Chapter 1
Breaking Away from Mediocre Complacency to a Prosperous Future

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Introduction

Latin America has been one of the most prosperous regions among Emerging Economies in terms of many indicators, including per-capita income. For many years, it grew at a faster rate than the rest of the world, and GDP per capita exceeded the average for the world. It was and is a source of primary commodities and a relatively small contributor to environmental degradation (with the exception of deforestation in the Amazon) relative to other major regions of the world. It also has acquired a fairly high educational level. However, particularly in recent decades, Latin America has not managed to keep up with other Emerging Markets. The more dynamic Newly Industrialized Countries (NICs) in Asia in particular, have not only caught up with the region but are also leaving it behind. These countries have become "convergers",[1] i.e. their incomes have converged with the advanced economies. In turn, Latin American economies, with the exception of Chile, do not fall into this category and have been losing ground not only with respect to these countries but with respect to many others in the developing world. While there are many theories that attempt to explain this phenomenon, the simple fact is that Latin America's growth performance has been mediocre when compared to other regions.

Photo Credit: Aaron Szyf

Today, Latin America is an average region in the world. It had an income level in 2009 of PPP US$10,544 compared to a global average of PPP US$10,278.[2] At market exchange rates, the average income of a Latin American is a bit lower than the world average: $7,028 compared to $8,531 (in

1 Converging is understood as moving rapidly toward the levels of income of the advanced economies, and away from the current stagnation, characteristic of the middle-income trap

2 Using current PPP dollars.

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2009).[3] The remarkable fact about Latin America is that its income level in constant dollars is estimated at 15.5 percent of that of the United States in 2009[4] which compares to 17.0 percent in 1965. In brief, Latin America is close to the global average in living standards, and it has neither converged nor diverged from the United States over a 44 year period. Latin America seems to be stuck.

The recent economic crisis hit Latin American economies (with a few exceptions like Mexico) to a somewhat milder extent than many other regions, and there are good indications that they are recovering well. Still, the weaknesses that characterize the region have become more evident, in terms of commodity dependence, volatile private financing, and serious issues of income distribution, equity and inclusion. Actions to strengthen the medium-term performance of the region are essential.

This book traces out a scenario for the global economy that suggests that Latin America's business-as-usual average performance will not be sufficient for the region to retain its global output share. It will steadily shrink, because in practice its performance in recent years has been below average.

Latin America can of course do better than it has in the past. This book presents a scenario for convergence—with growth at 6.5 percent per year (at market exchange rates). Such a growth rate could be achieved if four of the major Latin American economies join Chile and manage to achieve the same rate of catch-up TFP growth as in some other converging developing countries or if a majority of countries does moderately well. That suggests it is a feasible scenario.

But the region and its leaders need to raise their sights on economic growth and promote a vision of a vibrant, fast-growing economic region where high investment rates and rapid increases in total factor productivity are the objects of national policy. The region will need to refocus its objectives and to be pragmatic rather than ideological about it in order to re-emerge from its state of relative comfort, complacency and, in some cases, unfortunately, even sleepiness. While no two regions are equivalent, the example of East Asia, even with its own vulnerabilities, provides the most important lessons.

Historical Comparative Performance

An analysis of Latin America's past performance with a long-term perspective shows that its position within the world economy has fluctuated significantly. Over the course of a century and a half, Latin America grew at a faster rate than the world economy. Its share of world GDP doubled from 4.4 percent around the turn of the twentieth century to 8.7 percent in the 1970s; it reached a peak of 9.5 percent of world GDP by 1981, with GDP per-capita exceeding the world average by some 10 percent, during the third quarter of the century (Table 1 and Figure 1).[5] Subsequently, growth rates of overall GDP and per capita GDP lagged the rest of the world, and per capita GDP fell below the world average (Figure 2).

As can be observed, the decline in the share of Latin America in world GDP has been far from smooth, even though the rate of growth of per capita income has leveled off, compared to the most

3 Using 2009 constant dollars.
4 Using 2009 constant dollars
5 These numbers are subject to considerable debate and are long-term estimations of purchasing power parity (PPP), based on longer-term historical studies, like those of A. Maddison. Estimates based on values unadjusted for PPP, as most of the estimates made in this study for the last forty years may give a somewhat smaller ratio of per capita GDP for the region compared to the rest of the world.

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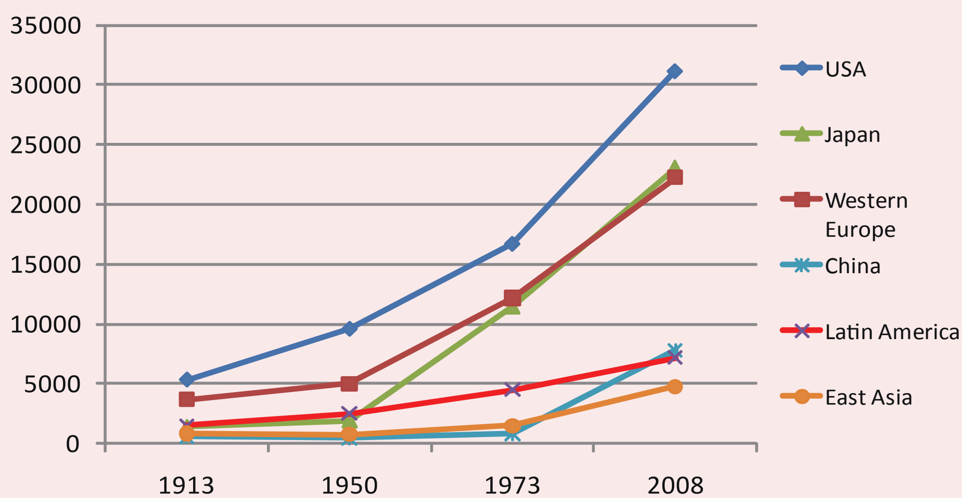
Table 1 **Economic Indicators: Latin America and the World**

	Average Annual Growth Rate				
	1870-1913	1913-1950	1950-1973	1974-1998	1999-2008
GDP					
Latin America	3.5	3.4	5.4	3.0	3.4
World	2.1	1.8	4.9	3.0	4.0
GDP per Capita					
Latin America	1.8	1.4	2.6	1.0	2.1
World	1.3	0.9	2.9	1.3	2.8
Share of Latin America in World GDP (in percent)	4.4	7.8	8.7	8.7	8.1
Ratio GDP per capita Latin America/World (in percent)	97	119	110	96	95

Source: A. Maddison, The World economy, a Millennial perspective, 2004; IMF, World Economic Outlook, 2009; and own estimates.

Figure 1 **Per Capita Income: Latin America and Others, 1913-2008, US$**



Source: Maddison, A., 2004; IMF, World Economic Outlook, 2009; and own estimates.

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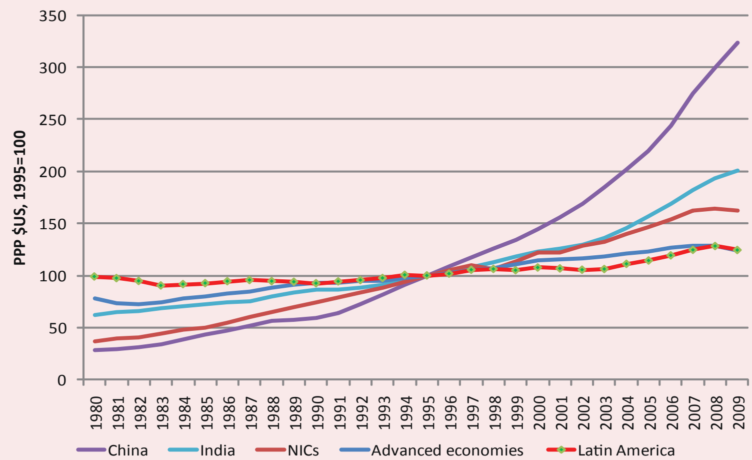
Figure 2 **Per Capita Income in PPP Terms (1995=100)**



Source: IMF - *World Economic Outlook*, April 2010.

dynamic areas of the world economy. Moreover, the region's share in world GDP has fluctuated in line with commodity prices (Figure 3).[6] Large Latin American countries have also declined relative to their counterparts in Asia. This is reflected in the trajectory of per capita income for the largest Latin American countries compared to East Asia, and particularly to Japan and the NICs—a group that includes Korea, Taiwan, Hong Kong, and Singapore—as shown in Figure 4.

Volatility has been an adverse factor and is reflected in a high percentage of years of low growth in the region relative to others. This can be observed at the percentage of years since 1980 that the region's growth rates were below 1 and 2 percent respectively (Figure 5). Only more recently has the growth performance tended to improve in terms of volatility.

While growth performance has been far from stellar, many indicators for Latin America have remained relatively strong, including the Human Development Index.[7] Per capita income remains reasonably high, the region has benefitted from the major booms in commodities observed over recent decades, and many individuals in the region have been lifted from abject poverty in the last decade and a half.

Latin America's opening to international trade after years of isolation has resulted in greater capital inflows and the continent has reaped some of the benefits of a globalized world. Foreign direct investment has been attracted to the region's abundant natural resources. The region has a reasonably well-educated young and growing labor force, and it stands to benefit from a demographic dividend in

6 The more comprehensive index, including fuels would correspond much closer to the fluctuations in GDP share, but does not extend as far back as the non-fuel commodity index.

7 The Human Development Index was developed by the UNDP for its Human Development Reports.

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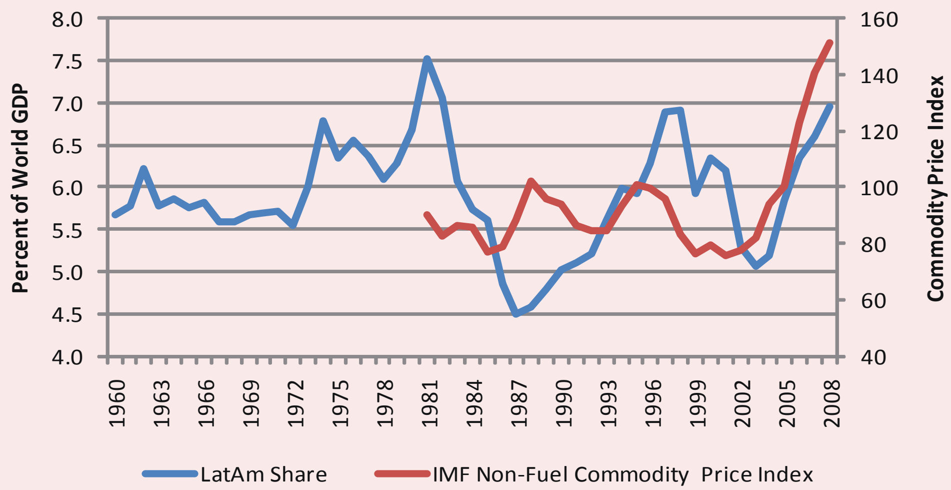
Figure 3 | **Latin American Share in World GDP vs. Commodity Price**



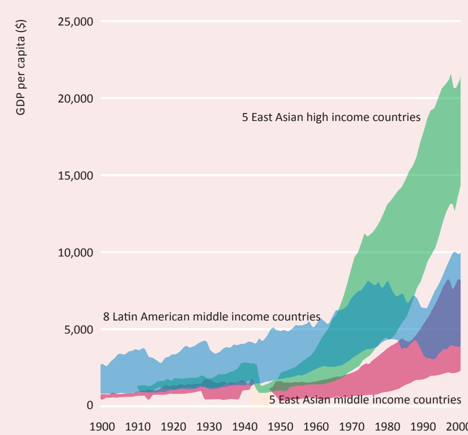
Source: World Bank, *World Development Indicators*, 2009; and IMF Non-feul Commodity Price Index.

the short run. Latin America's labor force should grow by more than 1.5 percent a year over the next 15 years, with population growth at just over 1.0 percent. So, the ratio of working age population to total population is on the upswing in the next two decades, although it will change subsequently.

