

# Dealing with data on educational qualifications: Principles and practice

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**Data on Educational Qualifications in Social Survey Research**  
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# Structure of this talk

- Introduction & some initial thoughts
- Measuring educational qualifications
- Comparing occupations and qualifications
- Survey datasets
  - Educational unit groups (EUG)
- Issues with measuring qualifications
- Conclusion

# Introduction

There are many possible ways to measure education

- Years of education (or school leaving age)
- Type of education (e.g. academic, technical, vocational)
- Type of institutions (e.g. grammar, secondary modern etc)
- Specialised educational tests

For most social science analyses of data from western industrial economies, formal educational qualifications will be a reasonable measure

# Some initial thoughts

- What are the characteristics of a (pragmatic) measure of educational qualifications
- Inherent ordinality
  - Ordinality might be contentious
  - Superiority of levels
  - Motivates participation (parental encouragement)
  - Levels might relate to occupational requirements

# Some initial thoughts

Unlikely to be a clear consensus –

*social scientists, government, employers, educators, students, pupils and parents all likely to have views that are likely to reflect knowledge, experience, preferences and ignorance*

- Educational qualifications are a key social science measure included in an extremely wide variety of substantive analyses
- Qualifications as an explanatory (X) variable:

*Qualification level is frequently used in statistical analyses as a key explanatory variable (usually with a number of other explanatory variables)*

*This is usual in areas such as sociology, social policy and economics*

- Educational qualifications as an outcome (Y) variable:

*In more specialist studies an educational measure is itself of interest as an outcome (for example gaining a specific qualification or level of attainment)*

*This is common in educational studies and within the sociology of education*

*Educational qualifications therefore are a distinctly different form of key variable compared to gender and ethnicity, which we argue will tend to be 'genuinely' exogenous explanatory variables in most analyses (or at least the ones that we can think of)*

# Measuring Educational Qualifications

“the question of how to measure education and qualifications – or indeed what ‘measure’ means – raises interesting issues... Since there is no agreed standard way of categorising educational qualifications”

(Prandy, Unt & Lambert 2004)

*Measuring educational qualifications is a special case of the familiar scientific problem of deploying a measure that facilitates both comparison and replication*

*This is particularly acute when studying social change, or equally importantly, social stability*

# British Qualifications

**A Complete Guide  
to Professional,  
Vocational  
& Academic  
Qualifications in  
the United  
Kingdom**

ABSM

AMRSH

BA

BA(ed)

BA(law)

BTh

C&G

Cert Ed

ChB

There is a mind boggling list of qualifications in this book.

Many of us simply don't know a BCombStuds from a BCS!

# *Herein lies the rub...*

When occupations are measured in social surveys –

- A textual description of the occupational title and circumstances is taken as the initial source occupational record
- This information may be stored as free text however, more commonly, it is translated into an index of occupational positions
- This is usually a location within an ‘occupational unit group’ (OUG) scheme

## When occupations are measured in social surveys –

- In most countries, prescriptive documents are available which show how occupational descriptions may be assigned to numerically standardised occupational schemes, such as OUG systems
- In several cases, computer software is available to allow rapid classification of textual occupational descriptions into numerical OUG locations

Three types of source occupational data are most commonly recorded

1. The classification of occupational titles into an OUG scheme
2. The industrial sector location of the occupation
3. The 'employment status' of the occupation
  - *This concerns the ownership of the occupational site and circumstances of the employment contract*
  - *A variety of national and international employment status indexes exist, although many statistical agencies use bespoke employment status questions*

In addition to these three more common types of record, many studies also hold additional data on the occupational position held by an individual (e.g. the normal time and days of work; extent of supervision)

Three types of source occupational data are most commonly recorded

To create the NS-SEC on the Census and social surveys, data on occupation and employment status are required

An NS-SEC category is allocated by using a combination of:

- information about occupation coded to occupational unit group (OUG) level of the Standard Occupational Classification 2000 (SOC2000)
- information about employment status and size of organisation in the form of an employment status variable

*[www.ons.gov.uk/about-statistics/classifications/current/ns-sec/deriving/index.html](http://www.ons.gov.uk/about-statistics/classifications/current/ns-sec/deriving/index.html)*

# Comparing Educational Qualifications with Occupational information

- Occupational information
  - Survey starts with textual description
  - Translated into Occupational Unit Group
  - Agreed standards of data collection & classification  
*(OUG Scheme; Industrial sector; employment status)*
- At the current time there is no similar consensus with educational data!

No similar consensus with educational data

This is not to say that there is no information on educational qualifications, rather it is to say that there are currently no clear protocols for data collection or 'exhaustive' equivalents to occupational unit groups

Compared with occupations, we observe that qualifications are usually less readily translated from one context to another (e.g. England to Scotland to Norway) and less stable over time

- We are often happy to assume that an English dentist is equivalent to a Scottish dentist, and that they are both equivalent to a Norwegian dentist
- Similarly a dentist who qualified in 1980 is similar to a dentist who qualified in 2000

In countries like Britain we are commonly dealing with a complex set of qualifications –

- for example ten (or more) individual subjects for which a graded GCSE will be awarded
- further complicated when respondents might have a mixture of qualifications
  - e.g. older cohorts with O' Levels and CSEs
  - e.g. recent Scottish cohorts with Standard Grades and Intermediate 2

Perhaps educational qualifications data are currently more 'messy' than occupational information?

'Data are messy when it is apparently impossible to obtain clearly interpretable information from them' (Hafley and Lewis 1963, p.37)

# Survey Datasets: Educational

- National datasets
  - Specifically education oriented
    - Youth Cohort Study of England and Wales
    - Scottish School Leavers Survey / Scottish Young People's Survey
  - More general datasets on children and young people
    - British birth cohort datasets –
    - Other countries (e.g. Stockholm birth cohort of 1953)
- Administrative
  - Common in the Nordic countries
    - Recent example - English National Pupils Database (NPD)

# Survey Datasets: General Surveys

- Census Data
  - Related products e.g. Scottish Longitudinal Study
- Labour Market Surveys
  - EU requirement to collect quarterly data (e.g. UK Labour Force Survey)

# Survey Datasets: General Surveys

- General Household Surveys
  - Usually cross-sectional
  - UK General Household Survey (since 1971)
  - Increasing co-ordination (EU Statistics on Income and Living Conditions - EU-SILC)
- Household Panel Studies (repeated contacts)
  - A requirement within the EU
    - British Household Panel
    - German Socio-Economic Panel
  - But also other nations have datasets
    - USA Panel Study of Income Dynamics
    - Canada Survey of Labour and Income Dynamics
    - Australia Household Income and Labour Dynamics
  - Understanding Society will have links to official educational data (e.g. NPD)
- Other survey sources
  - e.g. Welsh Health Survey, 2007

