

THE CHALLENGE OF INTERNATIONAL EDUCATIONAL GAPS IN THE CONTEXT OF GLOBALIZATIONS

JUAN J. LLACH

The critical importance of human capital to accelerate economic growth and to build more equitable societies has been increasingly recognized in economic and social literature.¹ Much less attention has been paid, however, to a question on whose answer crucially depend the probabilities of realizing the promises about the economic and social role of education.² Are educational levels of developed and developing countries converging or diverging? This omission is still more surprising when compared to the copious literature devoted to the economic convergence or divergence among countries.³

This paper is only a preliminary contribution to the analysis of international educational convergence. The basic approach is to compare what happened in the two more intense contemporary globalization waves, those of 1870-1930 and 1970-2003. The comparison is shown in the first two sections of the paper. The third one is devoted to suggest some hypotheses to explain the remarkable contrasts between the two waves, as well as some educational policy implications for developing countries.

1. THE FIRST CONTEMPORARY GLOBALIZATION WAVE: 1870-1930

The analysis of educational convergence trends between 1870 and 1930 meets important data limitations. The only indicators at hand are those of

¹ Some recent revisions or discussions are Parente and Prescott (2000), Krueger and Lindahl (2001), Barro and Sala i Martin (2003), Pritchett (2004) and Manuelli and Seshadri (2005).

² The most salient exception is Zhang and Li (2002). See also Bloom (2004).

³ A synthesis of the literature an empirics of economic convergence can be found in Llach (2002 and 2003).

proportional primary and secondary enrollment, and the sample is limited to 29 and 24 countries, respectively. Of them, 21 in the case of primary education and 19 in secondary education are European or of its Western Offshoots in North America and Oceania (WO: Australia, Canada, New Zealand and United States). In spite of these limitations, it is possible to obtain some interesting conclusions. Tables 1 and 2 show a synthesis of the results and the complete details can be seen in Tables A1 and A2 of the Appendix.

Primary Education

A clear international convergence took place in primary education in this period, not only of all regions compared to the Western Offshoots, but also of Africa, Latin America and Asia compared to Europe. A bit surprisingly, the only exceptions to the convergence to the WO average were France, Germany and Switzerland. Additionally, growth of enrollment in New Zealand and the United States was slower than in Australia and Canada. A drop of both, the standard deviation (s convergence) and the variation coefficient was observed.

TABLE 1. Educational Convergence, 1870-1930 (1). Students Enrolled in Primary Schools, per 1000 Children Ages 5-14. Regions' Values Compared to Western Offshoots'.

	1870-1880	1930	Δ 1870-80/1930
Africa	(801) / .01	(757) / .19	(44) / (.18)
Northern Latin America	(635) / .21	(600) / .36	(35) / (.15)
Southern Latin America	(681) / .16	(350) / .63	(331) / (.47)
Asia	(696) / .14	(574) / .39	(122) / (.25)
Northern Europe	(135) / .83	(195) / .79	60 / .04
Scandinavia	(377) / .53	(247) / .74	(130) / (.21)
Central-East Europe	(424) / .48	(294) / .69	(130) / (.21)
Southern Europe	(540) / .33	(378) / .60	(162) / (.27)
Statistics	x :421.4 s: 279.9 vc:.664	x: 626.0 s: 226.4 vc: .362	

Notes and sources. The table's cells show, first, the absolute difference between the regional values and those of the Western Offshoots and, after the symbol "/" the same difference in quotients. Bold fonts indicate convergence. The statistics are the mean (x), the standard deviation (s) and the variation coefficient (vc). Elaborated on Table A1 and Lindert (2004).

Secondary Education

The picture is very different when secondary education is concerned. Here, all the regions diverged from WO,⁴ being Southern Latin America the most successful case and Brazil and Chile the only two countries that converged. If the comparison is made with Northern Europe, the picture differs. As much as 16 out of 24 countries converged to the NE average, including Argentina, Chile, Denmark, Finland, Sweden, Austria, Hungary, Italy, Portugal, all the Western Offshoots, Brazil and Mexico (these two from almost nil levels).

While a typical catch-up process took place regarding primary education, with the laggard countries clearly approaching the level of the more advanced ones, the contrary happened with secondary education.⁵ In both

TABLE 2. Educational Convergence, 1870-1930 (2). Students Enrolled in Secondary Schools, per 1000 Children Ages 5-14. Regions' Values Compared to Western Offshoots'.

	1870-1880	1930	Δ 1870-80/1930
Northern Latin America	(8) / .20	(86) / .08	78 / (.12)
Southern Latin America	(6) / .40	(57) / .39	51 / (.01)
Northern Europe	16 / 2.6	(30) / .68	46 / (1.92)
Scandinavia	11 / 2.1	(33) / .65	44 / (1.45)
Central-East Europe	1 / 1.1	(52) / .44	53 / (.66)
Southern Europe	(5) / .50	(21) / .17	16 / (.33)
Statistics	x: 13.8 s: 15.2 vc: 1.105	x: 50.4 s: 43.9 vc: .871	

Notes and sources. The table's cells show, first, the absolute difference between the regional values and those of the Western Offshoots and, after the symbol '/' the same difference in quotients. The statistics are the mean (x), the standard deviation (s) and the variation coefficient (vc). Elaborated on Table A2 and Lindert (2004).

⁴ It is worth mentioning that the performance of the members of the group of Western Offshoots was very different, with New Zealand and USA growing very rapidly and reaching the highest secondary enrollment ratios in 1930, and Australia and Canada growing slower and remaining below European rates in the same year.

