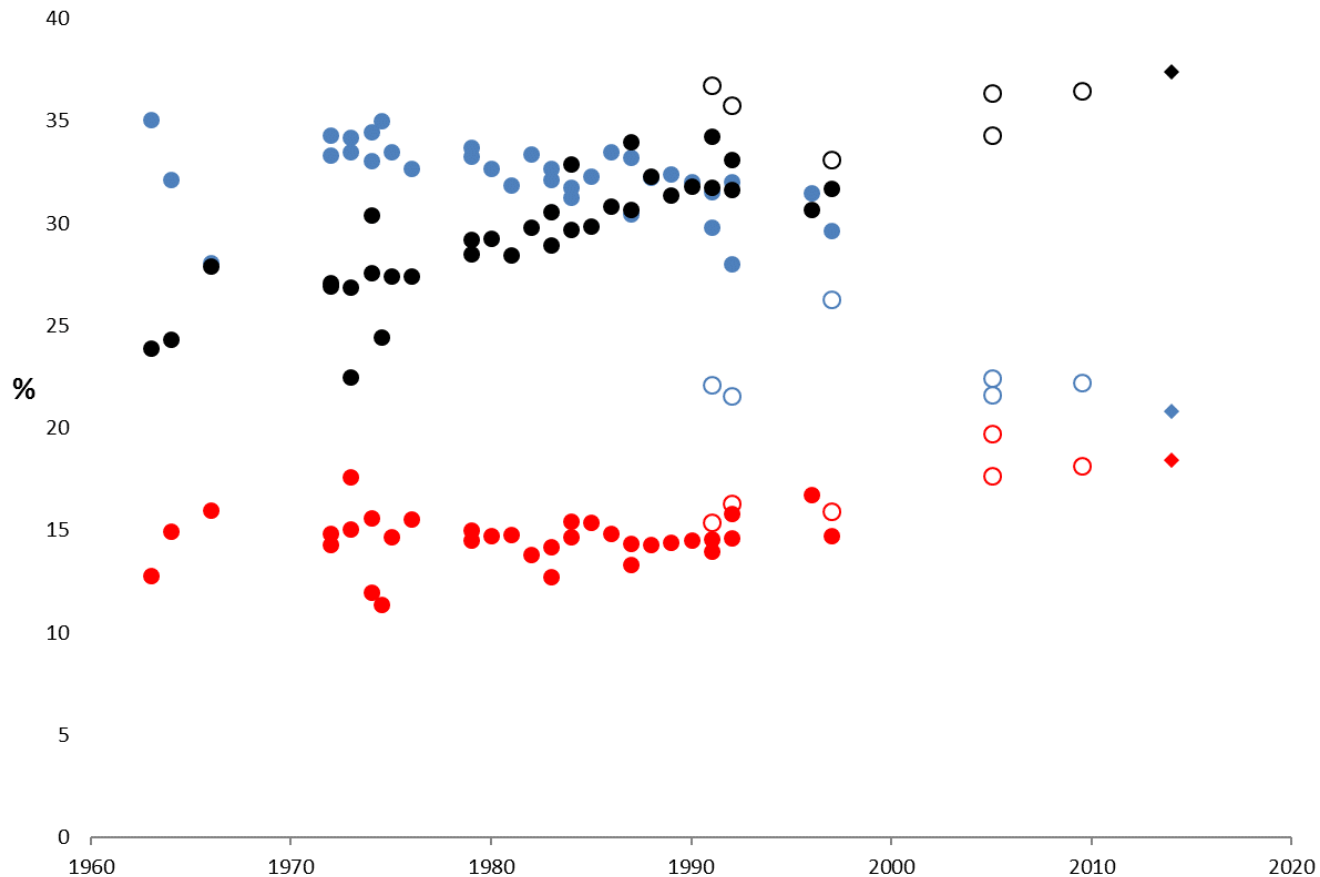
Blue = immobility; Black = upward mobility; red = downward mobility

Absolute Mobility, 1963-2010, UK, Men.



