

## Education and El Salvador's Strategy

*First, how can the production of universal, high quality, education be promoted in El Salvador? This is a question primarily about the internal organization of schooling within the education sector. Within the first topic there are five main messages and the text of the chapter will follow these messages.*

- Education has seen big successes. There have been many substantial improvements in schooling attainment (including the introduction of EDUCO schools).
- While there are no direct comparisons of current performance of students in El Salvador to students internationally *if* El Salvador is similar to the rest of Latin America (and there are good reasons for believing it is) then learning achievement lags alarmingly behind that of the industrialized countries and other global competitors.
- The MINED has launched a set of inter-related reforms aimed at increasing schooling quality, which since they only began in 2001 are in the early stages of implementation.
- *Continuity* in implementing the ongoing efforts to increase enrollments (including EDUCO) and especially continued effort in implementing the new programs to improve quality is essential. Though tempting, launching a qualitatively new and different set of reforms of basic education is not desirable at this time.
- Experience around the world has shown that improving quality is a very challenging business. Continued progress in the *quality of education* is essential and for that it is important that the existing *system of continuous evaluation*—both of overall, system wide, progress and of innovations be *maintained*.
- The new reforms--which emphasize the school as the locus of action for improving education—will generate experiences from which new ideas for improving quality will emerge. It is essential that MINED maintain an analytical capability to assess the impact of innovations and their potential for replication. Systems of promoting learning must themselves be performance driven learning systems.
- The next rounds of education reforms (and “fine tuning” of existing reforms) should be solidly based on the evidence that emerges from the evaluations and experiments in the first period and on an extensive period of factually and experientially based discussion with key stakeholders. This is particularly true of the reforms needed to improve teaching as a profession.

While these recommendations may seem either like boring commonplaces or frustratingly vague—there are three reasons why this report avoids specific recommendations to emphasize *processes*.

First, the existing reforms that are underway are “state of the art” and need to be given time to have an impact and it would be a mistake to overload implementation capacity with a series of new proposals.

Second, the ability to generate and maintain *systemic* and *substantial* progress in the quality of education nearly everywhere in Latin America has been stymied by three key limitations: (a) lack of a clear social consensus on performance standards for schools around which a viable, durable, political coalition to press for quality improvements can be built, (b) the lack of system of learning assessment linked to those standards which allow monitoring of progress causing difficulty in distinguishing valuable initiatives from passing fads, and (c) conflicting relationships between key actors in the system—particularly teachers and their unions and “technocrats.” This combination challenges the launching and sustaining of reforms that significantly improve classroom practice—many reforms either never reach the classroom or there is a continuous stream of new “reforms” which are not given sufficient time and effort to bear fruit.

Third, an increasing number of scholars and practitioners working on education believe that an exclusive emphasis on the *proximate* determinants of learning detracts from an *institutional* perspective (World Development Report, 2004). Nearly every educational expert emphasizes this or that particular proximate determinant of learning—time on task, learning aids, smaller class sizes, this or that improved pedagogical technique—and “recommendations” are an associated project or program to improve that feature. Alternatively some argue that a simple institutional change like introducing “choice” or school vouchers will solve all ills. Neither of these views have panned out particularly well in raising quality Latin America, which lags alarmingly behind that of the OECD (see below).

The alternative is an institutional arrangement of school autonomy with management for performance and accountability. This is the path that El Salvador is on, and should remain on. In this approach high quality schooling is the result of individuals within the system acting on their information—quality is not a single program or feature and cannot be imposed from the top. While performance can be measured and school teachers and administrators can act to improve performance there is no single programmatic magic bullet (or set of magic bullets).

While the temptation of every new government is to launch a new, high profile, reform effort in education of one type or another, the time is not propitious for dramatic changes of any type. The challenge will be to stick to the basic efforts in continued expansion in enrollments, implementation of the current efforts to improve quality, and sustaining the system of learning assessment that both can assess overall progress and be used to evaluate interventions. The aforementioned priorities can form the basis for initiating a process for creating the foundations for the next round of reforms.

*Second, how does the overall educational strategy fit with the overall growth strategy recommended in this report of continued integration into the world economy plus accelerated efforts to promote innovation?*

Within this topic there are three main messages.

- Schooling will not constitute an immediate constraint on economic growth—nor will the expansion in schooling necessarily translate into increased growth without the implementation of a growth strategy.
- The returns to schooling are increasing the most at the highest levels. Economic changes are leading to higher returns for those with tertiary education. In a world in which the production of ideas and innovations is increasingly important because of “skill intensive” changes in production, El Salvador will need ensure that those leaving secondary and entering tertiary are both increasing in numbers and carrying a substantive skill-set attained through high quality education.
- The strategy for education, training, and innovation needs to be more closely aligned with the growth strategy. This is not to say that the education system should extend responsibility to vocational training nor that basic schooling should be “job skills” focused. However, the education system should respond in a way that increases the link between the dynamic economic needs of the economy and the system of education.

**Section I: Production of high quality schooling**

*I.A) Education has seen big successes*

There have been enormous expansion in the number and proportion of school aged children who are reaching and staying in school. As shown in table one, more than 250,000 more children are in primary school today than in 1992. More than 50,000 more are in secondary school. This means that El Salvador maintained enrollments in spite of the enormous challenges created by the earthquake.

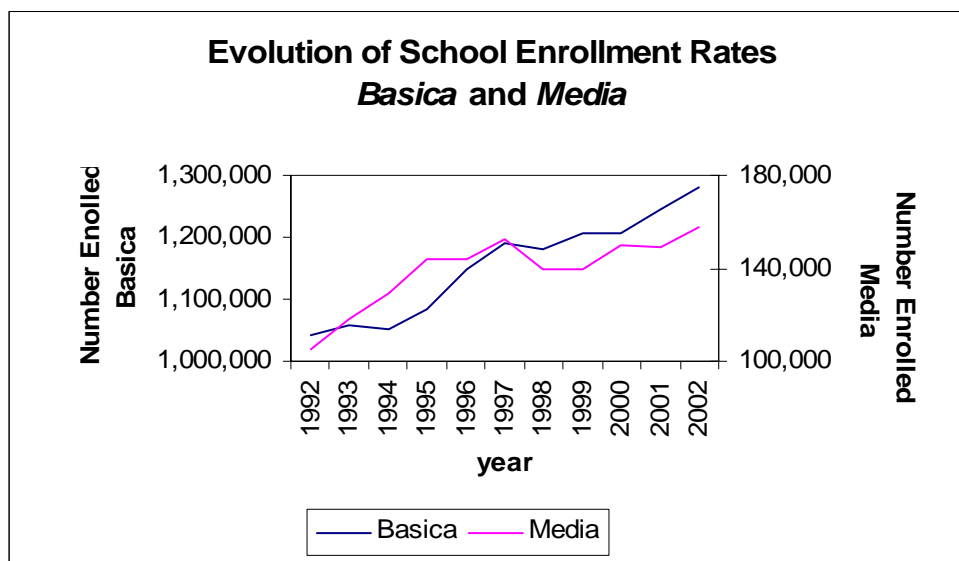
**Table 1**

Enrollments in primary and secondary school have expanded enormously over the last decade. (Enrollments by level and sector)						
	Básica			Media		
Year	Public	Private	Total	Public	Private	Total
1992	894,414	148,341	1,042,755	52,026	53,067	105,093
1993	906,541	152,075	1,058,616	53,012	65,103	118,115
1994	899,056	151,496	1,050,552	60,618	68,406	129,024
1995	924,500	158,533	1,083,033	69,039	75,132	144,171
1996	995,184	152,210	1,147,394	71,259	72,329	143,588
1997	1,046,270	144,782	1,191,052	81,279	71,195	152,474
1998	1,039,807	142,421	1,182,228	80,069	59,259	139,328
1999	1,057,979	148,018	1,205,997	84,544	55,334	139,878
2000	1,059,397	148,097	1,207,494	95,210	54,890	150,100
2001	1,097,767	146,647	1,244,414	97,930	51,005	148,935
2002	1,148,044	144,175	1,292,219	106,651	51,308	157,959

FUENTE: MINED

Figure 1 depicts the dramatic increase in enrollment for both *Básica* and *Media* since 1992.

Figure 1



FUENTE: MINED

Table 2

Over the decade 1992-2002 enrollments have increased for every age group, but with more progress in the early than later half of the decade (Enrollment rates by age group, various years)						
Age	1992	1998	2002	Change '1992-'2002	Change '92-'98	Change '98-'02
6-14	78.37	84.48	88.35	9.98	6.11	3.88
15-17	51.81	63.54	67.21	15.40	11.73	3.67
18-21	27.48	31.15	31.90	4.42	3.67	0.75

FUENTE: EHPM 1992, 1998, 2002

Table 2 shows enrollment rates for three age groups whose grouping corresponds with the *Basica*, *Media*, and *tertiary* education levels respectively. Since 1992, rates have increased across all age groups with the increase being greatest for those of the 15-17 age group of whom the majority most likely pertains to the *Media* level (grades 10-12.) Though the table evinces the efforts that MINED has made in coverage, a comparison of gross and net enrollment rates is revealing.

Table 3

Net and Gross Enrollment Rates by level of Education, 2002.							
Parvularía		Básica		Media		Total	
Gross	Net	Gross	Net	Gross	Net	Gross	Net
48.3	43.3	99.5	86.9	40.2	25.5	77.6	66.2

FUENTE: Informe sobre Desarrollo Humano, 2003, p.17 (PNUD)  
Estado actual de la educación 2002, p.23 (FUSDAES)

Net enrollment for a general age group describes the enrollment of the official age group for a given level of education, expressed as a percentage of the corresponding population. MINED should strive to increase net enrollment rates across all levels of education as the discrepancy between net and gross is symptomatic of inefficiencies in the educational system, specifically late enrollment and repetition.

**Table 4**

Grade repetition is very high in the early grades, and higher at every grade in rural areas <i>(Repetition Rates by Sector and Grade, 2001)</i>			
Grade	Total	Urban	Rural
1 <sup>0</sup>	16%	14%	17%
2 <sup>0</sup>	6%	5%	7%
3 <sup>0</sup>	5%	4%	5%
4 <sup>0</sup>	4%	4%	5%
5 <sup>0</sup>	3%	3%	4%
6 <sup>0</sup>	3%	3%	3%

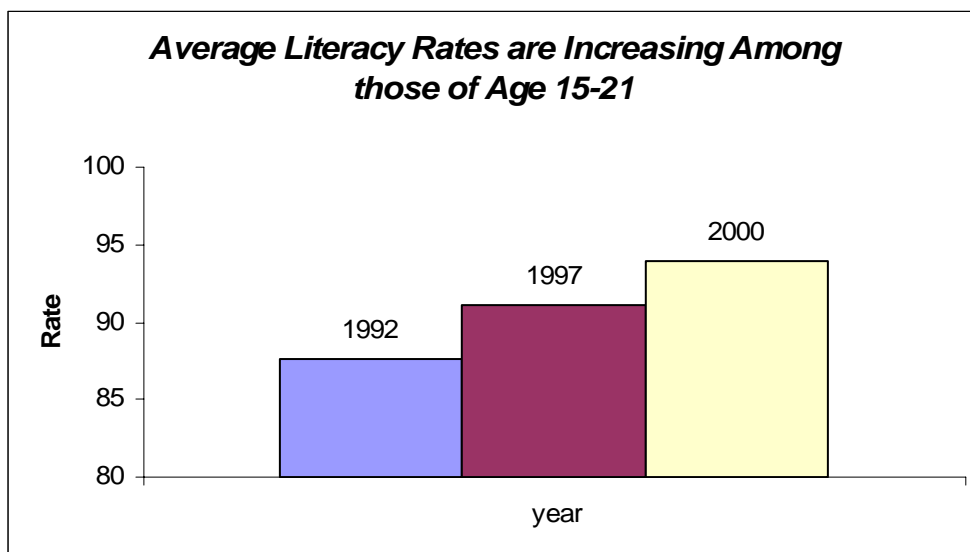
FUENTE: MINED

Repetition is greatest across sectors during the first cycle of *Básica* (grades 1-3). Repetition crowds classrooms and most likely inhibits student learning. Repetition is also expensive. It takes more time and resources than necessary for students to complete the primary cycle. The education system allocates money for a student's learning regardless of whether it is her first, second or third time enrolled in the grade.<sup>1</sup> Third, repetition leads to low grade-age correspondence to which many researchers attribute school desertion.<sup>2</sup> Especially combined with the problem of late enrollment among the poorer and rural children repetition leads to low grade completion by the time children "age out" of the system. Though MINED's achievements in coverage should be recognized, inefficiencies in the system are inimical to the progress for which the Ministry strives.

