Artigos

Efficiency and equity aspects of social spending in selected countries of Latin America and East Asia: a comparative approach

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ABSTRACT

The paper reviews the main features of social expenditures in Latin America and East Asia. The objective is to evaluate the efficiency and equity aspects associated with education, health care, and social security spending in both regions. Emphasis is given to the impact of these expenditures on income distribution and to its effects on the welfare of the low-income population. Furthermore, the relationship between the public and private sectors are examined in order to inquire to what extent public expenditures in social areas, complement, rather than substitute for private activities.

Key words: social expenditures, public spending, Latin America, East Asia.

RESUMO

O artigo examina os principais aspectos dos gastos sociais na América Latina e Leste Asiático com o objetivo de avaliar a eficiência e eqüidade dos aspectos associados aos gastos com educação, saúde e seguridade social em ambas as regiões. Ênfase é dada ao impacto dos gastos sobre a distribuição de renda e seus efeitos sobre o bem-estar da população de baixa renda. Além disso, é analisada a relação entre os setores público e privado com vistas a investigar em que medida os gastos públicos em áreas sociais complementam, ao invés de substituir, atividades privadas.

Palavras-chave: gasto social, despesa pública, América Latina, Leste Asiático.

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1 Introduction

Investments in social services, particularly in education and health, are critical elements for economic development. The positive link between the availability of an adequate supply of human capital and development is fairly robust across studies and methodologies.[1] For instance, theoretical models of endogenous growth point to the fact that public social investments produce externalities and may increase the long-term prospects of the economy. Yet, the benefits of public spending are not limited to its possible consequences on growth. They are also supposed to bring about a very much needed equity to the process of economic development. There is now an emerging consensus that access to certain publicly provided goods such as basic education and essential health care may considerably reduce poverty and improve human development.[2] Experiences in many countries corroborate these results. Public spending policies have played an important role in creating and preserving a more equitable form of economic growth. Yet, this path has not been fully utilized. Recent studies have shown that the potential of public spending to reduce economic inequalities has been underestimated.[3] Hence, to promote equality by increasing the availability of public goods seems to be a very promising route.

Once the necessity of appropriate public policies is accepted, the problem becomes how to allocate government spending in such a way as to avoid the crowding out of the typical activities of the private sector. Public expenditures, ideally, should be allocated within and across sectors so as to maximize social welfare including the impact on the poor. The modern economics of the public sector, strongly based on welfare theory, provides a framework within which these issues may be addressed. Accordingly, public expenditures should focus on goods and services not provided (or under-provided) by private markets. Hence, public activities are to take place where clear market failures are detected. In the particular case of education and health, this implies a higher concentration of resources on primary schooling and basic health care. Moreover, it also involves a cutback of spending in higher education as well as a move away from a more expensive and discriminatory curative medicine in favor of greater effort for prevention.

The important question here is to what extent these patterns apply to Latin America and East Asia. Do these regions, when establishing the priorities associated with their public

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1 For example, see Romer (1986), Lucas (1988), Barro and Lee (1993), Easterly and Rebelo (1993), among others.

2 See Anand and Ravallion (1993).

3 Harberger (1977), Goode (1984), Sen (1981), Cornes (1982), among others.

expenditures policies, follow those recommendations? Is the rationale for public spending convergent across regions or does their allocation of public funds follow a clearly differentiated pattern? To answer these and other related questions, this paper will investigate the social public spending patterns in both regions, emphasizing the efficiency and equity aspects of such policies. We are particularly interested in evaluating the role played in improving income distribution. We will argue that East Asia was particularly successful in using social expenditures to correct typical market failures whereas in Latin America policies lagged behind in terms of equity and efficiency. Indeed, recent evidence seems to point to a greater efficiency of East Asia in identifying a group of potential reallocations of public spending that would simultaneously improve efficiency and distribution.[4] By contrast, social public spending in Latin America was trapped by the traditional dilemma between equity and efficiency and seems to have played only a minor role in attenuating inequalities.

This paper is organized as follows. Sections 2 and 3 present and discuss the structure of public spending in education and health in Latin America and East Asia from a comparative perspective. Emphasis will be given to the analysis of equity and efficiency aspects of social spending. Section 4 examines social security spending and Section 5 analyzes the relationship between public expenditure and income distribution. Section 6 reviews the key issues and trends in regional patterns of public spending and investigates the main source of variations across regions. Finally, Section 7 draws some lessons and conclusions from the experience of the two regions.

2 Eficiency and equity aspects of educational services

One can convincingly argue that, whatever objectives are assigned to schooling, it is always desirable that they should be efficiently fulfilled. This is particularly true in developing countries, where the opportunity cost of resources used in education may be very high. An education system is said to be efficient if it produces the desired output at minimum cost or, if for a given availability of resources, it maximizes the desired output. In such a system, resources must be efficiently allocated by prioritizing inputs that effectively enhance learning and are cost-effective, and avoid the use of ineffective and expensive inputs.

4 Birdsall and James (1993).

Still, efficiency is not the only point to be taken into account. Education affects productivity and thus the entry to the labor market. In addition, it has a significant effect on earnings, as the rates of return on education - private as well as social - are high, especially, in developing countries.[5] Therefore, it may considerably influence poverty as well as the patterns of income distribution.[6] Hence, if governments want to achieve universal and fair schooling, it is necessary to ensure that all segments of the population have access to the benefits of education and to the economic and social mobility it provides. Education systems should thus be equitable.

This section examines the efficiency and equity of the schooling systems in Latin America and East Asia. A number of aspects deserve to be examined such as what factors are responsible for better results in the learning process, whether the regions are effectively using their limited resources in order to maximize outcomes and whether the education system accessible to the disadvantaged. These and other related questions will be considered below.

2.1 Cost-efficiency of schooling in Latin America and East Asia

As efficiency in education has been analyzed in a vast literature, the paper does not cover all of its aspects. Instead, it will concentrate on topics considered more relevant for which data are available. Below we will briefly discuss the main outcomes of the educational system in both regions as well as the inputs used to reach such outcomes.

2.1.1 Output efficiency: school completion, repetition and learning achievements

Table 1 presents selected indicators of output efficiency of the education systems for Latin America and East Asia. From the outset, it should be noticed that access to primary schooling is universal in both regions. However, when we consider the patterns of cohort survival, the differences, across and within regions, are impressive. In East Asia, the dropout rate is much lower than in Latin America. Most of the East Asian students complete primary school whereas in Latin America, except for Uruguay, rates of survival are

5 Psacharapoulos (1993b).

6 Recent studies confirm the crucial role played by education levels on the patterns of income distribution in Latin America. See, for instance, Psacharapoulos (1993), Barros (1992), and Cardoso and Helwege (1992).

considerably lower and repetition rates much higher.[7] Such a result offer clues about the quality of the education system. If students fail to progress, the chances of dropout probably increase thus reducing the survival rates.[8] Resources spent on these students are partly wasted because they acquire only part of the required cognitive skills.

Notice that low cohort survival rates are not inevitable outcomes in poor countries. The Philippines, Indonesia and Bolivia do much better than Brazil, a country with a higher per capita income. This suggests that policy choices within primary education also play a critical role in the effectiveness of the school system. Just as poor achievement leads to repetition and dropout, high cognitive achievement is associated with promotion to higher levels of schooling. Not surprisingly, enrollment in secondary schooling is also much higher in East Asia than in Latin America.

Table 1
Selected Indicators of Efficiency: Patterns of Cohort Survival in Primary and Secondary Schools, Repeaters - 1990

Countries	Primary gross enrollment ratio 1990	Percent of population entering grade 1	Percent of entrants surviving to the end of primary	Repeaters in primary - 1990	Secondary gross enrollment	Enrolled in primary going to secondary	Repeaters in the secondary
Latin America							
- Argentina	111.0	n.a	n.a	n.a	71.0	n.a	n.a
- Bolivia	85.0	100.0	44.0	3.0	34.0	n.a	5.0
- Brazil	108.0	100.0	20.0	19.0	39.0	n.a	n.a
- Chile	87.0	n.a	77.0	n.a	72.0	n.a	n.a
- Colombia	111.0	100.0	56.0	11.0	55.0	34.0	20.0
- Costa Rica	101.0	100.0	79.0	11.0	42.0	48.0	12.0
- Mexico	115.0	100.0	72.0	9.0	55.0	58.0	2.0
- Paraguay	108.0	100.0	59.0	9.0	30.0	n.a	n.a
- Peru	126.0	100.0	n.a	n.a	67.0	n.a	10.0
- Uruguay	108.0	99.0	93.0	9.0	81.0	n.a	n.a
- Venezuela	97.0	100.0	48.0	11.0	34.0	42.0	6.0
East Asia							
- Hong Kong	108.0	100.0	97.0	n.a	75.0	n.a	n.a
- Indonesia	117.0	100.0	77.0	5.0	45.0	n.a	1.0
- Korea	107.0	100.0	99.0	n.a	87.0	98.0	0.0
- Malaysia	93.0	88.0	96.0	n.a	56.0	n.a	n.a
- Philippines	112.0	100.0	70.0	2.0	73.0	65.0	2.0
- Singapore	108.0	n.a	100.0	n.a	70.0	n.a	n.a
Thailand	99.0	85.0	87.0	4.0	33.0	n.a	n.a

Source: World Bank (1994, 1996).

7 The UNESCO special survey on repetition shows that in Latin America 29% of all primary students are repeating their grade each year. For the first year this rate is 42%. As a result, Latin American countries spent US$ 2,5 billion each year to teach these 20 mullion repeaters.

8 Wolff, Schiefelbein and Valenzuela (1994) found a strong negative correlation between repetition rates and school completion in Latin America. As children become older, their opportunity costs of remaining in school increases. Further repetitions discourage students and reduce the possibility of passing.