Poverty has been reduced after years of difficulty associated with the lost decade of the eighties, a period of adjustment and reconversion that was implemented in the 1990s with a period of macroeconomic strengthening and structural reforms. The numbers are now in line with what can be expected to be consistent with Latin America per capita income.

Now, after many years of misguided policies and poor performance, the region has much stronger fundamentals. Today, the issues of inflation, balance of payments fragility, and

Figure 4 | **Latin America has Lagged Behind East Asia**



Source: Author's calculations based on Madisson 2004.

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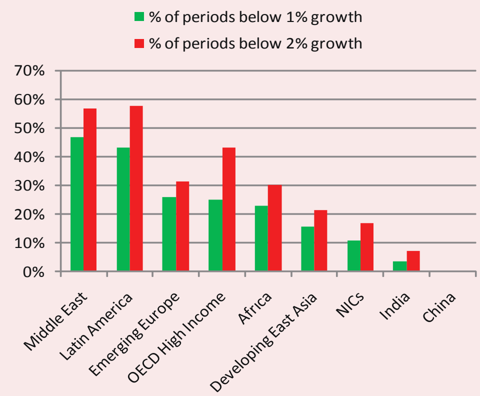
Figure 5 | **Percentage of Years Since 1981 with Growth Below 1 and 2%**



Source: World Bank, *World Development Indicators* database, 2009; and IMF Non-feul Commodity Price Index, 2010.

broad fiscal imbalances seem to have been overcome, even though not everywhere and not permanently. While the recovery from the current crisis seems to be proceeding at a relatively slow pace, the region possibly suffered less than most, with a few notable exceptions, like Mexico. While this may have reflected to some extent a rebound of commodity prices, it also is accounted for by the regained strength and the relatively solid performance of a well-managed, although small, financial system.[8]

These developments have placed the region's economies in a complacent plateau, focusing on their progress with respect to other Latin American countries and not with respect to the world. But underlying these achievements, Latin America is falling behind as previously noted, and the prospects for a sustained catch up, as happened in the past, are poor without a change in strategic attitude. The current attitude will lead to a continued and continuous decline in the importance of Latin America in the world, and with increasing gaps in terms of per capita income.

While progress has been made regarding poverty, income distribution in Latin America shows the highest concentration, with correspondingly the highest Gini coefficients of any region (Figure 6). The poverty numbers suggest that the problems of distribution are between the highest income earners and the rest of the total population including the growing regional middle class, and not the poorest of the poor. The actual picture is even more marked, however, as the Gini statistics fail to capture total income, particularly the unrecorded income of the very rich. To some extent, this reflects a significant level of exclusion at the lower levels of income and high concentration at the top, with average wealth levels among the very rich well in excess of that in other areas of the world, including in the US and

8 The depth and the duration of the 2008-09 global recession will remain debated amongst academics and policy makers. Many took the experience of the Great Depression as indicative of what may happen. Then, as well as in the post-World War II recession, growth exceeded its long run average during a recovery phase before returning to trend, compensating for the down period. There was little impact on permanent long-run income levels. But that period was exceptional, given the level of destruction of human and physical capital during the subsequent war. Separating the "natural" recovery from the Great Depression from the effects of World War II spending is almost impossible. The relevance of that recovery for the current crisis may well be questioned.

Notwithstanding, the post-War experience with recessions is that as the recovery gathers steam, countries grow faster than potential output. In general most analysts do not foresee a permanent impact of the current recession. As the crisis abates, growth is likely to exceed its long run average during a recovery phase before returning to trend, compensating for the down period.

The IMF has reviewed the history of financial crises and concludes that while medium term growth recovers to trend levels, output remains below trend, by an average of 10 percent. However, the IMF analysis is simply a description of what has happened compared to pre-crisis trends. This kind of analysis has a bias: the pre-crisis trend (which the IMF takes as the period covering the ten to three years prior to the crisis) may be part of a longer-term boom which in turn precipitates the crisis, and should not be counted as the long-term trend growth rate. All these caveats underline an essential point: the forward-looking figures are scenarios and not a projection or forecast.

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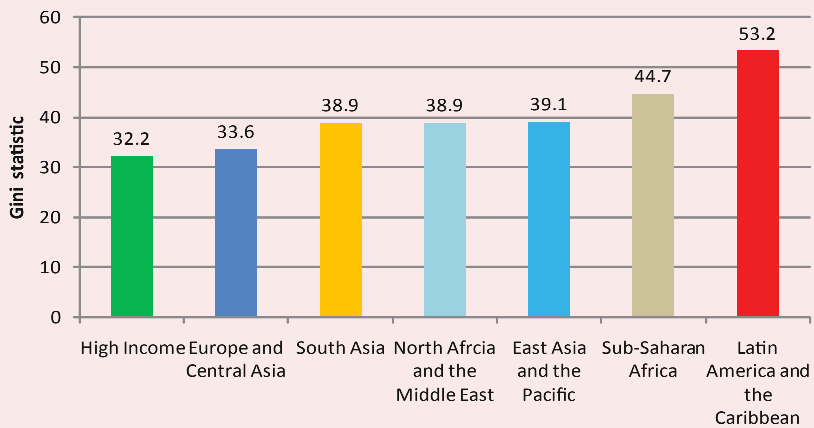
Figure 6 | **Gini Coefficient by Region (in percent), 2004**



Source: calculations based on Ferreira and Ravallion, 2008.

Europe.[9] Moreover, serious inclusion problems remain for ethnic and cultural groups of indigenous people and afro-descendants.

Latin America's increasing openness to world trade has been a positive step toward increasing capital inflows. Gains have been concentrated in areas of traditional comparative advantage and not in new and more dynamic areas. The degree of openness, though significantly higher than in the past, is still much lower than the NICs and other countries in Asia (Figure 7).

Economic growth has accelerated in recent years but current policies seem to allow for an increase in income of no more than 3.5 percent a year. Just to preserve Latin America's share in world GDP, economic growth would have to increase to an average 5 percent a year. This cannot be achieved within the current strategic and policy framework, or with current levels of savings and investment.

Productivity and its Effect on Performance

A key underlying factor in Latin America's performance has been the region's productivity, as reflected in the measure of total factor productivity (TFP). The components of growth of Latin America, other selected regions, and the world are shown in Table 2. Latin America's GDP growth has been very similar to that of the world but the components of growth are very different. While Latin America has registered higher growth rates in both capital and labor, its performance with respect to TFP-negative growth has been much poorer.

In 1980, the region's TFP averaged around 40 percent of the US, which was high relative to other developing countries. As shown in Figure 8, TFP has remained virtually stagnant over the past three

9 An annual survey by Cap Gemini, a consultancy, and Merryl Lynch, now owned by Bank of America, shows that the average level of assets of high worth individuals with assets in excess of $1 million (excluding their residence, and land holdings) in Latin America, is two times higher than the average world-wide.

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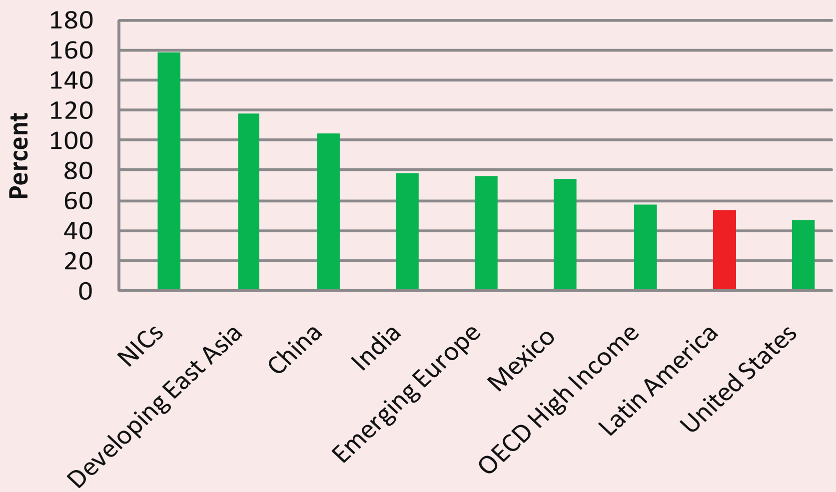
Figure 7 | **Trade/GDP Ratio (adjusted for population)**



Source: Centennial Database.

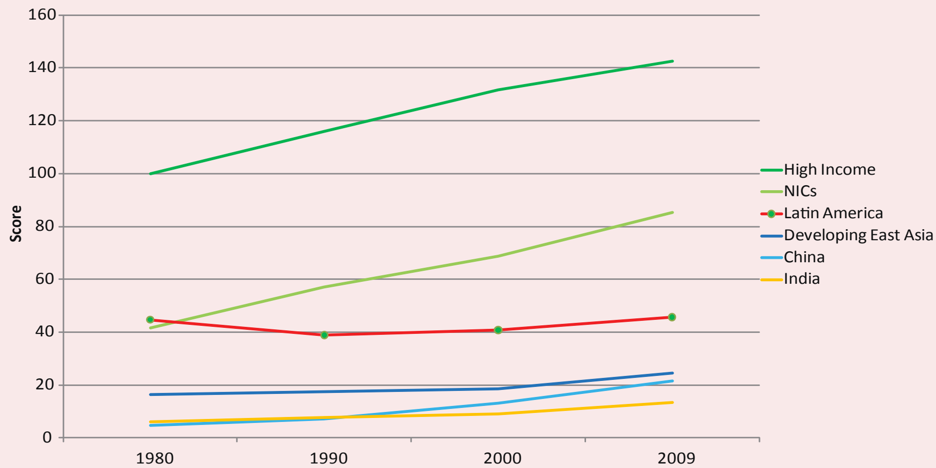
Table 2 | **Average Factor and GDP (PPP) Growth Rates, 1979-2009, selected regions**

	Capital	Labor	TFP	GDP (PPP)	GDP (MER)
Developed Countries	2.93%	0.95%	0.76%	2.45%	2.40%
Developing Asia	6.36%	1.92%	3.60%	7.08%	6.09%
Developing Middle East and North Africa	3.32%	3.53%	-0.38%	3.21%	1.82%
Sub Saharan Africa	2.56%	2.84%	0.13%	2.95%	1.64%
Latin America	**3.17%**	**2.73%**	**-0.14%**	**2.74%**	**2.77%**
World	2.34%	1.78%	0.79%	3.06%	2.78%

Source: Authors' Caluculations

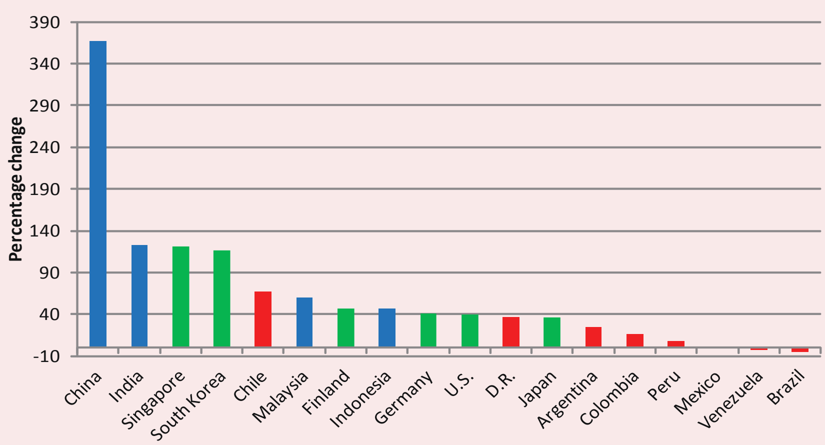
decades. In 1987, South Korea's technology level was almost exactly the same as Brazil's, the technology leader in Latin America in the 1970s; Malaysia's level was at 60 percent and Thailand's at 30 percent of Brazil's. By 2009, Korea's TFP was 60 percent higher, Malaysia had almost caught up, and Thailand's was at over 55 percent. Furthermore, the rates of change in TFP of Latin American economies compared very poorly to China and India; while China's TFP more than quadrupled and India's

Figure 8 | **TFP Scores 1980-2009, US 1980=100**



Source: Estimations by Homi Kharas.