# Educational Unit Groups

2001 Census Form (England)

**16 Which of these qualifications do you have?**

✓ *all the qualifications that apply or, if not specified, the nearest equivalent*

<input type="checkbox"/> 1+ O levels/CSEs/GCSEs (any grades)	<input type="checkbox"/> NVQ Level 1, Foundation GNVQ
<input type="checkbox"/> 5+ O levels, 5+ CSEs (grade 1), 5+ GCSEs (grades A-C), School Certificate	<input type="checkbox"/> NVQ Level 2, Intermediate GNVQ
<input type="checkbox"/> 1+ A levels/AS levels	<input type="checkbox"/> NVQ Level 3, Advanced GNVQ
<input type="checkbox"/> 2+ A levels, 4+ AS levels, Higher School Certificate	<input type="checkbox"/> NVQ Levels 4-5, HNC, HND
<input type="checkbox"/> First Degree (eg BA, BSc)	<input type="checkbox"/> Other Qualifications (eg City and Guilds, RSA/OCR, BTEC/Edexcel)
<input type="checkbox"/> Higher Degree (eg MA, PhD, PGCE, post-graduate certificate/diplomas)	<input type="checkbox"/> No Qualifications

British Household Panel Survey Waves 1-18, 1991-2009  
 UK Data Archive Study SN 5151

**AQFACHI**                      **Highest academic qualification**

**Questionnaire**                      **Derived Variable**

<b>Value Label</b>	<b>Value</b>	<b>Frequency</b>	<b>%</b>	<b>Valid %</b>
Higher Degree	1	122	1.2	1.2
1st Degree	2	598	5.8	6.0
HND, HNC, Teaching	3	496	4.8	5.0
A Level	4	1362	13.3	13.8
O Level	5	2510	24.5	25.4
CSE	6	529	5.2	5.3
None of These	7	4276	41.7	43.2
Missing	-9	19	.2	Missing
Proxy respondent	-7	352	3.4	Missing
	<b>Valid cases</b>	9893	<b>Missing cases</b>	371

Available in File                      wINDRESP

British Household Panel Survey Waves 1-18, 1991-2009  
 UK Data Archive Study SN 5151

**AQFEDHI Highest educational qualification**

**Questionnaire**

<b>Value Label</b>	<b>Value</b>	<b>Frequency</b>	<b>%</b>	<b>Valid %</b>
Higher Degree	1	122	1.2	1.2
First Degree	2	598	5.8	6.0
Teaching QF	3	225	2.2	2.3
Other Higher QF	4	1207	11.8	12.2
Nursing QF	5	215	2.1	2.2
GCE A Levels	6	985	9.6	10.0
GCE O Levels or Equi	7	2086	20.3	21.1
Commercial QF, No O	8	349	3.4	3.5
CSE Grade 2-5, Scot G	9	411	4.0	4.2
Apprenticeship	10	262	2.6	2.6
Other QF	11	84	.8	.8
No QF	12	3318	32.3	33.5
Still At School No Q	13	31	.3	.3
Missing	-9	19	.2	Missing
Proxy respondent	-7	352	3.4	Missing

General Household Survey, 1972  
UK Data Archive Study SN: 1406  
Highest educational qualification  
Source file: ghs72.dta, variable aheadqual

- 0 no qualifications
- 1 higher degrees
- 2 1st degree,univ.dip
- 3 teaching qual-non gr
- 4 hnc,hnd,tech.cert
- 5 nursing qual.
- 6 gce'a'level,onc,ond
- 7 gce'o'level-5 or more
- 8 gce'o'1-4,with c&c
- 9 gce'o' 1-4,no c&c.
- 10 clerical & comm.qual
- 11 cse other
- 12 apprenticeship
- 13 any foreign qual.
- 14 other qual

## USA National longitudinal study of high school class of 1972

49a. As of the first week of October 1976, what was your highest level of education or training? (Column A)

49b. As things stand now, how far in school do you think you actually will get? (Column B)

A. Had in October 1976 (circle one) - B. Plan to get (Circle one)

Finished high school

Vocational trade or business school

Less than two years

Two years or more

College program

Less than two years of college

Two or more years of college

Two or more years of college (including two-year degree)

Finished college (four or five-year degree)

Master's degree or equivalent

Ph.D. , or advanced professional degree

# Issues with Qualification Measures

## Comparisons across time

### 1. Changes in titles and levels

- structure of educational systems
- organisation and content of the curriculum

### 2. Respondents from different age cohorts (e.g. younger and older people)

### 3. Changes in distributions over time (e.g. the explosion in university level education)

# Issues with Qualification Measures

## Comparisons across time

### 1. Changes in titles and levels

- structure of educational systems
- organisation and content of the curriculum

# In countries like Britain the minimum school leaving age has increased

- Elementary Ed Act 1880      age 10
- Elementary Ed Act 1893      age 11
- Elementary Ed Act 1899      age 12
  
- The Fisher Act 1918      age 14
- The Butler Act 1944      age 15
  
- (Crossland) 1971      age 16 (from 1973)
  
- Recent legislation in England will increase the minimum age for leaving education or training to 17 and later to 18

# Organisational Changes

Type of School Attended by Birth Cohorts  
 British Household Panel Survey 1991 - Wave A  
 (Extract column percentages)

type of school attended	cohorts			Total
	Prewar	1944 Act	Crossland	
comprehensive sch	-	10.47	<b>53.25</b>	25.92
grammar not fee pa	9.58	<b>19.14</b>	8.06	12.10
grammar fee-paying	4.55	1.93	0.97	2.25
public & private	5.52	5.63	4.68	5.22
elementary	<b>35.20</b>	2.45	-	10.35
secondary modern	-	<b>52.11</b>	24.01	33.64
technical	-	3.49	0.80	2.15

1. Suspect errors - potentially misleading measure

# School Level Qualifications in England and Wales

- General Certificate of Education GCE
- England and Wales (Not Scotland)
  
- Introduced in the 1950s
  - Ordinary Level (O'Level) (age 16)
  - Advanced Level (A'Level) (age 18)
  
- Some other related qualifications
  - AO Level - between O'Level and A'Level
  - S'Level, Scholarship level, or Special paper (more advanced)