<sup>1</sup> In The Bridges Report: "Why do Children Repeat Grades? A study of Primary Schools in Honduras," the authors cite that in 1986, approximately 20 million children in Latin America repeated, costing the system US \$3 Billion. McGinn, N, Reimers, F, Del Carmen Soto, M, López, S. "Why do Children Repeat Grades? A study of Primary Schools in Honduras," *HIID Bridges Research Report Series*. 13. (1992)

<sup>2</sup> If a teacher forces a student to repeat, peers leave the student behind. Embarrassment, frustration or simply more favorable opportunities in the child labor market might cause the child to drop out.

Figure 2



FUENTE: EHPM 1992, 1997,2000

Also indicating progress in the education sector is the rise in self-reported literacy rates of El Salvador's emerging labor force as shown in figure 2. Such results evince that the country is building a base upon which it can continue forward conditional upon concomitantly engaging in educational endeavors such as that for improved quality.

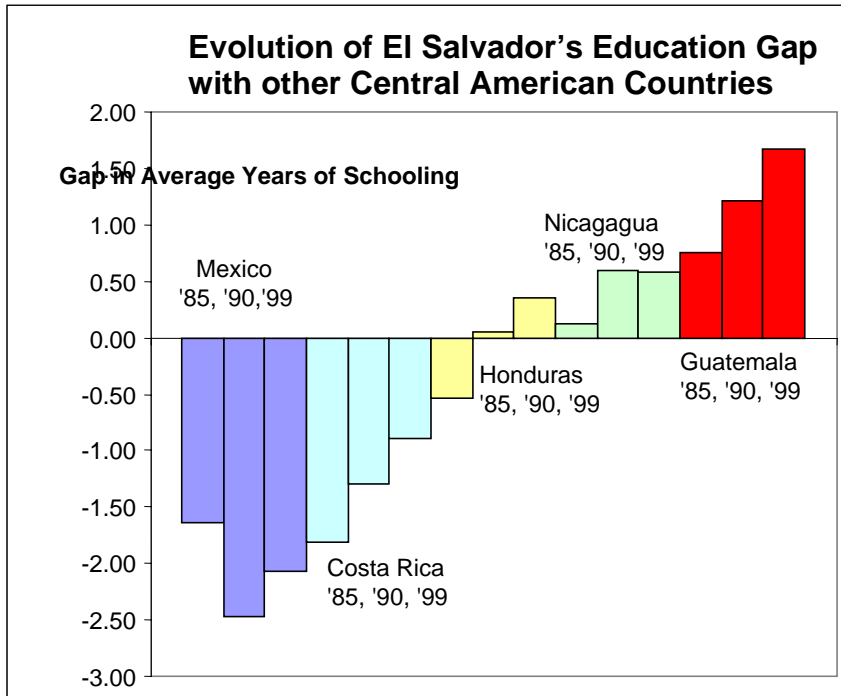
The expansion in enrollments described above has led El Salvador's level of schooling attainment to increase substantially and to converge with the rest of the region as shown in the following table and figure. Since 1990, years of schooling of the labor force aged population (15-64) are estimated to have increased from 3.57 years to 5.15 years. By the dint of this effort El Salvador has closed the gap with countries like Costa Rica—whereas in 1985 the average in El Salvador was almost 2 years lower. Now the aforementioned gap is only a bit more than one. Similarly, it has pulled ahead of most of its other neighbors.

Table 5

El Salvador has seen greater progress since 1985 than most other Central American Countries (Evolution of Years of Schooling for those 15 years and older)			
Country	1985	1990	1999
Mexico	5.2	6.72	7.23
Costa Rica	5.39	5.55	6.05
El Salvador	3.57	4.25	5.15
Honduras	4.1	4.2	4.8
Nicaragua	3.44	3.65	4.58

<b>Guatemala</b>	2.82	3.04	3.49
FUENTE: Barro-Lee Data Set; International Measures of Schooling Years and School Quality. World Bank			

**Figure 3**



FUENTE: Barro-Lee Data Set; International Measures of Schooling Years and School Quality. World Bank

In part this rapid recovery is due to the willingness to rely on innovative means of increasing school coverage—in particular the justly famous EDUCO program that allows communities to initiate and manage their own schools. This program enabled rural schooling to expand particularly rapidly, mitigating, though not resolving completely the rural/urban schooling gap prevalent through out Latin America.

**Table 6**

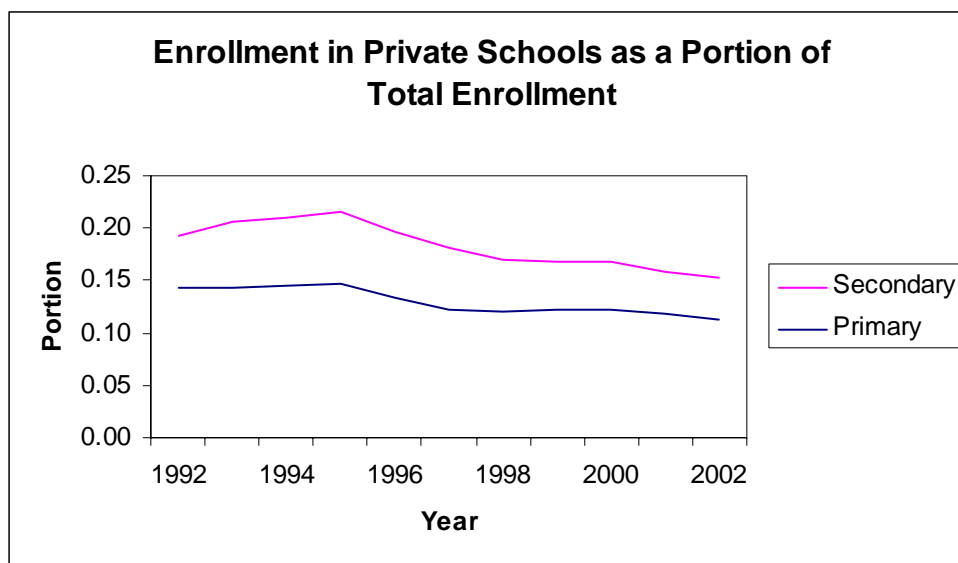
Year	Evolution of EDUCO	
	New Students Enrolled	Total
1991	8,416	8,416
1992	23,872	32,288
1993	9,664	41,952
1994	32,160	74,112
1995	39,616	113,728
1996	55,200	168,928

1997	25,056	193,984
1998	12,352	206,336
1999	30,944	237,280
2000	27,392	264,672
2001	45,664	310,336
FUENTE: MINED		

The EDUCO program not only was a means of expanding enrollments rapidly, but also demonstrated for El Salvador the feasibility of involving the community in the schools. EDUCO, like all innovative programs, has had its teething claims, and many of these claims that EDUCO schools are dramatically superior are overstated. However, the innovative model has proved to be functional, robust and capable of producing schooling of a quality that it is at least equivalent to the traditional model.

Particularly impressive about the expansion of schooling in El Salvador is the simultaneous *decline* in the fraction of schooling that is private. This is impressive not because a reduction in private schooling is necessarily a good thing—but one sure indication of a failing system of education is a sharp rise in (unaided) private schooling as it reveals an increasing “willingness to pay” of parents to escape the public system. Though part of this decline is attributable to the economic slow down, it signals that parents perceive the system of public schooling to be capable of producing schooling. Even in environments that are much poorer than El Salvador, a dramatic expansion of private schooling has accompanied the deterioration of the quality of public schooling—witness Pakistan in which the fraction of schooling in urban areas that is private has gone from 10 to almost 46 percent in only 10 years—largely as a result of the deterioration of quality in the public sector.

Figure 4



FUENTE: MINED

There will be many problems with continuing the current successes in expanding enrollments. The foremost may be resources. Since overall government spending is so low, even if a relatively large fraction of that spending is devoted to schooling, it still means the fiscal effort as a fraction of GDP is relatively low—and that the increased resources just to expand enrollments constitute a constant pressure on the system. Table 7 compares resources devoted to education between El Salvador and its neighbors. With the exception of Guatemala, all other Central American countries and Mexico devote a greater share of GDP to the education sector.

**Table 7**

Public Spending in Education, 2000							
Public Expenditure as a percentage of GDP	El Salvador	Mexico	Guatemala	Honduras	Nicaragua	Costa Rica	Panama
	3.2*	4.9	1.7	3.6	3.9	6.4	5.1

FUENTE: Informé Sobre el Desarrollo Humano, 2001.  
El Salvador, Proyecto de Presupuesto 2002 (FUSADES)

Spending per student in the system for basic and secondary schooling is 11 percent for basic and 21 percent for *media*, which are roughly in line with international norms—modestly lower than some South American countries (e.g. 13 percent in Argentina, Brazil) but higher than others.

These comparisons of costs are not to be taken as criticisms as social sector performance should not be judged on *inputs* but rather on *outputs*—the cumulative learning achievement of the students. “Spending more” should not be a targeted objective—“learning more” should—but as enrollments expand there will be additional costs and this creates a fiscal pressure on the educational system.

**Table 8**

Public Spending per student as a percentage of GDP per capita 2000	
Basica	Media
11.0	21.0

FUENTE: El Salvador, Proyecto de Presupuesto 2002 (FUSADES)

However, in El Salvador’s favor on the projections of costs are the demographic pressures that should begin to ease in the long-run. As the population growth rate slows the demographic pyramid begins to thin and the ratio of workers to children increases. With a given tax in-take, more resources per child are available for schooling. Over the very long run (50 years) this will make efforts to increase both enrollments easier and provide some upward flexibility on spending per child. Under the scenario in which the growth rate of the population (0-14 years) is as predicted at .10% over the next 50 years, there is potential for a 77.6% increase in budget available per child for education spending. (That said, there is almost no evidence from any data—school level, regional, cross-national that suggests spending per pupil is the most important factor in school quality).

Table 9

Shifts in age composition of population and implications for educational spending.					
Demographically defined regions	Country	Growth in population aged 0-14, 2000 to 2050 (UN Medium variant)	Ratio of labor force aged population (15-59) to children (0-14) in 2000	Ratio of labor force aged population (15-59) to children (0-14) in 2050	Percentage potential increase in budget per child from demographic shift
North	Canada	12.10%	3.36	3.26	-2.90%
	USA	19.50%	2.86	2.95	3.10%
Far South	Argentina	4.70%	2.13	2.89	35.60%
	Chile	1.50%	2.15	2.86	32.90%
	Uruguay	-1.40%	2.34	2.91	24.30%
Brazil	Brazil	0.30%	2.2	2.84	29.00%
Middle	Colombia	4.20%	1.84	2.87	55.90%
South	Costa Rica	11.50%	1.86	2.85	53.20%
	Ecuador	-0.90%	1.75	2.91	65.90%
	Peru	-2.70%	1.78	2.92	64.10%
	Venezuela	3.60%	1.75	2.89	65.50%
Mexico	Mexico	-13.50%	1.81	2.92	61.20%
Poor South	Bolivia	12.10%	1.37	2.83	107.10%
	<b>El Salvador</b>	<b>0.10%</b>	<b>1.61</b>	<b>2.85</b>	<b>77.60%</b>
	Guatemala	20.90%	1.17	2.78	137.50%
	Haiti	-3.10%	1.33	2.69	102.70%
	Honduras	4.90%	1.27	2.82	121.80%
	Nicaragua	16.90%	1.24	2.81	127.00%
	Paraguay	28.50%	1.39	2.79	99.90%

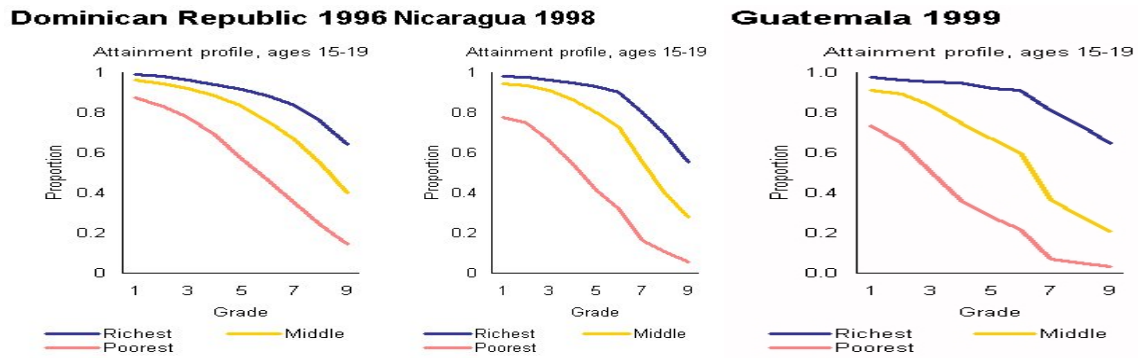
FUENTE: Birdsall and Pritchett, 2002.

