

HUMAN CAPITAL INVESTMENT: ECONOMIC CAPACITY WITH SOCIAL OPPORTUNITY

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Education as Social Policy

2

- “It's not only a pathway to opportunity, but it's a prerequisite for opportunity. Without a good preschool education, our children are less likely to keep up with their peers. Without a high school diploma, you're likely to make about three times less than a college graduate. And without a college degree or industry certification, it's harder and harder to find a job that can help you support your family and keep up with rising costs.”

~ Barack Obama, 2008

- “Rarely is the question asked: Is our children learning?”

~ George W. Bush, 2000

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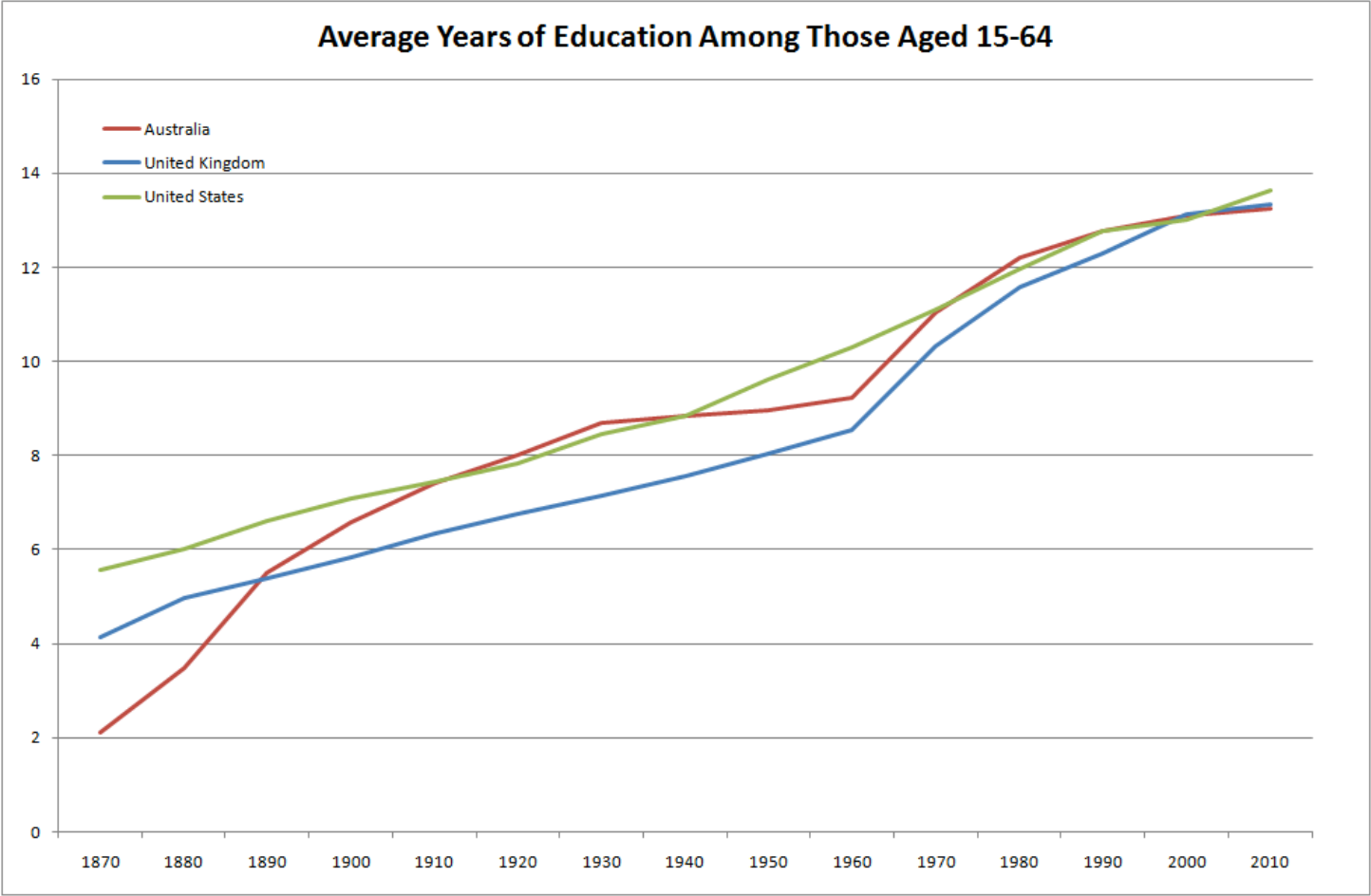
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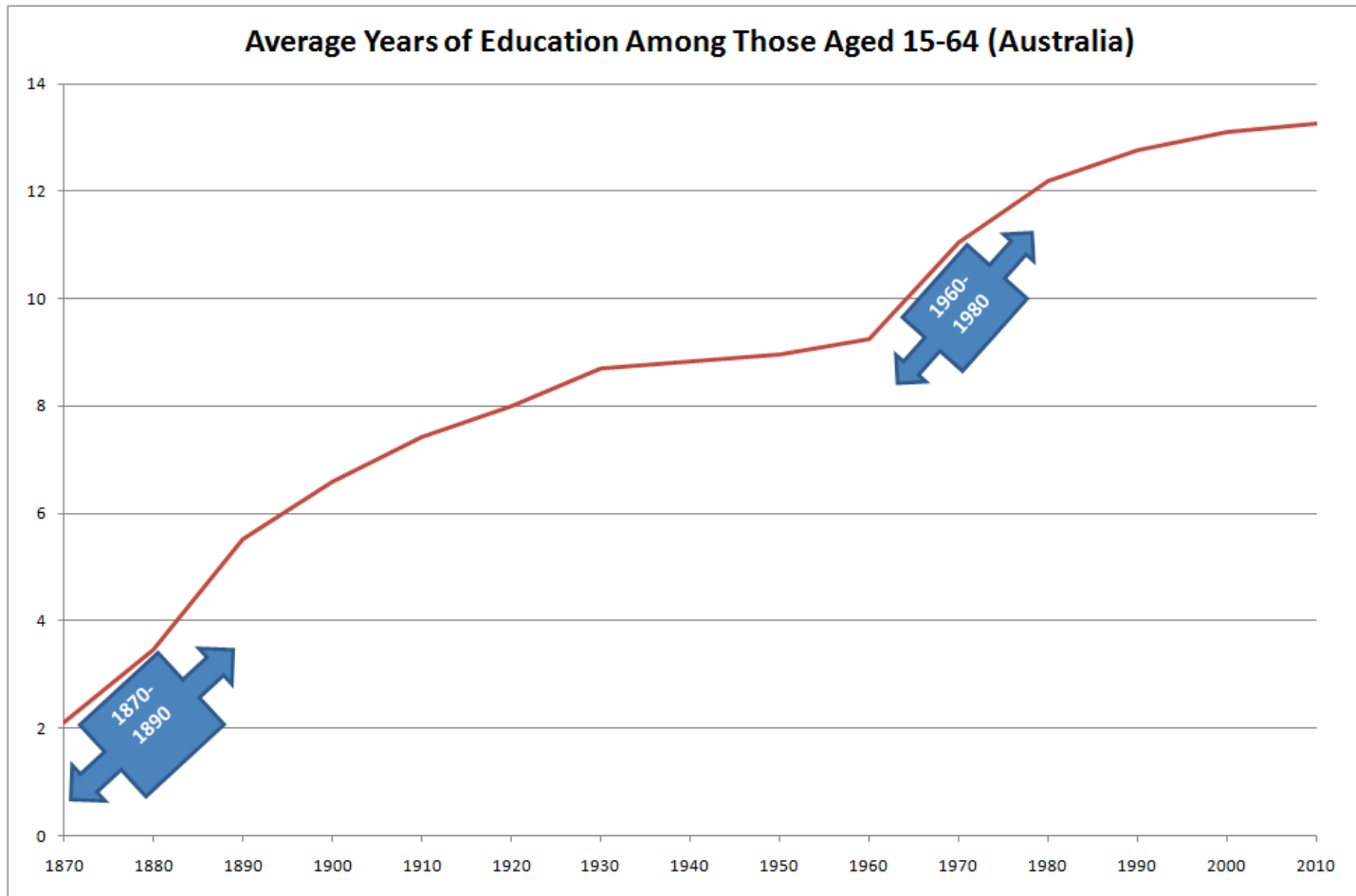
- There are two ways that we can get more from education:
 - Increase the quantity
 - Raise the quality