There is a striking difference between Latin America and East Asia in learning achievements in primary schools. In various standardized achievement tests East Asia scores are systematically higher than those for Latin America (Table 2). Moreover, East Asian countries do not only perform only better than their Latin American counterparts. They have also overtaken the developed nations. Results of the last TIMSS (Third International Math and Science Study) show that the region´s richest countries - Singapore, Hong Kong, and Korea - took three and two, out of the top four places, in the mathematics and science tests respectively. Even Thailand, a relatively poor country, scored above the average and outperformed traditional rich industrial countries like Germany, Switzerland, England, Denmark and the United States. In the same test, Colombia, the only Latin American country present in the sample, left behind only South Africa, the country which got the worse score in both mathematics and science. In the 1992 IEA (International Education Assessment) study of reading literacy, Venezuela scored the lowest of the twenty seven participants with nearly one third of nine years-old students taking the test scored at chance levels or below. In the 1992 IAEP (International Assessment of Educational Progress), thirteen year-old students of the two Brazilian cities included - Fortaleza and São Paulo - scored slightly higher than Mozambique and far below the Asian countries included in the sample (Korea, Taiwan, and China).

Table 2
Education Achievements in Latin America and East Asia: Results of Selected Standardized Tests

Countries	Reading Literacy Studies	Mathematics		Science	
	1992/1993[b]	1992/93[c]	1994/95[a]	1992/93[c]	1994/95[a]
Latin America					
- Argentina	361	38		38	
Bolivia	284				
Brazil		34		50	
- Chile	366				
- Colombia		40	385	37	411-
- Costa Rica	381	55		56	
-Dominican Rep.	303	40		37	
Ecuador	308			--	
Venezuela	383	40		41	
East Asia					
- Indonesia	394				
- Hong Kong	517		588		522
- Korea		73	607	78	565
- Singapore	515		643		607
Taiwan		73		76	
Thailand		50	522	55	525

Source: Wolff, Schiefelbein and Valenzuela (1994), Burki and Edwards (1996), The Economist, March 29, 1997. a: Third International Maths and Science Study (TIMSS); b: IEA Study of Reading Literacy; c: International Assessment of Educational Progress Test of Mathematics and Science.

Summarizing, all indicators used here seem to demonstrate the higher efficiency of the educational systems of East Asia. Such achievements become all the more remarkable when we compare levels of government spending across regions (Table 3). Spending on education, as a percentage of GDP, is roughly the same in the two regions. Yet East Asia outperforms Latin America in most of the efficiency measures considered. This remarkable result arises because regions and countries differ in the way their education systems are organized and financed. They differ in such aspects as private and public financing, class size, teaching motivations and qualifications. Because some arrangements are more efficient than others, the same expenditure can achieve very different levels of educational development. For this reason, appropriate government policies, as a determinant of education development, are at least as important as the size of public spending. Below, we will investigate the elements behind the large discrepancy between Latin American and East Asian educational patterns.

2.1.2 Cost-effectiveness of educational inputs: a comparative analysis

A cross country comparison of the spending in education reveals a striking difference between regions. In East Asia nearly all countries show a most pronounced emphasis on primary education. This is particularly true for Indonesia, Korea, Philippines and Thailand, where the share of the primary education ranges from 57 to 64 percent, well above the regional average. Compared to Latin America, East Asian governments clearly concentrate resources on the lower levels of education. This pattern of allocation was made feasible through a significant self-financing private sector in higher education. In Latin America, by sharp contrast, continuing a long-term tendency, the share of education budget devoted to primary education declined from 49% to 43% between 1980-89 while the share of higher education was steadily rising.[9]

9 Wolff, Schiefelbein and Valenzuela (1994).

Table 3
Level and Distribution of Public Spending on Education in Selected Countries of Latin America and East Asia

Countries	Overall Government Spending on Education – Percentage			Distribution of Public Spending by Level of Education		
	GDP		Total government spending	Primary	Secondary	Higher
	1960	1990		1985	1990	1990
Latin America						
- Argentina				37.7[a]		
- Bolivia	1.5	3.0	20.1	66.0[b]		23.0
- Brazil	1.9	4.6		45.9	10.1	26.0
- Chile	2.7	3.7		51.0	21.0	22.0
- Colombia	1.7	2.9	21.4	39.2	20.8	21.0
- Costa Rica	4.1	4.6	20.8	35.1	12.9	36.0
- Mexico	1.2	4.1		24.3	n.a	n.a
- Uruguay	3.7	3.1	15.9	37.7	30.3	23.0
Venezuela	3.7	4.1	18.8	24.5	n.a	n.a
- Regional Average	2.6	3.8				
East Asia						
- Hong Kong		3.0	17.4	71.0[b]		29.0
- Indonesia[a]	2.5	3.7[a]		62.0	27.0	9.0
- Korea	2.0	3.6	22.4	57.0	34.0	7.0
- Malaysia	2.9	6.9	18.8	36.0	34.0	15.0
- Philippines	2.3	2.9	10.1	64.0	16.0	15.0
- Singapore	2.8	3.4		65.0[b]		31.0
Thailand	2.3	3.8	20.0	58.0	24.0	15.0
- Regional Average	2.5	3.9				

Note: (a) 1984 figures (b) 1990 figures and includes secondary education.

Source: Tan and Mingat (1992); Wolff, Schiefelbein and Valenzuela (1994); Human Development Report (1994).

So far, the discussion has been limited to the distribution of the education budget among levels. This section investigates how such funds are spent on inputs that particularly influence the effectiveness of the school system. The focus will be mainly on factors affecting the efficiency in the physical organization of school, class size, availability of teaching material, teaching motivations, and qualifications. Tables 4, 5 and 6 will be used in the discussion of those factors.

The student to school ratio in primary school is substantially higher in East Asia than in Latin America. Korea and Singapore present the highest ratios whereas Costa Rica and Colombia have the smaller schools. Due to the existence of economies of scale in the production of educational services, with average operating costs falling sharply with enrollments, this could be a significant advantage of the East Asian systems.[10] Furthermore,

10 Evidence for China and Philippines confirm the existence of decreasing operating costs respectively in higher and secondary education.(Tan and Mingat, 1992)

East Asia seems to be making better use of equipment. Latin America schools fail to exploit the economies of scale and, clearly, are very far from an optimal utilization of its physical facilities. Of course, one should take into account the fact that in large countries, with scattered rural populations, small schools are more adequate. However, this fact does not explain the under-utilization of schools in Latin America.[11]

As for the student to teacher ratio, both Latin America and East Asia follow the worldwide tendency to reduce class size in primary education. This result has been more remarkable in East Asia where these ratios have declined substantially over the last years. The causes behind this common trend are different, though. In East Asia, ratios are declining due to reduced demographic pressure that has decreased enrollment growth. In Latin America, the declining student to teacher ratio probably reflects political pressures for hiring (unskilled) teachers rather than an explicit policy aiming at increasing efficiency, evidenced by the fact that the decline in the ratio has not improved learning. Besides, the argument that links reduced class size and better learning has been strongly challenged by recent research. Several studies have found that, when other learning factors are controlled, an increase in class size does not seem to have a clear negative effect on achievement. Only 8 out of 30 studies reviewed by Harbison and Hanushek (1992) find support for smaller classes in primary schools. Korea illustrates the case. Its relatively crowded classes did not prevent it from building an excellent educational system, one of the best in the world. In fact, good management theory suggests that, until funds for instructional material are ensured, teacher student ratios should be kept constant or slightly increasing. Increasing the ratio could significantly reduce educational expenses.[12] A reduction of class size to fewer than forty is, therefore, very expensive and thus constitutes a blind alley to improve the quality of the school system in developing countries.

According to recent research, the availability of teaching materials is critical for the learning process. The importance of an adequate provision of textbooks and writing materials is widely endorsed.[13] Furthermore, educational material is also highly cost effective. Harbison and Hanushek (1992) have shown that for every dollar invested in

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11 Even in relatively large countries, it is possible to benefit from economies of scales, if appropriate measures are taken. For instance, the Thai government offered free bicycles for students living far from schools.(Lokeed and Vespoor , 1991) Besides, Costa Rica, a quite small country, has also the smallest schools, thus making clear that in Latin America the under-utilization of school space could not be explained only by the size of the country.

12 Wolff, Schiefelbein and Valenzuela (1994) argue that increasing student/teacher ratios from 27 to 30 would save 11% on the recurrent budget for primary education.

13 See Lockeed and Vespoor (1991) for an excellent survey of world research on the determinants of learning.

textbooks and other educational materials, the primary education system saved on average four dollars from reduced output and repetition. Here, Latin America fits the typical pattern of developing countries where primary students either lack textbooks and other instructional materials entirely or share them extensively with other students. The few data available (Table 5) and previous studies confirm that the financing of learning materials, including textbooks, is highly inadequate in Latin America. Indeed, in this region public expenditures on instructional materials is typically less than one percent of GDP per capita. This constitutes a serious shortcoming of the educational system and may partly explain its poor quality. In addition, it has important implication for equity as lack of public provision of such items puts enormous pressures on poor parents thus hindering equity.

