GROWTH AND SLOWDOWN IN LATIN AMERICA:
A LONG RUN COMPARATIVE PERSPECTIVE

(Angus Maddison)

This paper assesses economic performance in six Latin American countries since 1913. The countries selected (Argentina, Brazil, Chile, Colombia, Mexico and Venezuela) had a combined population of 313 million in 1987, which is about three quarters of the Latin American total (including the Caribbean). In terms of output our sample is even larger.

Latin American performance is systematically compared with three other groups of countries: (a) three fast growing asian countries (Korea, Taiwan and Thailand) whose economic growth in the past couple of decades has been remarkably fast; (b) Portugal and Spain, whose institutional heritage has a good deal in common with Latin America; and (c) six capitalist countries (France, Germany, Japan, the Netherlands, UK and USA), whose levels of income and productivity are amongst the highest in the world.

The approach involves quantitative growth accounting with an attempt to assess "proximate" causes of differences in growth and levels of performance, without any close examination of more ultimate causality in terms of policy and institutions.

Comparative levels in 1986

Table 1 presents two measures of levels of economic welfare and productivity in the 17 nations in 1986 as well as averages for the groups. Within our Latin American sample, levels of performance are clustered fairly closely, so the average for the group is a valid stylized picture for "Latin America".

Table 1

COMPARATIVE CHARACTERISTICS OF ECONOMIC PERFORMANCE IN 1986
(USA = 100.0)

	Level of GDP per capita	GDP per hour worked	Labour input per capita	Education per head of population	Land area per capita	Physical capital per person employed	Exports per capita
Argentina	24.8	28.5	86.9	58.8	232.7	37.3	24.6
Brazil	25.6	24.5	104.3	35.8	162.5	22.3	18.1
Chile	25.8	33.6	76.7	61.5	161.2	36.2	38.4
Colombia	22.6	27.3	82.7	39.4	94.7	24.2	19.6
Mexico	20.5	24.7	83.1	45.2	63.9	28.7	22.7
Venezuela	34.9	47.6	73.3	47.6	130.9	67.0	62.7
Average	25.7	31.0	84.5	48.1	140.9	36.0	31.0
Korea	28.7	21.6	133.1	75.3	6.3	27.1	92.9
Taiwan	32.4	20.2	160.2	83.8	5.0	21.2	228.7
Thailand	16.6	11.2	147.8	39.2	25.6	n.a.	18.8
Average	25.9	17.7	147.0	66.1	12.3	(24.2)	113.5
Portugal	33.5	33.4	100.0	43.0	24.8	40.0	83.0
Spain	45.8	67.0	68.4	52.1	34.0	83.9	78.2
Average	39.7	50.2	84.2	47.6	29.4	62.0	80.6
France	70.5	88.3	80.0	84.6	26.1	98.4	250.9
Germany	73.5	79.4	92.6	71.8	10.6	100.0	443.2
Japan	71.2	51.4	138.5	83.4	8.2	84.6	193.0
Netherlands	68.1	76.8	88.9	73.2	6.1	104.0	606.3
United Kingdom	66.4	75.3	88.1	80.4	11.3	74.7	209.7
United States	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Average	75.0	78.5	98.0	82.2	27.1	93.6	300.5

Source: Column 1 from Table 7; column 2 from Table A-6; column 3 from Table A-3 divided by population; column 4 from Table A-4; column 5 from FAO Production Yearbook; column 6 derived by cumulating investment as described in Table A-5; column 7 derived from IMF International Financial Statistics.

As the Latin American pattern of development has been systematically different from that elsewhere in the world, this paper concentrates on the characterization of these differences rather than on variations within Latin America itself.

1986 per capita real income in Latin America was virtually identical with that of developing Asia, about two thirds of the Iberian level, a quarter of that in the USA and a third of average for the 6 advanced countries.

Latin American labour productivity (GDP per hour worked), was about 80 per cent higher than that of developing Asia. This is surprising as average per capita income was the same in both areas. However, employment in Latin America was only 32 per cent of the population compared with 45 per cent in the Asian countries. Annual working hours were 1,950 per person employed, compared with 2,423 hours in Asia. Latin American labour productivity was 31 per cent of that in the USA, 39 per cent of that in the advanced capitalist countries taken as a group and 62 per cent of that of the Iberian countries.

Analysts of economic growth performance often give considerable stress to the role of human capital, i.e. the degree of which countries augment the production potential of their population through education and training. One rough way of assessing human capital is to measure average years of education as recorded in censuses, giving differential weights to secondary and high levels of education, as in the fourth column of Table 1. This shows Latin American education levels similar to those in Iberia but a good deal lower than those in Asia, and less than half of those in the USA.