The second reason—beside resources—why expansions in enrollments to reach universal completion will be difficult is that El Salvador has already used the “easy” tool for expanding enrollment by creating additional school places. El Salvador must now focus on two themes relevant for quantity expansion: drop-out and disadvantaged groups.

Figure five shows recent “attainment profiles” for Dominican Republic, Nicaragua, and Guatemala. The “attainment profile” shows the fraction of a cohort aged 15-19 who have completed a given grade or higher. Hence the left axis value shows the fraction of children who ever enrolled in school. The slope shows the speed with which children dropped out of school. I show these graphs before those of El Salvador to illustrate two common features. First, nearly all of the deficit from attainment reaching some target level (e.g. primary completion as in the Millennium Development Goals of basic schooling) is *not* due to the failure of children to ever enroll in school but the failure of

children who have enrolled in grade 1 to persist and complete. In fact, even among the poorest groups most children enroll in school but that group's drop out (often following repetition of early grades) is very high. For instance, in Guatemala, 86 percent of children complete at least grade one, but only 52 percent complete grade 6 and only 24 percent complete grade 9.

Figure 10<sup>3</sup>



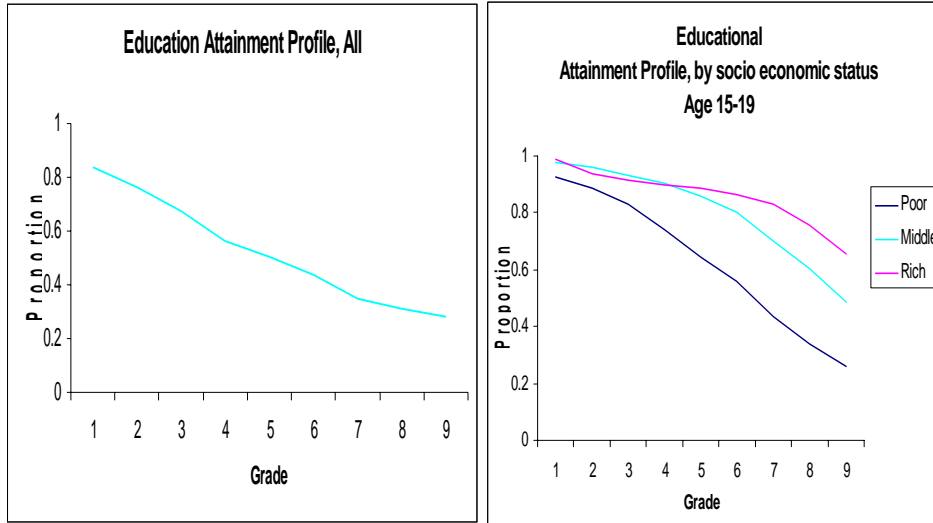
A second common pattern is that children from the poorer households are more likely to drop-out before successfully completing basic education than are children from more well-to-do families. For instance, in Guatemala while *on average* 52 percent of children finish grade 6, 91.3 percent of children from the richest 20 percent of households do so, 60 percent of the middle 40 percent but only 22 percent of children from the poorest households finish even grade 6—and among the poorest 40 percent only 3 percent finish grade 9.

In El Salvador, similar figures are generated using self-reported enrollment data. Give the previous examples; El Salvador's results are not surprising. Among 15-19 year olds, a good portion report having ever enrolling in school. However, persistence is the exception. For the country as a whole, 28.5% report reaching the 9<sup>th</sup> grade. Among the poor, only 56% reach the 6<sup>th</sup> grade while 26% reach the 9<sup>th</sup> grade. The poor are dropping out at rates much faster than the rich as shown by the steeper slope that describes their enrollment by age.

<sup>3</sup> The World Bank. "Research Project on Educational Attainment and Enrollment around the World." <<http://www.worldbank.org/research/projects/edattain/edattain.htm>>

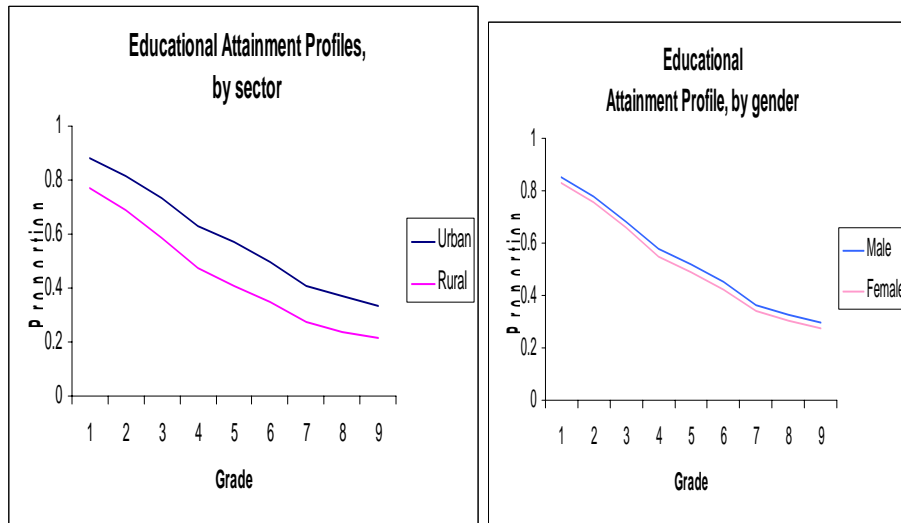
Figure 6a,b

**Educational attainment profiles for the cohort aged 15-19, overall, by household wealth, residence and gender**



FUENTE: EHPM 2002

Figure 6c



FUENTE: EHPM 2002

These two facts have two very important implications for raising completion rates. First, raising completion rates is fundamentally about raising the persistence in and progress through school of children who *have* enrolled. Thus, issues of *quality* of schooling cannot be separated from issues of quantity. The issue is not simply providing more school places, as a large part of drop-out behavior is related to the fact that children (and their parents) decide to not continue after having attended. The quality of the

classroom environment and the quality of the experience (both of which are related to, but not identical with, the learning achievement) are key to retention and progression

*I.B) Learning achievement is likely low*

While there is now in place a system for testing students in El Salvador—the Sistema Nacional de Evaluación Educativa (SINEA)—it is impossible to have any real idea of the *level* of school quality in El Salvador today either compared to El Salvador’s recent past or to any international standard. Each new test and system of testing that is given is not comparable to past tests and is not internationally comparable.

But ignorance is not bliss. Just because one does not have direct measures of school quality in El Salvador this should not lead to complacency—there are three reasons to suspect that the quality of learning achievement in El Salvador is *extremely*—indeed alarmingly—low relative to any desirable target.

First, from the comparisons of performance among Latin American countries the results are tightly bunched (except for Cuba)—so it would be surprising if the results in El Salvador were substantially different—either much higher or much lower—from other Latin American countries. So, where I discuss the scores of those few countries who *have* been willing to participate in internationally comparable examinations below I conjecture that El Salvador is likely at (or below) their performance. (Note the Costa Rica data was not released, Mexico participated in the TIMSS but the data was not released).

**Table 9**

	Latin American test scores are narrowly clustered... (Results on the International comparative study in Latin America (UNESCO/OREALC) (average of 3 <sup>rd</sup> and 4 <sup>th</sup> grades)	
	Language	Mathematics
<b>Cuba</b>	346	352
<b>Argentina</b>	273	260
<b>Brazil</b>	267	258
<b>Chile</b>	273	254
<b>Colombia</b>	252	249
<b>Mexico</b>	238	246
<b>Paraguay</b>	240	240
<b>Bolivia</b>	233	243
<b>Dominican Republic</b>	226	230
<b>Honduras</b>	227	225
<b>Peru</b>	231	222
<b>Venezuela</b>	246	223
<b>Costa Rica</b>	Data collected but not authorized for release	
<b>Average (w/o Cuba)</b>	246	241
<b>Cross national std dev (w/o Cuba)</b>	18	14

FUENTE: PREAL 2001 based on Laboratorio Latinoamericano de Evaluacion de la Calidad de la Educcaion.

Second, other Latin American countries that have participated in international comparisons have typically not fared well—it would be safe to say the results are shocking. There have been several recent attempts to provide cross-nationally comparable data on student learning. Some Latin American countries have participated in the Third International Mathematics and Science Study (TIMSS) and the “repeat” (TIMSS-R), the PISA (Program for International Student Assessment) which attempts to measure skills and competencies as applied in context and another study in reading competencies the Progress in International Reading Literacy Study (PIRLS). The only Latin American countries which participated in the PISA examination were Brazil and Mexico. Both were *far* below the OECD mean (and even farther below the average in East Asian countries). Using the variability across OECD countries as a metric they were both *four* OECD cross national standard deviations below the mean. This is consistent with other assessments in table 10. In fact, regardless of which Latin American country participated, each has been substantially below the international—and especially OECD—averages.

**Table 10**

	Quality comparisons of those Latin American countries that have participated in large scale international comparisons			
Country	Test	Subject matter	Score	OECD Std Dev below OECD average
			(norm=500)	
Brazil	PISA 2001	Mathematics	334	5.4
Mexico	PISA 2001	Mathematics	387	3.7
Brazil	PISA 2001	Science	375	4.6
Mexico	PISA 2001	Science	422	2.9
Brazil	PISA 2001	Reading	394	4.4
Mexico	PISA 2001	Reading	422	3.3
Colombia	TIMSS 94/95	Mathematics	377	3.9
Colombia	TIMSS 94/95	Science	399	4
Chile	TIMSS-R (99)	Mathematics	392	4.2
Chile	TIMSS-R (99)	Science	420	6.2
Colombia	PIRLS (2001)	Reading	422	6.4
Argentina	PIRLS (2001)	Reading	420	6.5

Average				4.6
FUENTE:: Calculations of the author based on published test results.				

Third, as we will see below, quality has proved remarkably resilient to improvement in many contexts so there is little reason to believe that, given the little progress to date on any ambitious program to improve school quality, that the learning achievement in El Salvador could be high relative to its neighbors. Instead, we can assume that leaning achievement is desperately below where it needs to be (see section on economic strategy below).

For these three reasons—the clustering of Latin American countries, the poor performance of *all* Latin American countries, and the slowness of changes in school quality—there is every reason to believe that El Salvador’s learning achievement is similar to that of other Latin American countries. If this is so the results are sobering.

Though *incomparable* to other countries, results from the nationally implemented PAES (Prueba de Aprendizaje y Aptitudes para Egresados de Educación Media) are available. In effect since 1997, PAES evaluates the cognitive development of those graduating from the *Media* level (grades 10-12). The following tables give selected results from the 2000 exam.

