

# Development in the Balance: Equity and Sustainability at Century's End<sup>†</sup>

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**Abstract:** In many ways the 1990s concentrated the development experiences of the previous 40 years, providing approaches and cautions to guide policy action in the new century. While the experience confirms the essential contribution of market-friendly policies; it also brings out missing aspects. Foremost among them are the distribution of human development, the protection of the environment, globalisation and financial regulations, and the quality of governance. The main message is that the quality of growth matters more than its pace.

**JEL Classification:** O11

**Key words:** human development, good governance, environment, resource degradation, deforestation

The 1990s were a dizzying decade in development. One group of developing countries in East Asia experienced the fastest growth rates and then the sharpest declines. Free market policies received their strongest endorsement ever and a harsh indictment. This extraordinary process of reversals in outcomes has taught us much about achieving rapid development and about faltering. Foremost among the factors that make a difference are the quality and distribution of human development, the efforts to protect the environment and natural resources, the effective management of globalisation and financial regulations, and the quality of institutions and governance.

## The Development Record

At the beginning of this decade, three World Development Reports examined some of the most pressing issues in development. The 1990 report on poverty recommended a

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twofold strategy for reducing poverty—broad-based growth, combined with improved access to social services. The 1991 report on the challenge of development looked at the actions that seemed to differentiate high performers (high growth and social progress) from poor performers, and set out a market-friendly approach, with a reappraisal of the roles of state and market. The report on the environment in 1992 advocated another twofold strategy for sustainable development—fostering the positive links between development and protection of the environment, and breaking the negative links between economic growth and the environment.

These and other studies emphasised a set of policy and institutional changes conducive to sustained development. They supported a number of reforms being carried out—both in developing as well as industrial countries—with respect to investing more in human capital, reducing trade and investment barriers, reducing domestic price controls and other distortions, and fiscal consolidation. The experience of the 1990s—as well as the longer-term record—confirm that these actions can be associated with rapid economic growth.

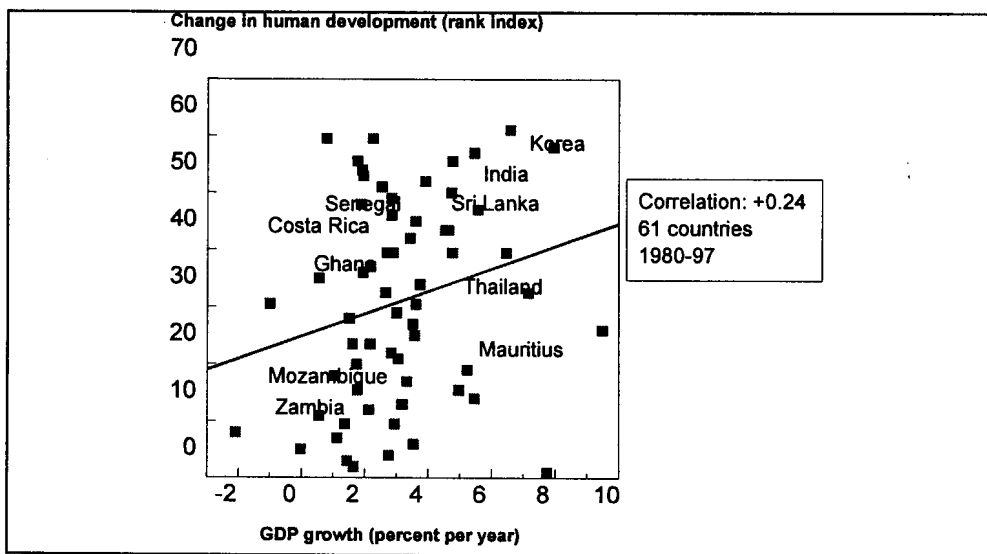
But, as we will see, the record—not only in transitional economies, but elsewhere as well—also suggests that positive actions affecting the quality and sustainability of growth lagged behind liberalisation measures—actions on the part of government and other players. Factors responsible for this one-sided development were the emphasis and capacity in country policymaking as well as the focus and advice of external agencies. This one-sidedness has become an obstacle to obtaining the full benefits of reforms and to achieving sustained progress.

### *Outcomes*

GDP growth per capita has often been used as a proxy for social and sustainable progress in living standards, in part because social progress is associated with GDP growth and in part because of expediency (GDP growth rates are relatively easy to quantify).<sup>1</sup> Today we know that a reliance on GDP as the sole measure of welfare is limiting and misleading. Additional, multidimensional measures are needed, including indexes of human development and of natural resources and environmental sustainability.<sup>2</sup>

Ideally, we would start to assess development outcomes using measures of human and environmental progress and only then turn to intermediate indicators such as GNP or GDP growth. But because we lack the high-quality data needed to construct robust indicators of human and environmental progress, we still need to rely heavily on GNP and GDP. In this study, two sets of indicators are examined – relating to human development and environmental sustainability – along with GDP growth.

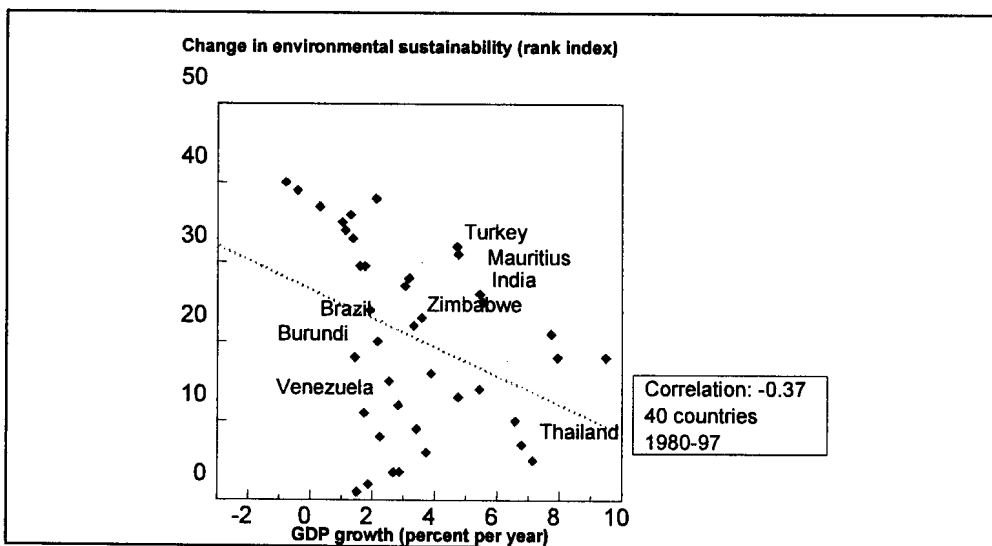
Figure 1.: Income growth and progress in human development go together, but not closely enough



Note: Progress in human development is a Borda rank index of changes in infant mortality, illiteracy, and life expectancy.

Source: Authors' computations.

Figure 2.: Income growth conflicts with environmentally sustainable development



Note: Change in environmentally sustainable development is a Borda rank index of changes in forest cover, CO<sub>2</sub> emission, and water pollution.

Source: Authors' computations.

Future work should move the discussion more directly to other dimensions, including cultural well-being.

Figures 1 and 2 relate GDP growth over 1980-96 respectively with changes in human development and changes in environmental quality. The first comparison is reassuring in some ways. It suggests that GDP growth is positively linked with indicators of human development and social progress. But the correlations often are not statistically significant,<sup>3</sup> reinforcing the argument for including social indicators directly in measures of development. More discomfoting is the negative link between GDP growth and changes in the indicators of environmental sustainability. This finding is robust, supported by data on other environmental indexes, such as particulate and sulfur dioxide emissions. Preliminary econometric analysis confirms the associations noted here.

These two composite indexes are built up from individual measures of human and environmental progress. Table 1 shows how some of these measures are correlated.

*Human development.* The gains in human development over the past four decades have been enormous in some areas, such as infant mortality and adult illiteracy (figure 3). But the record in poverty reduction is uneven (figure 4). In the developing world as a whole, the incidence of poverty—defined as the proportion of people with an income of less than \$1 a day in 1985 purchasing power parity prices—decreased less than a percentage point, from 30.1 percent in 1987 to 29.4 percent in 1993. The two Asian regions showed the largest improvements, more than two percentage points. The poverty situation worsened somewhat in Sub-Saharan Africa and Latin America.

More recent evidence shows that poverty has been on the rise in many parts of the world. With the financial crises in 1997 and the consequent slowing of growth, the proportion of poor increased in South Asia and Sub-Saharan Africa. More significant, the East Asian countries directly affected by the crisis are having sharp reversals of the poverty reductions during their rapid growth. In the four crisis-affected developing countries, falling economic growth has checked the trend of decreasing poverty incidence. In Indonesia, the worst-hit country, the number of poor is estimated to have gone up markedly. The incidence of poverty would be much higher in all these countries with slower GDP growth and worsening inequality.

Even more dramatic is the increase in poverty in the transition economies in Europe and central Asia, characterised as recently as 1987 by very low poverty and income inequality. Survey data show the staggering growth in the number of poor in the region as a result of sustained declines in economic output and worsening income distributions.