It is difficult to find a satisfactory and comprehensive aggregate measure of natural resources, because their quality and accessibility vary enormously and many are as yet unknown or unexploited. As a rough proxy, total land area per head of population is used in the fifth column of Table 1. It is clear that here the Latin American advantage is overwhelming. It is more than eleven times as big as in developing Asia, nearly five times as big as in Iberia or in the advanced countries as a group. Outside Latin America, the only country in our sample with a comparable resource endowment is the United States.

The importance of natural resources is not easy to assess. It has clearly affected the pattern of international trade specialization, it has bolstered the propensity to autarkic economic policy in Latin America and made the burden of rapid population growth seem unimportant. It is seen by some to have given a rent-seeking bias to economic elites. In traditional views of economic potential, natural resources loomed very large, e.g. in Malthusian view of the world. However, modern growth analysts give much greater weight to technological capacity and its exploitation by formation of human and physical capital. Thus, we simply note Latin America's natural advantages without suggesting that they necessarily play a dominant role in its level of potential welfare and productivity.

The sixth column of Table 1 is a crude measure of the gross capital stock available per person employed. It is derived by cumulating capital formation (in constant national prices) over the past 30 years (assuming an average asset life of 30 years and a rectangular --sudden death-- retirement pattern), converting into dollars using the same PPP that we use to convert GDP; then dividing by the number employed. In fact, the PPP for capital goods differs from that for GDP, and for a measure in international prices, we should adjust for this. However, we do not have the possibility of measuring these PPP ratios for each year over which capital was accumulated, so no such adjustment was made.

At this point, we would simply note that the stock of physical capital per person employed in Latin America is about 50 per cent higher than in developing Asian countries, and is well below that in the advanced capitalist countries.

Table 2

GROSS CAPITAL OUTPUT RATIOS IN 1986

Argentina	4.38	Portugal	4.34
Brazil	2.96	Spain	4.54
Chile	3.50		
Colombia	2.73	France	4.59
Mexico	3.56	Germany	4.91
Venezuela	4.82	Japan	4.91
		Netherlands	4.78
Korea	3.11	United Kingdom	4.17
Taiwan	2.66	United States	3.95
Thailand	n.a.		

Table 2 shows capital output ratios for 16 of our 17 countries.

Finally, the seventh column of Table 1 shows the level of exports per head of population. The degree of international specialization if often held to be of primordial importance in explaining the recent highly successful growth performance of the Asian countries. What we have already seen of differential characteristics suggests that this is an oversimplification. However, active involvement in international trade can often bring considerable efficiency gains through specialization, and it seems clear that Latin America has been remiss in this respect for its export level is little more than a quarter of that in Asia and a tenth of that in the advanced capitalist countries.

Although we cannot enter into an assessment of institutions or policy which have a substantial effect on performance, we can add some indications of social differentiation and social tension, which seem to be more marked in Latin America than in the other regions.

It is clear from Table 3 that income is much more unequally distributed in Latin America than in our Asian sample or in the advanced capitalist countries. The picture presented in Table 3 may have changed since the dates shown, but there is no reason to assume that the regional contrasts have mellowed.

Table 3

DEGREE OF INEQUALITY OF PRE-TAX INCOME OF HOUSEHOLDS IN DIFFERENT REGIONS

	Year	Gini Coefficient	Top Decile per Capita Income as a Multiple of that in Bottom 2 Deciles
Argentina	1961	0.425	11.2
Brazil	1970	0.550	20.0
Chile	1968	0.503	21.3
Colombia	1974	0.520	21.8
Mexico	1969	0.567	25.5
Venezuela	1962	0.531	25.0
Average		0.516	20.8
Korea	1970	0.351	7.6
Taiwan	1959	0.396	7.0
Thailand	1969	0.504	19.9
Average		0.417	11.5
France	1970	0.416	14.4
Germany	1973	0.396	10.5
Japan	1969	0.335	7.5
Netherlands	1967	0.385	10.5
Spain[a/]	1973-74	0.355	8.9
United Kingdom	1973	0.344	9.1
United States	1972	0.404	13.5
Average		0.376	10.6

Source: A. Maddison, The World Economy in the Twentieth Century, OECD, Paris, 1989, and sources cited therein.
a/ Post-tax income.

Table 4

EXPERIENCE OF INFLATION 1982-1986
(Annual average compound rate of increase in GDP deflation)

Argentina	366.7	Portugal	22.5
Brazil	182.3	Spain	10.5
Chile	23.0	Average	16.5
Colombia	22.4		
Mexico	70.8	France	6.9
Venezuela	8.8	Germany	2.5
Average	112.3	Japan	1.3
		Netherlands	1.5
Korea	3.5	United Kingdom	4.7
Taiwan	1.6	United States	3.2
Thailand	2.1		
Average	2.4	Average	3.4

Source: World Bank, World Tables 1987, Washington D.C., 1988, and OECD, National Accounts 1960-86, Paris, 1988.

