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# Research Brief

## International inequalities

### Learning from international comparisons

Sean Reardon and Jane Waldfogel

It is well established that the UK and US have high levels of inequality of achievement compared to peer countries, and so there is much for the UK and US to learn from the experience of other countries.

This research brief summarises what we know about inequality of achievement in the UK and US, and identifies priorities and next steps for research. It looks at what we know and what we need to learn about the determinants, magnitude, and remedies for inequalities in achievement and related aspects of child development and well-being in the early years, school years, and post-secondary years. The research brief is based on a workshop hosted by the Sutton Trust in June, 2016. The workshop brought together 18 scholars from the UK, US, Canada, Japan, Ireland, Italy, and international organizations such as OECD and UNICEF.

#### Current levels, and recent trends, in inequalities in the UK and US

Recent research has found that educational inequalities in the UK widened substantially for cohorts born after 1958 through the early 1980s but then declined slightly for children born in the late 1980s and thereafter. Jo Blanden and Lindsay Macmillan examined educational inequalities for cohorts of UK children born between 1958 and the late 1990s, comparing the achievement of high and low income children (using data on children from the top and bottom income quintile groups, or children eligible or not eligible for free school meals).<sup>1</sup> A new study by Chmielewski also provides evidence that SES/income gaps have narrowed in recent decades in the UK.<sup>2</sup>

However, Blanden and Macmillan also

### Key findings

- Educational inequalities are large in the UK, and even larger in the US.
- Research consistently find that gaps at school entry and in the later school years are largest in the US, followed by the UK, and significantly smaller in Canada and Australia.
- The achievement gaps in both the US and UK are substantially larger today than they were for children born 40-60 years ago. In both countries, however, these gaps have narrowed modestly in recent years, but they are still much larger than they were in the past.
- Efforts to reduce educational inequalities should focus on the early childhood years, to ensure that children arrive in school on a more equal footing, and on the primary or 'K-12' years, to ensure that schools reduce inequalities rather than exacerbate them.
- Cross-national comparisons can be useful for understanding how different policies can help to reduce educational inequalities.

find that considerable inequalities remain.<sup>3</sup> For example, while the share of free school meals students attaining Level 4 in English and Maths at Key Stage 2 (age 11) rose from 43% for children born in 1991 to 58% for children born in 2000, the proportions for other students were 70% and 78%, meaning that while the gap narrowed by seven percentage points, a 20 percentage point gap remained. Moreover, Blanden and Macmillan find that inequalities have not fallen for those pupils with the highest levels of attainment, a pattern also noted by John Jerrim.<sup>4</sup>

Research from the US finds that inequality in educational outcomes widened over the nearly 60 year period from the 1940s to 2000s. Sean Reardon examines inequalities for children born between 1943 and 2001, comparing the achievement of children from families with high incomes (at the 90th percentile of the income distribution) to those with low incomes (at the 10th percentile).<sup>5</sup> In particular, he estimates that the high- vs. low-income achievement gaps in reading and math

are 30-40% larger in 2001 than they were 25 years earlier. However, there is some evidence of a very recent turnaround, with slightly smaller gaps for children entering kindergarten in 2010 as compared to the cohort entering in the late 1990s (see Figure 1).

#### Inequalities in international context

How do levels and trends in inequalities in UK and US compare to what we see in other countries? In general, cross-national studies tend to find that both the UK and the US stand out in having higher levels of educational inequality than other countries.