*Environmental sustainability.* Worse than the record in poverty reduction is that for the environment, measured by deforestation and emissions of carbon dioxide (figures 5 and 6). While deforestation slowed in most regions in 1990-95, loss of

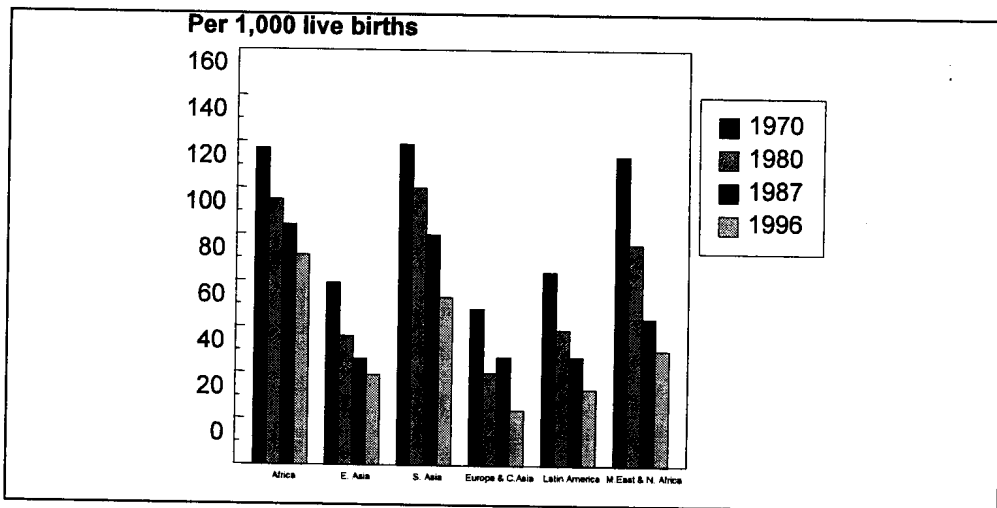
Table 1.: Relations among three measures of development, 1980-96

	Human development			Income growth			Environmental sustainability					
	Increase in literacy	Increase in infant mortality	Decrease in gender gap	GDP	Growth of	Decrease in CO2 emission	Increase in forest cover	Decrease in water pollution				
Human Development	Decrease in poverty	1	-0.24	0.36	-0.50	0.14	0.07	0.37	-0.46	-0.06	0.78	0.27
	Increase in literacy	25	0.25	0.07	10	0.14	0.07	26	27	27	27	13
	Decrease in infant mortality	1	0.02	0.02	0.02	0.02	0.24	0.02	0.02	0.02	-0.23	-0.15
	Decrease in gender gap	0.84	0.84	0.92	0.92	0.04	0.04	0.87	0.87	0.87	0.03	0.32
Income Growth	Decrease in poverty	66	66	30	30	76	76	90	90	90	44	44
	Increase in literacy	1	-0.12	0.07	-0.12	0.07	0.07	0.07	-0.23	-0.25	-0.14	-0.14
	Decrease in infant mortality	0.58	0.58	0.59	0.59	0.58	0.58	0.06	0.06	0.04	0.40	0.40
	Decrease in gender gap	21	21	1	1	63	63	68	68	69	37	37
Environmental Sustainability	Decrease in poverty	-0.02	-0.02	0.18	0.18	0.32	0.32	0.99	0.99	0.00	0.00	-0.11
	Increase in literacy	29	29	31	31	28	28	15	15	28	28	15
	Decrease in infant mortality	1	1	-0.64	-0.64	0.18	0.18	-0.09	-0.09	-0.09	0.18	0.18
	Decrease in gender gap	0.00	0.00	0.45	0.45	0.25	0.25	0.00	0.00	0.45	0.25	0.25
Environmental Sustainability	Decrease in poverty	81	81	82	82	42	42	82	82	82	42	42
	Increase in literacy	1	1	0.22	0.22	0.03	0.03	0.22	0.22	0.22	0.03	0.03
	Decrease in infant mortality	0.04	0.04	0.04	0.04	0.82	0.82	0.04	0.04	0.04	0.82	0.82
	Decrease in gender gap	87	87	87	87	47	47	87	87	87	47	47
Environmental Sustainability	Increase in literacy	1	1	-0.03	-0.03	0.82	0.82	1	1	1	-0.03	-0.03
	Decrease in infant mortality	0.82	0.82	0.82	0.82	52	52	0.82	0.82	0.82	0.82	0.82
Environmental Sustainability	Decrease in gender gap	52	52	52	52	1	1	52	52	52	1	1
	Decrease in water pollution	1	1	1	1	1	1	1	1	1	1	1

Note: The three values in each cell are: correlation coefficient, significance level, and number of countries. Entries in bold entries are significant at 10 percent or better.  
Source: World Bank, World Development Indicators 1998 and authors' computations.

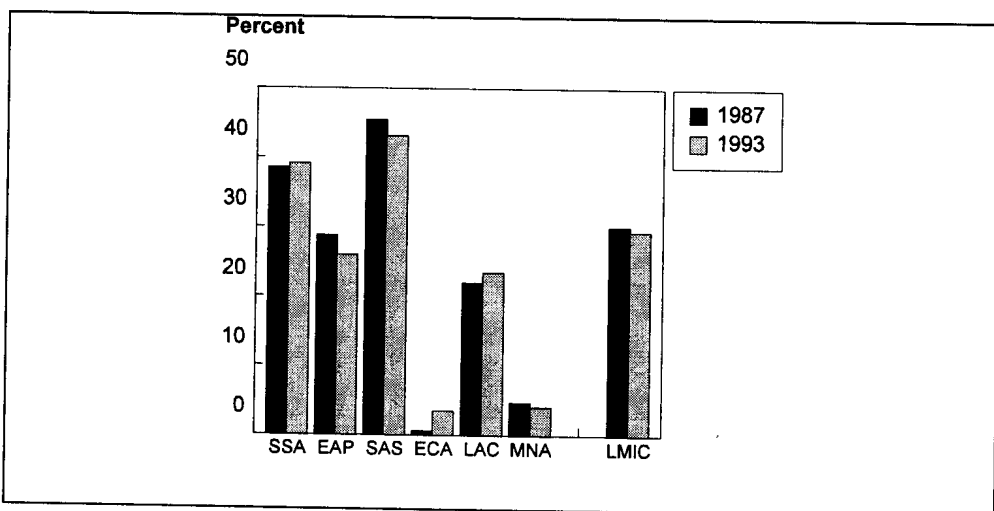
forest cover was still occurring, except in high-income countries—and in developing Europe and Central Asia (the likely result of economic dislocation, not concerted environmental action). Carbon dioxide emissions per capita have continued to grow

Figure 3.: Infant mortality



Source: World Bank data

Figure 4.: Poverty in developing countries

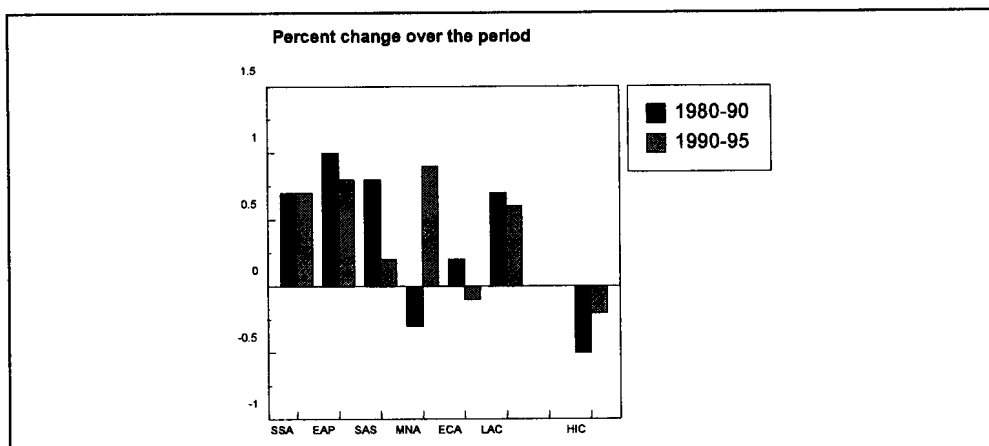


Source: WDI, 1997.

in all income groups and regions, except Sub-Saharan Africa, where 1995 levels were lower than 1980 levels, probably because of the general economic stagnation. East Asia has the fastest deforestation rates and highest carbon dioxide emissions per capita, highlighting the conflict between growth and sustainable development.

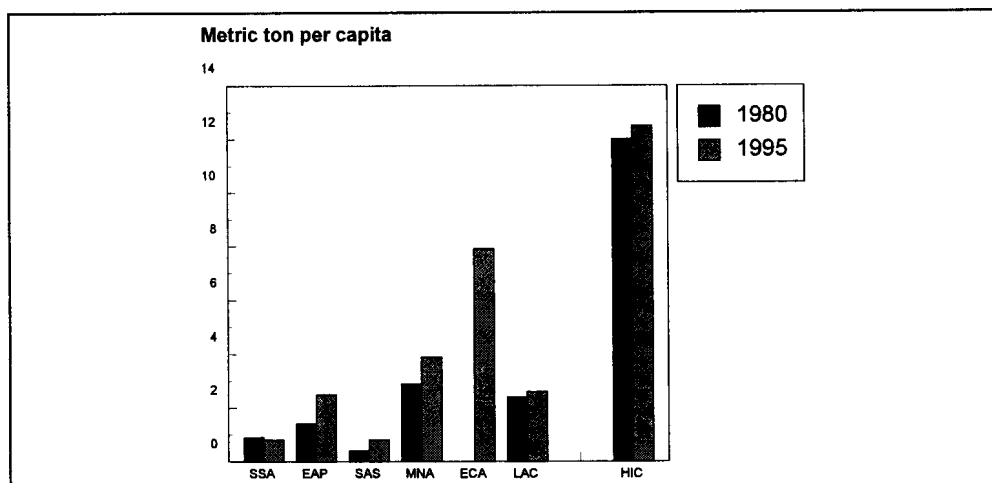
*Income growth.* In terms of GDP growth, the developing world has seen steady progress in the three decades since the 1960s, but the gap between industrial and developing countries—measured by multiple of average per capita incomes—has

Figure 5.: Deforestation, 1980-95



Source: World Bank data.