The Gini coefficient can theoretically vary between 0 and 1 being 0 when all households have the same per capita income and 1 when one household has all the income. Thus the bigger the Gini coefficient, the higher the inequality. It is a somewhat technocratic concept, but it is clear that Latin American inequality is much more marked than that elsewhere. The last column shows the interdecile range of income, comparing the per capital income of the top 10 per cent of the population with the

bottom fifth. In Latin America, the top 10 per cent have more than twenty times the income of the bottom fifth, nearly twice as high a degree of inequality as that elsewhere. These Latin American differences stem in large part from more extreme variations in distribution of wealth, and in human capital, as well as much bigger regional variations in income.

Partly as a result of the social tensions created by inequality and partly because of greater laxity in fiscal and monetary policy, Latin America has been more subject to inflation than other parts of the world, both in the long term and particularly in more recent years. This greater tendency to inflation and the difficulty in exorcising it, has been an important drag on efficient policies for economic growth. The intercountry and inter-area variations are shown in Table 4.

Table 5

LONG-TERM GROWTH OF POPULATION, GDP PER CAPITA, GDP AND EXPORTS, 1913-1987
(Annual average compound rates of growth in volume)

	Population	GDP per capita	GDP	Export Volume[a]
Argentina	1.9	0.8	2.8	1.8
Brazil	2.4	2.6	5.1	3.5
Chile	1.7	1.4	3.1	3.0
Colombia	2.4	1.8	4.2	4.3
Mexico	2.3	1.7	4.0	3.0
Venezuela	2.7	1.9[b]	5.1[b]	2.5[c]
Average	2.2	1.7	4.1	3.0
Korea	1.9	2.6	4.6	7.9
Taiwan	2.4	3.2	5.7	8.3
Thailand	2.5	1.7	4.2	4.2
Average	2.3	2.5	4.8	6.8
Portugal	0.7	2.7	3.4	6.1
Spain	0.9	1.9	2.8	3.3
Average	0.8	2.3	3.1	4.7
France	0.4	2.2	2.6	3.7
Germany	0.5	2.3	2.8	3.1
Japan	1.2	3.4	4.7	7.1
Netherlands	1.2	1.8	3.0	4.5
United Kingdom	0.4	1.5	1.9	1.9
United States	1.2	1.8	3.0	3.4
Average	0.8	2.2	3.0	4.0

Source: All the figures in the first three columns are adjusted to exclude the impact of changes in territorial frontiers. Figures generally from Maddison (1989), Spanish export volume from A. Tena, "Comercio Exterior" in A. Carreras, Ed., Estadísticas Históricas de España: Siglos XIX-XX, Banco Exterior, 1989. Portuguese export volume 1950 onwards from IMF, International Financial Statistics, 1913-50 very crude estimate derived from shares of exports in GDP (7% in 1913, 12.7% in 1950), see N. Valerio, "O Produto National de Portugal entre 1913 e 1947. Uma Primeira Approximaçao", Revista de Historia Economica e Social, 1983.

a/ 1913-1986.
b/ 1929-1987.
c/ 1929-1986.

Long Run Growth

Table 5 shows the long term Latin American growth record since 1913. In terms of total GDP growth, the record appears very respectable. At 4.1 per cent per annum, it was a good deal faster than the 3.0 per cent recorded in the advanced countries and the 3.1 per cent in the two Iberian countries. It was, however, distinctly slower than the 4.8 per cent a year in the Asian group.

Population grew at the same pace in Latin America as in Asia, but much faster than in the advanced or Iberian countries, 2.2 per cent a year compared with 0.8 per cent. In per capital terms, therefore, Latin American growth was the slowest. At 1.7 per cent a year, it was well below the 2.5 per cent for Asia, the 2.3 per cent in Iberia, and 2.2 per cent per average for the advanced countries.

Table 5 also shows the growth of exports. Here again, it can be seen that Latin American growth was slowest. In all the other countries exports rose at least as fast as GDP and usually much faster, but everywhere in Latin America, except Colombia, export growth lagged well behind GDP. This is clear evidence of the inward looking character of Latin American growth.

Phases of Growth

Tables 6 and 7 show the movement in per capita income in and between the benchmark years which seem most appropriate for Latin America. For the period to 1929 when the liberal world trading order broke down, the expansion of per capita real income in different regions was not too different, and the laggard region was Asia. In 1929-50 when growth was interrupted by the collapse of international trade and the second world war, most areas of the world suffered major setbacks to growth, and their performance was generally very poor, or in the Asian case, negative.