⁵ The Spearman coefficient (ρ) between the initial level of enrollment and its growth is $-.625$ for primary education (positive catch-up) and $.422$ for secondary education (divergence).

educational levels, the association between the growth of enrollment and that of GDP was very weak,⁶ showing the complexity of the relationships between both processes. If we take into account that GDP convergence was also very weak between 1870 and 1930 (Llach, 2002 and 2003), the lack of convergence in secondary education, whose skills are more demanding, should not be surprising.

2. THE ONGOING GLOBALIZATION WAVE: 1970-2003

This section divided into two parts. The first one deals with international convergence in expected educational flows, as measured by school expectancy. The second one studies convergence in educational or human capital stocks, as measured by educational attainment of people older than 14 and 24.

2.1. *Educational Flows Divergence*

Data to analyze educational convergence in this period is (logically) more relevant and abundant. First, a better indicator is at hand, i.e., the school expectancy at 6 years old, including the primary, secondary and tertiary levels. Of course, this indicator depends on current enrollment rates and assumes they will be constant all along the life span of the cohort under consideration, normally that aged 5 or 6 years. Secondly, the sample is larger, comprising 38 countries of which 21 are both developing and not European. Table 3 shows a synthesis of the results, while full details can be seen in Tables A3 and A4 of the Appendix.

Contrary to what happened in the first contemporary globalization wave, the second one has witnessed signals of divergence. At the regional level, only the Middle East and Southern Europe have been converging to the level of Northern Europe. At the country level, Argentina, Brazil, Egypt, Hungary, Libya and Saudi Arabia are the only developing countries – 6 out of 21 – that have been converging to the developed countries school expectancy, and all of them but Egypt also converged to Northern Europe. Considering the developed countries, Australia, New Zealand, Ireland, Korea, Netherlands, Norway, Portugal, Spain and the United Kingdom have been converging to the average of developed countries, and all of them

⁶ The Spearman coefficients are .197 for primary and .155 for secondary education.

but Netherlands, also to Northern Europe. All these facts have been accompanied by an increase in s divergence. These results coincide with those obtained by Zhang and Li (2002) for the period 1960-1990, in which they found an increase in the educational attainment gap between developing and developed countries, in spite of a decrease in dispersion.

Unlike what happened with primary education between 1870 and 1930, there has not been a catch-up process in this case. The association between increase in school expectancy and GDP growth has also been very weak.⁷

TABLE 3. Educational Convergence, 1970-2003. School Expectancy, Primary to Tertiary Education. Regions' Values Compared to Northern Europe and to / the Average of Developed Countries.

	1970	2002-3	Δ 1970/2002-3
<i>Developing countries</i>			
Sub-Saharan Africa	(7.4) / (7.3)	(10.1) / (9.2)	2.7 / 1.9
Northern Latin America	(3.6) / (3.5)	(5.4) / (4.5)	1.8 / 1.0
Southern Latin America	(1.2) / (1.1)	(2.2) / (1.3)	1.0 / 0.2
Middle East	(4.7) / (4.6)	(4.5) / (3.6)	(0.2) / (1.0)
Asia	(5.7) / (5.6)	(8.7) / (7.8)	3.0 / 2.2
<i>Developed countries</i>			
Asia	(1.2) / (1.1)	(2.6) / (1.7)	1.4 / 0.6
New Countries	2.3 / 2.4	0.5 / 1.4	1.8 / 1.0
Southern Europe	(1.7) / (1.6)	(1.0) / (0.1)	(0.7) / (1.5)
Eastern Europe	(1.3) / (1.2)	(3.1) / (2.2)	1.8 / 1.0
Northern Europe	--- / 0.1	--- / (0.1)	--- / 0.2
Statistics	x:9.03 s:3.17 vc:.351	x:13.52 s:3.87 vc:.286	

Notes and sources. The table's cells show, first, the absolute difference between the regional values and those of Northern Europe and, after the symbol '/' the same difference but compared to the average of developed countries. Bold fonts indicate convergence. The statistics are the mean (x), the standard deviation (s) and the variation coefficient (vc). Elaborated on Tables A3 y A4 and UNESCO (2005a).

⁷ The ρ between school expectancy initial level and its growth is almost nil $-.002$ -, showing no catch-up and the ρ correlation between school expectancy and GDP growth rates is only $.148$.

Moreover, when the lists of educational-converging and GDP-converging countries are compared to each other the results are not clear. There are only 11 countries with complete data, of which 5 converged in both dimensions, other 4 converged in education but not in GDP and 2 converged in GDP but not in education.⁸ Additionally, in the group of 12 GDP-converging countries without enough educational data, the average school expectancy was only 11.9 years in 2003. Since in Northern Europe that variable increased by 6 years between 1970 and 2003 it is very probable that at least some of those GDP-converging countries did not converge in education because, otherwise, they should have had non-realistic low school expectancies in 1970.