Figure 9 | **TFP Relative Changes from 1980-2009**



Source: Estimations by Homi Kharas.

doubled, the TFP in the Latin America regions was virtually stagnant (Figure 9.)

The region's poor TFP performance reflects a number of factors. Most importantly, the low level of competition—domestically and through trade—has limited the incentives for higher productivity and competitiveness. This may also explain the low level of investment in the region compared with many other parts of the world. New capital in itself does not entail improved TFP. However, the technology incorporated with new higher-quality investment, and the accompanying improvement in human capital will result in higher productivity and growth. Thus, the low level of investment has resulted in a slower process of innovation.

Other aspects with direct impact on TFP include the poor overall performance with respect to the quality of education relative to international standards (Figure 10), and low technological readiness compared to other regions (Figure 11). The quality of infrastructure, reflecting the low levels of investment, compares poorly with other regions (Figure 12). Economies in the region are also hampered by the business environment, as is captured in the Ease of Doing Business indicator (Figure 13). The regulatory environment has resulted in the highest degree of informality of all regions (Figure 14). All of these factors have contributed to the poor competitiveness of the region (Figure 15).

In addition, the holdings of assets abroad, excluding direct investment by local companies, is very significant for some of the countries in the region, sometimes exceeding the level of debt and FDI of the countries themselves. These holdings had been a reaction to poor policies—only recently corrected—and detract from the growth potential of the region. Should sound macroeconomic policies persist, repatriation of these holdings could be a major source of the much needed capital and technology transformation.

A Focus on Ideology versus Outcome

A main characteristic of the economic history of Latin America has been the emphasis on ideology and ideological policies, as opposed to Asia's emphasis on outcomes. Speaking in simplistic terms, the approach to growth in many Latin American countries can be construed as "get the policies right and growth will follow". That applies particularly to macroeconomic policies and Latin America has an enviable track record of finally putting its fiscal and monetary house in order, with Chile leading the pack of those countries developing fiscally responsible rules. But the results from such an approach have not been fully reflected in higher growth. Macroeconomic stability is a necessary component. However, for this to take place, there is a need for pragmatism and to have 'rapid growth' as the objective, which also means better education, infrastructure, etc.; and government support for better technology. Chile estimates its potential output growth to have fallen to 3.9 percent. For a country at its income level, a long-term growth of 5 percent per capita should be achievable.

The attitude in Latin America stands at odds with the leadership on growth that is one of the ingredients of long-term success identified by the Growth Commission. The Commission highlights the benefits of a national purpose in pursuing rapid growth, endorsed and sustained in a consensus among political parties. In East Asia, which is recovering rapidly from the Great Recession, the past year has been one of determined efforts at structural reform and reinvention to take advantage of the changing world environment. It is that single-minded focus on growth which appears to be one secret of Asian success stories. East Asian approaches can be characterized as "set a growth target and adjust policies to make sure it happens". There is a pragmatism that serves to overcome deeply-held beliefs when the growth engine is threatened.

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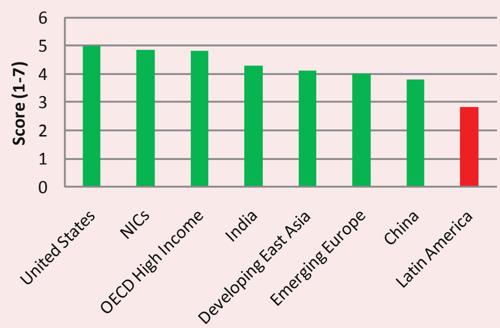
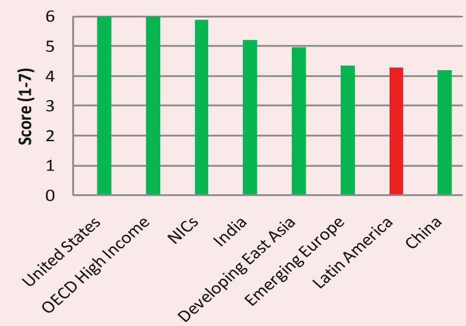
Figure 10 **Quality of Education 2008**



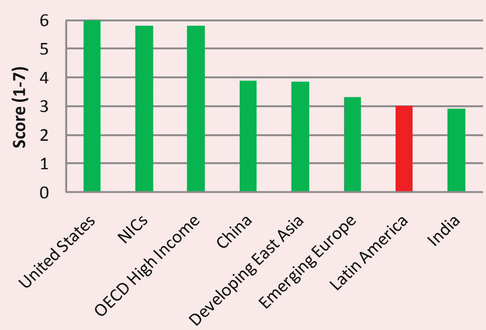
Source: World Economic Forum - *Global Competitive Index 2008-2009.*

Figure 11 **Technology Readiness 2008**



Source: World Economic Forum - *Global Competitive Index 2008-2009.*

Figure 12 **Infrastructure 2008**

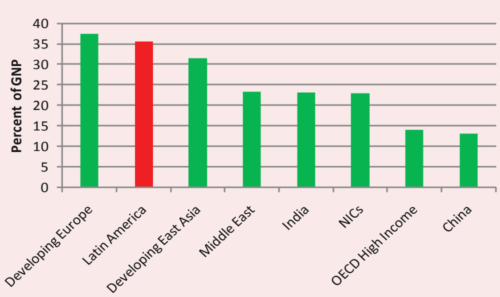


Source: World Economic Forum - *Global Competitive Index 2008-2009.*

Figure 13 **Ease of Doing Business 2010**

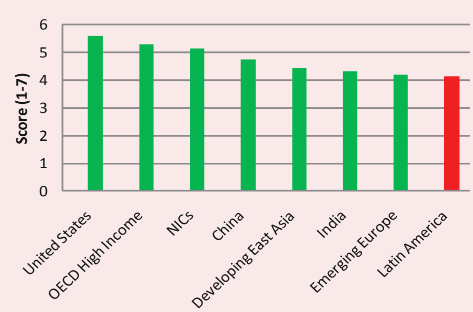
Source: World Economic Forum - *Global Competitive Index 2008-2009.*

Figure 14 **Informal Economy Estimate**



Source: World Economic Forum - *Global Competitive Index 2009-2010.*

Figure 15 **Competitiveness 2009-2010**



Source: World Economic Forum - *Global Competitive Index 2009-2010.*

A major lesson of the East Asian success in the past fifty years is that Latin America needs to pursue a longer term and more pragmatic and non-ideological set of policies, based on market principles and measured government intervention, but with the understanding that the policies should be aiming at attaining commonly agreed sustainable social and economic outcomes. Under this pragmatic approach, policies and the mix of government-private sector association would be adjusted as needed to realize the outcomes sought under the shared vision (while respecting the principles of good governance, transparency, and with a good understanding of the costs of these policies).

Of equal importance, there must be a consensus on policies and objectives within the region toward better integrating production processes across regional economies. This is in contrast to the current practice, where policies in one country are introduced at the expense of others rather than seeking to exploit the comparative advantages of each country for an adequate integration with the rest of the world.

In summary, Latin America presents a mixed picture, but with a clear tendency toward a loss of relevance and relative importance in the world economy. Today, Latin America is becoming an increasingly left-behind continent, for good and for bad reasons:

- The region has been lagging in terms of growth, with the possible exception of Chile, Peru, and other small countries. Even Chile's growth performance is slowing.
- With the clear exception of Haiti, now even more so, and to a lesser extent Bolivia, Honduras and Nicaragua, Latin America is too prosperous for continued concessional aid, which is good in terms of poverty but not so in terms of financing.
- There are no major crises of macroeconomic management, and even those that still are present to some extent, like in Argentina, Ecuador and Venezuela, are generally more manageable and less traumatic than in the past. This is good from a fundamental growth perspective, but may reduce the incentives for reform in some of the countries as it is not seen as urgent.
- The times of easy growth have led to relatively high degrees of urbanization, moderately good levels of basic education and a limited technology gap.

However, the earlier gains are being eroded. Moreover, the region seems to be mired in the Middle Income Trap (see Box 1):

- Too rich to be globally competitive in basic manufacturing.
- Too poor to be competitive in advanced materials and innovation.

It is necessary to make fundamental policy changes, strengthen and rationalize institutions, and streamline the political process to a significant degree. The required changes are doable, but they require pragmatism and consensus on objectives and, of equal importance, significant and drastic action now.

The Prospects for the Long Term

Latin America's per capita GDP in 2009 was US$10,544 (in current PPP dollars), compared with $36,953 for the advanced economies, $13,408 for Central and Eastern Europe and $4,436 for

Box 1 | Latin America in the Middle Income Trap?

Few countries sustain high growth for more than a generation, and even fewer continue their high growth rates once they reach middle income status. The Commission on Growth and Development's recent review of growth in developing countries (The Growth Report, A. Michael Spence, 2008) identified just 13 countries that sustained growth of more than 7 percent for at least 25 years in the postwar period. They have five common characteristics: openness to the global economy in knowledge and trade; macroeconomic stability; a "future orientation", exemplified by high rates of saving and investment; a reliance on markets and market-based prices to allocate resources; and leadership committed to growth and inclusion with a reasonable capacity for administration. These success factors, deep-rooted in local institutions, are necessary, but not sufficient, for continued growth. Some countries with these characteristics grew fast, but could not sustain that growth.

Even among the 13 star performers, growth has been uneven. Some East Asian middle income countries suffered severe setbacks in 1997-1998, and may not recover past rapid growth. Brazil, whose growth performance between 1950 and 1980 qualified it as a growth star, then suffered disastrous inflationary episodes and low growth in the 1980s and 1990s. Reaching incomes associated with the advanced countries is uncommon: only a few of the high-growth countries did so including the NICs. More common is for growth to slow markedly on reaching middle income. Many Latin American and Middle Eastern countries suffered the fate of falling into a slow-growth trap once they reached middle-income levels.

Some features differentiating middle income from low income growth are clear. Growth tends to become more capital intensive and skill intensive. The domestic market expands and becomes a more important engine, especially for service growth. Wages start to rise, most rapidly for highly skilled workers, and shortages can emerge. The traditional low-wage manufacturing for export model does not work well for middle income countries. They seem to become trapped, unless they change strategies and move up the value chain. Cost advantages in labor-intensive sectors, such as the manufactured exports that once drove growth, start to decline in comparison with lower wage poor country producers. At the same time, middle income countries do not have the property rights, contract enforcement, capital markets, track record of successful venture capital and invention, or critical mass of highly skilled people to grow through major innovations, like affluent countries. Caught between these two groups, middle income countries can become trapped without a viable high-growth strategy.

