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Education, Inequality and Transition

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Abstract

Evidence is considered on differences in access to education and in learning achievement within the countries of Central and Eastern Europe and the former Soviet Union. The situation inherited from the communist period is first summarized: there were some significant disparities with, for example, family background having a strong association with tertiary enrolments, as in Western countries. Analysis of the transition period focuses on the differences in access and achievement associated with household income and geographic location. Disparities are not the same across the region; in some countries, such as Russia, there are clear grounds for serious concern, but it is unlikely that any country has cause for complacency.

Key words: education, learning, disparities, inequality, transition.
JEL classification: D63, H52, I2, P35

1. Introduction

Education is fundamental to the transition in Central and Eastern Europe and the former Soviet Union. In its broadest sense, it is essential for the renewal of the region's economies as they move away from the planned system. The stock of human capital inherited from the socialist period was high by the standard of other countries at similar levels of economic development. Maintaining the positive elements of this bequest and making further investment appropriate for a market system are major priorities for economic policy.

Educational systems are also vital to the wider process of societal change that both underpin economic reform and which is needed in its own right. In many countries, transition involves the development of new nations – the 27 countries in the region today were born from only eight countries that existed at the start of the 1990s – and education has a key part to play in this process.

This description of the role of education in the transition emphasizes the *aggregate* gains to society of schools and other institutions or processes for teaching and learning. But these aggregate benefits are in large part the sum of gains at the individual level. The return on human capital raises an individual's material living standards. Other effects of education enrich a person's life in various ways, improving many "functionings" in the sense of the capability approach proposed by Sen.[1] Some of these effects may be expected to increase during the transition, notably the returns on certain forms of human capital (evidence on returns in a range of countries is given in

[1] For example, Haveman et al. (1998) mention in the US context: "occupational prestige, health status, efficiency in consumption, marriage and fertility choices, and offspring quality," (p.346).

Newell and Reilly, 1999).[2] All this raises the issues of *which* individuals gain the different benefits from education and the extent of the overall variation of educational advantage across the population.

As far as the impact of education on incomes is concerned, a number of trends underline why equity in access to education is still very much a live issue in the long established market economies of Western Europe and elsewhere: the entrenchment of long-term unemployment, the changing demand for jobs with different skills, and the emergence in some countries of higher income inequality (OECD, 1997, p.19). The transition economies face these same changes in what is often an even greater degree and, in addition, have typically had to cope with sharply lower national income.[3] Natural questions are whether the set of shocks that transition has brought – shocks that are not only economic in origin or impact – has produced a worsening in the distribution of educational opportunity and experience in the former socialist countries, and whether the extent of the differences at the end of the 1990s is a cause for major concern.

This paper does not answer these questions fully but it elaborates on a range of issues, together with some evidence, that would form part of any adequate reply. Section 2 deals with important preliminaries. What is, or should be, meant by "education" when discussing inequality and the transition? And given education's effects on income or anything else of value to individuals, what principles should drive public policy in the transition (and beyond) on issues of educational access? The discussion emphasizes the very wide-ranging nature of education and its complementary inputs, and brings in the concept of education as a human right.

As with any other aspect of transition, the point of departure is important to establish. Section 3 asks what the links were between enrolment and family background in the socialist period and how unequal was learning achievement. The answers given are not merely a recapitulation of what was already known about education in the planned economies but a reconsideration in the light of new data and analyses that have emerged during the 1990s.

[2] However, it is important not to exaggerate the link between education and living standards during the transition. The human capital model relates to earnings, not household incomes, and there is widespread evidence that the share of household incomes from earnings has fallen during transition (Milanovic, 1998). And rising returns to education are just one factor in the widening of the earnings distribution (a fairly minor factor, for example, in the marked increase in the dispersion of earnings in Russia it seems). (Finally, government tax and transfer policy may either dampen down differences in household incomes that arise from the labour market (Garner and Terrell, 1998) or it may re-inforce them (Commander and Lee, 1998).)

[3] As far as income inequality is concerned, the Gini coefficient for per capita incomes rose 6 percentage points over 1989-97 in Poland, for example, and by the same amount over 1988-96 in the Czech Republic, while in Russia the rise over the first half of the 1990s was about double this (Flemming and Micklewright, 1999). The degree of dispersion in household per capita income in Poland by the mid-1990s was at around the OECD average while that for Russia and a number of other CIS countries was well above. See also Milanovic (1998).

Evidence on what has happened to education during transition is the topic of the next two sections, focusing in particular on children of school age and below. Section 4 considers aggregate trends in enrolment and expenditure. How has the supply of education – including its quality – fared given the sharp, and in some cases sustained, falls in national income? Section 5 turns to the variation with household characteristics. Which children are going to school and which are not, and which children get least opportunity to learn if at school? The discussion focuses on the impact of household incomes and geographic locality, the latter being especially relevant to the issue of decentralization. Section 6 concludes.

2. Education, Inequality and Public Policy

▪ *2.1 What do we mean by "education"?*

Many studies of variation in educational outcomes are limited to investigation of enrolment (or attendance) in schools or tertiary institutions. How does enrolment in upper secondary school, or the highest grade of educational institution attended, vary with family background? This is obviously an important part of the picture but it is limited in at least two ways.

First, it neglects the *quality* of education obtained and of *learning* actually achieved. These issues are now centre stage in educational debate in countries at all levels of development (e.g. UNICEF, 1999). Analysis of formal qualifications obtained from educational systems may overcome part of this problem but is unlikely to provide a full picture. This seems a particular problem in many of the former socialist countries. The over-centralised education systems of the planned period typically involved the minute prescription in schools of curricula, textbooks, timetables and teaching methods. Outcomes were assumed predictable and there was little external verification of any learning achieved, a situation that has often continued (UNICEF, 1998, Box 2.7). A variety of influences discussed later in the paper may have changed the variance of teaching quality and learning achievement during the transition. Monitoring such changes alongside any shifts in patterns of enrolment and attendance is important, although the data with which to do so may be scarce.

The *relevance* of courses on offer to different children is an important dimension of quality. How unequal is access to new skills appropriate for a market economy? Teaching and learning in a particular vocational or technical school may be excellent, but the skills in which young people are being trained may no longer be in much demand. The educational systems of the planned economies streamed many children away from a general education at age 14 or 15, some attending schools which provided them with

what was in effect merely firm-specific human capital for a local enterprise.[4] The notably higher rates of unemployment faced by young people in the transition countries are a sharp reminder of the need to provide relevant education – the unemployment rate in 1997 for 15-24 year olds was on average 11 percentage points higher than the overall rate.[5]

Second, schools and tertiary institutions are far from being the only avenue for education. Educational policy in the richer industrialized countries increasingly emphasizes the "lifelong" nature of learning (e.g. OECD, 1996). The point just made about the obsolescence of some specialized technical and vocational education applies with equal force to skills of the existing pool of workers in the transition economies. New learning opportunities among adults can be expected to be correlated positively with income through the opportunities associated with possession of a job (especially better jobs in sectors still in demand) or, more directly, due to the ability to pay fees for formal re-training. It would be paradoxical to promote wide access to relevant educational opportunities among children and young people but to ignore the issue for adults. Active labour market policy to help the unemployed can clearly be considered in this light.

The learning by those *below* the usual age for formal education also needs to be considered. "Learning" in the infant and young child includes the development of mental ability, speech and physical dexterity, and is the result of the child's interaction with various external stimulants. These may include formal teaching in kindergartens, especially in the years immediately prior to compulsory schooling. Kindergartens were a prominent feature of educational policy in the socialist system – although Section 3 shows it to be a misconception that enrolment of children was almost universal.[6] Early learning is complementary to later schooling, which underlines the need to promote wide access to any formal schemes that are offered.

What might be called "preparedness" for formal schooling includes a great variety of other aspects of child development. Much evidence from both developing and industrialized countries shows strong links from child health and nutrition to educational achievement, coming through a number of channels including mental development and general energy levels (e.g. Behrman, 1996, Del Rosso and Marek, 1996, Tiwari et al., 1996, Alderman et al., 1997). This applies to children of all ages and in fact the literature on child development stresses the importance for progress in later life of the care

[4] As with many other aspects of the planned system, the situation varied across the region. Romania is an example of a country which had extreme specialization in schools.

[5] This figure relates to the standard ILO/OECD definition of unemployment and is based on data for 11 countries drawn from both Central and Eastern Europe and the former Soviet Union (UNICEF, 1998, Figure 1.4).

[6] Of course, kindergartens also served to enable labour force participation for women, a key element in the drive in the socialist system for growth by "extensive" means (increasing quantity of inputs rather than their productivity).

of both very young infants and the unborn child. Action to improve health and nutrition of children (and pregnant mothers) may be part of the public policy that is needed to increase educational opportunity. This may include action taken through schools, for example school meal programmes. Transition has seen both lower (and more unequal) household incomes and lower real public spending on health. Any differential impact on the ability of different children to benefit from schooling needs to be part of the picture of emerging educational disparities.