2.2. *Educational Stocks Convergence*

The analysis of this section is based on Barro and Lee (2000). They estimated the stock of human capital of a vast sample of countries and regions, as measured by levels of educational attainment in terms of average years of education (Table 4). Contrary to the case of school expectancy, this indicator does not depend on current but on past enrollment rates. As it can be seen, most of the regions' stocks of human capital were converging to that of developed countries, being Sub-Saharan Africa the main exception. Transition countries also diverged, but their stock of human capital was basically the same as that of developed countries. A similar trend of convergence in average years of schooling has been found by Araujo, Ferreira, and Schady (2004).⁹

There is no contradiction in the opposite trends of both indicators. Two are the main factors that explain the convergence in human capital stocks. First, the magnitude of the increase in primary and, to a lesser extent, secondary enrollment rates in developing countries and, second, a purely demographic factor, i.e., the gradual death of older cohorts with very low levels of literacy, if any. Those enrollment jumps in developing countries have not had a convergence impact on school expectancies because they have

⁸ Egypt, Hungary, Ireland, Korea and Portugal converged in both dimensions. Argentina, Brazil, Libya and Saudi Arabia converged in education, but not in GDP, and the contrary happened to Hong Kong and India. School expectancy increased 6.26 years in the first group (from 9.9 to 15.16), 6.88 years in the second (7.4 to 14.28) and only 3.75 in the third one (7.95 to 11.7).

⁹ See World Bank (2005).

been overcome by even bigger jumps in secondary and tertiary enrollments in developed countries. For instance, between 1970 and 1997, gross secondary enrollment jumped from 75.7% to 100.1% in developed countries and from 22.7% to 51.7% in developing countries, while gross tertiary enrollment jumped, respectively, from 26.1% to 51.6% and from 2.9% to 10.3%.

TABLE 4. Regions' Educational Convergence to the Developed Countries. Level as Measured by Educational Attainment, 1960-2000.

	1960-2000		1970-2000		1980-2000		1990-2000	
	15 +	25 +	15 +	25 +	15 +	25 +	15 +	25 +
All Developing	+	+	+	+	+	+	+	+
M. East, N. Africa	+	+	+	+	+	+	+	+
S-Saharan Africa	-	-	-	-	+	+	-	+
Latin Am. and C.	+	-	+	-	+	+	+	+
East Asia, Pacif.	+	+	+	+	+	+	+	+
South Asia	+	+	+	+	+	+	+	+
Transition couns.	-	=	-	-	-	+	-	-

Notes and sources. The table's cells show convergence (+) or divergence (-) of the average number of years of education of the population aged 15 or 25 and more, comparing the values of the different regions to those of the developed countries. Elaborated on Barro and Lee (2000).

2.3. Latest Trends

More optimistic signals arise if, instead of considering the period 1970-2002/3, the time span is limited to the last decade (Table 5). While between 1990 and 2001 Latin America and the Caribbean were the only developing region whose school expectancy grew faster than North America and Western Europe, since 1998 all developing regions converged to the developed ones. Of course, the period is still too short to consider that a new trend of educational convergence is emerging. The continuity of the convergence in school expectancies is critical. Otherwise, as the demographic 'advantage' of developing countries will tend to vanish, convergence in human capital stocks will also be compromised. This will not happen only if developing countries get a very rapid growth of enrollment rates.

TABLE 5. Recent Trends in School Expectancy at 6 Years.

	School life expectancy, in years						
	2001			Change since 1990			Change since 1998
	Primary/ secondary	Post- secondary	All levels	Primary/ secondary	Post- secondary	All levels	All levels
Sub-Saharan Africa	6.8	0.2	7.1	+0.9	+0.1	+1.0	+0.3
Arab States	9.0	1.0	10.0	+1.0	+0.4	+1.4	+0.2
Central Asia	10.1	1.3	11.4	+0.0	-0.1	-0.2	+0.3
East Asia/Pacific	10.0	1.0	10.9	+0.7	+0.6	+1.3	+0.4
South/West Asia	8.0	0.6	8.6	+0.5	+0.5	+1.0	+0.2
Latin America/Caribbean	11.6	1.4	13.0	+2.1	+0.5	+2.6	+0.9
N. America/W. Europe	12.8	3.5	16.3	+0.7	+0.8	+1.5	+0.1
Central/Eastern Europe	10.2	2.5	12.7	+0.5	+0.8	+1.3	+0.9
World	9.2	1.1	10.3	+0.6	+0.4	+1.0	+0.3

Source: UNESCO (2005b).

GENDER, SOCIAL AND RURAL-URBAN GAPS

Gender Gaps

Another, very relevant educational outcome of the ongoing wave of globalization has been the change in gender gaps. With the sole exception of Sub-Saharan Africa, in all the other regions women's school expectancies have grown so faster (Table 6) that they surpass now those of men. In only 2 of the 14 developing countries with data (Burkina Faso and Lesotho) the school expectancies of men have grown faster, and in 10 out of 17 women's school expectancies are now higher than those of men. In the case of developed countries, only 2 out of 12 have had faster growth of men's school expectancies (Japan and Korea) and 12 out of 15 have now women with school expectancies higher than those of men (Hong Kong, Japan and Korea are the exceptions). It seems evident that the issue of gender gaps has now two very different faces, with women exceeding men in most of Africa and Asia and with men exceeding women in most of America and almost all Europe and Oceania.

Rural-Urban and Other Social Gaps

In spite of recent progresses in some countries, rural-urban educational gaps are still very wide (Figure 1). At the same time, in many regions of Asia, Africa and Latin America, these gaps tend to compound with gender gaps, resulting in situations like Pakistan's (Figure 2), with primary school completion rates of 64% for urban males and 17% for rural women. According to the World Bank (2005) these two gaps, gender and rural-urban, are lower for the younger generations what is a signal of convergence.

TABLE 6. Evolution of gender gaps. Men – women differences in school expectancies at 6 years old.

