

# **Early Child Outcomes and Parental Resources in Australia, Canada, the UK and the US**

Bruce Bradbury  
University of New South Wales

Miles Corak  
University of Ottawa and IZA

Jane Waldfogel  
Columbia University & London School of Economics

Elizabeth Washbrook  
University of Bristol

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# Introduction

- The socio-economic environment in the early years is being seen as increasingly important for child outcomes
- Are national differences in the transmission of parental advantage apparent in the first 4 to 5 years of life?
- AU, CN, UK and US – similar but not the same
- Data: Large surveys following children from the first to the 6th year of life
- Outcomes: Readiness to learn indicators of vocabulary development (C1), behaviour (C1) and birth weight (C0)
- Builds on previous 2-country comparisons by Waldfogel and Washbrook (2009, 2010) and Corak, Curtis and Phipps (2010)

# Indicators of family resource inequality

	Australia	Canada	United Kingdom	USA
Inequality (Gini, 2003-2004)	0.31	0.32	0.35	0.37
Child poverty (relative, 2005)	11.8	15.1	10.1	20.6
Per capita social expenditure on children aged < 6 as proportion of median working-age income				
Cash and tax breaks	9.9	na	8.9	4.3
Child care, education and other	8.8	na	12.7	6.4
Public share of total health expenditure (2005)	66.9	70.3	81.9	44.4

Source: OECD, LIS

# Data

- AU: LSAC birth cohort  
CN: NLSCY  
UK: MCS  
US: ECLS-B
- 3 waves: Age 0, age 2-3, age 4-5
- Main outcomes are when children are aged 4-5 (UK oldest)
- Sample size: 4,400 (AU) to 15,500 (UK)

# Parental education and income

## Education

- Highest education level of either parent (if present)
- Low: ISCED 2 (lower secondary)
- Middle: ISCED 3/4/5B (finish school, non-university qual)
- High: ISCED 5A/6 (university degree)

## Income

- Gross household income (equivalised)
- US income is grouped, so we group others similarly
- Mean income across all 3 waves (1 or 2 if missing)
- Low: In lowest quintile group
- Middle: in q2, q3, q4
- High: In top quintile group

# Cognitive outcomes

- All outcome measures are age-standardized (unit variance)
- Interviewer-administered
- Vocabulary
  - AU, CN, US: PPVT – receptive vocabulary
  - UK: BAS-NV – expressive vocabulary
- Math/number
  - CN: whole numbers test
  - US: number sense, geometry, counting, operations, patterns
  - UK: (@ 3 years) BRSA numbers, numbers + sizes + comparisons + shapes
- Copying
  - AU, CN Who Am I, copying shapes
  - US different copying shapes test

# Socio-emotional and physical outcomes

- Parent-rated
- Externalizing behaviour
  - AU, UK: Hyperactivity and conduct SDQ sub-scales
  - CN, US: similar questions
- Birth weight
  - Also <2.5kg

# Estimation methods

$$y_{ic} = \beta_{0c} + \beta_{Lc}(1 | SES_{ic} = Low) + \beta_{Hc}(1 | SES_{ic} = High) + \varepsilon_{ic}$$

