Education and Open Society: International Trends in Education

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Educational attainment is increasing – in many countries very rapidly. Among other things, this creates a better educated public, less willing than in the past to defer to professional authority. The medical profession is experiencing this as 'patients' are more willing to question diagnoses and proposed treatments by consulting extensive information sources available through the internet or by seeking second opinions. Teachers are experiencing it as parents and the public more generally demand credible evidence about student performance that permits comparison with reasonable expectations.

This is a trend that will continue, with the key clients of education institutions and systems becoming increasingly discerning and increasingly demanding. Teachers will deal with more and more parents who are better educated than they are themselves. Teachers, schools and education systems will need to be clear about what they want to achieve and to have good grounds for believing that the strategies they adopt will achieve their goals. Expecting just to be trusted will not be an option.

I remember a primary school teacher advising parents that she did not indulge in normative assessments in which she compared students with one another. She then assured the parents that she would provide assessments of whether their child was performing up to her expectations. That provoked the parents to question two things: not only the adequacy of her assessments but also the appropriateness of her expectations.

In this presentation, I will consider four ways in which education systems are becoming, or need to become, more open:

- One is in being clearer and about what they expect students to achieve and then in providing evidence on the extent to which they are successful.
- The second is in being more systematic in seeking to assure the efficacy of their programmes and practices.
- The third is in shifting from supply-driven to demand-driven provisions.
- The fourth is in taking a longer-term perspective and in engaging relevant stakeholders in defining desirable futures so that policies can be developed to maximise the chances of creating those futures and avoiding other less desirable ones.

Defining expectations and monitoring performance

Specifying expected outcomes

The most developed of the four ways in which education systems are becoming more open is the first: being clearer and about what they expect students to achieve and then in providing evidence on the extent to which they and their students are successful. There is considerable debate, however, about the way in which the expectations might best be defined and also debate about who should define them.

The idea of specifying what students should learn is not new, of course. Curriculum documents and text books have always done that. In centralised systems, these typically have wide application. In decentralised systems, they have still served this function, even if there are

marked differences between the units with curriculum responsibility – individual schools or school districts or other regional groupings of schools.

Two developments are shaping new ways in which the expectations are being expressed. One is emerging national interest in raising educational performance levels, even in Federal systems where responsibility for education rests at a lower level. The other is the expression of expectations more directly in terms of what students should 'know and be able to do' rather than in terms of curriculum content to be covered. The second of these developments – expressing expectations in terms of learning outcomes – can also serve the former – supporting a national interest – even where responsibility for education does not rest at the national level because the specification of expected student learning outcomes need not undermine local control of the specifics of curriculum and pedagogy.

Monitoring performance with light samples

When expected learning outcomes are made explicit, they can provide the basis on which performance is monitored. The first approach in most cases has been to implement system-level monitoring through light sampling. In the US, this began 30 years ago with the introduction of the National Assessment of Educational Progress (NAEP), a programme that continues to this day [nces.ed.gov/nationsreportcard/].

System-level monitoring through light samples has the obvious advantage that it is not too intrusive plus the advantage that it is much less expensive than measuring the performance of the entire cohort of students (a so-called census assessment). It has the further important advantage that it operates at a sufficiently small scale for some creative assessments to be undertaken. The UK Assessment of Performance Units (APUs) that were contracted out to various agencies for different subject areas in the 1970s and early 1980s developed a very useful range of assessments but were abandoned when census assessment was introduced. The Monitoring Standards in Education programme [www.eddept.wa.edu.au/mse/] undertaken by the Performance and Accountability Directorate in the Western Australian Department of Education and Training, working mostly with the Australian Council for Educational Research, has also used some innovative assessment procedures and covered domains not usually covered in census assessments, such as speaking and listening in addition to reading and writing. Census assessment has been introduced in Western Australia but the sample-based Monitoring Standards in Education programme continues to run in parallel.

International comparisons of educational performance, for example in the Programme for International Student Assessment (PISA) [www.pisa.oecd.org], conducted by the OECD, and the Progress in International Reading Literacy Study (PIRLS) [www.pirls.org] conducted by the International Association for the Evaluation of Educational Achievement (IEA), are also based on the assessments of national samples of students.

Monitoring by assessing the whole age cohort

Where census assessment has been introduced, it has been in response to demand for more than a general accountability procedure for a system as a whole. It has often been driven by a demand for reporting to individual parents on the achievements of their own children. With data on all students at any particular grade level available, it is possible to characterise the system as a whole, though usually with a more limited set of measures than can be feasibly used with only a sample. Having data on whole cohorts of students at particular age levels also makes it possible to use the data at other levels of aggregation below the system as a whole. Data could be disaggregated, for example, by student ethnic group or by school.

The display in Figure 1 illustrates the use of data disaggregated by ethnicity in England. Two sets of data are displayed: the observed differences in the percentage of students achieving level 5 or better at the end of the English Key Stage 3 (10-14 year-olds) between the ethnic group and the national average, and the difference after adjustment to take account of the degree of disadvantage of the group. (Disadvantage is measured by the incidence of special financial support for students in need.) For the group with the greatest observed weakness in results (Gypsy/Roma), most of the observed difference can be accounted for in terms of its

degree of disadvantage, though even after that adjustment it has the second poorest results. For the ethnic group that is worst after adjustment (Bangladeshi), the adjustment actually worsens its relative position. That is, this group does even worse in its observed performances than could be expected given its level of disadvantage. At the other end of the scale, most of the superior performance of the Chinese group can be explained in terms of its relative level of social advantage.

(See Figure 1.)