**Table 11**

Country-wide results obtained from PAES, by type of school		
Type of Education Center	Percentage	Average PAES
Total	100	5.24
Público	55.4	5.09
Privado laico	24.7	5.20
Privado religioso	20.0	5.72

FUENTE: MINED *Factores asociados al rendimiento de los estudiantes que se sometieron a la PAES 2000*, p41.

**Table 12**

Country-wide results obtained from PAES, by family income		
Income	Percentage of households	Average PAES
Hasta 1 salario minimos	37.5	5.03
De 1 a 3 salarios minimos	34.6	5.24
De 3 a 5 salarios minimos	11.6	5.42
De 5 a 7 salarios minimos	4.7	5.62
De 7 a 10 salarios minimos	2.9	5.82
Más de 10 salarios minimos	3.4	6.09
Did not repond	5.3	5.15

FUENTE: MINED *Factores asociados al rendimiento de los estudiantes que se sometieron a la PAES 2000*, p48.

A country average score of 5.24 tells little about how El Salvador compares to its neighbors, reiterating the problem expounded upon above. However, a comparison across economic sectors and types of institutions informs that achievement gaps are existent and coincide with the same gaps that predict vulnerability and determine access to other human capital inputs such as health. Those from the poorest households as determined by earnings in the form of multiples of the minimum wage, had an average score 20% lower than the richest and 4% below the country-wide average.

This combination of international evidence by analogy and the country's own testing suggests that the quality of learning achievement in Salvadorian schools is desperately below where it needs to be to provide El Salvador with the human resources to compete globally.

Although a number of developing and transition countries actually perform as well as—or better—than the OECD (especially countries in East Asia and *some* countries in the former Soviet Union and East Europe) it is perhaps not surprising that Latin America fares badly—but just how badly Latin America fares is something of a shock. Latin America is not just modestly behind the OECD—it is strikingly below the OECD levels—that a country is *five* or *six* standard deviations mean that the Latin American countries are not just below the worst of the OECD countries they are *two standard deviations* below the *worst* OECD country. For instance, the *worst* (major) OECD country on the PISA Mathematics was Greece at 447 and the OECD standard deviation was around 30 so that Mexico, at 387 was roughly two standard deviations below the *lowest scoring* OECD country (and Brazil at 334 was 113 points behind Greece).

It is difficult to communicate just how serious this gap in quality is. In the United States in the 1980s the demonstration of the learning gap between Japanese students (especially in Mathematics and Science) on internationally comparable tests was a significant factor in creating a nation crisis about education<sup>4</sup>. The 1983 report *Nation at Risk* emphasized the implications for productivity and staying at the global cutting edge in science and technology of the poor performance of the US students. The political concern about lagging learning performance has stimulated substantial reform efforts.

Suppose El Salvador's current learning achievement in Mathematics is that of Mexico (which is probably optimistic) or Brazil (which might be pessimistic). In the PISA Mexico's average of 387 is 106 points below and Brazil' average of 334 is 159 points behind that of the USA at 493. The USA is 64 points behind Japan (557). This implies that it is not implausible that El Salvador is *twice as far behind the USA as the USA is behind Japan*. So not only is El Salvador not at the “cutting edge” in Japan—it is in all likelihood stunningly behind the “dull edge” of average scores in the USA.

### *I.C) Promising efforts to improve quality have been launched*

The government has not been complacent about the challenge of improving the quality of education. MINED recognizes that improved school quality is necessary for sustaining the progress it has achieved through other endeavors such as school expansion and administrative decentralization, and includes improving the quality of education provision as a key factor in its current reform.

These reform efforts are solidly grounded in a strategy that emphasizes three key elements of improving educational quality: (a) a high quality teaching force, (b) well-

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<sup>4</sup> There were of course many other factors as well—including, importantly, the Nacional Assessment of Education Progress an intertemporally comparable examination which was showing no improvement over time.

managed schools with sufficient autonomy to pursue the school's goals, and (c) a rigorous system of performance evaluation.

The following components are the core of the Ministry's initiative for quality and described in detail in its 2002 Annual Report.

#### *Pre-service Professional Development*

To ensure the quality of the future teachers' corps, MINED has made accreditation of universities offering teaching degrees more stringent and according to MINED, those universities are changing administrative policies and increasing the corps of specialists in the teaching field.<sup>5</sup> <sup>6</sup>. For acceptance to the universities offering the teaching degree, candidates must earn at least the national average on the Learning and Aptitude Test (PAES) given at the end of the *Media* school cycle and pass further general intelligence and personality tests. To graduate, candidates must achieve a defined cumulated average in their courses and pass ECAP (Evaluation of Academic and Pedagogical Competencies), implemented since 2001.

Introducing these objective and learning related measures into the recruitment and training of the teaching corps is an important advance over merely "attendance" based measures of preparation.

#### *In-service Professional Development*

In-service professional development has progressed from a centralized provision of pre-defined training courses to a decentralized system of training and support. The central Ministry transfers funds directly to schools in order that teachers choose the area of pedagogical training based on their self-identified needs. With the teacher-managed professional development fund, educators choose their professional development service provider from a list of Ministry-approved training institutions.

Professional development support is also available through Pedagogical Assessors, hired to assist teachers in their daily practice. Each assessor completes the same pre-service professional training as that completed by teachers and almost all have prior experience in the classroom. Responsible for 15-20 schools each, assessors provide didactic and professional support through sharing experiences of other teachers with whom they collaborate and communicating teacher realities to the central Ministry.

Again, these reforms are an important advance over previous "input" based models of in-service training and a "Taylorist" approach to teacher supervision. While every has

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<sup>5</sup> *Reconstrucción, Innovación y Profundización en la Calidad de Educación, Memoria de Labores 2001-2002*. MINED, San Salvador, 2002, p.25.

<sup>6</sup> El Diario de Hoy, Jueves 20 de febrero 2003 en <http://www.elsalvador.com/noticias/2003/2/20>. Quoted in , Lardé de Palomo, A. 2003. "Las vías para que la globalización opere a favor de la gente". En: PNUD *Informe sobre Desarrollo Humano, 2003*. El Salvador: PNUD p.24

long agreed that in service training was a key element of promoting a high quality teaching force the international experience with teacher training has not been stellar. In part this is because the dominant model for teacher training was for many years excessively homogenous (all teachers got the same training) and “supply driven” (the content of training courses was determined apart from teacher demand) and not practice oriented (so that training often failed to translate into improved classroom practices). By moving to teacher managed funds the reforms aim to improve the impact of teacher training.

### *National System of Evaluation*

A third component of the quality initiative and mentioned earlier is the system of testing and evaluation to which pertains PAES. Currently, students are evaluated through the implementation of SINEA (National System of Learning Evaluation) at the *Básica* level (grades 1-9) and the PAES at that of *Media* (grades 10-12). MINED also aspires to evaluate teachers. However, after seeking international consultation, MINED determined that the current system did not have the capacity to evaluate individual teachers nor implement a system in which teachers evaluate their fellow colleagues.<sup>7</sup>

As an intermediate alternative, MINED at the school level evaluates schools’ use of planning mechanisms and available resources and the collaboration among the school community (educators *and* parents) in fulfilling the school’s pedagogical, administrative and management objectives.

MINED provides economic incentives to schools who pass the initial school evaluation or show sufficient progress upon re-evaluation if the school does not pass initially.

Through the dissemination of results, MINED strives to promote dialogue within the educational community on how best to proceed to a decentralized system of evaluation in which incentives would be granted to individual teachers based on peer evaluation.

### *Innovative Education Projects*

Finally, in effort to improve school quality, MINED continues to support and develop innovative teaching methods to meet the educational needs of local communities. Expounded upon further in this chapter are the community-managed schools of EDUCO, which in 2001 enrolled 310,336 students, up from 8,416 at its inception in 1991. Academic research has found that community involvement and management has increased teacher accountability and positively affected student achievement.<sup>8</sup>

### *Accelerated School Program*

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<sup>7</sup>Lic. Bartolomé Hill. Strategy Analyst for the Ministry of Education. Personal interview, August 21, 2003

<sup>8</sup>Jimenez, Emmanuel and Y Sawada. *Does Community Management Help Keep Kids in Schools? Evidence Using Panel Data from El Salvador’s EDUCO Program*. World Bank 2003.

Another innovative education program is the accelerated school program. In 2000, 15% of Salvadoran children between the ages of seven and 12 were older than corresponding age for the grade level in which they were enrolled. That rate rises to 24.4% among the poorest 20% of the population.<sup>9</sup> The Accelerated School program is available to those between nine and 16 years who are two or more years chronologically behind their grade level. Accelerated sections are available to schools that identify having at least 20 students of the aforementioned characteristic and are taught at such a pace that enables students to “catch-up” to their peers. This intervention has both an element of improving access—but also a quality element by focusing effects on improving learning to prevent premature drop-out of over-aged children.

### *Healthy Schools*

The healthy schools program is an inter-institutional program of MINED, the National Secretary of the Family and the Ministry of Health supported by USAID. Healthy Schools, implemented in rural, primary schools seeks to improve student learning and retention through families’ improved nutrition and preventative health practices. Through the participation of local communities and under the auspices of such international organizations as the World Food Program and national institutions such as FANTELE (fund resulting from the privatization of ANTEL) the healthy schools program provides school feeding programs and in-kind aliments to rural children.<sup>10</sup>

MINED’s endeavors to increase school quality are indicative of the Ministry’s recognition that high quality schooling to all sectors regardless of geographic location and/or socio economic status is necessary for the effectiveness of all other educational initiatives. Further, action for improving educational quality should be a key component of the country’s broader social policy. Demanding that communities not just enroll children, but also demand and collaborate in improving school quality, contributes to the dignity of the country’s citizens. As well, innovative teaching methods targeted at disadvantaged groups spread the solidarity needed to reduce the inter-generational cycle of poverty and increase equity in educational opportunity.

These plans are new, and have only begun implementation recently. As plans and agendas for improving quality are at or beyond the state of the art in educational reform in most of Latin America. In particular, the achievement of building in at least the notion (if not yet the actual practice) of direct assessment of teacher practice is an enormous positive step forward for the profession of teaching. They are also realistic as similar reforms for quality have had political support in country-contexts comparable to El Salvador’s. There is no reason to believe these reforms will not lead to quality improvements and hence a key element of a strategy is to continue with implementation of the existing reforms—including of course EDUCO.

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<sup>9</sup> *Invertimos en educación para desafiar el crecimiento económico y la pobreza*. Informe de Desarrollo económico y social 2002. FUSADES San Salvador 2002, p.27.

<sup>10</sup> *Reconstrucción, Innovación y Profundización en la Calidad de Educación, Memoria de Labores 2001-2002*. MINED, San Salvador, 2002, p.48.

*I.D) Continuity in implementation of the existing reforms is essential*

The educational sector strategy in basic education looking forward should be *continuity* in implementation of existing reforms, combined *comparable tracking* of performance, and *experimentation with evaluation*. Let me explain why (a) continuity is crucial, (b) the existing reforms will not be the ultimate answer and will need further improvement, (c) why *evaluation* on a detailed, *consistent*, basis is essential, and (d) why I would not recommend any *particular* reform at this time.

Why do I recommend *continuity* in implementation of the existing reform program even though there might be legitimate doubts that the reforms, even if implemented, will lead to dramatic improvements in quality? Two reasons. First, the reforms *might* refute my skepticism and work wonders.

Second, more importantly, launching major reforms without adequate follow through on implementation and without giving the reforms a sufficient time of implementation to pay-off in improved classroom performance can “poison the well.” Since teaching is a profession with low turnover (after the first few years) most of the teachers of in the year 2020 are teaching in the classroom today. Each reform effort that is not pursued risks producing a jaded set of teachers. Having seen many attempts to reform education fail in the past, or worse, having devoted extra time and effort to adjust to new programs only to have this time not acknowledged and utilized, teachers will dismiss all future reforms and be reluctant to invest their energies in new proposals. Without the energetic and enthusiastic engagement of a critical mass of teachers and parents (or other forces) *no* education reform will succeed.