Table 4
Student to School and Student to Teacher Ratios in Selected Countries of Latin America and East Asia

Countries	Student School Ratio		Student Teacher Ratio		
	Primary		Primary		Secondary
	1965	1985	1965	1990	1990
Latin America					
Argentina	164.0	222.0	20.0	19.0	7.0
- Bolivia	72.0	148.0	28.0	25.0	18.0
- Brazil	80.0	132.0	28.0	23.0	14.0
- Colombia	96.0	121.0	36.0	30.0	20.0
- Chile	212.0	240.0	37.0	29.0	17.0
- Costa Rica	132.0	117.0	27.0	32.0	19.0
- Mexico	201.0	197.0	47.0	31.0	17.0
Paraguay	141.0	146.0	30.0	25.0	n.a
Peru	127.0	153.0	36.0	28.0	21.0
- Uruguay	146.0	148.0	31.0	22.0	n.a
Venezuela	133.0	210.0	34.0	23.0	9.0
Regional Average	**136.7**	**166.7**	**32.2**	**26.1**	**15.8**
East Asia					
Hong Kong	351.0	670.0	29.0	27.0	23.0
Indonesia	227.0	177.0	41.0	23.0	23.0
Korea	969.0	747.0	62.0	34.0	25.0
Malaysia	263.0	328.0	29.0	20.0	19.0
Philippines	166.0	270.0	31.0	33.0	33.0
- Singapore	714.0	962.0	29.0	26.0	n.a
Thailand	178.0	221.0	35.0	18.0	18.0
Regional Average	**409.7**	**482.1**	**36.6**	**25.9**	**23.5**

Source: Lockeed and Vespoor (1991), tables A-8 and A-9; Human Development Report (1995).

There are also important differences in teacher qualifications and working conditions across regions. The quality of teaching, a key determinant of student achievement, is basically determined by teacher training and motivation. Yet, the typical pattern of

developing countries encompasses a teaching force that is neither motivated nor trained. Do Latin America and East Asia share this pattern or they deviate from this doomed rule? Are there enough incentives in these regions to motivate teachers to perform well? These questions will be addressed below.

A critical point concerns teacher salaries. Here again, Latin American and East Asian patterns clearly diverge. Salaries are considerably higher in the latter region (Table 6) and there is no sign that the differential is decreasing. Corvalán (1990), analyzing five Latin American countries (Argentina, Bolivia, Colombia, Costa Rica and, Guatemala), for the period 1980-1987, finds that, except for Colombia, salaries had declined for all teaching levels. Similar evidence was found for Brazil.(Harbison and Hanushek, 1992) Latin America presents also large disparities across sectors. Psacharapoulos, Valenzuela and Arends (1993) reveal that, except for Costa Rica, urban teachers earn less than their rural counterparts. Since teachers need to supplement their income with other jobs, absenteeism is thus likely to be higher in Latin America than in East Asia.

Table 5

Expenditures on Teaching Materials School Teachers - Primary School –1985

Countries	Expenditures on Teaching Material per Student			Average Teacher Salary		
	Year	1985 dollars	Percent of GDP per capita	Year	1985 dollars	Percent of GDP per capita
Latin America						
- Argentina				1984	3839.5	1.8
Bolivia				1982	1525.4	2.6
Brazil (1990 US $)				1989	4560.0	1.6
Colombia				1981	2630.0	2.2
- Chile	1981	0.7	0.05	1981	2845.7	2.0
- Costa Rica	1983	1.7	0.13	1986	4760.3	3.2
Ecuador	1986	0.1	0.01	1986	2241.2	2.0
Mexico	1986	1.8	0.09	1986	1733.3	0.9
Peru	1985	0.2	0.02	1985	1145.4	1.3
Uruguay	1980	10.9	0.52	1986	1955.3	1.0
Regional Average		**2.6**	**0.14**		**2723.6**	**1.9**
East Asia						
Korea	1986	5.6	0.24	1979	9841.6	4.2
Malaysia	1984	13.6	0.71	1984	6191.5	3.2
Hog Kong	1984	1.7	0.03	1984	12843.4	2.1
Singapore	1982			1982	11063.6	1.8
Thailand	1986	3.1	0.39	1986	1861.6	2.3
- Regional Average		**6.0**	**0.34**		**8360.0**	**2.7**

Source: Lockeed and Vespoor (1991), and Wolff, Schiefelbein and Valenzuela (1994).

However, increasing wages will not necessarily improve the quality of teaching in Latin America as in this region the training of teachers is, most certainly, deficient. The proportion of untrained teachers is quite high and could reach as much as 40% in Peru and Nicaragua. Teachers have rarely completed a secondary education. Psacharapoulos *et alii* (1993) calculated that the mean years of schooling is insufficient. Consequently, without a serious program to improve teacher abilities, higher wages will only imply higher costs and, very probably, will not bring about any significant improvement in the quality of teaching.

Low wages, inadequate training, poor working conditions, and uncertain career paths are the obvious signs of the low status attributed to the teaching profession in Latin America. Thus, it is not surprising that the teaching profession fails to attract the most able students. Students entering the profession have an academic profile which is lower than that of other students in higher education.(Gysling, 1991) In East Asia, particularly in Korea and Singapore, the overall situation of teachers is undoubtedly superior. Salaries are competitive and the training much better than in Latin America. The situation will tend to further improve in the near future as declining enrollment growth in East Asia will allow educational resources to be redirected toward training and motivating teachers as well as toward improving managerial and administrative support. Furthermore, in East Asia the prestige associated with the profession is relatively high. For instance, in Korea teachers used to receive the same honors as the king and the parents (Lockeed and Vespoor, 1991) and in other countries they also enjoy a relatively good status. Hence, the profession attracts capable people and has low attrition rates.

Last but not least, the impact of inputs ultimately depends on how schools effectively use available resources. Good teaching needs an orderly environment, clear goals, and strong instructional leadership, which are only provided by an efficient institutional framework. Managerial capability and institutional strength are crucial to implement and sustain high-quality education systems. Here again, East Asian countries are well ahead of their Latin American counterparts as they are actively trying to improve school management by training principals and other school staff. Malaysia, Thailand, the Philippines and Korea are leading the way in developing coherent policies to tackle these issues.[14] Korea, in particular, has created institutes that assess and provide information about the educational system and disseminate examples of good practices among schools. These institutions

14 Den Hartog Georgiades and Jones (1989).

effectively contribute to the remarkable performance of Korean students in international achievement tests. It is worth noticing that examples of radical education management reforms are more probably to be found in Latin America. While East Asian countries follow a more predictable pattern, Latin American reforms often introduce bold changes. To illustrate this point, let us consider the examples of Venezuela and Colombia as regards the degree of centralization. These countries constitute two extreme cases. The excessive centralization of the education system in Venezuela has precluded regional autonomy, and has resulted in rigid standardization and inefficiencies, while in Colombia the degree of decentralization has been so high that schools have frequently ignored the directions given by the central administration.

2.2 Equity aspects

Education policies are particularly relevant for equity because they affect access to schooling and, subsequently, to jobs and income. The provision of universal primary school and the wide access to secondary and higher education substantially increase the opportunities for upward mobility. Recent studies have consistently found that additional years or levels of schooling are translated into a large labor market premium.[15] Also, there is by now a growing consensus that education is a critical determinant of income distribution. Indeed, current research points to education as the single most important determinant of inequality.[16]

In such a context, it is very important to evaluate the equity aspects of the school system in the two regions. The relevant questions here are: "How to reach to specific levels of education?" and "How are the benefits of education are distributed across income classes?" Answers to these questions involve analyzing three characteristics of the education system that are believed to have significant implications for equity. They are the existence of a bias toward higher education, the equity in the distribution of benefits, and the balance between the public and private sector as school providers. This section discusses the bias toward higher education while the two other aspects will be examined in Section 5.

15 Barros (1992), Pscharapoulos (1993).

16 See, for instance, Fizbein and Psacharapoulos (1992), World Bank (1993), Barros (1992).

2.2.1 The bias towards higher education

The bias toward higher education relates to the emphasis given in some countries to tertiary education, not infrequently in detriment of other levels of education. Such bias is reflected in the priorities given to this sector with respect to the extent of coverage, resource availability and government subsidization. Table 6 shows, for all the three levels of education, the actual school enrollment ratios and the ratios that would be expected on the basis of per capita income levels alone. The latter are derived from cross-section regressions of educational indicators on per capita income and its square.

Table 6
Actual and Predicted Enrollment Ratios in Latin America and East Asia –1992

Countries	GNP per capita- US$	Primary		Secondary		Higher	
		Actual	Predicted	Actual	Predicted	Actual	Predicted
Latin America							
Argentina	6170	100.0	92.8	78.6	77.5	51.6	27.4
Bolivia	750	89.0	79.9	43.3	53.2	22.0	16.0
Brazil	2810	79.2	85.9	68.8	63.4	27.7	21.3
Colombia	1350	73.2	81.8	66.6	56.4	23.9	17.7
- Chile	2780	83.9	85.8	84.4	63.4	29.6	21.2
- Costa Rica	2010	86.6	83.7	50.6	59.7	23.4	19.4
Ecuador	1100	92.2	81.0	73.6	55.1	37.4	17.0
Mexico	3510	100.0	87.7	60.1	66.6	19.1	22.8
Paraguay	1410	86.5	82.0	46.0	56.7	11.6	17.8
Peru	1350	100.0	81.8	74.6	56.4	34.6	17.7
Uruguay	3470	90.3	87.6	82.3	66.4	44.2	22.8
Venezuela	2920	93.8	85.9	61.6	64.0	25.6	21.6
East Asia							
Hong Kong	15710	99.5	97.8	84.0	84.6	23.4	28.4
Indonesia	680	94.1	79.7	60.2	52.8	18.8	15.8
Korea	7220	100.0	95.0	83.0	79.1	34.6	28.8
Malaysia	2830	93.1	86.0	64.8	63.6	7.0	21.3
Philippines	790	83.0	80.0	75.2	53.4	26	16.0
Singapore	16970	100.0	96.6	87.4	82.7	21.5	26.7
Thailand	1840	81.4	83.3	37.0	58.9	17.5	19.0

Source: Social Indicators of Development, 1994; Predicted enrollment ratios are derived from regression shown in Appendix 1.

