Does income make a difference to children's outcomes?

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Does income make a difference to children's outcomes?

| Financial resources | → Causal? → | Children's outcomes |
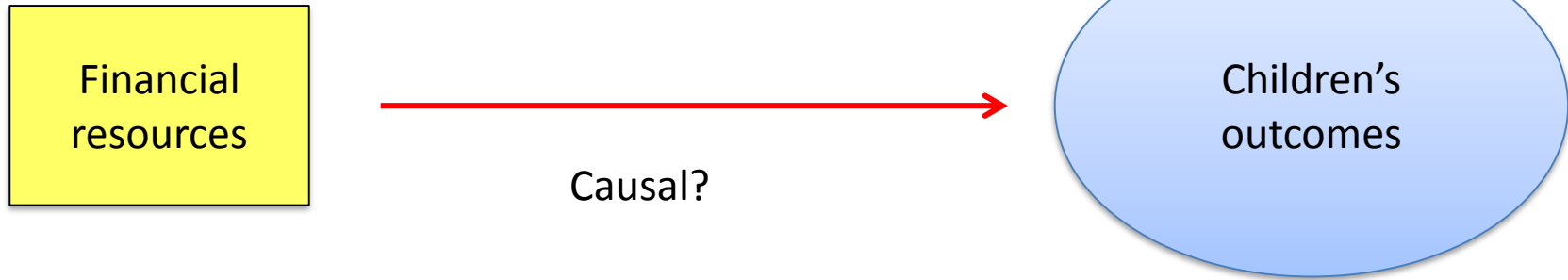
> **Confounding factors:** Parental education? Aspirations? Parenting style?

We conducted a systematic review of the evidence base from OECD countries on the relationship between income and children's outcomes, only including studies that use credible methods to establish causal links

(Cooper and Stewart, 2013; updated Cooper and Stewart, 2017)

Outcomes we looked at

Children's Outcomes:

- **Cognitive and school achievement**
- **Social, behavioural and emotional development**
- **Physical health**

Intermediate Outcomes:

- **Home learning environment**
- **Parenting behaviours**
- **Parental mental health**
- **Parental health behaviours (smoking, drinking)**

Methodology

1) Studies had to use these methods:

- Randomised Controlled Trials

- Quasi-experimental approaches (e.g. natural experiments; instrumental variables)

- Fixed effects (or other techniques that measure changes in resources and outcomes *within households)*