▪ 2.2 *Equity, rights and public policy*

The value of education to the individual – through any of the effects mentioned in the Introduction – can be so high that access to education is recognized as a human *right* in international law. This might appear to take discussion of public policy beyond the realm usually inhabited by economists. However, a closer look at the notion of rights related to education in the UN Convention on the Rights of the Child – the most widely ratified international instrument of all – serves as a useful reminder of several issues that distributional policy has to confront, whatever one's disciplinary standpoint.[7]

Countries ratifying the Convention on the Rights of the Child (which include all the transition countries, and in fact all but two of the world's sovereign states) recognize the right to education "on the basis of equal opportunity". Any reasonable interpretation of this principle goes far beyond the provision of buildings and teachers in all parts of a country. Other general principles in the Convention underline how the right to education should be promoted. These include (i) an absence of discrimination, and (ii) a primary consideration in policy making of "the best interests of the child".[8]

The characteristics to which "discrimination" in educational provision could be linked are wide-ranging. Gender, ethnicity and disability are obvious examples and are explicitly mentioned by the Convention.[9] But the list should also include family income and place of residence, which are the focus below in Section 5. An absence of discrimination on the basis of income does not, in fact, prohibit the charging under the Convention for school or college places in the public educational system (other than at the primary level where it is explicitly ruled out). Nor does it preclude private schooling (the right to establish private schools is written into the Convention). But it does imply that low income families should be assisted with any fees in the public

[7] A policy of wide educational access can of course be justified not only on grounds of equity. Economic growth is promoted in part by ensuring that every individual achieves his or her full potential.

[8] Hammarberg (1998) discusses in detail the shape of educational policy based on the principles in the UN Convention on the Rights of the Child. (My interpretation is not neccesarily in line with his.)

[9] Access to education for disabled children both in the planned period and during transition is discussed in UNICEF (1998, chapter 3) and at more length in Ainscow and Haile-Giorgis (1998). The typical approach in the socialist period was through separate facilities, in contrast to the trend in the West towards integration of disabled children where possible into normal schools.

system. These examples find recent echo in the OECD's review of educational policy in Russia:

> "The principle of true educational equity and access is that educational opportunities should be open to pupils based on educationally relevant criteria of giftedness, aptitude, and hard work rather than on the basis of educationally irrelevant criteria such as geography, money or connections" (OECD, 1998, p. 79).

The clearest case of the principle of "the best interests of the child" being accepted as paramount is the requirement throughout the industrialized world that schooling should be compulsory over a certain age range. This is a counter-example to the argument that achieving greater parental choice should be a dominant principle in educational policy making.[10]

An analogous situation arises with the decisions made by communities or local governments in a decentralized educational system, where again the argument is often made that greater choice is always important to achieve – the case for genuine decentralization is in part that it allows policy to be more closely aligned with voter preferences. But the choices made by a majority may in some cases be so much to the detriment of a minority that the "best interests" (or similar) principle needs to be invoked by central government to override local decision-making. The action of federal-level authorities to end the segregation of schools on the basis of race in southern states of the USA in the 1950s and 1960s is an example of both the "best interests" and non-discrimination principles put into effect. Other less dramatic ones are the maintenance of central control over at least some elements of school curricula.

The best interests principle also forces attention onto the experiences undergone by children while in schools. Educationalists talk about "child-friendly" schools and how these can be achieved. An economist might arrive at a similar concern coming, albeit, from a different angle. As just noted, schooling is made compulsory over a certain age range on account of its perceived characteristic as a merit good. There is an enforced minimum amount of time that must be spent at school, and this obligation re-inforces concern with the nature of the consumption experience that individuals face. Wide disparities between schools are seen as insupportable not only because of the effect on children's futures but because of the implication for their current levels of utility.[11]

[10] This emphasis in the human rights approach on the separate identity of individuals in families complements developments in the microeconomic theory of household behaviour over the last 10-15 years which have emphasized non-unitary models of family decision-making and issues of intra-household allocation (see, for example, Alderman et al., 1995).

[11] A similar point was made by Tyrell Burgess in the foreword to the British edition of the well-known study of inequality and schooling in the US by Christopher Jencks and colleagues (Jencks, 1972), which argued that differences in education have little effect on incomes.

In emphasising the best interest's principle several points must not be overlooked. First, greater parental or community choice may of course often coincide with the best interests of children. As far as greater choice through private education is concerned, it was already noted that the UN Convention does specifically recognize the right to establish private institutions.

Second, an appeal to the best interests principle hardly provides a concrete prescription for policy in every case, although it is clear at least that this rights-based approach to policy implies that a *consideration* of the child's interests (as opposed to anyone else's) is required.

Third, the notion of individual rights in relation to group benefits needs more elaboration. Is it the "best interests" of each individual child that should be respected or those of children in general? The latter may not be served by increasing the options available to a minority through the development of élite gymnasia, although the individual child going to a selective school may benefit from doing so. This relates to the form of the social welfare function that aggregates individual utilities, moving the discussion of policy to familiar ground for the economist.

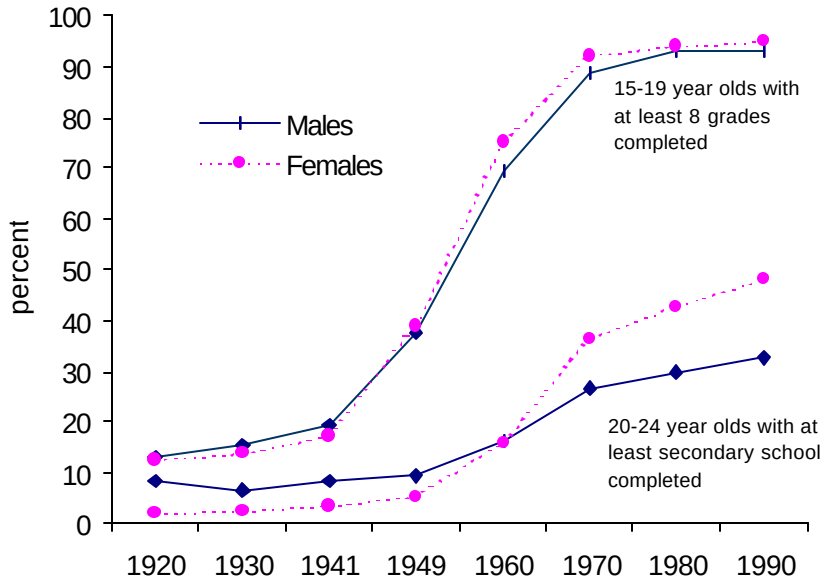
3. The Inheritance from the Planned Period

Looking at the nature of society prior to the communist take-over in Central and Eastern Europe and in the old Russian empire, one has no difficulty in believing that some notable advances were made during the planned period in equalizing access to education. Enrolment levels were attained that were well beyond those in many other countries at similar stages of economic development. (Comparison of the Central Asian republics of the former Soviet Union with some of their neighbours provides an obvious illustration.) Enrolment in basic schooling, from age 6 or 7 to age 14 or 15, became more or less universal. And there was broad equality in access between the genders (or at times even an advantage for women).

Figure 1 illustrates the educational progress achieved during the planned period with the example of Hungary. When the communist party took power in 1949, just under 40 per cent of all 15-19 year olds had completed at least 8 grades of education (although it is notable that this was already well above pre-war levels), and less than 10 per cent of 20-24 year olds had completed secondary schooling – with the figure for males substantially higher that that for females. By 1960 the proportion of 15-19 year olds with at least 8 grades completed had risen by over 30 percentage points and there was gender parity in the significantly higher secondary school completion rate in the older age group.[12]

[12] This is not to say that progress would have necessarily been less had the democratic period following WWII continued. The large gender gap in favour of females in the secondary school completion rate at the

Figure 1: *Educational progress in Hungary, 1920-1990*



Source: Hungarian Central Statistical Office (1993, Tables 1.1.1.3.2, 1.1.1.3.3, 1.1.1.9.2 and 1.1.1.9.3).

▪ 3.1 *Differences in enrolment*

Studies and data emerging in the 1990s, however, have confirmed that, as in some other aspects of life in the socialist system, there were considerable disparities in educational opportunities and achievements. Access to upper secondary and tertiary levels of education showed many of the differences associated with social class background that are found in Western countries (the strict streaming of secondary education referred to in the last section was no doubt a contributory factor). This is shown for Hungary and Poland in Figure 2. In both countries, the children of the highest social class were almost four times as likely as the average person to obtain an academic upper secondary or tertiary qualification, while children from other non-manual backgrounds were about twice as likely to do so. This fits strikingly with the pattern shown for Western European countries.