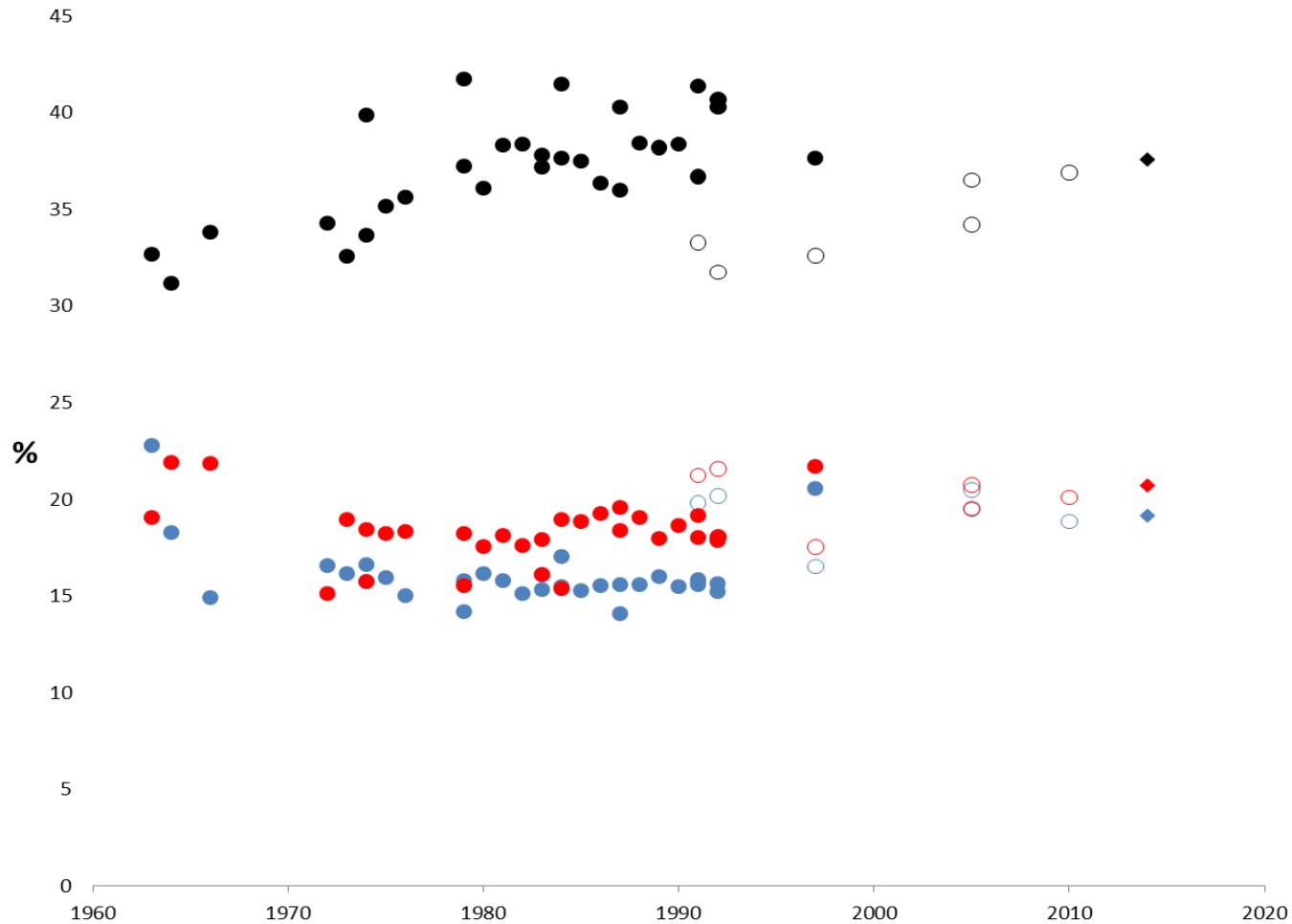
Blue = immobility; Black = upward mobility; red = downward mobility.
Solid = 1963-1997; Outline = 1991-2010.

Absolute Mobility, 1963-2014, UK, Men.



Blue = immobility; Black = upward mobility; red = downward mobility.
Solid = 1963-1997; Outline = 1991-2010, Diamond = 2014.

Absolute Mobility, 1963-2014, UK, Women.



Blue = immobility; Black = upward mobility; red = downward mobility.
Solid = 1963-1997; Outline = 1991-2010, Diamond = 2014.

Summary

Men

1963-1997 Upward mobility increased, thereafter stable;
1991-2010 Perhaps slight increase in downward mobility.

Women

1963-1997 Upward mobility increased;
1991-2010 Upward mobility trend possibly continued;

Measuring association – the odds ratio

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
3. Intermediate	246	600	417	114	62	260	91
4. Small Employers	216	754	504	231	117	504	230
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6. Semi-routine	129	568	448	132	118	433	213
7. Routine	176	718	681	168	163	752	398

534	1018
399	1112

$$\text{Odds 1 v 2 | 1} = 534/1018 = 0.525$$

$$\text{Odds 1 v 2 | 2} = 399/1112 = 0.359$$

$$\text{Odds ratio} = 0.525/0.359 = 1.35$$

Measuring association – the odds ratio

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	534	1018	447	190	62	235	73
2. Lower Managerial & Professional	399	1112	514	178	104	330	86
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Use a well-fitting model as a smoothing device

$$\text{Ln}(F_{ijk}) = \mu + \lambda_i^O + \lambda_j^D + \lambda_k^S + \lambda_{ik}^{OS} + \lambda_{jk}^{DS} + \phi_k \psi_{ij}^{OD}$$