Continuity in implementation of the EDUCO program is particularly important. Nearly all education policy makers and researchers are convinced that community and parental support for and participation in schools is an important ingredient for successful schools.

Noted further at a later point in the chapter, PAES results evince the aforementioned stance in the importance of students’ environment outside the classroom. Though PAES is not implemented at the EDUCO level, the results are informative and provide a base of reasoning for all educational levels. For example, the MINED explores the some of the factors associated with achievement on the aforementioned PAES. MINED tables the scores of students according to what their parents think is the correct activity in which the student should engage after the school day. Studying and completing his or her homework is a “correct” answer while helping with the domestic chores is an “incorrect” answer.

**Table 14**

Recommendations of Parents on Duties of Children	Percentage		
	Total	High Achievement	Low Achievement
Alter the school day, the child should....	100	100	100

Not correct (e.g help with chores)	39.9	34.2	41.0
Correct (e.g. complete homework)	57.7	64.2	56.5
Did not respond	2.4	1.7	2.5

FUENTE: MINED *Factores asociados al rendimiento de los estudiantes que se sometieron a la PAES 2000*, p41.

As shown above, a majority of those who perceived that their student engaged in activities after school not perceived to be correct had children who composed the sample of those students with low achievement on the exam.<sup>11</sup>

If after years of effort and action by communities in building up schools, these efforts were overturned or significant policies implemented that changed the nature of the program, there is potential for immediate and negative impacts. Such impacts would cause lasting damage to the good-will of the communities. The relationship of the teachers with the school committee is a key case in point. While perhaps changes that allow communities to extend—at their discretion—contracts beyond the current one year period could be experimented with, any moves that reduce significantly community autonomy in selecting (and replacing) teachers would essentially end the EDUCO program.

*I.E) The need to maintain a rigorous system of evaluation over time*

Even though the current round of reforms are “state of the art” and even though continuity in the implementation of these reforms is crucial—no one should believe that these reforms will be sufficient to create all of the necessary improvements in quality. Continuous, comparable, evaluation of the learning achievement of students is therefore essential. *Maintaining the SINEA—and the ability to **analyze** the SINEA is absolutely essential.*

There are three reasons to believe the current round of reforms will not be sufficient to raise quality to the desired levels.

First, over the last decades in the OECD countries--in which there were many claims about new and improved ways of teaching, *and* in which resources per pupil increased dramatically, *and* in which all kinds of new technologies became available, *and* in which the formal qualifications of teachers increased--*test scores did not improve.*

What is reasonably well known is that, by the gauge of the National Assessment of Educational Progress (NAEP)--an examination in the USA that intends to track the performance of students over time—in the 24 years from 1970 to 1994 the performance of students in the USA on math and science increased *not one bit.* Moreover, real expenditures per pupil increased by 33 percent.

<sup>11</sup> High achievement, *alto rendimiento* is a score greater or equal to 6.0 and low achievement, *bajo rendimiento* is less than 6.0. The country average was 5.24 with 51.9% of students scoring below the average. *Factores asociados al rendimiento de los estudiantes que se sometieron a la PAES 2000*, MINED

While this fact about the USA is well-known, it is often assumed that this problem of stagnant test scores is a US problem. But a pair of German researchers have shown that, even though the USA tends to lag behind other countries in the *level* of its performance the gap between the USA and other countries on internationally comparable examinations appears not to have increased. But if US performance is stagnant and the gap has not increased this implies that performance in other OECD countries has not increased (substantially) either.

The combination of this simple insight<sup>12</sup> and data on expenditures in OECD countries produces the truly astounding fact having *no* increase in measured learning performance while costs rose by a third actually makes the USA a “productivity” performance superstar. In all of the other countries scores did not rise substantially—but expenditures per pupil rose much more. In France expenditures *tripled* and it is estimated scores *fell* by 6.6%. In Germany and Japan expenditures per pupil *doubled* and scores fell.

**Table 13**

<b>No OECD country has seen a substantial improvement in scores on math and science while nearly every country has seen an enormous expansion in expenditures per pupil</b> <i>(Evolution of test scores and expenditures per pupil in the OECD)</i>			
Country:	Estimated change in the assessment of math and science learning achievement, 1970-1994	Estimated change in real expenditures per pupil, 1970-1994.	Estimated change in “expenditures per score”
<b>Sweden</b>	4.30%	28.50%	23.20%
<b>United States</b>	0.00%	33.10%	33.10%
<b>Netherlands</b>	1.70%	36.30%	34.10%
<b>Belgium</b>	-4.70%	64.70%	72.80%
<b>United Kingdom</b>	-8.20%	76.70%	92.50%
<b>Japan</b>	-1.90%	103.30%	107.20%
<b>Germany</b>	-4.80%	108.10%	118.60%
<b>Italy</b>	1.30%	125.70%	122.80%
<b>France</b>	-6.60%	211.60%	233.70%
<b>New Zealand</b>	-9.70%	222.50%	257.20%
<b>Australia</b>	-2.30%	269.80%	278.50%

FUENTE: adapted from Woessman (2002), tables 3.3, 3.4

Why is this relevant for El Salvador? Because in spite of vastly expanded expenditures, in spite of huge increases in the qualifications of teachers, in spite of

<sup>12</sup> That comparable performance over time for a number of OECD and East Asian countries can be constructed by linking their *relative* performance over time to the measures in the USA that are comparable over time

substantial decreases in class size, in spite of claims of better pedagogical practices, in spite of advances in technology and in spite of in many OECD countries general improvements in overall living standards—measured learning achievement has not improved substantially. This suggests that claims about what is “state of the art” in educational practice should be treated with a grain of salt. Since the generalized adoption of the actions which are promoted as the “solution” to improving education have not in fact been associated with generalized improvements in performance this has to at least give one pause that applying those same solutions anywhere else would, in and of themselves, lead to substantial progress<sup>13</sup>.

The second reason to be skeptical that the current round of reforms will be sufficient is the experience of other countries in Latin America which have much more radical reforms, which spend much higher (and increased) level of resources, and which have aggressively pursued a number of “state of the art” approaches to improving education have not seen some, but not dramatic nor sufficient improvements. The obvious case in point is Chile. While there is a huge debate in Chile on how much the through-going reform of education in Chile which municipalized and allowed for private sector expansion increased or decreased performance, the facts are that: (a) in the international assessments reported above for Latin American countries Chile was not above Argentina or Brazil in median performance (table 10), (b) in their participation in the TIMSS-R evaluation of eighth grade students they were the *fourth from the bottom in the world*<sup>14</sup>, (c) there is a debate because the results can be sliced up in various ways, but serious researchers can legitimately argue (while I think they are wrong on some points--but their arguments are not baseless) that even thorough going privatization had almost no impact on aggregate scores<sup>15</sup> and (d) the comparable SIMCE scores for Chile seem to have reached a plateau since the mid-1990s in spite of increased substantially increased resources gains are modest.

So, if the experience of other Latin countries is any guide, there are some, but not completely revolutionary gains to quality to be had from even a very aggressive reform agenda.

The third reason for skepticism is that the actual knowledge base from which recommendations about educational reforms are made is remarkably thin. Many positions argue with much more passion than hard fact. The national and international debate about class size is a good example and the main thing to learn is not that small class sizes are better or that class size “doesn’t matter” but that because smart people are

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<sup>13</sup> Of course this argument is not compelling as a mere lack of association is not proof there is not some causation—perhaps some other factors existed that OECD wide reduced educational performance so that improvements in teacher qualifications *would have* led to higher learning achievement but its impact was offset (and hence hidden) by deteriorating trends in some other factor. This is possible, but merely pointing out it is possible is not evidence that it is *plausible*. So far, no one has pointed out what those OECD wide factors might be.

<sup>14</sup> Although it must be said in Chile’s defense that other countries which had better performance in 8<sup>th</sup> grade—such as Indonesia—have much lower enrollment rates in 8<sup>th</sup> grade and hence the testing of the performance of all 8<sup>th</sup> grade *aged* children (e.g. 14-15 year olds) would quite likely reverse that ranking.

<sup>15</sup> Urquiola and Hsieh (2002).

arguing about this without persuasive evidence means *nobody knows* and that there probably is not the right answer everywhere and always<sup>16</sup>. A set of experiments in Kenya revealed that many aspects of the conventional wisdom—such as that textbook availability was a key constraint to quality—are not true.

To express some skepticism that the current round of reforms will be sufficient to attain a high quality basic education should not be that surprising—and is not reason not to implement the existing reforms as made clear above. The reason for stressing this skepticism is not simply negative—it has a positive implication. The positive implication is the absolute centrality of maintaining a system of *centralized* testing that is *comparable* over time.

Building up a knowledge base by tracking performance accurately over time in a comparable way will create both the political will for change and provide the foundation for constructive dialogue on educational reform. The first year of an evaluation is almost always perceived (correctly) as an arbitrary normalization—maybe the test was hard, maybe the test was easy. For instance, the 2002 SINEA results show an average score for students in ninth grade of 1301 on *lenguaje*. What does that mean? Is that good? Bad? While it does measure against the standards of the test it is almost impossible to draw any firm conclusions.

The second round of a test—no matter what the outcome, up, down, no change—will produce some insights and perhaps some impetus for further action. But only after exams begin to show reliable, consistent results of changes over time (or lack thereof) there can be a fact and science influenced debate about policy and a factually grounded discussion of the need for reform.

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<sup>16</sup> Much of the debate is about how to properly isolate the causal impact of variations in class size, mostly from non-experimental data. This is a problem because if class size is consciously chosen in ways that cause a correlation between performance and class size—say, by school administrators who make classes with disruptive children (who would cause low performance) smaller (so the teacher can better handle the situation) or by students, who, given choice within a school will choose teachers with better reputations—then the observed, nonexperimental data might show a negative or zero correlation between class size and performance even though a truly *exogenous* shift in class size would improve performance. There is evidence of a reasonably large effect of class size from a randomized experiment in Tennessee, and “quasi-experimental” evidence from Israel (Angrist and Lavy (1999), South Africa (Case and Deaton (1999), and Bolivia (Urquiola (2001). But critics of this evidence argue that reported results are “hit and miss”—in that, if class size effects are measured in two subjects in three grades, there are class size effects in some grades and subjects and not others—with no particular pattern; that the literature is subject to enormous “publication bias” in that statistically significant results are much more likely to be written up and published, even if they are in fact rare; and that randomized experiments in which the teachers know the purpose of the experiment are not in fact a clean test, as teachers will attempt to perform well to justify smaller class sizes (Hoxby (2000). Hanushek (2002) continues to emphasize the huge literature in which there is a *general* lack of a correlation—with “better” studies less likely to find effects—and points to the “big picture” evidence unlikely to be affected by the “endogeneity arguments”—the time series in the United States and OECD countries in which class sizes have fallen substantially while scores have stagnated, and the lack of cross-national evidence. Hoxby (2000) produces quasi-experimental evidence from the United States (Vermont) showing no class size effects and argues her results are more typical and representative than others.

### *I.F) Experimentation with rigorous evaluation*

The existing system of promoting quality through a variety of measures including more teacher training and evaluation, of school level educational projects and initiatives, and of a system of monitoring are a promising combination. But to that mix, one must add the *analytical* capacity and emphasis on rigorous evaluation. Too often the pressures for implementation—which are very real and absorb a great deal of valuable management attention—and the fiscal pressures of system expansion—which are very real—crowd out attention to the rigorous evaluation of initiatives.

But this rigorous evaluation is central for two reasons.

First, in the course of implementing the existing reforms there needs to be a continuous, evidence based, impact about impact on learning achievement that affects implementation. Every reform needs to be “fine-tuned” in implementation both because of the usual difficulties of making ideas translate into practice but also based on evidence about impact.

So for instance, how will we know whether the improved standards for pre-service training are having an impact? Are the standards too high? Too low? How will we know if the teacher managed in-service training is working to improve class-room practice *and* that the improved classroom practice is having an impact on learning?