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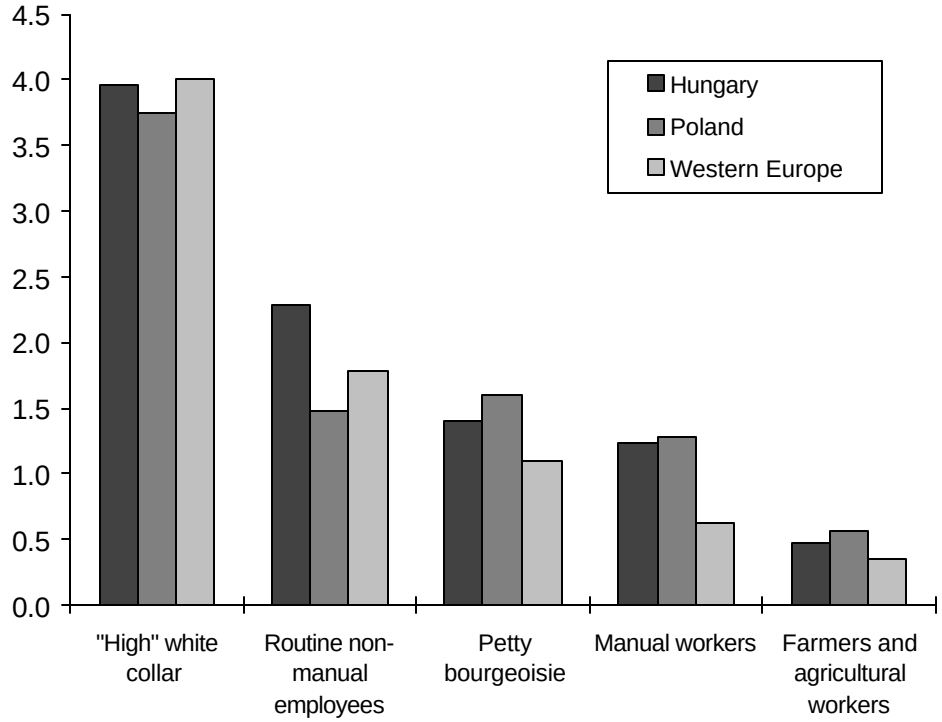
end of the socialist period appears to be due in part to the data excluding some technical and vocational schooling that was more commonly followed by males, although this was lower level education in the sense of offering less opportunity for advancement to the tertiary level. (By 1980, 13 per cent more women than men aged 25-29 had completed tertiary level education, rising to a difference of 37 per cent in 1990.)

Figure 2: *Proportion of men aged 30-64 from different social class origins with full secondary or tertiary qualifications relative to the average, Hungary, Poland and Western Europe in the mid 1970s*



Source: Müller (1996, Table 4.4). The Western European figure is an unweighted average of figures for England, France, West Germany, Ireland and Sweden.

The graph is consistent with the view that the élite of the communist regimes secured similar educational advantages for their children as those achieved by the higher social classes in the West, although it should be noted that Figure 1 also reveals children of manual workers to have fared much better in Hungary and Poland than in the Western European countries. (The relative odds for offspring from high white collar and manual backgrounds was thus much lower in the socialist countries.) The blocking of significant monetary bequests and other forms of inherited wealth may have increased the importance of parental influence in the planned system in securing places in the right schools and universities. The studies in Shavit and Blossfeld (1993) provide further evidence of differences in educational achievement by class in Central European countries and indicate a substantial degree of persistence over time in class advantage, as in Western countries – despite the substantial educational expansion in both.

This picture of social stratification can be compared with evidence on the distributional incidence of public expenditure on education. Milanovic (1995) provides evidence for the incidence across the distribution of per capita income in Hungary, Poland and Czechoslovakia in the late 1980s.

> "The degree of progressivity [of spending] declines with the level of education. Most targeted are kindergarten benefits, followed by primary education. Secondary education benefits are markedly less focused on the poor: their concentration coefficients are close to zero … university education is positively correlated with the level of income" (p.505).

The results appear consistent with the social stratification literature, although differences in the nature of the evidence need to be noted. The distributional incidence of state expenditure on education reflects differences in income originating from the life-cycle as well as those stemming from class (and of course other factors). This may help explain the relative progressivity of kindergarten compared to university expenditure. And even in the case of the latter, Milanovic notes that state expenditures were less unequally distributed than income (the situation where the concentration curve lies between the Lorenz curve and the 45 degree line). Taking all education expenditures together, the concentration coefficient in each country was negative, indicating that lower parts of the income distribution received a disproportionately high share of expenditure.

Evidence for the former Soviet Union shows a similar picture of social stratification to that in Central Europe, at least qualitatively – see Gerber and Hout (1995), Saar (1997), and Titma and Saar (1995). Saar, for example, shows the differences for the 1980s in Belarus and the Baltics in the probability of continuing in full-time education after leaving general or technical secondary schools. About 70 per cent of the children with professional fathers continued in tertiary education of some form, compared to 40 per cent of the offspring of industrial workers and only 30 per cent in the case of agricultural workers. The differences in the proportions going on to university were even greater; children from a professional background were three times as likely to enter university as children from industrial worker families.

All the figures mentioned so far relate to education following compulsory school but the preceding period must also be considered. It is a common fallacy that enrolment rates in pre-schools were almost universal in the socialist system. But in only three of the countries now existing – Hungary, the Czech Republic and Slovakia – were net enrolment rates in kindergartens (pre-schools for children age 3-6) in 1989 greater than 70 per cent; in 11 countries they fell short of 50 per cent (UNICEF, 1998, Annex Table 7.1). Table 1 shows the urban-rural differences in pre-school enrolment rates among 1-6 year olds that prevailed in the former Soviet Union at the end of the 1980s. The gap runs from 17 percentage points in Russia to 30 points in Central Asia. In Central Asia and the Caucasus, only about a half of even urban children were enrolled.

Table 1: *Urban and rural pre-school enrolment rates in the USSR, 1989 (per cent of 1-6 year olds)*

	Urban	Rural
Russia	76	59
Western CIS	76	53
Baltics	72	45
Caucasus	45	21
Central Asia	53	23

Source: UNICEF (1998, Table 3.1).

▪ *3.2 The variation in learning achievement*

The evidence above refers just to enrolments or highest level of education attained, and it thus gives only part of the picture. What were the differences in the quality of education received and in the learning that was achieved? Did the socialist countries record less unequal outcomes in this respect than Western countries?

It is impossible to give an adequate answer to these questions. (The weakness of most socialist countries' examination systems has already been referred to.) However, some handle can be obtained from the results of two cross-national studies of knowledge and achievement held in the first half of the 1990s that contained several former socialist countries. These sources are not ideal for the purpose in hand, not least since the results can be expected to in part reflect differences within each country that have emerged during the transition. Nevertheless, the impact of the inherited system can be expected to be very strong.

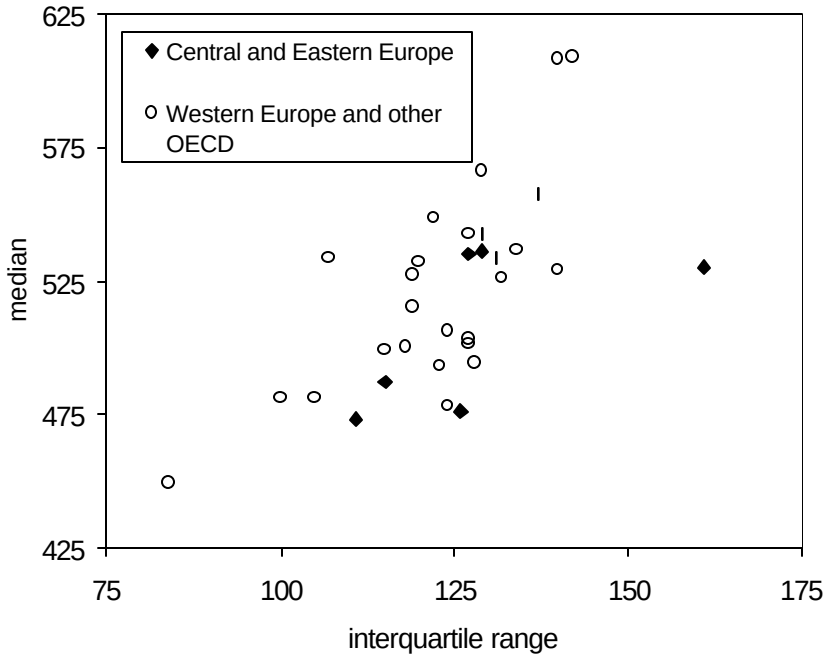
Figure 3 shows the medians and interquartile ranges of scores in standardized tests of mathematics ability recorded for eighth grade children (13-14 year olds) in the Third International Maths and Science Study (TIMSS). The TIMSS, held in 1994-95, was a large-scale project to collect comparable data on children's learning (Beaton et al., 1996, 1996a).[13] The results in the graph relate to the nine former socialist countries in the TIMSS (six from Central and Eastern Europe and three from the former Soviet Union, including Russia) and 21 industrialized countries from Western Europe and the rest of the OECD. (The data points are given in the Appendix.)