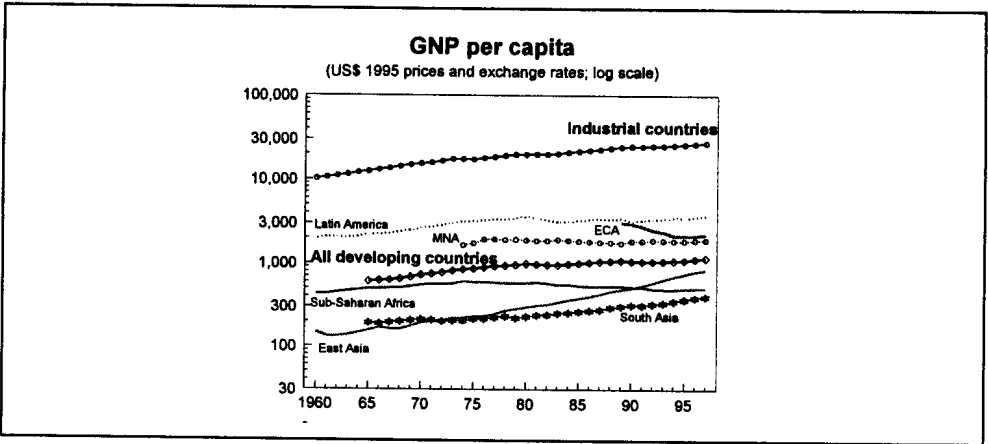
Figure 6.: CO<sub>2</sub> emissions per capita



Source: World Bank data.

slightly increased (figure 7). East Asia has closed the gap significantly, while the gap has widened considerably for Sub-Saharan Africa. This trend of the spectacular successes in East Asia and gloomier outcomes elsewhere can also be seen using PPP-based income figures since 1980 (figure 8).

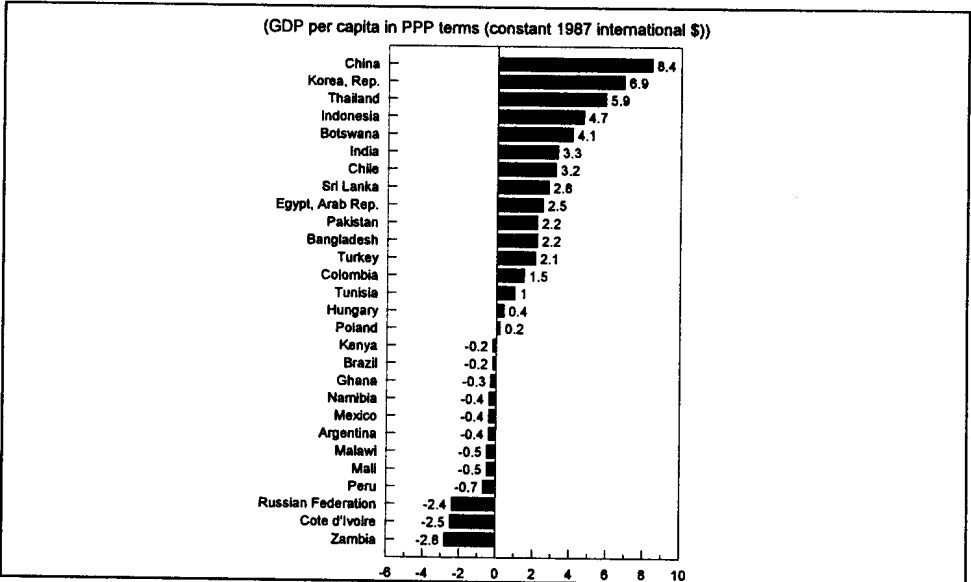
Figure 7.: Average income across regions



Note: The aggregation uses exchange rates, not PPP measures

Source: World Bank data

Figure 8.: Growth of average income, 1980-96



Source: World Bank data



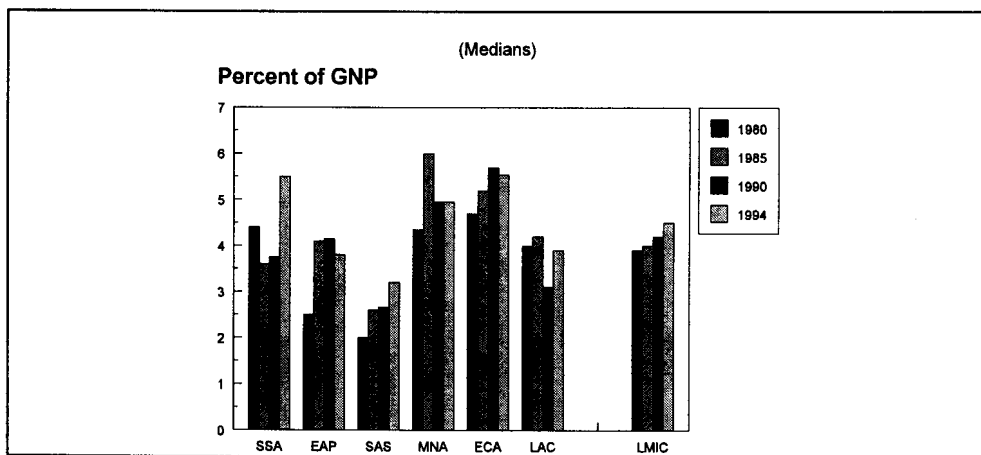
Table 2.: Development outcomes by growth class

	Number of countries		Unweighted means		
			High growth	Moderate/improved growth	Low growth
Poverty	90s	% with less than \$1 a day	6	29	52
	80s		19.3	35.8	35.1
Infant mortality	90s	Per thousand	23.2	38.1	31.8
	80s		41.2	74.7	94.3
Illiteracy	90s	Percent	62.5	83.9	124.9
	80s		17.9	28.0	31.8
Life expectancy	90s	Years	24.8	33.2	42.5
	80s		67.9	62.2	59.4
Income inequality	90s	Gini coefficient	63.7	59.0	57.4
	80s		39.2	42.8	41.8
GDP growth	90s	Percent per year	38.3	43.8	41.3
	80s		7.5	4.8	0.7
Capital stock growth	90s	Percent per year	7.1	2.0	2.4
	80s		9.4	2.4	2.0
TFP growth	90s	Percent per year	8.4	3.0	3.9
	80s		2.9	1.6	-1.2
CPI inflation	90s	Percent per year	1.9	-1.4	-0.7
	80s		7.8	40.8	174.6
CO2 emission	90s	Tons per capita	7.1	173.6	43.9
	80s		3.1	1.9	2.0
Deforestation	1990-95	Percent per year	1.8	1.9	1.7
	90s	Per day per worker	1.1	1.2	0.9
Water pollution	90s		0.16	0.18	0.20
	80s		0.17	0.22	0.22

Note: See text for details regarding country classification. Some variables are missing for some of the countries. Note: See text for details regarding country classification. Some variables are missing for some of the countries.

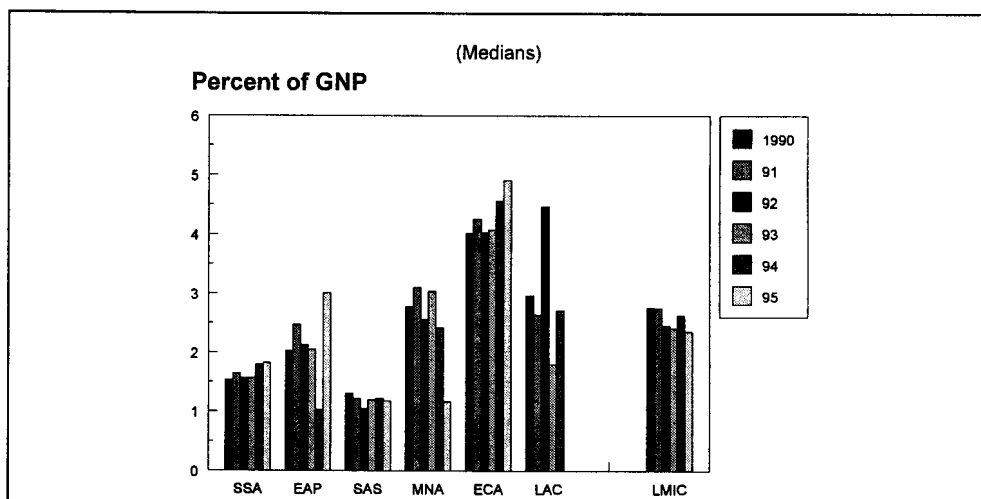
Source: Various and authors' computations.