Table 6

RATES OF GROWTH OF GDP PER CAPITA

	1913-1929	1929-1950	1950-1980	1980-1987
Argentina	0.9	0.6	1.6	-2.0
Brazil	1.4	2.4	3.9	0.3
Chile	2.7	0.9	1.4	-0.3
Colombia	1.3	1.7	2.3	1.3
Mexico	0.1	1.6	3.2	-1.2
Venezuela	n.a.	2.7	2.3	-2.2
Average	1.3	1.7	2.5	-0.7
Korea	1.3	-1.3	5.2	7.0
Taiwan	2.1	-0.9	6.2	5.9
Thailand	-0.4	0.3	3.5	3.1
Average	1.0	-0.6	5.0	5.3
Portugal	1.2	1.5	4.6	1.3
Spain	1.5	-0.8	4.2	1.7
Average	1.4	0.4	4.4	1.5
France	1.9	0.5	3.7	1.1
Germany	0.8	0.7	4.3	1.6
Japan	2.4	-0.2	6.8	3.0
Netherlands	2.1	0.2	3.0	0.8
United Kingdom	0.3	1.3	2.2	2.2
United States	1.7	1.5	1.9	2.0
Average	1.5	0.7	3.7	1.8

Source: Maddison (1989) and Tables A-7 and A-8 for GDP and population.

Table 7

LEVELS OF PER CAPITA GDP 1913-1987

	1913	1929	1950	1980	1987
Argentina	1 830	2 103	2 401	3 843	3 344
Brazil	518	651	1 068	3 349	3 417
Chile	1 285	1 975	2 408	3 650	3 575
Colombia	820	1 001	1 430	2 838	3 103
Mexico	801	812	1 138	2 946	2 716
Venezuela	n.a.	1 585	2 784	5 432	4 656
Average	1 051	1 355	1 872	3 676	3 469
Korea	610	749	564	2 583	4 143
Taiwan	453	631	526	3 185	4 744
Thailand	652	616	653	1 847	2 294
Average	572	665	581	2 538	3 727
Portugal	659	798	1 096	4 263	4 656
Spain	1 547	1 974	1 683	5 697	6 407
Average	1 103	1 386	1 390	4 980	5 532
France	1 934	2 629	2 941	8 773	9 475
Germany	1 907	2 153	2 508	8 891	9 964
Japan	795	1 162	1 116	7 954	9 756
Netherlands	2 400	3 373	3 554	8 704	9 197
United Kingdom	3 065	3 200	4 171	7 905	9 178
United States	3 722	4 909	6 697	11 804	13 550
Average	2 303	2 904	3 498	8 999	10 187

Source: ???

However, 1929-50 were remarkably good years in Latin America, considering the state of the world economy. Unlike other areas, GDP per capita accelerated. The general tendency towards import substitution and expansionary fiscal and monetary policies produced impressive results, by world standards. This is clear from Table 6, which shows Latin American growth per capita of 1.7 per cent a year, compared with a mere 0.7 per cent in the advanced countries, and -0.6 per cent a year in Asia.

Taking 1913-50, as a whole average Latin American incomes rose relative to those in all other regions. In 1913 the Latin American average of $1,051 was 46 per cent of that in the advanced countries, 92 per cent of the Iberian level, and 184 per cent of that in Asia. By 1950 the Latin American average had risen to 54 per cent of that in the advanced group, 135 per cent of the Iberian level and 322 per cent of that in Asia (see Table 7).

Since 1950, Latin American performance has been systematically much worse than that in all the other areas. From 1950-80, there was a silver age of expansion in Latin America, when growth per capita averaged 2.5 per cent a year (faster than the 1.7 average for 1929-50). However, the other areas had a golden age, with much greater acceleration of growth. In Asia growth averaged 5 per cent a year in 1950-80, in Iberia 4.4 per cent and in the advanced countries, 3.7 per cent a year.

Some part of the differential was due to recovery from war damage, and making good opportunities lost in the 1930s. It was obvious that Latin America could not reap equivalent benefits. Rapid growth in many parts of "opportunities of backwardness" in catching up on the world leader, the USA. Latin America had some scope for this but less than Asia, which was starting from a much lower level of productivity and level of productivity and income. Some of the difference was due to the fact that other areas recognized the new buoyancy in the world economy, and opened up their countries to international trade (see Table 10), which Latin America was slow to do, sticking to import substitution policies which had served well in the 1929-50 period.

In a later section, we analyze in more detail the changes in total factor productivity which help to explain the causal forces at work in the postwar period, and there we can return to the question of causality and to assessing whether Latin America fully exploited its growth potential in its silver age. Our preliminary judgement is that there was some shortfall in fulfilling potential, but it should not be judged simply by the differences in regional growth rates shown in Table 6.

From 1980 to 1987, Latin American performance was catastrophic, with output per head falling on average by 0.7 per cent a year, which is a peacetime record for any area. There was also a big deceleration of growth in the advanced countries and

Iberia in this period (in fact the deceleration in these two areas had begin after 1973, but we use the 1980-87 periodisation rather than 1973-87, because it is more relevant for Latin America). The developing Asian economies were truly exceptional in bucking the world trend in the 1980s, for their per capita growth did not show any serious slackening, either after 1973, or after 1980.