Latin America and East Asia fit the typical pattern of developing countries in the sense that both regions have enormously increased enrollment in universities. For the majority of

the countries reviewed, enrollment in tertiary institutions is greater than predicted from their income levels, pointing to the existence of a bias toward higher education. However, in Latin America, the bias is clearly stronger than in East Asia. Except, for Mexico and Paraguay, actual enrollments are considerably superior to the predicted values. Consider, for example, the case of Brazil. Its gross enrollment ratio in primary education is 79.2 percent compared with a predicted ratio of 85.9 percent whereas in higher education the actual figure is 27.7 percent, 6.4 percentages points above its predicted value. This pattern clearly indicates a strong favoring of higher education. In East Asia, Indonesia, the Philippines and Korea also presented enrollment ratios superior to predicted levels. However, in these countries the bias was not against the intermediate levels. Primary as well as secondary education have an actual coverage which is higher than their predicted values. It should also be noted that for countries in this region, the public sector share of enrollment in higher education is inferior to 50 %. To meet excess demand for higher education, Indonesia and Korea have relied on private institutions and open universities whereas in the Philippines, the demand for higher education has been satisfied almost entirely by the private sector.

A second source of bias toward higher education is the concentration of resources by student and by level of education. To assess the implicit priorities attributed to the various levels of education, we used data on public expenditures by student, expressed as a percentage of per capita GNP. Table 7 presents those figures for Latin America and East Asia as well as their deviations from the regional average. For purpose of comparison it is convenient to have a condensed indicator that combines data on deviations into a single number. This rate was calculated by establishing the mid-points of deviations between primary and secondary education, and between secondary and higher education than taking the difference between these mid-points, which shows the pattern of deviation for each country. So, for Brazil the overall pattern is of rising deviations with higher levels of education, whereas for Korea it declines.

Table 7
Expenditures per Student and Deviation from Regional Average in Selected Countries of Latin America and East Asia –1992

Countries/Regions	Expenditures by student in percentage of per capita GDP			Deviation of expenditures from regional average (percent)			Rate of spending bias toward higher education (percent)
	Primary	Secondary	Higher	Primary	Secondary	Higher	
Latin America							
- Argentina	7.8	17.8	18.4	-26.4	43.0	-60.3	-16.9
- Bolivia	14.4	10.4	31.0	36.5	-16.7	-33.1	-34.8
- Brazil	11.0	19.6	111.1	4.33	57.4	139.7	67.7
- Colombia	9.3	8.3	39.2	-12.4	-33.5	-15.4	-1.5
- Chile	11.4	14.1	32.7	7.4	13.1	-29.5	-18.5
- Costa Rica	10.1	11.5	60.2	-4.5	-7.4	30.0	17.3
- Dominican Republic	5.3	3.4	27.6	-50.1	-72.8	-40.4	4.9
- Ecuador	7.2	7.5	31.8	-32.3	-40.2	-31.3	0.5
- Guatemala							
- Mexico	7.1	15.7	102.8	-33.7	26.0	121.8	77.8
- Paraguay	5.7	18.2	64.1	-45.9	46.2	38.2	42.1
- Peru	6.4	10.4	26.9	-39.4	-16.4	-42.0	-1.3
- Uruguay	9.8	9.0	46.2	-7.7	-27.9	-0.3	3.7
- Venezuela	6.1	16.8	55.8	-42.0	34.8	20.5	31.3
East Asia							
- Hong Kong	17.2	7.9	59.0	62.2	-36.8	27.2	-17.5
- Indonesia	8.4	10.0	19.1	-20.2	-19.6	-58.8	-19.3
- Korea	22.9	14.0	7.0	116.6	12.0	-84.9	-100.8
- Malaysia	15.4	23.5	117.7	45.9	88.6	153.9	54.0
- Philippines	11.2	6.7	22.4	5.51	-45.9	-51.8	-28.6
- Singapore	11.6	11.5	34.8	9.8	-7.7	-24.9	-17.4
Thailand	19.7	22.2	31.0	86.4	77.9	-33.0	-59.7
-Regional Average	10.6	12.5	46.3				

Source: Author's calculation based on UNESCO data.

Here again, the bias toward higher education is much more pronounced in Latin America than in East Asia. Indeed, in this region, except for Malaysia, the reduction of deviations with the level of education is manifest as most of the indices of spending bias toward higher education are negative. The cases of Korea and Thailand are particularly remarkable. Their respective rates are -100.8% and -59.7% indicating a clear emphasis on basic education. Notice also that the positive bias for Malaysia is explained by the very low enrollment in the sample year. In Latin America, many countries present a positive bias, denoting the obvious priority of tertiary education. Mexico presents the highest bias toward university education with an rate as high as 77,8%. In this regard, Brazil also has one of the strongest biases against primary education in that it is second only to Mexico's.

Even if in poor countries the favoring of tertiary education over lower levels seems to constitute a general pattern, the emphasis on higher education, as measured by resource intensity, should not be considered an inevitable consequence of under-development. Educational systems in poor countries do not necessarily favor higher education as could be seen by looking at the figures for Indonesia and Philippines. In fact, the intensity of the bias depends as much on policies adopted as on the specific conditions of the countries.

The level of the bias is probably more linked to income distribution than with the level of income. Simple calculations seem to corroborate this hypothesis. The correlation between the bias toward higher education and the top quintile's share of income to bottom's quintile is positive and equal to 0.64 (the correspondent rank correlation is as high as 0.56) meaning that the bias tends to be associated with inequalities. So, the huge income disparities in Latin America may partly explain its strong favoring of higher education.

Finally, the extent of government subsidies of higher education also determines the size of the bias. The extent of subsidies depends on the availability of low cost alternatives (such as distance education), private financing, and user charges. East Asian countries use all these options to reduce public spending on tertiary education. Thus, Korea exploits these three options well while distance education is largely used in Thailand, and the Philippines rely heavily on a self-financing private sector. As for user charges, even in public institutions, cost recovery may be quite substantial. On average, fees finance a larger proportion of the costs of public education in East Asia than in any other developing region.(Tan and Mingat, 1986) Here two patterns are observed: in Korea, the Philippines and Malaysia, the share of cost recovery through fees consistently rises with the level of education. In Indonesia and Thailand, the rate of cost recovery rises steeply from primary to secondary education and then drops for higher education.

Public subsidies of higher education is clearly more common in Latin America than in East Asia. Latin American countries spend a substantial share of public funds to finance universities. In this region, the public sector controls and totally finances the best universities and offers the majority of good quality graduate programs in higher education.[17] Cost recovery in public institutions is practically nonexistent although an important private sector may exist in some countries.

Why has university education with its bias expanded so enormously? Has the performance of the universities justified the amount of resources spent on higher education, considering that such resources could certainly have had alternative uses?

The extension of the middle class in Latin America, and the formation of a new professional class in East Asia that gave priority to educating their children explain most of the enlargement of the university system.[18] In Latin America, this huge enrollment in higher

17 Winkler (1994). For the Brazilian case see Negri (1996).

18 Ranson, Khoo and Selvaratnam (1993).

education has certainly helped to lower the returns on education. Indeed, in this region, the favoring of higher education is particularly harmful as the rates of returns of this level of education are among the lowest in the world and have been declining since 1980.[19] Although its quality has been slowly improving over the past two decades, specially with respect to the training of personnel, Latin American universities suffer from the chronic problems that affect tertiary education in the third world. Such problems include overcrowding, deteriorating physical facilities, poor library resources, and insufficient scientific equipment. As a result, these institutions are characterized by low internal efficiency, graduate unemployment and limited scientific output. Furthermore, most of the increase in university recruitment has gone to careers without a direct impact on the development process because they are less expensive and the deficiencies in the training less visible. This goes against the efficiency prescriptions according to which only capital market failures may justify public funding for expensive scientific equipment and low income students. Moreover, in Latin America, the political functions of the universities have predominated over the educational and economic tasks they could have performed.

In contrast, in East Asia, Korea and Taiwan, and to a lesser extent, Malaysia and Singapore, have managed to break up the pattern by means of a deliberate policy to invest in technical higher education.[20] This policy involved recruiting foreign faculty and attracting highly trained nationals back to the country as well as improving the working conditions in institutions. Korea, for instance, adopted science and technological policies designed to create effective incentives to increase expertise in the country. Institutions were built and equipped with the most advanced equipment and qualified personnel. As a by-product, Korea has become a leader in the micro-technology industry, which greatly helped to increase its external competitiveness. In Singapore, the Government's commitment has moved the higher education system away from the hegemony of the traditional elitist British university towards a well-structured, multifunctional and labor-market driven university, well adapted to the increasing needs of a fast growing economy.[21] As for Malaysia, because of its well-known ethnic problems, a small higher education system tried to reconcile an elitist selection policy, adopted to ensure a high degree of completion, with the need for social equity. National selection policies based on quotas complement the selection by merit criteria to reduce ethnic inequalities.

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19 Winkler (1994).

20 See Ranson, Khoo and Selvaratnam (1993), and Selvaratnam (1994).

21 Selvaratnam (1994).

3 Public health care in Latin America and East Asia

As was the case with education, in the health sector, private markets display a wide range of market failures which provide a *rationale* for government intervention in the production of public health services. Safe water, sanitation treatment and the control of infectious and parasitic diseases are typical examples of pure public goods in the sense that they are characterized by non-excludability in consumption. In such cases, it is well-known that the private sector will tend to under supply, or not supply this kind of goods at all. Also, the existence of information asymmetries and moral hazard problems imply that private health care costs will tend to be excessively high. There are also strong efficiency arguments to support public financing of basic health care as they have large positive externalities. Finally, public health programs address the imperfect information of consumers as they tend to underestimate the benefits of preventive care. Hence, public health services tends to be under supplied by private markets making a clear case for government intervention. This section discusses to what extent such principles are followed in both regions. The pertinent questions concern the extent of public health programs, the balance between preventive and curative programs, as well as the equity and efficiency aspects of public provision of health services.