	1970	2002-3
<i>Developing Countries</i>		
Sub-Saharan Africa	0.4	0.8
Southern Latin America	(0.2)	(2.0)
Northern Latin America	0.5	(0.4)
Middle East	4.9	(0.8)
Asia	3.3	1.4
<i>Developed Countries</i>		
Western Offshoots	0.1	(1.3)
Asia	0.8	0.7
Northern Europe	1.0	(1.5)
Southern Europe	0.7	(1.3)
Eastern Europe	(0.1)	(0.7)

Notes and sources. Southern Latina America: only Argentina. Asia, developing countries: only India. Elaborated on Tables A3 y A4 and UNESCO (2005).

SOME PROJECTIONS

Regarding the future, Figures 3 and 4 let us know that if current trends do not change, the accomplishment of Millennium Goals for the year 2015 referring to universal access to primary education will fall very short, with 46.7 million children out primary school. Almost 75% of them will be living in Sub-Saharan Africa and in East Asia and the Pacific. Even worse, as can be seen in Figure 4, in the middle of this century there will be 39.0 million children not in primary school.

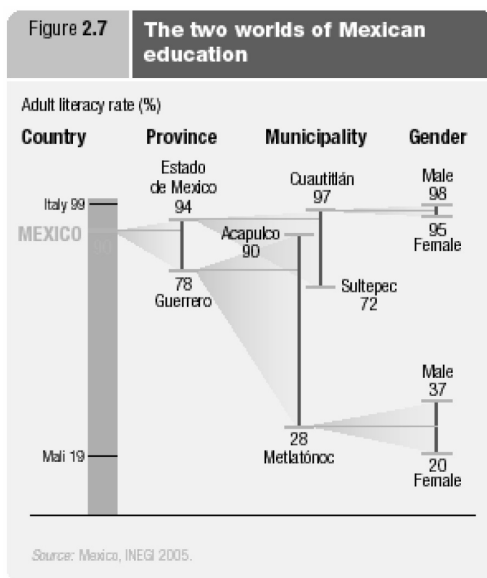


Figure 1. Educational Inequalities inside Mexico. *Source: UNDP (2005).*

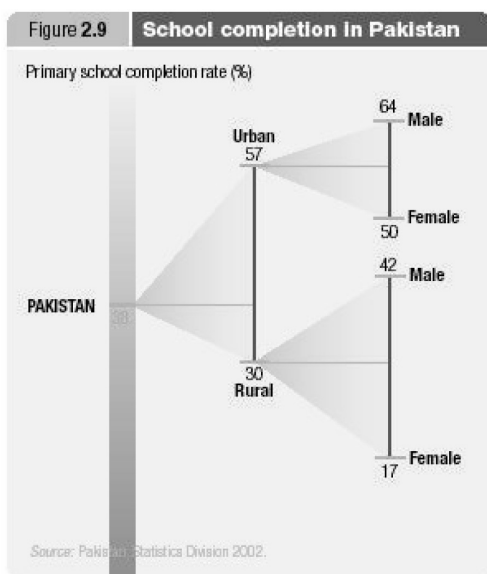


Figure 2. Educational Inequalities inside Pakistan. *Source: UNDP (2005).*

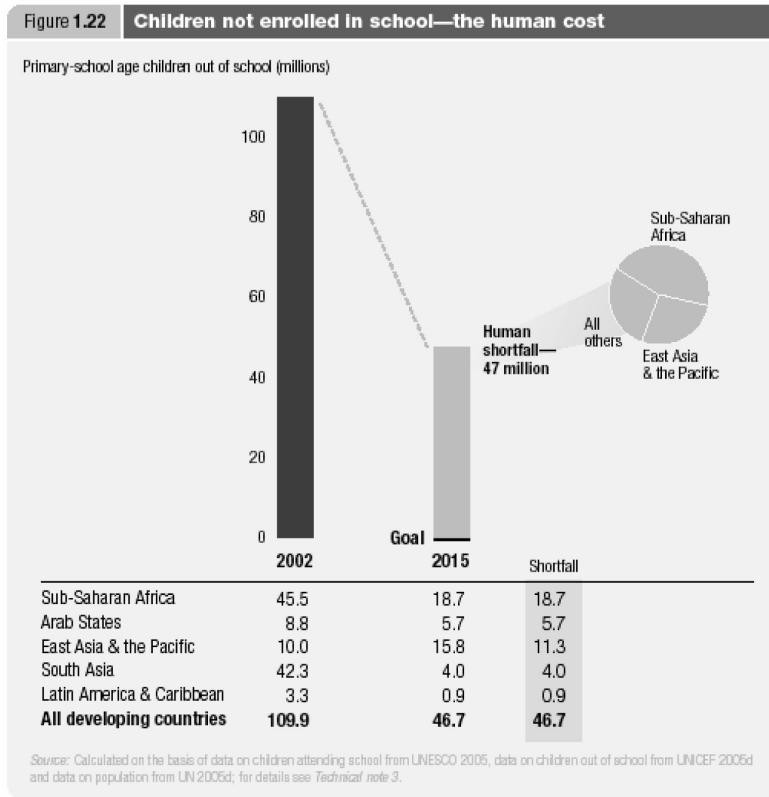


Figure 3. Primary School Enrollment and the Millennium Goals. Source: UNDP (2005).

3. HYPOTHESES AND EDUCATIONAL POLICY IMPLICATIONS

The educational challenges we are confronted with in the context of the current wave of globalization look overwhelming. It is true that educational divergence partly has, perhaps, an embodied solution. Even when the expansion of post-tertiary education will probably continue, it is more difficult to conceive equivalent extensions of the educational life in the future. If such is the case, educational convergence has better years to come. However, developing countries confront now a more difficult stage to extend school expectancy, i.e., secondary education (Bloom, 2004).

