

Baseline Assessment in Schools: The iPIPS project

Providing high quality value added information on
school and system effectiveness

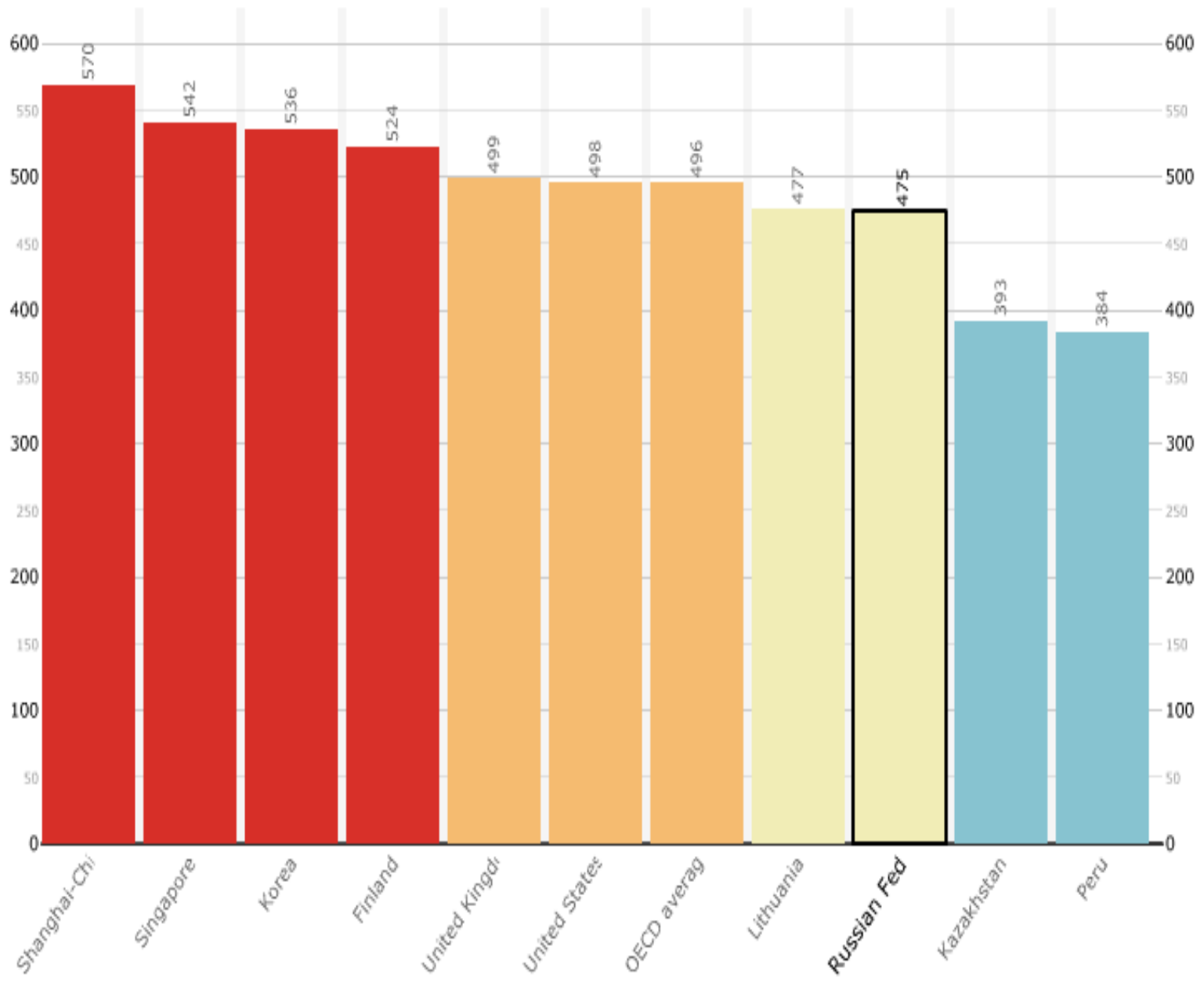


Professor David Hawker,
Durham University

Outline of presentation

- Baseline assessment and value added in the international context: what questions need answering?
- Findings from research using PIPS
- Outline of the iPIPS project
- Future plans