The track record on educational progress suggests that it is not in fact obvious what is “better” and that many reforms which appeared promising did not pan out. No one is suggesting a paralyzing skepticism—there are good reasons for believing the existing reforms will work—but as with arms agreements an attitude of “trust but verify” seems prudent.

Second, rigorous evaluation is crucial to build the evidence base for the next round of reforms. There are a variety of plausible proposals for improving learning achievement that have been tried in other places:

- Extending the school day or school year to increase “time on task” (Chile)
- Remedial instruction for those lagging in reading using intensive tutoring has shown promising results (India)
- Changes in pedagogical practices in mathematics instruction (Mexico)
- Packages of interventions for the most poorly performing schools (e.g. P900 in Chile).

With the combination of school autonomy to launch their own education projects (*proyecto educativo*) and a system of rigorous evaluation all of these could be tested on a pilot basis *before* they are moved to scale.

Evaluating new initiatives will take several years—but that is consistent with the desire for continuity in implementation of existing reforms. The key point is to maintain

adequate *managerial* attention to the issue of rigorous evaluation and sufficient *resources* so that it is not crowded out. While evaluation is not cheap—neither is devoting substantial resources for years to ideas that only with long-lags are discovered to have had no impact.

*I.G) Political processes for continued improvements in learning achievement*

A recent evaluation of the politics of education reform Latin America (Grindle, 2003) pointed out that the politics of *quantitative system expansion* are completely different from the politics of *quality improvements*. Creating a sufficient coalition to support a *performance oriented* approach to schooling that creates the conditions for *educational systems* that innovate, evaluate, adapt, and adopt on a continuous basis is no mean feat. Educational reforms have often been hotly conflicted—particularly between teachers unions and the reformers. El Salvador has already made a great deal of progress on this front, but more could be done to put together a set of processes for bringing educational reforms along in a way that builds consensus.

First, the consensus on performance standards and more importantly, the broad based support for those standards, is not there for any new reform to have a clear objective of what it is trying to achieve. A good part of any debate about education reform is properly about *ends* not means. Often in the hurly burly the two get confused. Debates about whether or not a particular reform direction is desirable which appear to be about means are actually about ends. For instance, if by “performance standards” for schools, one group means basic literacy and numeracy (decoding) skills while another group means by “performance” the acquisition of certain social values or attitudes then there can be no useful debate about the desirable organization of schools that will produce better or worse “performance.”

Second, education reforms that aim to improve quality will necessarily (and rightly given the importance of schooling) produce a political fight. There is no worth in such political fight unless one knows that the resulting reforms will in fact pay-off. Further, it is difficult to know the value of reform *until* the discussion can be grounded in facts about performance. Such performance should be demonstrated and grounded in El Salvador’s experience necessitating a system of performance standards and evaluation that allows for feedback loops.

The prime example is how to improve the performance of teachers (see box on teaching). I want to make this clear by emphasizing why I would not recommend now in El Salvador several reforms that in other times and places I have recommended. For instance, why I am *not* recommending y move *now* towards any type of “pay for performance” for teachers. Because it will be a huge and unproductive fight with teachers without any guarantee of a substantial pay-off.

### Box 1: Improving teaching as a profession

The key to quality education is the interaction in the classroom between teacher and student. All of the “reforms” in the world will not change if they do not change teaching. Perhaps the key question is how to structure the *career* of a teacher so that the system encourages high ability people to enter the profession, encourages those people to acquire the necessary capacities (both through pre-service and in-service training and capacitation), and encourages those high ability, capacitated people to employ their abilities effectively in the class room.

There are good reasons to believe (see the poor performance in table 10) the existing career structures for the profession of teaching are *not* doing a good job. The rigid and bureaucratic structures, the primacy of seniority, the lack of upward career mobility, the lack of performance and capability criterion in compensation are characteristics of routine work, not characteristics of the career structures of other providers of professional services like doctors or lawyers or architects.

That said, any attempt to change the career structure of the teaching profession is bound to meet with enormous organized opposition from teachers (Grindle 2003). And, many seemingly plausible proposals coming from those outside of the profession, like “merit pay”, often are ignorant of the complexities of encouraging and assessing a complex profession like teaching.

Something like the “teaching career” reforms that are being proposed is an integral component of educational progress, but will meet pressures. The only way to meet these two pressures of the need for reform with the difficulty and complexity of reform head on is the combination of (a) slowly building a body of compelling factual information about what works to lower the ideological stakes with (b) a process to build political consensus for implementation that includes both external and internal stakeholders to education. Neither of these will work “big bang” for some once off scheme that does not involve dialogue with the component of the teaching force interested in quality improvements.

Finally, I am *not* recommending any move *now* towards any type of “privatization” or “voucher” scheme. Because not only will there be a huge and unproductive fight with teachers without any guarantee of a substantial pay-off, but it will also expose supporters of the those who see this a means to improving school quality to charges that they are merely interested in “privatizing” schools for ideological reasons. Reforms that attempt to achieve the underlying conditions that produce the *benefits* that private schools are thought to bring—such as greater managerial autonomy and flexibility, greater accountability for performance, pressures for performance from mobile students and resources—can (and have been in many countries) be achieved without private ownership. So, while personally I believe there can and should be much more scope for use of the use of the private sector as *producers* of schooling (such as scholarships for poorer children) there is a risk that reforms aimed at producing improved performance in government schools by increased accountability and performance measurement get bogged down in unnecessarily charged debates about “privatization.”

## ***Section II: Education, training, and the economy***

The second key question for an education strategy is how it fits into an overall economic strategy.

### *II.A) Education alone is not the key to a growth (or poverty) strategy*

While education is a key to *long-run* growth and improvement in human welfare, it should be clear that educational attainment is not, by itself, a growth or poverty strategy. Increasing educational attainment alone (1) will work slowly to raise output—just by the pure dynamics of schooling, and (2) the incremental returns to schooling depend just as much on the *demand* for educated labor (which is a function of economic and especially technological progress) as on the supply.

This section emphasizes that the general level of education is *not* in fact a key obstacle to growth accelerations. Two points about this should be stressed.

First, nothing that is said detracts from the above emphasis on investing in promoting high quality basic education. High quality basic education has many justifications: it is a fundamental human right, is a prerequisite of social equality and mobility, and is integral to sustaining a viable and legitimate nation-state. Moreover, *in the long-run* and *with the right conditions* schooling is important for economic growth.

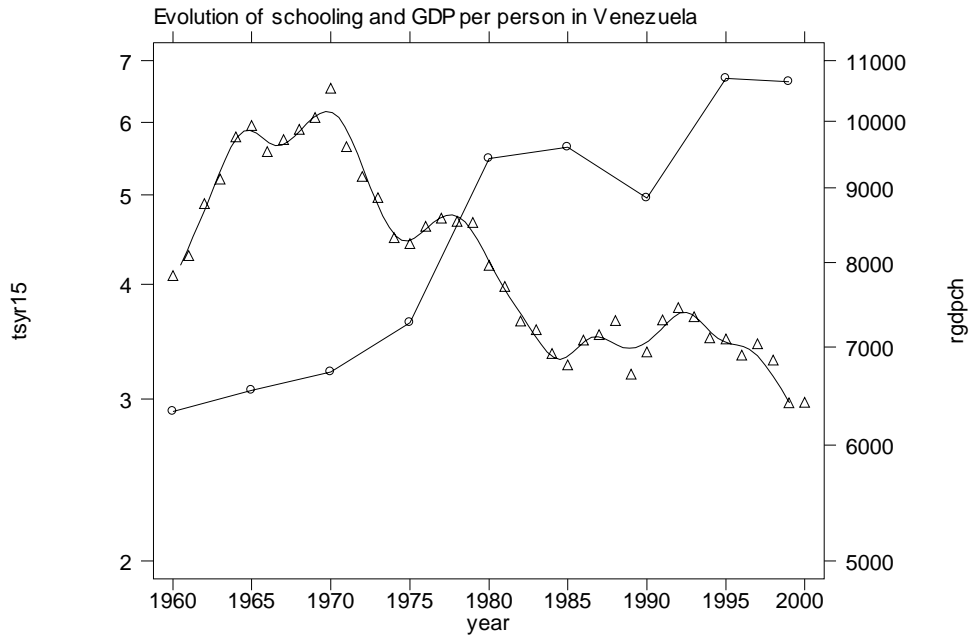
Second, the reason this must be stressed is that the role of education as a *growth strategy* has likely been over played and has led to an under appreciation of other steps governments can and should take to promote economic growth. The rest of this report discusses many steps to promote higher rates of growth in El Salvador. If “macro-fundamentals plus investments in human capital” were *sufficient* as a growth strategy there would be little else to say. Hence, this section of the chapter emphasizes the expanding education is *not* sufficient as a growth strategy—in fact education and the other steps recommended are complementary—education will promote growth more in a dynamic economy with increased levels of innovation and adoption and innovation and adoption will be accelerated by more education.

With those intentions firmly in mind, let me turn to three pieces of evidence about the relationship between growth and changes in growth and education. First, growth booms and busts are frequent even with very little change in education. Second, across countries the rate of growth of human capital just does not vary enough to explain much of the variability of growth rates. Third, since economic growth is highly volatile while the growth of the human capital in the labor force evolves very slowly the ability of education to explain the dynamics of growth over periods as long as five or ten years is very limited.

*Booms and busts.* The dynamics of schooling and output show that growth accelerations are possible with any given level of schooling—and that decelerations are possible even with increasing schooling. Increases in the years of schooling have not

prevented decades of negative growth in Venezuela or the extended slow-down in growth in the 1980s and 1990s in Brazil.

**Figure 7**



**Figure 8**



(left vertical axis: total schooling years of population 15+ from Barro and Lee, right vertical axis real GDP per capita from Penn World Tables, 6.0)

*Too little cross national variability.* The ability of the variation across countries in the growth of human capital through schooling to explain the variability of growth rates across countries is sharply limited by the fact that countries have had enormously dissimilar growth experiences but remarkably similar expansions in schooling.

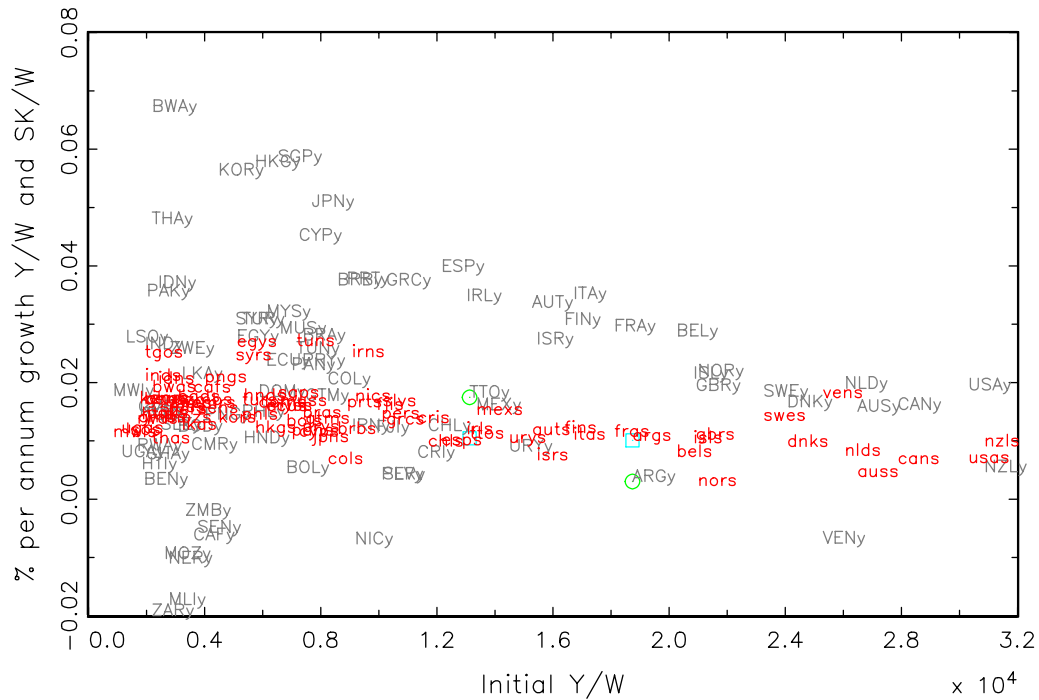
Figures 9 and 10 are not standard and so need a bit of explanation—but the point the figures make is worth it. On the y axis is the growth of output per worker and schooling capital per worker<sup>17</sup> while on the x axis is the initial income. On the y axis each country is identified by a three letter acronym (El Salvador is SLV) and in upper case followed by a ‘y’ is the growth rate of output per worker (e.g. SLVy) while in lower case followed by an ‘s’ is the growth rate of schooling capital per worker (e.g. slvs). Since each country has the same initial income these two points are on the same value on the x axis.