This seems to be what has happened to Latin America. In many countries, wages are too high to be globally competitive in basic manufacturing—the collapse of Latin America's garments producers after protection was withdrawn is proof of that. Yet, Latin America does not have the R&D and innovation capabilities that allow it to develop new products in advanced areas (exceptions are by now familiar:

Developing Asia. Based on this performance, Latin America is clearly a middle income region, but far behind the lowest "advanced economy" in the IMF's list—Portugal with a GDP (PPP) per capita of $21,729. Existing policies and conditions in the region have been consistent with a rate of growth well below average for the rest of the world. While growth of income per capita can be considered reasonable by many, at somewhat more than 2 percent a year, the picture is far from satisfactory when compared to the rest of the world.

This study makes projections through 2040, on the basis of a world growth model described

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in detail in Chapter 2. As a long-run model, the results and assumptions are stylized, and are not intended to predict the future, but to provide a context for policy formulation and reform.

Global Growth Results

The global economy fell to $57.9 trillion in 2009, measured at market exchange rates[10], dominated by the United States with $14.3 trillion, just over one-quarter of the global total. In current PPP terms, global output is almost $70 trillion. North America (24 percent), Europe (27 percent) and Asia (34 percent) dominate the world economy. Latin America's share today is about 8.5 percent.

The BRICs accounted for about 24 percent of 2009 global output in PPP terms, a post-war historical high. This is a recent phenomenon, one driven largely by China, which has expanded its global market share to almost 13 percent. Even at market exchange rates, China is set to overtake Japan as the world's second largest economy, either this year or next. Importantly, the rich countries of the world only account for 53 percent of global output now, compared to 70 percent in 1990.

By 2040, 30 years from now, the global economy may be $258 trillion in 2005 PPP dollars.[11] Such a world is very different from the one we see today. It is significantly wealthier, with per capita incomes averaging $30,000 as compared to $8,000 today. The economic center of gravity would shift to Asia, which accounts today for 34 percent of global activity, but by 2040 could account for 61 percent of global output. Three giant economies, China, India and Japan, would lead Asia's resurgence. But other large countries like Indonesia and Vietnam would also have significant economic mass. Even Thailand and Malaysia could have economies larger than France has today.

The rise of Asia would not be unprecedented. Indeed, it would bring Asia's economic share into line with its share of world population and restore the geographical balance of global economic activity to that prevailing in the 18th and early 19th centuries, before the Industrial Revolution led to the great divergence of incomes across countries.

The converse of Asia's rise would be a fall in the share of the G7 economies. Their global income share has already fallen to new post-World War II lows, and by 2040 it could be just 21 percent.

To appreciate the likelihood of this enormous change, consider the following facts. Taking out the effect of general inflation, the global economy reached $20 trillion, in terms of 2005 PPP dollars, in 1977. It took 19 years to double to $40 trillion by 1996—with 3.6 percent annual growth. Over the next 10 years, from 1996 to 2006, annual growth has been 3.7 percent. To get to $258 trillion by 2040, global growth would need to be 4.7 percent.

The reason for expecting an acceleration of global growth is that the share of rapidly growing economies has now risen to almost one-half of total output, while the share of slow growing countries has fallen. As faster growing countries also tend to have appreciating exchange rates, global output growth at market prices will accelerate simply because the fastest growing economies in the world (China and India) are also becoming ever-larger shares of global output at market exchange rates.

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10 Using 2009 constant dollars.

11 Natural resource constraints and the effects of climate change have been ignored in this scenario. This may prove to be quite unrealistic but to take these into account would require a far more sophisticated model of global growth.

The model assumes that "advanced" country real potential output growth will slow in the next 30 years to 2.3 percent, from 2.5 percent over the last 10 years. Meanwhile the "convergers" could also slow to 8.2 percent, from the 8.4 percent over the last 10 years.

One reason that developing countries are growing faster than developed countries is that they are younger, still at an early phase in their demographic transition. Global demographic shifts are inexorably changing the distribution of global economic activity. Today's rich countries accounted for 22 percent of the world's people in 1965, but only account for 15 percent today, and their share is forecast to shrink to 13 percent of the world total by 2040. Overall, the world will add 2 billion people by 2040. But the population in today's rich countries will grow by only an estimated 100 million. Ninety-five percent of the population increase (excluding migration) will be in developing countries, mostly in Africa.

Latin America under the Business-as-Usual Scenario

How does Latin America fare under the business-as-usual scenario? Not surprisingly, the answer is average. In 2005 PPP terms, Latin America may grow by 2.2 percent per capita in the long-term, but the world will be growing faster. Latin America's income may stay at a constant ratio to advanced countries, with Mexico and Brazil possibly posting growth rates close to that of the United States, but this performance means that Latin America may slowly fade in global relevance, especially in comparison to East and South Asia. At market exchange rates, a similar pattern holds. Latin America simply grows more or less at the same pace as the United States, and falls behind the rest of the world. This is all the more disappointing as Latin America is potentially able to enjoy a demographic dividend in the coming years—its labor force will grow more rapidly than its population for the next thirty years.

Table 3 shows a trajectory of key variables for Latin America and the rest of the world under this business-as-usual scenario. The table is deliberately stylized. It shows how a business-as-usual scenario implies a growing gap between Latin America and much of the rest of the world, especially the advanced countries. The table also shows the possibilities for Latin America, exemplified by Chile. Chile is the only Latin American country in the sample to meet the criterion for inclusion in the "convergers" category of having a track record of at least 3.5 percent per capita income growth over the past twenty-five years, at least prior to the recent earthquake, and as recognized by its accession to the OECD.[12]

But Brazil, Mexico and other Latin American countries do not meet the criterion. What is shown in the business-as-usual scenario is what would happen if they continue down a path of relatively low TFP growth and relatively low capital investment. At the end of the day, the policies which will generate convergence depend on these two key variables.

Latin America Convergence Scenario and its Payoff

If a few key economies in Latin America could enter the club of "convergers" it could make a radical difference to the region's prospects. To investigate this, the model was re-run with four major Latin

12 It is important to point out that Mexico is also an OECD member, and has been characterized recently by a non-converging performance.

1

Table 3 **Latin America—A Fading Global Force**

	2009	2040
Global Output (PPP)	$62.8 trillion	$258 trillion
Latin America share	8.7%	5.3%
Global Output growth (PPP) a.	3.75%	4.47%
Latin America	3.03%	2.91%
Average Income (real GDP at 2009 US$)		
World	$8,500	$30,500
Rich countries	$40,000	$85,700
Latin America	$7,000	$15,500
Mexico	$8,000	$19,400
Brazil	$9,300	$20,200
Chile	$9,500	$77,400
Rank in world (absolute GDP) size		
Brazil	10	16
Mexico	12	18
Capital-Labor ratio (per person)		
World	$32,700	$79,600
Rich countries	$146,000	$325,000
LATAM	$20,000	$42,400
TFP (US 2009=100)		
United States	100	150.3
Mexico	31.9	47.7
Brazil	29.9	44.6
Chile	37.8	91.6

a. Growth rate taken from the preceding 25 year period.

Note: All figures are in constant 2009 US$.

Source: World Bank - WDI, Brookings Institution, and author's estimates.

American countries moving into the "convergers" category, meaning they undertake the policy reforms needed to benefit from catch-up growth. The scenario is incomplete in the sense that investment rates in the selected countries would probably also increase in such a scenario, but this is not modeled. Nor is the spill-over effect onto neighboring countries which could also be substantial.

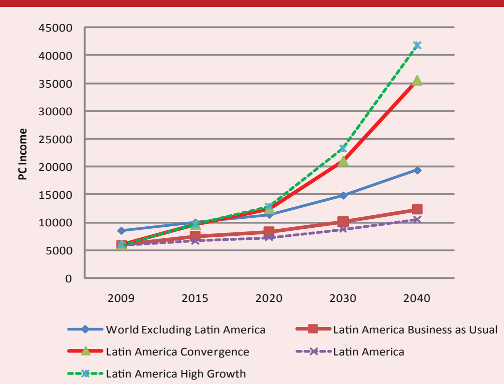
Two large and two mid-sized countries are selected as the four newly-converging Latin American economies, joining Chile in this classification. The choice is arbitrary, and implies that countries representing seventy percent of the region's economy adopt good policies. By 2040, the difference to the region is enormous. The growth acceleration to a level of 6.5 percent at market exchange rates is simply the result of faster TFP growth in the selected countries. With catch-up, selected countries could expect TFP growth of 2-3 percent per year. By 2040, the major economies would have made significant progress in terms of technology.

The convergence scenario indicates the dependence of the Latin American region on the performance of its major economies, as well as the critical issue of capitalizing on the advantages of backwardness in raising growth. Recall that the convergence scenario simply attributes to major Latin American economies the same rate of growth of technological catch-up as in the rest of the converging world. That is to say, it is an estimate of what can be considered as the potential growth for these countries. Compounded over thirty years, the impact is significant. Regional output could be three times higher by 2040, and per capita incomes could be higher by almost that much. If the region could achieve these kinds of growth rates, it would have income levels of about half of that of the US by 2040. The richer countries of the region would catch up rapidly with the United States.

Figures 16 and 17 show a comparison of different scenarios—not based on running the model of the global economy—for illustrative purposes. As compared to a GDP per capita of $13,000 in the business-as-usual scenario, the region would reach a level of over $40,000 under convergence. The region's share of the global economy in 2040 would be as higher than 10 percent under the convergence scenario versus only 4 percent under business-as-usual.

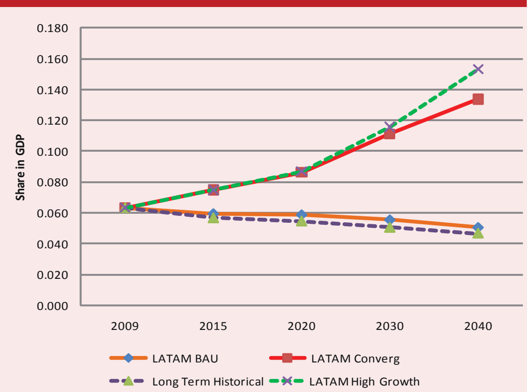
The convergence scenario presented above is far from easy to achieve. Latin America has seen many examples where fast-growing countries suddenly found themselves in a crisis, frequently self-made, and not growing at the rate they used to. Argentina over more than half a century, Mexico after

Figure 16 **Per Capita Income—Alternative Scenarios (market ER)**



Source: Estimates by authors - 2010.

Figure 17 **Latin American Share of World GDP**



Source: Estimates by authors - 2010.

the 1960s, Brazil more recently, and even the region's stellar performer, Chile, have seen a decline in growth.

Brazil provides a good illustration. It grew at almost 6 percent a year for almost a century. In 1965 it was a prosperous developing country with a per capita income of $1,800 (2008 dollars). It continued to grow until 1978, when it reached $5,500 per capita, with average growth of almost 9.5 percent a year. But then Brazil entered a period of relative stagnation. It did not regain its 1978 per capita income until 1995 and then only briefly in the burst of activity that followed the end of high inflation and the beginning of stabilization. It was only with the commodity boom in 2006 that Brazil again surpassed its 1978 income. But, the current global economic crisis and resultant drop in commodity prices has again blunted, though temporarily, this recent resurgence. After a century of growth, Brazil spent nearly 30 years mired in the middle income trap without further improvement in its average living standards. Although recent growth has been better, Brazil has still not demonstrated a track record of sustained fast growth that would allow it to converge rapidly with advanced economies.