## Changes...

- Mid 1960s lower but overlapping Certificate of Secondary Education (CSE) introduced alongside O'Levels
- 1988 O'Level and CSE replaced by General Certificate of Secondary Education (GCSE)
- 1987 Advanced Supplementary Levels (AS Level), worth  $\frac{1}{2}$  and A'Level (age 17)

## Changes...

- A' Levels historically were a two year course assessed by final exams
- Curriculum 2000 A'Level split into two parts,
  - AS Advanced Subsidiary (age 17)
  - A2 examinations (age 18)
  - Satisfactory achievement in AS and A2 modules results in the award of an A' Level qualification

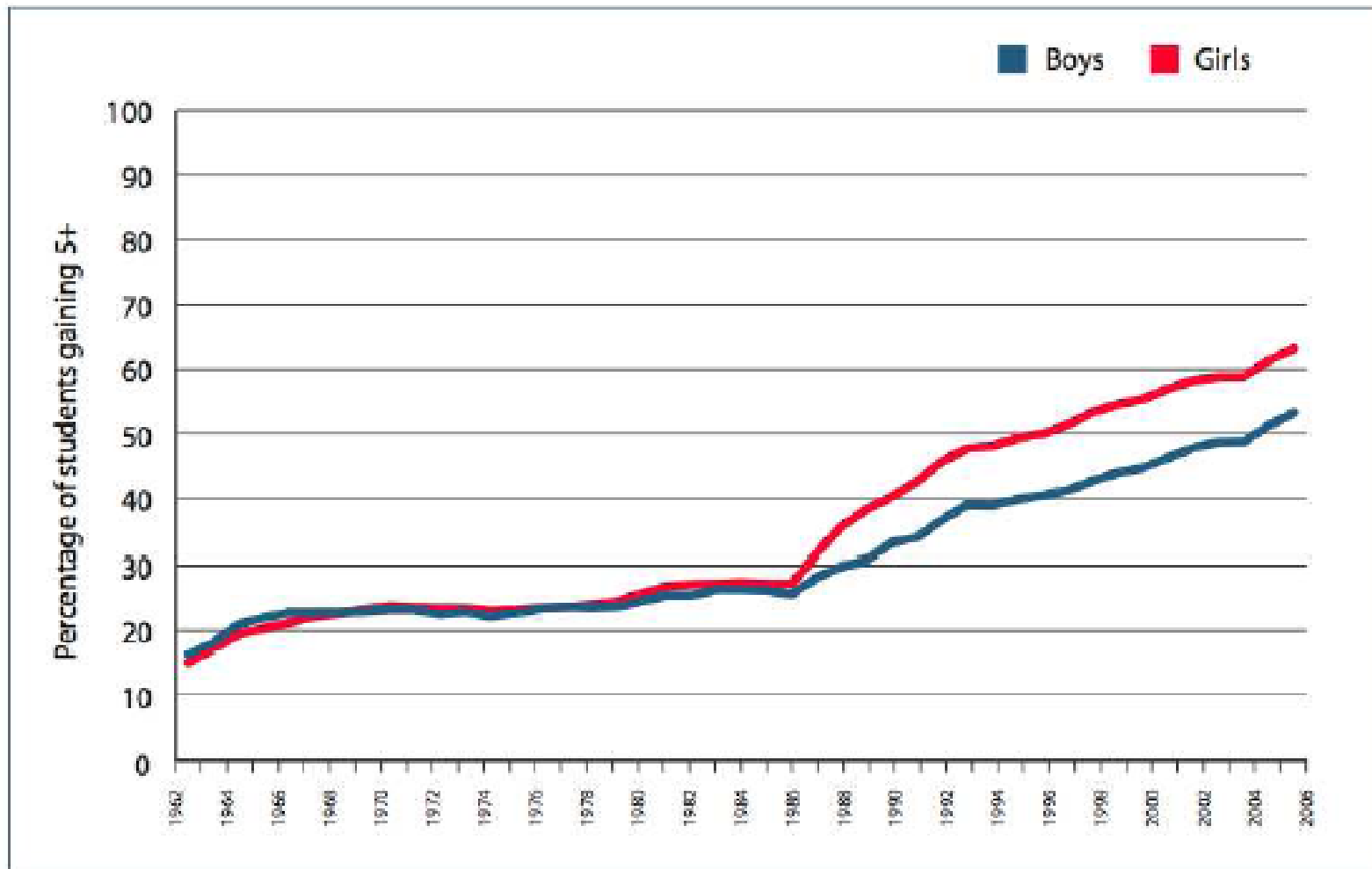
*Are we comparing the same qualifications when we compare A' Levels with their counterparts prior to Curriculum 2000?*