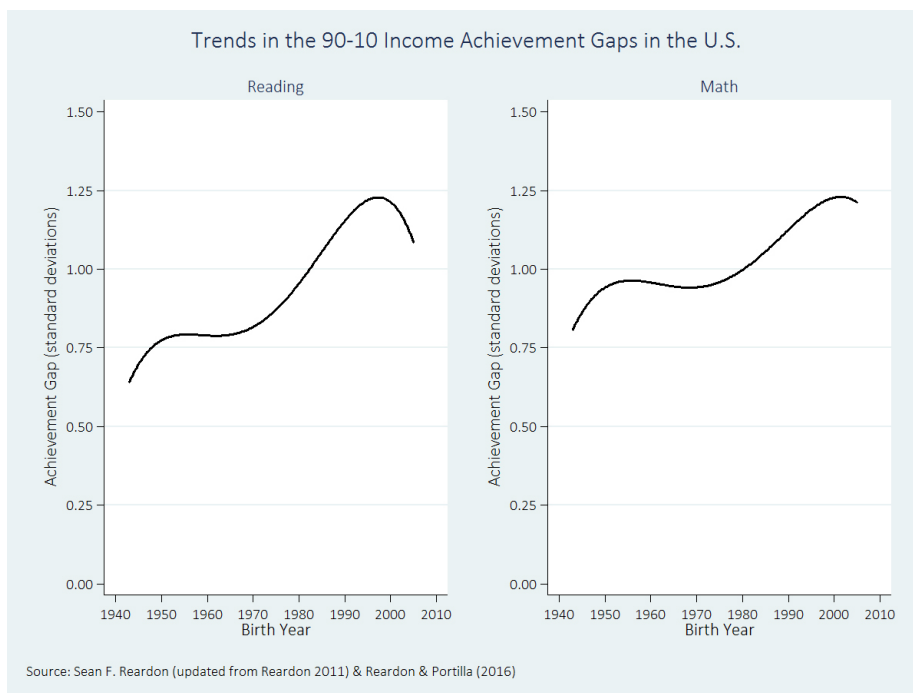
This is confirmed in new research by Anna Chmielewski and Sean Reardon. Using data from the Progress in International Reading Literacy Study (PIRLS) and the Programme for International Student Assessment (PISA) —both of which administered standardised reading or mathematics assessments to nationally-representative samples of children in dozens of countries—Chmielewski and Reardon

analyse income-related achievement gaps across 20 OECD countries.<sup>6</sup> As in Reardon's work on achievement gaps in the US, Chmielewski and Reardon compare the achievement of children from high income families (income at the 90th percentile of the income distribution in their country) to children from low income families (income at 10th percentile).

Among nine year olds (from PIRLS 2001 and the US ECLS-K cohort data), the US has the largest 90-10 gap in reading among the 12 countries with data available for that age group/year (see Figure 2); England is roughly in the middle of the pack (five countries have larger gaps, two have similar ones, and four have smaller ones). Among 15 year olds (from PISA 2006 and the US cohort data), the US again stands out, among the three countries (out of nine in total) with the largest 90-10 gaps in both reading and maths (15-year old data for England were not available in their study).

Data are scarcer for younger children, because of the lack of a cross-national dataset. Bruce Bradbury, Miles Corak, Jane Waldfogel, and Elizabeth Washbrook have compared income- or education-related gaps in achievement using data on cohorts of children from the US, UK, Canada and Australia.<sup>7</sup> They consistently find that gaps at school entry and in the later school years are largest in the US, followed by the UK, and significantly smaller in Canada