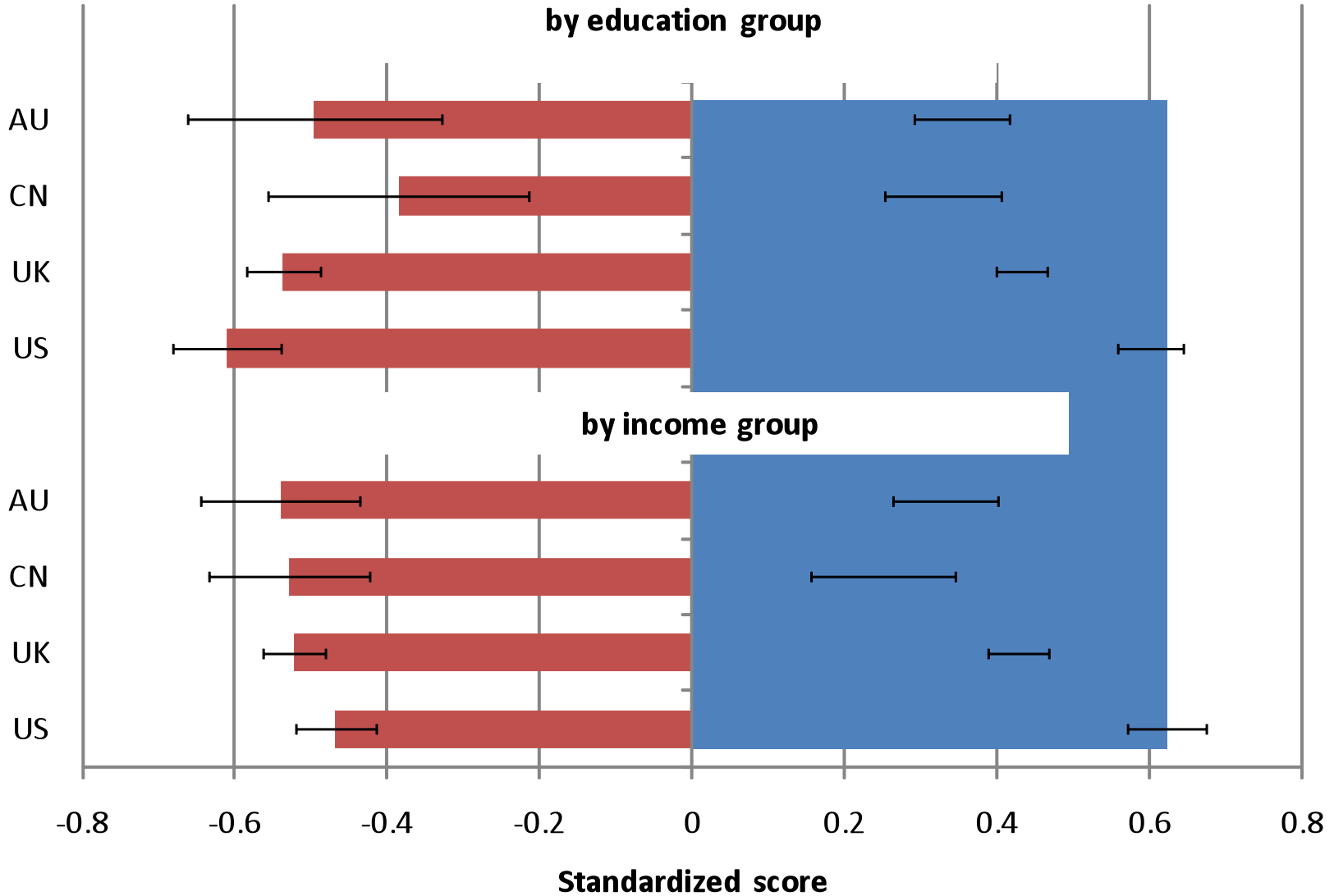
$y_{ic}$  = standardized outcome measure of child  $i$  in country  $c$

$(1 | SES_{ic} = Low)$  and  $(1 | SES_{ic} = High)$  are binary indicators equal to 1 if child  $i$  in country  $c$  is respectively in the Low or the High SES group

Account for sample design in the estimation of confidence intervals (but don't account for the variance associated with the standardization of the dependent variable)