2) Systematic review principles

Systematic searches

Published search terms

Inclusion criteria

Search log
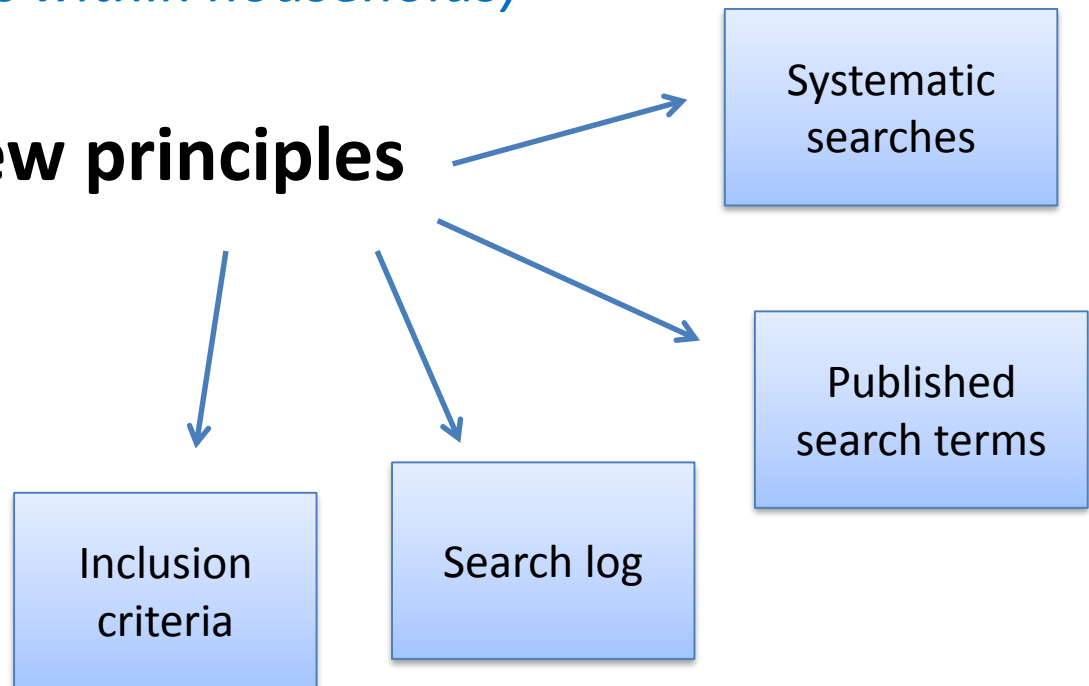
Inclusion Criteria

- ✓ **Credible methods.**
- ✓ EU or OECD
- ✓ English abstract
- ✓ Post-1988 (up to 2017) and unpublished post-2009
- ✓ Stated aim to examine effect of income on one or more outcome of interest
- ✓ Income measured at individual or household level.

46,657 studies from searches

38 recommended studies

Studies screened based abstract only
N = 46,693+ 6,200

Stage 1 screening

46,492 + 6,165 studies excluded

Studies screened using full articles
N = 207 + 41

Stage 2 screening

177 + 20 studies excluded

13 Studies snowballed

Final studies included
N = 51 (or 26 'cases')

Example: RCT (2 cases/26)

Cancian, Yang and Slack (2013)

- Wisconsin Works programme allowed families to retain child support, without reduction in cash benefits. Programme was evaluated using an RCT.

- Experimental group received an average of £101 more per month than the control group.

- Families in the experimental group were about 10 percent less likely than families in the control group to be investigated for child maltreatment over two years (a 2 percentage point reduction).

Example: Quasi-Experiment (14 cases/26)

*Akee et al (2010); Costello et al (2003)*

- Opening of a casino on Eastern Cherokee reservation, rural Carolina

- Longitudinal study already in progress when Casino distributes profits to all adult tribal members – increase in income of around $4,000 per adult.

- Increased income led to increases in length of completed education, parental supervision and positive interactions with mother; and reductions in children's psychiatric symptoms, teenage crime and parent arrests.

Example: Fixed Effects (10 studies/26)

Violato et al (2011)

- Use first three waves of UK Millennium Cohort Study (9 months, 3 years and 5 years)

- Track changes in income and children's cognitive and social-behavioural outcomes *within* households

- Found significant effects of changes in income in explaining improvements in vocabulary tests, but not other outcomes, and only for children from lone-parent families.

Focus of included 'cases' by country
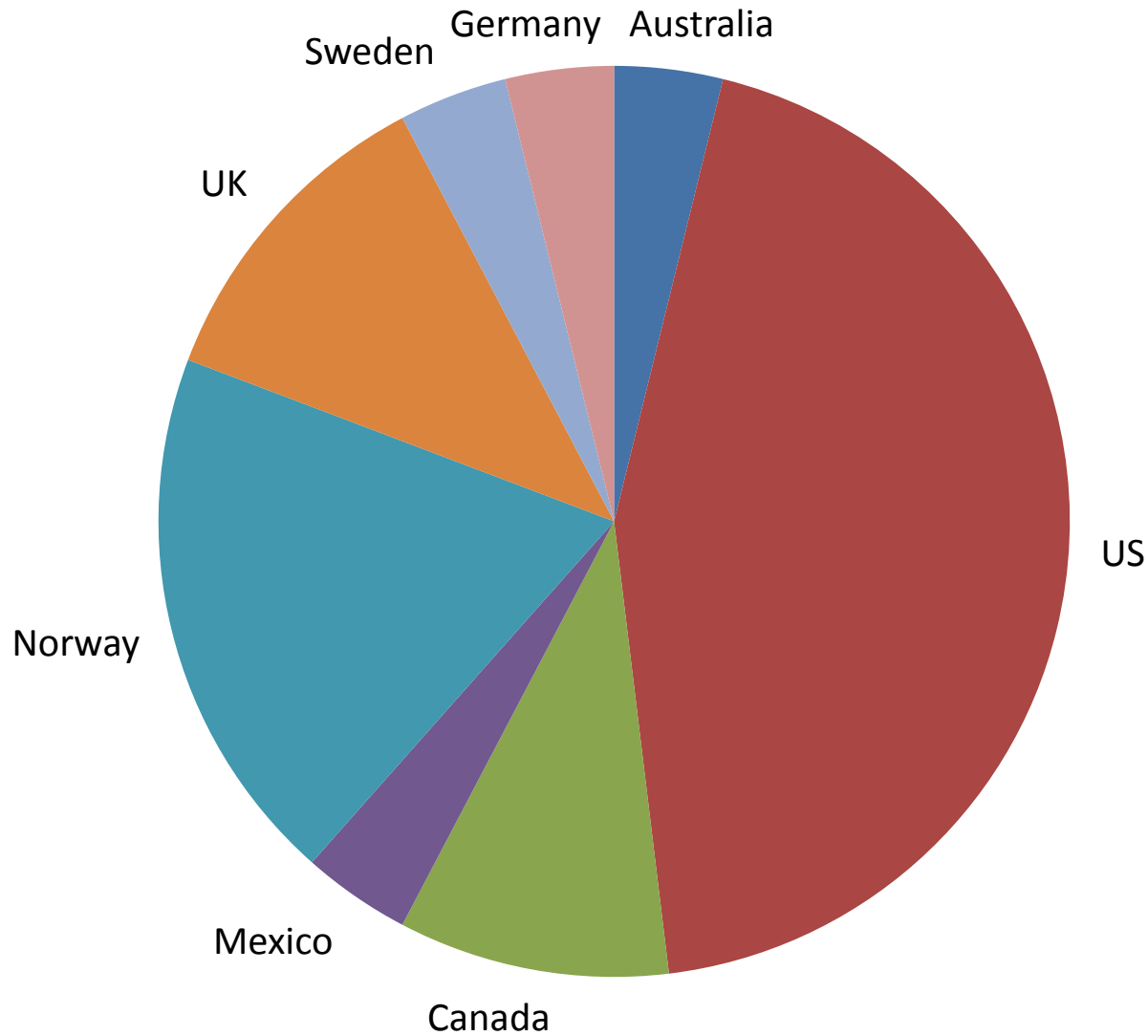
Results for 'cases' by outcomes measured