Identifying sources of best practice

Disaggregated data used in this way provide a much richer picture than overall national data of a system's educational achievements by showing the relative strengths and weaknesses in the achievements of the different sub-populations. Where small sub-populations are involved, sufficient data would be provided only by census assessment.

Disaggregating data to the level of administrative units, such as local authorities or districts, or to individual schools serves the needs of accountability at those levels but it can also facilitate the identification of best practice that might then be shared with others achieving less well.

In England, the national data are disaggregated to the level of Local Education Authorities. Using the data for the percentage of students at the end of Key Stage 3 (10-14 year-olds) who achieve at Level 5 or better, Figure 2 shows the 20 lowest-performing authorities. This kind of analysis can then stimulate more detailed review of the circumstances in those authorities to determine if there are lessons for policy and practice that might be learned from higher-performing authorities.

(See Figure 2.)

Data disaggregated to the school level can be used similarly to make comparisons among schools. These can be comparisons with all schools in the system or with only schools that have similar types of students. In addition, within-school comparisons among teachers or classrooms can be made to identify strengths and weaknesses and to share best practice within the school.

Best practice can be shared between schools only if the sources of best practice can be identified. Whether this identification should involve making the performance data public or having them used only by officials in the Ministry is a matter for considerable debate. This particular debate was very evident during a meeting of OECD education ministers in Dublin in 2004. (See the Chair's summary (www.oecd.org/edumin2004/chairsummary.) In that meeting, some ministers argued that public use of the data would result in unfair "naming and shaming" in which many schools with relatively poor results would be judged unfairly on the basis of observed performance levels of their students without any account being taken of difficulties they faced with the kinds of students they enrol. Other ministers took the view that, without publication of the data, leverage on poorly-performing schools to improve would be unnecessarily limited.

There are two ways in which fair comparisons are sought to be made. One is to compare only schools with similar intakes of students (using indices such as the percentage of students receiving financial support of particular kinds or the percentage with particular social groups enrolled to establish similarity). The other is to base the comparisons on estimates of the value that each school has added, obtained by statistically adjusting the observed scores to remove the influence of non-school factors such as the home.

The US organisation *Just for the Kids* (www.just4kids.org) uses public data to provide comparisons among like schools. Each school is compared, in each subject tested, with the highest-performing schools in their State serving equally or more disadvantaged students. The US ratings agency, Standard and Poor's, has entered the field of school evaluation and offers comparisons among schools. Its website (www.schoolmatters.com) provides the observed results for states as a whole and much information on individual schools. It also identifies 'outperforming school districts', that is districts that outperform demographically similar school

districts in reading and mathematics. The site also offers comparisons on observed scores between each school, its district and the State.

Estimates of the 'value added' by schools are published by both the French and English education systems. French newspapers had published comparisons among lycées for many years on the basis of public examination results. To counteract the potential negative effects of these simple comparisons, the French Ministry now publishes the examination results for each school and also a result predicted on the basis of the school's student intake, with the difference between it and the actual result the value added (indicateurs.education.gouv.fr/brochure.html).

The UK Department for Education and Skills publishes similar school performance tables on its website (www.dfes.gov.uk/performancetables). These tables give the percentage of students in each school achieving at or above particular levels in English, Mathematics and Science. For Key Stage 3, there is also an estimate of the value that schools have added, given the point their students had reached in Key Stage 2.

Resistance to accountability has been strong in much of the teaching profession. Hill (2004) argues that low accountability demands protect incumbents, fail to create open opportunities for capable newcomers and, in the end, attracts to teaching those who prefer security and dread being judged on performance. It seems clear, however, that the trend to more public presentation of the results of schools and other units within education systems will continue but with considerable attention being given to the improvement of value-added estimates. (See, for example, Lockwood, et al., 2005.)

This monitoring cannot provide direct evidence on what works. It can provide evidence on where things are working well and so help to locate likely sources of best practice that could then be reviewed to see if useful lessons can be learned.

Using criteria of quality and equity

PISA has done this at an international level in the process provoking considerable interest in Finland which achieved the highest performance levels in both PISA 2000 and PISA 2003 while, at the same time, producing results that reveal high level of equity – in the sense that there is only a weak relationship between students' performances and their social backgrounds.

In the PISA 2000 analyses, the relationship between performance and social background was investigated only at the overall level within countries (OECD, 2001a). In the PISA 2003 analyses, the relationship was analysed at the school level as well and this gives an interestingly nuanced picture (OECD, 2004b).

Figure 3 shows the relationship between mathematics performance and social background for Finland. The circles displayed in the graph represent schools, located by the mean mathematics performance and the mean social background of their students with the size of the circle proportional to the size of the school. There is essentially no relationship between the school means on these two variables. The regression lines for the school means (the 'between-schools' regression line) is essentially horizontal. The overall regression line for all the 15-year-olds in Finland and the within-school (pooled across all schools) regression line cannot be seen separately since they are essentially identical with one line under the other. As in PISA 2000, the regression line for students overall is not very steep. It does slope up to the right, indicating a general tendency for students from more advantaged social backgrounds to perform better but to a much lesser extent than in almost all other countries.

(See Figure 3.)

In Germany, by contrast, the overall regression line is considerably steeper than the one for Finland, indicating a greater tendency for students with an advantaged social background to perform well. This is similar to the result for Germany in PISA 2000 on the basis of which it was characterised as low-equity (as well as low-quality because of its low mean). The plot for Germany in Figure 4 shows this overall regression line. It also shows a between-school

regression line that is very much steeper than the essentially horizontal line for Finland. The within-school regression line for Germany is less steep than the overall line.