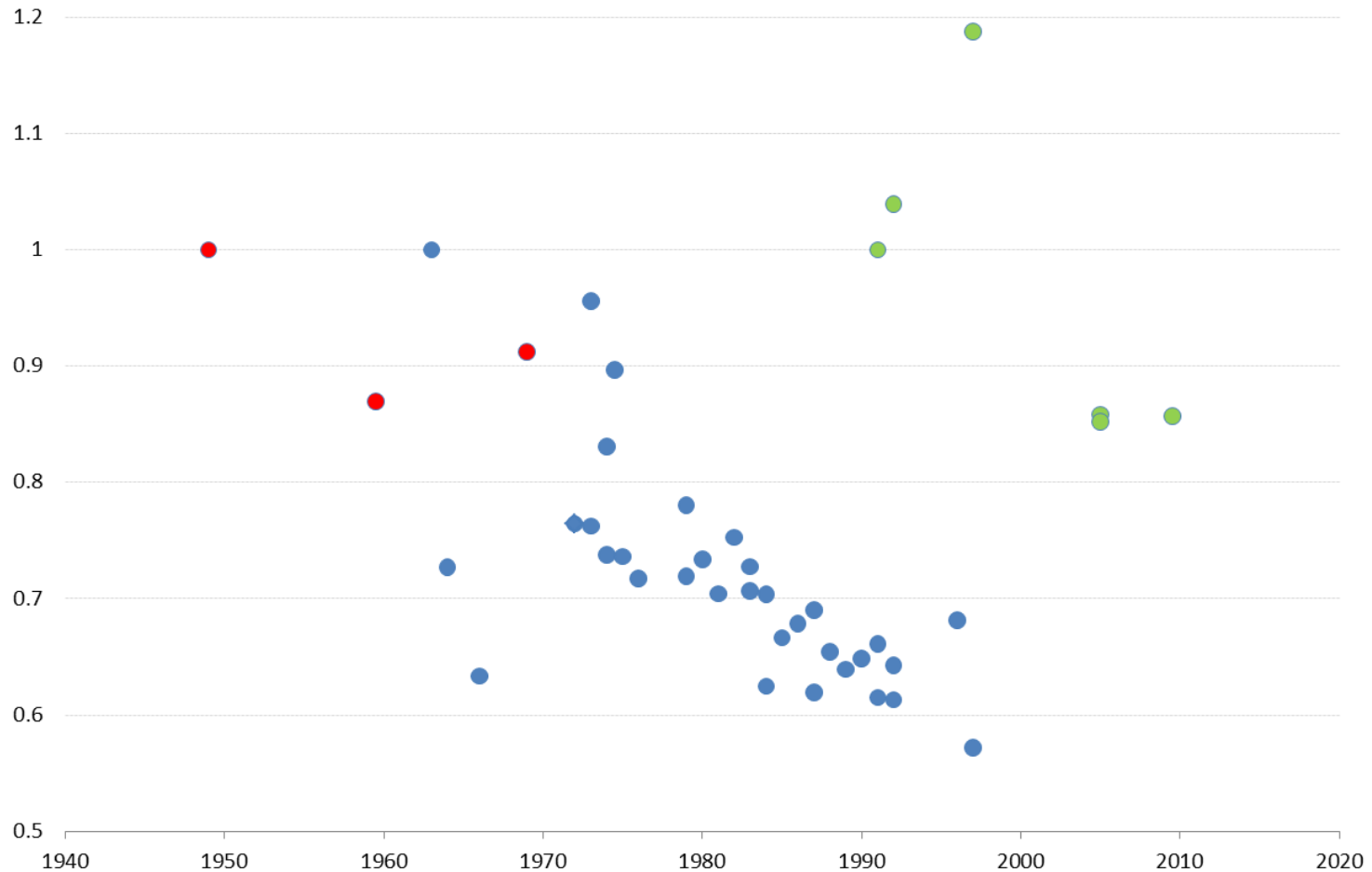
ψ_{ij}^{OD} psi = the set of estimated log odds ratios describing the OD association;

ϕ_k phi = a multiplicative parameter which scales all the log odds ratios in a table up or down relative to the level of association in $s = 1$.

If ϕ_k (for $k \neq 1$) > 1 then relative to the first table, **association has increased** (the log odds ratios are further from independence)