Figure 1



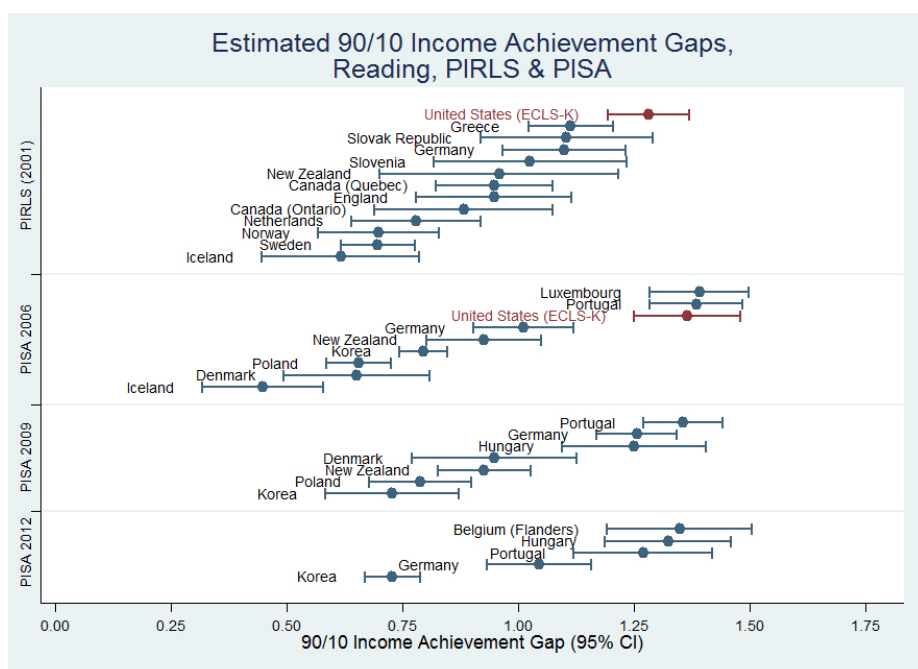
and Australia. For example, their most recent work shows that gaps in reading at school entry between children of low- and high-educated parents are about one standard deviation in the US, about 0.8 standard deviation in the UK, but closer to 0.5 standard deviation in Australia and Canada (earlier work for the Sutton Trust found similar patterns - see Figure 3 below). At this age, estimates for the US suggest that a standard deviation difference on a reading test represents close to a year in development.

**What we know and what we need to learn about the early years**

Economist James Heckman and others have emphasised the crucial role of the early years in child health and development.<sup>8</sup> Early childhood is a period of particularly rapid growth and development, and what children learn in the early years provides the foundation for later learning and health. Bruce Bradbury, Miles Corak, Jane Waldfogel and Elizabeth Washbrook's analysis of cohorts from the UK, US, Australia and Canada confirms the importance of the early years. In the US, 60-70% of the gaps in achievement at age 11 between children with high and low educated parents are due to inequalities already present at age five, when children start school. The same pattern holds for the UK and Australia (analysis not possible for Canada due to data limitations) (see Table 1).

Bruce Bradbury, Miles Corak, Jane Waldfogel and Elizabeth Washbrook's analysis of cohorts from the UK, US, Australia and Canada confirms the importance of the early years.<sup>9</sup> In the US, 60-70% of the gaps in achievement at age 11 between children with high and low educated parents are due to inequalities already present at age five, when children start school. The same pattern holds for the UK and Australia (analysis not possible for Canada due to data limitations) (see Table 1).