Student performance in reading, mean score

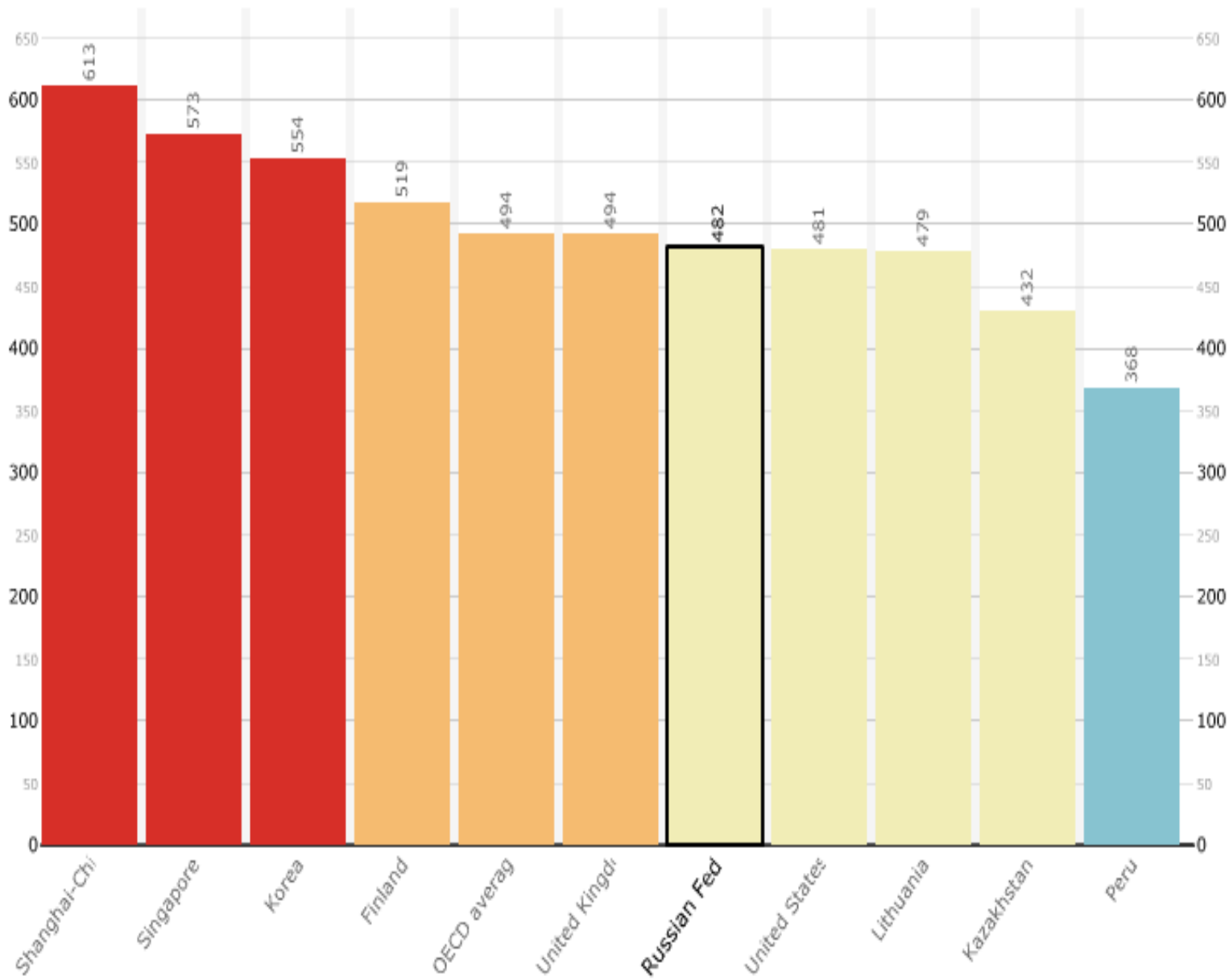


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Student performance in reading, mean score



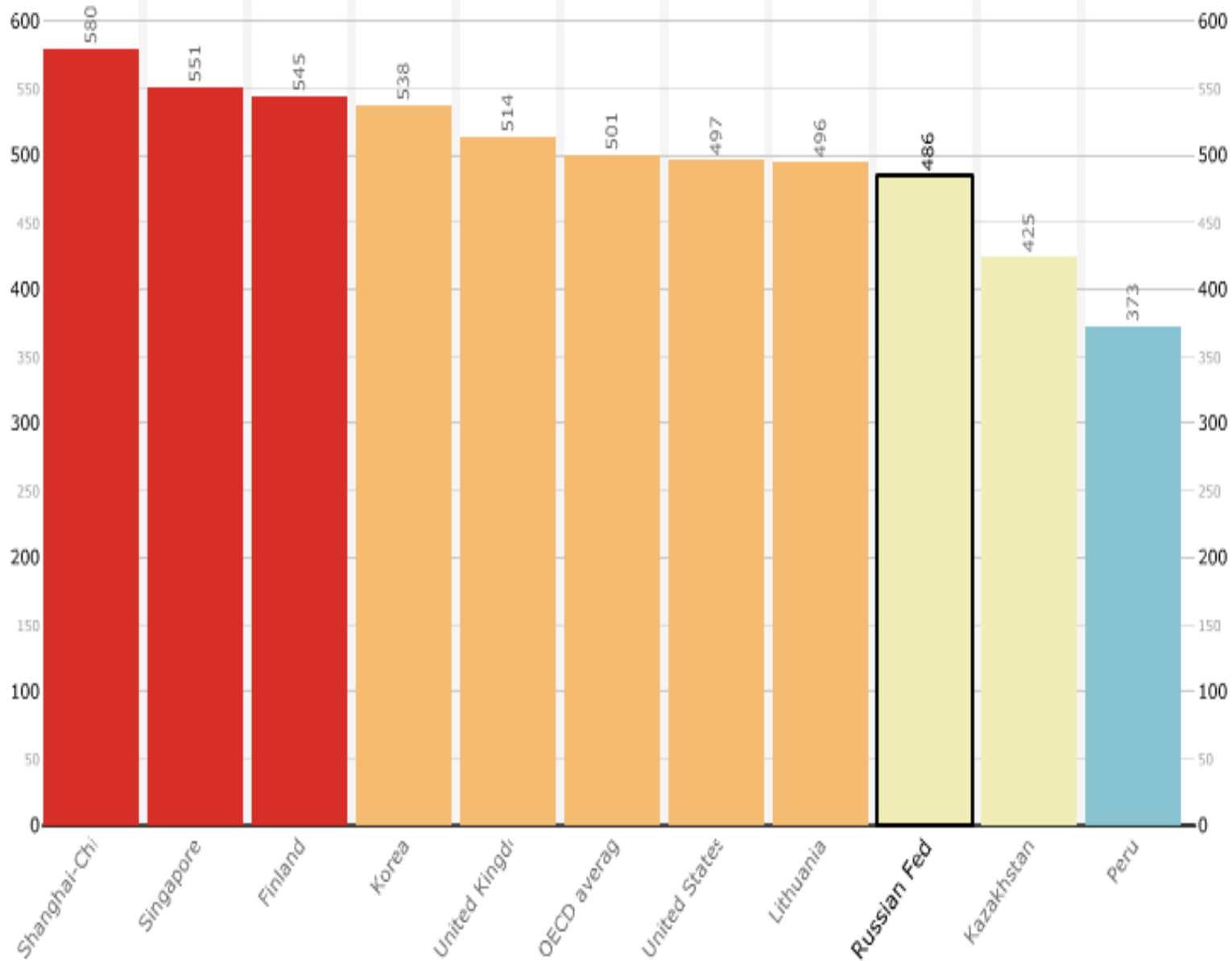
Student performance in mathematics, mean score