# Obvious Issues with Qualification Measures

Comparisons across time

2. Respondents from different age cohorts (e.g. younger and older people)

**Figure 3-7 Percentage of School Leavers Achieving 5+ A-C (or Pass) O-level or A\*-C GCSE by Gender (1962-2006)**

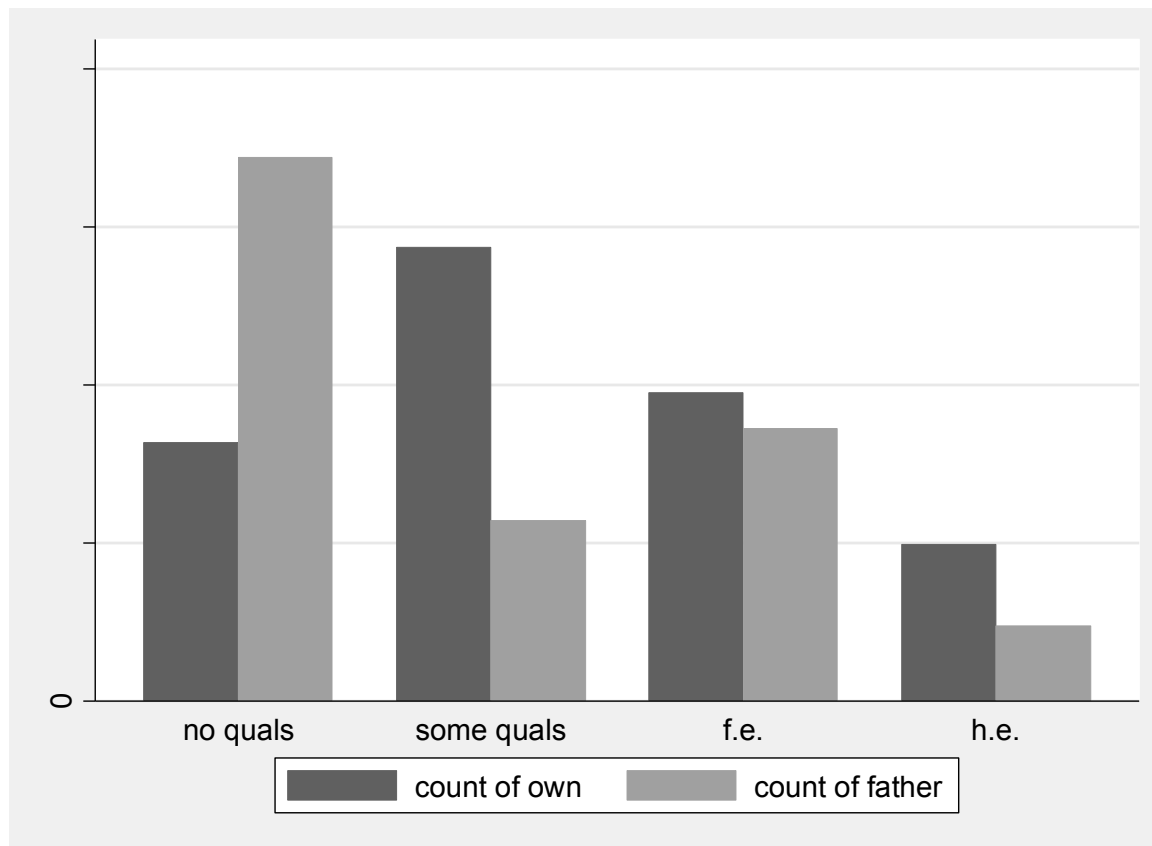


Source: Department for Education Statistics of Education

Department for Education and Skills (2007) *Gender and Education: The evidence on pupils in England*

# Changes in Distributions

British Household Panel Survey (Wave M)  
Respondent's Education Level and Father's Education Level



## BHPS Wave A 1991 (n=9,750)

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.tab aqfedhi cohort, nofreq col
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highest educational qualification	birth cohorts			Total
	Pre WW2	1939-1959	1960 onwa	
1. higher degree	0.80	2.10	0.64	1.23
2. first degree	2.41	8.13	7.63	6.08
3. teaching qf	2.81	3.11	0.61	2.26
4. other higher qf	8.87	15.23	12.27	12.23
5. nursing qf	2.38	2.16	1.93	2.16
6. gce a levels	3.62	9.87	17.25	10.03
7. gce o levels or eq	10.48	21.06	33.15	21.21
8. commercial qf, no	4.17	4.01	2.10	3.49
9. cse grade 2-5,scot	0.12	2.38	10.92	4.22
10. apprenticeship	4.95	2.55	0.27	2.66
11. other qf	0.71	0.79	1.08	0.85
12. no qf	58.66	28.60	11.08	33.27
13. still at school n	0.00	0.00	1.05	0.32
Total	100.00	100.00	100.00	100.00

## BHPS Wave A 1991 (n=9,750)

```
.tab aqfedhi cohort, nofreq col
```

highest educational qualification	birth cohorts			Total
	Pre WW2	1939-1959	1960 onwa	
1. higher degree	0.80	2.10	0.64	1.23
2. first degree	2.41	8.13	7.63	6.08
3. teaching qf	2.81	3.11	0.61	2.26
4. other higher qf	8.87	15.23	12.27	12.23
5. nursing qf	2.38	2.16	1.93	2.16
6. gce a levels	3.62	9.87	17.25	10.03
7. gce o levels or eq	10.48	21.06	33.15	21.21
8. commercial qf, no	4.17	4.01	2.10	3.49
9. cse grade 2-5,scot	0.12	2.38	10.92	4.22
10. apprenticeship	4.95	2.55	0.27	2.66
11. other qf	0.71	0.79	1.08	0.85
12. no qf	58.66	28.60	11.08	33.27
13. still at school n	0.00	0.00	1.05	0.32
Total	100.00	100.00	100.00	100.00

# Post War Birth Cohorts

## BHPS Wave A 1991 (n=5,929)

The more recent cohorts are better qualified (as we would expect)