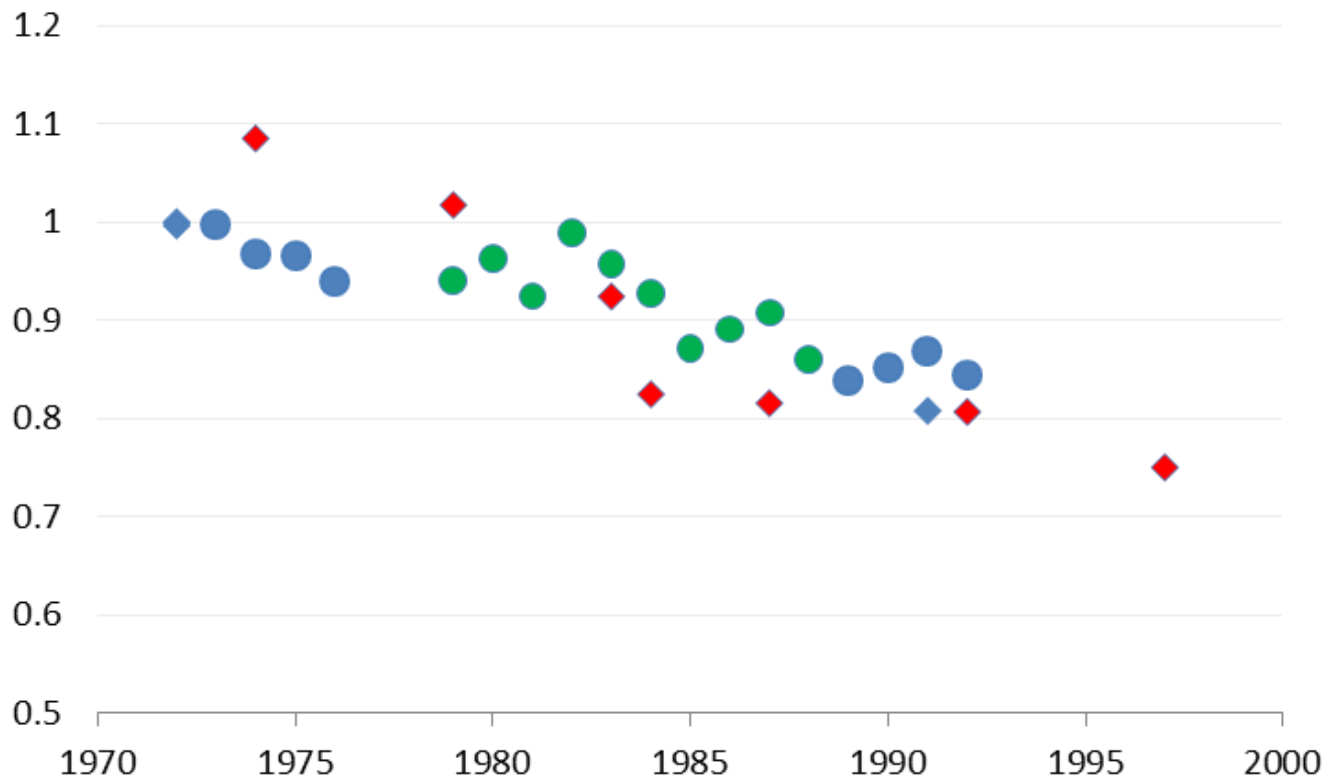
If ϕ_k (for $k \neq 1$) < 1 then relative to the first table, **association has decreased** (the log odds ratios are closer to independence)

“Uni-diff” parameters, 40 surveys in 3 series, 1949-2010, UK constituent parts, males.



Red 1949-69; blue 1963-1997; green 1991-2010

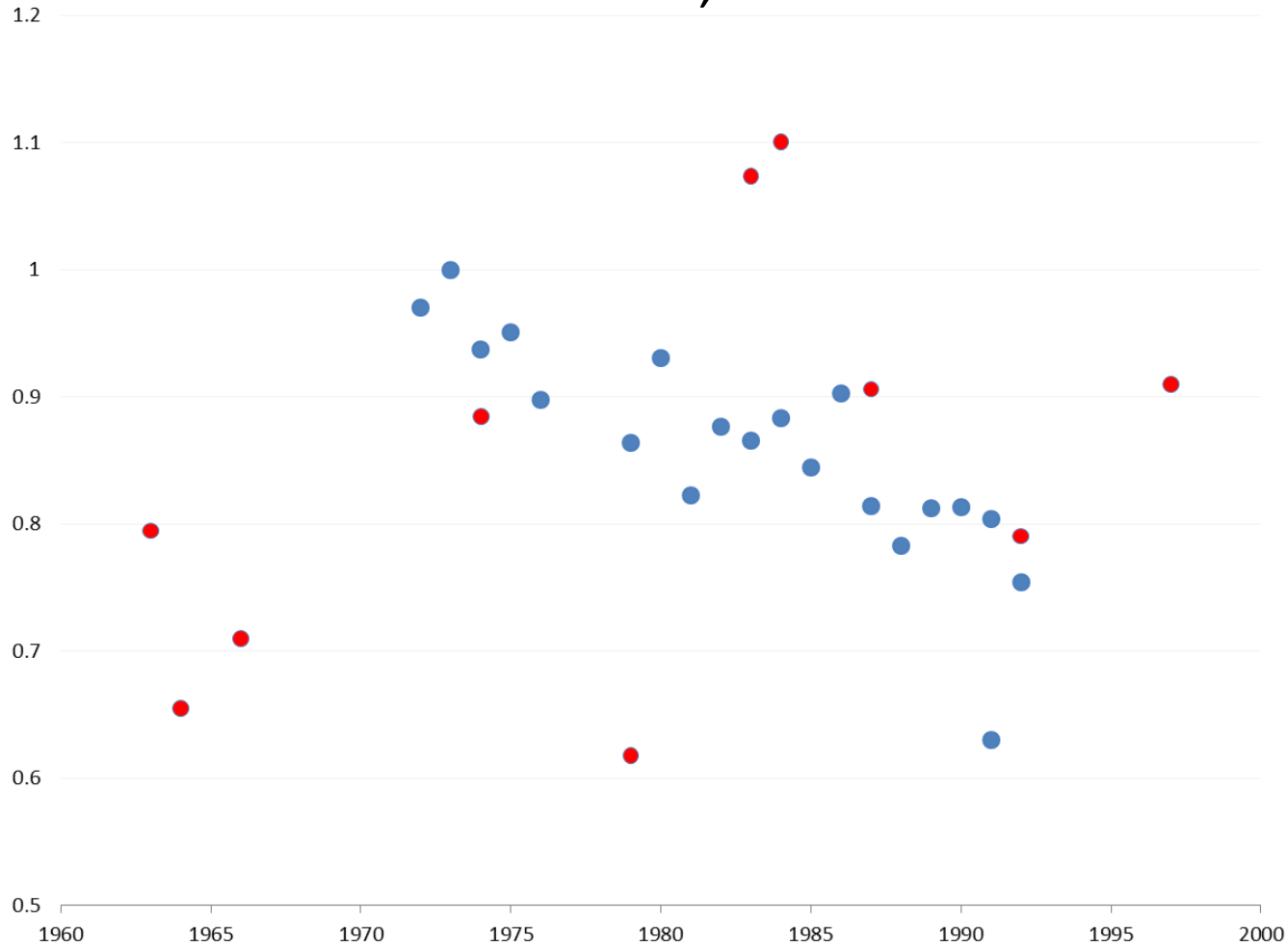
“Uni-diff” parameters, 28 surveys (middle series) 1972-1997, Great Britain, males.