Settings Student performance in mathematics, mean score

Sort By: Value

Student performance in science, mean score

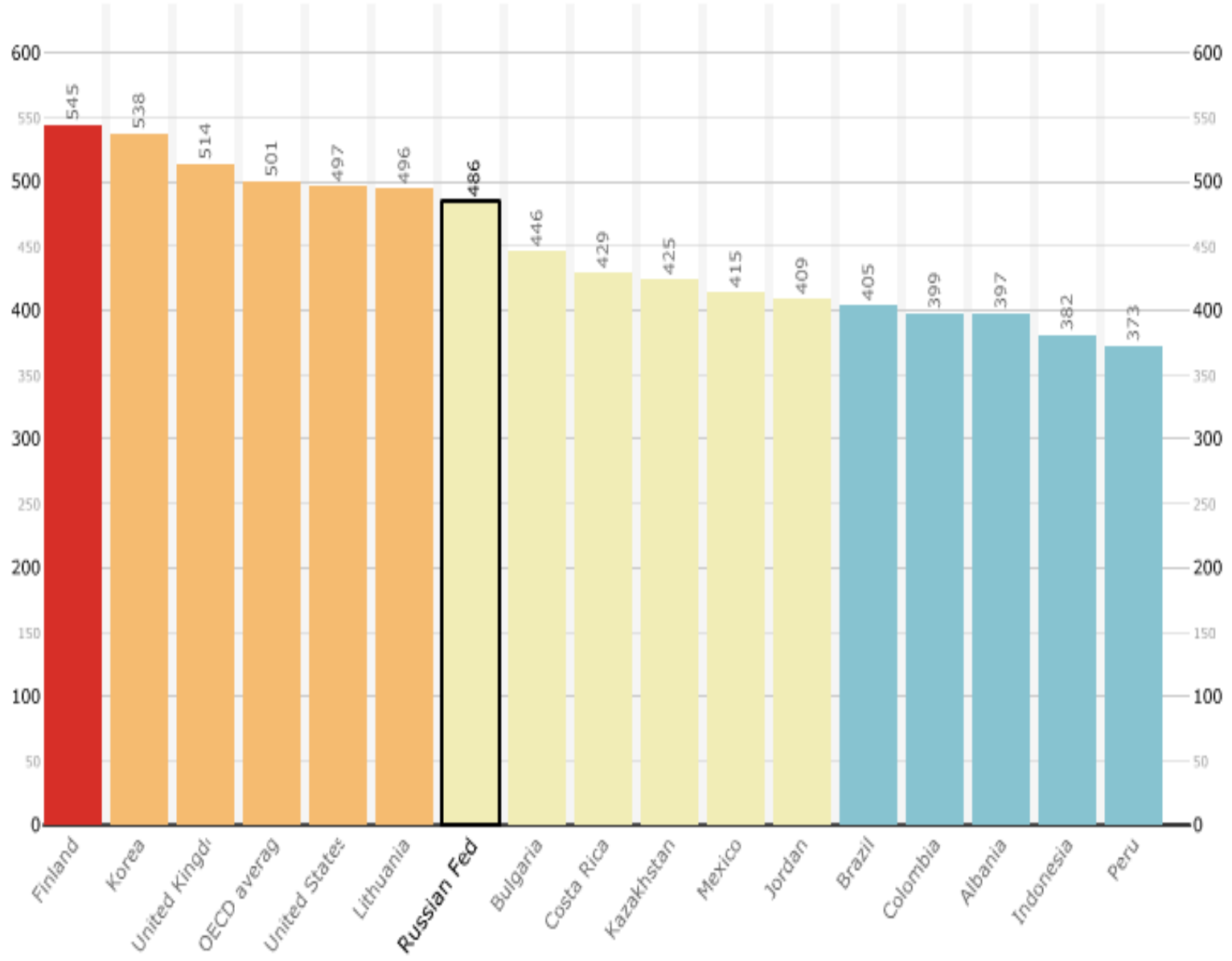


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OECD

Student performance in science, mean score



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Which areas of PISA policy analysis have been influential in national policy-making processes?

a. Assessment and accountability	29
b. Learning environment	13
c. Early childhood education	13
d. Resource investment and allocation	12
e. Student selection and tracking	11
f. Governance (e.g. autonomy, choice, private/public).	11

OECD Working Paper 71 (2012)

When do the differences start?

- At home, before children start school?
- In pre-school?
- At school?

Nobody knows!

Five key questions

1. What is the value for money and relative effectiveness of different early years programs?
2. How much do children learn in their first year at school and how effective is the teaching?