The TIMSS results received a lot of attention when first published, but most of this related to *average* achievement in each country. Several of the

[13] The TIMSS is based at Boston College in the US. Details can be found at http://timss.bc.edu. Data for the transition countries are analysed in detail in Vari (1997).

former socialist countries did very well in this regard. Children in the Czech Republic, Slovakia, Slovenia, Bulgaria, Hungary, and Russia achieved mean scores in both maths and science that were above the international average and ahead of children in such countries as England, Germany and the USA. These mean scores ranked the Czech Republic 6th in maths and 2nd in science, while the USA ranked 28th and 17th. Latvia, Lithuania and Romania, on the other hand, scored below the average in both subjects. This situation is reflected in the pattern of the median maths scores shown in Figure 3 on the vertical axis. Six of the former socialist countries are found well up among the OECD group.

Figure 3: *Maths scores for eighth grade children, Third International Maths and Science Study (TIMSS) 1994-95*



Source: Beaton et al. (1996, Table E.1).

Much less attention has been paid to the *variance* of scores within each country. Dispersion in scores will reflect a combination of genetic factors, which can be assumed to have equal variance across countries, and "environmental" factors that influence learning, stemming from the home, the school, and so on. One might expect that the variance due to these environmental factors was less in the planned system with the result that the test scores in the former socialist countries would display less dispersion.[14]

[14] The model of learning achievement behind this statement is one that is additive in the different factors, making the interquartile range (or the difference between other pairs of quantiles) a reasonable measure of dispersion. A model in which different factors were multiplicative (or additive in the logs) would lead one to look at ratios of quantiles rather than differences.

The values of the interquartile range given on the horizontal axis in Figure 3 show no such simple pattern. As with the medians, the values of the interquartile range found for the transition countries are similar to those found among the OECD members. Assume that the mean interquartile range for the 14 Western European countries can be treated as the population value for European market economies. For five of the nine Eastern countries the 95 per cent confidence interval of the interquartile range lies completely above this value, indicating significantly *greater* variance in achievement. In no case does the confidence interval for an Eastern European country lie below the mean of the Western European value, which would indicate a significantly smaller dispersion.[15] For science, in seven Eastern European countries the 95 per cent confidence interval includes the Western European mean. In one country, Bulgaria, the conclusion is significantly higher dispersion than in Western Europe (Bulgaria is the high outlier on the maths interquartile range shown in Figure 3) and in one country, Latvia, lower dispersion is found.

As noted, differences in learning achievement are in part determined by the home environment. The TIMSS collected very little information about the families of participating children but the highest educational level achieved of the parents (as reported by the child) is known, distinguishing three levels – university, upper secondary and primary or below (Beaton et al., 1996, Table 4.3). The change in the mean maths scores between children in each group is typically *higher* in the transition countries than in the Western countries – the advantage in terms of learning achievement associated with parental education seems greater in the former socialist countries.

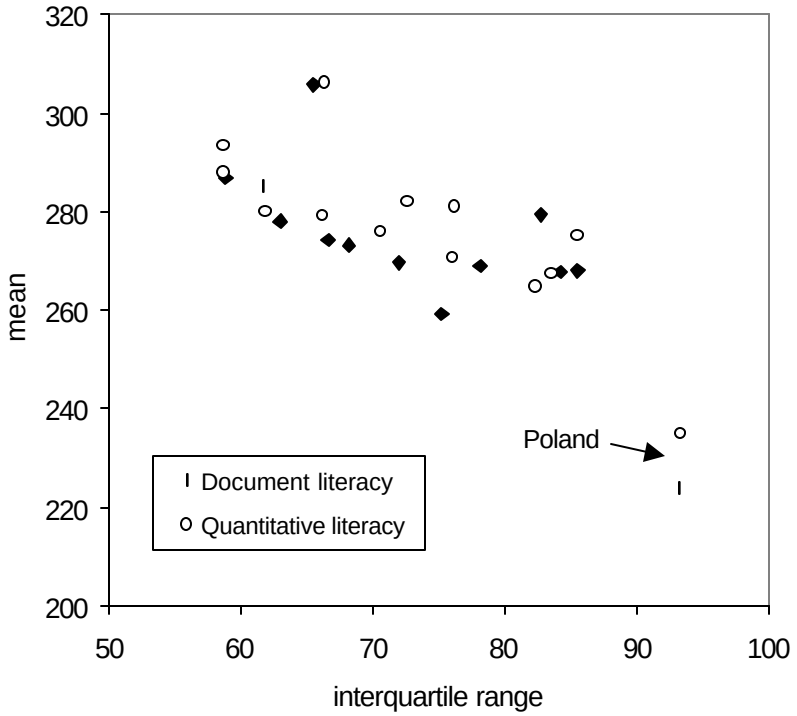
The TIMSS scores reflect only part of learning achievement – that in maths and science – and only part of the quality of education more generally. The general opinion of school systems under socialism is that children accumulated a lot of knowledge, but were relatively weak (in comparison with children in Western countries) in applying this knowledge in new situations – a disadvantage in the now emerging market economies that probably require greater adaptability from the individual (in one sense) than under the planned system. In contrast with the focus of the TIMSS, tests of "functional literacy" gauge the ability to perform tasks encountered in everyday life, including at the workplace. Low levels of functional literacy may marginalize sections of the population to low-skill, low-paying jobs.

Unlike the TIMSS, the 1994 International Adult Literacy Study (IALS), which investigated functional literacy, included just one transition country,

[15] The TIMSS results are based on sample surveys of several thousand children. The 95 per cent confidence interval for the interquartile range can be constructed using the published information on the estimated standard errors for the two quartiles. The standard error of the interquartile range requires an estimate of the covariance between the quartiles, which may be recovered through manipulation of the variances. (The formula for the variance-covariance matrix of order statistics is given, for example, in Beach and Davidson, 1983, p.725). A fuller analysis of the differences East versus West would of course test country by country for differences in the interquartile range.

Poland. In all tests, adults of working age in Poland scored on average well below those in the other 12 industrialized countries covered by the survey (all members of the OECD). But in addition, Poland represented a marked outlier in terms of the dispersion of scores in two of the three tests – see Figure 4. (In the third test, of prose literacy, Poland had the 4th largest interquartile range.) While the Polish means were 15-20 per cent below the all-country averages, the interquartile ranges exceeded them by more than a quarter.[16]

Figure 4: *Functional literacy scores in OECD countries, 1994-95: adults aged 16-65*



Source: OECD (1997a, Table 1.1).

The dispersion of scores in the population of working age will in part reflect differences between age-cohorts as well as within-cohort differences, although an emphasis on "lifelong learning" would reduce one's concern that the wrong inference was being drawn as a result. However, in a regression of document scores for young persons aged 16-24 on years of parental education, the slope coefficient for Poland was *larger* than that for all other countries, reflecting the pattern in the TIMSS results noted earlier (OECD, 1997a, Table 3.8A).[17]

[16] It is of interest to note that after Poland, the most unequal scores were in the English-speaking countries – the UK, the US, Ireland, Australia, and New Zealand – with the continental European countries registering the smallest interquartile ranges.

[17] The differences in the slope coefficients between Poland and the other countries were not always statistically significant. (Results were not given for quantitative or prose scores.)

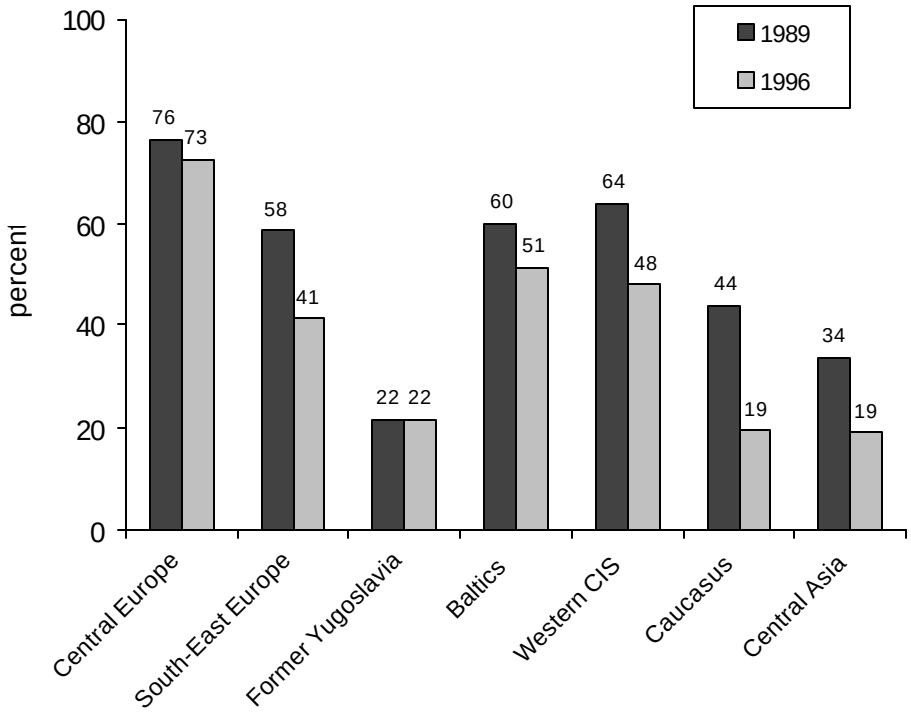
4. Enrolments and Public Spending: Aggregate Trends

This section presents information on aggregate trends relating to educational access and achievement during the 1990s. The focus is on children of school age (and below), with little attention paid to the tertiary level and none to the continuing education of adults. There is not the space (nor in many cases the necessary information) to give comprehensive coverage of all the transition countries and the aim is rather to give an overview of the main patterns.[18]

▪ 4.1 *Enrolments*

Some of the clearest patterns concerning changes in enrolments can be seen at the pre-school level. Figure 5 shows how kindergarten enrolment rates changed over 1989-96 with (unweighted) averages for seven groups of countries ordered, roughly speaking, from west to east. (In this instance the data are virtually complete in geographical coverage, Bosnia-Herzegovina being the only country excluded.)