**Beware –**

**The younger cohorts are no old enough to have more advanced qualifications!**

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. tab aqfedhi cohort2, nofreq col
```

highest educational qualification	birth cohorts				Total
	1944-1954	1955-1964	1965-1974	1975	
1. higher degree	2.41	1.81	0.17		1.48
2. first degree	7.68	11.18	6.20		8.23
3. teaching qf	3.84	1.30	0.34		1.86
4. other higher qf	14.98	15.05	12.28		13.83
5. nursing qf	2.22	2.51	1.53		2.06
6. gce a levels	9.01	12.49	21.38	1.37	13.66
7. gce o levels or eq	21.18	25.88	34.62	48.63	27.42
8. commercial qf, no	4.58	2.81	2.05	0.68	3.14
9. cse grade 2-5,scot	1.13	8.68	10.29	20.55	6.86
10. apprenticeship	2.71	0.75	0.23	0.00	1.25
11. other qf	0.84	0.50	1.53	0.68	0.93
12. no qf	29.41	17.05	9.38	6.85	18.76
13. still at school n	0.00	0.00	0.00	21.23	0.52
Total	100.00	100.00	100.00	100.00	100.00

# Issues with Qualification Measures

Comparisons across time

3. Changes in distributions over time (e.g. the explosion in university level education)

**Table 3.9****Students in further and higher education:<sup>1</sup> by type of course and sex**

United Kingdom

Thousands

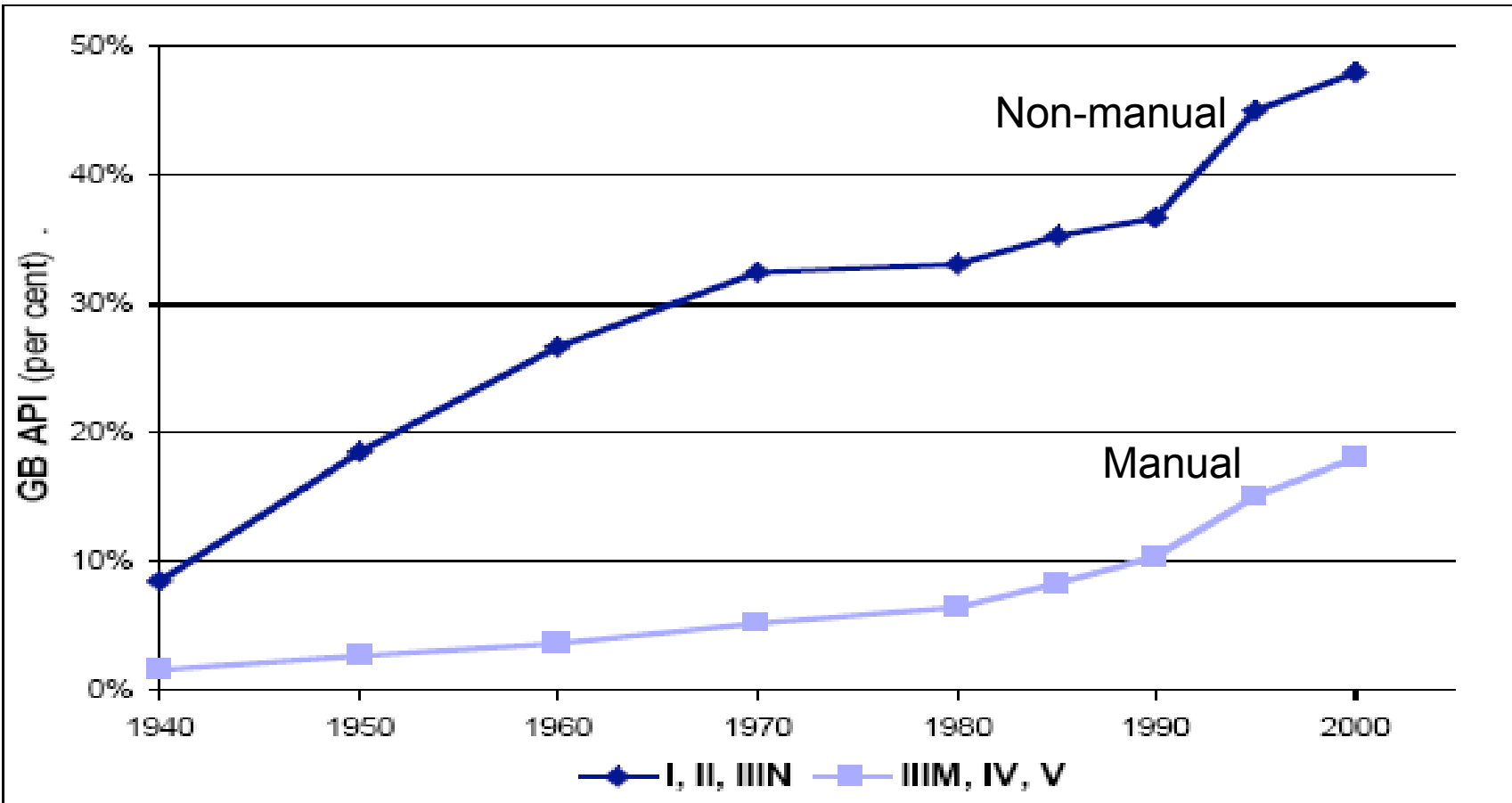
	Men				Women			
	1970/71	1980/81	1990/91	2006/07	1970/71	1980/81	1990/91	2006/07
<b>Further education</b>								
Full-time	116	154	219	515	95	196	261	531
Part-time	891	697	768	1,027	630	624	986	1,567
All further education	1,007	851	986	1,542	725	820	1,247	2,098
<b>Higher education</b>								
Undergraduate								
Full-time	241	277	345	563	173	196	319	706
Part-time	127	176	148	267	19	71	106	451
Postgraduate								
Full-time	33	41	50	120	10	21	34	124
Part-time	15	32	46	143	3	13	33	181
All higher education <sup>2</sup>	416	526	588	1,094	205	301	491	1,463

1 Home and overseas students attending further education or higher education institutions. See Appendix, Part 3: Stages of education.

2 Figures for 2006/07 include a small number of higher education students for whom details are not available by level.

Source: Department for Children, Schools and Families; Department for Innovation, Universities and Skills; Welsh Assembly Government; Scottish Government; Northern Ireland Department for Employment and Learning

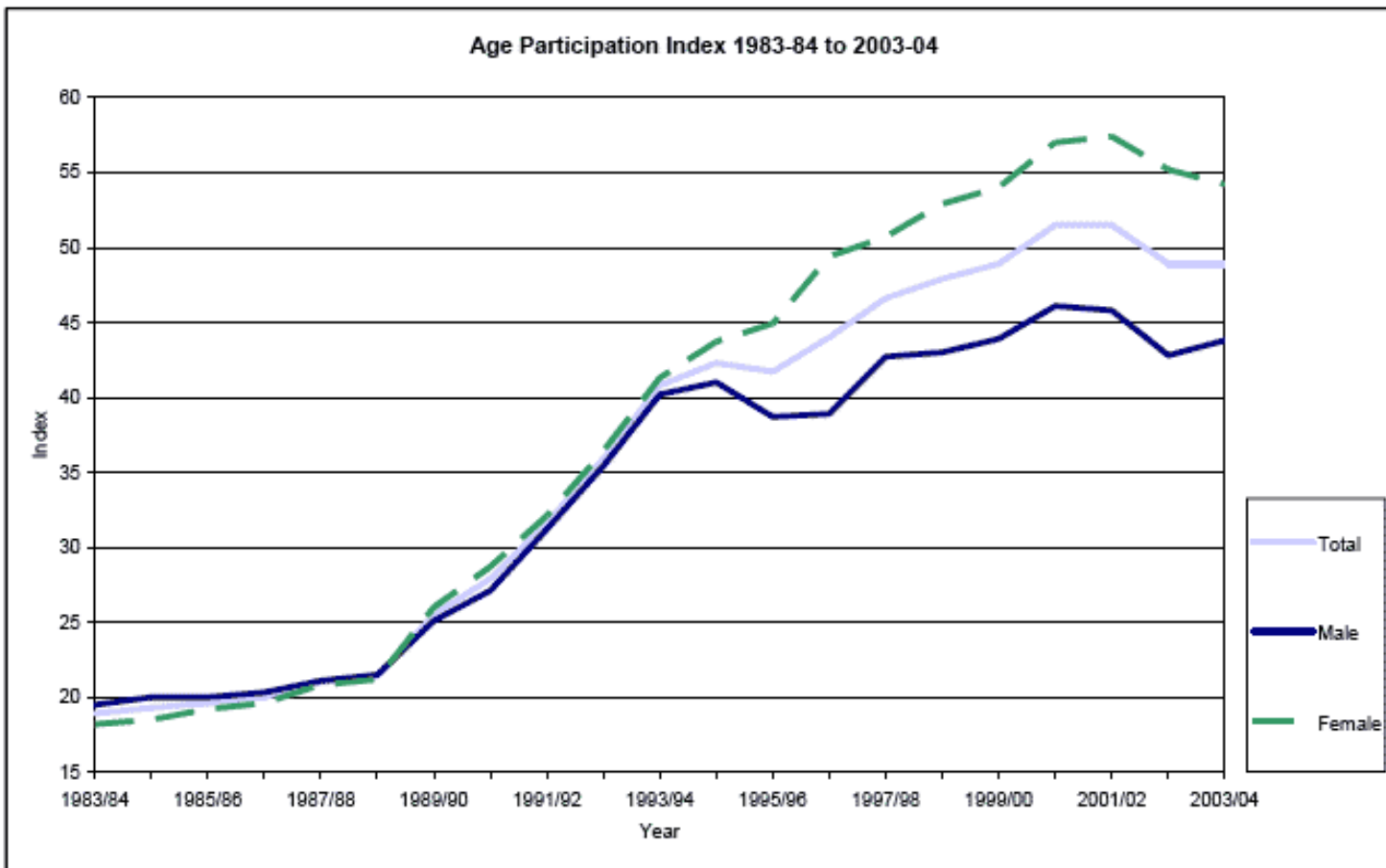
Figure 1: Chart showing the API by Social Class for the period 1940 to 2000:



British Measure - Age Participation Index is number of UK students (under 21) entering undergraduate courses expressed as a percentage of 18/19 year old population

Source: Kelly and Cook (2007)

# Scotland



Source: Scottish Executive Lifelong Learning Statistics, Higher Education Statistics Agency ( HESA) and Scottish Funding Council ( SFC)