(See Figure 4.)

But, while the slopes of the overall regression lines (and the mean performance levels) paint the same picture as in the PISA 2000 analyses (Finland as high-quality and high-equity and Germany as relatively low-quality and low-equity), the analyses from PISA 2003 shown in Figure 3 and Figure 4 paint a more complex picture.

In Germany, students are divided into schools of different types from age 11 according to their educational progress. It is no surprise then that the German schools shown in Figure 4 are spread more on the vertical dimension of performance than are the schools in Finland in shown in Figure 3. The fact that the German schools are clustered from bottom left to top right (reflected in the steep between-school regression line) reveals that the grouping by performance level also groups students by social background. Disadvantaged students are most likely to be placed with other disadvantaged students to create schools with poor average performances; advantaged students are most likely to be placed with other advantaged students to create schools with high average performances. The schools thus reflect the social divisions around them and potentially reproduce those divisions.

In Finland, on the other hand, while there are some differences among schools in the average social background of their students they are much smaller than those in Germany (the Finnish schools in Figure 3 being considerably less spread on the horizontal axis than the German schools in Figure 4) and are essentially unrelated to differences in the performances of the schools.

Establishing efficacy of policies and practices

To move beyond monitoring to the improvement of policies and practices requires the implementation of changes that will produce the desired results. A great deal of policy change in education has been driven by changes in fashion or management preferences that are only loosely connected with theoretical understandings of how the new approach works or empirical evidence on its likely effectiveness. Even after implementation, evidence of efficacy is seldom gathered in any systematic way. The result is a change process that is frequently inefficient and ineffective.

In view of that reality, there is growing demand for a more systematic evidence base to inform decisions about change in policy and practice.

The most extreme position is to demand that potential new practices be subjected to randomised-control trials in which the new practice is compared with current or some other ‘control’ practice with individuals randomly assigned to the competing practices for the trial. The case for randomised-control trials in developing ‘evidence-based medicine’ has been championed by the Cochrane Collaboration (www.cochrane.org) which, nevertheless, includes the following disclaimer on its website.

> While "evidence" can be essential in evaluating effectiveness of healthcare interventions, well-informed decisions also require information, and judgments about needs, resources and values; as well as judgments about the quality and applicability of evidence. Relying only on evidence about the effects of health care alone can be inappropriate.

Influenced by the Cochrane Collaboration, a group of social researchers founded the Campbell Collaboration (www.campbellcollaboration.org) to champion randomised-control trials in a range of domains, including education. It publishes its reviews of relevant research on its website.

The US Department of Education’s Institute of Education Sciences has created a What Works Clearinghouse (www.w-w-c.org) ‘to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence of what works in education’. It

emphasises randomised-control trials and takes a hard line on what counts as 'scientific evidence', with the result that very few studies satisfy the criteria for inclusion in its reviews.

The UK EPPI-Centre (http://eppi.ioe.ac.uk) also deals with research in education as part of its more general review of evidence-based work on social interventions. The EPPI-Centre is a formal partner of the Campbell Collaboration and has worked with the Cochrane Collaboration on health issues. The EPPI-Centre maintains research databases that can be searched by keyword or free text to locate research on particular topics. The Centre is interested in studies that provide sound evidence but is more catholic than the US Institute of Education Science in its view of acceptable methodology. It does include 'randomised controlled trials' and 'controlled trial (non-randomised)' among the keywords that can be used in searches of the database allowing users to determine how restrictive the coverage of research in any search should be.

The American Educational Research Association takes an interestingly different approach in a new review series it has created, *AERA Research Points: Essential information for education policy*, edited by Lauren Resnick. Reviews are developed by bringing together key researchers with different views on an issue in order to determine what, if anything, they agree can be said reliably about the issue. That is also a tough condition but not one that imposes a particular research methodology. The consensus achieved among otherwise contending researchers, however, means that the conclusions are less likely to face ideologically-based criticism.

Two trends have been described so far. First, the demand for accountability in public policy and practice has stimulated the development of programmes for systematically monitoring education systems. The evidence base about education systems is accumulating and is dealing not only with quality but also equity. Secondly, evidence of efficacy of potential changes in policy and practice is increasingly being demanded before changes are made.

Shifting from supply to demand-driven provisions

A further trend that is strengthening and that is likely to alter the shape of much education provision is a move from supply to demand-driven provision. There has certainly been substantial increase in the demand for education in a general sense, with rapidly increased

There are no good time series data on the percentage of the populations in OECD countries completing secondary education but there is a reasonable proxy. Surveys establishing the percentage of the current population that has completed upper secondary education can provide a view of the past. The percentage of 55-64 year-olds in the current population who have completed upper secondary education provide an indication of what the position was around 35-45 years ago. It will probably be a slight overestimate since some will have completed upper secondary education after having left school at an earlier stage. It will also be an overestimate if those with this higher level of education are more likely to have survived to the 55-64 age range.

The current percentage of 45-54 year-olds who have completed upper secondary education similarly indicate that the position would have been around 25-35 years ago. The comparison can be continued with successively younger age groups down to 25-34 year-olds, to avoid going lower to age groups that might still be in school. Comparisons among OECD countries on this basis are provided in Figure 5.

(See Figure 5.)

The increase in educational attainment has been remarkable in some countries, and none more so that Korea. On the basis on the data for 55-64 year-olds, Korea (at 31 per cent) would have ranked 24th among the OECD countries around 40 years ago in the percentage of the population completing upper secondary education. On the basis of the data for the 25-34 year-olds, Korea (at 95 per cent) had reached 1st place around 10 years ago. There have been similar dramatic rises in the rate of completion of tertiary education.