Figure 5: *Kindergarten enrolment rates, 1989 and 1996*



Source: UNICEF (1998, Annex Table 7.1). The figures are unweighted averages for the countries in each group. Slovenia is included in Central Europe (together with the Czech Republic, Hungary, Poland, and Slovakia); Russia is included in the Western CIS; there are no data for Bosnia-Herzegovina.

[18] Unless otherwise indicated, the source for the data in Sections 4 and 5 is UNICEF (1998).

The last section noted that kindergarten enrolment was far from complete in much of the region at the end of the socialist period and this is reflected in the data for 1989 in the diagram. Enrolment rates then dropped sharply in the first half of the 1990s in many countries, with falls of 15-17 percentage points in South-East Europe, the Western CIS, and Central Asia, and by 25 points in the Caucasus. On the other hand, the fall was only 3 percentage points in Central Europe and 9 in the Baltics, while the three countries of former Yugoslavia (Slovenia is included in Central Europe) show no change, albeit from the lowest pre-reform level.[19]

These trends reflect changes in both supply and demand. There have been some striking falls in supply. In the CIS as a whole, 32,000 pre-schools closed during 1991-95 and the total number of places fell by a fifth. In large part this was due to a withdrawal of former state enterprises from provision (the number of enterprise pre-schools fell by three-quarters in Russia for example) with many closures rather than transfers to municipal ownership taking place. However, enrolment often fell more than capacity, which may be taken as evidence of falling demand. For example, the capacity rate fell by about a quarter in Kazakhstan in 1989-95, compared to the drop in enrolment of nearly a half, and by about a half in Kyrgyzstan in 1990-94, compared to the reduction in enrolment of three-quarters.

Trends for primary and lower secondary schools (the two parts of compulsory schooling) suggest that most countries have maintained the previous achievement of virtually complete enrolment, although there does seem to be evidence of deterioration at the lower secondary level in a number of the poorer countries. Azerbaijan and Georgia saw falls in enrolment rates of 8 and 11 percentage points respectively over 1989-96 with figures over the same period suggesting falls of as much as 14 and 19 points in Kazakhstan and Kyrgyzstan, which would be a striking setback.

The picture at the upper secondary level is difficult to summarize and is complicated by the different types of schooling available. In a number of Central and Eastern European countries, and in the Baltics, enrolment rates in general secondary schools – the more academic stream – have risen. The most striking case is Romania, where this form of education was very under-developed in the socialist period, the gross enrolment rate rising from less than 5 per cent in 1989 to almost 20 per cent in 1996. Substantial increases have also taken place in Poland and Latvia. However, general secondary enrolment rates are more or less unchanged in Russia, Ukraine and Belarus and have deteriorated notably in countries in the Caucasus and Central Asia for which data are available.

[19] The change was not monotonic in a number of cases, rates recovering for example in Estonia and Latvia following initial sharp falls. And the picture varied considerably within a number of regions.

Enrolment in vocational and technical schooling, on the other hand, has declined in much of the region. As with pre-schools, this reflects a mix of demand and supply factors, ranging from enterprise-based schools closing down, to children opting for other types of schools or dropping out of the educational system altogether. In some cases, the declines in technical or vocational enrolment reflect a shift towards general secondary schools with their broader education more appropriate for a market economy. This is true in Hungary, Slovakia and Romania. In the first two of these, the changes in vocational and technical enrolment over the period exactly balance the rise in general secondary school enrolment, and the overall upper secondary enrolment rate is unchanged. (Overall enrolment appears to have fallen in Romania despite the large rise in general secondary schooling.)

But in other cases, enrolment rates in all forms of upper secondary school have fallen. This is the situation in the Caucasus and in Central Asia. For example, the total enrolment rate in Kazakhstan appears to have dropped from about 70 per cent in 1990 to 50 per cent in 1996 and in Azerbaijan from 60 per cent to 40 per cent. Moreover, these large falls come on top of those registered at lower levels of schooling.

Western CIS countries also appear to have experienced overall declines in post-compulsory education despite the little change shown by most of them in general secondary enrolment. Upper secondary enrolment rates have fallen sharply from 78 per cent to 68 per cent for Belarus, from 89 per cent to 68 per cent for Russia and from 76 per cent to 58 per cent for Ukraine.

It is important to note that all the figures mentioned so far in this section are calculations of enrolment rates made with data taken from administrative sources on school enrolments and on the number of children of a given age. There is an obvious potential for error with estimates that draw on different sources for the numerator and denominator. Population figures may not have tracked perfectly the significant out- and in-migration that has occurred in some countries in the region (although much of this does appear to be recorded). Use of household survey data, on the other hand, allows numerator and denominator of enrolment rates to be taken from the same source. This form of data also allows *attendance* at school to be distinguished from enrolment – children may be enrolled at the start of the school year but may then not attend.

Reliable household survey data are insufficiently common in many countries to permit trends over time in either enrolment or attendance to be estimated. But some information is available at particular points in time. Household surveys based on the World Bank's Living Standards Measurement Study (LSMS) methodology have been carried out in a number of the poorer former Soviet republics where administrative data indicate the most concern about enrolment. A survey of this type in Kyrgyzstan in 1996

appears to show 96 per cent of all children aged 6-17 to be attending schools (National Statistical Committee of the Kyrgyz Republic, 1997, Table 6.4a). This is far above the figure for enrolments based on administrative sources but it seems hardly credible when one considers that it includes children beyond the compulsory age. A similar survey in Azerbaijan in 1995 showed more than 90 per cent of all children aged 8-12 to be attending school, which may be compared to a figure of 87 per cent for enrolment of all 7-14 year-olds estimated from administrative data (UNICEF, 1998, Annex Table 7.2). Enrolment in 1997 among 9-14 year olds shown by the Russian Longitudinal Monitoring Survey, another LSMS type source, appeared to be virtually complete but the rate for 17-18 year olds was below 60 per cent, as in administrative data.

There is clearly need for more reconciliation of enrolment rates based on administrative data and household surveys. The administrative data may exaggerate the falls in enrolment on occasion although the picture they give in many countries does not seem out of line with much anecdotal evidence.

▪ 4.2 *Quality*

Enrolment and attendance are necessary for learning to take place at school but they are not sufficient. What changes have occurred in the quality of the schooling supplied? Clearly this question is impossible to answer adequately but some relevant trends on inputs to public sector education can be brought to bear.

Real expenditure on education is one factor. Not surprisingly, this has fallen in most countries. The exceptions by 1996 among those countries for which data are available were Romania, where spending as a per cent of GDP was low pre-reform, and Poland and Slovenia, the two countries where the recovery in output was the most advanced. In some cases, trends in real spending have been offset by declining numbers of children, so that *per pupil* expenditure has not been affected. This has occurred in parts of Central Europe, but elsewhere increasing cohort sizes have worsened the situation.

The first column of Table 2 shows the change in total (not per pupil) real expenditure in a number of countries. (The figures refer to all levels of education and not just schools.) The fall over 1989-96 was one-third in Russia and substantially exceeded this in each of the other five former Soviet republics. Expenditure fell three-quarters or more in Azerbaijan, Georgia and Kyrgyzstan, and also in Bulgaria.

Table 2: *Changes in public expenditure on education in real terms and as a per cent of GDP, 1989-96*

	Fall in real education expenditure (per cent)	Change in share of public expenditure on education as a per cent of GDP
Hungary	–22	–0.1
Slovakia	–31	–0.6
Russia	–33	+0.1
Latvia	–45	+0.7
Lithuania	–47	–0.2
Kyrgyzstan	–71	–2.1
Bulgaria	–75	–1.5
Azerbaijan	–77	–4.0
Georgia	–94	–4.9

Note: The first year is 1990 for both columns for Lithuania, Bulgaria and Georgia and for the expenditure share of GDP for Slovakia and Azerbaijan, and is 1991 for both columns for Russia. The second year is 1995 for Hungary. Deflation is by the CPI for the real expenditure figures.