3. How do different factors influence children's learning?
4. How can teachers and schools improve?
5. What are the best policies for long term effectiveness in children's learning?

How will baseline assessment help?

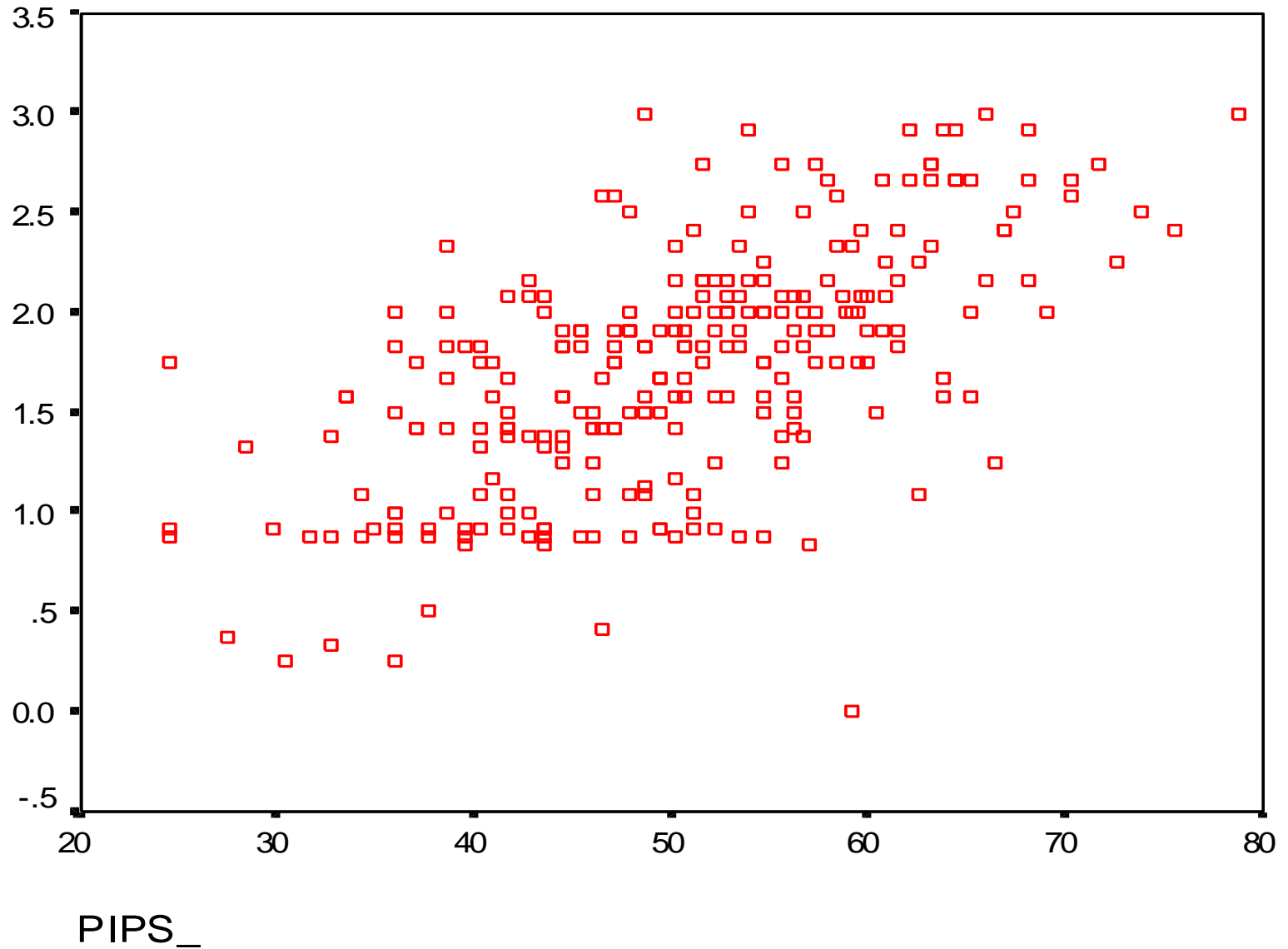
1. **ECEC Value for money** – it will highlight differences in children's starting points, and relate these to their pre-school experience
2. **Learning in the first year of school** – it will measure children's progress by running the same assessment at the end of the year
3. **Influence of different factors** – it will relate data on a range of external and internal factors to children's learning and progress
4. **Pedagogical improvement** – it will provide diagnostic information to schools, and comparative information to policy makers, highlighting differences in practice between successful systems and less successful ones
5. **Long term effectiveness** – it will provide a baseline for later assessments: the early starters don't necessarily win in the end.