Nature of outcomes	No effect	Mixed	Positive	Total
Cognitive development and school achievement	1	0	16	17
Social, behavioural and emotional development	2	0	10	12
Physical health	2	1	8	11
Potential mechanisms				
- Parenting/home environment	1	0	4	5
- Maternal mental health	1	0	5	6
- Parental health behaviours	3	0	3	6

Note: In this table multiple studies are treated as one. Results are coded as 'positive' if positive effects were found for outcomes by at least one measure/in at least one of the studies, and 'no effect' if none of the studies/measures found a significant effect. 'Mixed' means a mixture of positive and negative effects were found.

HOW MUCH does Money Matter?

'Effect size': marginal effect of income change as a percentage of standard deviation.

Or: if income was boosted by a given amount, how much of the average variation between any given child and the mean score would we expect to see eliminated?

Caveat! Lots of challenges in doing this. So results are a guide, not precise...

Main issues:
- Studies use different currencies at different times
  - We adjust to $1000 US 2000 using PPP and US CPI
  - No adjustment for differences in average incomes
- Different approaches to equivalisation (norm is unequivalised income, with controls for household size in regression calculation)

HOW MUCH does Money Matter?

- **Methods make a difference!**

+ $1,000 in 2000 (=£900 2013) → **Fixed Effects**

1-2% sd improvement in cognitive outcomes
1-3% sd change in social/behavioural
1% sd reduction maternal depression

+ $1,000 in 2000 (=£900 2013) → **Experimental Studies**

5% - 27% sd for cognitive outcomes
3% - 22% sd for social and behavioural outcomes
13%-15% sd for maternal depression

HOW MUCH does Money Matter?

- An annual income boost of £6,000 might be expected to *halve* the KS2 gap between FSM and non-FSM children (using conservative end of experimental effect sizes).

- Effect sizes for school education expenditure in England similar to lower end experimental estimates: £1,000 increase annual expenditure per child = 2-7% sd on test scores.

- Evidence income affects multiple outcomes: 'the ultimate "multi-purpose" instrument'? (Mayer 1997).