N = 105484; $\beta = -0.007$;

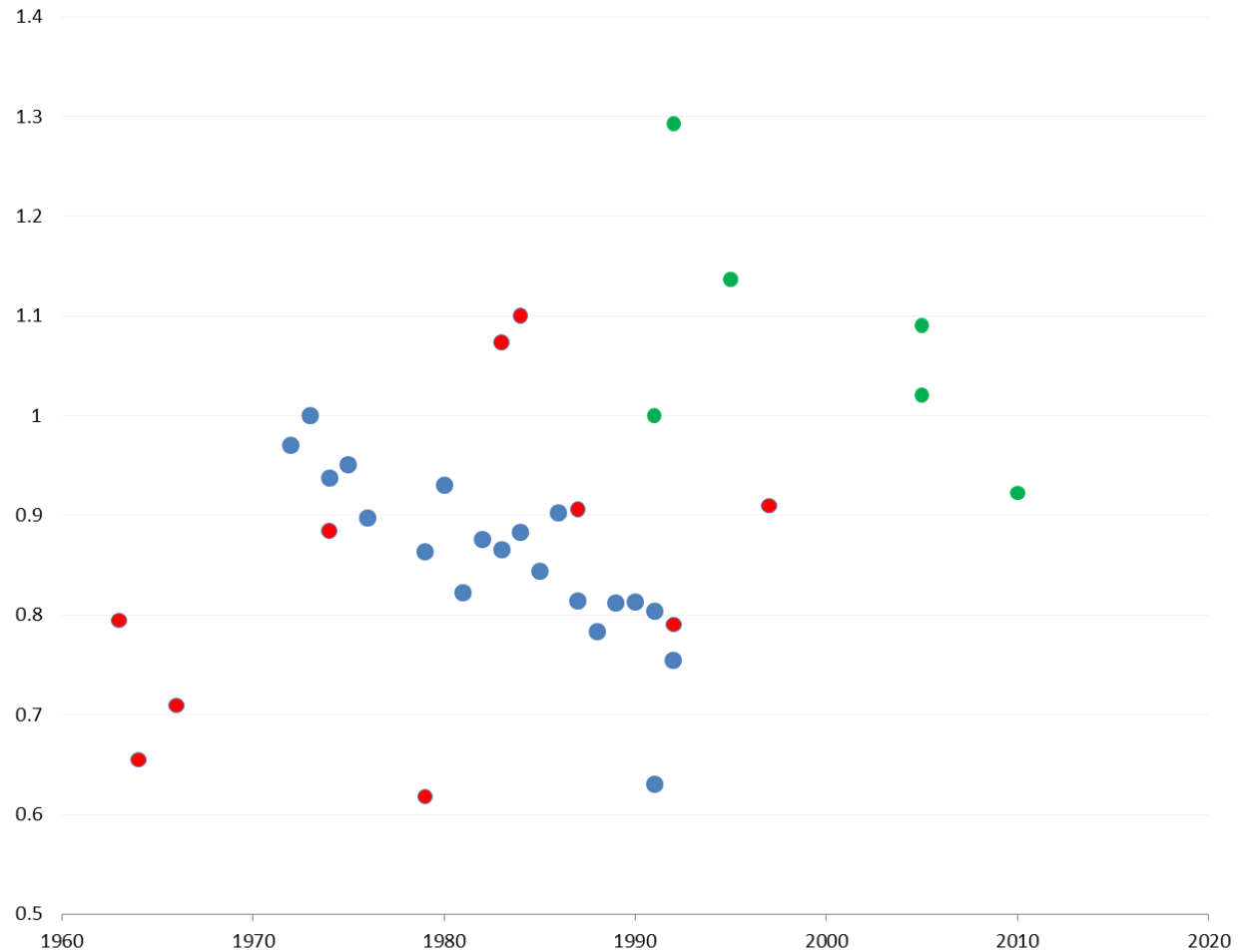
Red = N < 1000; Diamond = Origin when R is about 14; Green = age 25-49

“Uni-diff” parameters, 30 surveys (middle series) 1963-1997, Great Britain, females.



N = 101170; Red = N < 1000

“Uni-diff” parameters, 1963-1997 and 1991-2010, Great Britain, females.