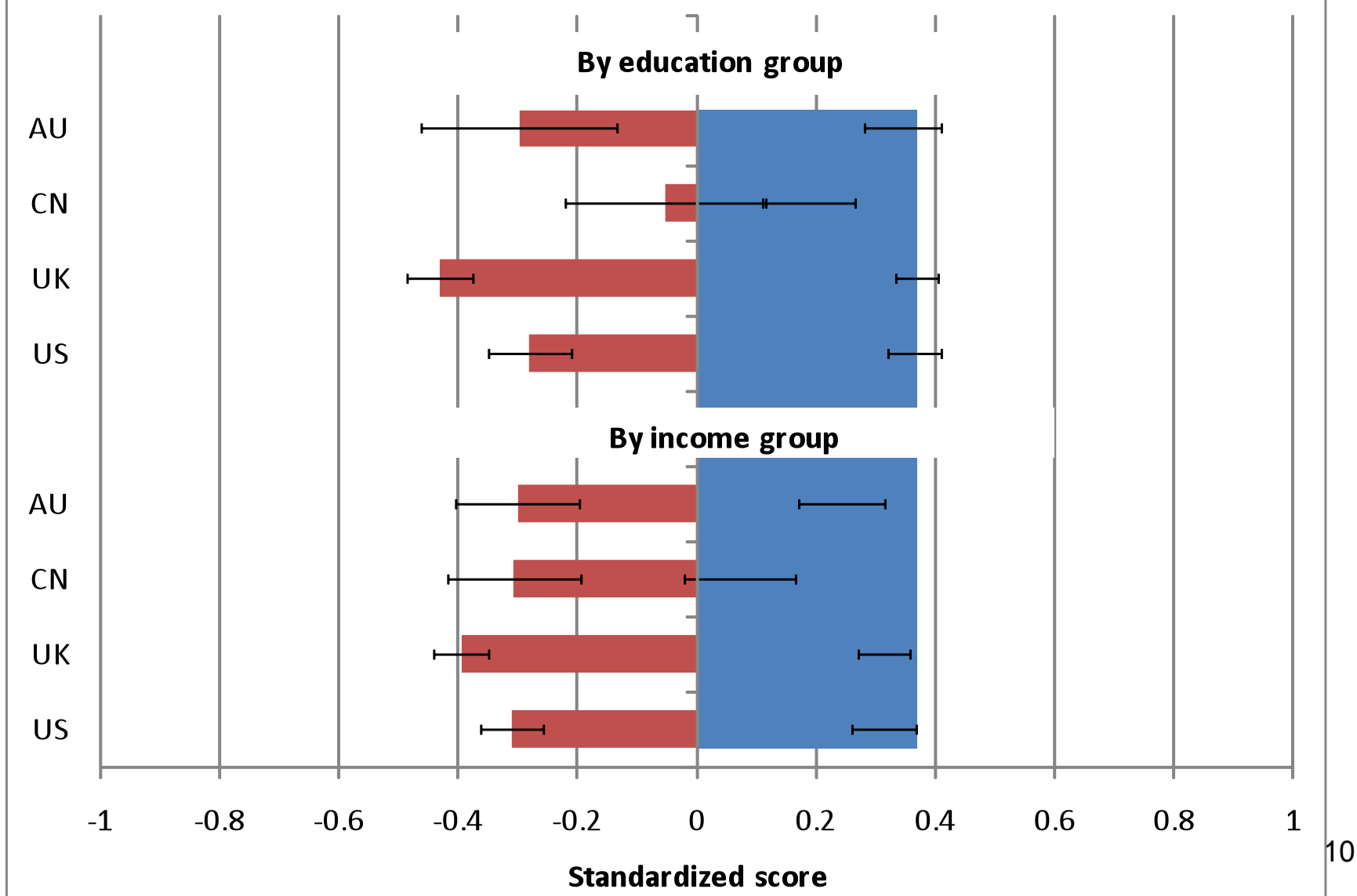
# Vocabulary gradients

■ Bottom-middle gap   ■ Top-middle gap



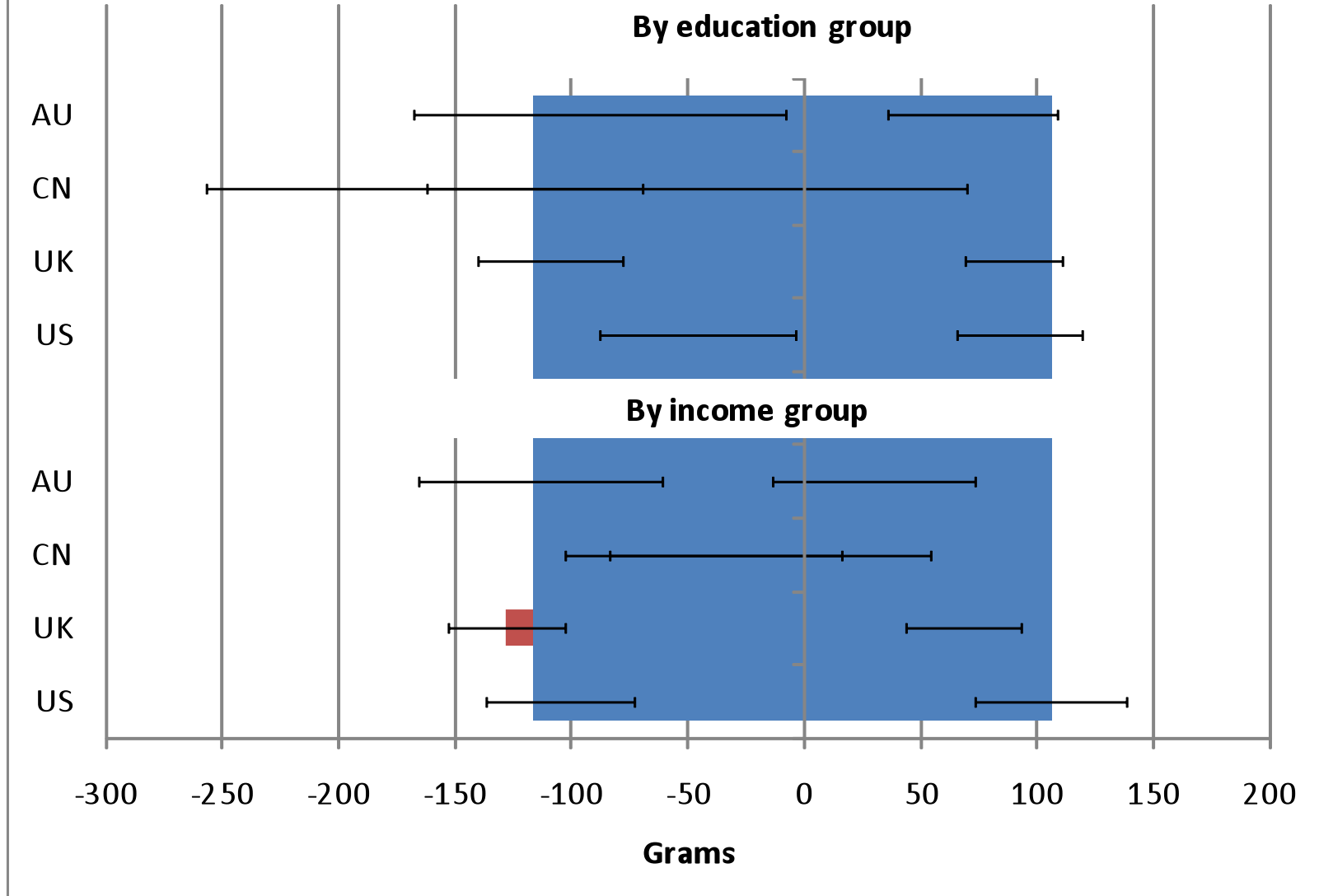
# Externalizing behavior gradients

■ Bottom-middle gap   ■ Top-middle gap



# Birth weight gradients

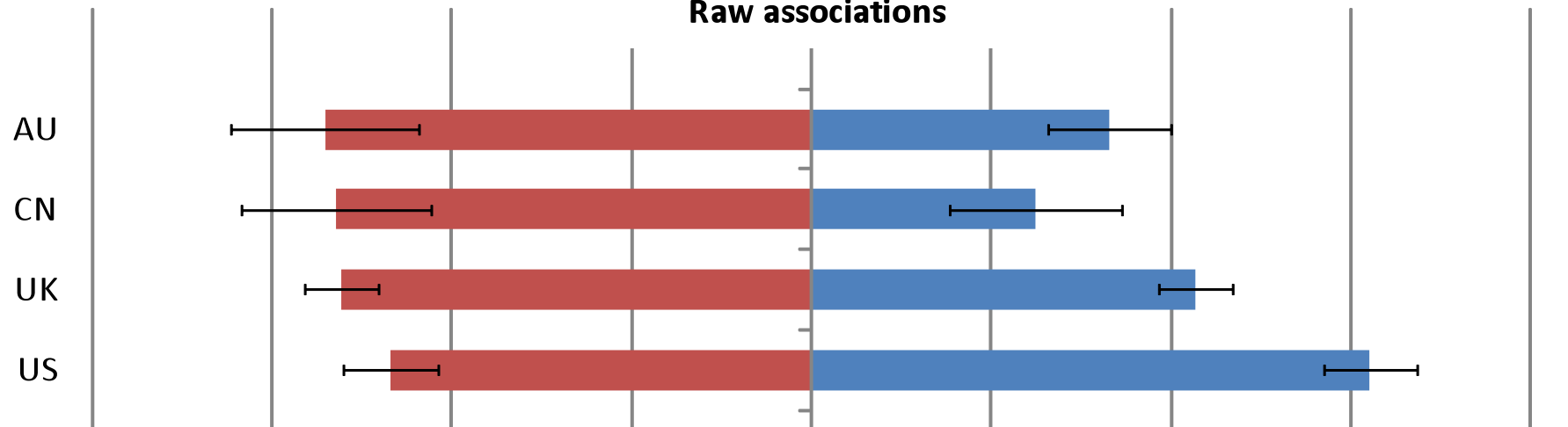
■ Bottom-middle gap ■ Top-middle gap



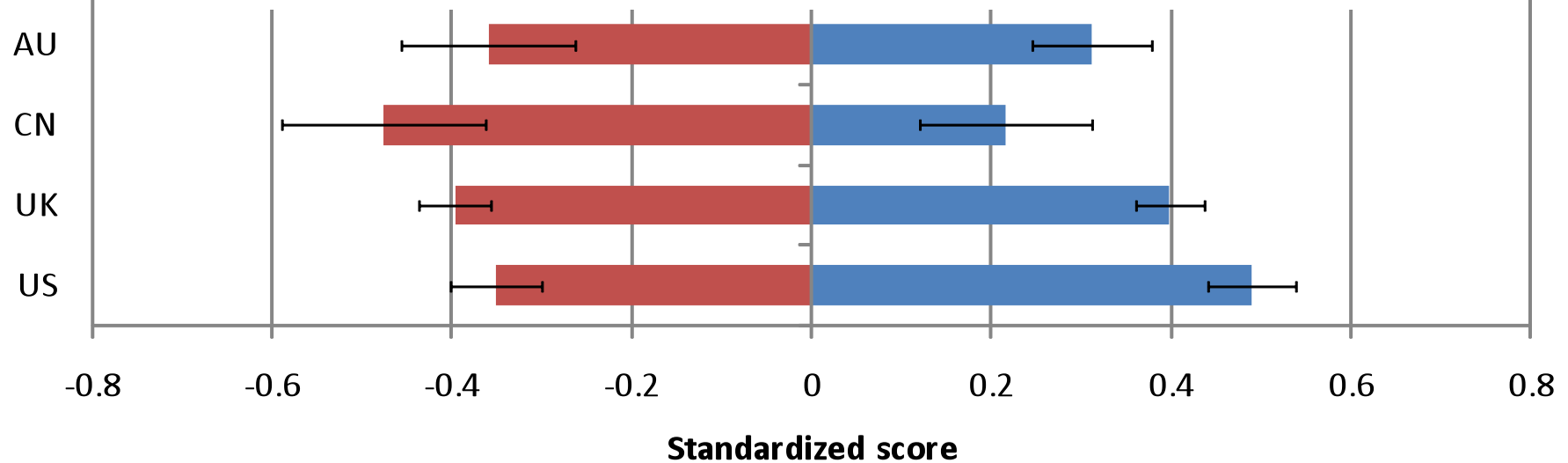
# Vocabulary - income gradients controlling for ethnicity

■ Bottom-middle gap ■ Top-middle gap

## Raw associations



## Controlling for racial/ethnic/immigrant composition



# Summary

- Substantial SES/child outcome associations in all countries
  - Top-Bottom income quintile group difference in vocabulary score around 0.75 standard deviations.
- The SES/cognitive association is strongest in the US
  - Vocabulary (and math): significant differences, particularly in top half
- Ethnicity and racial variation explains some, but not all, of this variation (both within and across countries)
- Weaker:
  - SES/socio-emotional association stronger in UK (lower end)
  - Canada a weaker association on a number of measures

# Implications

- Is there a causal story?
- Which aspect of the US socio-economic environment is responsible for the stronger correlation that we observe?
- Across a wide range of key inputs, US children have a more unequal access to resources
- Our results provide support for the view that at least some of these differences matter
  - Ethnic diversity explains some, but not all of the US divergence
- Main US differences occur between top and middle
  - Lack of support, time pressures on US middle-income families?
- These results help explain why unequal countries such as the US tend to have low intergenerational mobility