Non-linearities: income changes matter more in households on low incomes to start with

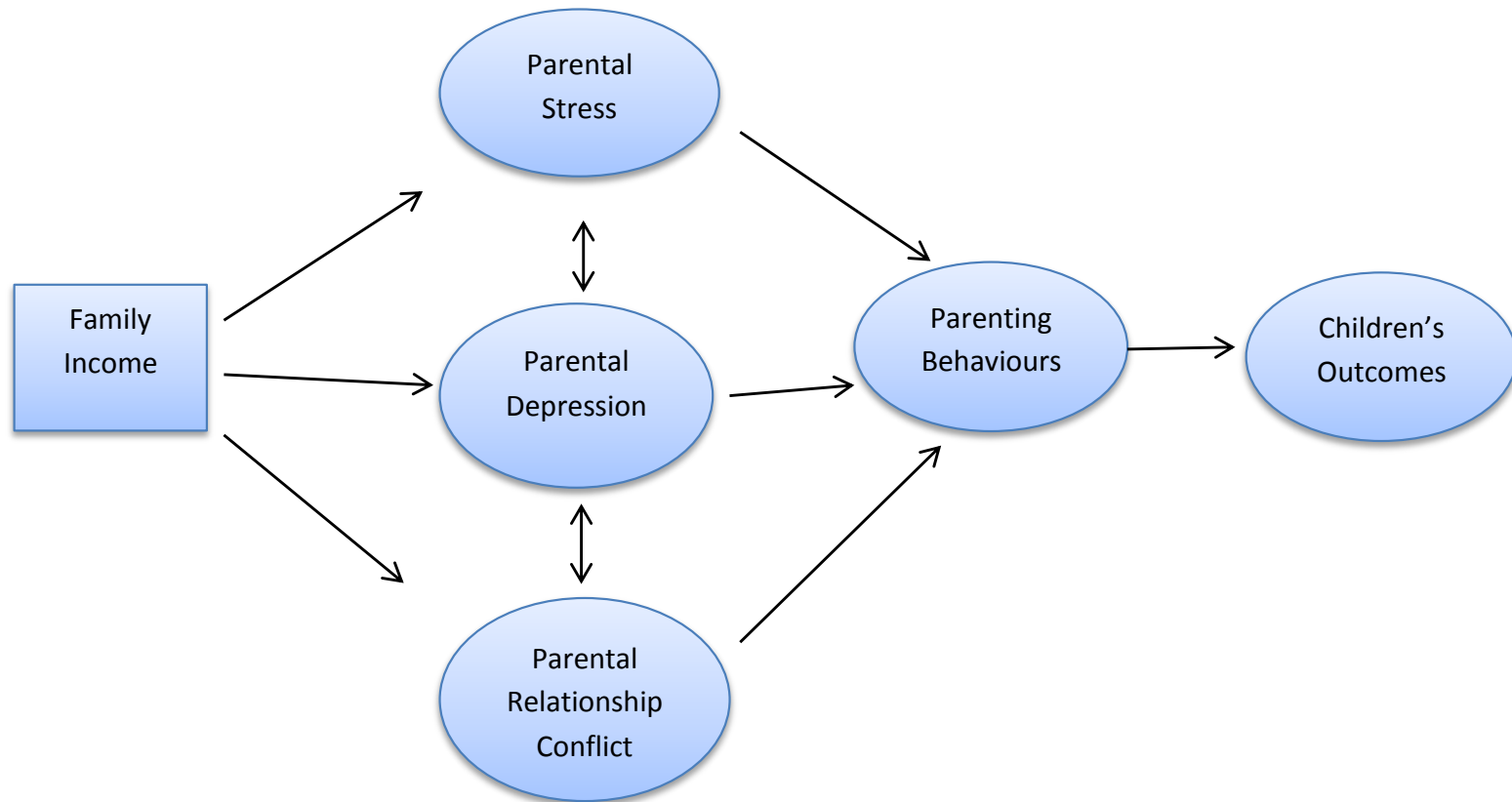|		Effect larger in lower income?	How much larger?	Significant effect at higher income levels?	Outcomes
Separate regressions for higher and lower income groups					
Akee et al (2010)	Quasi-experiment (Casino)	Yes	2-3 times	No	Educational, crime
Costello et al (2003)	Quasi-experiment (Casino)	Yes		No	Socio-emotional
Dahl and Lochner (2012)	Quasi-experiment (EITC)	Yes	2-3 times	Yes (but all are EITC)	Cognitive
Shea (2000)	Quasi-experiment (unions)	Yes		No	Schooling, wages
Dearing and Taylor (2007)	Observational (SECCYD)	Yes	5 times	Yes	Home environment
Dearing et al (2006)	Observational (SECCYD)	Yes	15 times	Yes	Social-behavioural
Dearing et al (2004)	Observational (SECCYD)	Yes	1.5 times	Yes	Maternal depression
Blau (1999)	Observational (CNLSY)	Yes/No	Effects largest at middle incomes.		Cognitive, behavioural, HE
Cesarini et al (2016)	Quasi-experiment (lottery)	Yes	Only significant for lowest quartile		Child obesity
Elstad and Bakken (2015)	Observational (admin. data)	Yes	3 times	No	Educational
Spline function (allowing relationship to vary at different income points)					
Johnson and Schoeni (2011)	Observational (PSID)	Yes/No		Not at highest income	Health
Duncan et al (1998)	Observational (PSID)	Yes	10 times	Yes	Schooling
Non-linear functional forms					
Loken et al (2012)	NE (Norwegian oil shock)	Yes		No	Educational
Votruba-Drzal (2003)	Observational (CNLSY)	Yes	4 times	Yes	Home environment
Zachrisson and Dearing (2015)	Observational (MoBa)	Yes		Yes but v small	Behavioural