Very little of this growth in attainment has involved coercion through compulsory participation. It has been driven by a growth in demand, borne of recognition of the benefits of additional education, to individuals as well as to societies as a whole.

The growth in demand is gradually being transformed from increased demand for what is on offer to increased demand for forms of education that suits individuals' own assessment of their needs. These needs can be for the development of particular knowledge and skills or for particular forms of provision – at times or by means of delivery that suit. It can also involve the recognition and accreditation of knowledge and skills acquired in other ways.

An important consideration as opportunities become demand rather than supply-driven is that inequity may increase in the system overall as the more articulate and better educated will more successfully negotiate the appropriate opportunities to learn.

This trend to increased inequity could be increased if the response on the supply-side is to increase forms of private provision which are readily accessible only to the wealthier. At the school level, the solution in the Netherlands offers an interesting way of avoiding this problem. There, almost 80 per cent of students attend private schools but all schools, public and private, are fully funded at the same level and none charges supplementary fees. Schools seek to differentiate themselves by values or faith orientation and pedagogy but not by resources.

Taking a longer term perspective

The current trends described so far provide a picture of the short-term future. The criteria of quality and equity in terms of which current practice is judged should stand as important criteria for judging the likely impact of current trends as well. Monitoring quality and equity from the perspective of the system as a whole will increase in importance as systems become more differentiated in response to differentiated demand. These criteria should also feature strongly in longer-term strategic thinking about future developments.

There are considerable benefits in taking a longer-term perspective. Decision-making in education is predominantly short-term despite education and learning being fundamental to long-term futures. Furthermore, long-term developments that are desirable may be unachievable and ones that are undesirable may be unavoidable without a sufficiently long-term anticipation of the possibilities.

The Centre for Educational Research and Innovation (CERI) within OECD has been taking a long-term perspective in developing pictures of possible futures in education policy. Futures thinking does not offer predictions of a future that is inevitable. It offers analyses of possible futures among which active choices might be made and stimulates strategic thinking about policy initiatives that might lead to preferred futures and avoid ones judged to be undesirable.

Some key long-term trends and drivers

The current trends within education already discussed will play out into the mid to long-term future but there are other more general trends that will also shape the future for education. These include the changing demography in ageing societies, the continuing development of knowledge societies, the growing ubiquity of information and communication technology in the home as well as the workplace and globalisation.

These will raise major questions for education systems. What, in particular, might they mean for schooling? Will they just be new challenges to be dealt with in traditional ways or will they provoke radical change? Will the changes required, however radical, be embraced willingly or endured as forced adaptation?

Will the impact of globalisation be to take the problems beyond the reach of national agencies alone? PISA and other international comparisons already stimulate the search for policy lessons beyond national borders. Increased movement across borders of students and providers, both public and private, creates an international rather than a national context for teaching and learning that has both positive and negative implications for learners and societies.

The OECD scenarios

To stimulate longer-term thinking about education policy options, CERI has developed a set of six scenarios for the future of schooling:

1. Attempted maintenance of the status quo
   (a) Bureaucratic school systems continued

2. Root-and-branch reform to produce diverse, dynamic schools (re-schooling)
   (a) Schools as focused learning organisations
   (b) Schools as core social centres

3. Pursuit of alternatives to schools – systems disband or disintegrate (de-schooling)
   (a) Radical extension of the market model
   (b) Learning networks and the network society
   (c) Teacher exodus and system meltdown.

Of these six scenarios, there are three that would retain a recognisably distinct pattern of education provision: 1(a), 2(a) and 3(a) and I focus on them.

Scenario 1(a): Bureaucratic school systems continued

Under this scenario, the approach to learning and organisation would predominantly involve a focus on curriculum, qualifications, assessment and accountability, as extensions of current trends. Individual classroom and teacher models remain dominant.

Management and governance would give priority to administration, accountability and efficiency. Systems would remain though there could be some increase in decentralisation, including some increase in the role of 'markets' in shaping provision.

Resources and infrastructure would be constrained. There would be no major increase in overall funding despite continual extension of schools' remits that would stretch resources more thinly. The use of ICT would grow, partly in a search for efficiencies, but with no radical change in school organisational structures.

Teachers would remain as a distinct corps with a continuing strong craft model of professional practice. There would be strong unions or associations of teachers. The professional status and rewards of teachers would remain problematic.

Solutions would be sought in improving remuneration to raise status of profession and improving conditions to increase attractiveness of teaching but these may remain marginal efforts within constrained resources and have little likelihood of success.

Scenario 2(a): Schools as focused learning organisations

Under this scenario, the approach to learning and organisation would establish demanding expectations for all for teaching and learning. There would be specialisation and diversity of organisational forms and strong use of evidence as the basis for changes in practice.

Management would involve relative flat structures rather than strong hierarchies and would be built on teams and networks. Practice would be guided by a shared commitment to quality norms rather than external regulatory arrangements and and punitive accountability requirements. Decision-making would rest predominantly in schools and the profession.

Resources and infrastructure would improve with substantial investments to produce flexible, state-of-the-art facilities with extensive use of information and communications technology. Some of the new funding will be achieved through models that enable private investment in public infrastructure. There would be targeted investment in disadvantaged communities to compensate for local lack of resources.

Teachers would be highly motivated and would enjoy favourable working conditions. There would be a strong emphasis on research and development as the basis of professional practice, effective professional development and elaborate networking.