If no satisfactory solution is found to educational divergence, the globalization wave we are living will probably be not only unfair, but with even more disruptive events. Only if accompanied by plain access of exports of developing countries to developed markets, universal access to education is the most important factor to build more equitable national and world societies in the new century. What are the possible explanations of the lack of educational convergence between developing and developed countries? This is the critical question we must answer to find the ways out.

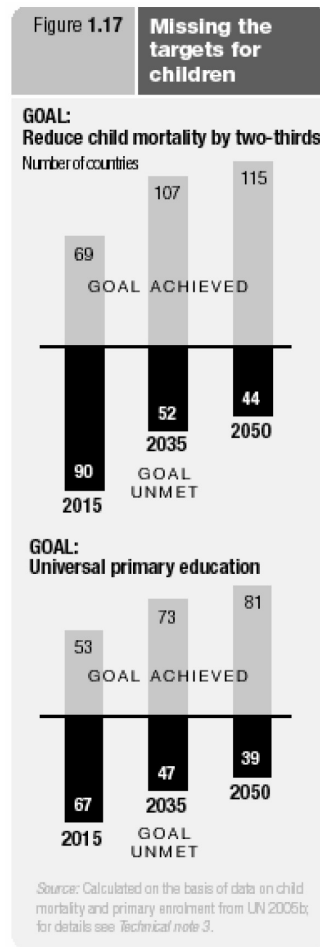


Figure 4. Primary Enrollment Projections Through 2050. Source: UNDP (2005).

Contrary to what happens in the case of economic growth, it seems that in the case of educational divergence a more important part of the responsibilities lie in the developing countries themselves, as well as in some advice of multilateral organizations. There is a remarkable double speech of developing countries' leaders regarding education, all of them coinciding in its crucial importance to get an equitable development, but not many behaving accordingly. Of course, as in everything human, right explanations involve both parties. The lack of educational convergence cannot be analyzed independently of the lack of convergence in economic growth and it is very clear that both developed and developing countries are involved in the explanation of the last one (Llach, 2002 and 2003). Additionally, the sustained brain drain process that has been taking place at an increased pace, at least since the sixties of the last century, is essentially a relational phenomenon.

Even when these kinds of explanations of educational divergence can help to find solutions, the fact is that at the time of giving advice to politicians in developing countries, neither the academy, nor the experts in educational policies agree about which of them are right. We have at least three different kinds of advice.

Advice Type 1: More Resources, More Education

In this approach, the core recommendation is to guarantee universal access to the three levels of basic education (pre-primary, primary and secondary), with more emphasis on the primary level. Since all of them imply more resources, a strong emphasis is given to increasing (mostly public) investment in education. This approach is very widespread among people directly involved in the everyday education life, particularly teachers and their unions, as well as among educational policy makers.

Advice Type 2: Better Education and Not More Resources

This piece of advice is based on three premises. More education does not imply better education; it is quality and not quantity of education that is the most crucial to life opportunities and earnings and, in the third place, more resources are not associated with better education. Built on them, the central recommendations in this case are to reform the educational systems in order to give them more accountability and, particularly, right economic incentives to teachers, such as those based on their students' perform-

ance. This approach is mostly proposed by educational economists and , from time to time, by the staff of multilateral institutions too.¹⁰

Advice Type 3: More Education, Better Education and More Resources

As usual, there are also ‘third way’ proposals that suggest that both pieces of advice are partly right and that more education, better education and more resources, the three of them are needed together. This is the advice that the author favors.

Let us first disentangle the discussion about resources. Even when expenditure is not the only key¹¹ it is anyway very clear that the higher the level of development, the higher the ratio of educational investment to GDP (Table 7.1). Part of the explanation of this association is that the density of educational investment increases with the level of education, as can be seen in Table 7.2.

TABLE 7.1. Expenditure matters (1). Public investment in education as % of GDP.

Regions	Public Investment / GDP
Developed Regions (n=16)	5.30
Europe (n=14)	5.35
Oceania (n=2)	4.95
Emerging Asia (n=4)	5.00
Developing Regions (n=49)	4.02
Africa (n=18)	4.21
Asia (n=17)	3.59
Latin America (n=14)	4.34

Notes and sources. Elaborated on UNESCO (2005). Regions include all countries with data.

¹⁰ One of the best advocates of this approach is Eric Hanushek (see, for instance, 2005). One example of the thinking of multilaterals is the following: ‘... the large variation in the effectiveness of using funds makes it hard to find a consistent relationship between changes in spending and outcomes – highlighting the importance of spending money well ... For each country there is a story about why public spending contributed to improving outcomes or why it did not. That is the crux: the effectiveness of public spending varies tremendously’ (World Bank, 2004). Similar ‘expenditure-skeptical’ expressions can be found in World Bank (2005).

¹¹ As rightly point the World Bank (2004) ‘The positive association between expenditures and outcomes is driven by the fact that public expenditure increases with national income and, after controlling it, public expenditures and outcomes are only weakly associated’.

TABLE 7.2. Expenditure matters (2). Annual expenditure on educational institutions per student relative to GDP per capita (2002). By level of education, based on full-time equivalents.

	Pre-primary	Primary	Secondary	Tertiary
OECD average	18,0	20,0	26,0	43,0
Latin America	14,6	13,3	15,7	58,1
Asia	4,4	14,2	19,8	83,5

Notes and sources. Elaborated on OECD (2005). Regions include all countries with data. OECD: all countries. Latin America: n=7. Asia: n=4.