As a consequence of its relatively growth performance, the other regions, Latin American per capita standing deteriorated sharply between 1950 and 1987. From Table 7, one can see that its per capita income in 1987 was actually below the average for Asia, whereas in 1050 it had been three times as high. By 1987 Latin American income had fallen to 34 per cent of the advanced country average, and 63 per cent of that for Iberia.

The circumstances of the 1980s in Latin America have been very special and cannot adequately be handled by simple supply-side analysis. Debt crisis, fiscal weakness, and hyperinflation all played powerful part which we cannot analyze here.

However, we should note that growth in the advanced countries and Iberia was also somewhat below potential in the 1980s, due to policy weakness of a lesser magnitude than that in Latin America. On the other hand Asian growth was influenced by Latin America even in the best of circumstances.

The Growth Accounts for 1950-86

Table 8 presents a more detailed comparison of growth performance since 1950, broken down into two periods 1950-80 when performance was generally better than in all earlier periods, and 1980-86 when Latin American performance was disastrous. The table presents estimates of labour productivity, capital productivity and total factor productivity.

Total factor productivity is a more sophisticated measure of performance than the traditional labour productivity indicator. It can be measurable influences on growth (see Maddison 1987 for a detailed explanation). Here, our measure is rather crude. It includes only 4 items: labour input, growth in quality of labour due to education, growth of cropped land area and inputs of physical capital. This measure can be made for 16 of our countries, but not for Thailand, where estimates of physical and human capital stocks were not available or calculable.

If we look first at the 1950-80 period, we find a respectable performance by the Latin American countries. Although they show the slowest growth of labour productivity and total factor productivity, the gap between their performance and the Asian countries is not as big as that in per capita product which we saw in Table 6, because the Asian countries had faster growth in all

inputs except land. Capital productivity in the really long run tends to be near zero in all countries for which we have evidence, as the average growth rate for capital is generally rather close to that for output. In 1950-80 capital productivity was slightly negative in Latin America, but performance in this respect was not too different from the advanced countries.

In 1980-86, Latin American performance deteriorated very dramatically in terms of all the three indicators shown in Table 8. There was a fall in labour productivity averaging .64 per cent a year compared with growth at 3.0 per cent a year in 1950-80. Total factor productivity fell on average by 2 per cent a year compared with growth at 1.48 per cent a year in 1950-80. Capital productivity also showed a sharply negative development in all Latin American countries.

Table 8

PRODUCTIVITY PERFORMANCE OF 16 COUNTRIES 1950-1986
(Annual average compound growth rates)

	1950-1980				1980-1986		
	Labour Product-ivity	Capital Product-ivity	Total Factor Product-ivity		Labour Product-ivity	Capital Product-ivity	Total Factor Product-ivity
Argentina	2.0	-0.93	0.74		-0.84	-2.90	-2.28
Brazil	3.7	-0.56	1.68		-0.65	-2.26	-2.27
Chile	2.6	0.33	1.44		-0.54	-1.35	-1.27
Colombia	3.1	0.50	1.80		1.06	-1.98	-0.17
Mexico	3.8	-0.64	1.76		-2.43	-5.38	-4.36
Venezuela	2.5	-0.06	1.43		-0.43	-2.53	-1.71
Average	3.0	-0.23	1.48		-0.64	-2.73	-2.01
Korea	4.0	0.20	2.28		6.30	-2.28	2.30
Taiwan	4.8	0.94	3.22		6.18	-1.73	2.24
Average	4.4	0.57	2.75		6.24	-2.01	2.27
Portugal	4.9	-0.53	2.26		1.43	-2.97	-1.34
Spain	5.5	-1.25	2.91		3.15	-2.12	0.33
Average	5.2	-0.89	2.59		2.29	-2.55	-0.51
France	4.6	0.81	3.17		3.19	-2.16	1.02
Germany	5.4	0.09	3.65		2.46	-1.33	1.19
Japan	6.6	0.07	4.35		2.82	-2.86	0.77
Netherlands	4.1	-1.29	2.21		0.91	-1.59	-0.31
United Kingdom	2.9	-0.66	1.65		2.93	-0.10	1.71
United States	2.0	-0.04	2.17		1.89	0.45	0.72
Average	4.3	-0.17	2.87		2.37	-1.27	0.85

Source: Derived from annex tables on growth of GDP, labour, capital, and other inputs. In estimating total factor productivity, the labour inputs (quantity and quality) were given a weight of .60, capital .30, and land .10, in the case of Latin American and Asian countries. For the OECD countries, the weights were .67, .30, and .03, respectively. Weights are roughly proportionate to average factor shares in total income for each region. Relative shares of land and other capital derived from relative asset weights in R.W. Goldsmith, Comparative National Balance Sheets, Chicago, 1985.