Figure 2

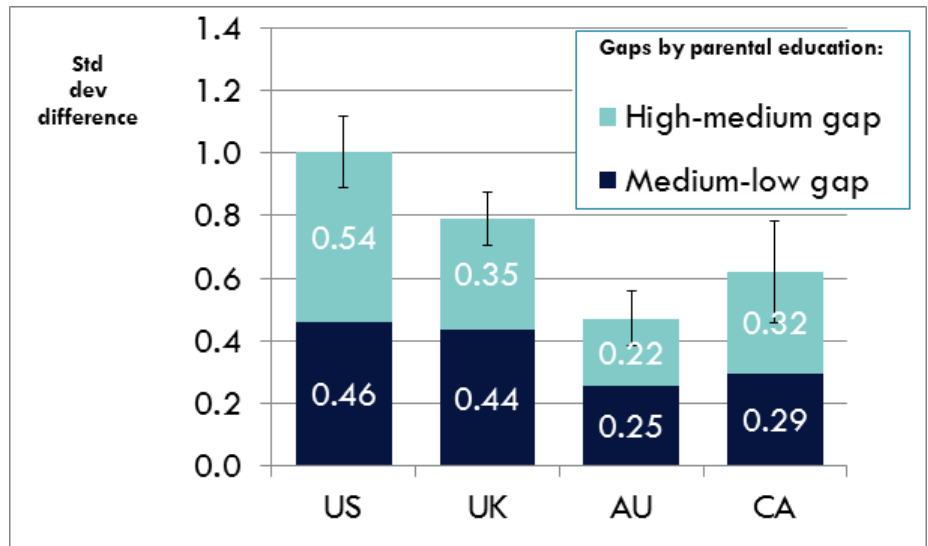


These findings make clear that tackling

inequalities must start in the early years. But we still have much to learn about what factors produce these early inequalities and what might be done to reduce them. Of course, the factors leading to inequalities in early childhood might not be the same in all countries. So it's important in each country to tease out the role of families, communities and the broader policy context and then to develop solutions accordingly. Within the UK, universal preschool for 3 and 4 year olds is now in place, but the quality has not been consistently high and, as a result, impacts have been modest.<sup>10</sup> There may be something for the UK to learn from the pre-kindergarten expansions now underway in the US, particularly in jurisdictions like Boston, Massachusetts where quality has been high and results have been impressive.<sup>11</sup> But in both countries, a larger challenge is developing policies for children under the age of three. Clearly parenting and parent involvement in activities like reading are important, but the evidence base on how to improve parenting and effectively boost parent involvement continues to be relatively weak. There may be something for the UK to learn from recent US efforts to “nudge” parents into more reading.<sup>12</sup>

One challenge for cross-national research on the early years is the absence of a truly cross-national early years dataset (such as PISA, PIRLS, and TIMSS which cover older children). Even within countries, early years data are often lacking. As a result, it is

Figure 3: Gaps in reading at school entry



Source: Bradbury et al., 2015. *Too Many Children Left Behind*. New York: Russell Sage Foundation

difficult to compare patterns of school readiness and early childhood equality of opportunity across countries. In some countries, longitudinal data following cohorts from birth are available (the UK is truly exceptional in this regard, with its highly respected birth cohort studies including the Millennium Cohort Study and earlier cohort studies), but such data are not available in most countries. Future research might also make use of linked administrative data in some countries (such as early years assessments and national pupil data).

**What we know and what we need to learn about the school years**

Much discussion at the workshop centred on the critical role of schools, and other organisations, in reducing or worsening gaps during the school years. A host of school-level factors – including admissions policies, accountability, teacher training and effectiveness, the role of peers, and the role of school leaders - are important, as are factors outside of schools. Parenting matters in the school years, as it does in early childhood, with a crucial role for parent engagement, provision of learning and enrichment experiences, and expectations/ aspirations. Communities may also play a role through the provision (or lack) of after school programme and other activities that promote healthy outcomes and reduce opportunities for risky behaviours. Segregation (by income or race/ethnicity) is another community-level factor that appears to affect school sorting and achievement – more segregated countries typically have larger socioeconomic achievement gaps than less segregated ones.<sup>13</sup> And of course there is a role for broader social policies such as income support, health, and so on.

Standardisation (such as a national curriculum, uniformly high academic standards, and policies that ensure all students have access to the same classes and material) can promote equality. However, there is also a question of the extent to which secondary schools should acknowledge and provide high quality meaningful alternatives for those not continuing on to university. Both the UK and US are relatively weak in this

Table 1: Sources of reading gaps at age 11

	US	UK	AU
Initial ability age	6 (Spring K)	5	7
Instrument age	5 (Fall K)	3	5
Initial top-bottom education gap	0.90	0.76	0.56
Age 11 top-bottom education gap	1.03	0.69	0.68
Of which:			
Attributed to initial differences	0.72 (70%)	0.40 (57%)	0.45 (66%)
Attributed to subsequent divergence	0.31 (30%)	0.29 (43%)	0.23 (34%)
N	9650	10,717	3333

Source: Bradbury et al., 2015. *Too Many Children Left Behind*. New York: Russell Sage Foundation

regard and could learn something from other countries with a stronger record of apprenticeship programmes, school-to-work training programmes, and so on.

Cross-national datasets that cover children in the school years include the PISA, PIRLS, and TIMSS (Trends in International Math and Science Study). Within the UK, the national pupil database is a tremendous asset that could be used more for analysing variation within the country. Reardon's new database for the US offers similar potential (although not at the individual pupil level).<sup>14</sup>

### **What we know and what we need to learn about the post-secondary years**

We know from international data (such as OECD's Programme for the International Assessment of Adult Competencies (PIAAC) which surveys adults' skills and competencies across a range of countries) that the UK and US have a particularly poor record when it comes to the proportion of the adult population that has very low levels of skills. And both countries have a relatively under-developed set of resources for young people who leave secondary school and do not go on to university. Provision is often poor quality and focused on remediation, and there are not systematic points of

entry for young people to engage in such provision. So there is potentially much for both countries to learn from other countries who have better articulated and more effective systems in place for low-achievers leaving secondary school.