Scenario 3(a): Radical extension of the market model

Under this scenario, learning and organisation would become much more strongly demand-driven. Value would be determined by choices and demands of students and employers. There would be likely to be a strong focus on non-cognitive outcomes and values. There would be wide organisational diversity, though more in secondary than primary schooling.

Management and governance would alter. Public authorities would become regulators of markets, not programme providers. There would be entrepreneurial management along with increased privatisation. Indicators and competence assessments would provide market currency. Concerns about quality might dominate concerns about equity unless equity concerns are strongly factored into the regulatory responsibilities of the public authorities.

Resources and infrastructure would increase where the market can bear it. There would be market-driven changes in ownership and management, extensive and imaginative exploitation of information and communications technologies. There could be some diseconomies of scale and inequalities due to market failure.

Teachers would be replaced by new learning professionals – public, private; full-time, part-time – with market forces possibly producing poorly distributed supply.

Uses of the scenarios

The scenarios have been used in policy discussions in many places to provoke clarification of what is desirable and to stimulate strategic thinking about how to achieve it. Examples in which CERI staff have been directly involved include:

- Ontario (English) – using scenarios to build dialogue and trust;
- Ontario (French) – using the 6 scenarios to build the desired (7th scenario) future for the French-speaking system.
- England – Creating and applying a method ('toolkit') for building futures thinking in school leaders;
- New Zealand – similar process for wider groups of stakeholders, underpinned by the Secondary Futures 'guardians';
- Netherlands – sectoral plans/visions, new learning, leadership;

Next phase of work on Schooling for Tomorrow

The next phase of CERI's 'schooling for tomorrow' project will consolidate the existing knowledge base, established through the development and use of the scenarios. Further reports will appear in the series already established (OECD, 1999, 2000, 2001b, 2001c, 2003) and information will be distributed via the website (www.oecd.org/education).

Developmental work will continue, in particular by linking the work to futures thinking in other sectors. Countries that engage will build strategic capacity for decision-making in collaboration that will capitalise on the experience of the OECD work and parallel country-based projects.

The important message will continue to be that developing trends need to be understood but that they do not bring with them inevitable futures that cannot be actively shaped by strategic policy choices.

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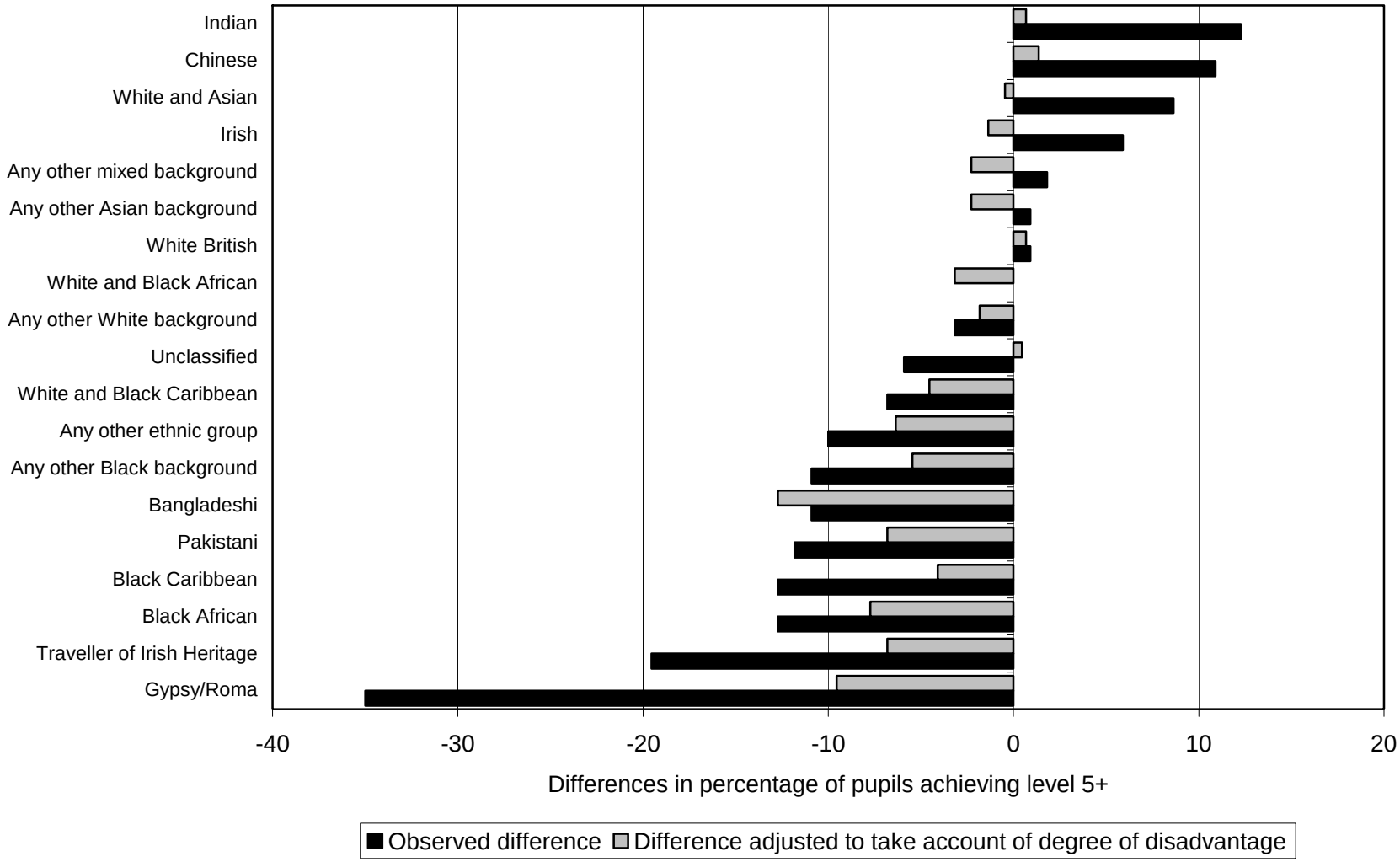