Participation has risen from approximately 20% in the early 1980s to approximately 50%, with female participation outstripping male participation overall

# UK Students in higher education by subject and sex 2006/7

	% Male Students	% Female Students	% Male	% Female
Business	16	11	51	49
Allied Medicine	6	18	18	82
Education	5	12	25	75
Social Studies	8	9	38	62
Biological Studies	6	8	36	64
Creative arts and design	6	7	39	61
Engineering and technology	12	2	84	16
Languages	5	7	32	68
Computer science	8	2	78	22
Historical and philosophical studies	5	4	45	55
Law	4	4	41	59
Physical sciences	5	3	58	42
Medicine and dentistry	3	3	42	58
Architecture, building and planning	4	1	69	31
Mass communications and documentation	2	2	42	58
Mathematical sciences	2	1	64	36
Agriculture and related subjects	1	1	39	61
Veterinary science	<1	<1	20	80
Combined	5	5	39	61
Overall	100	100	43	57

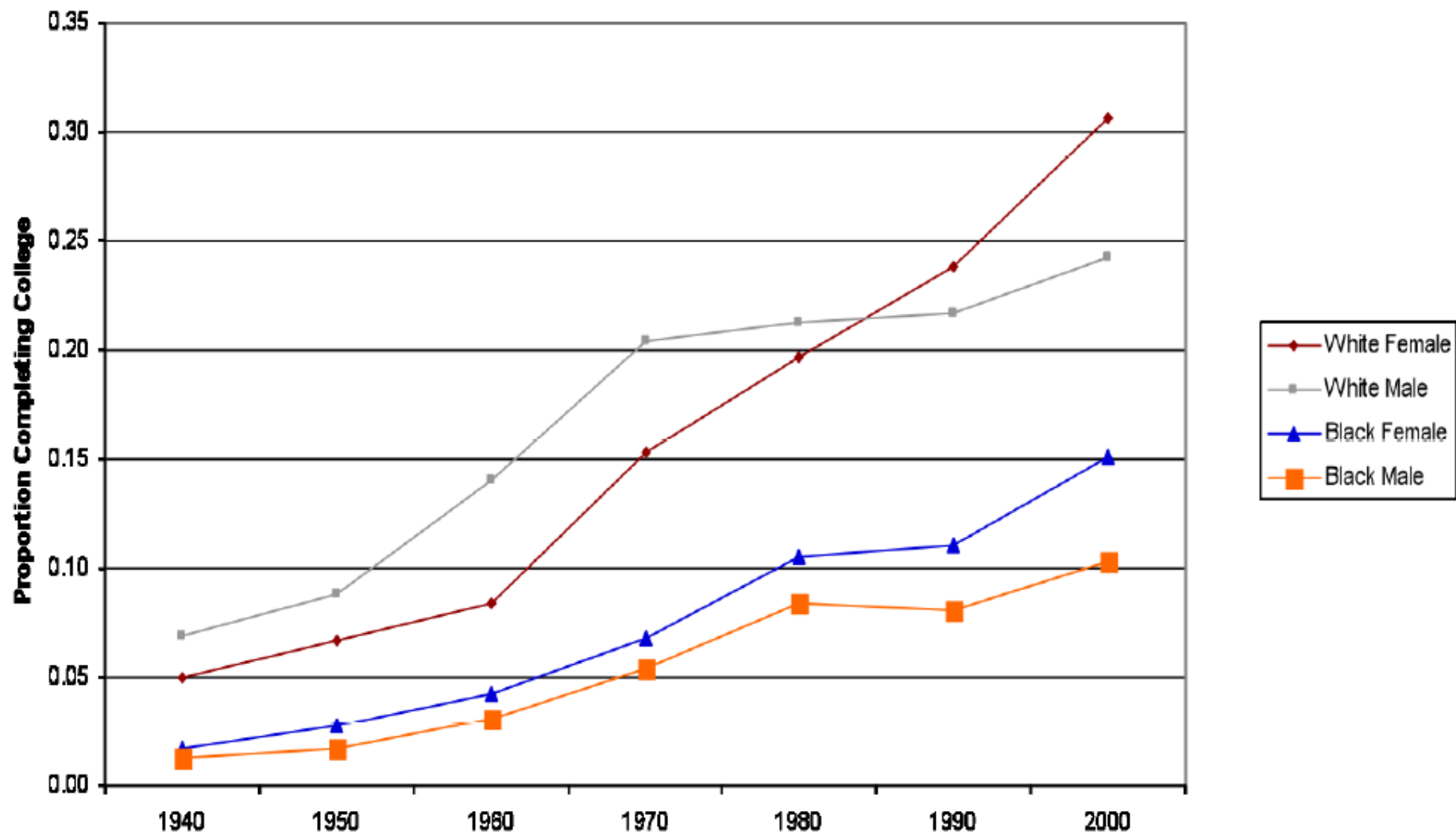
Note: Students ft and pt, ug and pg, home and overseas in higher education institutions only.

Source: Higher Education Statistical Agency.

Author's own analyses

# Trends for Blacks and Whites, U.S. Census, 1940-2000

## Proportion of 22-28 Year Olds with Bachelor's Degree



# Issues with Qualification Measures

## Comparisons across geography

- National education systems
  - England and Eire similar but with different qualifications
  - UK and Germany quite different
- Within countries qualifications can be different
  - England and Wales, and Scotland
  - Swiss Cantons

# Comparisons and harmonisations

- Home Internationals (Croxford et al.)
- Harmonised measures
  - CASMIN; ISCED
- UCAS Tariffs
- Qualifications can cross boundaries
  - The Quality Assurance Agency for Higher Education (QAA) [www.qaa.ac.uk](http://www.qaa.ac.uk)

**Table A4: United Kingdom, Qualification LFS 1990s**

<i>1a</i>	<i>Inadequately completed general elementary education</i>
	None of these
<i>1b</i>	<i>General elementary education</i>
	CSE,GCSE,SCE not yet mentioned
<i>1c</i>	<i>Basic vocational qualification/general elementary education and vocational qualification</i>
	BTEC,BEC,SCOTBEC,TEC or SCOTEC-SCOTVEC, First certificate or General certificate, YT Certificate (YTP in Northern Ireland), SCOTVEC National Certificate modules, RSA other qualification, City & Guilds other qualification , Any other professional-vocational qualification, GNVQ/GSVQ foundation; NVQ/SVQ Level 1
<i>2a</i>	<i>Intermediate vocational qualification/Intermediate general qualification and vocational qualification</i>