The indicator shown in Table 7.2, i.e., expenditure per student as a proportion of GDP per capita, is more refined at the time of assessing the educational investment and effort of regions and countries, as can be more clearly appreciated in Table 7.3. The higher the level of education, the higher the value of the indicator, being Eastern Europe the region that shows more even efforts applied to all levels of education. In the case of primary education all developing regions show lower values than the world average, while the opposite happens with developed regions. Roughly the same happens in secondary education, with the interesting exception of Africa that has the highest investment per student as a proportion of its GDP per capita.¹² This exception is a bit more general when tertiary education is concerned. Again, Africa shows the highest level of investment, but also Asia and Latin America have higher values than Oceania or Eastern Europe.

To go deeper into the analysis of these 'exceptions' it is useful to analyze the three measures of 'elitist bias' shown in Table 7.3. This indicator measures the relative importance given to different levels of education at the time of investing resources on them and tends to show higher values the less is the level of economic development. We have already had evidence of this in Table 7.2, with a range of tertiary to pre-primary education of 19.0 in Asia, 4.0 in Latin America and only 2.4 in OECD countries.

In Table 7.3 we can see that the evidence of an elitist bias associated to the level of economic development is not clear in secondary/primary, but it is clear both, in tertiary/primary and in tertiary/secondary. This bias is very probably explained by the more successful lobbying of the middle classes

¹² See Berthélemy (2005), paper presented to this conference.

TABLE 7.3. Expenditure matters (3). Public expenditure per student as a % of GDP per capita.

	Primary	Secondary	Tertiary	'Elitist' bias		
				Sec/Prim	Ter/Prim	Ter/Sec
Africa	13.4 (21)	29.2 (19)	234.8 (13)	2.18	17.5	8.04
Latin Amer.	12.7 (16)	13.8 (16)	36.3 (14)	1.09	2.85	2.63
USA	22.0 (1)	25.0 (1)	57.0 (1)	1.13	2.59	2.28
Asia	11.7 (20)	14.4 (18)	42.8 (13)	1.23	3.65	2.97
'Emerging'	16.2 (3)	20.7 (4)	65.8 (3)	1.28	4.06	3.18
W. Europe	19.7 (17)	26.1 (16)	37.7 (16)	1.32	1.91	1.44
E. Europe	22.2 (12)	20.6 (11)	25.5 (14)	0.92	1.15	1.24
Oceania	17.8 (2)	18.5 (2)	31.5 (2)	1.04	1.77	1.70
World aver.	15.5 (92)	21.0 (87)	71.0 (76)	1.36	4.58	3.38

Notes and sources. Elaborated on UNESCO (2005) except USA whose data are from OECD (2005) and include public and private expenditure. Regions include all countries with data, whose number shown in is brackets. The world average is weighted.

and the rich, mostly interested in tertiary education – an even in secondary, in the less developed countries – as compared to the poor, whose main interest is preprimary and primary education.¹³

Another, very polemic but anyway relevant indicator of investment in education is class size. As we can see in Table 8, again, it is much lower in OECD countries than in Latin America, Asia or Africa concerning pre-primary, primary and secondary education. This contradicts some 'light' conclusions that have been drawn from a developed countries-centered debate, according to which a reduction in class size has no significant results in educational outcomes.¹⁴ The conclusion can tell some truth if it is referred to small increases or decreases of the class size but, at the same time, it seems pretty clear that there are thresholds beyond which class size is very relevant. In other words, one thing is to say that decreasing the size of the classroom from 22 to 20 students has no impact on educational outcomes and another one, very different, is to say that the learning process is the same with 20 or 30 something students in the classroom.

¹³ See a coincident approach in Berthélemy (2005).

¹⁴ The skeptical view of the impact of class size can be seen in *Economic Journal* (2003). On the opposite side, Piketty (2004) offers a natural experiment that shows the relevance of class size.

TABLE 8. Class size also matters Ratio of students to teaching staff in educational institutions (2003). Ratio by level of education, calculations based on full-time equivalents.

	Pre-primary	Primary	Secondary	Tertiary
OECD	14,4	16,5	13,6	14,9
Latin America	23,0	23,7	21,7	11,5
Asia	26,4	25,1	23,2	23,4
Africa	22,0	27,4	19,1	...

Notes and sources: elaborated on OECD (2005). Regions include all countries with data. OECD: all countries. Latin America: n=7. Asia: n=8. Africa: n=3.

Some Conclusions

We have shown some strong arguments in favor of the importance of educational investment regarding both, the increase in enrollment rates and the reduction of class size. It is still possible to identify a third reason to justify the need of more resources. There are not enough international comparisons regarding the length of school schedules, but very probably the reality is that in most developing countries it is limited to three and a half hours of language and mathematics, while in most developed countries it lasts up to six hours and includes arts, sports, foreign languages, technologies and other channels that allow students to develop some of their multiple intelligences (Gardner, 1993). Of course, a longer schedule also implies more resources.