Three assumptions support the convergence scenario:

1. The world is in the midst of a major restructuring—with the relative economic weight of developing countries in general and Asia in particular, set to continue becoming larger—and this restructuring can continue to proceed peacefully.
2. The current financial turmoil is being managed well, with global growth resuming and the existence of firmer principles governing the financial world. Still, there are considerable doubts about the pace of economic growth in the years ahead, with some likelihood that the average rate of potential growth for the world may decline.
3. The difficulties that many Latin American economies have had in becoming advanced are due to policy and strategy shortcomings—and are not immutable on account of natural, social, and ethnic characteristics.

IV. A Strategic Framework for Convergence: A Shared, More Ambitious Vision for the Region

Given Latin America's rich natural endowments, there is no reason why Latin America cannot do as well as East Asia. Indeed, as demonstrated by the successful Asian countries, the region's destiny is firmly dependent on its own actions. Only through its own efforts will the region prosper. To do so, all concerned—governments, bureaucracy, the business community, academia, think tanks, media, civil society and other opinion makers as well as multilateral agencies active in the region—must adopt a laser-like focus on simultaneously achieving a much more inclusive and equitable society and much higher economic growth. The region's leaders must aim much higher, be pragmatic and focus single-mindedly on achieving this vision. Such a vision, and a sincere commitment to realizing it, must be shared both within the countries themselves and across the region as a whole. This commonly shared vision must be accompanied by a very different mindset across the political and social landscape: abandonment of the past ideological divides and adoption of pragmatism, as has been the case in

Box 2

What Makes East Asia Different From Latin America?

Latin America's loss of its long standing position as the most prosperous and promising developing region is best illustrated by comparing its economic and social development relative to East Asia in general, and the so called NICs more specifically.

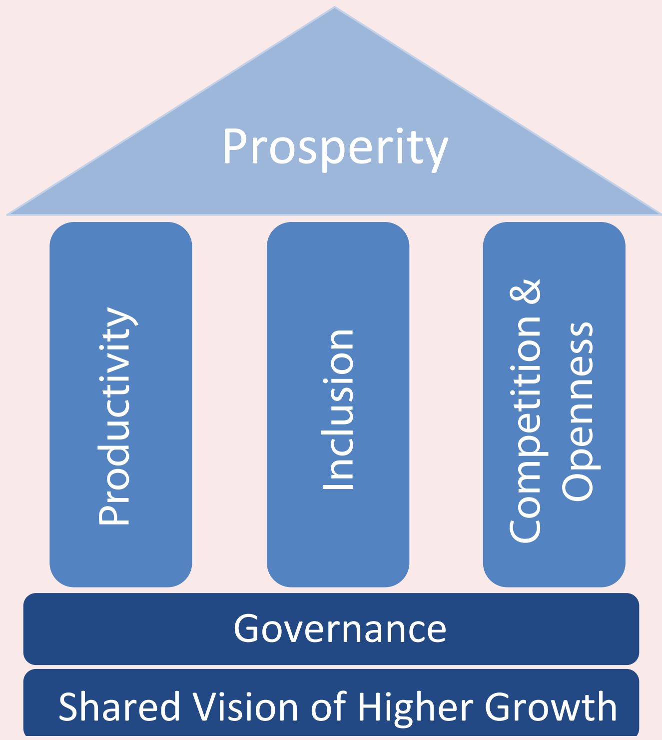
Between 1965 and 2009, the per capita income of the NICs grew at an average annual rate of 6.8 percent, while Latin America recorded a growth rate of only 3.7 percent. As a result, in terms of per capita income, the NICs—that lagged well behind Latin America in 1965 ($1,778 vs. $3,403)—leapfrogged over the region ($20,308 vs. $7,028 in 2009).[1] This illustrates how the most dynamic economies in Asia, now joined by China and India, have continued to converge with the United States, while most Latin economies have become mired in the middle-income trap. Other striking differences between East Asia and Latin America include:

- All successful East Asian countries, as well as China and India, have achieved major gains in total factor productivity (TFP) while Latin American countries have remained stagnant. The two largest economies (Brazil and Mexico) have even regressed somewhat.
- East Asian countries have much higher savings rates (51 percent vs. 23 percent of GDP) and investment rates than Latin America.
- East Asia has placed much greater emphasis on human development and put a high premium on meritocracy in its education system. It has achieved much higher educational standards and graduates a significantly higher number of engineers and scientists than Latin America, in relative terms.
- East Asia's investment, public as well as private, in infrastructure has been much higher than in Latin America, and it has deeper financial markets, particularly non-bank financial institutions.
- NICs have much more open economies than Latin America, with total trade to GDP ratios of 159 percent vs. 41.5 percent for Latin America.
- The structure of production in East Asia has changed dramatically in the past forty years with the region becoming the manufacturing hub of the world, while Latin American economies remain highly dependent on commodities and agricultural products.
- Even as East Asian economies moved from low-income to middle-income and finally to upper middle-income status their income distribution and other social indicators have remained much more equitable than Latin America, which has the highest disparities of any region in the world. East Asia's more equitable distribution of incomes and assets allowed it to develop a large middle class as soon as the countries achieved middle-income status and this fast growing middle class became an engine of innovation, entrepreneurship and domestic consumption that fuelled further economic growth (see box on page 14). In contrast, Latin America's huge income disparities led to a much slower development of its middle class at similar national per capita income levels, even though the numbers are far from small.
- In the last decade, the institutional business and investment climate has been much more favorable in East Asia, thus helping to generate the growth momentum that can be observed today. The process has been market driven, helped but not explained by the emergence of China and its strong connections with some of the more advanced countries in the region.

1 In constant 2009 US$

Embraer in Brazil, wine and fruits in Chile and Argentina).

Figure 18 | **Three-Pillar Strategy for a Prosperous Latin America**



Source: Centennial Group.

East Asia (see also Box 2).

Given the diversity of the region and differing resource endowments, human capital, structure and efficiency of individual countries as well as vastly differing institutional capacities, it is neither prudent nor possible to lay out a detailed strategy for achieving this common vision across the entire region. That can only be done at the level of each individual country.

However, learning from the region's own experiences in the past forty years and contrasting them with East Asia, it is possible to define the broad contours of the strategy required to achieve this more ambitious vision. Latin America needs to adopt an approach that comprises three complementary pillars (Figure 18):

- More Inclusion
- Higher Productivity
- Greater Competition and Openness

Most importantly, actions under these three pillars will need to be underpinned by improved governance and accountability for results. As with many developing regions, Latin America's Achilles heel—the biggest hurdle to Latin America achieving a sustaining a more inclusive society and higher economic growth rate over the next thirty years—is its poor governance in all its facets.

Only through the pursuit of this three-pillar strategy will it be possible to visualize a prosperous Latin America.

1. More Inclusion

Latin America has recently made important strides in improving the conditions of its poor people. Nonetheless, income and wealth distribution remains highly skewed. Politically and socially, the current situation is unsustainable. Tackling structural inequities is therefore essential from the point of view of equity. But, as demonstrated by Asia, achieving a more equitable society is equally relevant to forging support for sound policies and thus sustaining growth over the longer term, including by expanding the size of the middle class.

Photo Credit: CAF

With significant numbers of Latin Americans not fully integrated into the mainstream economy and society (indigenous people, afro-descendants and, to a large extent, women) and with current high degrees of informality, in the past the benefits of economic growth have not reached many citizens. This particularly affected those without European ethnicity, leading to the disillusionment of large proportions of the population with the current economic policies and institutions. Only significant progress toward a more inclusive society can lead to realistic prospects of sustained and sustainable growth over time for Latin America, as had been achieved in Asia.

Thus, contrary to the view that there is a trade-off between growth and equity, striving for a more inclusive society promises a win-win situation. The fundamental approach to achieving a more inclusive society will involve the removal of numerous current structural inequities, widening access to quality education and other public services including rural infrastructure, breaking the current economic dominance by entrenched vested interests, as well as ensuring jobs and finance to those who are today left at the margins of the society, toward building a large middle class. Such an approach must be clearly distinguished from, and goes well beyond, the ongoing efforts in countries such as Brazil and Mexico that have been generally successful in reducing poverty and indigence (See also Box 3 on

1

Box 3

Importance of the Middle Class in Fueling Growth
GDP Per Capita, 1979=09; 1994=100

In some middle-income countries, the domestic market can complement export markets as the economy matures and the local market becomes large. In most countries, domestic consumption typically starts to grow quickly when incomes per capita reach around $6,000 in PPP terms. This did not happen in Latin America, perhaps because of the uneven distribution of income.

Compare Brazil with South Korea, for example. Brazil's growth started to slow after 1980, when it had reached a per capita income level of $7,600 (PPP). At that time, its middle class, defined as households with incomes of between $10 and $100 per capita per day, was just 29 percent of the population. This made it virtually impossible for the middle-class to drive further growth. In contrast, South Korea's income per capita reached $7,700 (PPP) in 1987. By that time, South Korea's evenly distributed growth had produced a sizeable middle class, which accounted for 53 percent of the population. The country capitalized on the demand from this large middle class to grow its service industries and create the building blocks for a knowledge economy. Today 94 percent of Korea's population is middle class.

Japan also benefited from a sizeable middle class when growing from a middle income country to a rich one. In 1965, Japan's per capita income was $8,200 (PPP) and its middle class was 48 percent of the population. Japan was able to achieve per capita growth of 4.8 percent per year for the next twenty years.

the importance of the Middle Class).

2. Higher Productivity

Clearly, Latin America must strive harder to achieve a much higher economic growth than it has managed in the past forty years (and even in the last five years), while reducing the historic dependence of its economic fortunes on the ups and downs of international commodity prices. Certainly, the contribution of natural resources to the creation of wealth in the future must continue. Latin America would be ill-advised to turn its back on its natural endowment. However, as has been the case of other countries and regions with equivalent natural wealth, Latin America needs to broaden the base of its output and income, and better integrate its population to the benefits of economic growth. A more technology-intensive approach to these resources and a better integration within the region and with the world, supported by a more operationally educated and integrated labor force and a deepening of its capital base will be of the essence. Only in this way can the region break from its spotty and disappointing economic growth path.

In this context, the link between investment, total factor productivity (TFP) and growth is particularly important. Enhanced growth prospects need to be underpinned by higher TFP. Improvement in

TFP, in turn, is explained by the improvement in human capital and technological progress embodied in higher investment, supported by an environment and policies that promote higher investment.

The strategic framework to change Latin American prospects and preserve its relative importance is thus dependent on two central and interrelated issues: the quality of economic policies and the likely needed increase in investment levels in a number of specific priority areas (discussed further below). Together, these two factors would allow for the increase in total factor productivity that is essential for Latin America to preserve its relative importance. To do so, other countries in the region will need to join Chile and the club of converging economies.

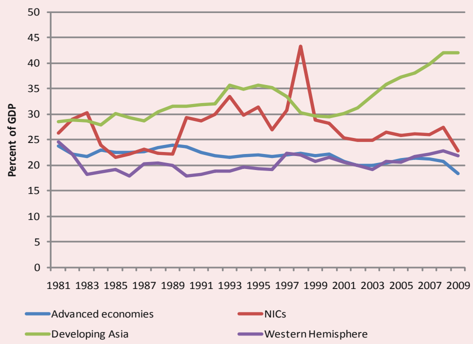
In broad terms, investment in Latin America has hovered around 20 percent of GDP, more or less in line with the levels observed in the advanced economies and the Middle East, but far short of the level of around 35 percent observed in Developing Asia and the NICs (Figure 19). It should be noted that the current low levels of investment may reflect low returns from appreciated exchange rates and/or high and distorted taxes and other legislative and administrative barriers. While exchange rates may not seem overvalued from a general equilibrium balance of payments point of view, the current equilibrium may reflect existing inefficiencies, including a poor income distribution and exclusion. In fact, exchange rates may end up being more depreciated if distributional issues were not tackled in the current form, namely, through high taxes on imports. Such protectionist domestic policies tend to lead to an appreciation of the currency, although offset in some cases by taxation on exports.