Green = 1991-2010

Summary

Men

1963-1997

OD association decreased – class mobility increased

1991-2010

OD association probably decreased – class mobility increased

Women

1963-1997

OD association decreased – class mobility increased

1991-2010

OD association probably didn't change

Crisis? What Crisis?

Change in relative risk of being observed in top class- top class origin compared to others

	1972	1992		1991	2010
Base %	21.1	31.1	Base %	17.8	19.3
Intermediate non manual	1.3	1.2	Lower Managerial + Prof.	1.5	1.4
Junior non-manual	1.6	1.4	Intermediate	1.7	1.5
Self employed	2.5	2.2	Small employers	3.2	2.6
Skilled manual	2.9	2.1	Lower sup._ tech.	2.7	2.2
Semi-skilled	3.5	2.5	Semi-routine	3.1	2.5
Unskilled manual	5.0	3.3	Routine	4.2	3.0

Men.

Outflow Table

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	21	40	18	7	2	9	3
2. Lower Managerial & Professional	15	41	19	7	4	12	3
3. Intermediate	14	34	23	6	4	15	5
4. Small Employers	9	30	20	9	5	20	9
5. Lower Supervisory & technical	10	30	25	7	5	18	7
6. Semi-routine	6	28	22	7	6	21	10
7. Routine	6	24	22	6	5	25	13

Inflow Table

	1	2	3	4	5	6	7
1. Higher Managerial & Professional	28	19	13	17	9	8	6
2. Lower Managerial & Professional	21	21	15	16	14	11	7
3. Intermediate	13	11	12	10	9	9	7
4. Small Employers	11	14	14	20	16	17	19
5. Lower Supervisory & technical	11	12	15	12	13	13	11
6. Semi-routine	7	11	13	12	16	15	17
7. Routine	9	13	19	15	23	26	32

Model fit statistics, 34 surveys 1963-1997, UK constituent parts, males.

	L^2	df	p.	BIC	Δ
1.CSF	1487.3	1188	.00	-12341.7	3.4
2."uni-diff"	1331.3	1155	.00	-12113.5	3.1
3."uni-diff" linear	1397.6	1187	.00	-12419.7	3.2
Conditional test 1. v 2.	156.0	33	.00		
Conditional test 1. v 3.	89.7	1	.00		
Conditional test 2. v 3.	66.3	32	.00		

N =113609

$\beta = -0.008$

Model fit statistics, 21 surveys (middle series)
1972-1992, Great Britain, males.

	L ²	df	p.	BIC	Δ
1.CSF	772.9	720	.08	-7515.2	2.9
2."uni-diff"	714.6	700	.34	-7343.3	2.6
3."uni-diff" linear	724.8	719	.43	-7551.8	2.7
Conditional test 1. v 2.	58.3	20	.00		
Conditional test 1. v 3.	48.1	1	.00		
Conditional test 2. v 3.	10.2	19	.95		

N = 99832

β = -0.007

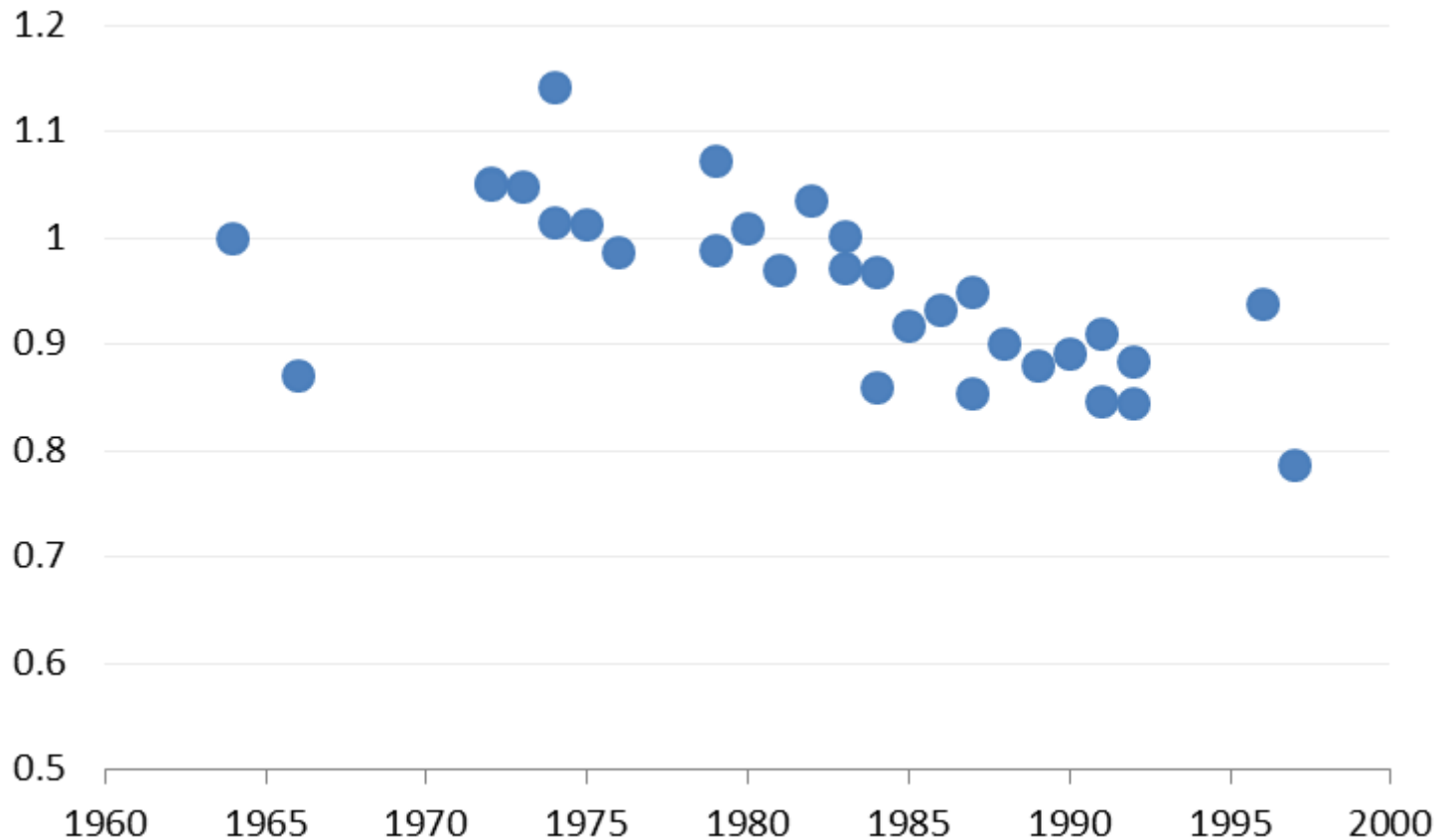
Model fit statistics, 6 surveys (third series) 1991-2010, Great Britain, males.