What is clear from these figures is that the variability in the growth rate of schooling capital is very low—ranging only from about 3 percent per annum to about 1 percent per annum. That is, nearly all countries experienced a significant expansion in the schooling of their labor force. This explains the very tight clustering of the lower case symbols. In sharp contrast the variance in output growth rates is very high—particularly for low income countries (compare Botswana (BWA) and Zambia (ZMB)) This fact implies that it is very difficult for cross-national differences in the growth of schooling capital to explain the variance in the growth rate of output. Rather, it appears that in some countries schooling growth has translated into improvements in output, in others, it appears not to have been as effective.

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<sup>17</sup> Notice that this is a measure of schooling capital per worker—not “years of schooling.” In order to map from years of schooling to schooling capital there need to be assumptions made about the impact of an increase in a year of schooling on the schooling capital—which requires assumptions about the returns to schooling. For a full description see Pritchett, “Does Learning to Add Up Add Up” in the forthcoming *Handbook of Education Economics*.

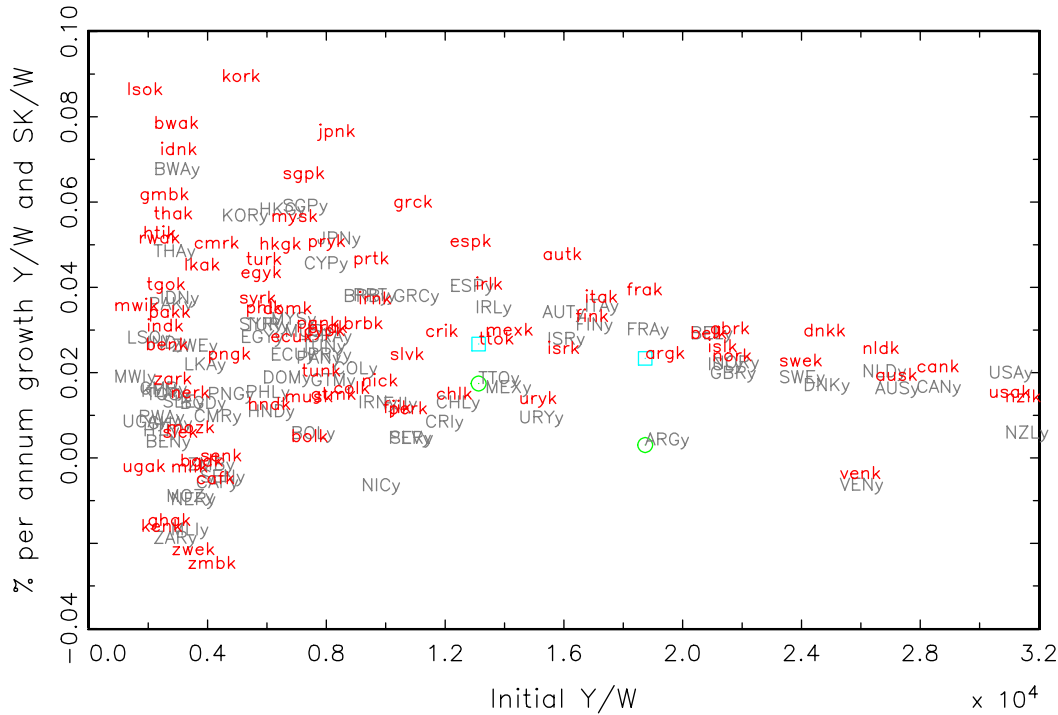
Figure 9: Growth output per worker and schooling capital per worker  
(Upper case gY/W, lower case gSK/W)



In comparison, as shown in figure 10, there has been *wider* variation in the growth of physical capital per worker than in the growth of output per worker. For instance, notice that in this case Zambia's capital stock growth is more negative than output per worker growth and Botswana's capital stock growth is higher than output per worker growth.

**Figure 10**

Figure 10: Growth of output per worker and physical capital per worker  
(Upper case gY/W, lower case gK/W)



*Explanatory power of schooling for growth rates.* As table 15 shows, the ability of schooling to explain growth rates over periods of a decade or shorter is very, very limited. For instance, over a 30 year period adding schooling to explain growth can explain as much as 6.7 percent of the total variation in growth rates across countries. In contrast, at 5 year horizons—explaining which countries will grow over the next five years and which will not—schooling has almost no explanatory power at can explain at best 1 percent of the variance in growth rates across countries in any given five year period. Again, to some extent this is obvious—since growth rates are very volatile with large accelerations and decelerations and the growth of schooling is gradual, it cannot be the case that schooling determines growth over the short to medium run.

**Table 15**

	The maximum explanatory power of schooling per worker for growth of output per worker using a completely flexible functional form declines with the period of the growth rates (Incremental explanatory power of schooling for economic growth)		
	R-Squared		
	30 year	10 year	5 year

Growth of CUDIE (physical capital) per worker (K/W)		0.461	0.424	0.287
Growth K/W, lagged output, initial infant mortality rate, period dummies		0.647	0.53	0.39
Initial S/W, final S/W, squares of initial and final S/W, initial and final 1/(S/W)	R2	0.714	0.563	0.4
	Incremental	0.067	0.033	0.01
All except K/W	R2	0.515	0.329	0.2
	Incremental	0.199	0.232	0.2
	of K/W growth			
Number of observations		88	260	522
Number of countries		88	92	92
Source: Author's calculations; see Pritchett, "Does learning to add up add up" forthcoming Handbook of Education Economics for details.				

To conclude.

Q: "Is the currently low level of educational attainment an *insuperable* obstacle to a sustained growth and poverty reduction boom in El Salvador?"

A: "No."

Q: "Is investing in human capital *sufficient* for a growth strategy?"

A: "No."

### II.B) How demand for educated labor is (and will) change

The education sector needs to acknowledge how the pattern of demand for educated labor will change with an economic strategy, in two senses. First, the inevitable integration into the world economy (as well as this as an active economic strategy) imply that the patterns of returns to education will change—and there are harbingers of the increasing returns to *high levels of ability—not just basic education*.

Figure 11 depicts the comparison of total family income of households headed by males (simply to make the comparison simpler) with various levels of education. This divergence of median family income for different levels of education, especially for the younger cohort, implies changes in the returns to education for Salvadorans.

**Figure 11**

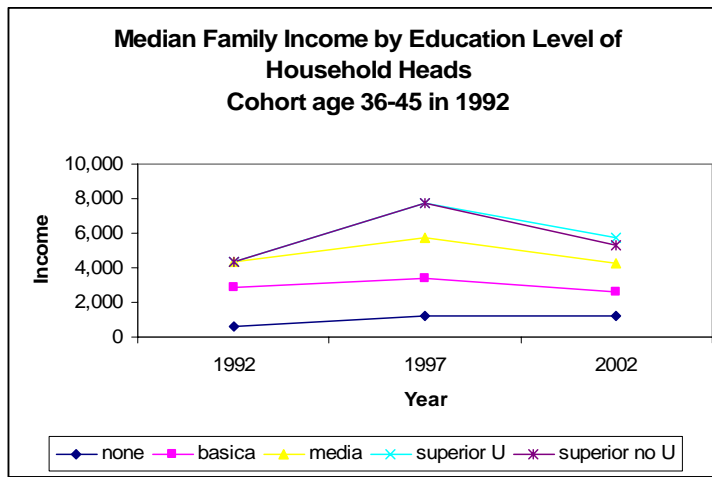
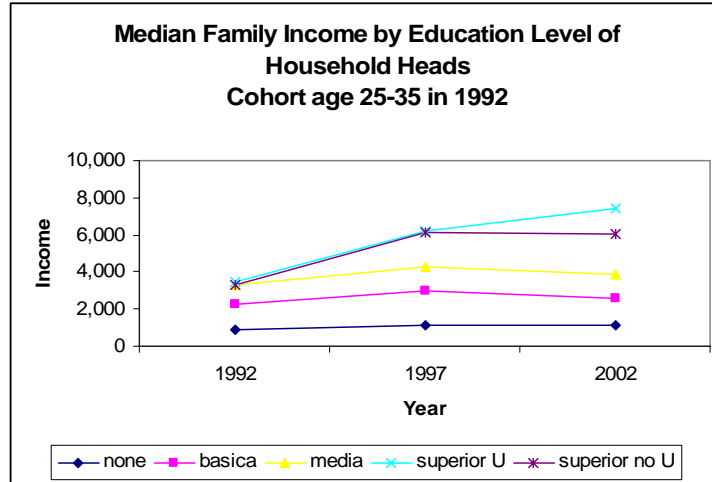


Table 10 shows the change in returns comparing cohorts of the *same* age across a decade, 1992- 2002 and shows that for both cohorts considered, the returns to having a tertiary education are greater today than those for the same cohort at the start of the 1990s. Standardizing a *Basica* =1, a member of the 25-35 year old cohort earns almost 3 times as much as a member of the same cohort 10 years ago. Today in El Salvador, there is a higher premium placed on high skilled workers than in past years.

**Table 16**

Increases for those with higher levels of education was much higher for the young cohort of males household heads.		
	<b>Cohort 25-35</b>	
<b>Education Level</b>	<b>1992</b>	<b>2002</b>
none	0.37	0.44
basica	1.00	1.00
media	1.44	1.52
superior U	1.50	2.89
superior no U	1.44	2.36

FUENTE: EHPM 1992, 1997, 2002

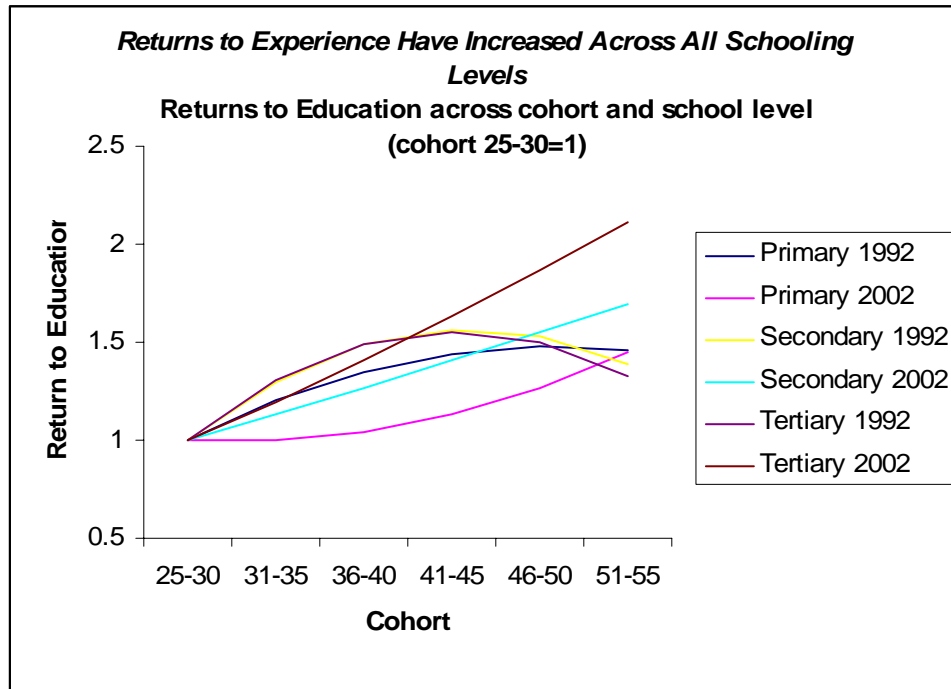
This following table uses the same data and shows that returns to experience have also increased since 1992. After gaining 10 years of experience, returns are greater for those with the highest level of schooling. Experience is an added credential and there are premiums for more experienced workers. Yet there is an interaction affect between experience and formal education. Returns to experience are much greater for those with high level of schooling.