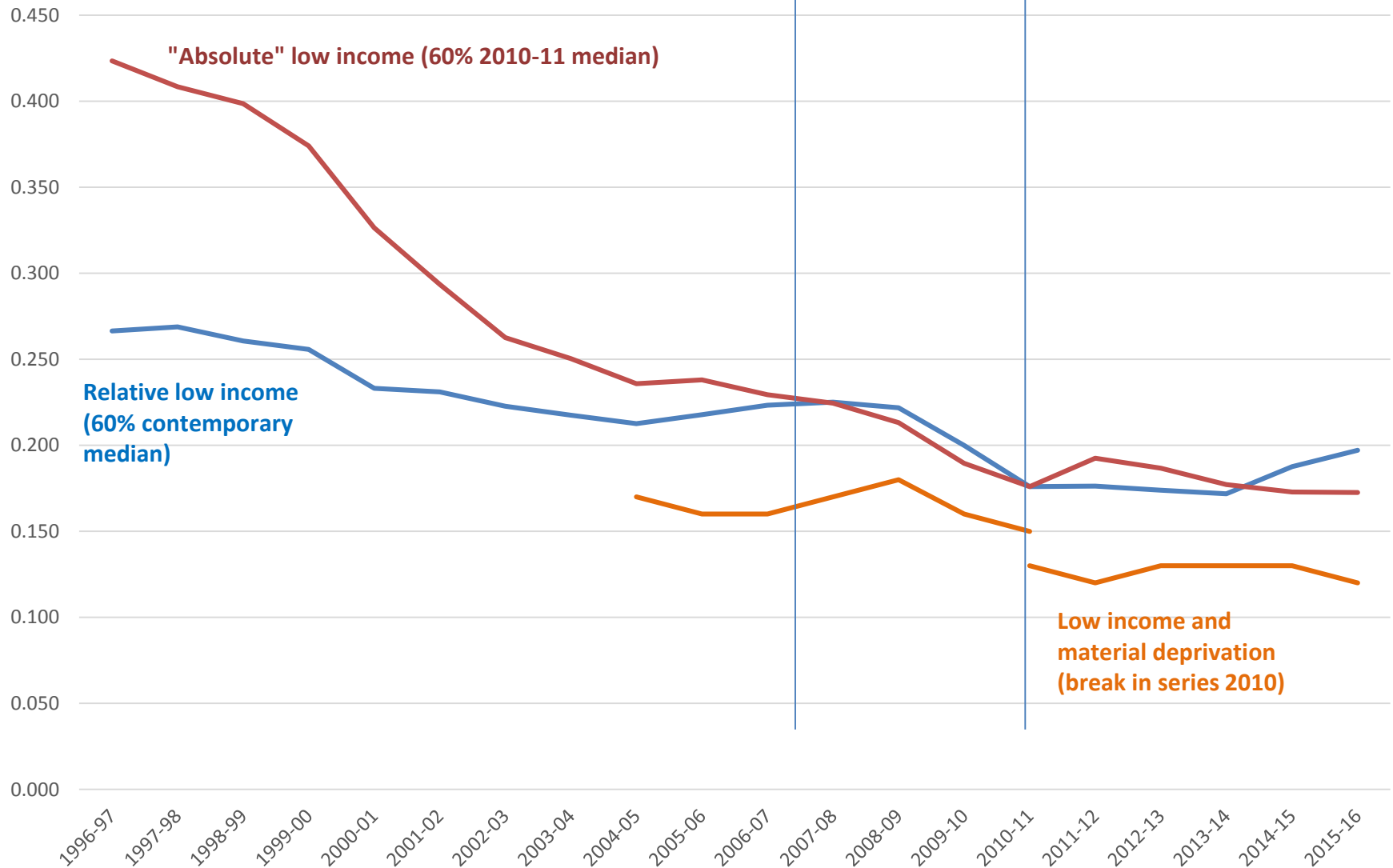# *Why* does income matter?