Figure 1: Relationship of ethnicity and disadvantage to achievement in Key Stage 3 English – England
[Source: Barber (2005)]

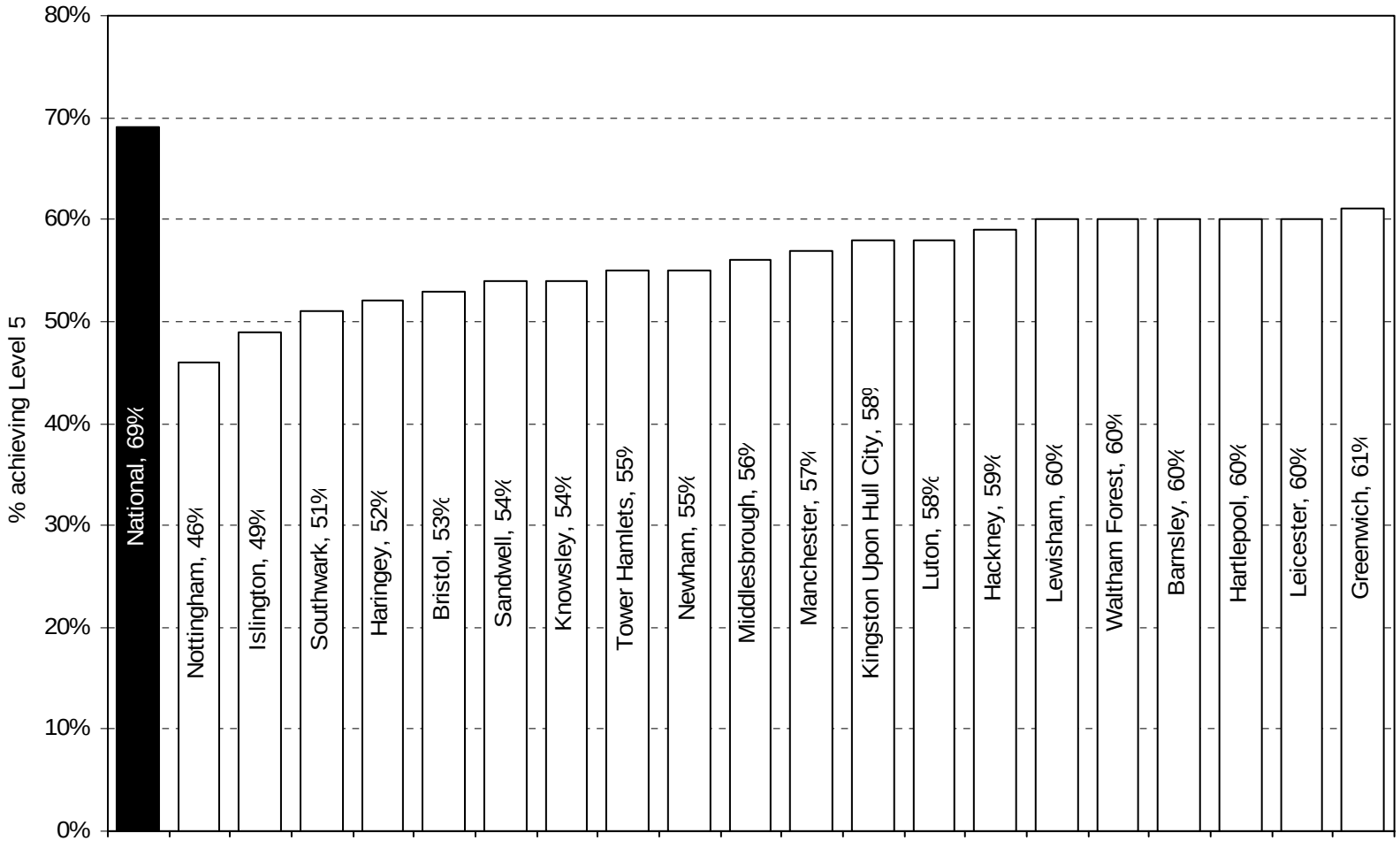

Figure 2: Lowest-performing Local Education Authorities in Key Stage 3 English – England
[Source: Barber (2005)]