In principle, a combination of adequate polices, and an associated level of investment of about 30 percent of GDP would provide for sustained growth. This level of investment would in practice entail a doubling of net investment (i.e. net of depreciation and obsolescence). The magnitude of the effort is very large, and could not be accomplished without a large increase in the ability of the government to increase its investment, and in the commitment of the private sector to the national and regional economy. Of course, these would be directly dependent on increased savings, both in the private and public sectors.

Within the broad investment magnitudes, it is clear that public finances would have to be made available in order to mobilize additional resources. While fiscal positions in Latin America have tended to strengthen, and became less dependent on foreign and domestic borrowing, public capital expenditure has not followed an equivalent behavior. Current expenditures and social programs have been given greater priority. Thus, any new growth strategy will need to consider a rebalancing of the current/capital expenditure mix. Moreover, the additional resources would have to be channeled in large part to infrastructure and other productivity-enhancing areas such as R&D, preferably with private support.

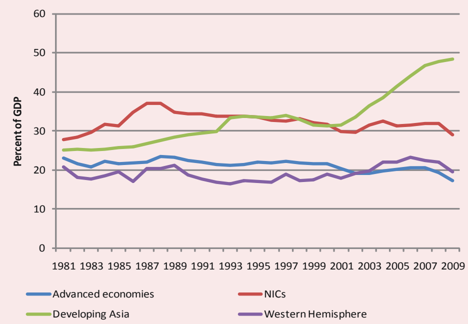
In the same context, it will be imperative for Latin America to promote savings as an essential component of increased investment. Savings rates in the region of about 20 percent of GDP compare with rates of over 30 percent in the NICs and close to 50 percent in China (Figure 20). However, studies carried out by the IDB (Haussman, Talvi and Gavin) strongly suggest that savings are dependent on economic growth, more than the other way around, at least initially. To that extent, the low level of savings registered in the region may reflect not so much an impediment to growth but a reaction to low

Figure 19 **Investment (% of GDP)**



Source: IMF - *World Economic Outlook*, April 2010.

Figure 20 **Savings (% of GDP)**



Source: IMF - *World Economic Outlook*, April 2010.

and volatile rates of growth[13], as documented by Latin America's record of numerous years of growth rates below 1 and 2 percent. In this sense, savings can be expected to pick up as conditions for growth improve over time. Of course, it will be necessary to address specific impediments to savings, in terms of the stability of the financial system, and a tax system and legal structure that creates incentives for capital flight, beyond the corporate investment observed more recently, and for investment in low-yielding but value-preserving sectors.

3. Greater Competition and Openness

The third pillar of the new strategy for the region should be promotion of much greater competition, both in internal markets and with external sources. Given the relatively smaller share of trade in total GDP, Latin American countries must give the highest priority to enhancing domestic competition, starting with the dismantling of monopolies—whether public or private—and enforcement of well-structured competition laws. In parallel, there is a need to promote and facilitate much greater openness to other countries in the region, closer links with fast-growing Asia that is emerging as the new center of gravity of the world economy, and the dismantling of remaining barriers to trade and investment with the global economy as a whole.

For many decades Latin America, like many other regions of the world, was characterized by an overwhelming presence of government in economic activity, well beyond a regulatory role. This was particularly the case in basic activities, such as: mining; metal and chemical production; agriculture; export activities; transportation; utilities; and telecommunications etc. The situation changed dramatically starting in the 1970s in Chile, and in subsequent decades in many countries including Argentina, Brazil, Colombia, Mexico and Peru. Most importantly, during this period there was a major effort at

13 National Accounts data may underestimate Latin America's savings ratios, as the sizeable capital flight has been made possible through under-recording of exports and over-recording of imports.

privatizing many activities that were not considered as central to the role of the state or of strategic relevance; this was accompanied by significant efforts to improve the operations of many State owned enterprises to help them compete better in a world marked by increased competition, and increasingly demanding financial markets. There were many different methods pursued for the sale of government assets, some of them seriously flawed. In some circumstances, public monopolies were replaced by private monopolies.

Under these circumstances, improved domestic competition remains a work in progress in the region. It is true that given the size of many of the economies of the region it is not justified to have a myriad of enterprises within one country. However, this applies to very specific types of activities, for example, the presence of only one or few extractive industry companies in a small country. Frequently, the dominance in the market is accompanied by restrictions on imports of goods and services, or limitations to investment in specific areas, and thus helps consolidate the monopoly power of the companies. Regional integration and the consolidation of markets may increase competition, although at times this resulted in the extension of monopoly powers to particular companies across countries in the region.

While it is beyond the focus of this book to deal with the specific area of domestic competition, the consolidation of the competitiveness and productivity aspects of economic policy rest in significant part on the opening of markets.
A further push in the process of privatization, of improved regulations and opening of markets, as well as government sector productivity enhancement is important to help the region to attain a more effective growth path in the future.

Photo Credit: CAF

In parallel with measures to enhance domestic competition, Latin American economies must also pursue two avenues to improve their trade performance in support of accelerated growth: regional cooperation leading to expanded intra-regional trade; and continued diversification of export markets beyond North America and Europe, and of export products beyond the dominance of commodities and fuels (except in the case of Mexico).

Latin America lags far behind Europe and Asia in regional cooperation, particularly as measured by intra-regional trade. There are three basic reasons for which the Latin America region should seriously consider significantly enhancing intra-regional trade, including through improved regional cooperation.

First, it is important to permit the regional economies to specialize in the context of the larger regional market. The Growth Commission led by Nobel laureate Michael Spence found that a major characteristic of the economies that have successfully avoided the middle income trap and made an effective transition to becoming high income economies was their ability to become specialized in economic activities. They managed to develop a competitive advantage in the global marketplace by proactively building unique skill sets and creating economies of scale.

Second, enhanced intra-regional trade would help to overcome the reality that Latin America economies—with the exception of Brazil and Mexico—are small by global standards. Only Brazil and Mexico make the list of the world's 15 largest economies or the 10 largest emerging economies. The other economies do not have domestic markets large enough to permit the economies of scale needed by firms to be globally competitive.

Third, it would allow local firms to take advantage of their superior knowledge and understanding of the needs of customers in the neighboring countries compared to the competitors from other continents. The economies—except in the Caribbean—are linked by a contiguous land mass, a common heritage and history, similar cultures and the same language (except for Brazil and the Caribbean). It should be natural for the consumers within the region to prefer similar (though not necessarily the same) products, and companies should have a competitive advantage in forging business relations with their regional counterparts and in marketing to the consumers in other parts of the region.

Latin America must also gradually reduce its dependence on the slow-growing economies of North America and Europe and develop much closer ties with the world's fastest growing region: Asia. The good news is that there has been a sharp increase in the region's exports to Asia—albeit from a very small base; the share of China has risen from under 1 percent in 1990 to over 8 percent in 2009. With many models, including the model used in this study, predicting that Asia may account for as much as 50 percent of global GDP by 2050, increasing the region's focus on Asia should be an integral part of Latin America's long-term growth strategy.

It is important to note that the increase in exports to Asia is based mainly on raw materials, including fuels, agricultural commodities and metals—particularly the export of iron ore and copper to China. This is in line with the composition of the region's exports, which is dominated by primary commodities and fuels which account for 56 percent of total exports (75 percent if Brazil, Mexico and Venezuela are excluded). The limited exports of manufactures (mostly from Mexico and Brazil) are concentrated in the low to medium technology end. The region stands to make significant gains by increasing the value-added of its output and exports and, within manufacturing, to move up the technology ladder—also a critical measure for getting out of the middle income trap and making progress toward high income status.

Finally, dismantling of remaining barriers to trade with and investment from the global markets as a whole will be a very powerful vehicle to curb the current monopolistic power of large companies, to increase competition at all levels, and to spur innovation.

Specific Elements of the Convergence Strategy

To complement the broad contours of the three-pillar strategy described above, the region must invest in and focus on a number of specific priority areas in order to achieve the shared, more ambitious vision of convergence:

- Promoting equity and inclusion
- Developing human capital
- Fostering technology development and innovation
- Upgrading and integrating infrastructure
- Advancing regional cooperation and trade
- Improving governance, institutions, and implementation

These six issues are discussed below and are also further elaborated in detail in their appropriate chapters in Part 2 of this book. They by no means constitute a comprehensive list, but they are the most critical issues/themes that require immediate attention by the region's political leaders and policy makers. Significant strides in these areas are essential to ensure the much needed continuous improvements in total factor productivity that can underpin sustained growth.

Two other areas, not covered at any length in this book, also need to be addressed urgently:

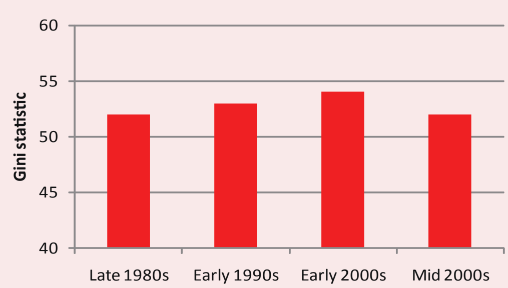
- Environment, including the deforestation challenge in the Amazon region and the generation of capital flows under the global cap-and-trade regime.
- Improved security and quality of life, particularly in urban centers.

A. Promoting Equity and Inclusion

Latin America is one of the most unequal regions of the world and it has been like that for decades if not centuries. The concentration of income and wealth has been striking compared to other regions of the world (see Figure 7 above). With a Gini coefficient of 0.53, Latin America is 19 percent more unequal than Sub-Saharan Africa, 37 percent more unequal than East Asia and 65 percent more unequal than developed countries. Also, some countries with Gini coefficients close to 0.60, reach levels of inequality among the highest in the world. Without an adequate correction of focus and policies, these problems will undermine the sustainability of the region's growth. The persistence of poverty and exclusion may well eliminate the great advantage of Latin America in terms of abundant natural resources, water, and generally lower levels of environmental degradation than other regions of the world.

After periods of rising inequality first in the 1980s and then in the 1990s, Latin America's concentration of income began to fall starting in 2000 (Figure 21). Two main factors account for the decline in inequality: a fall in the earnings gap of skilled/low-skilled workers and, after years of considerable neglect, an increase in government pro-poor programs, including

Figure 21 **Evolution of the Gini Coefficient (in %)**



Source: Gasparini et al., 2009.

Note: Data are for most recent year within two years of dates listed. To make the changes in the Gini more visible, Figure 3's y-axis begins at forty percent instead of zero.

targeted transfers to the poor. The fall in earnings gap, in turn, is mainly the result of the expansion of coverage in basic education during the last couple of decades, as discussed further below.

The upgrading of skills of the poor, however, could soon face the "access-to-tertiary education" barrier—mainly due to the low quality education they receive in previous levels—and thus the decline in inequality may not continue when that barrier gets hit. In addition, despite the undeniable progress in making public policy more pro-poor, a large share of government spending is neutral or regressive in the distributive sense and the collection of personal income and wealth taxes is low. To continue on the path towards more equitable societies, making public spending more progressive and efforts to improve access to quality services—education, in particular—for the poor and the indigenous and afro-descendant populations are crucial.

While Latin America has more income inequality, the percentage of people below the extreme poverty line tends to be lower than for many of the larger Emerging Economies. (See Figure 22, which compares inequality and poverty in a number of Latin American and Asian countries.)