	City and Guilds advanced craft, RSA diploma, City & Guilds craft; BTEC, BEC, SCOTBEC TEC or SCOTEC-SCOTVEC; First diploma or General diploma; GNVQ/GSVQ intermediate; NVQ/SVQ Level 2 (basic etc.)
<i>2b</i>	<i>Intermediate general qualifications</i>
	O-level; GCSE grades A,B,C; SCE Standard; grades 1,2,3; SCE Ordinary grades A,B,C; CSE; grade 1 or equivalent CSE,GCSE,SCE
<i>2c_gen</i>	<i>General maturity certificate</i>
	A-level or equivalent; Scottish Certificate of 6 <sup>th</sup> year Studies (Scottish CSYS) or equivalent; SCE (Higher) or equivalent; A-S level; Certificate of 6th Year Studies (CSYS) or equivalent
<i>2c_voc</i>	<i>Vocational maturity certificate/General maturity certificate and vocational qualification</i>
	RSA Advanced diploma/certificate; BTEC,BEC,SCOTBEC,TEC or SCOTEC-SCOTVEC National-ONC-OND; GNVQGSVQ advanced; NVQ/SVQ Level 3 (Advanced etc.)
<i>3a</i>	<i>Lower tertiary education</i>
	HNC-HND, Higher level of BTEC,BEC,SCOTBEC, TEC or SCOTEC-SCOTVEC; Teaching qualification for primary education; Nursing or other medical qualific. not yet mentioned; Other Higher Educ. Qualific. below degree level; RSA higher diploma; NVQ/SVQ level 4 (Higher technician)
<i>3b</i>	<i>Higher tertiary education</i>
	Higher degree; First degree; Other degree level qualification such as graduate membership of professional institute; Diplomas in higher education; Teaching qualification for secondary and further Education; NVQ/SVQ level 5 (prof. degree)

# CASMIN Brynin Example of BHPS & GSOEP

*Table 2:* The CASMIN Scheme Applied to the BHPS and GSOEP with Mean Years of Education (YoE)

CASMIN Codes	BHPS scheme	BHPS (YoE)	GSOEP scheme	GSOEP (YoE)*
1a: incomplete	Up to 6 years schooling	10.05	No qualification	≤ 9
1b: elementary	No qualifications + 7-11 YoE	11.15	Hauptschule certificate	9
1c: basic vocational	NVQ 1, no GCSEs	11.47	Above + basic apprentice training	12
2a: intermediate vocational (+ intermediate general)	NVQ 2 with or without GCSEs	11.96	Realschule certificate + basic apprentice training	13
2b: intermediate general	At least GCSE grade A-C	11.69	Realschule certificate	19
2c: general: general maturity certificate	NVQ 3 with or without A-level	13.16	Abitur	13
2c: vocational: voc. maturity (+ general maturity)	At least 1 A-level	13.05	Abitur + full apprenticeship	16
3a: lower tertiary	NVQ 4/teaching	14.71	Technical college degree	17
3b: higher tertiary	Degree	17.65	University degree	19

Abbreviations: GCSE = General Certificate of Secondary Education;  
 NVQ = National Vocational Qualifications

\* Not actual years of education but imputed from qualification level

## BHPS Wave A 1991 (n=9,769)

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. tab acasmin cohort, nofreq col chi
```