Education Quantity

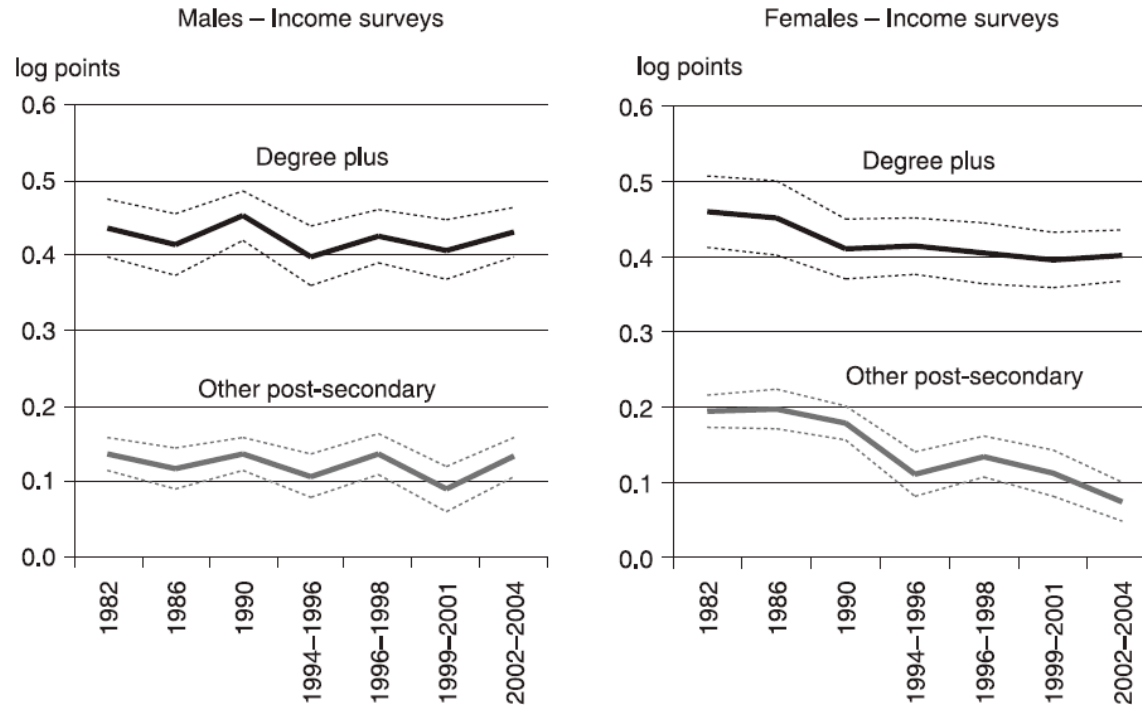
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- Economists often categorise education by numbers of years. Eg.
 - 10 years = left at grade 10
 - 12 years = finished high school
 - 15 years = university degree
 - 17 years = masters degree





Estimates of Education Earnings Premia



In the early-1980s, 6% of working-age Australians had a degree. Now it is around 20%.

But the wage premium for university graduates has remained steady (at about 50%).