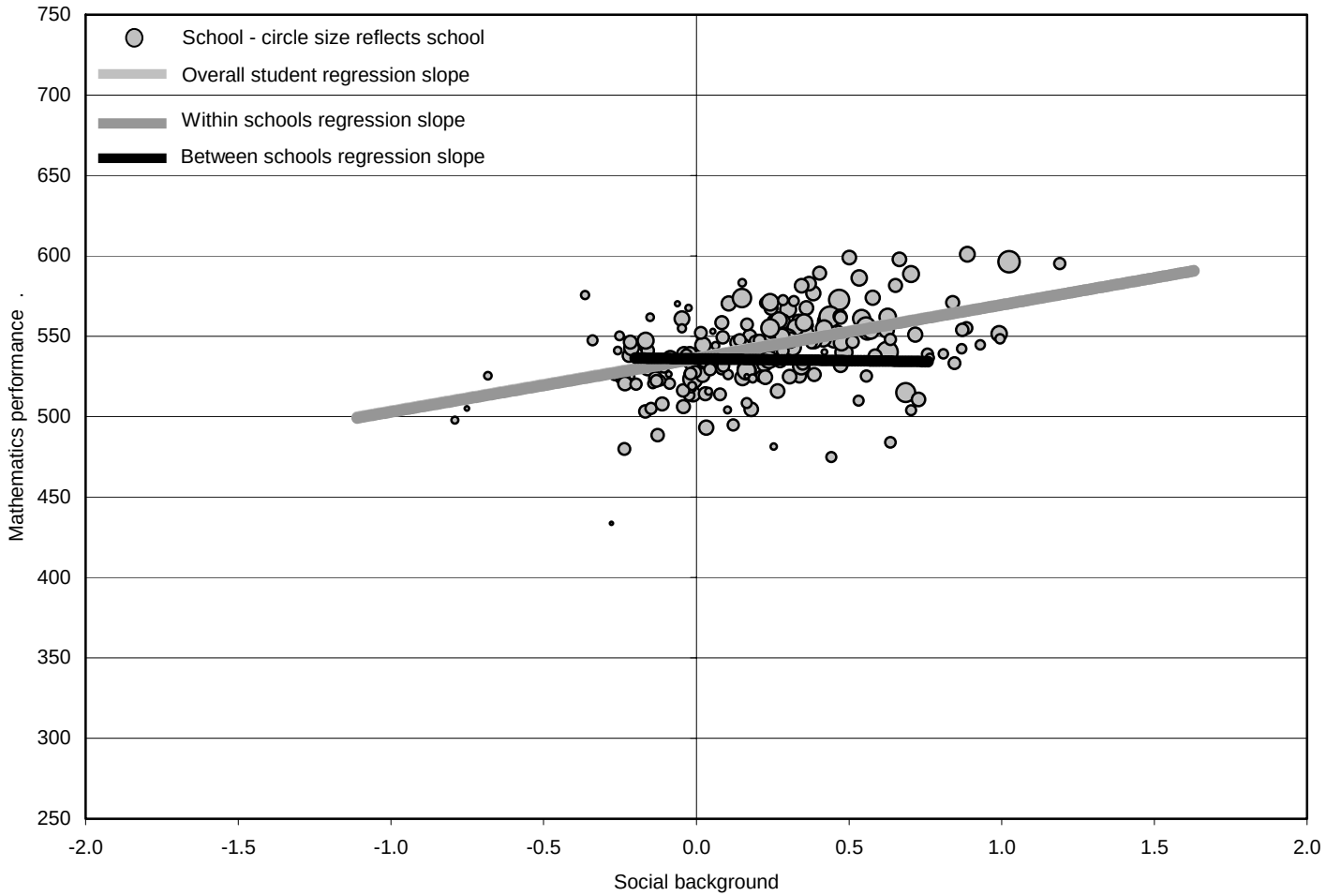

Figure 3: Regression of mathematics performance on social background in Finland - PISA 2003
[Source: OECD (2004b), Figure 4.13, pp.199-203]