Factors that support advices 1 and 3 do not end here, however. Perhaps even more interesting is the fact that in the way of comparing educational investment around the world it was possible to find evidence of an educational elitist bias, particularly in developing countries. In most of them, the educational lobby of the poor is weak. This is evident not only in the scarce attention devoted to children development policies and to pre-primary and good primary education, both of them (particularly the first one) still far beyond universalization. It is also reflected, more crudely and painfully, in the fact that the schools attended by the poor are, on average, the worst ones. Given the very well-known fact that ages up to 8 or 9 are critical to allow a good educational development, this school segregation is just the contrary to what is needed and, of course, contributes to maintain or even to increase internal social gaps, as well as international ones. That is why

the author wants to emphasize that *to give priority to the youngest and to the poorest is the truest way to get educational equity*.¹⁵

It can be asked, finally, if confronting such huge evidences in favor of the 'more education' agenda it would be needed anyway to perform the 'better education' agenda too. The answer is yes. In addition to the reasons that are possible to find in the literature¹⁶ it is possible to add another one. Educational systems in developing countries, and also in some developed countries, work in the darkness. Just to give some examples, not many countries dare to participate in the international assessments like PISA, PIRLS and TIMSS; only a few perform national assessments based on a census and almost none have statistics that allow the knowing of investment per student in each school. All this does not only hinder the development of educational policies at the school level, precisely the most important ones. Additionally, this opacity in the system impedes the poor to realize the low quality of education their children receive, giving room to other, more powerful lobbies, educational or not, to be more successful at the time of getting budgetary resources.

Just to give an end to this long enough paper it is necessary to underline the importance of giving greater diffusion to the discussion of these issues because, unfortunately, the most frequent situation in international forums is the prevalence of positions like the ones described in advice type 1 or 2. If these approaches continue prevailing we will not find the way out of international educational divergence.

¹⁵ All these developments are supported in Llach (2005, forthcoming). Among the recent contributions see World Bank (2005) on the importance of early childhood interventions.

¹⁶ See Pritchett (2004) and Hanushek (2005).

APPENDIX

TABLE A1. Educational Convergence: 1830-1930 (1). Students Enrolled in Primary Schools, per 1000 Children Ages 5-14.

	c 1830	c 1870-80	c 1930	Δ 1830/70-80	Δ 1870/1930
Africa	---	7	178		171
Egypt	---	7 (1900)	178	---	171
N.L. America	---	173	335	---	162
Brazil	---	61	215		154
Costa Rica	---	271	415		144
Mexico	---	187	374	---	187
S.L. America	---	127	585	---	458
Argentina	---	143	613	---	470
Chile	---	111	556	---	445
Asia	---	112	361	---	249
India	---	42	113	---	71
Japan	---	182	609	---	427
N.Europe	336	673	740	337	67
Belgium	346	582	701	236	119
France	388	737	803	349	66
Germany	---	711	699	---	(12)
Netherlands	---	639	780	---	141
Switzerland	---	759	701	---	(58)
U. Kingdom	274 (*)	609	755	335	146
Scandinavia	---	431	688	---	257
Denmark	---	462	674	---	212
Finland	---	68	582	---	514
Norway	685	606	717		111
Sweden	---	589	779	---	190
C-E Europe	---	384	641	---	257
Austria	367 (1840)	562	839	195	277
Hungary	---	334	495	---	161
Romania	---	256 (1900)	588	---	332
S.Europe	---	268	557	---	289
Greece	---	253	617	---	364
Italy	28	286	594	258	308
Portugal	---	132	300	---	168
Spain	---	401	717	---	316
Western Off.	---	808	935	---	127
Australia	---	598	890	---	292
Canada	---	827	966	---	139
New Zealand	---	923	962	---	39
USA	---	882	921	---	39
Statistics		x: 421.4 s: 279.9 vc: .664	x: 626.0 s: 226.4 vc: .362		

Notes and sources. N.L. America: Northern Latin America. S.L. America: Southern Latin America. N. Europe: Northern Europe. C-E Europe: Central and Eastern Europe. S. Europe: Southern Europe. Western Off: Western Offshoots. The statistics are the mean (x), the standard deviation (s) and the variation coefficient (vc). Elaborated on Lindert (2004).

TABLE A2. Educational Convergence: 1830-1930 (2). Students Enrolled in Secondary Schools, per 1000 Children Ages 5-14.

	c 1830	C 1870-80	c 1930	Δ 1830/70-80	Δ 1870/1930
Africa	---	—	—	—	—
N.L. America	---	2	7	---	5
Brazil	---	0 (1900)	8	---	8
Costa Rica	---	5 (1910)	9	---	4
Mexico	---	1 (1890)	5	---	4
S.L. America	---	4	36	---	32
Argentina	---	3	19	---	16
Chile	---	5	52	---	47
Asia	---	—	—	---	---
N Europe	8	26	63	18	37
Belgium	---	23	54	---	31
France	12	18	32	6	14
Germany	---	45	94	---	49
Netherlands	3 (1850)	6	28	3	22
Switzerland	---	62 (1890)	114	---	52
U. Kingdom	---	2	58	---	56
Scandinavia	---	21	60	---	39
Denmark	---	10	78	---	68
Finland	---	19	68	---	49
Norway	---	41	53	---	8
Sweden	---	14 (1890)	39	---	15
C-E Europe	---	11	41	---	30
Austria	7	12	48	5	36
Hungary	---	10	33	---	23
S.Europe	---	5	16	---	11
Italy	---	4	19	---	15
Portugal	---	3 (1890)	13	---	10
Spain	---	8	15	---	7
Western Off.	---	10	93	---	83
Australia	---	7	26	---	19
Canada	---	9	34	---	25
New Zealand	---	13	118	---	105
USA	---	12	193	---	181
Statistics		x: 13.8 s: 15.2 vc: 1.105	x: 50.4 s: 43.9 vc: .871		

Notes and sources: as in Table A1.

TABLE A3. Educational Convergence: 1970-2003. School Expectancy (Primary to Tertiary).
A. Developing, non European Countries.