**Table 17**

Percentage increases in incomes were much larger for household heads with higher levels of education.					
<b>Cohort aged 25-35</b>					
<b>Education Level</b>	<b>In 1992</b>	<b>In 1997</b>	<b>In 2002</b>	<b>% Change '92-'02</b>	<b>Absolute change '92-'02</b>
None	861.24	1,164.00	1,118.00	29.81%	256.76
Basica	2,296.65	2,962.00	2,551.96	11.12%	255.31
Media	3,301.44	4,283.00	3,891.25	17.87%	589.82
Superior U	3,444.98	6,225.00	7,386.36	114.41%	3,941.39
superior no U	3,301.44	6,100.00	6,029.74	82.64%	2,728.30

FUENTE: EHPM 1992, 1997, 2002

Figure 12



These changes are not unique to El Salvador. Especially among the more advanced Latin American economies there was an increase in the premium to tertiary (see figure 13). Among Central American countries this trend was less noticeable but there is a large increase in El Salvador in the returns to secondary and tertiary schooling between 1995 and 2002 (figure 14).

Figure 13

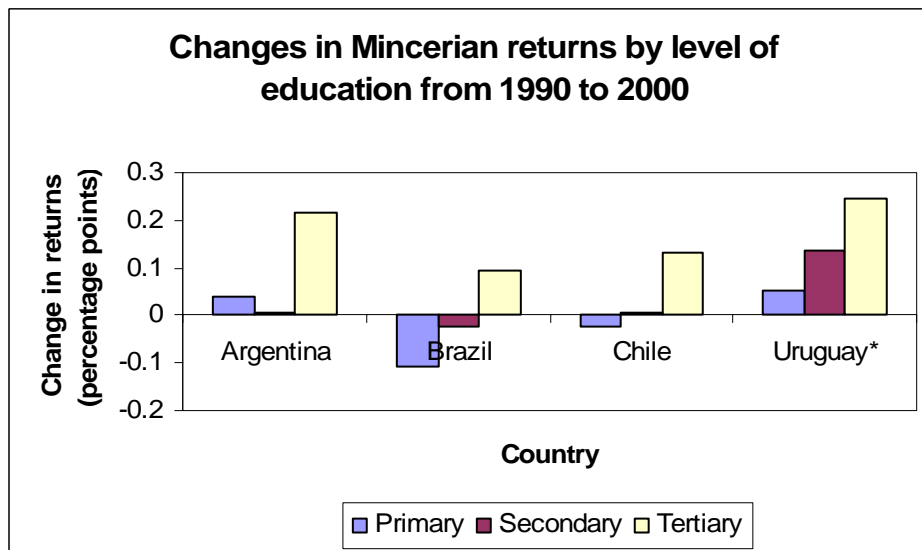
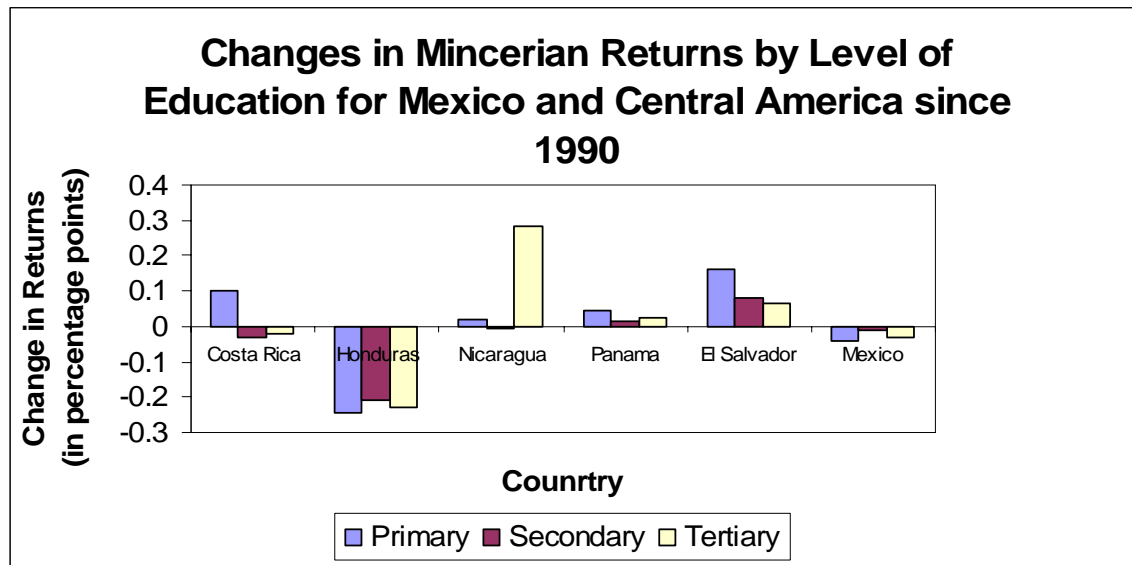


Figure 14

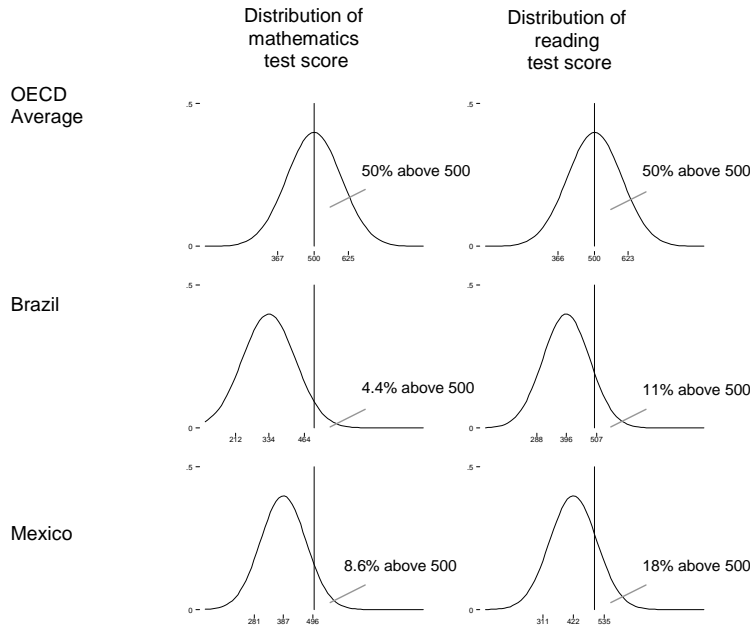


All of this evidence suggests that the changes in the economy are leading to more returns to high skill—more premium to labor market experience for the educated, more returns to skill at the higher levels (tertiary not secondary). This suggests that merely achieving universal basic education is not, by itself, a viable strategy for a competitive workforce.

*Return to the issue of the importance of quality in a globally competitive world.* What is most striking and disturbing from the tables above is not just that the average for Brazil and Mexico is low, but the implications for the upper tail—the best performers. The median value for the OECD is 500 (by construction). The USA is near the median, which I emphasize because no one is particularly impressed with the academic abilities of the *median* US fifteen year old—so this is not comparing Brazilians to those East Asian whiz kids in math. But even with this comparison, only 4 percent of Brazilians are above the median score of 500.

**Figure 15** Fifteen-year-olds perform substantially worse on a standardized test in Brazil and Mexico than in OECD countries

Distribution function of mathematics and reading test scores in OECD countries, Brazil and Mexico, based on results from the OECD's Programme for International Student Assessment



*Note:* Distributions are approximated on the basis of the mean and standard deviation reported in the original source.

*Source:* OECD (2001).

I emphasize the upper tail—high performing students—because in a globally competitive market for the production of “ideas” it is plausible that the most relevant issue is generating the very best. Imagine the following scenario in which a group of students from two countries the best are going to be picked. Even if country averages are different there is a huge amount of variation within a country—some students do well while others do poorly—so the outcomes overlap. But the further one goes into the upper tails of a distribution the larger the imbalance is because “moving into the tails” is a highly non-linear function. So, suppose there were 10,000 students each from two countries, one where the average was 500 and one where the average was X (where X is 350,400,450) and from those 20,000 students the top 1 percent (200) are going to be picked? What fraction will come from the country with the lower score? The answer is: “almost none.” If countries plan on competing globally on the ability of their citizen to generate and apply new ideas, this implication of low average performance is very disturbing. Their sample of candidates for joining the globalized corps of qualified workers will continuously be smaller relative to the country with the higher average.

**Table 18**

Implications of low average scores for the “high performers”						
If “country 2 average score is: (country 1=500) and both std- dev=100	Populations equal at 10,000			Population of country 2 is 1,000 of country 1 is 10,000		
	Fraction from country 2 in the top 1 percent	of the 200 in the top 1 percent, number from country 2	3 std dev	1 percent	of 110	3 std dev
350	0.90%	1.8	0.10%	0.08%	0.1	0.00%
400	5.10%	10.2	2.50%	0.37%	0.4	0.14%
450	20.40%	40.8	16.20%	2.50%	2.8	1.50%
500	50.00%	100	50.00%	9.12%	10	9.11%

*Policy implications for educational sector.* The changes in returns to education that reward higher levels of schooling quality and higher levels of attainment appear to due to deep changes in technology and economic changes in the structure of production—not merely the result of “policies” that could be reversed (if it were deemed desirable). As pointed out in recent reports on the competitiveness of the Salvadorian economy higher levels of competitiveness depend on higher quality education at all levels—including universities. There are three principal implications for the educational sector of the shift in demand for labor towards higher and higher levels of educational attainment and quality.

First, the quality of the universities must be improved. The university sector has suffered, both during the armed conflict and afterwards. However, improving universities will require major policy changes—not simply more resources. The changes in university education proposed in the competitiveness report are a first step.

Second, if returns to higher education are increasing this suggests an increase in demand that should and could be met by increasing supply of educated students. This requires policies that assist students who can not finance their own education. Keeping tuition and fees low across the board acts as a massive subsidy to richer parents and in a tightly constrained fiscal environment like El Salvador across the board increases in public financing of university education is unlikely to be desirable. This suggests an expansion of financing mechanisms—loans, grants, and scholarships—that are direct to the student and portable across institutions but which target the benefits.

Third, a key to creating higher quality university graduates and, as discussed in the chapter on social policy, key to social mobility is attention to quality and ability at the early levels—not simply a focus on interventions at the higher levels. That is, since, as seen in figure 6 above, very few children from poorer households complete even 9<sup>th</sup> grade programs that offer scholarships are bound not to reach the poor. It has been demonstrated in the USA that most programs which focus on raising the attainment of disadvantaged youth at a late age have very low returns. Making the gap in attainment

more related to child ability and potential and less related to parental income will require programs that encourage and raise expectations of possibly attainment by youth—regardless of their social background.

### *II.C) The role of training*

This sub-section will be very brief because this material has been covered well elsewhere recently. As emphasized in recent publications of FUSADES *Competitividad para el Desarrollo* and the World Bank *Closing the gap in Education and Technology* training should be seen as an integral part of a national policy for innovation and technological progress that combines education, policies for firms to innovate, and training. That is the approach of this report as well—training must be an integral part of both the process of national innovation and of providing workers with opportunities.

There is nothing fundamentally wrong with the current arrangements for formal labor market training via INSAFORP—in fact the principles of a tri-partite governance of training funds used by firms for private providers has many desirable features that promote effectiveness. The two major challenges are extending training to smaller and medium sized firms which currently are much less likely to use formal training. The second is to integrate the training into the proposals for innovation above so that lack of key skills does not become a bottleneck in the process of bringing new ideas to scale.