3.1 Public health conditions: comparative statistics

Developing countries have achieved remarkable reductions in morbidity and mortality over the past thirty years. A natural question to ask is, how much of this improvement is due to government policy, and how much simply reflect income growth over the period? Establishing a relationship between public programs and health indicators is difficult as health outcomes are influenced by factors other than government spending. Nevertheless, when controlling for such other factors (e.g. the growth of income), attempts to measure the impact of public expenditure on health conditions suggested that public health programs - such as immunization programs, access to safe water and better sanitary conditions - have a very substantial effect on reducing maternal and infant mortality as well as morbidity rates.[22]

In such a context, Latin America and East Asia have not been exceptions. Health indicators have improved steadily in both regions as can be seen from Table 10. However, they have improved at a slower pace in Latin America. This made the region slip in international comparisons of health achievements. Before the eighties, it presented the

22 Hammer, Nabi and Cercone (1995), World Bank (1992), Van den Walle (1995), among others.

highest levels of health in the developing world. By now, the provision of health services in Latin America is worse than in regions with comparable levels of development.[23] In spite of recent improvements, sanitary conditions in the region are still very far from adequate. This was clearly reflected in the epidemics of cholera and other diseases in the late 1980s and early 1990s.

Table 8
Selected Indicators of Public Health : 1975-80, 1987-1992

	Access to Safe Water		Infant Mortality (per thousand live birth)		Immunization - percent of age group				Maternal mortality rate - per 100000 live births		Life Expectancy - total years	
					Measles		DPT					
	80/85	87/92	80/85	87/92	80/85	87/92	80/85	87/92	80/85	87/92	80/85	87/92
Latin America												
- Argentina	66	n.a	36	29	90	99	66	84	85	140	70	71
- Bolivia	53	66	103	103	17	73	24	58	450	48	54	60
- Brazil	84	87	71	57	80	83	67	75	150	140	63	69
- Colombia	89	100	40	21	52	75	60	84	130	110	67	66
- Chile	87	86	24	24	77	77	84	84	55	40	71	71
- Costa Rica	90	94	19	14	83	90	82	95	26	18	74	76
- Ecuador	57	70	62	45	40	54	36	89	220	170	64	67
- Mexico	70	78	49	35	30	78	26	64	92	110	67	70
- Peru	55	58	74	52	32	82	26	81	165	280	59	65
- Uruguay	98	98	33	20	17	82	57	88	56	36	71	72
-Venezuela	80	89	39	33	25	54	27	54	65	200	69	70
- Regional Average	**75,4**	**75,1**	**50**	**39**	**49,4**	**77**	**50,4**	**78**	**136**	**117**	**66,3**	**69**
East Asia												
- Hong Kong	89	99	8,8	6	n.a	42	87	83	4,0	4,0	76	78
- Indonesia	38	42	95	66	15	80	15	86	450	390	56	60
- Korea	73	93	30	13	89	93	76	74	34	30	68	71
- Malaysia	84	79	28	14	20	79	59	90	59	20	68	71
- Philippines	52	81	51	40	49	85	52	88	80	74	62	65
- Singapore	100	100	9,3	5	75	92	78	91	11	10	72	75
Thailand	56	72	44	26	22	60	47	69	270	37	64	69
- Regional Average	**70,3**	**80,9**	**38,0**	**24**	**45**	**76**	**59,1**	**83**	**130**	**85,8**	**66,6**	**70**

Source: World Bank (1994).

In East Asia, the considerable emphasis on primary health care has undoubtedly translated into better health conditions. Even in a poor country like Indonesia, where the health conditions are amongst the lowest in East Asia, large investments in primary health care have been clearly associated with a reduction in both the rate and duration of reported morbidity.(Deolalikar, 1995)

23 Londoño (1996), calculated also the health-related losses in productivity.

This divergent behavior is not explained by the lack of financial resources devoted to health. Latin American governments spend approximately 3 percent of GDP annually on health, a high figure when compared with its East Asian counterparts. Such a result also holds when measured in terms of expenditure per capita. For instance, in Argentina, in 1992, the government spent US$ 192 per capita whereas the equivalent figure for Korea was only US$183. However, almost all Korean indicators on health care were better than those for Argentina. Brazil's inefficiency is again quite remarkable. In spite of the fact that its spending is within the range of the regional average, its rate of infant mortality is the second highest in the region.

As was the case in education, the answer is to be found on the cost-effectiveness associated with input use. This can be seen at Table 9, which provides information on selected health inputs for Latin America and East Asia. The proportion of doctors to nurses is much higher in Latin America.[24] This could be a sign of inefficiency as, compared to doctors, the costs of training nurses as well as their salaries are much lower. If properly trained, they can be extremely useful in providing the basic care for a needy population at a much lower cost, thus permitting a better use of public resources. Furthermore, the relatively high number of doctors in Latin America is very probably concentrated in hospitals and urban areas. For instance, in Peru, two thirds of all doctors live in Lima, which has only 29 percent of the country's population. In most rural areas there is only about one doctor per ten thousand inhabitants.[25] Such a situation is confirmed by the figures on hospital beds shown in Table 10. In Latin America there are more beds per inhabitant than in East Asia. However, hospitals absorb a large share of resources assigned to the health sector but provide services only for a relatively few people and hence, with important distributional consequences. In particular, a major effect of reliance on hospital care on income distribution is the increase of rural-urban imbalances. The benefits of hospitals services are not distributed equally among the population but are instead received disproportionately by residents of urban areas. In Colombia, Indonesia, and Malaysia, the average health subsidy received by urban households is up to five times larger than that enjoyed by rural residents.(World Bank, 1987) This particularly hurts Latin America as, compared to East Asia, this region has a larger rural population as well as more pronounced income

24 Although there is no optimal ratio between nurses and doctors, a ratio of fully qualified nurses to physicians of 2 and 4 to 1 and 0.1 to 0.2 physicians per 1000 population is considered to be adequate.(World Bank, 1993) In Latin America, these proportions are reversed as doctors outnumber nurses.

25 World Bank (1987).

disparities. To summarize, all the information above suggests the existence, in Latin America, of a bias toward curative medicine in detriment of basic health care, the typical public good.

Table 9
Selected Health Indicators in Latin America and East Asia

Countries	Public Health Spending (percent of GNP) -1990	Public Health Spending Per Capita (US$ 1992)	Health Inputs per 1000 population					
			Physicians		Nurses		Hospitals beds	
			1980-85	1987-1992	1980-85	1987-1992	1980-1985	1987-1992
Latin America								
- Argentina	5.9	190.9	2.70	3.03	1.02	0.56	5.59	4.63
- Bolivia	2.4	16.3	0.65	0.39	0.41	0.13	2.00	1.21
- Brazil	2.8	77.6	1.46	1.18	0.83	0.29	5.00	3.32
- Colombia	3.0	38.7	0.81	0.94	1.54	0.38	1.68	1.42
- Chile	3.4	80.6	0.87	0.46	2.69	2.98	3.40	3.12
- Costa Rica	7.6	152.0	0.99	0.97	2.10	0.45	3.31	n.a
- Ecuador	2.6	27.9	1.22	1.02	1.63	1.62	1.87	1.60
- Mexico	1.6	55.5	0.84	1.61	1.19	n.a	1.32	1.25
- Paraguay	1.2	16.1	0.66	0.80	0.82	0.14	1.67	0.92
- Peru	1.9	18.0	0.93	1.06	n.a	n.a	1.70	1.41
- Uruguay	2.6	86.8	1.95	n.a	n.a	n.a	3.25	4.52
- Venezuela	2.0	58.0	1.20	1.58	1.58	3.03	2.70	2.60
- Regional Average	**2.9**	**75.7**	**1.00**	**0.89**	**1.09**	**0.34**	**2.29**	**2.36**
East Asia								
- Hong Kong	1.1	169.2	0.83	n.a	1.26	n.a	4.90	4.27
- Indonesia	0.7	4.7	0.11	0.14	0.80	0.35	0.55	0.66
- Korea	2.7	183.3	0.72	1.05	0.84	2.20	1.68	3.33
- Malaysia	1.3	36.3	0.32	0.41	0.72	2.66	1.28	2.32
- Philippines	1.0	7.7	0.15	0.12	0.37	n.a	1.74	1.28
- Singapore	1.1	173.2	0.96	1.22	3.11	n.a	4.26	3.64
- Thailand	1.1	20.0	0.17	0.22	0.54	1.08	1.54	1.61
- Regional Average	**1.3**	**85.0**	**0.24**	**0.25**	**0.71**	**0.87**	**1.45**	**2.44**

Source: World Bank (1994) and calculations of the author.

3.2 The balance between curative and preventive care

In the balance between preventive and curative care, we find a clearly divergent pattern between the two regions. In Latin America, the predominance of a costly curative medicine in detriment of preventive care has greatly helped to increase health costs and subsidies. The emphasis in hospital services, very intensive in capital and technological inputs, turned attention away from the more equitable ambulatory assistance. For instance, Brazil, in 1982, assigned 70% of public health funds to cover expenses for doctors and hospital care, including expensive procedures.(Birdsall and James, 1993) McGreevey (1984) reports

also that in 1979 the Brazilian budget assigned more funds to these high technologies services utilized by only 10,000 individuals from the Southern and Southeastern regions than to the 41 million people living in the poor areas of the North and Northeast.[26] Peru is another typical example of such a situation, where 87 percent of public expenditure in health care in 1980-1981 was spent on curative care. The exception in Latin America is Chile, where increased reliance on private hospitals was followed by a shift of public resources toward basic health care.

This concentration of public resources on curative care cannot be justified on economic or social grounds. Government provision of what is essentially a private good merely substitutes for market supply, thus not being an efficient use of public funds. Recent empirical studies confirm the prescriptions of the modern analysis of public expenditure. According to these studies, government spending on public health services is more likely to improve health outcomes than with expensive clinical services.[27] The implication is that public spending should be restructured toward public health programs and away from clinical services that could be otherwise provided by the market.