	L ²	df	p.	BIC	Δ
1.CSF	231.6	180	.00	-1587.9	3.1
2."uni-diff"	215.4	175	.02	-1555.6	3.1
3."uni-diff" linear	222.6	179	.03	-15881	3.1
Conditional test 1. v 2.	16.2	5	.00		
Conditional test 1. v 3.	9.0	1	.00		
Conditional test 2. v 3.	7.2	19	.95		

N = 24828

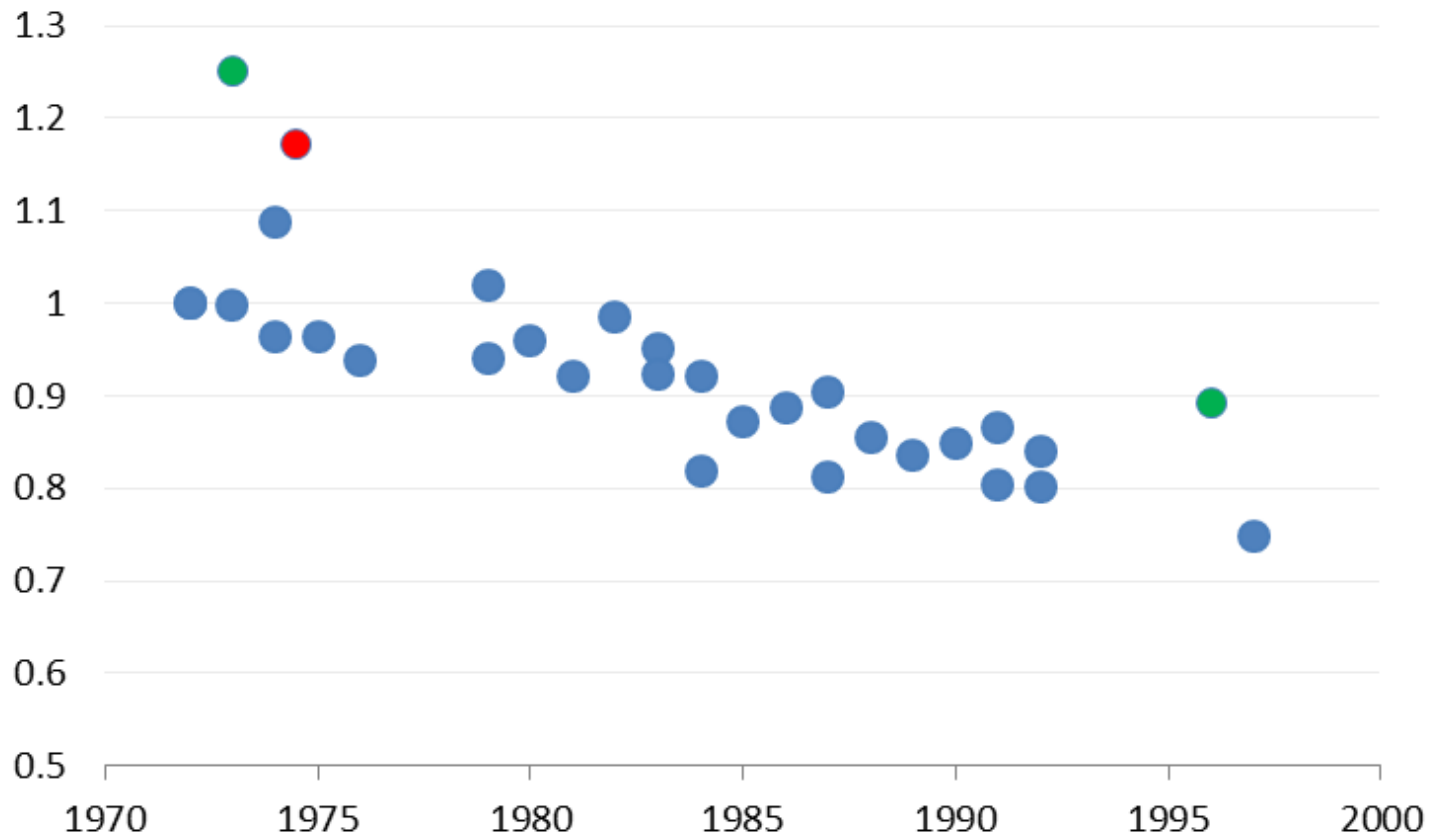
$\beta = -0.010$

“Uni-diff” parameters, 33 surveys (middle series), 1963 dropped, 1964-1997, UK constituent parts, males.