Figure 9.: Expenditures on education



Source: WDI

Figure 10.: Expenditures on health

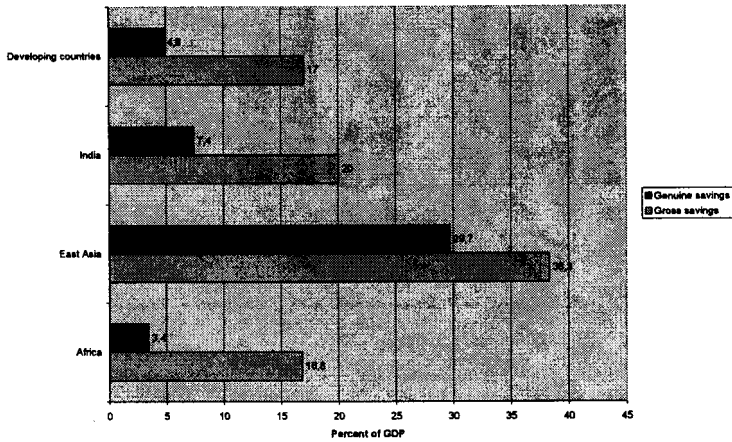


Source: WDI.

*Volatility of growth.* An important aspect of the time path of incomes of countries is the volatility of incomes and of income growth. For example, higher degree of fluctuation in the growth rates for a period is associated with lower average growth rate in the same period. Further, there is anecdotal evidence that a slowdown in growth rates leads to an increase in the proportion of the poor in Latin America.<sup>4</sup>

Thus, for assessing development prospects for a period, it is helpful to know the trends in the volatility of growth rates.

Figure 11.: Gross and genuine savings, 1997

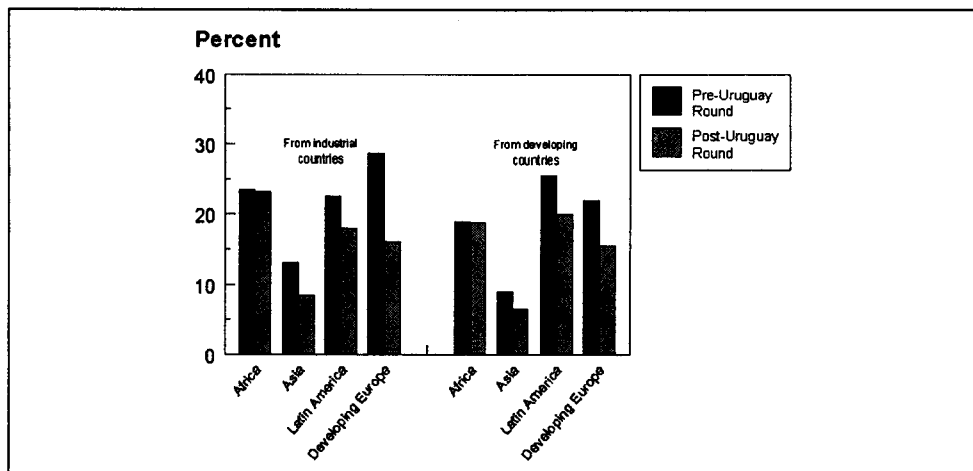


Note: Genuine savings are gross savings adjusted for changes in physical, human, and natural capital.  
Source: The World Bank: World Development Indicators, 1999.

The standard deviation of GDP growth rates for 1970s, 1980s, and 1990s shows that on average there was a decline in volatility in 1980s from 1970s for most country groups (except middle-income countries, mainly due to the debt crisis in Latin America). The picture is somewhat more mixed in the 1990s. Volatility declined for the middle-income country group, but increased for both high- and low-income groups. Among the regional groups, East Asia and Eastern Europe experienced an increase of average volatility in the 1990s.

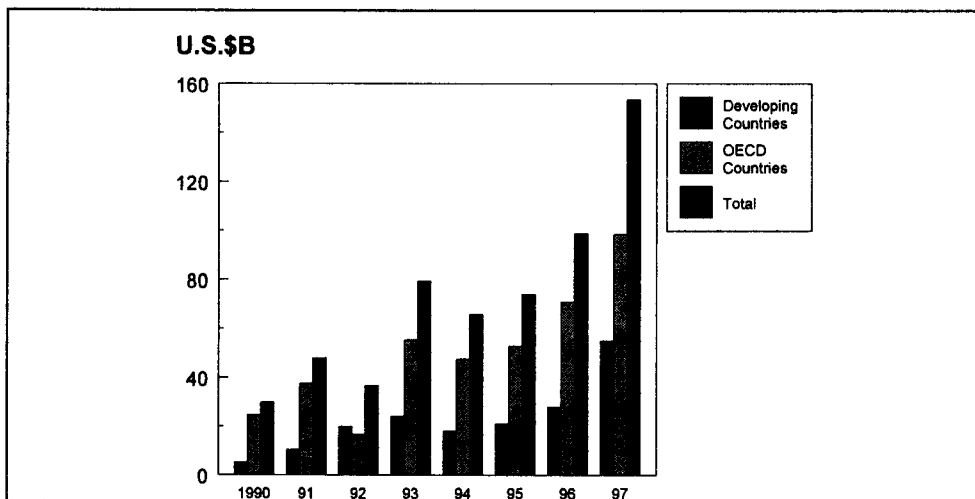
That the report card on development is mixed can be seen a different way by placing developing countries in three groups: countries with high growth (more than 5 percent a year) in both the 1980s and the 1990s, those with moderate (between 4 and 5 percent in both decades) or improved growth (growth in the 1990s of at least 2 percentage points a year higher than in the 1980s), and those with low or declining growth (table 2). Human development indicators improved generally, with the best performance among countries with better growth performance. Indicators of environmental sustainability show a mixed picture: the faster-growing groups have

Figure 12.: Average tariffs on manufactures



Source: DECPG

Figure 13.: Privatisation trends



Source: Trends in International Finance (OECD)

higher levels of carbon dioxide emission per capita and deforestation rates, but slightly lower levels of water pollution.

Table 3: Policy performance by growth class

		Unweighted means			
		High growth	Moderate/improved growth	Low growth	
		6	29	52	
Number of countries					
Budget surplus	Percent of GDP	90s 80s	-0.5 -3.5	-1.2 -4.7	-3.6 -4.2
Eff. tariff rate	Percent	90s 80s	24.8 31.2	30.0 31.7	18.5 22.8
Trade/GDP	Percent	90s 80s	26.2 22.5	22.9 38.1	19.2 23.6
Capital account openness	Index	1996 1988	2.5 2.0	3.0 1.9	2.9 1.6
Financial repression	Index	1996 1973	3.8 5.4	3.0 6.8	3.8 5.8
M2/GDP	Percent	90s 80s	60.2 43.2	34.7 35.9	27.9 27.2
Bureaucratic efficiency	Index		1.6	1.3	1.5
Educational spending	Percent of GDP	90s 80s	3.5 3.5	3.8 3.9	4.2 4.0
Health spending	Percent of GDP	90s 80s	1.3 1.4	2.4 2.7	2.5 2.4
Access to sanitation	Percent of population	90s 80s	69.6 54.3	56.7 50.2	56.2 44.7
Access to safe water	Percent of population	90s 80s	80.7 64.2	64.7 53.2	60.1 53.9
Environmental action	0-1 Index	Int'l	1.00	0.96	0.88
	0-1 Index	Domestic	0.83	0.81	0.76

Note: See text for details regarding country classification. Some variables are missing for some of the countries.

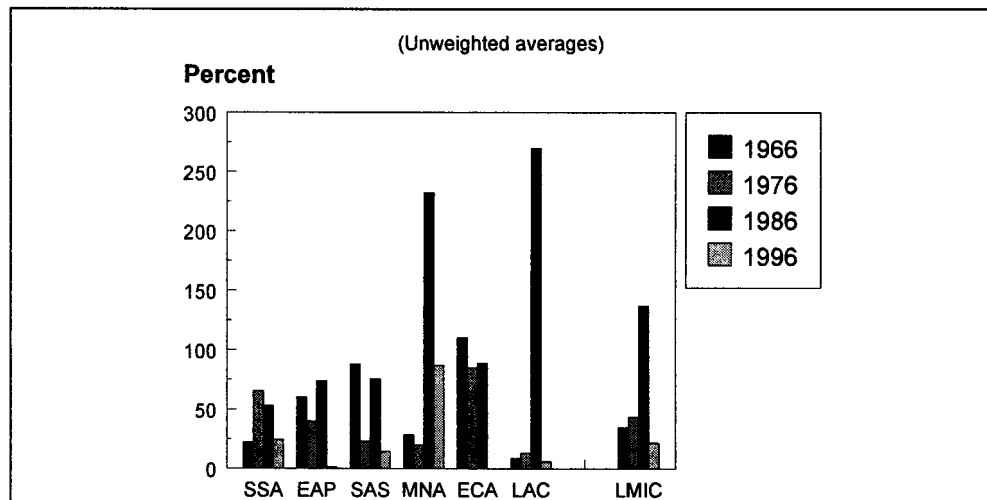
In particular, the following variables are available for only a small number of countries: effective tariff rate, financial repression, and bureaucratic efficiency index.

Source: Various and authors' computations.

## Policies

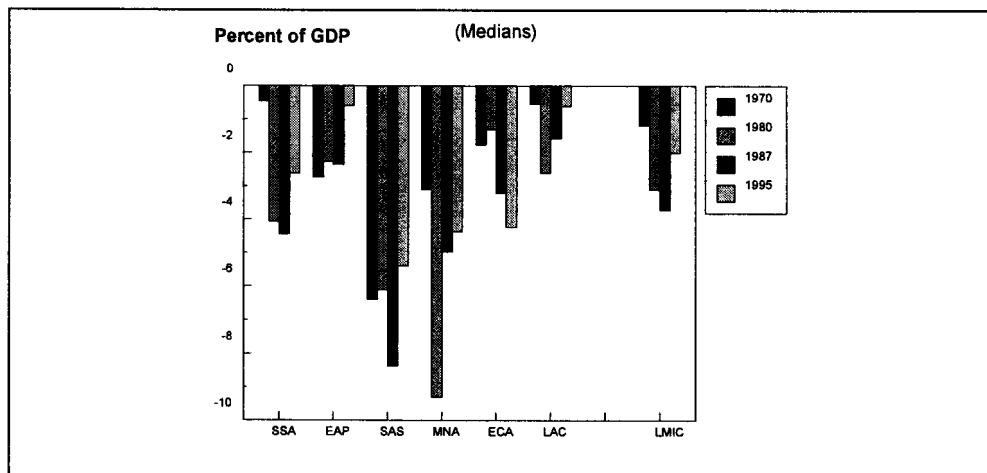
Both external and domestic factors lie behind these outcomes. This paper focuses on the impact on development outcomes of domestic actions, but the importance of the international economic environment for development must be kept in mind.