casmin levels	birth cohorts			Total
	Pre WW2	1939-1959	1960 onwa	
-1. undefined	0.37	0.08	1.18	0.51
2. 1b:elementary	0.15	2.30	11.31	4.31
3. 1c:basic voc	11.00	10.56	6.19	9.39
4. 2b:middle gen	6.81	14.82	25.12	15.27
5. 2a:middle voc	3.02	6.11	8.23	5.72
6. 2c_gen:hi gen	2.00	4.31	8.84	4.91
7. 2c_voc:hi voc	1.57	4.62	6.64	4.22
8. 3a:low tert	13.43	18.38	13.17	15.16
9. 3b:high tert	3.20	10.23	8.26	7.30
Total	100.00	100.00	100.00	100.00

Once again it is important to think about underlying distributions !

# UK LFS Micro Data - Overview

ISCED code	ISCED level	Programmes under each level
0	No formal education or below ISCED 1	Pre-primary education
11	ISCED 1 (primary educ or 1st stage of basic education)	Primary education
21	ISCED 2 (lower secondary or 2nd stage of basic education)	Key skills/basic skills/entry level qualif/ YTP certificate/ no qualification etc
22	ISCED 3c (< 2 yrs - Upper sec ed)	NVQ level 1/SCOTVEC modules/City & Guilds Pt 1/CSE below grade 1/GCSE below grade C etc
31	ISCED 3c (>2 yrs - Up sec ed)	AMA/NVQ level 2/GNVQ/GSVQ intermediate/RSA dip/ City & Guilds PT 2/BTEC/SCOTVEC etc
32	ISCED 3a,b (Up sec ed)	NVQ level 3/GNVQ/A level/AMA/Scottish CSYS etc
30	ISCED 3c (Up sec)	Other qualifications
41	ISCED 4a,b	Access qualification
42	ISCED 4c	
43	ISCED 4	
51	ISCED 5b	NVQ level 4/5/higher diplomas eg RSA/HND/BTEC etc
52	ISCED 5a	1 <sup>st</sup> degree/teaching qualif/MA/professional qual etc
60	ISCED 6	Higher degree eg M.Phil/PhD

# UCAS Tariffs



A level



Advanced  
Higher



Higher



AS



Int 2

Points

140	A*				140
130		A			130
120	A				120
110		B			110
100	B				100
90		C			90
80	C		A		80
72		D			72
65			B		65
60	D			A	60
50			C	B	50
42				A	42
40	E			C	40
36			D		36
35				B	35
30				D	30
28				C	28
20				E	20
10					10

Main stages of education / employment	National Framework of Qualifications for Ireland www.nfq.ie	The Scottish Credit and Qualifications Framework www.scf.org.uk	National Qualifications Framework for England, Wales and Northern Ireland* www.qca.org.uk/qualifications www.wales.gov.uk, www.ccea.org.uk www.qca.org.uk/openquals	Credit and Qualification Framework for Wales www.cqfw.net
	LEVEL	LEVEL	LEVEL	LEVEL
Professional or postgraduate education, research or employment	10 Doctoral Degree, Higher Doctorate	12 Professional Development Awards, Doctoral Degrees	8 Vocational Qualifications Level 8	8 Doctoral Degrees
Higher education	9 Master's Degree, Post-graduate Diploma	11 SVQ Level 5, Professional Development Awards, Postgraduate Diplomas, Master's Degrees, Integrated Master's Degrees, Postgraduate Certificates,	7 Fellowships, NVQ Level 5, Vocational Qualifications Level 7	7 Master's Degrees, Integrated Master's Degrees, Postgraduate Diplomas, Postgraduate Certificate in Education (PGCE), Postgraduate Certificate
Advanced skills training	8 Honours Bachelor Degree, Higher Diploma	10 Bachelor's Degrees with Honours, Professional Development Awards, Graduate Diplomas, Graduate Certificates	6 Vocational Qualifications Level 6	6 Bachelor's Degrees with Honours, Bachelor's Degrees, Professional Graduate Certificate in Education (PGCE), Graduate Diplomas, Graduate Certificates
Entry to professional graduate employment	7 Ordinary Bachelor Degree	9 Bachelor's/Ordinary Degrees, Professional Development Awards, SVQ Level 4, Graduate Diplomas, Graduate Certificates	5 NVQ Level 4, Higher National Diplomas (HND), Higher National Certificates (HNC), Vocational Qualifications Level 5	5 Foundation Degrees, Diplomas of Higher Education (DipHE), Higher National Diplomas (HND)
Specialised education and training	6 Advanced Certificate, Higher Certificate	8 Higher National Diplomas, SVQ Level 4, Professional Development Awards, Diplomas of Higher Education (DipHE)	4 Vocational Qualifications Level 4	4 Higher National Certificates (HNC), Certificates of Higher Education (DipHE)
Qualified/Skilled worker	5 Level 5 Certificate, Leaving Certificate	7 Professional Development Awards, Higher National Certificates (HNC), Certificates of Higher Education (DipHE) SVQ Level 3, Advanced Highers,	3 NVQ Level 3, Vocational Qualifications Level 3, GCE AS and A Level, Advanced Diplomas	3 NVQ Level 3, Vocational Qualifications Level 3, GCE AS and A Level, Welsh Baccalaureate Qualification Advanced
Entry to higher education	4 Level 4 Certificate, Leaving Certificate	6 Highers, SVQ Level 3, Professional Development Awards, National Progression Awards, National Certificates	2 NVQ Level 2, Vocational Qualifications Level 2, GCSEs at grade A*–C, ESOL skills for life, Higher Diplomas, functional skills Level 2 (English, mathematics & ICT)	2 NVQ Level 2, Vocational Qualifications Level 2, Welsh Baccalaureate Qualification Intermediate, GCSEs at grade A*–C
Completion of secondary education	3 Level 3 Certificate, Junior Certificate	5 Intermediate 2, Credit Standard Grade, SVQ 2, National Progression Awards, National Certificates	1 NVQ Level 1, Vocational Qualifications Level 1, GCSEs at grade D–G, ESOL skills for life, Foundation Diplomas, functional skills Level 1 (English, mathematics & ICT)	1 NVQ Level 1, Vocational Qualifications Level 1, GCSEs at grade D–G, Welsh Baccalaureate Qualification Foundation
Progression to skilled employment.	2 Level 2 Certificate	4 Intermediate 1, General Standard Grade, Scottish Vocational Qualifications (SVQ) 1, National Progression Awards, National Certificates	Entry Level	Entry Level
Continuation of secondary education.	1 Level 1 Certificate	3 Access 3, Foundation Standard Grades, National Progression Awards, National Certificates	Entry Level Certificates (sub levels 1–3), ESOL skills for life, functional skills Entry Level (English, mathematics & ICT)	Entry Level Certificate (sub level 1–3)
Secondary education Initial entry into employment or further education	1 Level 1 Certificate	2 Access 2, National Progression Awards, National Certificates	1 Access 1	1 Access 1
Qualifications can be taken at any age in order to continue or return to education or training				

# Conclusions

Therefore

- Thinking of a simple survey data analysis example with measures of English school qualifications obtained over the last 50 years can be fraught
- In-depth knowledge of the education system is required
- Problem is amplified in cross-national research
- Even more complicated with post-school
- Training & vocational qualifications

# Conclusions

We argue for the transparent use of classifications that have 'agreed' standards of measurement and can therefore be replicated and compared within and across analyses

Although we are aware that locating and organising these might be trickier than with occupations

Here GEEDE might be able to help

- Know your data (and educational systems)
- Think about the meaning of your educational measure (especially in relation to time, but also geography and organisation)
- Think about an appropriate operationalisation of your educational qualification variable
  - (e.g. interactions with birth cohort) – although this might be difficult
- Advanced approaches (e.g. scaling) might be beneficial...

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