There is evidence that the region has been gradually moving in the "right" distributive direction. In particular, governments have been making a greater effort to correct for inequality in the distribution of opportunities, particularly as it refers to access to basic education. In addition, as mentioned above, governments have actively reduced poverty through direct transfers to the poor. However, a large share of public spending is still neutral or regressive from the distributive point of view and new measures can go in the direction of making it even more regressive. And taxes, in particular personal income taxes, are severely underutilized as a redistributive instrument in a region with a substantial number of ultra-high net worth (i.e. super rich) individuals.

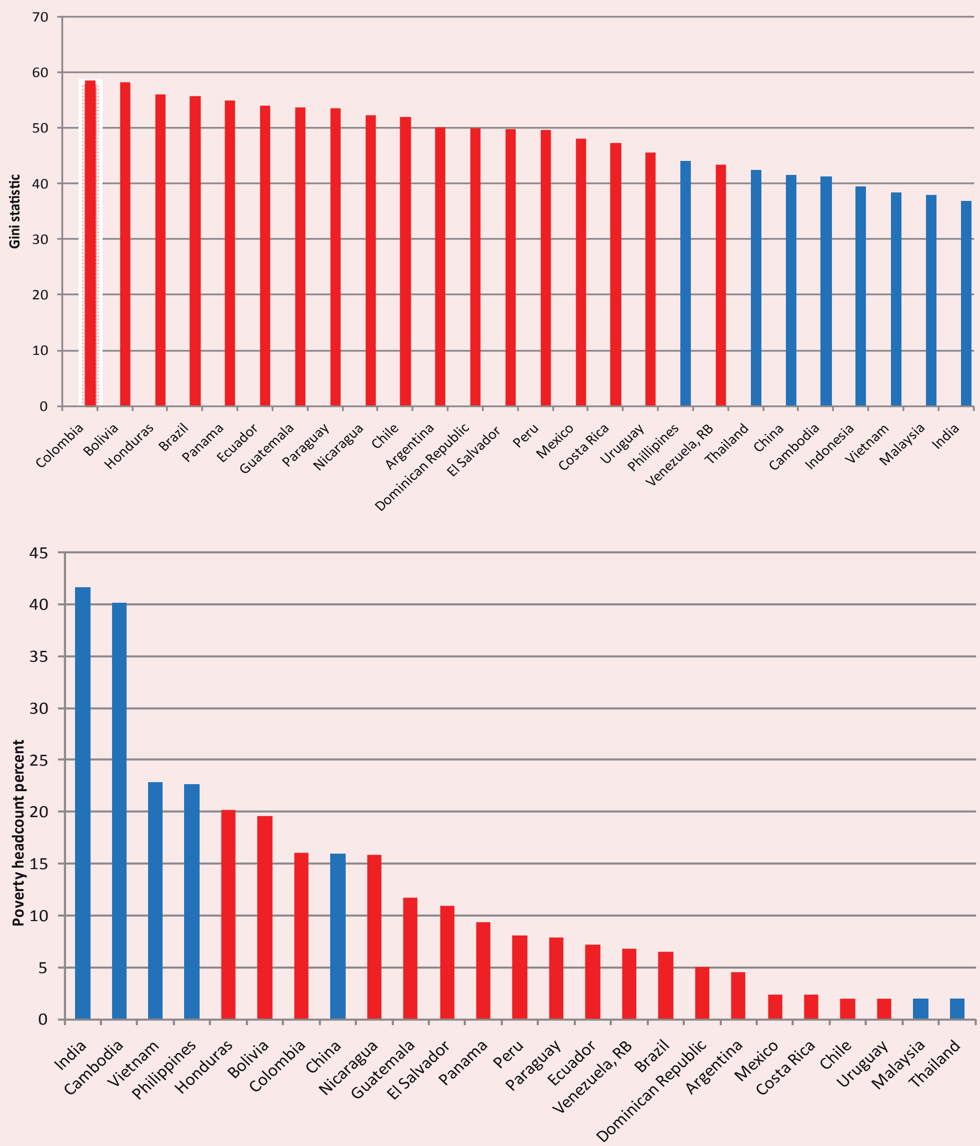
As discussed earlier, while educational enrollment has become undoubtedly and significantly more equal, the same cannot be said regarding the distribution of the quality of education. If the state wants to continue strengthening the path of equalizing opportunities through education as a way to equalize the distribution of income, addressing the inequality in quality levels of basic education and finding ways to compensate for the opportunity cost so the young poor can attend tertiary education must take priority in the public policy agenda.

The dynamics of inequality in Latin America respond to its political dynamics and the power exercised by its elites. There is evidence that market liberalization might have replaced one group of predatory elites by another group who is equally predatory and which uses their newly acquired power to retain privileges and monopoly rents. An understanding of the role played by elites in Latin America in limiting growth and perpetuating inequities will be a necessary step if state action is to correct them in its budgetary interventions and in how it affects institutions and norms.

The analysis of income inequality presented above is based on household surveys which do not capture the incomes of the truly wealthy. The production and access to more accurate information to estimate income concentration and the incidence of taxes and public spending is essential to enhancing transparency, accountability, fairness and efficiency of the state.

Experience in other regions suggests alternatives which involve the development of institutions that assure genuine equity and provide incentives for innovation, investment in physical and human

Figure 22 | **Gini Index and Poverty Headcount of Selected Latin American (red) and Asian (blue) Countries 2004-2007**



Note: The common internationally-used $1.25/ day per day, rather than the $2.50 generally used in Latin America, was chosen for this graph in order to provide a simple comparison with Asia but one must keep in mind that purchasing power is very different in the two regions.

Source: World Bank, World Development Indicators, 2009, all data from 2004-2007 depending on availability. Averaged when data is available for more than one of those years.

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capital, and economic restructuring. Key areas for action include:

- Laying the institutional bases for competitive and effectively regulated markets, including in the area of labor.
- Intensifying efforts to include segments of the population left out from the process of modernization—the indigenous groups and afro-descendants in particular.

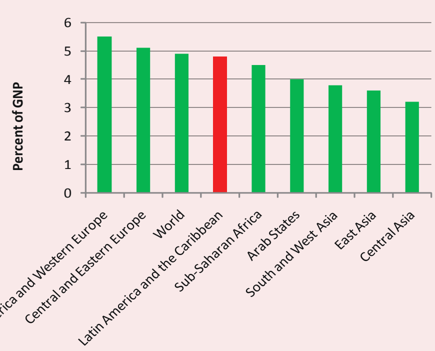
This chapter does not specifically cover spatial inequity which is tough to resolve, as illustrated by the lagging regions in the northeast of Brazil, or the mountain regions of the Andean countries. Continued decentralization with enhanced accountability to citizens, together with adequate monitoring and quality control offers a promising route to address this challenge.

B. Developing Human Capital

1. Elementary and Secondary Education

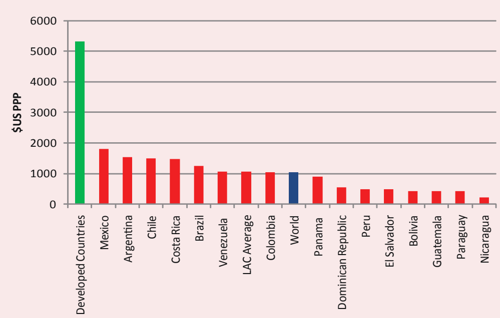
High quality education can make a significant contribution to a country's development. It boosts earnings and stimulates economic growth. It is a powerful tool for moving people out of poverty and improving the distribution of income. And it can foster democratic governance by creating an informed citizenry that can make good decisions. The region has made real progress in education. In virtually every country, governments have increased spending on education—building schools, adding teachers, raising salaries, and enrolling more children (Figure 23). These efforts have clearly expanded the quantity of education (in terms of the number of children attending school), but spending per pupil is low (Figure 24), and there is little evidence that they have improved the quality of education (measured

Figure 23 **Total Public Education Expenditure as % GNP, 2007**



Source: World Bank, World Development Indicators, 2009.

Figure 24 **Public Spending per Student on Primary Education ($PPP), 2007**



Source: UNESCO, 2010, Table 11. p. 406; for El Salvador and Bolivia: UNESCO, 2009, Table 11. p. 366.

Note: Data for El Salvador and Bolivia are for 2006 and expressed in PPP constant 2005 US$.

by scores on achievement tests). If education is to play a major role in promoting growth, equity and democracy in Latin America, governments need to move beyond their historic emphasis on expanding enrollments, to an emphasis on expanding learning.

Enrollment is much higher than the average for the world. However, the coverage of education is far from universal, with one quarter of pre-school children not having access to schooling, with only 70 percent of high school age students being enrolled, and with a high rate of attrition. And, unfortunately, Latin American schools—from pre-school to graduate school—provide low-quality education that fails to meet the needs of countries or students. Poor and minority students, mainly those enrolled in public K-12 schools, are particularly ill-served.

The Latin American countries that participate in PISA (Program for International Student Assessment) all show performance that is below what would be predicted given their countries' expenditure per student. A large share of the region's scarce resource are "lost" to inefficiencies such as high repetition rates or poor teaching, and few countries are spending enough to provide poor children with the additional attention they need. Also, wide variations in spending among countries translate into differences in the quality and equity of education that children receive. Even relatively well-off Latin American students fail to excel by world standards. In five of six countries (Chile being the exception), the richest 20 percent of Latin American students failed to outperform the poorest 20 percent of European OECD students in all three subjects (reading, math and science). While few studies track how many people speak English in any given country or their level of proficiency, existing evidence suggests that Latin American governments give English relatively low priority, and less priority than East Asian competitors.

Education is widely agreed to be one of the most powerful tools for reducing inequality. But government spending on education, despite significant growth, is making only limited headway in reducing inequality, and the region's school systems do little to reduce inequality. Poor children in Latin America tend to begin school later, repeat more grades, drop out sooner, and score lower on tests than their better-off peers—regardless of their gender, race, ethnicity, or area of residence. Differences are often greater among disadvantaged racial and ethnic groups. Indigenous children are less likely to enroll in school, and they graduate later than their peers. These gaps widen at the secondary level. Similar disparities exist between Afro-descendant children and their white counterparts.

Public spending on primary and secondary education is for the most part pro-poor or at least neutral, since most middle- and upper-class families send their children instead to private primary and secondary schools. But governments tend to overspend at the tertiary level so as to provide tuition-free higher education for all. Public spending per higher education student in Latin America is often five (or more) times public spending per primary school student in Latin America, compared with ratios of approximately 1:1 in countries like Spain or Canada. Since the vast majority of students from poor families never reach the tertiary level, the result is a massive subsidy to the middle-class.

Latin America has, however, done a relatively good job of closing the gender gap in education. Girls are as likely, and in some countries more likely, to enroll in and complete their schooling as boys. Average scores from countries participating in international exams show girls doing better than boys in reading, boys doing better than girls in math, and only sometimes in science. The big exception is indigenous girls, who remain at a disadvantage in virtually every country.

The chief obstacles to improving the region's education systems are both technical and political, and reform strategies need to address both aspects, if they are to be effective.

On the technical side, most ministries of education are weak—even incompetent—and so have limited capacity to manage a large and diverse education system. Teaching does not attract the best and brightest applicants—in part because training is inadequate, standards and prestige are low, incentives do not reward merit, and management is poor.