Figure 14.: Parallel market premium, 1966-96



Note: No. of countries for the respective regions: 33, 7, 6, 8, 8, 24 & 86.

Figure 15.: Overall government budget balance, 1970-95



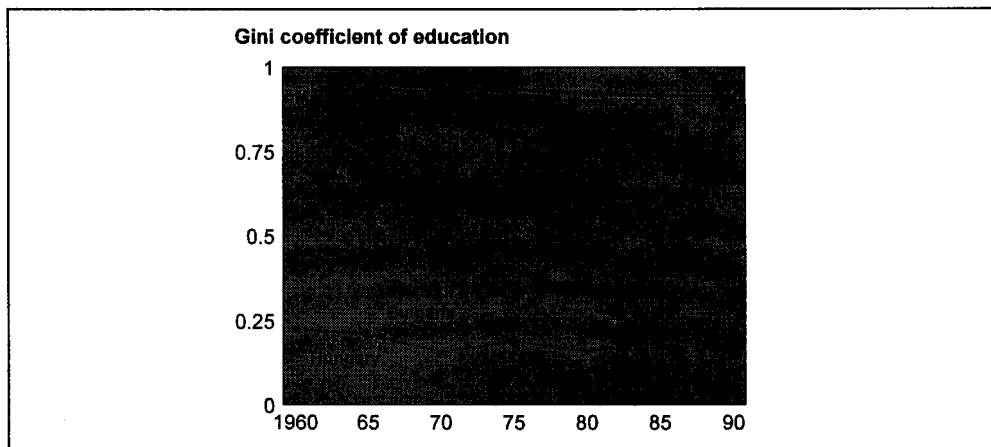
Source: World Bank, 1997, 1998, 1999. World Development Indicators, Washington D. C.

*Policies for human development.* Developing countries have been spending increasing shares of public resources on social services (figure 9 and 10), even protecting social service spending during periods of stabilization and fiscal austerity. Private spending on social services has also been important in some regions especially in East Asia, where its share of total spending rose with economic growth. Public spending is more important in low-income Sub-Saharan Africa and South Asia. But whether public spending produces good outcomes depends on the distribution and quality of the public spending, along with incentives for more private spending.

*Environmental and natural resources policy.* There are no standard measures to evaluate the sustainability of a country's environmental policies. *Genuine saving* measures the rate of saving after accounting for investments in human capital, depreciation of produced assets, and depletion and degradation of the environment (figure 11). Although such measures are being used more, they are still experimental and reflect both policies and outcomes.

We can get a rough sense of countries' environmental commitment through such actions as completion of a national environmental profile and formulation of conservation and biodiversity strategies. Similarly, countries' commitment to issues of international environmental concern may be gauged by participation in global efforts and the signing of treaties. Unfortunately, these measures are only weakly related to environmental outcomes. Better ways of capturing the connections between countries' policies and environmentally sustainable development are needed.

Figure 16.: Inequality of educational attainment: selected countries



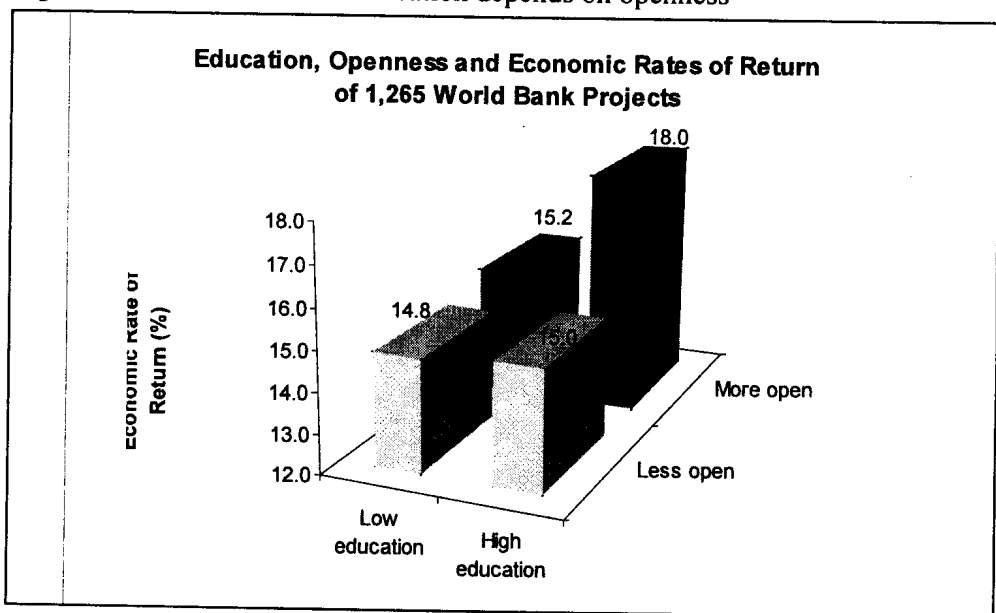
Source: Ramón López, Vinod Thomas, and Yan Wang. 1998.

*Openness and competition.* By any measure (price differences, quantities of trade and capital flows, or control regime), developing countries were more open in the 1990s. The ratio of trade to GDP rose in all developing regions, while average tariffs on manufactures fell following the Uruguay Round (figure 12). Openness to capital flows also increased in the 1990s dramatically so in some regions. An index of financial controls shows a sharp decline in the 1990s, following a sharp increase in the previous decade.

Liberalisation of domestic markets has also taken hold, as governments have become more willing to rely on markets and more aware of the need to attend to incentives for private initiatives. Governments are privatising state-owned industries (figure 13), putting public services to tender, deregulating utilities, and lifting other restraints on marketing and distribution. Many primary commodity-exporting countries in Africa are liberalising control boards and other institutional arrangements, allowing for greater pass-through of international commodity prices to producers.<sup>5</sup>

*Getting the macro policies right.* Policies of openness and competition are closely related to macroeconomic stability. An indicator that captures their interaction is the

Figure 17.: Effectiveness of education depends on openness



Note: Economic rates of return are from the evaluation database of the World Bank's Operations Evaluation Department. Education is measured by the average level of schooling of the labor force, and openness by the logarithm of the foreign exchange parallel market premium.

Source: Vinod Thomas and Yan Wang, 1997b



Table 4.: Trade, growth, poverty and the environment (percent, unless otherwise indicated)

Economy	Trade	Growth	Poverty	Environment	
	Annual growth of merchandise export volume	Annual growth of GNP per capita	Population living on less than \$1 a day (PPP) <sup>a</sup>	Annual deforestation (percent change)	Total increase in carbon dioxide emissions
	1980-94	1970-95	various years	1981-90	1980-92
<b>East Asian</b>					
China	12.2	6.9	29.4 (1993)	0.7	79.2
Hong Kong	15.4	5.7	< 1	-0.5	81.3
Indonesia	9.9	4.7	14.5 (1993)	1.1	94.7
Korea, Rep. Of	11.9	10.0	< 1	0.1	130.2
Malaysia	13.3	4.0	5.6 (1989)	2.1	150.0
Philippines	5.0	0.6	27.5 (1988)	3.4	35.1
Singapore	13.3	5.7	< 1	2.3	66.7
Thailand	16.4	5.2	< 1	3.5	180.0
Average	12.2	5.4	n.a.	1.6	85.6
<b>Latin America</b>					
Argentina	1.9	-0.4	-	0.1	9.3
Bolivia	-0.3	-0.7	7.1 (1990)	1.2	40.0
Brazil	6.2	-	28.7 (1989)	0.6	17.9
Chile	7.3	1.8	15.0 (1992)	-0.1	29.6
Costa Rica	6.6	0.7	18.9 (1989)	3.0	100.0
Mexico	13.0	0.9	14.9 (1992)	1.3	28.1
Peru	2.4	-1.1	49.4 (1994)	0.4	-8.3
Uruguay	0.9	0.2	-	-0.6	-16.7
Venezuela	1.1	-1.1	11.8 (1991)	1.2	28.9
Average	4.0	-0.1	n.a.	0.5	21.2

- is not available; n.a. not applicable

<sup>a</sup> The international poverty line is from World Bank, *World Development Indicators, 1997*. Washington DC. Individual studies may have different estimates for the same country.

Source: World Bank. 1997. *Can the Environment Wait in East Asia? Priorities for East Asia*. Washington, DC; Thomas and Wang. 1997a.