Source: UNICEF (1998, Figure 2.11 and Annex Table 7.7).

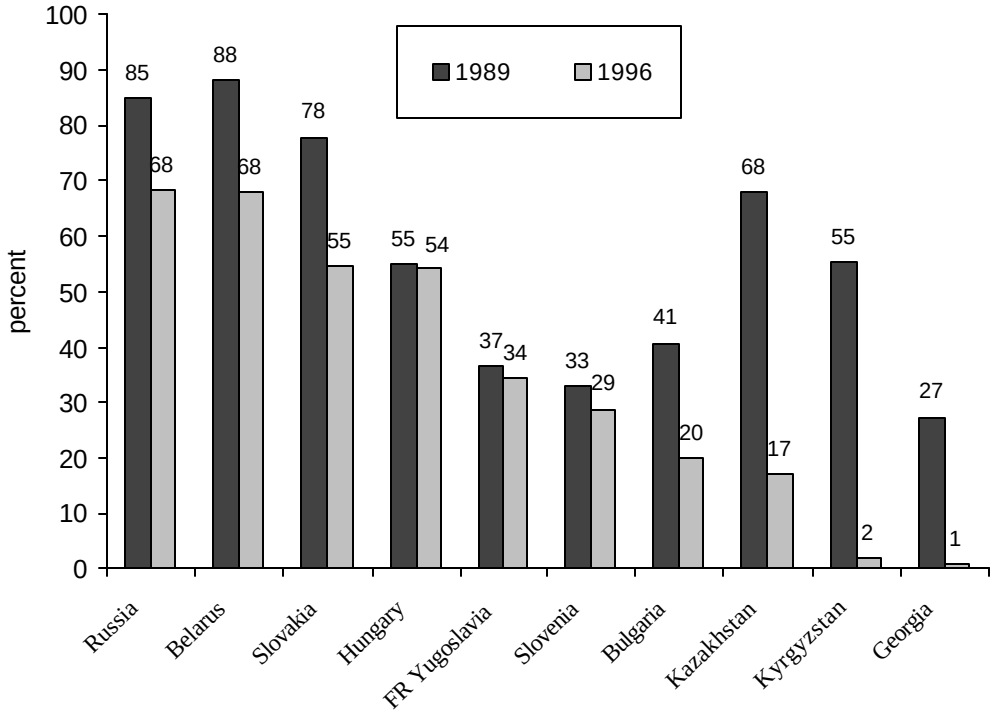
These declines in expenditure in part reflect the extent of the fall in each case in national income. But this is not the only factor. Table 2 shows that the share of GDP spent on public education fell in several cases. The withdrawal of the state from spending on public education in Georgia, the worst case, was enormous (as it was too in Azerbaijan) – the result of a collapse in tax revenues. The failure (or inability) of governments to collect adequate tax revenues has been a feature of transition in a number of countries, notably the former Soviet republics (Cheasty and Davis, 1996, EBRD, 1998), and Table 2 shows what the impact can be on basic social services.

A fall in real public spending on education of 50 per cent does not necessarily mean that the quality of schooling has halved, but some effects can surely be expected. Lower teacher wages and wages paid in arrears (a major problem in the education sector in Russia and Kazakhstan for example) may result in less teaching effort in the classroom and may lead teachers to spend time earning income elsewhere that would otherwise have been spent in preparation, marking etc. Repairs and maintenance have suffered disproportionately. Lack of funds for heating has led schools to close on occasion in winter in a number of countries, for example Armenia, Bulgaria, Georgia and Moldova, and elsewhere temperatures in the classroom may hardly have been conducive to learning. Textbook supply has been a serious

problem in many countries, a situation compounded by the need for new textbooks in some subjects given the demise of communism and the planned economy (and the creation in many cases of new nations keen to revitalise their history, language and culture).

Lower spending has meant less social support through schools in many countries. Figure 6 shows the proportion of children benefiting from meals at basic level schools (primary and lower secondary) in 1989 and 1996. There was substantial variation across the region at the end of the socialist period in the extent of provision (as in some other aspects of the educational system). Coverage was broadly maintained at 1989 levels in Hungary, Slovenia and FR Yugoslavia, while there was a collapse in Kazakhstan, Kyrgyzstan and Georgia, and notable falls in a number of other countries. A comparison of Hungary and Kyrgyzstan – countries with the same level of provision in 1989 – underlines some of the differences that are emerging in educational systems across the region during the transition.

Figure 6: Children in basic level schools receiving school meals, 1989 and 1996



Source: UNICEF (1998, Figure 2.15).

Finally, it is worth noting the very obvious point that in countries where substantial reductions in real public expenditure on education have occurred, the same underlying economic factors have been associated with much lower real incomes for households. This of course reduces the resources that parents have had available to deploy on the behalf of their children's education –

including for spending on those aspects related to children's "preparedness" for school in terms of health, nutrition, and mental development.

5. Disparities in Access and Achievement in the Transition

What has been the distributional incidence of the changes in the 1990s? At times, the picture is clouded by the positive aspects of greater variation in educational provision – more choice and less homogeneity in supply, as in other aspects of society following the planned period. But the evidence from many countries points to the emergence of more unequal educational systems in a negative sense. This is the conclusion, for example, of the OECD's review of educational policy in the largest country in transition, Russia. Having listed a range of concerns about preferential access to better educational opportunities, the report argues:

> "Under the banner of "increased choice", all these concerns point paradoxically to diminished educational opportunities for many children, especially those who are rural, less affluent, or less well-connected – regardless of their individual merit… As Russian society becomes increasingly stratified in terms of wealth, Russian education is increasingly stratified in terms of opportunity." (OECD, 1998, pp.79 and 82).

The problems in Russia listed by the OECD review team related to a variety of issues, several of which are frequently mentioned in reports from different organizations on other transition countries. These are covered in the sub-sections that follow on the relationship during transition of access and achievement with household income and locality

Re-inforcing the concerns in Russia was what the OECD team described as an "elitist ethic" that has gained legitimacy in educational circles, threatening educational opportunities for those from disadvantaged backgrounds. One manifestation has been the emergence of greater selectivity in the general secondary school system, including separate schools for high ability children, and agreements between better schools and institutes of higher education that reduce open competition for admission to the latter. This greater emphasis on selectivity and competition, to the possible detriment of the less able, is found in other countries too.

The evidence that documents the increase in educational disparities in the different transition countries is of various sorts. Time-series of representative surveys showing enrolment or attendance by different household characteristics are in short supply, and even less evidence of this type exists on learning achievement. Some evidence is in the form of observations on the ground, as in the OECD review of Russia. In several countries, World Bank "social assessments" of the educational sector provide a valuable source,

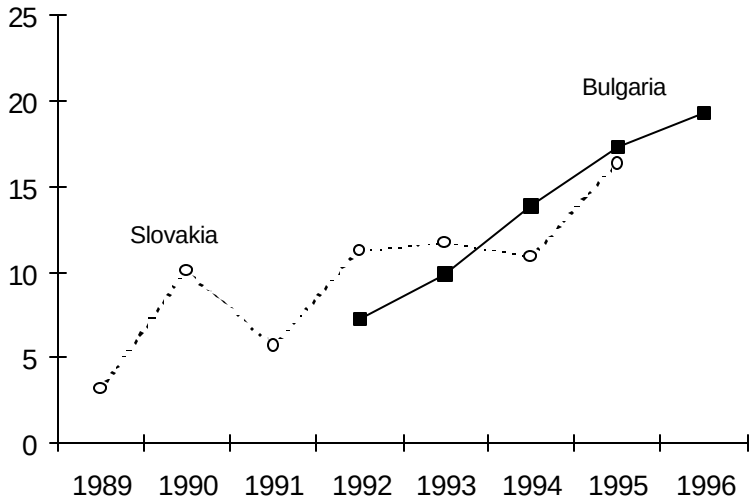
often containing revealing information from community surveys and focus group discussions about the mechanisms through which increased disparities have emerged. (The discussion below draws on social assessments made in Azerbaijan and Armenia.) The rest of this section makes no attempt to cover the region comprehensively, focusing rather on illustrating the main themes that the evidence shows with selected examples.

The concrete evidence can also be supported by deduction from changes in what are known to be important determinants of educational achievement. The most obvious example is household income, dealt with below. As noted in the Introduction, a substantial widening in the distribution of household incomes has been a common feature of transition in much of the region, with changes appearing to have been especially large in several former Soviet republics.

▪ 5.1 *Income and the direct costs of education*

While public sector expenditure on education in most countries has fallen in real terms, the share of all expenditures, public and private, represented by private expenditures has almost certainly grown everywhere. In some countries, private expenditures have become very important indeed. In Azerbaijan, for example, private expenditures were estimated in 1995 to represent about a third of the total (World Bank, 1997, p.41). (The collapse in public expenditures was noted in the previous section.) These private expenditures differed sharply between households with different living standards: the top two quintiles of households when ranked on food consumption spent 4.5 times more per child than households in the bottom quintile. Figure 7 shows how the differences in private spending between households at the top and bottom of the income distribution changed over time in Bulgaria and Slovakia in the first half of the 1990s. In Slovakia, households forming the top decile of the individual distribution of income per capita spent three times as much on education per child as did those at the bottom in 1989, but 16 times as much in 1995. The ratio in Bulgaria rose from seven in 1992 to nearly 20 in 1996.