In the advanced countries, the experience of 1980-86 was also considerably worse than that in the golden age 1950-80. Labour

productivity grew by 2.4 per cent a year compared with 4.3 per cent in the golden age, and total factor productivity grew by .85 per cent a year compared with 2.87 per cent. The slowdown was even more marked in the Iberian countries where labour productivity growth slowed from 5.2 to 2.3 per cent a year and where total factor productivity growth slowed from 5.2 to 2.3 per cent a year and where total factor productivity was negative.

Table 9

RATE OF GROWTH OF FACTOR INPUTS 1950-1986
(Annual average compound rate)

| | 1950-1980 | | | | | 1980-1986 | | | |
	Labour Quantity	Labour Quality	Capital	Land		Labour Quantity	Labour Quality	Capital	Land
Argentina	1.22	0.94	4.21	-0.09		-0.13	1.29	1.93	0.39
Brazil	2.96	1.36	7.34	3.14		3.43	2.25	5.02	1.10
Chile	0.85	0.67	3.12	1.69		1.17	0.97	1.95	0.00
Colombia	1.95	0.69	4.51	2.84		1.75	0.84	4.82	0.13
Mexico	2.63	1.37	7.13	1.87		3.02	2.13	5.90	0.15
Venezuela	3.38	0.98	6.03	1.10		0.62	1.17	2.72	0.07
Average	2.17	1.00	5.39	1.77		1.64	1.44	3.72	0.31
Korea	3.26	1.65	6.71	0.02		1.84	2.90	10.54	-0.40
Taiwan	4.03	1.68	8.14	-0.15		1.78	3.04	9.80	0.00
Average	3.65	1.67	7.43	-0.07		1.81	2.97	10.17	-0.20
Portugal	0.07	1.50	5.50	0.00[a/]		0.08	4.35	4.48	-0.06
Spain	-0.30	0.80	6.41	0.00[a/]		-1.41	3.46	3.81	-0.07
Average	-0.12	1.15	5.96	0.00[a/]		-0.67	3.91	4.15	-0.07
France	-0.05	0.49	3.78	-0.44		-1.55	0.67	3.76	0.25
Germany	-0.33	0.20	4.95	-0.43		-0.97	0.14	2.80	0.10
Japan	1.26	0.67	7.89	-0.14		0.79	0.55	6.49	-0.42
Netherlands	0.00	0.54	5.48	-0.64		0.26	0.70	2.77	0.61
United Kingdom	-0.38	0.27	3.20	-0.14		-0.90	0.39	2.10	0.15
United States	1.26	0.41	3.32	0.11		1.11	1.20	2.58	-0.06
Average	0.29	0.43	4.77	-0.28		-0.21	0.61	3.42	0.11

Source: ???
a/ Figures were not available, growth assumed to be zero.

The case of the Asian countries is in sharp contrast to world trends. There the growth of factor productivity continued at more or less the same pace as in the golden age. Labour productivity growth accelerated to an average of 6.2 per cent per annum, virtually the same as the unprecedented Japanese achievement in the golden age. If we look in Table 9 at the driving forces of the Asian expansion, we can see the extremely high rate of expansion of the capital stock, averaging over 10 per cent a year and the very high rate of growth in human capital which improved the quality of the labour force. Nevertheless, the fact that Asian capital productivity was sharply negative in this period is an indication that growth potential was being pushed to the limit.

Conclusions

The simple supply side analysis shown throws some light on the reasons for the very fast growth of Asian countries, suggests that Latin America grew somewhat below potential in 1950-80, and massively so since 1980.

Table 10

RATIO OF MERCHANDISE EXPORTS TO GDP AT CURRENT MARKET PRICES

	1929	1950	1973	1980	1986
Argentina	26.7	8.4	8.6	5.2	8.7
Brazil	12.6	8.9	7.8	8.1	8.3
Chile	30.0	15.2	11.9	16.9	25.1
Colombia	21.0	9.8	11.4	11.8	15.6
Mexico	12.4	10.9	4.1	8.0	12.5
Venezuela	n.a.	29.5	27.5	27.4	20.1
Average	20.5	13.8	11.9	12.9	15.1
Korea	19.0	2.3	24.4	28.0	35.4
Taiwan	36.0	8.6	41.1	48.5	55.7
Thailand	16.1	18.4	14.7	20.2	21.0
Average	23.7	9.8	26.7	32.2	37.4
Portugal	6.5	12.7	16.0	18.5	24.6
Spain	6.6	8.5	7.2	9.8	11.9
Average	6.6	10.6	11.6	14.1	18.3
France	13.3	10.6	14.4	17.5	17.3
Germany	15.3	8.5	19.7	23.7	27.3
Japan	13.0	4.7	8.9	12.3	10.8
Netherlands	30.7	26.9	37.3	43.7	45.3
United Kingdom	15.6	14.4	16.4	20.5	19.5
United States	5.0	3.6	8.0	8.2	5.2
Average	15.5	11.5	17.5	21.0	20.9

Source: A. Maddison, The World Economy in the Twentieth Century, OECD, 1989;   national sources;   IMF, International Financial Statistics;   and World Bank, World Tables.