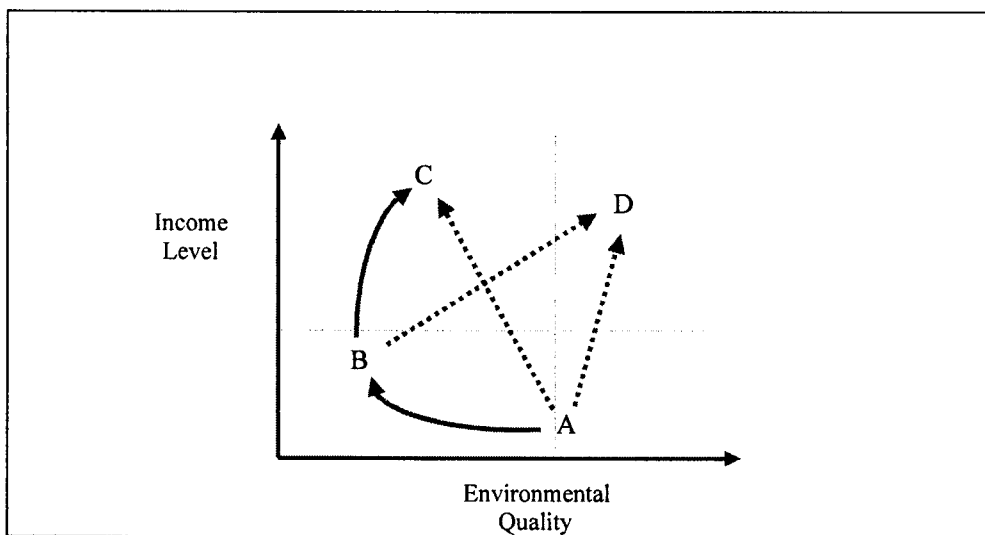
parallel market premium for foreign exchange, which showed a sharp decline in the 1990s, even disappearing in most countries (figure 14). Government deficits also declined sharply in most regions (with the exception of Europe and Central Asia), after sharp increases in the 1980s (figure 15). Partly as a result, inflation declined in most developing countries.

Summing up, we have seen that the developing world continued to make measurable progress in the 1990s, reducing trade and investment barriers, dismantling domestic price controls in agriculture and industry, reducing fiscal deficits, investing more in education and health (table 3). Both the experience of the 1990s and the longer-term record confirm that these actions are associated with rapid

economic growth. They also confirm the positive link between economic growth and poverty reduction. Applying these policies to boost economic growth is thus validated as a key element in the fight against poverty.

But the record also suggests that the positive actions, by government and others, affecting the quality and sustainability of growth have lagged seriously behind the liberalisation measures. This imbalance can be linked not only to emphasis and capacity in country policymaking, but also to the focus and advice of external agencies. These missing ingredients for development are the subject of the rest of the paper.

Figure 18.: Economic Growth and Environmental Quality



### Missing Ingredients

What do the varied development outcomes tell us? Perhaps most important, we find that the quality and sustainability of the type of growth we have seen were inadequate for making a fundamental difference through poverty reduction. We also find that the same type of growth was associated with greater environmental degradation. This experience is the basis for two overarching themes.

First, for development to be comprehensive and sustainable, it ought to result in an augmentation of the value of three sets of assets: human capital, natural capital including environmental resources, and physical capital. The first two are close to being the true ends of development, while the third is a means. However, physical

capital gets most of the attention. Balancing the accumulation of these three sets of assets is preferable to a single-minded pursuit of short-term growth through the accumulation of physical capital.

Second, the volatility and inequality in growth are proving to be especially harmful to the poor. An external shock could throw millions of near poor back into long-term or permanent impoverishment. One of the aims of development policy ought to be to reduce the volatility in growth, enhance risk management, and reduce the sensitivity of the poor to changing economic fortunes. This entails an emphasis on the proper management of integration with international capital markets and more generally improving the quality of institutions and governance.

The overarching concerns of the distribution and quality of growth are rooted in the nature of policy reforms both at national and global levels. Specifically, they bring out missing actions in four areas—human development, environmental protection, financial regulation, and governance.

### *The Quality of Human Capital Investments*

Over the past two decades, developing countries have increased the share of public resources in health and education services. Yet cross-country analyses reveal little relationship between public spending on education or health and outcomes, once countries' income levels are taken into account. In part these findings reflect the limitations of cross-country averages. More importantly, they highlight two other related factors: outcomes depend as well on the quality of social services and the composition and allocation of spending.<sup>6</sup>

There are large variations in the quality of social services. In schooling quality, such variations show up in a broad range of variables, from repetition and dropout rates to student test scores on internationally comparable tests. For example, primary and secondary repeat rates are much lower in East Asia than in other developing countries at similar income levels. In the Republic of Korea dropout and repetition rates are extremely low, in part because of an automatic promotion system at all levels while elimination of middle school and the high school entrance examinations ensured near-universal access.<sup>7</sup>

The distribution of services also varies widely. Consider education again. An unequal distribution of education tends to have a negative impact on per capita income in most countries, after controlling for labour and physical capital.<sup>8</sup> A more equitable distribution contributes to higher income levels, with strong feedback effects on education demand and supply, as well as on the quality of education and the outcome.

Improving distribution may even need to take precedence over improving quality, at least until coverage is universal. Lopez, Thomas and Wang (1998) estimated Gini coefficients of education attainment for 20 countries and found significant differences in the distribution of education between rich and poor. Korea achieved the fastest expansion in education coverage and the most rapid decline in its education Gini coefficient. Education Gini coefficients for Pakistan and India are relatively high, and have increased since 1980. India had an income Gini coefficient in 1992 similar to that for Korea in 1988, implying that India's education distribution is much more skewed than its income distribution, with the reverse true for Korea since the late 1980s. China's income Gini coefficient was low in 1981, but rose in 1995, while its education Gini fell during the same period (figure 16).

Although it might seem that the expansion of education will be uneven as a country reduces illiteracy from 60 percent to 20 percent or less so that the education Gini worsens before it improves, similar to the Kuznets curve for income, country experience suggests that it is not unavoidable. Argentina and Chile, for example, have had low education Gini coefficients throughout the period from the 1970s to the 1990s. Korea and many other countries have had substantial declines in the education Gini, without any increases at the beginning. Only a few countries have seen a significant worsening of the education Gini, including Algeria, India, Pakistan, and Tunisia.

In addition to the links between the quality and distribution of social services and their impact, there is a third link between economic policies and the impact of education. For a sample of 60 developing countries during 1965-87 (later updated to 1994) economic growth rates were especially high in countries with both high levels of education and macroeconomic stability and openness.<sup>9</sup> The impact of trade openness on long-term growth thus depends on how well people are able to absorb and use the information and technology made available through trade and foreign investment. Similarly, for a sample of 1,265 World Bank projects, Thomas and Wang (1997b) found a rate of return 3 percentage points higher in countries with both a more educated labour force and a more open economy than in countries that had only one or the other (figure 17).<sup>10</sup>

### ***Managing growth and the environment***

Many countries have taken a grow first, clean up later approach, arguing that they can ill afford to divert resources for environmental protection. Now there is considerable evidence from all parts of the world that the rapid growth rates of the 1990s led to unprecedented deforestation and environmental degradation and are not sustainable. Grow first, clean up later is proving to be a costly strategy socially and ecologically

and a threat to the sustainability of growth itself. And some environmental losses (biodiversity, human health) are irreversible, so that clean up later is foreclosed as an option.

Environmental degradation can occur in both fast and slow growing economies (table 4). East Asia's environmental record stands in sharp contrast to its record of economic growth and poverty reduction. In the past quarter century incomes grew 5 percent a year. Poverty fell sharply – as much as 50-70 percent in Indonesia, Malaysia, and Thailand.<sup>11</sup> And environmental degradation (pollution, congestion, deforestation, loss of biodiversity) surpassed that in all other regions in the world. About 20 percent of vegetated land in East Asia suffers from soil degradation due to waterlogging, erosion, and overgrazing. Biodiversity is classified as having been highly threatened in 50-75 percent of coastlines and protected marine areas. Countries that started liberalising and growing fast in the 1980s, such as China, Malaysia, and Thailand, tripled their carbon dioxide emissions.

But environmental losses have been extensive not only among fast-growing countries. Environmental quality has deteriorated in slow-growing Central America, as well where there has been extensive deforestation, soil degradation, overfishing, and water pollution in coastal zones.<sup>12</sup> And because growth has been slow, poverty levels have remained stubbornly high.

So while rapid growth cannot itself be blamed for environmental degradation, neither is it an automatic ally of the environment.<sup>13</sup> Faster rates of growth tend to have a negative influence on the environment, due to such accompanying factors as industrial expansion, urbanisation, and increased exploitation of renewable and nonrenewable resources. At the same time, growth creates conditions for environmental improvement by raising the demand for better environmental quality and by making the resources available to supply it. Thus, the net effect could go either way.<sup>14</sup>

Experience argues against a grow first, clean up later approach. The health costs of delayed pollution control can exceed the costs of prevention. For example, the costs of clean up and compensation to victims of *itai-itai* disease and *yokkaichi* asthma in Minamata resulting from industrial mercury poisoning since the 1950s have ranged from 1.4 to an astronomical 102 times the cost of up-front prevention.<sup>15</sup> And some damage cannot ever be undone. Habitat destruction has diminished terrestrial and aquatic biodiversity. For example, pollution and destructive fishing techniques have damaged coral reefs in some areas, destroying or threatening to destroy animal and plant life that depend on complex coral reef ecosystems.