Clearly, in Latin America, the utilization of sophisticated and expensive medical procedures for a few people makes the extension of basic care unreasonably difficult for the great majority. The cost of extending the Bismarckian model of social security to the whole population would be prohibitive for most Latin America countries. Mesa-Lago (1989) calculated such costs and found that they would represent a large proportion of the GDP. Exceptions are Mexico, Brazil and Venezuela; these countries could extend their coverage at moderate costs. In the poorest countries, however, costs associated with this extension are virtually unbearable. If Ecuador, Nicaragua, El Salvador, Colombia and Peru wished to cover all the population, it would cost 59,7%, 25,3%, 21,0% 18,4% and 15,7% of GDP respectively. Under current conditions such costs are clearly incompatible with the financial means of these countries.

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26 A typical example of the ineptitude of hospital care is cesarean deliveries. These procedures have great implication for the misuse of hospital resources. In selected countries where medical training and the financial reimbursement system provide adverse incentives, the proportion of total deliveries by cesarean increased the potential risk of giving birth and unnecessarily burdened the health system. Brazil again is the typical example of such misuse of funds. The cost of unwarranted cesareans in Brazil is calculated to be around US$53 million per year.(Barnum and Kutzin, 1993)

27 Hammer, Nabi and Cercone (1995), Van den Walle (1995), World Bank (1993), among others.

What about East Asia? Compared to Latin America, the region seems to rely less on expensive public hospitals and costly medical personnel. The share of public funds going to hospitals and clinics is lower than in Latin America (Appendix, Table A-1). The greater number of nurses and midwifes, compared to doctors, indicates a higher use of essential, more cost effective, outpatient services. Although doctors are needed to supervise essential clinical care and handle complicated cases, most of the services in the minimum clinical package can be provided by nurses and midwifes.[28] In Indonesia sub-centers (units of the primary health care system) are headed by a nurse or midwife, have few staff and offer curative and maternal and child care.(Van den Walle, 1995) Malaysia has also invested heavily in the infrastructure needed to improve peripheral health units providing essential clinical care for the poor (World Bank, 1993), and in Thailand, public-sector nurse-midwives successfully perform female sterilization. Furthermore, as shown below, the substantial participation of the private sector in the provision of health care suggests that public resources are concentrated where they should be, namely, the provision of basic health care, the truly public good. Last but not least, such a concentration of public funds on essential health services may have strong positive distributive consequences as they deal with problems that mainly affect the poor.

3.3 The financing of public health care

Although public funds are an important source for financing health services in both regions, they are by no means the only source available. Private spending, particularly in East Asia, accounts for a significant share of health care spending (Table 10). Except for the Philippines and Singapore, the ratio between private and public expenditures is higher than one. In Hong Kong and Thailand, expenditures by families account for more than 70 percent of total health expenditures, and in Indonesia this proportion could reach 65 percent. In sharp contrast, in Latin America, the participation of private sources, even if not negligible, is much lower. Except for Peru, all the ratios between private and public spending are less than unity. Clearly, in this region, the bulk of health care financing is falling on the public sector, a pattern similar to that observed in the rich welfare states. This is hardly surprising since the model of social protection adopted by Latin America was inspired by the Bismarckian model. In Latin America, government-run health care systems

28 The essential package includes prenatal and delivery packages, family planning services, management of the sick child, treatment of tuberculosis, and case management of sexually transmitted disease. For details see World Bank (1993).

are overextended and are very probably crowding out the private sector. Hence, their sizes needed to be reassessed.

How do Latin American governments finance this huge spending? Basically, the Latin American health care system is characterized by a dual nature: a ministry of health that completely supports services for the destitute and a social security system which provides services for workers of the formal sector. Spending by ministries of health is financed by general tax revenues whereas social security institutions, in most of Latin America, are financed by payroll and earmarked taxes (see Section 4). User charges in government facilities usually cover only a small share of expenses. As expected, with the public provision of goods which are private in nature, there is a frequent tendency to the over-consumption health care services, particularly, expensive curative procedures. Consumers have little incentive to restrain the use of high level facilities when they are either free of charge or command the same fees as simpler facilities. This significant over-consumption takes various forms such as the unjustified use of cesareans as well as the excessive consumption of antibiotics.[29] Additionally, an increasing coverage, together with a high rate of evasion and lack of contribution by the state made the contributions for the social security system insufficient to cover the escalating expenses.[30] The predictable result is the existence of chronic budget deficits in the health care system. Such deficits have been financed by cross-subsidizing the health sector with surpluses from the pensions' accounts as well as via reductions of funds available for preventive health care programs. Some Latin American countries began adopting policies of cost recovery by creating or increasing fees. Up to now, such attempts have clearly been insufficient to mitigate the huge deficits. Moreover, those policies are very much criticized on equity grounds as Latin Americans tend to see any cost recovery policy as an attempt to dismantle their system of social protection and strongly react to any changes, even though they may be extremely necessary.[31]

29 Zschock (1986) and Mesa-Lago (1989).

30 For details on how evasion occurs, see Mesa-Lago (1988).

31 See Soria (1997).

Table 10
Public and Non- Government Health Expenditures - (US dollars per capita) – 1991

Countries	Total	Public	Non- Government	Non-Govern/Public
Latin America				
Argentina	334.31	204.56	73.45	0.36
Bolivia	28.27	19.94	11.77	0.59
Brazil	114.87	76.58	38.29	0.50
Chile	109.88	79.45	32.77	0.41
Colombia	50.87	22.88	27.99	1.22
Costa Rica	165.09	134.51	29.14	0.22
Mexico	108.54	54.27	54.28	1.00
Paraguay	40.38	17.06	23.32	1.37
Peru	70.76	41.96	28.80	0.69
Uruguay	141.29	76.44	64.85	0.85
Venezuela	97.17	53.98	43.18	0.80
East Asia				
Hong Kong	663.90	128.12	535.78	4.18
Indonesia	12.85	4.50	8.36	1.86
Korea	431.37	176.45	254.89	1.44
Malaysia	77.45	33.56	43.89	1.31
Philippines	14.30	7.14	7.16	1.00
Singapore	271.42	157.08	114.34	0.73
Thailand	81.58	17.94	63.66	3.55

Source: World Bank (1993) and authors calculations.

Note: Non-government expenditures is defined as the sum of private expenditures on health care, expenditures by missions, and expenditures by Non-Governmental Organizations.

In East Asia, Korea has a social insurance system, financed by mandatory contributions from employees and employers, which is very similar to that prevalent in Latin America. Health care for the poor is paid out of general revenues. All Koreans are covered, and the government subsidy to extend coverage to the elderly and indigent is highly progressive. Korea's health providers are predominantly private and are paid on a fee-for-services basis which has encouraged the excessive use of expensive procedures. As in Latin America, this over-consumption of sophisticated medical services has led to a dramatic increase in health spending. The share of GDP devoted to health care rose from 3.7 % in 1980 to 6.6% in 1990. In the future, this may jeopardize the prospects of the Korean economy as it may crowd out other sectors and raise labor costs, thus undermining the country´s international competitiveness.

4 Social security spending

A major difference between public spending in the two regions concerns social security. In Latin America, the adoption of the Bismarckian model created a pattern of social protection similar to that prevalent in the rich European countries. All Latin American countries have old-age pension schemes, sickness-maternity health plans, and disability benefits (Table 10). A few countries have also unemployment insurance plans. Coverage of these different social security programs varies greatly across countries. By 1980, the coverage was as high as 95.6 percent of the economically active population in Brazil but the corresponding figure was only 11.6 percent for Guatemala.[32] However, on average, a substantial part of the Latin American population benefits from some form of social protection.[33]

Table 11
Selected Characteristics of Social Security in Latin America - 1983

Countries	Expenditure - (percent of GDP)	Revenues (percent of GDP)	Coverage Pensions	Dependency Ratio[1]	Administration Costs (percent of GDP)
Argentina	8.6	6.4	69.1	26.3	4.3
Bolivia	2.1	2.2	18.5	13.2	19.3
Brazil	5.7	5.3	95.6	13.8	9.9
Colombia	2.2	2.3	22.4	16.7	12.4
Costa Rica	6.3	8.8	68.3	12.9	6.9
Chile	14.4	8.7	61.7	12.6	6.2
Ecuador	4.2	5.4	23.2	13.4	23.7
Mexico	2.8	1.3	42.0	11.9	13.3
Uruguay	11.0	6.7	81.2	32.9	6.4
Venezuela	1.5	1.5	49.8	11.4	13.8

Source: Mackenzie (1988).

1: Percentage of the population aged 60 or more in the population aged between 20-59.

Regarding the form of financing social protection, the combined contributions of workers, employer and governments represent more than 30 percent of wage bill in many countries (Ahmad, 1991). This imposes a serious constraint on the financing of social

32 See Mackenzie (1988) and Mesa-Lago (1989). Of course, these figures apply mainly to the formal sector. However, in some countries informal employment may be very significant and those workers are by and large outside the social protection system.

33 For a detailed analysis of Latin American Social Security System see Mackenzie (1988).

security as further increases in already high payroll and social security taxes are difficult to implement. Excessively high contribution rates lead to evasion and encourage the development of informal labor markets. Moreover, most of the pension plans are financed on a pay-as-you-go basis in which current contributions pay for current benefits.[34] Any difference between these values is to be met by reserves or transfers from other governmental sources.[35]

The premature adoption of the Bismarckian model of social comprehensive protection turned out to be a precarious choice as the Latin American countries lacked the productivity foundations on which was based the European model. As a result, the system is a source of fiscal disequilibrium in Latin America, especially, in countries where the coverage is extensive and the dependency ratio high as in Argentina and Uruguay. Not surprisingly, reform of social security programs is currently on the agenda of most Latin American governments.