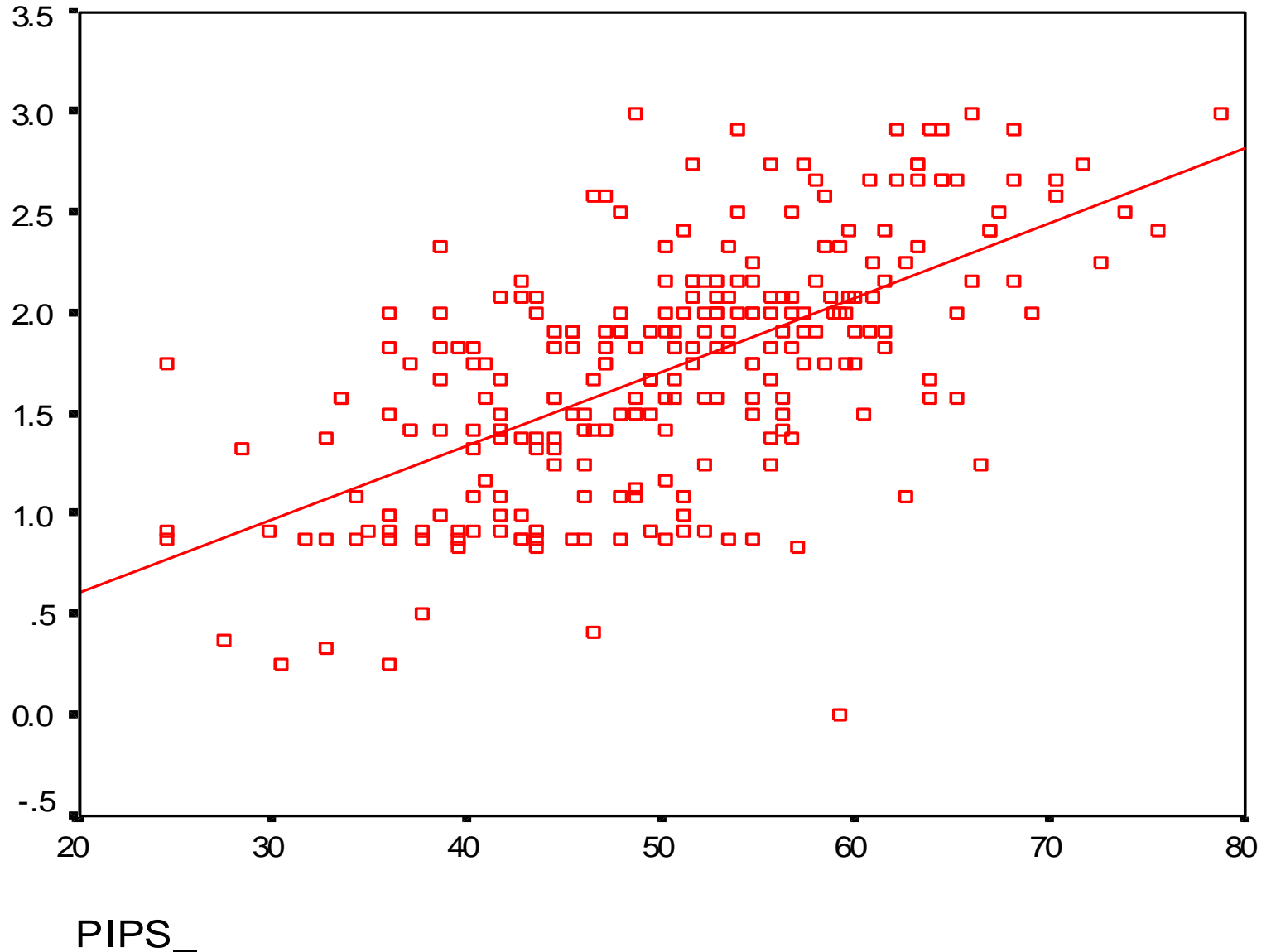
What is PIPS?