In terms of data, both the UK and US have longitudinal datasets that follow young people after secondary school. John Jerrim and colleagues have used these data (and comparable data from Australia) to analyse young people's access to high-status colleges in England, the US and Australia. They find substantial inequalities between the enrolment of disadvantaged and more advantaged youth in all three countries, and particularly in access to high-status private colleges in the US. Jerrim and colleagues have also used data from the three countries to analyse the returns to private schooling, finding considerable similarities in the returns to private education across the three countries.<sup>16</sup>

### **Concluding thoughts and next steps**

Advanced industrialised countries around the world face the challenge of growing income and other inequalities generating increased educational inequalities, a process that, if left unchecked, creates a vicious circle which will only lead to more inequalities in

future. There is tremendous interest from researchers around the world in learning more about how to tackle educational inequalities.

The UK and US, with their uniquely high levels of educational inequalities, can particularly benefit from learning from other countries. International comparisons can shed light on how, and perhaps why, the UK and US experiences differ from those of other countries, and can also help point to potential remedies. There is a role for both selected cross-country studies, such as those undertaken recently by Bradbury and co-authors and Jerrim and colleagues, and for studies leveraging international datasets, as in the work of Chmielewski and others. There is a role for policy experimentation, testing innovative models that might have wider applicability for other countries. There are also some aspects of policy that are currently under-developed in both the UK and US and that are in need of urgent attention. These include programmes for children under the age of 3, improving the quality of preschool for children age 3 and 4, improving secondary school programmes for those not going on to university, and developing a stronger and more effective post-secondary system for those students.

## **Sutton Trust recommendations**

### **1. Ensure all disadvantaged children can access the best early years education and care.**

Well qualified staff should be employed in all early years settings, particularly where they are working with disadvantaged children. Access to free child care places in the UK should be accompanied by easy access to proven parenting programmes which engage parents or carers and empower them to be their child's first educator.

### **2. Make improving the quality of classroom teaching the top priority in schools, with effective appraisals and a guaranteed entitlement to good quality training for all teachers.**

Improving teaching is recognised in international evidence as the most important way to improve schools. However, school leaders and teachers sometimes lack the most effective practical tools to help them improve this 'core business' of teaching practice. Every teacher should have a clear entitlement to effective professional development, based on evidence of what works. Teachers and policymakers need to identify the most effective forms of professional development and establish the best ways to share these findings. The College of Teaching could take ownership of this agenda on behalf of the profession.

### **3. Greatly expand the number of good apprenticeships so that young people have real options at 18 and employers can develop the skilled workforce they need.**

Government, employers and other providers should work together to provide more advanced and higher apprenticeships. The government should set a target to ensure that the majority of new apprenticeships start at or develop to level 3 at minimum, and last at least two years. Intermediate apprenticeships (level 2) should provide automatic progression to advanced. Qualifications that only reach level 2 should not be regarded as apprenticeships unless the qualification will develop to level 3.

## Note on this research brief

On June 15, 2016, the Sutton Trust sponsored an international workshop on educational inequalities at the Centre for Analysis of Social Exclusion at London School of Economics (LSE). The workshop was convened by Sean Reardon of Stanford University and Jane Waldfogel from Columbia University and LSE and was attended by 18 researchers from the UK, US, and other countries. The meeting began with opening remarks about social mobility and educational inequalities by Sir Peter Lampl and Lee Elliot Major from the Sutton Trust. They noted that the UK and US are consistently at the bottom of league tables when it comes to equality of achievement, and that the extent of inequality in both countries has if anything worsened in recent years, as the top has pulled away from the rest and as the bottom has continued to stagnate.

This research brief is a summary of the research presented and the discussions it prompted.

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