Figure 7: *Ratio of household education expenditures per child in top and bottom deciles of per capita income*



Source: UNICEF (1998, Figure 4.5).

What are the direct costs of education to households and how have they changed? The list includes:

- formal fees
- informal tuition charges
- bribes and "entrance fees"
- textbooks and other school materials
- allowances to children studying away from home
- clothing and shoes
- inputs to "preparedness" in terms of food and health care.

Not all expenditures to cover these different items necessarily enter budget survey data of the type used in Figure 7 and some expenditures may be in kind rather than cash, which again would probably lead to their exclusion from survey data.

All these costs serve to differentiate access and learning achievement by household income. *Formal fees* have become a more prominent feature of the region's educational systems. The most obvious cause is the emergence of private education but fees at the tertiary level in the public system have become common and the fees that were always charged for public sector kindergartens have often increased in real terms. In some countries formal fees are now charged for upper secondary education in the public sector. The

secondary school fee in Georgia for grades 10 and 11 introduced in 1996 is waived for 30 per cent of children, but this is on the basis of assessed ability rather than financial need – as would be required to encourage access among families with low incomes (UNICEF, 1998, p.84). In Russia, universities have given precedence to fee-paying students who have taken places from the normal allocation of free slots (OECD, 1998, p78).

Tuition charges are informal fees that teachers in poorer countries in particular charge for additional tuition, often to their own pupils in public sector schools – a result of the fall in their real wages referred to earlier. (The OECD review of Russia describes this practice as "increasingly accepted as a school policy" (1998, p.79).) Another result of lower wages may be the *bribes* for better exam grades, which are reported as a common feature of school and university life in some countries. The lack of externally validated exam systems in much of the region contributes to this situation. Informal *entrance fees* may have to be paid in the same countries to get a child into a public sector kindergarten, school or university. Parents in Armenia report the payments required to secure a place for a child in an academic secondary school and the amount per child requested by teachers for improved exam grades (Gomart, 1996).[20]

Various countries have abandoned the policy of supplying *textbooks* free of charge, especially outside of the compulsory age for schooling. In Azerbaijan, for example, textbooks must be purchased from grade 5 onwards (World Bank, 1997, p.42). The cost of textbooks and other school materials appears to be a serious barrier to learning and even enrolment among children from poorer households in many countries, with textbook prices far higher relative to household incomes than in the West.

Households have to meet a variety of other costs to cover complementary aspects of schooling or tertiary education. These include *allowances to children studying away from home*, of particular concern to low income rural households in the face of the virtual elimination in some countries of state student stipends.[21] The real prices of children's *clothing and shoes* have often increased significantly with price liberalisation. The standard of clothing required to attend school and that sufficient for home may differ sharply due to societal norms. This is the case in Armenia where parents report spending on clothing as the single biggest item of expenditure on education (Gomart, 1996). Parents in Azerbaijan report not sending their children to school in preference to their going poorly dressed, with inadequate clothing for school

[20] Stewart (1998) reports interviewing a mother in Novgorod, Russia, who had tried to find a place in a municipal kindergarten. At each kindergarten the mother visited she was asked openly what she could contribute and when her family's limited economic circumstances were revealed, she was told that the kindergarten was full.

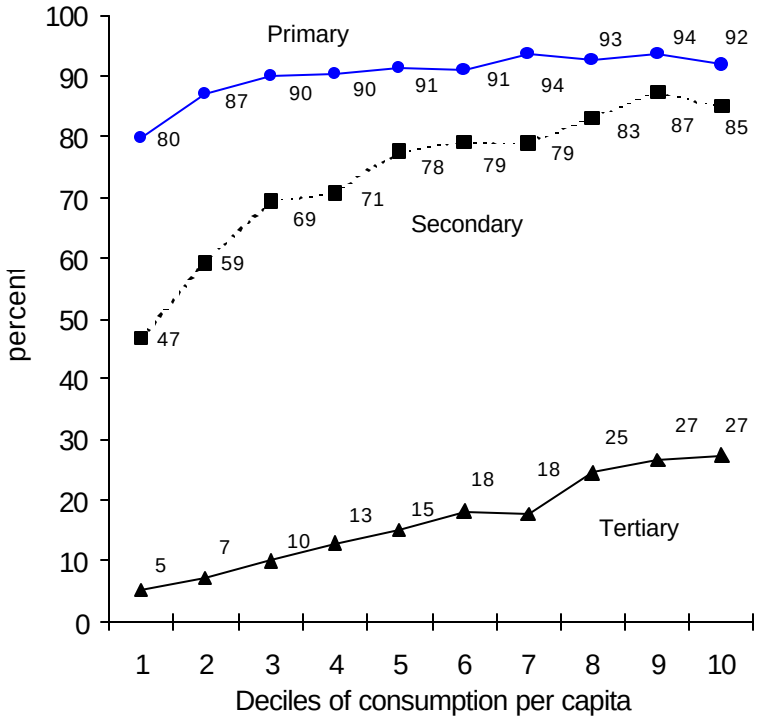
[21] In the late Soviet period, the average student stipend paid by the state was 100 roubles per month, above the unofficial per capita poverty line of 75 roubles. In 1995 the monthly student stipend in Azerbaijan was apparently sufficient to buy one kilo of poor quality meat (World Bank, 1997a, p.46).

considered a serious educational issue in about half the population points in the survey (World Bank, 1997a, p.45). But cultural norms are not the only factor at work – a pair of shoes is a necessary condition to even get to school in winter.

Lastly, liberalization of *food prices*, and, in many cases, reduced public provision of *health care*, can be expected to combine with widening income differences to result in a larger gap between children from lower and higher income households in terms of cognitive development and mental alertness – aspects of the "preparedness" for schooling that determine the benefit obtained. The large reductions in some countries in free school meal provision noted in the last section may have contributed to this gap.

Quantifying the impact of all these costs on differences in access and learning would be a very hard task. As far as enrolment is concerned (which it must be emphasized is only one part of the picture) the possible effects are illustrated in Figure 8 using household survey data for 1994 from Romania. This country is picked merely because the data showing enrolment at different levels of education are available. It is not intended to be in any sense representative of the transition experience of other countries. (In terms of the fall in output from 1989 to the trough, that in Romania was the sixth smallest among the 26 countries for which a series is available.)

Figure 8: *Enrolment rates by per capita consumption, Romania 1994*



Source: World Bank (1997b, Table 65).

Enrolments in tertiary education rise steadily across the distribution of per capita consumption (arguably a better measure of household welfare than income), and the rates in the top quintile are 4-5 times higher than those in the bottom quintile. There is a strong association with consumption at the secondary level as well, with children in the lower parts of the distribution exhibiting markedly lower enrolment rates. The relationship is also present at the primary level. One in five children of primary school age in the lowest decile were not enrolled – a worrying figure for what is, after all, compulsory schooling. (Some commentators attribute part of the link between income and enrolment in Romania to the existence of child labour, especially among ethnic minorities.)[22]

There is considerable evidence from countries of the former Soviet Union for different years in the 1990s on how access varies with income level. For example, data from Russia for 1996 show small differences across the income distribution in enrolment and attendance of 5-16 year olds. But the proportion of 3-4 year olds in kindergartens from households in the bottom quintile of equivalized income was half that of children in other households and the proportion of 17-19 year olds in school was more than a third below that of other children of the same age (UNICEF, 1998, Figure 3.11). Evidence from Latvia, also for 1996, shows a very similar pattern for 16-18 year olds to that for secondary enrolments in Romania given in Figure 8 (ibid., Figure 3.12).

▪ 5.2 *Differences by locality and the effect of decentralization*

There are several reasons for expecting access and learning achievement to differ by locality. Lower levels and standards of provision, lower household incomes, higher travel costs, and fewer job opportunities for the educated all combine to reduce enrolment and attainment in rural areas.

These features were there in the planned period – for example Section 3 showed the differences between urban and rural kindergarten enrolments in the former Soviet Union. But several have increased in importance during the transition and a lot of evidence of different types showing widening disparities by locality can be found. For example, the rural-urban gap in kindergarten enrolment rates in Belarus, increased from 23 to 35 percentage points over 1990-96. A survey in Georgia in 1996 showed 43 per cent of primary and secondary school directors reporting that textbooks were available for all children, compared to 27 per cent of directors in rural areas (pre-transition the figure would presumably have been near 100 per cent throughout the country).

[22] The patterns in the graph presumably reflect all other influences on the demand for education other than direct costs and of course may not show the direct impact of income, although controlling for place of residence and parental education did not remove the apparent income effect.