A full explanation of Latin America's poor performance must take account of institutional and policy weaknesses which play a stronger explanatory role than the proximate supply side accounting since 1980.

In the 1980's Latin America has suffered from major problems of macroeconomic disequilibrium which would have made it impossible for any area to exploit its underlying growth potential.

These problems are the large burden of debt service which has so far received only partial alleviation by rollovers of amortisation, and the lightening of interest burdens promised in the Brady proposals. Most countries except Chile and Colombia also have a very serious fiscal crisis. The third problem is inflation which has reached extreme proportions and where a whole series of desperate remedies have failed. These problems did not arise from simple errors of policy but from the deep-seated political and

social tensions that are associated with Latin America's extreme inequality and help explain the tendency to short-term populist policy measures and the endemic tendency to meet monetary and fiscal problems by inflation and foreign borrowing.

None of these three problems exist in the fast growing Asian countries, and it is their success in these respects, as much as their efforts to raise education levels and mobilize resources for capital formation, which accounts for their fast growth and capacity to exploit the catch-up "opportunities of backwardness".

Evidence on foreign trade proportions in Table 10 suggests that the slow postwar progress in Latin America and the rapid growth in Asia had something to do with the contrast between inward and outward looking trade regimes, though the rest of the analysis makes it clear that the trade picture is not nearly so dominant an explanatory factor as is sometimes suggested.

A N N E X E S

Table A-1

EMPLOYMENT
(000s)

	1950	1973	1980	1986
Argentina	6 821	9 395	10 065	10 561
Brazil	17 657	32 824	43 091	54 763
Chile	2 256	2 878	3 317	3 565
Colombia	3 844	6 380	7 605	8 881
Mexico	8 563	15 010	19 402	23 177
Venezuela	1 571	3 310	4 597	5 213
Korea	6 377	11 140	13 710	15 952
Taiwan	2 872	6 091	7 797	9 187
Thailand	10 119	18 576	22 215	25 913
Portugal	3 196	3 514	4 026	4 121
Spain	10 617	13 274	11 947	11 176
France	18 950	21 158	21 638	21 266
Germany	21 164	26 849	26 251	25 702
Japan	35 683	52 590	55 360	58 530
Netherlands	4 120	5 150	5 620	5 830
United Kingdom	22 400	25 076	25 096	24 542
United States	61 651	88 868	102 583	111 303

Source: Latin America from ECLAC sources; OECD Countries from OECD, Labour Force Statistics, otherwise from Maddison (1989).

Table A-2

ANNUAL HOURS WORKED PER PERSON

	1950	1973	1980	1986
Argentina	2 054	2 029	2 000	1 891
Brazil	2 046	2 117	2 011	1 937
Chile	2 234	1 978	1 956	1 951
Colombia	2 327	2 163	2 102	1 998
Mexico	2 202	2 076	2 115	2 116
Venezuela	2 183	1 984	2 023	1 851
Korea	2 200	2 550	2 680	2 570
Taiwan	2 200	2 700	2 650	2 500
Thailand	(2 200)	(2 200)	(2 200)	(2 200)
Portugal	(2 200)		1 786	1 753
Spain	(2 200)		(1 786)	(1 753)
France	1 926	1 771	1 664	1 542
Germany	2 316	1 804	1 692	1 630
Japan	2 289	2 213	2 147	2 129
Netherlands	2 208	1 825	1 680	1 645
United Kingdom	1 958	1 688	1 560	1 511
United States	1 867	1 710	1 634	1 609

Source: Latin America from estimates supplied by Andre Hofman;   Portugal and Spain from ILO sources; otherwise from Maddison (1989).
Figures in brackets are estimates.

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Table A-3

TOTAL HOURS OF LABOUR INPUT
(Billion per annum)

	1950	1973	1980	1986
Argentina	14 010	19 062	20 130	19 971
Brazil	36 126	69 488	86 656	106 076
Chile	5 040	5 693	6 488	6 955
Colombia	8 945	13 800	15 986	17 744
Mexico	18 856	31 161	41 035	49 043
Venezuela	3 429	6 567	9 299	9 649
Korea	14 029	29 070	36 743	40 997
Taiwan	6 318	16 446	20 662	22 968
Thailand	22 262	40 867	48 873	57 009
Portugal	7 031		7 190	7 224
Spain	23 357		21 337	19 592
France	36 498	37 471	36 006	32 792
Germany	49 016	48 436	44 417	41 894
Japan	81 678	116 382	118 858	124 610
Netherlands	9 431	9 399	9 442	9 590
United Kingdom	43 859	42 328	39 150	37 083
United States	115 102	151 964	167 621	179 097

Source: Derived from Tables A-1 and A-2.