	1970			c1998			c2003		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
All Counts.	7.1	---	---	---	---	---	11.2	---	---
S.Sa. Africa	4.2	4.4	4.0	---	---	---	7.2	8.3	7.5
Burki. Faso	0,9	1,1	0,6	---	---	---	3,7	4,3	3,0
Cameroon	6.3	7.5	5.2	7.6	---	---	9.2	10.0	8.4
Lesotho	7.7	6.5	8.8	9.7	9.2	10.3	10.8	10.5	11.1
Mali	1.8	2.4	1.2	3.9	---	---	4.9	---	---
S. Latin Am.	10.4	---	---	13.8	13.6	14.1	15.1	14.5	15.4
Argentina	10.3	10.2	10.4	14.9	14.3	15.6	16.4	15.2	17.2
Chile	10.5	---	---	12.7	12.8	12.6	13.7	13.8	13.6
N. Latin Am.	8.0	9.6	9.1	10.9	10.8	10.9	11.9	11.7	12.1
Brazil	7.2	---	---	---	---	---	14.7	14.1	15.0
Costa Rica	8.7	8.7	8.6	10.1	9.9	10.3	10.7	10.6	10.9
El Salvador	6.5	---	---	10.7	10.8	10.6	11.3	11.4	11.1
Guatemala	4.4	---	---	---	---	---	9,1	9,5	8,7
Mexico	8.3	---	---	11,8	11,8	11,7	12,6	12,3	12,7
Panama	9.2	9.3	9,1	---	---	---	13,2	12,6	13,8
Peru	9.2	10.1	8,3	---	---	---	12,1	12,0	12,3
Trinidad & T	10.2	10,3	10.2	---	---	---	11.8	11.6	12.1
Venezuela	8.2	---	---	---	---	---	11.8	11.5	12.0
Middle East	6.9	8.9	5.0	---	---	---	12.8	12.8	13.6
Bahrain	9.1	10.5	7.6	12.8	12.3	13.4	13.5	12.9	14.2
Egypt	6.2	7.7	4.5	12.4	---	---	11.6	---	---
Libyan Arab	8.4	10.8	5.6	---	---	---	16.4	15.9	17.0
Sau.Arabia	3.7	5.2	2.1	---	---	---	9.6	9.7	9.5
Asia	5.9	---	---	---	---	---	8.6	---	---
India	5.9	7.5	4.2	---	---	---	9.8	10.4	9.0
Myanmar	5.9	---	---	---	---	---	7.4	---	---

Notes and sources. All Counts.: all the countries of the Table. S.Sa. Africa: Sub-Saharan Africa. S. Latin Am.: Southern Latin America. N. Latin Am.: Northern Latin America. Elaborated on UNESCO (2005a).

TABLE A4. Educational Convergence: 1970-2003. School Expectancy (Primary to Tertiary).
B. Developed, European Countries.

	1970			C1998			C2003		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
All Count's	11.5	12.7	12.2	---	---	---	16.4	---	---
Western Of.	13.9	13.9	13.8	---	---	---	17.8	16.5	17.8
Australia	11.8	12.1	11.6	19.6	19.0	19.9	20.6	19.4	20.8
Canada (*)	15.3	15.2	15.4	16.0	15.7	16.3	16.0	15.7	16.4
New Z'land	13.1	13.4	12.7	17.5	17.0	17.9	18.9	---	---
USA (*)	15.2	15.0	15.4	---	---	---	15.6	14.5	16.1
Asia	10.4	10.6	9.8	---	---	---	14.7	15.0	14.3
Hong Kong	10.0	10.5	9.4	---	---	---	13.6	13.6	13.5
Japan	12.0	11.4	11.6	14.3	14.5	14.2	14.7	14.8	14.5
Korea	9.1	9.9	8.3	14.9	15.7	14.0	15.8	16.5	14.8
Europe N	11.6	12.3	11.3	17.0	16.7	17.2	17.3	16.4	17.9
Austria	10.5	---	---	15.2	15.2	15.1	14.9	14.5	15.1
France	11.9	---	---	15.6	15.3	15.8	15.6	15.1	15.9
Netherlands	11.6	12.3	10.8	16.5	16.7	16.2	16.6	16.4	16.6
Norway	12.0	---	---	17.5	16.9	18.0	17.8	16.4	18.5
United King.	12.0	12.3	11.8	20.0	19.3	20.7	21.8	19.7	23.3
Europe S	9.9	10.3	9.6	15.9	15.5	16.3	16.3	15.7	17.0
Ireland	10.8	10.9	10.8	16.3	15.6	16.7	16.7	15.9	17.4
Portugal	8.9	9.2	8.6	15.8	15.4	16.1	16.1	---	---
Spain	10.0	10.7	9.4	15.7	15.4	16.0	16.2	15.5	16.6
Europe, E	10.3	10.3	10.4	13.4	13.0	13.7	14.2	13.8	14.5
Bulgaria	11.1	11.2	11.1	12.7	12.2	13.1	12.8	12.7	12.8
Hungary	9.5	9.3	9.7	14.0	13.8	14.3	15.6	14.9	16.1
Statistics	x:9.03 s:3.17 vc:.351						x:13.52 s:3.87 vc:.286		

Notes and sources. All Counts.: all the countries of the Table. Western Of.: Western Offshoots. Europe N, S, E: Northern, Southern, Eastern Europe. Canada and USA, 1970, estimated on 1981 and 1985 data. The statistics belong to the whole sample (Tables A3 and A4) and are the mean (x), the standard deviation (s) and the variation coefficient (vc). Elaborated on UNESCO (2005a).

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