- A monitoring project started in the UK in 1994
- Baseline and follow up assessments
- Computer adaptive, child friendly
- High reliability (0.98 test-retest; 0.92 Cronbach's alpha)
- Good predictive validity (0.6-0.7 correlations to performance at age 7 and 11)
- Provides diagnostic feedback to schools, as well as data for policy makers
- Used in school effectiveness research in UK and elsewhere

Value added based on relative progress



Value added based on relative progress



Some research findings using PIPS: (1) The first year in school

- The two most powerful factors in children's achievement at the end of their first year in school are their prior achievement (effect size 2.5) and the school they attend (effect size 1.7).
- Attendance at pre-school has an effect size of only 0.3.
- So effective teaching in the first year is crucial to children's success.

Tymms, Merrell, & Henderson (1997). The First Year at School: A quantitative investigation of the attainment and progress of pupils. *Educational Research and Evaluation*, 3(2), 101-118

Some research findings using PIPS:

(2) The first three years in school

- The effect of having good teachers for the first three years of school is 0.82 SD (ie large!)
- Younger children in the year group start at a disadvantage but catch up in the first 3 years
- Children who attended pre-school start with an advantage, but this does not increase as they get older

Tymms, Merrell and Henderson, 2000. Baseline Assessment and Progress during the First Three Years at School. *Educational Research and Evaluation* 6(2) p105 – 109.

Some research findings using PIPS:

(3) The first seven years at school

- Over the first 7 years at school, most of the variance in children's achievement is explained by their prior achievement year on year
- Effective teaching in the early years has the most impact
- Effectiveness is almost entirely due to the teacher in the classroom – there is very little additional school effect.
- The effect size of having a poor teacher three years in a row is half a Standard Deviation – so the average child would slip to the bottom 16% in that time.

Tymms, Jones, Alborne and Henderson, 2009. The first seven years at school. *Educational Assessment and Evaluation Accountability*, 21, 67-80



Some research findings using PIPS:

(4) Monitoring national performance over time

Between 2001 and 2008 there was very little change in the average levels of academic development of children starting school in England, despite massive government investment in pre-school education

Merrell and Tymms, 2011. Changes in Children's Cognitive Development at the Start of School in England 2001-2008. *Oxford Review of Education*

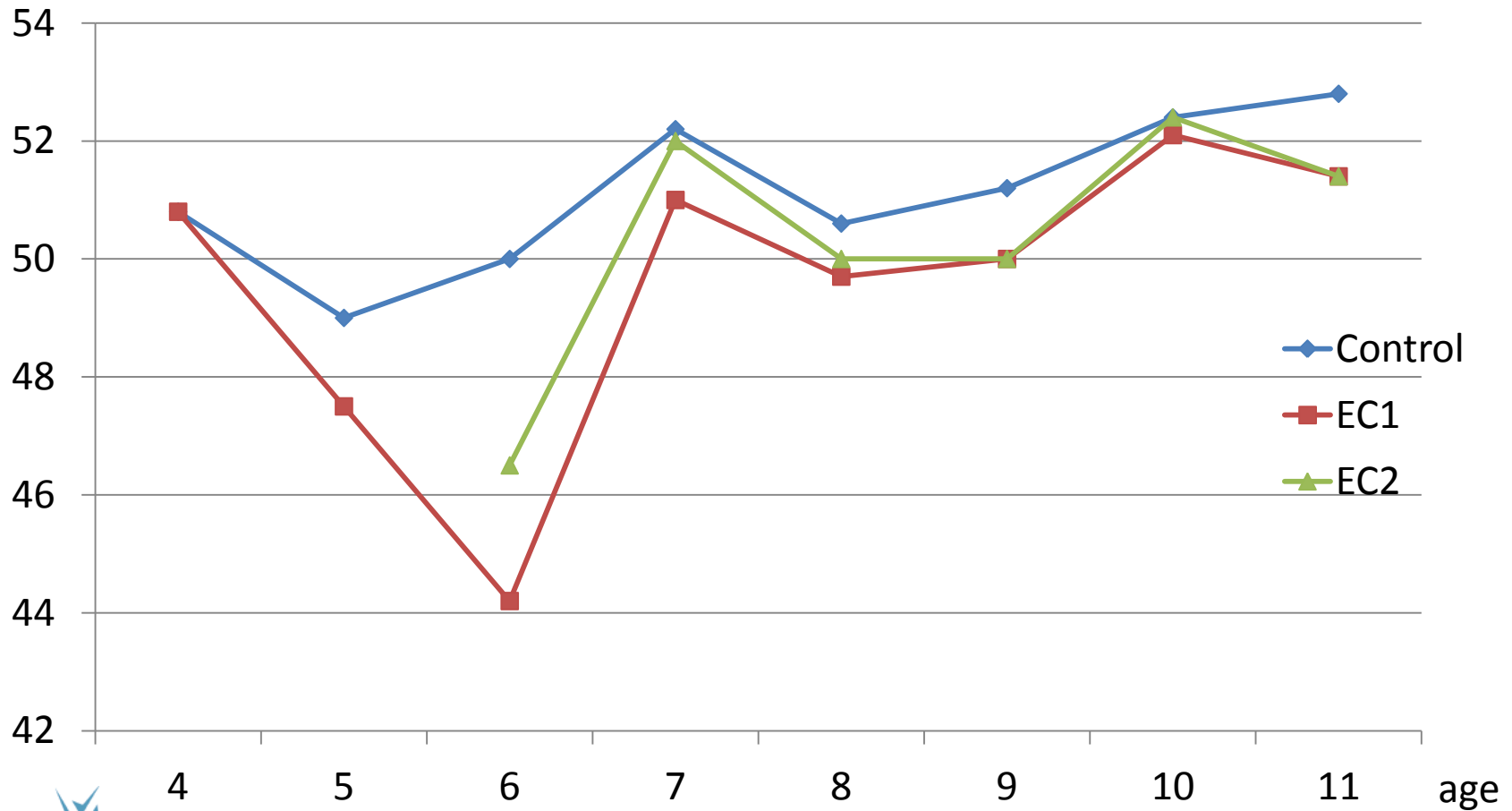
Some research findings using PIPS: (5) Evaluation of a curriculum reform