And it is the poor and disadvantaged who bear the brunt of environmental pollution and resource degradation, whereas the rich are often responsible for the misuse. Deforestation is related to unsustainable timber extraction by large commercial logging companies but it is the poor indigenous communities whose

sources of fuel-wood, fodder, medicinal plants, and other forest products disappear. When water quality is degraded by industrial toxic effluents and pollution, the poor suffer most because they often don't have access to municipal water supplies and lack the resources to invest in water filters and other purification systems. Both indoor and outdoor air pollution also disproportionately hurt the poor, who cannot afford to switch to cleaner fuels or to purchase air filters and who tend to live closer to roads where pollution levels are highest.<sup>16</sup>

Experience also points to a hopeful third lesson: underexploited opportunities to promote a better environment. Scarce resources can be put to multiple and sustainable high-return uses. In Latin America, forests can be protected for their higher social value instead of being converted to ranches that generate negative social returns.<sup>17</sup> Similarly, management of tropical forests for such multiple uses as nontimber goods, water and soil conservation, biological diversity, timber, and other environmental services can yield higher social returns while generating steady revenues.

The impacts of environmental degradation are not confined within political boundaries, as is becoming increasingly obvious in the case of acid rain, global climate change, and such transboundary issues as polluted rivers, among others. Although individual neglect of the environment may be tolerated by the ecosystem, persistent collective neglect can threaten global ecosystems and humanity itself, a powerful argument for promoting environmentally sustainable growth.

One key to reversing environmental degradation is to tax the activities that cause it, a way of combining environmental management and growth. Taxing coal burning for example could make solar energy more economically competitive, reduce emissions, and increase revenues. The revenues can be used to scale down other distortionary taxes in the economy that are slowing growth. Similarly, taxing auto emissions makes cleaner forms of transportation more attractive.<sup>18</sup>

A switch from income to consumption taxes can also have beneficial impacts on the environment and growth. The production and consumption of luxury goods often make heavy demands on environmental resources. Consumption taxes will help to protect the environment by curbing the consumption of these goods. Steeply progressive consumption taxes will also promote equity. Furthermore, by encouraging savings they will promote overall economic growth.<sup>19</sup>

Rapidly growing economies that ignored the environment have learned these lessons the hard way, and some are now being forced to take costly corrective actions. In the US, it will take hundreds of million dollars to restore the damage done to the Everglades by shortsighted planning for irrigation for sugarcane cultivation.<sup>20</sup> Economies embarking on a path of sustainable development still have time to incorporate environmental policies directly into their economic planning strategy.

Consider the alternative growth paths illustrated in figure 12. An economy that values the environment will seek to balance accelerated growth with environmental quality by moving along AD. If the economy adopts a grow now, clean-up later approach, it will go from A to C with considerable environmental deterioration (China, Indonesia, Thailand). Or – the worse option it may – follow policies of slow growth and considerable environmental damage, moving from A to B (e.g., several countries in Central America and in Africa).

The economies represented by points B and C will incur serious losses related to ecosystem damage—disease and death, degradation of forests and water bodies, air pollution, and more. Figure 18 suggests that economies at C can afford to improve their environmental management and move toward D while those at A or B should strive both to raise the growth rate and improve the environment.<sup>21</sup> The costs of clean up are likely to be much higher than the costs of prevention, and many losses are irreversible.

### *Managing Financial Risks*

The expansion in international financial markets in the 1990s has been phenomenal; financial transactions are more than five times the size of world trade in goods and services. This increase in capital mobility relative to world GDP means that disruptions in the financial system have far-reaching implications for development. Financial globalisation in the 1990s has also been characterised by greater vulnerability to liquidity and currency crises, such as the events in Mexico in 1994-95, East Asia in 1997 (Malaysia, Korea, Thailand, Indonesia, and the Philippines), and Russia and Brazil in 1998. This volatility has produced large welfare losses, especially hurting the poor. Managing risks and balancing the benefits and costs of globalisation are crucial concerns everywhere.

*Risk management.* The ups and downs in investor confidence and capital flows in the 1990s present challenges that require risk management combining market and official solutions. Countries continue to promote policies that encourage greater access to international capital markets. To inspire the necessary market confidence as well will require finding the right mix of regulation, oversight, transparency, and market discipline, at both international and county levels.

Many developing countries have been liberalising financial markets and releasing restrictions on capital transactions. These are the right policies, but in the absence of adequate institutional and regulatory frameworks (national and international) for money, foreign exchange, and capital markets, some problems have emerged. As countries liberalised, they gained access to a broader menu of foreign financing, with strong new incentives for recourse to foreign finance. Longer-maturity foreign

capital was especially attractive for funding infrastructure projects, for example, particularly in countries with exchange rates pegged to the US dollar.

With increased capital mobility came increased vulnerability to sudden shifts in investor sentiments, along with associated fluctuations in the supply and price of foreign capital. There was also a shift from official to private sources of capital, and from government to private entities as the main recipients of foreign capital. Suddenly, developing countries found themselves with new credit relationships and a variety of sources of international private finance, with the private sector as a key recipient of foreign capital.

However, neither the maturity structure nor the foreign exchange risk associated with foreign capital was properly taken into account. As recent crises exposed the increased vulnerability of financial markets many developing countries began to question the benefits of closer integration with global capital markets. Some are reverting to capital controls (Malaysia, for example) or slowing their move to capital account convertibility (India, for example) to insulate their economies from external financial shocks. The critical question to be answered is, what is the best way forward?

Experience over the past two decades confirms that macroeconomic stability is vital. But, we have also seen that it cannot guarantee sustainable growth in today's globalized financial environment. Low inflation and conservative balance of payments policies remain necessary for growth, but they will not ensure sustained development in the absence of adequate institutional infrastructure, well-functioning financial markets, and good governance structures. The answer is not to roll back liberalisation. Rather, it is to put in place the complementary regulatory and institutional mechanisms in place at the national and international levels.

A common thread runs through most of the analysis of financial cycles: systemic weaknesses in domestic financial sectors of developing countries and in the international finance system. A lack of transparency and data availability tend to mask the true state of financial markets, obscuring market failure in the face of increased global capital mobility. At the international level, this globalisation of capital calls for an institutional framework to ensure transparency of accounts, security of property rights, enforcement of contracts, and mechanisms for controlling risk.

At the national level poor control of risks, lax enforcement, weak prudential rules, inadequate supervision, and government-directed lending practices lower the quality of investments. These also need attention. Also needed is a coherent perspective on the external liabilities: the maturity, type of borrowers, and various forms of explicit and implicit guarantees assumed by the government.

*Balancing gains and risks.* The world is still coming to grips with globalisation. One view attaches considerable importance to greater globalisation, believing that



crises can be overcome through better regulatory and institutional frameworks, and if necessary, through financial assistance from international financial organisations. Another perspective considers the costs and risks of closer financial integration to be too high relative to the potential benefits, and supports tighter controls over cross-border financial movements. An emerging consensus takes the middle ground, favoring the simultaneous opening up of financial markets and the establishment of an appropriate regulatory framework, along with care in not giving special incentives and possibly adding some restrictions on short-term capital flows.

Financial liberalisation offers clear economic gains, but it carries risks as well. Of 24 countries that experienced financial crises, Williamson and Mahar (1998) found that 13 had liberalised their capital account within five years of the crisis.<sup>22</sup> The study concludes that the risks can be much reduced by giving proper attention to regulation and supervision, by maintaining a ceiling on the deposit interest rate; at least until the liberalised system is well established; and by delaying and perhaps limiting, capital account convertibility.

Policy instruments being increasingly considered include incentive-based regulations such as risk-related capital adequacy requirements, higher liquidity requirements and entry taxes on short-term capital inflows or reserve requirements. More fundamentally, motivating the private sector to invest in better quality and long-term efforts could make a big difference. Finding more effective ways to respond to crises will also be necessary. Shoring up the confidence of creditors and investors and their willingness to supply capital to a borrower or to roll over existing claims is key. The international policy response to the recent crisis points in the right direction: The prompt extension of large stand-by loans and direct loans to refinance maturing foreign exchange obligations and restore confidence.

Proposals to underwrite East Asia's economic recovery have included government guarantees of private sector liabilities that could mean an unbalanced sharing of risk, with the public sector assuming the full burden of failed projects and nonperforming loans. Guarantees impose a contingent liability on the government, with implications for future taxes and the credibility of the guarantor in the international markets. Official assistance through multilateral institutions can make a difference in this context.

Financial market liberalisation has brought enormous benefits through economic growth, but also greater volatility and welfare losses, especially for the poor. Moving forward will require actions at the national and international levels. It takes stronger regulatory mechanisms, better supervisory standards, greater transparency of financial transactions, better risk-control mechanisms for preventing liquidity crises, and better risk-sharing mechanisms between creditors and borrowers in dealing with existing debt overhangs.

## Combating Corruption

The government's role in development has been studied intently, and the importance of good governance noted, but it has only recently been confronted as a key development issue. The social costs of corruption (an absence of good governance) have been noted (see table 5). Today, pervasive development impact is increasingly being recognised as well.

Table 5.: Liberties and Development, 1973-87

Measure	1	2	3	4	5
1. Growth	2.00	0.30	0.23	0.39	0.19*
2. Decline in infant mortality		1.00	0.41	0.71	0.59
3. Change in female educ			1.00	0.48	0.28
4. Female education level				1.00	0.63
5. Political & civil liberties					1.00

Note: Numbers are period averages for 68 countries. All correlation coefficients are statistically significant at least at 10% except the one marked with an \*

Sources: *World Development Report 1991: The Challenge of Development*, (New York: World Bank/Oxford University Press).

Corruption reduces domestic and foreign investments, lowers tax revenues, and by skewing the composition of public expenditure away from social services that are important to the poor, worsens income distribution and diverts resources from poverty reduction. Misgovernance and corruption have also increased the fragility of financial sectors. All these factors have been linked to the crises in East Asian countries and elsewhere in the 1990s.