N = 113043; $\beta = -0.008$

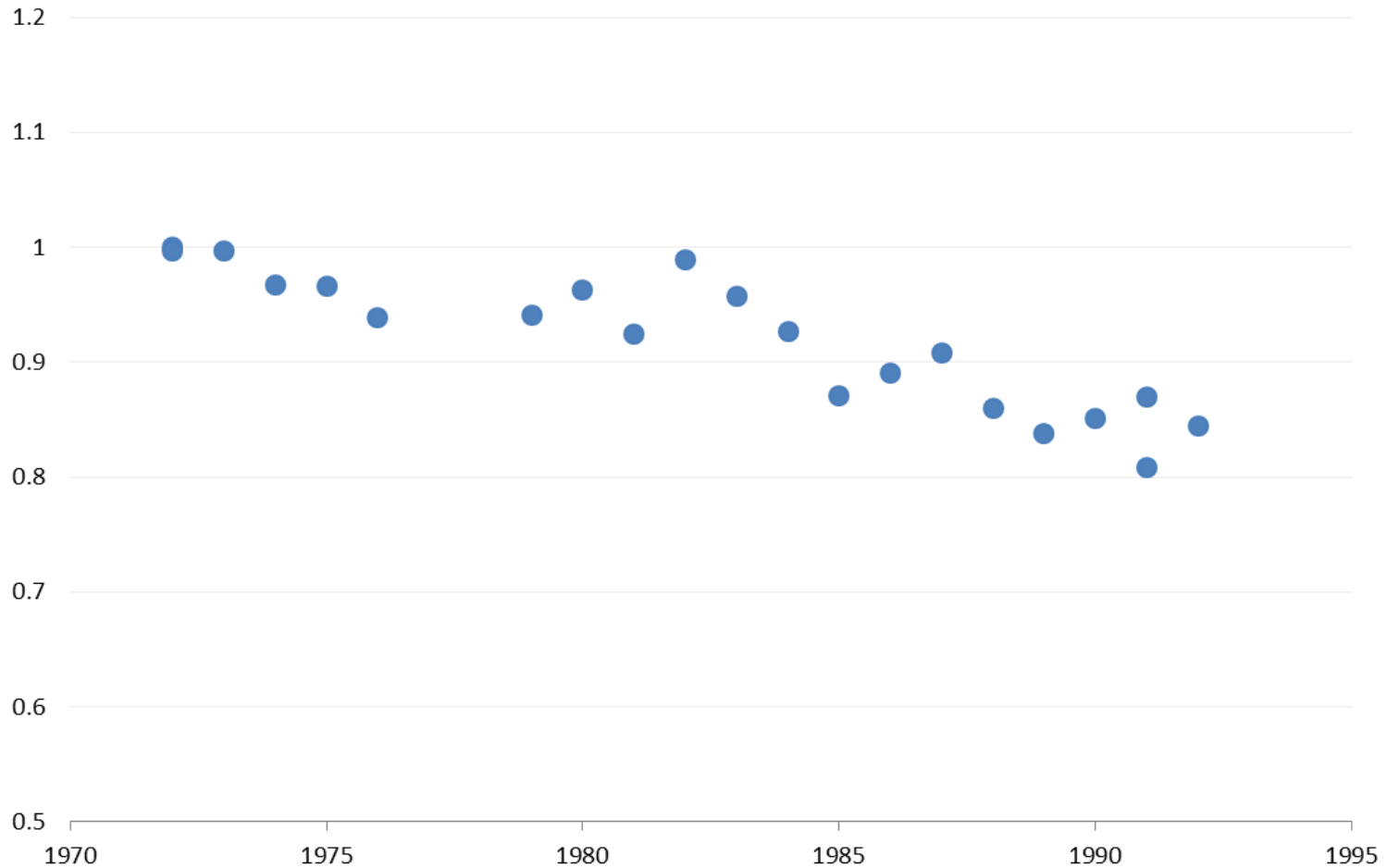
“Uni-diff” parameters, 31 surveys (middle series) 1972-1997, UK constituent parts, males.



N = 111972, $\beta = -0.008$;

Green = Northern Ireland; Red = Scotland

“Uni-diff” parameters, 21 surveys (middle series) 1972-1992, Great Britain, males.



N = 99832; $\beta = -0.007$