The introduction of a new play based curriculum for the first two years of school in Northern Ireland did not result in better progress in literacy and numeracy later on

McGuinness, Sproule, et al. (2013). "Impact of a play-based curriculum in the first two years of primary school: literacy and numeracy outcomes over seven years." *British Educational Research Journal*

Impact of Enriched Curriculum in Northern Ireland on children's reading development

Standardised
Score average

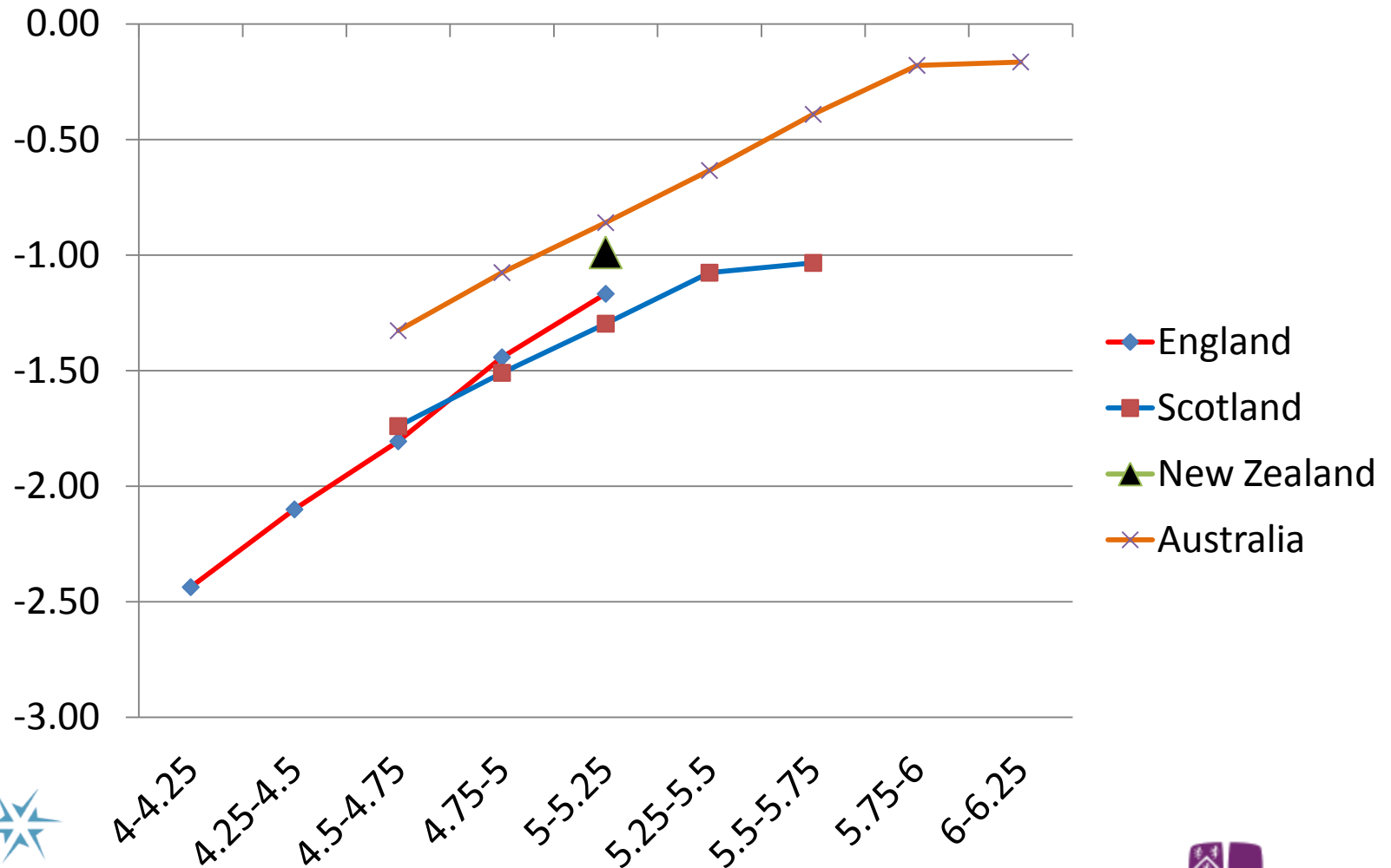


Some research findings using PIPS:

(6) Comparing children's performance
across countries

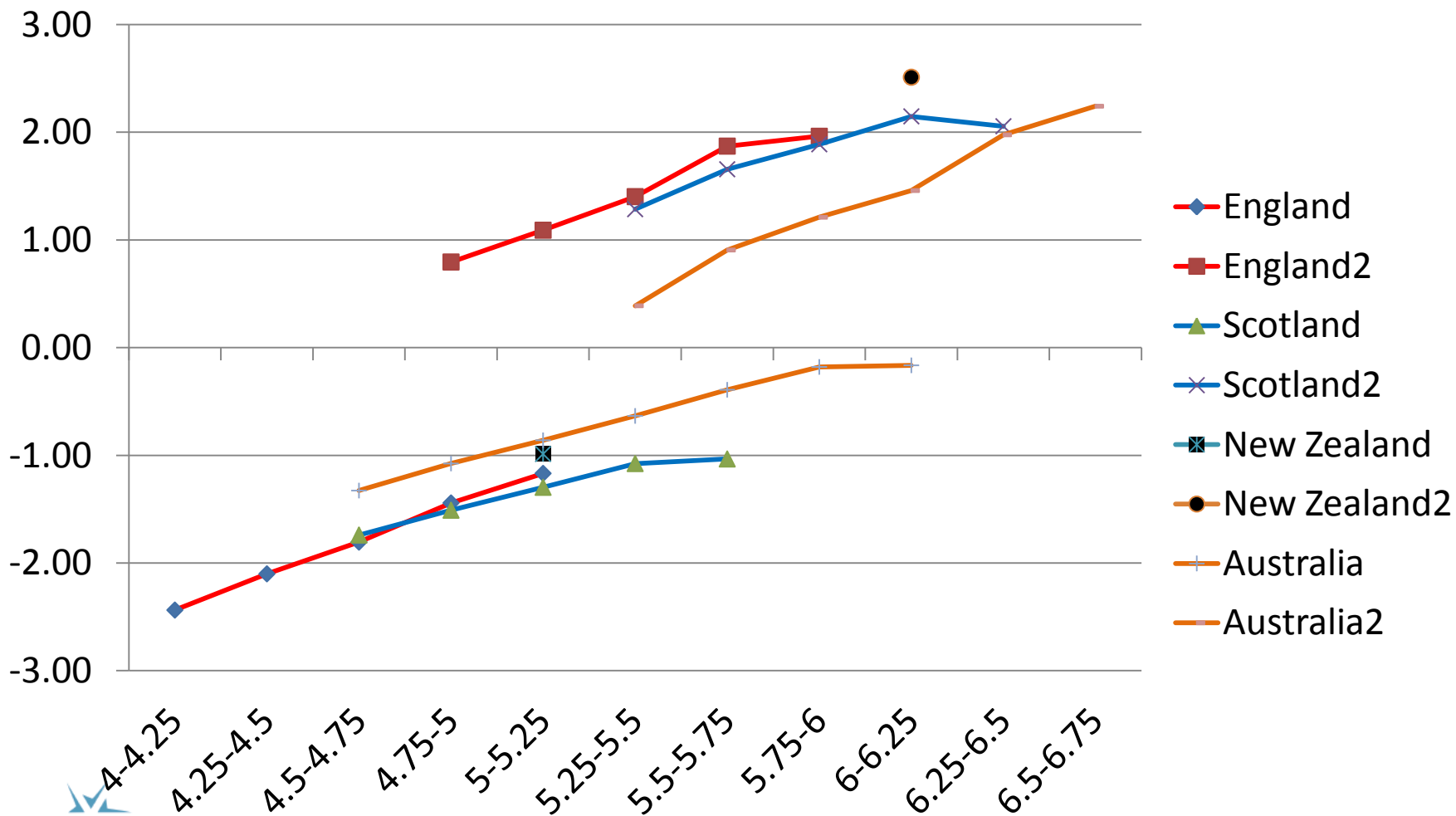
Reading Development on entry

(Illustrative data– not fully representative)



Reading Development over the year

(Illustrative data– not fully representative)



The iPIPS project

- An international monitoring survey of children starting school, using PIPS as the baseline and follow up assessment
- Designed to provide answers to the five key questions
- Partnership of research institutes, pooling expertise
- Links with OECD
- Information for policy makers, experts and schools

iPIPS: What is Planned

- Adapt existing PIPS assessment specifically for international comparative use
- Sample based monitoring of c3000 children's developing abilities at start and end of first year in school per country/region
- International and country/regional analyses
- Data for schools to use diagnostically (not accountability or performance management)
- Pilots in 6-8 countries 2014-16
- To be offered more widely thereafter

Thank You

www.ipips.org