In East Asia, as a rule, the social insurance principle, at least as it is financed though taxation is almost absent. When it does exist, it takes the form of forced savings, in sharp contrast to the Latin American experience. Singapore, Malaysia and the Philippines extensively use the funded principle for financing social security expenses. Instead of constituting a burden to government finances, in East Asia social security schemes have encouraged savings and helped to stabilize the long-term development of financial markets. As Shome (1989) pointed out, in these countries, social security funds have been major sources of government debt financing.

It is important to understand the reasons behind such different behavior. Besides economic elements, socio-political factors also play a role. The strong populist tradition in Latin America very likely helped to shape social protection. Indeed, one of the main characteristics of populism in Latin America was an early development of a relatively strong labor movement. The social demands of labor unions included the implementation of a better social security system along the lines followed by more developed countries.[36]

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34 At first, most Latin American countries offered full-funding of social insurance through trust funds. Subsequently, the increase of the number of retirees, the practice of cross-subsidizing the health care system with surpluses from retirement accounts, together with an inappropriate investment policy, depleted the trusts.

35 In 1994, Colombia replaced its state-run, pay-as-you go pension system with a privately-run, fully funded scheme.

36 Deyo (1990).

Such a phenomenon was more marked among the prosperous countries of the Southern cone. Uruguay, with its highly sophisticated welfare state, became the typical example of such a tendency. Furthermore, the political instability of the continent created the need to form populist alliances to guarantee support for the country's political leaders. In this process, social benefits were eventually extended to more and more labor categories.

In East Asia, the situation was quite different. In this region, with the probable exception of Korea, social unrest was much lower and the workforce much less demand-oriented. Due a number of reasons, including the absence of widespread populism and the adoption of a successful labor intensive development strategy resulting in higher wages, labor movements were less strong and had less to say in the East Asian nations.[37] These arguments can also be put differently. Weak labor movements help to explain the absence of leftist and populist coalitions that would have supported nationalistic economic policies. Hence, the state was able to impose relatively free labor markets, keeping wage pressures down and thus contributing to raising profits and increasing managerial flexibility and employment. In such a context, there was no pressing need for government intervention in the labor markets to guarantee worker welfare as was the case in Latin America, and no need to provide social benefits for a discontented population. Finally, external political conditions may also have played a significant role in keeping down labor demand for social protection. As argued by Haggard (1990), "*because of their adverse external political situation divided countries facing communist adversaries - little ideological or organizational space was allowed for socialist, leftist or populist forces, nor was labor allowed an independent voice.*" Labor markets were relatively free from the interference of trade unions. Therefore, governments could restrain labor claims, including those linked to social security benefits.

5 Public spending and income distribution

There is a marked difference between Latin America and East Asia in the role played by fiscal policies in income distribution. In Latin America, attempts to redistribute income have tended to rely more on tax policy while in East Asia the tax system has been directed at generating the revenues required by the expansion of government expenditure policies. East Asian public spending policies have been quite efficient and have played an important

37 Even when labor movements were apparently strong, they played a minor role in the process of setting the relationship between trade unions, government and the firm's management. Good discussions of labor relations in East Asia can be found in Freeman (1994) and Chen and Taira (1995).

role in creating and preserving a more equitable form of economic growth. In particular, public spending on basic education and essential health care have helped to increase the supply of skilled labor.[38] Consequently, productivity gains associated with a very efficient absorption of modern technology, increased wages and employment thus reducing poverty and attenuating income disparities.

In the light of the new evidence, East Asia seems to have made a better choice. Indeed, public spending policies appear to be more efficient than tax policies in attenuating income disparities and reducing poverty levels. The progressive nature of social spending, highlighted in various studies,[39] is shown in Tables 13 and 14, which present the rate of benefit of social spending in selected countries of both regions.

In Latin America, except for Bolivia, expenditures on health care are the most progressive, with Gini's coefficient ranging from -0.12 to -0.32. Yet, as previously stated, recent studies consistently emphasize the fact that the provision of the essential package of health services, dispensed at primary health care centers, is more equitable than hospital services. In particular, hospital services benefit the better-off urban population and hence may have a negative impact on equity. Indeed, a recent review of various countries studies show that the bottom 40 percent of the population received 50 percent of the subsidies of public health and only 29 percent of the subsidies accruing to hospitals.(Barnum and Kutzim, 1993) This occurs because hospitals tend to be located in cities and more than proportionately serve urban middle-class households. Demographics and disease patterns also determine this income bias. Higher income groups tend to be older and to suffer from diseases requiring hospitalization whereas the poorest households are more often young families with children for whom many health problems are those included in basic health care package that do not require higher-level hospital care. The extent of this bias varies across regions and countries but is likely to be more pronounced in Latin America because the public health care system tends to emphasize curative medicine, which is traditionally more hospital-oriented. Of course, this does not imply that hospitals should be eliminated as they are an essential part of any health system, even one whose main emphasis in on primary health care. The real issue is that public health spending is excessively hospital-oriented and benefits the middle and upper classes more.

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38 Barro and Lee (1993).

39 Petrei (1987), Cominetti (1994), Van de Walle and Nead (1995), among others.

The distributive impact of education in Latin American is second only to health care, with Gini´s coefficients oscillating between -0.01 and -0.18. Note that progressivity results from the substantial distributive impact associated with primary education. As poor families are larger and as the rich could rely on the private sector to educate their children, public spending in basic education functions as a strong income equalizer. For tertiary education, the situation is radically different. As previously mentioned, the strong bias toward higher education that characterizes Latin America discriminates against poor households in favor of the middle and upper classes. In this region, while poor students in the rural areas often lack basic learning materials, middle and upper class students obtain very large government subsidies thus making public spending in higher education highly regressive.

Table 13
Benefit Incidence of Various Expenditure Programs- Percentage

	Education				Health	Social Security	Housing	Total	Total Excluding Social Security
	All	Primary	Secondary	Higher					
Argentina									
Lower 40%	48	65	47	17	62	23	97	36	54
Upper 40%	34	20	32	65	18	57	0	46	29
Gini Coefficient	-0.10	-0.30	-0.11	0.31	-0.32	0.23	-0.68	0.06	-0.18
Bolivia									
Lower 40%	46	56		22	26	27		41	
Upper 40%	33	23		57	58	54		39	
Gini Coefficient	-0.09	-0.22		0.22	0.18	0.18		-0.03	
Chile									
Lower 40%	50	62	50	21	58	13	38	32	53
Upper 40%	31	20	28	62	21	72	42	51	32
Gini Coefficient	-0.12	-0.28	-0.14	0.28	-0.25	0.41	0.02	0.13	-0.17
Colombia									
Lower 40%	51	67	48	16	54			52	
Upper 40%	27	14	28	63	28			27	
Gini Coefficient	-0.17	-0.36	-0.13	0.25	-0.18			-0.17	
Costa Rica									
Lower 40%	42	52	36	17	48	19	17	40	43
Upper 40	41	19	34	72	32	65	65	43	39
Gini Coefficient	-0.01	-0.22	-0.07	0.37	-0.12	0.28	0.36	0.02	-0.04
Uruguay									
Lower 40%	54	74	59	12	55	36	34	38	53
Upper 40%	29	14	23	66	24	51	56	42	28
Gini Coefficient	-0.18	-0.44	-0.23	0.36	-0.22	0.17	0.14	0.03	-0.18

Source: Cominetti (1994, table 16, p. 67-68).

Notice also that social security expenses, a significant component of public spending in Latin America, is strongly regressive. This is probably due to incomplete coverage and to the existence of social insurance which tends to favor the more expensive and regressive hospital based system. This effect is substantial enough to reverse the progressive nature of

social spending. The positive distributional impact of public spending becomes negative when social security expenses are included.

In East Asia, results obtained were similar in the sense that in this region too, social public spending, particularly that related to basic health care and primary education, are progressive. Here too, primary and secondary education are more pro-poor than tertiary education. In Malaysia, except for higher education, social service expenditures have been progressive and became more so after 1974 as the poor began to receive the largest share of social expenditure benefits.(Hammer *et alii,* 1995) Results for Indonesia also show that government spending on basic primary health care provides the best option for reaching the poor.(Van den Walle, 1995) The progressivity of public spending in this region is enhanced by the fact that, as shown above, East Asia concentrated public funds precisely on primary education and basic health care. Notice also that in the educational sector, the level of public spending appears to be more equitably distributed in countries with significant levels of private financing in higher education such as Indonesia, Korea and the Philippines (Tan and Mingat, 1992), suggesting that private financing in higher education, instead of reducing, may increase equity.

Table14

Benefit Incidence of Health and Education Subsidies In East Asia in Selected Years

Countries/Spending	Year of Survey	Percentage of Government Subsidy received by Income Group		
		lower 40 percent	Middle 40 percent	Upper 20 percent
All Education				
Indonesia	1978	46	25	29
Malaysia	1974	41	41	18
Higher Education				
Indonesia	1978	7	10	83
Malaysia	1974	10	38	52
Public Health				
Indonesia	1974	19	36	45
Malaysia	1974	47	37	17
Philippines	1975	27	33	40
Hospitals				
Indonesia	1974	23	53	23
Malaysia	1974	36	34	20

Source: Pradhan (1996).

6 Regional divergences: tentative explanations

This section tries to summarize the divergent pattern across regions. Why do public expenditure policies seem to be systematically better implemented in East Asia whereas in Latin America they so frequently fail to achieve their objectives? Why did Latin America waste the possibilities of redistribution through an increased supply of public goods whereas East Asia systematically used social spending to promote a more egalitarian style of development? These are not easy questions to answer. Although there are complex and numerous forces at play, three, non-excluding factors, had paramount importance, i.e., the role of government, intellectual beliefs, and the existence in East Asia of a highly motivated bureaucracy that assured the implementation of expenditure policies in a remarkably efficient way. These points will be briefly discussed below.