The Investment Model
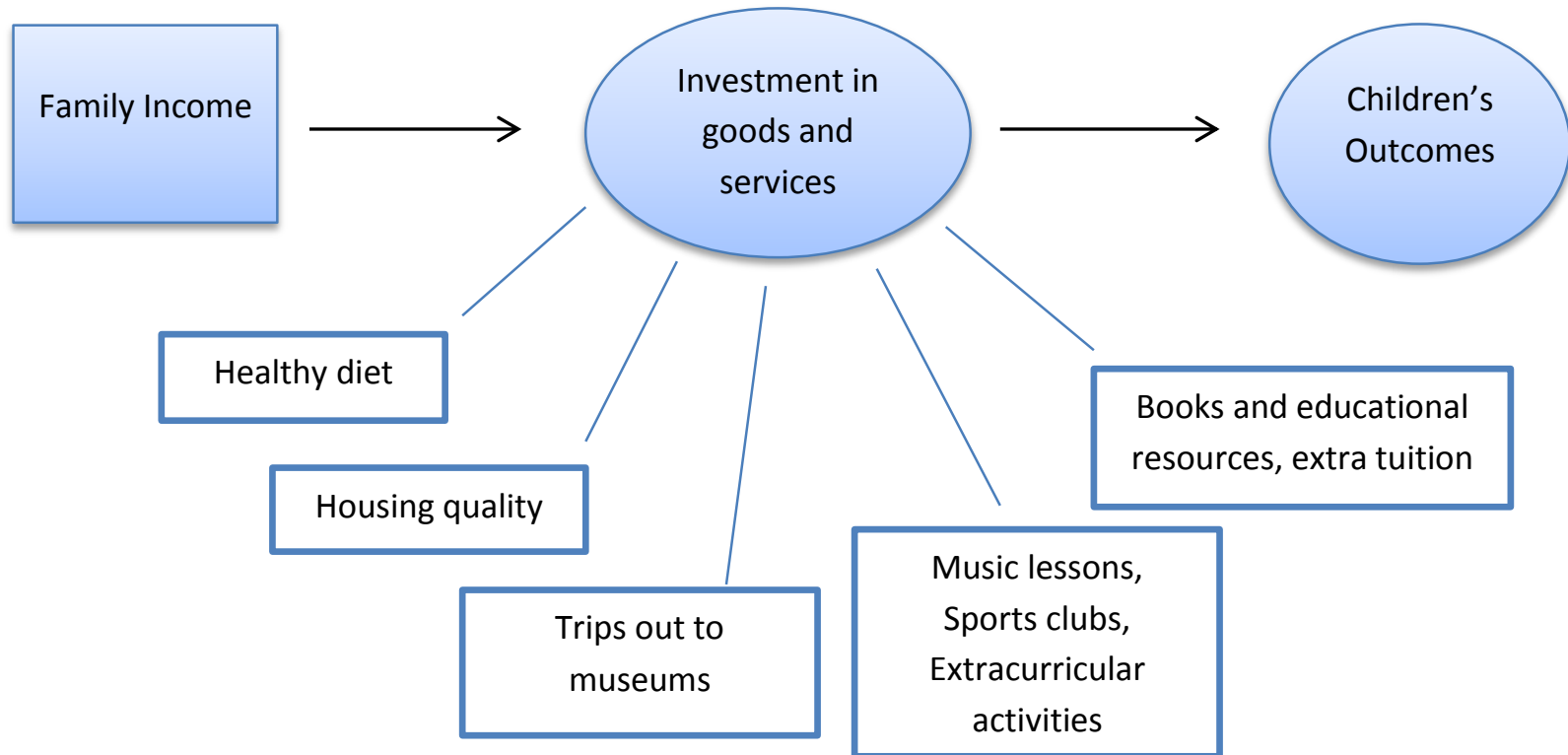
Why does income matter?