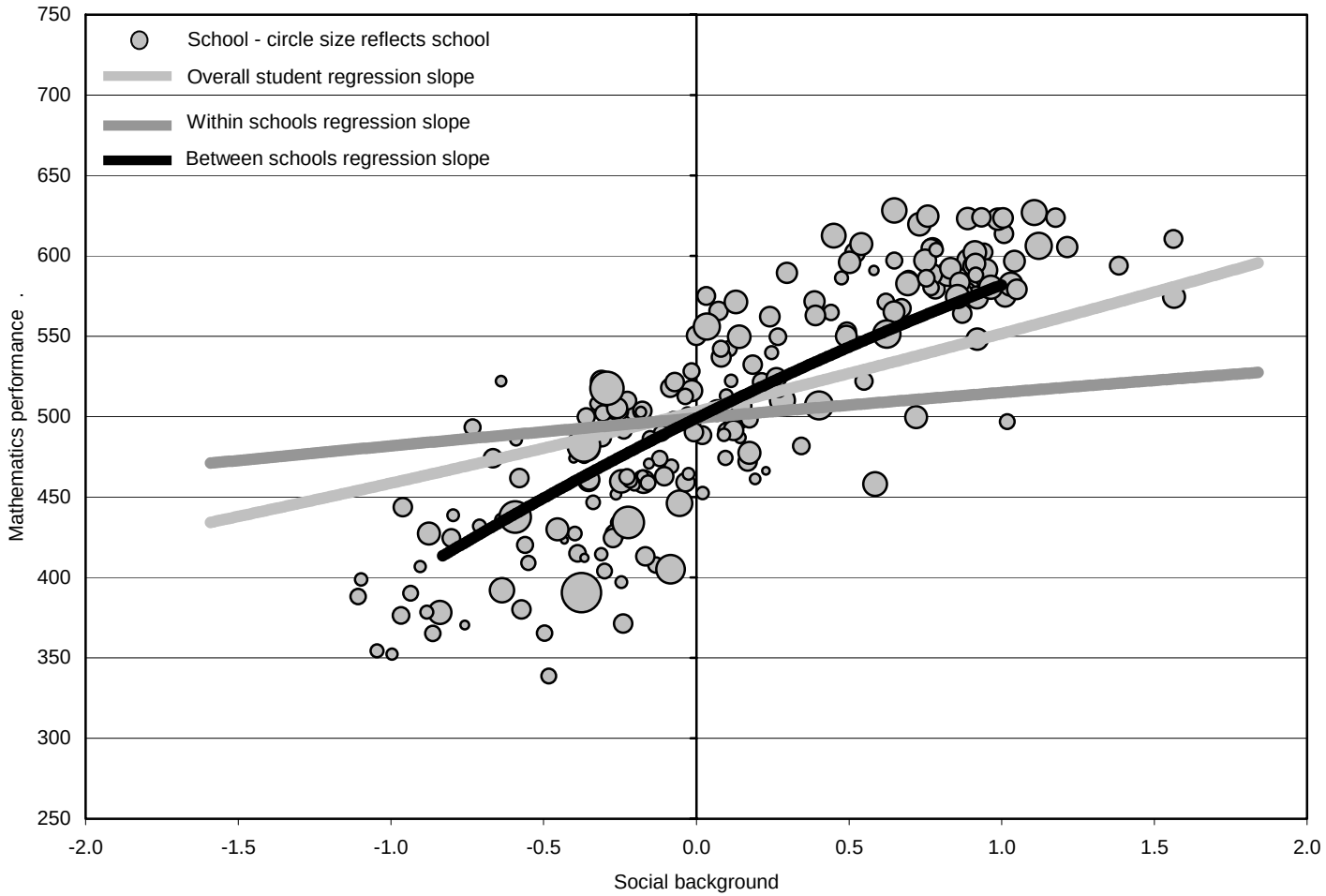

Figure 4: Regression of mathematics performance on social background in Germany - PISA 2003
[Source: OECD (2004b), Figure 4.13, pp.199-203]

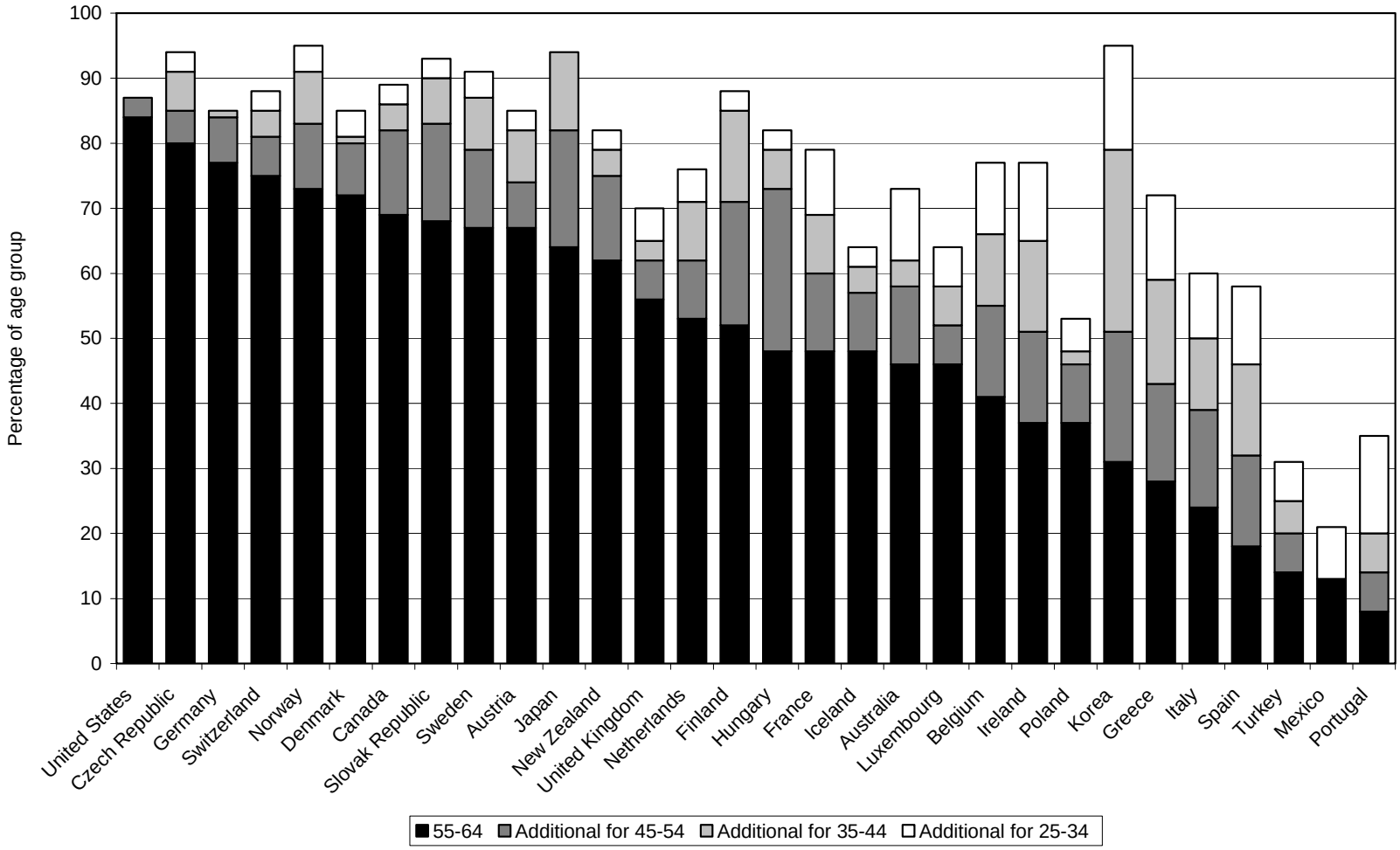

Figure 5: of the population that has attained at least upper secondary education (2002)
[Source: OECD (2004a), Table A2.2, p.58]