Table A-4

LEVELS OF EDUCATION PER PERSON AGED 15 AND OVER
(Average for both sexes, in equivalent years of primary education)

	1950	1980	1986
Argentina	4.80	8.38	9.76
Brazil	2.05	4.57	5.95
Chile	6.09	9.10	10.21
Colombia	3.93	5.92	6.54
Mexico	2.60	5.84	7.50
Venezuela	3.76	6.73	7.73
Korea	3.36	8.92	12.50
Taiwan	3.62	9.76	13.91
Portugal	2.49	6.05	7.81
Spain	4.76	7.64	9.37
France	9.58	12.85	14.00
Germany	10.40	11.73	11.92
Japan	9.11	12.98	13.85
Netherlands	8.12	11.20	12.17
United Kingdom	10.84	12.73	13.34
United States	11.27	14.41	16.60

Source: Most countries from A. Maddison, The World Economy in the Twentieth Century, OECD, Paris, 1989, p.78. Venezuela 1950 from Octavo Censo General de Población, Ministerio de Fomento, Caracas, 1957, pp.42-5 and 1980 and 1986 derived from 1987 figures in Indicadores de la Fuerza de Trabajo, Total Nacional y Por Regiones, Segundo Semestre 1987, OCEI, Caracas, 1988, pp.33-4. Netherlands from A. Maddison, "Growth and Slowdown in Advanced Capitalist Economies", Journal of Economic Literature, June, 1987. Portugal and Spain derived from Educational Statistics Yearbook, Vol.I, OECD, Paris, 1974.

Table A-5

GROWTH OF GROSS CAPITAL STOCK
(Mid-year estimates)

	1950	1973	1980	1986
Argentina	100.0	248.86	344.15	386.04
Brazil	100.0	457.15	836.24	1 121.64
Chile	100.0	218.17	250.98	281.83
Colombia	100.0	266.93	375.34	497.71
Mexico	100.0	474.25	789.28	1 113.34
Venezuela	100.0	362.05	578.92	680.14
Korea	100.0	309.74	803.14	1 465.02
Taiwan	100.0	410.95	1 046.17	1 833.60
Portugal	100.0	344.30	498.74	648.84
Spain	100.0	407.31	644.35	806.24
France	100.0	226.56	304.78	380.39
Germany	100.0	331.78	426.55	503.33
Japan	100.0	584.77	975.05	1 421.72
Netherlands	100.0		495.56	583.71
United Kingdom	100.0	209.96	257.44	291.56
United States	100.0	214.74	266.08	310.02

Source: Latin America from estimates prepared by André Hofman using perpetual inventory method, cumulating constant price investment estimates since 1920, and assuming a 30-year life for all assets. There are, in fact, national capital stock estimates for most Latin American countries, as analysed in Andre Hofman's survey, but for reasons of comparability and topicality within Latin America, the standardised Hofman estimates were used. For Korea, the Netherlands, Spain and Portugal, and for France and Japan for 1980-1986, the Hofman technique was also used. For Portugal, Mark Keese provided a rough estimate. For other countries and periods, national sources were used, as described in Maddison (1987).

Table A-6

GDP PER MAN HOUR
(International dollar at 1980 prices)

	1950	1980	1986
Argentina	2.94	5.39	5.12
Brazil	1.54	4.58	4.40
Chile	2.91	6.25	6.04
Colombia	1.85	4.60	4.90
Mexico	1.65	5.00	4.43
Venezuela	4.18	8.78	8.55
Korea	0.83	2.68	3.87
Taiwan	0.66	2.72	3.63
Thailand	0.25	1.76	2.01
Portugal	1.32	5.51	5.99
Spain	2.02	9.99	12.02
France	3.37	13.13	15.85
Germany	2.56	12.32	14.26
Japan	1.14	7.82	9.23
Netherlands	3.95	13.04	13.78
United Kingdom	4.79	11.37	13.52
United States	8.86	16.04	17.95

Source: GDP in 1980 international dollars derived as described in Maddison (1989). Labour input from Table A-3.

Table A-7

POPULATION
(000s at mid-year)

	1950	1980	1987
Argentina	17 150	28 237	31 436
Brazil	51 941	118 518	140 692
Chile	6 091	11 104	12 423
Colombia	11 597	25 892	29 498
Mexico	27 376	69 655	81 163
Venezuela	5 145	15 024	18 265
Korea	20 557	38 124	42 512
Taiwan	7 882	17 642	19 551
Thailand	19 442	46 455	53 377
Portugal	8 441	8 368	9 744
Spain	27 977	37 424	38 832
France	41 836	53 880	55 685
Germany	49 983	61 566	60 858
Japan	83 662	116 800	122 897
Netherlands	10 114	14 150	14 616
United Kingdom	50 363	56 314	56 687
United States	152 271	227 757	244 171

Source: ???