Source: Coelli & Wilkins [2009](#)

Education Quantity – Policy Reforms

8

- ❑ **Raise the school leaving age to 18**
 - ▣ From Jan 2010, it will be 17 in most Australian states
 - ▣ But 1/3rd of US states now have a leaving age of 18
- ❑ **Pay all Indigenous children \$20/week to attend secondary school**
- ❑ **Move to a demand-driven TAFE system**
 - ▣ Only Victoria has made the switch
- ❑ **Make university more accessible**
 - ▣ Demand-driven system starts in 2011, but we have a looming problem next year. Andrew Leigh: Human Capital

Education Quality

9

- In work with Chris Ryan, we use two datasets that ask overlapping questions to successive cohorts to estimate how the literacy and numeracy skills of young Australian teenagers (aged 13-14) have changed over time.
- We find a small but statistically significant fall in numeracy over the period 1964-2003 (IEA/TIMSS), and in both literacy and numeracy over the period 1975-1998 (LSAY).

Education Quality

10

- In the division $24.56/0.04$, the correct answer is:
 - a. 0.614
 - b. 6.14
 - c. 61.4
 - d. 614
 - e. 6140

- Fraction correct:
 - ▣ 1964: 39%
 - ▣ 1978: 38%
 - ▣ 1995: 23%

Education Quality

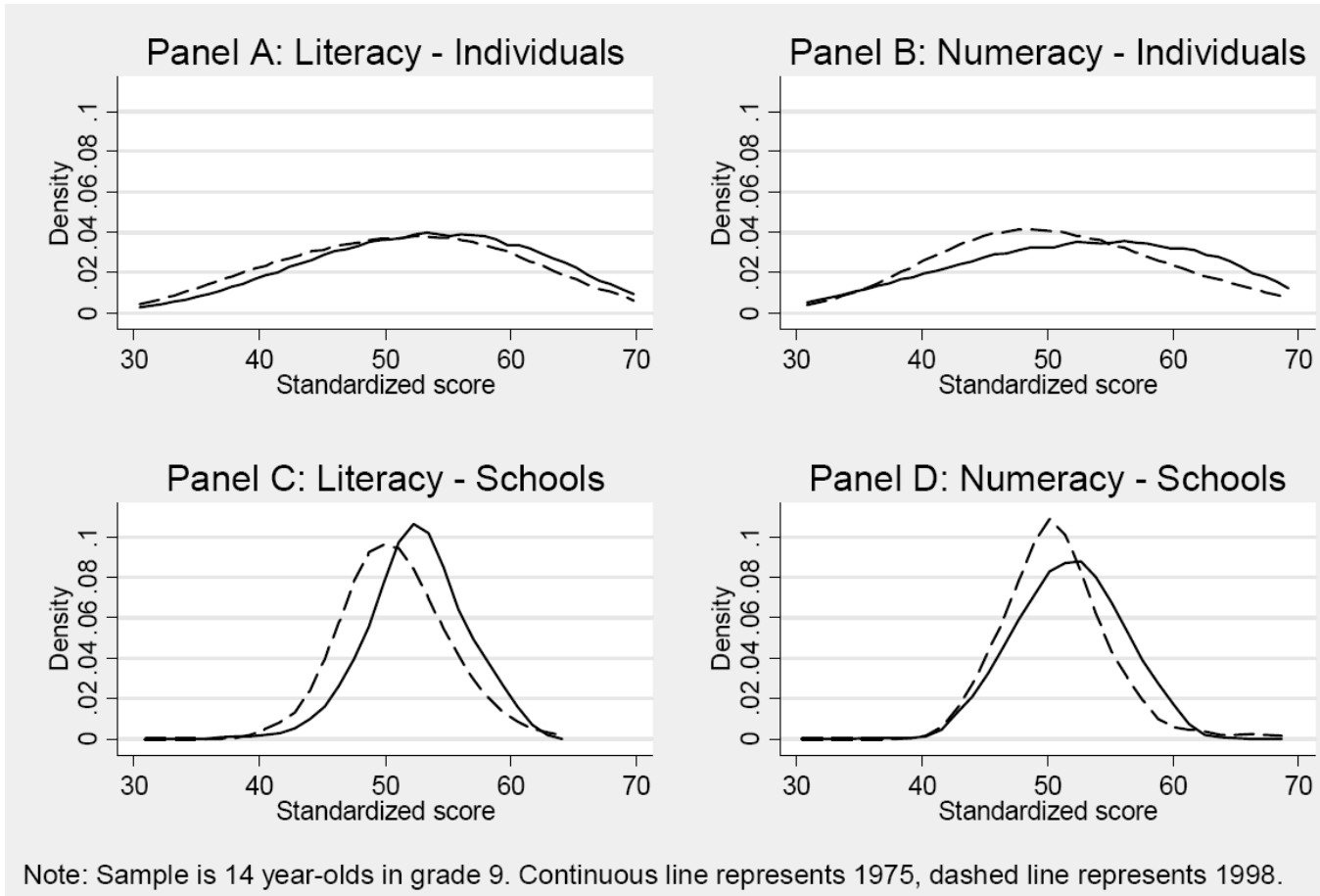
11

- Joe had three test scores of 78, 76, and 74, while Mary had scores of 72, 82, and 74. How did Joe's average compare with Mary's?:
 - a. *Joe's was 1 point higher.*
 - b. *Joe's was 1 point lower.*
 - c. *Both averages were the same higher.*
 - d. *Joe's was 2 points higher.*
 - e. *Joe's was 2 points lower.*
- Fraction correct:
 - 1964: 88%
 - 1978: 83%
 - 1995: 74%
 - 1999: 74%
 - 2003: 68%

Table 1: Long-Run Test Score Changes in Australia

Age	Test	Period	Total Change (LSAY scale)	Total Change (IQ scale)	Years	Change per year (IQ scale)
Panel A: Flynn Findings (1936-81)						
10-14	Jenkins	1949-81	10.45	15.67	32	0.490
10-16	Ravens	1950-76	5.84	8.76	26	0.337
10-14	Otis	1936-49	3.67	5.50	13	0.423
Panel B: Trends in School Tests (1964-2003)						
14	LSAY Literacy	1975-98	-2.07	-3.10	23	-0.135
14	LSAY Numeracy	1975-98	-1.67	-2.50	23	-0.109
13	IEA Numeracy	1964-2003	-1.14	-1.71	39	-0.044