The role played by the government was essential to determine the way social policies were implemented. In East Asia, a clear-sighted political leadership consistently emphasized economic and social policies as complementary (rather than conflicting) priorities. This certainly played a key role in the region's outstanding performance. Furthermore, the absence of large inequities meant that the government had no need to struggle against powerful industrial or landed groups.[40] Consequently, it was much easier to design and implement the required expenditure policies. For instance, it is widely believed that one of the main reasons why Korea and Singapore have developed so quickly is that their governments have made determined and successful efforts to raise educational standards. In Latin America, the state, under the influence of competing and income-seeking groups, has been unable to accomplish the required social reforms. Even when well intentioned, these governments, still under the influence of the populist state, tried to implement a combination of mutually inconsistent policies which led to macroeconomic and political instability and failed to fulfill the much needed social demands. In such a context, it was clearly more difficult to prioritize and efficiently implement a consistent set of public policies. Finally, the very high levels of income disparity that characterize Latin America were too often used to discard more efficiency-oriented public spending policies. Recurrently, poor income distribution served as an excuse to adopt "quick fixes" instead of more consistent long-term policies.

40 In Taiwan and Korea, land reform and foreign occupation helped to weaken those groups.(Rodrik, 1994)

Secondly, the role played by intellectual beliefs should not be understated. The predominance in Latin America of the ECLA economic doctrine which downplayed the market element and clearly pushed the state beyond its traditional functions may, unintentionally, have contributed to the neglect of the social area. The typical Latin American state, involved in multiple activities, was unable to concentrate its actions on areas where the presence of market failures was indisputable as in most of the social services. Instead, it chose to replace private initiative in many other sectors. Such a dispersion of objectives resulted in inefficiency, corruption and inequity. In East Asia, there was also a strong government intervention in a quite distinct way. As Tanzi and Shome (1992) pointed out, in this region, "*the government role was limited to its traditional functions, namely, the provision of economic infrastructure, the maintenance of a stable macroeconomic framework and the promotion of growth.*" Government actions were not conflicting with market forces, but corrected and reinforced these same forces.

Finally, in East Asia, the implementation of expenditure policies was greatly helped by the existence of a competent, honest and efficient bureaucracy capable to administer the multiple tasks inherent to reforms. This is not easy to accomplish as in many countries of both regions such a bureaucracy is not available. In East Asia, particularly in Singapore, Taiwan, and Korea, the higher concern for education helped to create a relatively skilled labor force that permitted the formation of a qualified, well-paid and socially respected bureaucracy. This is reflected in the ability of the public sector to attract capable people. Indeed, in these countries, civil servants' salaries are quite competitive compared to those of the private sector.(Appendix, Table A-3) This bureaucracy has certainly played a crucial role in the region's remarkable performance in the social areas and has certainly contributed to the successful implementation of expenditure policies. In Latin America, the situation has been different. In many countries, the administrative organization still reflects an era where centralization and planning were dominant. A poorly paid bureaucracy, with little social prestige, and full of populist ideas has been prone to inefficiency and corruption. As a result, the provision of social services, particularly health and education, has been undermined, and this has resulted in a strong negative impact on the region's welfare.

7 Conclusions

This paper has reviewed the main features of social expenditure in Latin America and East Asia. The objective has been to evaluate the efficiency and equity aspects associated with education, health care, and social security spending in both regions. Emphasis was given to the impact of these expenditures on income distribution and to their effects on the

welfare of the low-income population. Furthermore, the relationship between the public and private sectors was examined in order to inquire to what extent public expenditures in social areas, complemented rather than substituted private activities. The main findings are summarized below.

First, the results suggest a greater overall efficiency of East Asian countries concerning the use of public funds in the social sectors. Government activities complemented private activities instead of substituting them. A competent, well-paid and socially respected bureaucracy greatly contributed to the efficient implementation of public policies, thus making social spending a key element to create and preserve a more equitable form of economic growth. In sharp contrast, Latin America failed to assure to its citizens of an efficient provision of social services. The neglect of these areas has resulted in poverty and led to large income inequalities. This has not been due to a lack of financial resources but to the poor utilization of available funds. The absence of administrative capacity and the lack of appropriate incentives to civil servants has created in Latin America a situation of serious mismanagement that has jeopardized the efficiency and accountability of the public sector.

In terms of educational expenditures, East Asia has performed better. Outcomes have, unquestionably been superior to those ones obtained by Latin America. Indeed, for some countries - Korea, Taiwan and Hong Kong - educational results, as measured by standardized international tests, put them on the top of the world performers. Remarkably, these results have been obtained in spite of relatively low levels of public spending, indicating a very effective utilization of inputs. As for equity, the concentration of public resources on primary education, a reduced bias toward higher education, a high degree of cost recovery, and a strong participation of the private sector in higher educational levels, introduced a higher degree of equity to the East Asian schooling system.

Despite the fact that primary education shows the highest rates of social profitability, Latin America has under invested in this sector. Universities have received a larger share of the education budget, which has created a strong bias towards higher education and helped to increase the inequality of the educational system. Additionally, Latin America, compared to East Asia, has managed its resources less efficiently. There are plenty of indications of misuse of inputs, leading to a needless increase of educational costs. As for outcomes, high dropout and repetition rates together with a poor quality of schooling testify the existence of many shortcomings in Latin American school and call for a serious reformulation of its educational system.

As was the case in education, the problems of health sector in Latin America are more related to cost effectiveness than to lack of resources. In many Latin American countries, the emphasis on curative medicine instead of basic preventive care is not only highly regressive but also inefficient. Public funding of basic health care activities provides larger benefits for the poor, thus contributing to reduce inequalities. Those programs also effectively improve health outcomes. As for East Asia, the substantial participation of the private sector in the provision of health care suggests that public resources are concentrated where they should be, namely, the provision of basic health care. The concentration of public funds on essential health services may have strong positive distributive consequences as they deal with problems that mainly affect the poor. On the other hand, hospitals, which in many countries of both regions absorb a large part of resources, mainly serve the urban areas, thus helping to increase rural-urban imbalances. Even though hospitals have a valid and important role, it is likely that in terms of cost effectiveness, government resources are excessively concentrated on them.

Another marked difference between Latin America and East Asia concerns social security spending. Such a divergent behavior cannot be attributed uniquely to economic variables. Socio-political factors - including a strong populist tradition - helped to explain why social protection is widespread in Latin America. In East Asia, except for Korea, the absence of populist coalitions, together with a labor-intensive development strategy that has increased wages, have kept down labor demands and restrained the claims for social security benefits.

Finally, the results obtained indicate that appropriate public expenditure policies are powerful instruments to improve income distribution. In both regions, a substantial part of government subsidies for primary education and basic health care have gone to low-income households. Security social and higher education expenditures were found to be highly regressive. As Latin America spends relatively more on these last two components, we conclude that, overall, Latin America has failed to seize the significant distributive potential associated with social spending, thus missing an opportunity to effectively reduce its tremendous income inequalities.

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Appendix I

Table A-1
Means of Government Expenditures in Developing Countries, Average of 1985-1989

Government Expenditures	Latin America		East Asia	
	Percentages of GDP	Percentages of total Expenditures	Percentages of GDP	Percentages of total Expenditures
General Public Services	5,30	30,63	6,34	28,22
- Defense	1,62	9,74	2,07	10,87
Social Services	5,64	31,34	7,96	33,51
- Education	2,77	14,85	4,8	20,45
- Primary and Secondary	1,73	9,69	3,26	15,34
Tertiary	0,17	1,12	0,63	2,64
- Health	1,22	7,21	1,75	7,03
- Hospitals	0,77	4,77	0,86	3,89
- Clinic	0,07	0,88	0,14	0,78
Social Security and Welfare	0,88	5,48	0,66	3,09
Economic Services	3,65	18,56	6,12	25,17
Others	4,05	18,63	4,21	18,26

Source: Pradhan (1996).

Table A-2
Ordinary Least Square Regression Between Gross Enrollment Ratios and per-capita GNP, by Education Cycle in East Asia and Latin America – 1992

	Latin America and East Asia			World		
	primary	secondary	higher	primary	secondary	higher
Per capita GNP	0,00328	0,00581	0,00303	0,00057	0,00119	0,00040
	(2,19)	(4,28)	(3,24)	(3,,20)	(8,3)	(5,3)
(Per capita GNP)^2	-1,2729e-007	-2,2500e-007	-1,3390e-007	-3,2e-007	-0,53e-007	-0,16e-007
	(-1,62)	(-3,16)	(-2,72)	(2,5)	(5,1)	(3,0)
Intercept	77,38	48,95	13,78	82,74	24,31	5,06
Number of observations	49	49	49	91	91	91
R^2	0,14	0,38	0,21	0,12	0,58	0,44

Source: Data on enrollment ratios and GNP are from World Bank (1994).

Table A-3
ICP Estimates of Per Capita GDP and Ratio of Public Sector to Private Sector Salaries, 1992

Economy/Region	GDP Per Capita US $	Senior Level		Mid -Level	
		A	B	A	B
Latin America`					
- Argentina	4680	24,1[b]	24,1	28,6	28,6
- Chile	6190	70,4	63,2		
- Uruguay	6000			37,1[b]	37,1
Venezuela	6740	29,5	42,4	53,4	53,4
East Asia					
- Korea	7190	98,8[b]	98,8	81,3	82,2
Malaysia	5900	40,0	33,3	34,3	50,0
Philippines	2320	27,7	24,3	25,0	32,5
- Singapore	14920	114,0[b]	114,0	115,0[b]	115
Taiwan	7954	65,2	60,3	63,5	65,8
Thailand	4610	47,6	27,5	33,6	43,0

Source: World Bank (1993).