The Family Stress Model

# Until 2013, child poverty had been (broadly) falling for nearly two decades

"Absolute" low income (60% 2010-11 median)

Relative low income (60% contemporary median)

Low income and material deprivation (break in series 2010)

Future outlook

Relative poverty rates: 2007–08 to 2020–21
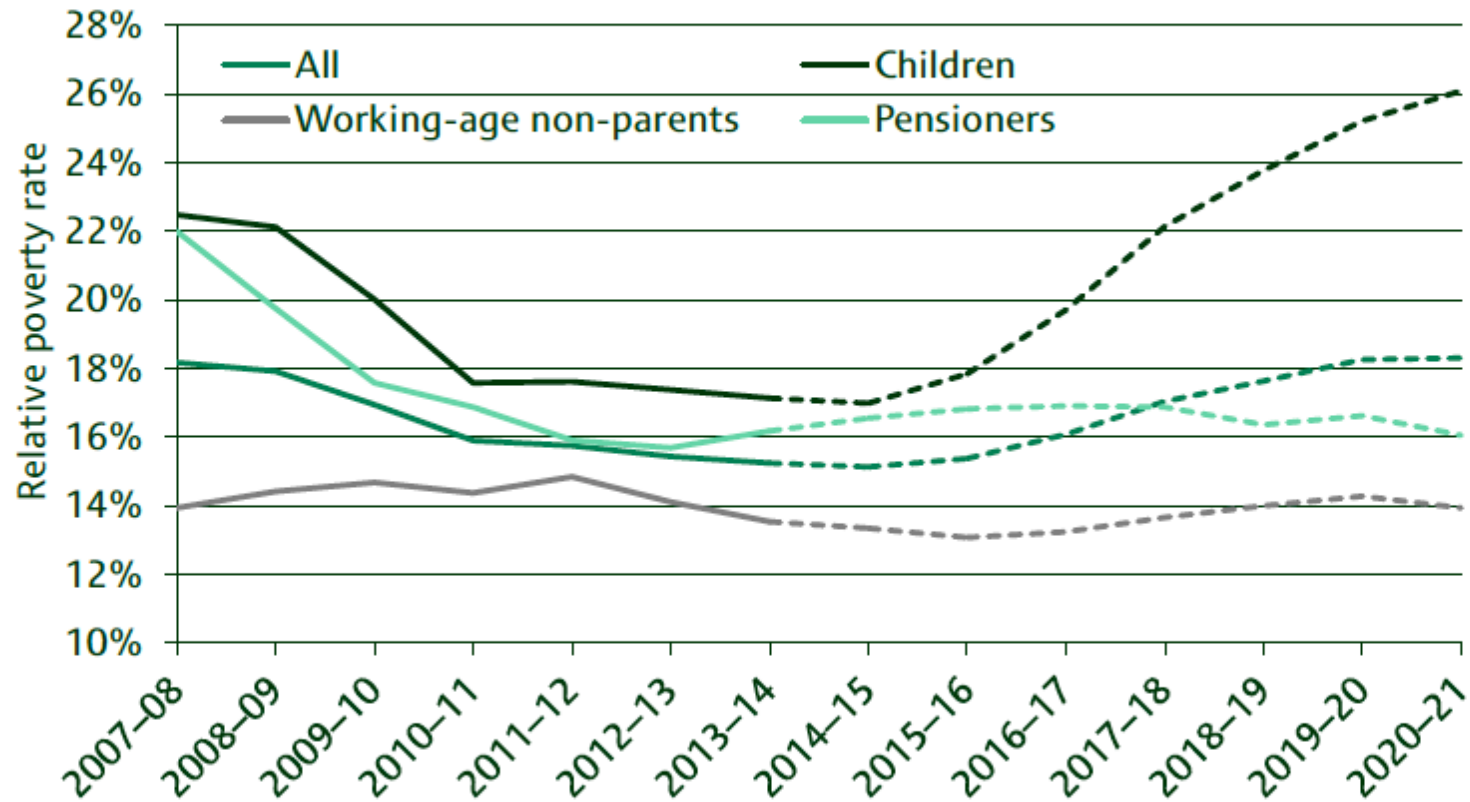
Absolute child poverty by family size: 2007–08 to 2020–21