Source: Panel A is from Flynn (1987). Panel B is from authors' calculations. The LSAY scale has a standard deviation of 10. The IQ scale has a standard deviation of 15. All changes are statistically significant at the 5 percent level or better.



Educational Quality

14

- We can rule out some explanations for flat/declining test scores:
 - Simple demographic shifts
 - The questions on these tests are irrelevant
 - Kids are more violent these days
 - Widespread school leaving before the official age
- But other possibilities remain:
 - Crowded or inferior curriculum
 - Declining teacher quality
 - The class size/teacher salary tradeoff was a mistake

Educational Quality – Policy Reforms

15

- **More focus on teacher quality:**
 - Teacher merit pay experiments: to test claims of proponents & detractors
 - Alternative career entry points
- **Better use of tests (especially gain/value-added scores):**
 - Within schools – to learn about effective teaching
 - Across schools – to learn about effective schools
- **More rigorous evaluation:**
 - Replace ideology and case studies with hard evidence, ideally from randomised policy trials

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Further Details

16

□ Andrew Leigh's details:

- Web: <http://andrewleigh.org>
- Blog: <http://andrewleigh.com>
- Email: andrew.leigh@anu.edu.au

□ Relevant research:

- Ian Davidoff & Andrew Leigh, 'How Much Do Public Schools Really Cost? Estimating the Relationship Between House Prices and School Quality', *Economic Record*, 2008
- Andrew Leigh & Chris Ryan, "How and Why Has Teacher Quality Changed in Australia?", *Australian Economic Review*, 2008
- Caroline Hoxby & Andrew Leigh, "Pulled Away or Pushed Out? Explaining the Decline of Teacher Quality in the United States" *American Economic Review*, 2004
- Andrew Leigh, "Teacher Pay and Teacher Aptitude", 2006
- Andrew Leigh, "Estimating Teacher Effectiveness From Two-Year Changes in Students' Test Scores", 2009, *Economics of Education Review*
- Andrew Leigh & Chris Ryan, "How Has School Productivity Changed in Australia?", 2009, *Education Finance & Policy*

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