Evidence from a large cross-section of countries shows that corruption has a significant negative impact on domestic investment. A large impact on investments makes a large impact on economic growth likely as well. Tanzi and Davoodi (1997) found that corruption increases the size of public investment because of the opportunities for manipulation by corrupt officials<sup>23</sup>. Corruption may also reduce tax revenue because it compromises the government's ability to collect taxes and tariffs, though the net effect depends on how the nominal tax rate and other regulatory burdens were chosen by corruption-prone officials.<sup>24</sup>

Where corruption prevails, the poor face higher taxes and receive a lower level of social services, infrastructure investments are biased against projects that aid the poor, and the ability to escape poverty using small-scale entrepreneurial means is impaired.<sup>25</sup> Gray and Kaufmann (1998) find, for example, that corrupt regimes often budget defense contracts at the expense of rural health clinics, a policy bias that

worsens income distribution and diverts resources from the countryside to the cities.<sup>26</sup>

*Contributing factors.* Both political rights (democratic elections, a legislature, opposition parties) and civil liberties (free and independent media, freedom of assembly and speech) are negatively correlated with corruption, with the correlations somewhat stronger for civil liberties.<sup>27</sup> Similarly, there is a significant negative association between rule of law (protection of property rights, independent judiciary, judicial resolution of conflict) and corruption, but with no claims about the direction of causality.

Studies have asserted that policy distortions and controls, state ownership, excessive business regulation, arbitrary application of regulations, heavy trade restrictions, protectionist and anti-competition measures, are associated with a higher incidence of corruption. More monopolised economies are also associated with higher levels of corruption.

Civil service professionalism, including training, hiring, and promotion systems, are negatively associated with corruption. The evidence on civil service pay is more ambiguous, with a less robust relationship suggesting that salary alone is not the answer in the fight against corruption. Rather, salary corrections need to be combined with meritocratic recruitment and promotion and the creation of a professional cadre of civil servants.

Income per capita and education, holding other factors constant, are negatively correlated with corruption. There are exceptions, however. It may be that general developmental variables are merely proxies for more specific determinants of corruption, such as rule of law, quality of public sector institutions, administration of the tax regime, or amount of regulation. Focusing on more specific determinants helps us understand why corruption may be uncommon in some emerging economies, despite a relatively low level of income per capita. These findings suggest that there may be no inevitable link between more corruption and lower income levels.

New studies are also beginning to explore regional and country-specific variations in determinants of corruption. Thus, for example, evidence suggests that administrative bribery is more prevalent than other forms of corruption in formerly socialist economies, a consequence of their often-bloated bureaucracies. In Latin America, there has been considerable economic and regulatory reform, but less reform of the judiciary and other institutions that affect the rule of law.

*Responses to corruption.* What kind of anticorruption program is likely to have the greatest impact? We know the elements of such a program: an independent judiciary and rule of law, good institutional and public sector management, strong political and civil liberties oversight and involvement by civil society, deregulation,

and tax and budgetary reform, along with financial and procurement reforms. We are less certain however, about how to put them together to achieve the greatest impact.

Increasingly, the evidence suggests that civil liberties, participation, and institutional capacity are important for protection against corruption and achieving broad-based development. Analysis of more than 1,500 World Bank-financed projects shows a consistent, statistically significant and empirically large effect of civil liberties on the economic rate of return to projects. Thus, for example, an improvement from worst (10) to best (7) on the Freedom House index of civil liberties would raise the economic rate of return by 7.5 percentage points. Similarly, the Humana index of civil liberties, an improvement from the worst rating (13) to one of the best (91, as in Costa Rica) would boost the ERR by 22.5 percentage points.

The strong empirical relationship between performance of economic and social projects and civil liberties is striking. Combining these results with those noted earlier on the negative link between corruption and civil liberties provides a strong argument at the micro-level of the need for a more comprehensive, integrated approach to development that considers institutions and their effects on corruption as well as economic policies.

## **Conclusions: Toward a Comprehensive Development Framework**

What do the four broad sets of actions enumerated above have in common? It is their impact on the quality and sustainability of development, relating to all three forms of wealth — human, natural, and physical. They also put the spotlight on distribution and volatility, which has the merit of simultaneously addressing concerns of poverty and environmental sustainability.

Two broad categories of development strategies were recommended at the turn of the 1990s. A first set of actions, such as trade and price liberalisation and improved fiscal management, were recommended strongly—and generally implemented with positive results, though with large variations. A second set of actions were relatively neglected because they were either not recommended strongly enough or opposed by special interests. These included an effective regulatory framework, the quality and distribution of education and other assets, the protection of the environment, and governance, civil liberties, and institutional reform.

The evidence brought together here offers little support for the strategy of going all out for short-term economic growth through the first set of above mentioned actions before devoting attention to the second set. That type of sequencing — whether it be liberalise-first and regulate-later, or privatise-first and ensure-competition-later, or grow-first, clean-up-later, or grow-first and seek-liberties-later—is far too costly. Regulatory actions, environmental

management, and anticorruption measures must go hand in hand with liberalisation to manage financial risks, ensure predictability, and sustain results – even if that means sacrificing short-term growth.

These aspects need to be an integral part of the policy package, not as an additional burden tacked on to an already challenging agenda. It means that action for development is not seen as being confined to government, but should involve other stakeholders: the private sector, non-government organisations, citizen groups, and media.

In sum, the paper advocates a broadening of the development framework along two dimensions: first, from a narrow focus on purely economic aspects to a holistic set of agenda involving human, social, environmental, and structural aspects of development; and second, from exclusive reliance on government as the agent of change to a view that sees all segments of the society as active participants.

<sup>†</sup>This paper is adapted from the forthcoming World Bank publication *The Quality of Growth*, based on work being carried out at the World Bank Institute by a team led by Vinod Thomas. The views expressed here are author's own and not necessarily of the World Bank or any of its affiliated agencies.

## NOTES

<sup>1</sup> See, for example, studies on growth theories: Mankiw, Romer, and Weil 1992; King and Rebelo 1998; Easterly, *et al* 1992; Easterly. 1997; Fischer. 1993; Young. 1992 and World Bank. *World Development Report 1991*.

<sup>2</sup> Many economists have constructed indexes of quality of life or human development, for example, Dasgupta. 1990; Drewnowski and Scott 1966, McGranahan et al. 1972, Goodman and Markowitz. 1952, Smith. 1973, Fine and Fine 1974, Diewert. 1986, Slottje 1991; and Ram. 1982. The most widely used is the UNDP's human development index started in the 1980s (see UNDP, *Human Development Report 1990*).

<sup>3</sup> The weak correlation between GDP growth and social progress may partly be due to the problems of measuring quality and distribution of education and health status.

<sup>4</sup> Personal communication from Ramon Lopez.

<sup>5</sup> Akiyama, 1995.

<sup>6</sup> See Filmer, Hammer, and Pritchett, 1998.

<sup>7</sup> Thomas and Wang, 1997b.

<sup>8</sup> López, Thomas, and Wang, 1998.

<sup>9</sup> World Bank. *World Development Report 1991: The Challenge of Development*. New York: Oxford University Press.

<sup>10</sup> The cross-country project-level data set includes variables on education, per capita income, openness, government expenditure, and project performance. The project data cover 3,590 lending projects in 109 countries evaluated by the Operations Evaluation Department (OED) in 1974-94, with the OED rating of overall performance (satisfactory/not) and economic rates of return. Source: Vinod Thomas and Yan Wang, 1997b.

<sup>11</sup> Johansen, 1993.

<sup>12</sup> Central American economies have grown slowly for a variety of economic and sociopolitical reasons. Most Central American economies have been dominated by traditional exports, which have faced declining terms of trade; by highly unequal income distribution; and by inadequate educational investment, exacerbated by political instability.

<sup>13</sup> Thomas and Belt, 1997.

Hence, where data supports an environmental Kuznets curve (an inverted U shaped curve between per capita levels of income and environmental degradation), it is important to establish the underlying reasons—the policy and legislative frameworks, the institutional capacity, and the available technological options. Isolating the relative importance of these factors will yield important insights into approaches for environmental management. (For a recent analysis of water pollution, see Hettige Hemamala, Muthukumara Mani, and David Wheeler. 1998.

<sup>14</sup> Kazu Kato, 1996.

<sup>15</sup> UNDP. (1998), *Human Development Report 1998*.

<sup>16</sup> Kishor and Constantino, 1994.

<sup>17</sup> Brown and Flavin, 1999.

<sup>18</sup> Frank, 1998.

<sup>19</sup> The widespread practice of illegal dumping of toxic wastes by industrial firms in the United States and the establishment of Superfund for their clean-up is another telling illustration of the high and inequitable costs of adopting a grow now and clean up later approach. (For a poignant account of effects of these toxins on human health near Boston, see Harr, 1995.

<sup>20</sup> East Asia provides an interesting case. The recent economic crisis has taken countries such as Thailand and Indonesia from C to B. Hence they have the tough task of implementing policies that clean up the environment at the same time as they raise economic growth.

<sup>21</sup> Williamson and Mahar, 1998.

<sup>22</sup> Tanzi and Davoodi, 1997.

<sup>23</sup> Kaufmann and Wei, 1998.

<sup>24</sup> Wei, 1997.

<sup>25</sup> Gray and Kaufmann, 1998.

<sup>26</sup> Kaufmann and Sachs, 1998.

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