Striking evidence comes from Hungary on how learning achievement changed in different localities in the first half of the 1990s. Table 3 shows average scores in maths and reading in tests of eighth grade children conducted in a sample of schools in 1991 and 1995. There is a notable gap in achievement across localities, especially between villages and the rest of the country, and the gap increased over the period.

Table 3: *Differences in average scores in reading and maths from the national figure by locality, eighth grade children in Hungary 1991 and 1995*

	Per cent difference in average scores from the national average			
	Reading		Maths	
	1991	1995	1991	1995
Budapest	+6	+8	+4	+7
County capitals	+3	+5	+2	+5
Other towns	+2	+1	+1	0
Villages	–6	–6	–5	–6

Source: NIPERC (1996, Table 6).

A feature of the transition in some parts of the region that has undoubtedly increased geographical disparities within countries has been the dislocation caused by war, ethnic strife and civil unrest. Parts of Azerbaijan, Armenia, Georgia, Tajikistan, Albania and several of the countries of former Yugoslavia have been badly affected, with facilities destroyed and families displaced from their homes. For example, fighting with Armenia caused about a fifth of schools in Azerbaijan to be abandoned (World Bank, 1997, p.38). A survey of internally displaced children of school age in Georgia in 1994 found a quarter to never or only irregularly attend school. The fighting that began in 1998 in the Kosovo region of FR Yugoslavia followed almost a decade of boycott of the public education system by ethnic Albanian families after the withdrawal of autonomy for the province at the end of the 1980s.[23]

War, ethnic strife and civil unrest are, one hopes, a largely temporary influence on geographical disparities in educational outcomes, and have been caused in general by the break-up of countries that existed in the socialist period.[24] A feature of societal change during transition with a more long-

[23] A parallel private system was developed by the ethnic Albanians in Kosovo during the 1990s but not even the most elementary data exist on its success. Kosovo is by far the poorest region of FR Yugoslavia (see e.g. UNICEF, 1998, p.17).

[24] This is not to say that the issue of educational opportunities for ethnic minorities will completely recede when the violence stops or that violence or unrest is required to make it an issue. Some aspects of the problem are discussed in UNICEF (1998, chapter 3).

lasting potential influence on these disparities is the decentralization of governance and financing of educational provision.

Decentralization of government activity is a natural reaction to the centralisation of the planned economy and to the desire for greater democratic accountability in provision of basic social services. Central government has clung tightly to its powers in what is perhaps a surprisingly large number of transition countries but in many decentralization of various aspects of education has taken place. The intention of course is that the various benefits of decentralization will raise standards of provision – everywhere. The various merits and de-merits of decentralization of educational provision have been the subject of much debate in the West.[25] As noted earlier in Section 2 they include the risk of "excessive capture" by local majorities to the detriment of minorities, of relevance to the phenomenon of ethnic strife just considered.

Financing issues also arise. One key aspect of decentralization is the need to resolve the problem of differences in local governments' resource bases with an adequate system of transfers from the centre. The extent of these differences depend in part on the size of local government unit that is given the responsibility for provision. Even a small country can have large differences if the size of unit is small.

Hungary has a population of only about 10 million people and the transition has seen responsibility for provision and financing of schools transferred to municipalities. There are more than 3,000 of these, three-quarters covering areas of less than 2,000 inhabitants (Bird et al., 1996). Indeed, irrespective of financing issues, decentralization to local government units of this size calls into question whether the potential benefits will be everywhere realized. Only 50 per cent of Hungarian muncipalities with more than 6,000 inhabitants have specialized staff to administer the educational system and the majority have none (NIPERC, 1996). The Hungarian municipalities derive the majority of their income from block grants from central government but about a quarter comes from their own revenues, which vary widely. The authors of the study of differences in learning achievement in Hungary drawn on in Table 3 ascribed at least part of the rising differences by locality to the impact of decentralization.

Substantial decentralization of educational provision has occurred in Russia, with sub-national levels of government responsible for about 85 per cent of spending in 1995.[26] (In Latvia and Belarus, to take two other former Soviet republics as contrasts, the figure was 40 per cent or less.) The resource

[25] Decentralization of education in the transition countries, including the extent and forms in which this has occurred, is discussed at length in UNICEF (1998), drawing in particular on Barrow (1997), Klugman (1997a, 1997b), and Stewart (1998, 1998a).

[26] Notionally, sub-national government had always been responsible for the bulk of educational provision in Russia but this meant nothing in the planned period.

base varies substantially between the 89 Russian regions and the system of inter-governmental transfers from the centre is fairly weak (Stewart, 1997). The decile ratio of the distribution across regions of the per capita sum of their revenues and transfers was 2.6 in 1995, indicating substantial variation in their incomes; the ratio for the distribution of per pupil expenditures on compulsory education was around 2.0 (Stewart, 1998, Tables 1.3 and 2.2). Stewart shows the latter ratio to be at a very similar level to that for expenditure on all public schooling among the states of the USA.[27]

There is a long-standing debate on the implications of the variation in spending on education across localities in the USA, with one side arguing that the differences have little or no association with educational quality or outcomes and the other denying this to be the case (see, for example, Burtless, 1996). A neutral observer might conclude that additional money is unlikely to be sufficient for raising school performance and pupil achievement in the USA, but it is an important complement to the improvement of school management and teaching methods. Money is presumably even more important where real expenditure has suffered large falls, as has been the case in most of the transition countries.

Part of the relationship between financial inputs and learning outcomes may need to be taken on faith. It is difficult to believe that injections of money will have no effect on learning in a school with a leaking roof, broken windows, insufficient heating, and few textbooks and where teachers are obliged to take second jobs to supplement meagre salaries that are paid in arrears. This situation, or parts of it, is closer to being the typical one in much of the region than is the situation in schools in the US.

The evidence reviewed in this section has been far from comprehensive, but the flavour it conveys is not misleading as to the taste of the main meal. Disparities in educational opportunities are not the same in every country. In some, the disparities are probably even larger than those outlined in the OECD review team's picture of the situation in Russia given at the start of the section. The situation in others is much better, in part because the economy is in much better shape, in part because differences in household incomes are not so great, and in part due to the entry of other factors. But it is unlikely that any country has cause for complacency. This is illustrated by the findings on learning achievement for Hungary, a country well-advanced in the transition process and in the front rank for admission to the European Union.

[27] In both Russia and the USA, most public spending on education is undertaken by a level of government below the region or state. Stewart (1998, 1998a) considers within-region differences in Russia and the system of transfers from the regions to the municpalities, which have the bulk of the responsibility for the provision of schools.

6. Conclusions

Substantial within-country disparities exist in the transition countries in both access to education and in the learning that is achieved. Some of these disparities were also present in the socialist period. For example, there was a notable association of family background with enrolment beyond the level of compulsory schooling, as in other industrialized countries. But evidence of various types also points to rising differences during the transition.

Against a backdrop of falling enrolments at some levels of education in some countries (pre-school being the most obvious and widespread case but not the only one) and lower public expenditures, greater differences appear to be associated in many countries with household income and geographic location. Not only is this worrying in itself, but the mechanisms by which some of these effects are emerging are a cause for serious concern.

Although evidence of different types was referred to in the paper, there is a need for considerably more quantification on a range of issues. The determinants of enrolment and attendance need to be further investigated with the increasing number of high quality household surveys in the region. (Such work needs to isolate, for example, the impact of income controlling for its correlates.) Disparities in access to opportunities among adults for the acquisition of new knowledge and skills need more attention. And more studies are needed of the impact of poverty and withdrawal of social services on the "preparedness" of children for school, and of what can be done about it.

As far as learning achievement is concerned it is encouraging that the 1994-5 TIMSS was repeated in Spring 1999 in a number of transition countries. Likewise, the 1994 IALS that collected information on functional literacy in Poland is being repeated in several other countries from the region. These new sources will provide valuable information on variance in educational outcomes that can be compared both with the earlier data and with results for other industrialized countries. (The dispersion in maths and science scores recorded by eighth grade children in the 1994-5 round of TIMSS appears to have been at least as great as that in Western European countries, and in some cases greater.) However, it is worth noting that no country is being included in either of the two new surveys from the Caucasus or Central Asia, areas where educational provision and access during the 1990s appear to have suffered particularly severely.

Issues of disparity in educational opportunities are usually prominent in policy debate in countries in all parts of the world. In some of the transition countries there seems a pressing need to raise their prominence. If such issues are not adequately addressed there is a risk of hysteresis in the distribution of income, with much wider income differences becoming entrenched, although

the paper stressed that the impact of education on incomes is only one of the reasons for concern with differences in access and achievement. The range of policy required to reduce disparities is wide. As far as policy on schools is concerned, it includes adequate teacher pay, reconsideration of streaming and selection, exam systems that allow learning and ability to be demonstrated, support for the costs faced by low income households, encouragement of the early development of all children, and sufficient central control over administration and curricula together with adequate transfers to local governments with weak resource bases.

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