

“Great reversal” or continued expansion?: The evolution of job skills in Britain over the last two decades

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Skills are important: Changes in the occupational structure within education groups, 1997-2017 (in %pts)

Level of educational attainment	Top earnings	Middle earnings	Bottom earnings
Level 2 (e.g., GCSE)	2.3	-16.2	13.9
Level 3 (e.g., A-Levels)	-3.4	-11.4	14.8
Level 4 and above (e.g., First degree)	-3.6	-6.4	10.0

Skills are important

Skilled jobs benefit workers and the economy

Optimists:

- New technologies improve the productivity of skilled workers
- As a result, the demand for skills continues to rise

Pessimists:

- Information and communication technologies have matured and have become less skill biased
- Demand for cognitive skills will grow slower than in the past

Literature

- USA: No growth of cognitive occupations after 2000 with adverse employment effects especially for young people (Beaudry et al 2014 AER, Beaudry et al 2016 J Lab Econ)
- UK: Rising job skill requirements until 2012; at least partly driven by skill-biased technical change (Green et al 2016 J Lab Market Res)
- UK: Stable graduate wage premium through ICT-enabled organisational change, despite HE massification (Blundell et al 2016)

Dataset: SES Survey Series

- More than 30,000 interviews across eight surveys
- Spanning three decades from 1986 to 2017
- Delivering key indicators for Britain's workforce around well-being, job quality, participation at work, job security, skills utilisation, training and technology use.
- For this analysis, sample restricted to 20-34 year-olds

Indicators of Job Skills, Knowledge Requirements and Computerization

High level Generic Skills:

- Literacy, numeracy, complex problem-solving, and interpersonal skills

Qualification Requirements:

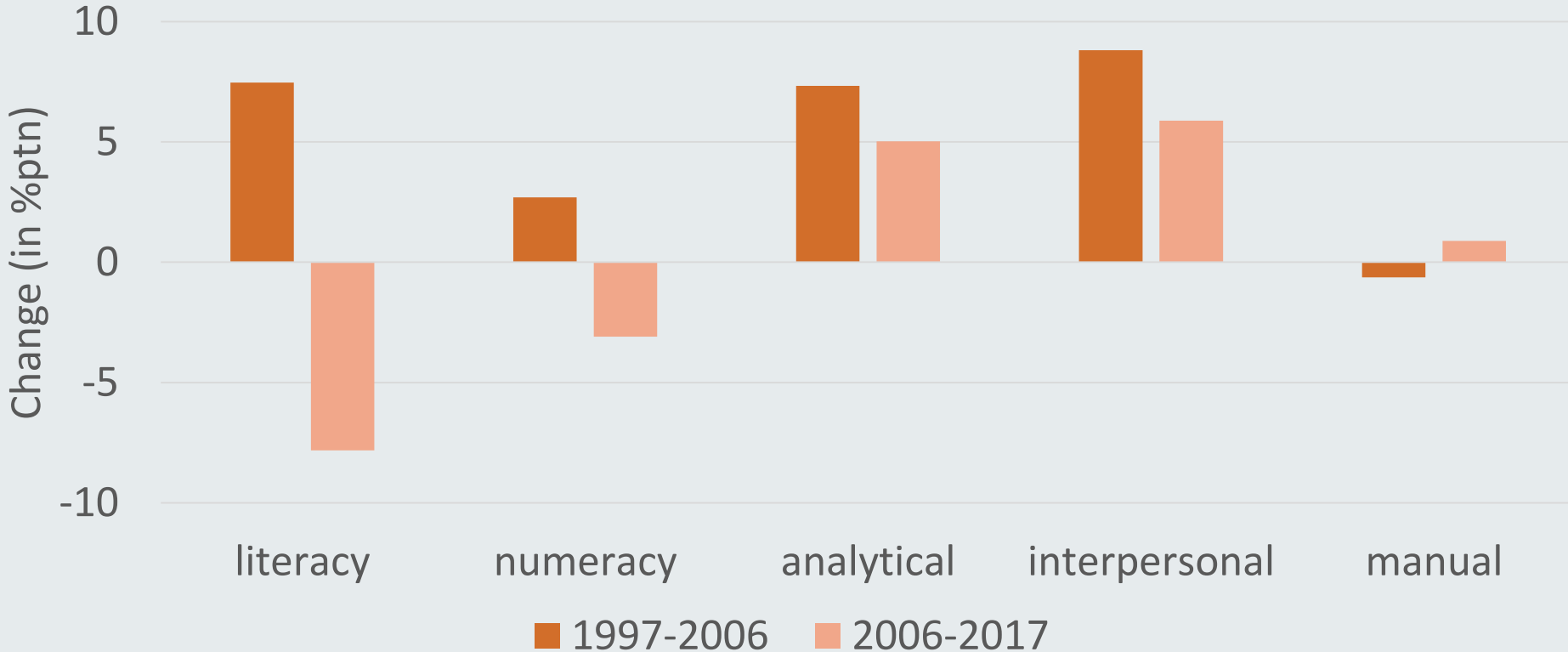
- Degree, no qualification

Occupation rank in pay distribution (QLFS)

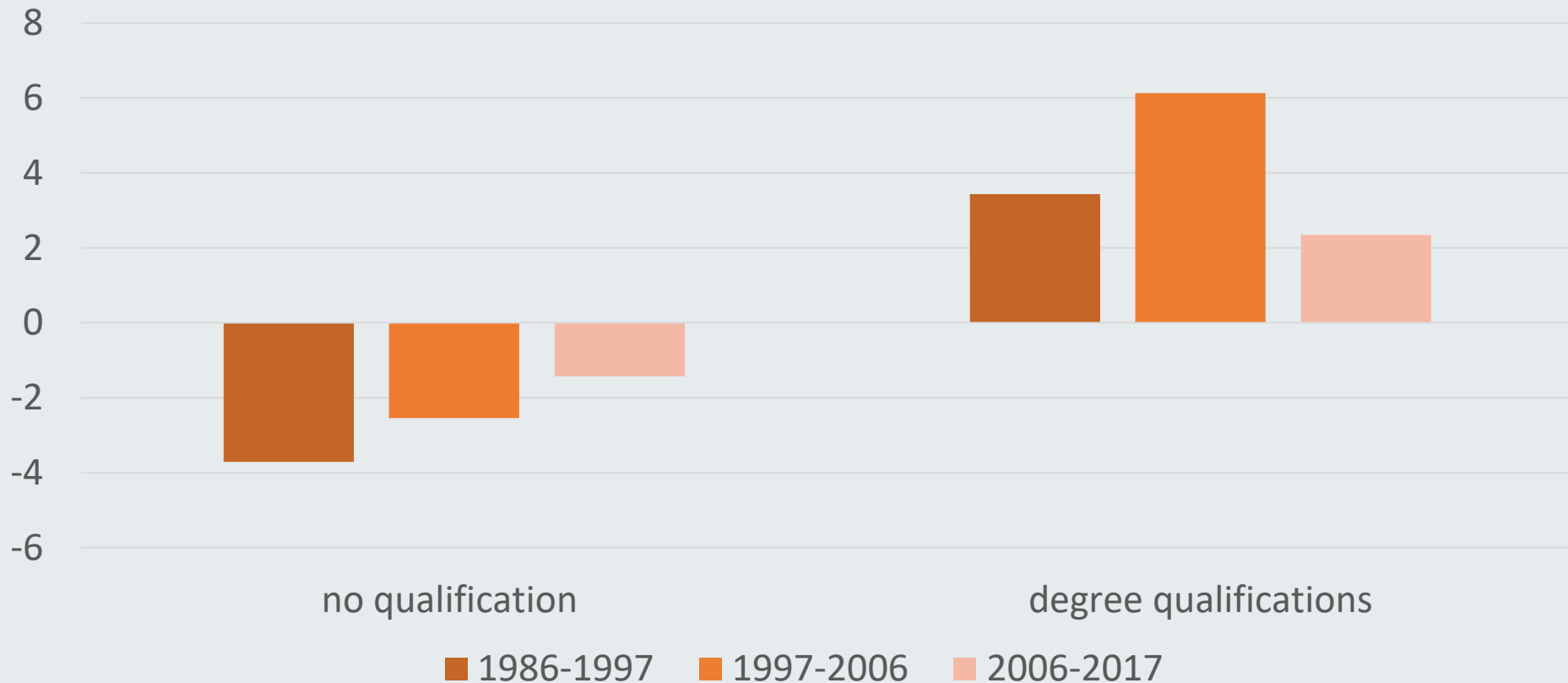
Computerization:

- Importance and level of computer use on the job

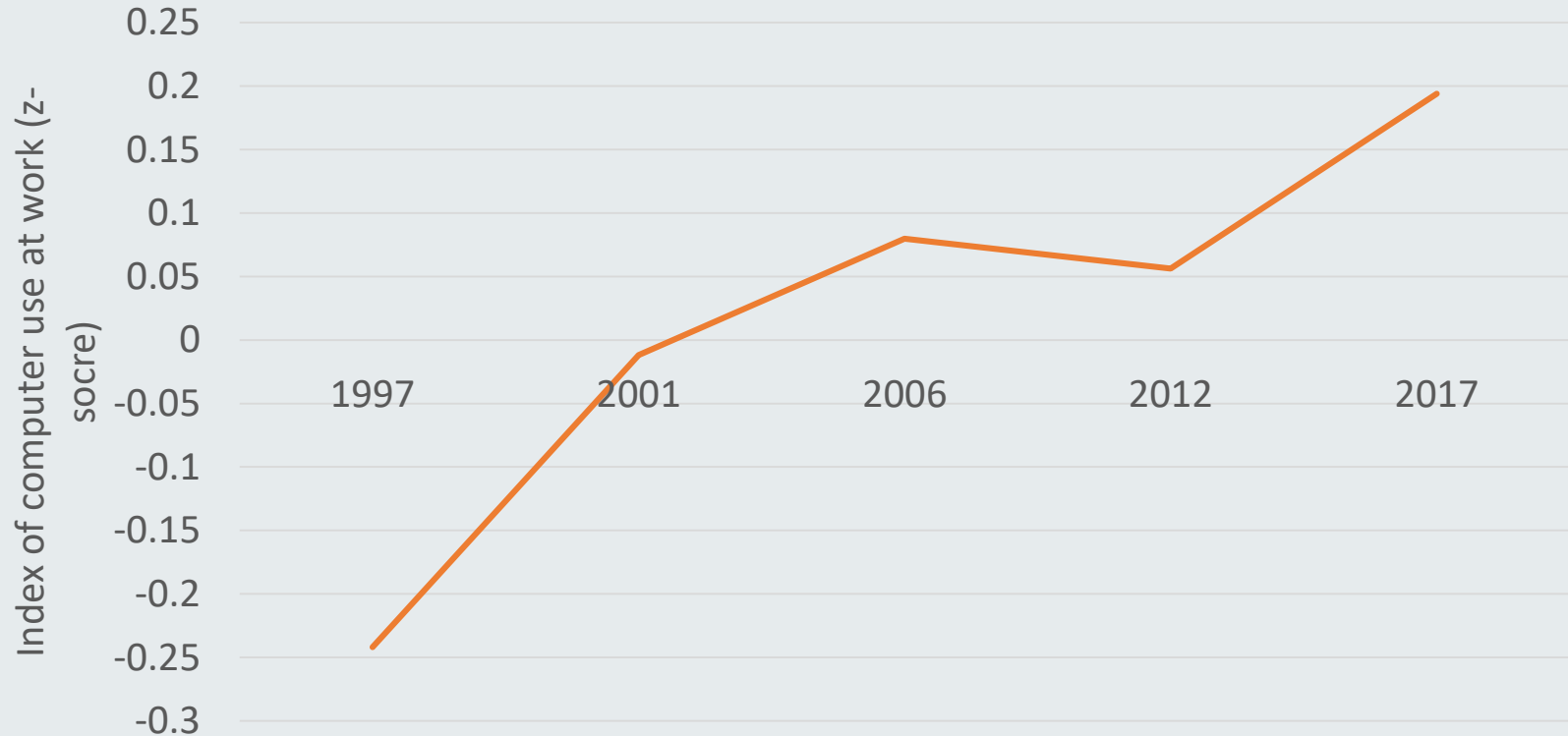
High level generic job skills among workers aged 20-34 years



Trends in qualification requirements



Trends in computer use in the young workforce



Oaxaca decomposition model

Raw difference:

$$jbsk_t - jbsk_{t-1} = \Delta b_0$$

Adjusted for computerization:

$$jbsk_t - jbsk_{t-1} = \Delta b \cdot jbict_t + \Delta jbict \cdot b^{t-1}$$

Conclusion

- 1997-2006 was a period of upskilling
- But initial gains in cognitive skills (numeracy, literacy) reversed over the period 2006-2017, while the use of analytical and interpersonal skills continued to expand
- Computerisation has become less skill biased: a potential sign of maturation
- Growing skills supply appears to have outpaced the skills demand growth. Future trends?