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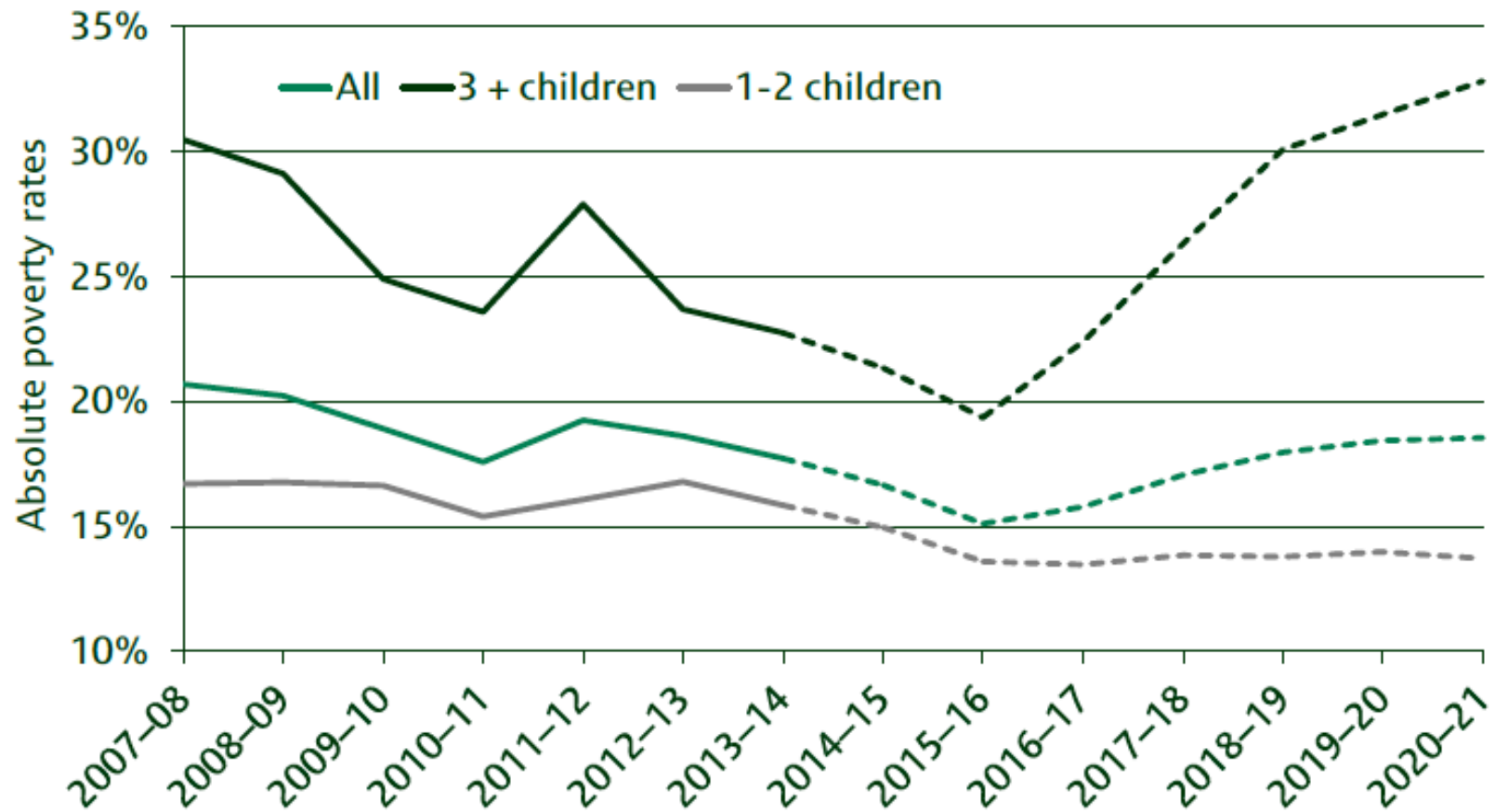
Summary and conclusions

- Poverty really matters to children's lives and development: we have a growing base of robust evidence that *low income is itself a key reason* that children living in poverty do less well.

- Low household income has effects on a range of outcomes – health, educational, social and behavioural. These effects are likely to operate via intermediate mechanisms including maternal mental health, parenting and the home environment.

- Much of the evidence in our review comes from the US, but:
  - Positive income effects are found across countries
  - Mechanisms (investment and family stress models) are likely to operate across contexts

- UK policy is moving in the wrong direction, rapidly, with sharp projected increases in poverty, especially for children in larger families (three+ children)

- Income is not all children need, but as child poverty rises, public services including schools and health services are left with a much more difficult job.