On the political side, government leaders are reluctant to anger powerful interest groups that benefit from the status quo—such as teachers' unions or university students—and can mobilize protests or shut down schools. The clients of public schools—mostly poor families—have almost no power in the school system. They have little information on how schools are doing, few mechanisms for influencing education policy or practice, and no tradition of citizen activism. Those parents with real power to influence schools, primarily middle- and upper-class, send their children to private schools. Consequently, they do not bring significant pressure to bear on governments (or on teachers unions) for improvement. The result is a system that serves the interests of teachers relatively well (providing great job security regardless of performance) but neglects the interests of parents and students (providing them with third-rate education in under-funded and poorly-managed public schools).

To redress this political imbalance, governments need to strengthen their position vis-à-vis at least some of the interest groups that have "captured" the public education system. It is important to design a carefully conceived strategy that pushes for change in a way that takes account of the political economy of addressing interests—teachers unions and university students, for example—that appear to stand in the way. A dual-prong strategy seems advisable. On the one hand, they need to reduce the inordinate power that interest groups, particularly teachers unions, wield. Doing so will be politically difficult. On the other, they need to develop a stronger, more effective demand for quality education—by parents and employers—that can provide political support for reform efforts.

Governments should make learning the central objective of their education systems, and stress policies that promote learning. They should consider the following policies:

(i) Provide all children with quality pre-school education and invest in high-quality basic education, ensuring that the poor, indigenous people, and afro-descendants are properly served.
(ii) Establish world-class learning standards in reading, math and science for all grades. Standards should be clear, measurable and high. Teacher training, textbooks, and student assessments should be keyed to them.
(iii) Develop robust and transparent evaluation systems that regularly assess the learning of all children in reading, math and science. Results should be used to inform teachers, parents, politicians and opinion leaders and to improve schools.
(iv) Recruit top graduates into teaching by setting high standards, making entry much more selective, and training intensively in classroom instruction.
(v) Restructure teacher management, strengthening the power to hire and fire, keying pay to

performance, assessing effectiveness and providing in-class support. Work intensively with teachers to make sure they become effective instructors, granting tenure only to the best and removing poor performers from the classroom.

(vi) Make proficiency in English a fundamental goal of the education system. Governments should make a strong effort to provide the poor with basic writing and speaking skills in English, beginning in primary school.

2. Tertiary Education

While educational issues are critical at the elementary and secondary school levels, tertiary education is also showing strains. Latin America has high levels of Tertiary Education participation, and enrollment levels have improved markedly over the last ten years but are still half the average for high-income countries and well below rates in more successful economies, like the United States and Korea. Moreover, most Latin American university students do not complete their studies. Forty percent of Argentine university students drop out in the first year, and only a quarter of those admitted go on to graduate. Only a third of those admitted in Chile and half of those admitted in Colombia graduate. The situation is similar in Mexico, where only 30 percent of those that enter in any given year graduate. This has serious implications for education finance. Taxpayers are supporting a small cadre of (largely middle-class) college students who seldom complete their degrees, with funds that might help large numbers of poor students who are failing to complete secondary school.

The issues of quality and fields of study at the tertiary level also merit attention. Hard data on quality is scarce at this level. Two of the region's largest public universities, the National Autonomous University (UNAM) in Mexico and the University of Buenos Aires in Argentina, have traditionally refused to seek national accreditation or submit to external evaluation. Brazil is an interesting exception, having evaluated university graduates, under various systems, since 1995.

The limited evidence that exists suggests that the region's universities are not globally competitive. In a 2008 ranking of the world's 200 top universities, no Latin American University ranked in the top 100, and only three (National Autonomous University of Mexico, University of Sao Paulo and University of Buenos Aires) were included—at ranks 150, 196 and 197. In a similar 2008 ranking of the world's top 500 universities conducted by the Shanghai Jiao Tong University, no Latin American university ranked in the top 100, and only three (University of Sao Paulo in Brazil, Universidad de Buenos Aires and Universidad Nacional Autónoma in Mexico) ranked in the top 200. In total, only 10 Latin American universities made the top 500 (six of them from Brazil). By comparison: South Korea had eight universities in the top 500; China (excluding Hong Kong and Taiwan), eighteen; Taiwan, seven; Hong Kong, five; South Africa, three; and India, two.

With respect to fields of study, the region's universities produce very few science or engineering graduates. The bulk of university graduates are in social science, law, or business. In most countries, less than a quarter receive science or engineering degrees. By contrast, nearly 40 percent of all Korean university graduates, and nearly 30 percent of all Irish and Finnish graduates are trained in science or engineering. In Latin America, only Mexico has similar rates (Figure 25). Not surprisingly, when

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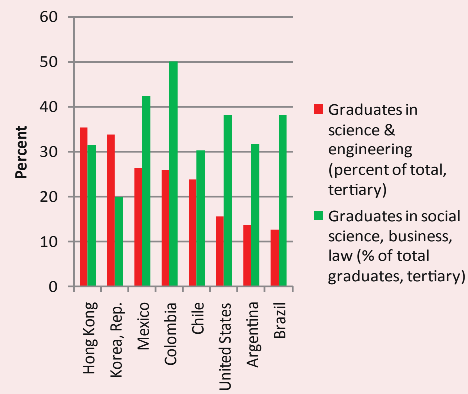
business executives in 117 countries were asked to rank the availability of scientists and engineers in their country, no Latin American country scored in the top 50, and only five scored above the mean (Argentina, Costa Rica, Chile and Venezuela).

The modification of these disappointing patterns will require considerable action with a major shift in the roles of government and the private sector, including foreign direct investment (FDI). The government should be a facilitator, balancing international knowledge and financial resources, to deal with social returns which are highest. While reform efforts will need to be pushed vigorously in the area of education, Latin America finds itself in a privileged position in terms of resources. With education expenditure being relatively high as a proportion of GDP, and growth in population declining, the public sector will be able to reorient expenditure in order to improve education, at least at the elementary and secondary levels. Tertiary education (and related research) may require additional resources. Governments should focus their efforts on the following:

Figure 25 | **Graduates in Science & Engineering (% of total graduates)**



Source: World Bank, *Edstats online* database, January 2010.

1. Conditioning funding for universities on meeting specific performance objectives. Emphasis should be placed on improving quality, strengthening science and technology, and promoting equity. Rather than channeling all public funds directly to universities, governments should experiment with providing some part of funding directly to students (principally from poor families).
2. Requiring public universities to charge tuition to those who can afford to pay. Charges should be on a sliding scale, depending principally on socioeconomic background.

However, in order to convert Latin America into a source of technological excellence, actions will be required to combine the efforts of private and public education, as well as corporate support and direct involvement.

C. Fostering Technology Development and Innovation

Innovation today is widely recognized as a major source of competitiveness and economic growth for all countries—advanced and emerging economies alike. Innovation has a critical role in creating jobs, generating incomes and in improving living standards of a society. Innovation can also be a powerful tool in broader social development including in moving people out of poverty and improving the distribution of income. "Inclusive innovation" targeted at the population at the bottom of the pyramid is gaining importance as a means of making the benefits of innovation available to all citizens. Over the long term, the main drivers of global economic growth include technological advance in rich countries and catch-up technology adoption in a group of fast-growing convergers (such as Chile, Republic of Korea, China and India), which are shifting resources from low to higher productivity activities. Almost half of the difference in growth performance between Mexico and the Republic of Korea over 40 years is attributable to technology-related improvement (TFP); more rapid gains in TFP growth can unleash a major source of economic growth.

TFP and, particularly, TFP growth in Latin America are low compared with many parts of the world and of course the United States and Europe. According to the World Economic Forum's Global Competitiveness Report (2008-2009), the only country in the region which features among the most competitive economies in the world is Chile (ranked 28th in the Global Competitiveness Index- GCI).

As shown in Table 4, in the Knowledge Economy, Innovation, and ICT Index, Latin America is lagging behind regions like East Asia and Pacific, and Europe and Central Asia. Furthermore, Latin America's scores are lower than the average of all countries.

Consistent with these indicators, and as discussed earlier, the region produces a limited number of scientists and advanced degree recipients, which constrains the region's technological development. While it entails too strict a standard of comparison, OECD countries produce one new PhD per 5,000 people, while in Brazil the ratio is 1 per 70,000; in Chile, 1 per 140,000; and in Colombia 1 per 700,000. Brazil produces around 7,000 PhDs per year and scores the highest in domestically formed PhDs in the region, even when adjusted by population, (accounting for more than 70 percent of total Latin American PhDs according to RICYT's estimates). Without more qualified advanced degree recipients, the ability of countries to use and generate knowledge, adapt and use technology is limited.

Table 4 **Knowledge Economy Index in World Regions**

	KEI		Innovation		ICT	
Country	**2009**	**1995**	**2009**	**1995**	**2009**	**1995**
Latin America	**5.21**	**5.51**	**5.8**	**6.12**	**5.27**	**6.32**
High Income	8.23	8.35	9.02	9.14	8.42	8.62
Europe and Central Asia	6.45	6.25	6.99	6.9	6.46	7.02
East Asia and the Pacific	6.41	6.96	8.49	8.9	6.64	7.76
All Regions	5.95	6.35	8.11	8.2	6.22	7.52
Middle East and North Africa	5.47	5.84	7.57	7.49	5.71	7
Africa	2.71	3.37	4.31	4.57	2.45	4.89
South Asia	2.58	3.06	3.29	3.04	2.45	4.28

Source: World Bank , *KEI and KI Indexes, KAM 2009.*

Latin America's scientific output is also low compared to other regions, both in terms of scientific and engineering articles and patents granted.

Latin America has performed poorly in terms of its National Innovation System (NIS) consisting of the institutions, laws, regulations and procedures that affect how knowledge is acquired, created, disseminated and applied in the economy. Governments from time to time have been taking steps for promoting science, technology and innovation (STI). But most countries lack a coherent policy and related tools to implement such a policy and the actual results on the ground remain well below desired levels. Although there are exceptions, generally, the public sector dominates in most aspects of STI activities, R&D institutions are not up-to-date, innovation support institutions are mostly ineffective, use of technology and innovation by industry is low, and the workforce lacks requisite skills to generate and use technology. Also, the STI policies in the region have not paid enough attention to the structural transformation of the public R&D Institutions. The collaboration between innovation actors is either non-existent or weak.

In the global context, Latin America is still a marginal player in R&D, accounting for less than 2 percent of world R&D expenditure, well below its share of some 7 percent in world GDP, and this gap is persistent. The average R&D intensity in the region was 0.6 percent of GDP in 2006 as opposed to 2.7 percent in the USA, 3.0 percent in Japan, and 2.3 percent in OECD. Brazil, Mexico, Chile and Argentina account for almost 90 percent of total expenditure in the region. The Republic of Korea by itself spends 50 percent more on R&D than the entire Latin America region. Moreover, there is no clear trend as to the distribution of expenditure between the private and public sectors, and the private sector has a much lower participation than in advanced economies. Today, in most nations of the region, knowledge created in the R&D laboratories tends to stay in the lab, rather than being converted into licenses, patents, products, processes and services. There are problems at both the supply and demand side. On the supply side, universities and public R&D institutions which account for almost 70 percent of R&D have not created mechanisms to identify market/user needs; instead they focus mostly on the publishable mainstream science. There has not been much demand for local R&D from the industry. Government initiatives to address this imbalance have not been successful either.

The region needs to develop an integrated STI system that is driven by excellence to improve its place in the global technology ladder, as several East Asian countries (such as Japan and Korea) have done over the past half century, and as Chile, Brazil and Mexico within the region, as well as China and India are doing today. The region needs a technology and innovation system that is driven by the private sector, highly productive, globally competitive, and capable of meeting the needs of its globalizing economy. This will require an increase in R&D investments from 0.6 percent to almost 2 percent of GDP in the long run—to be invested by both the public sector and the private sector—pursuing frontier, strategic and inclusive innovation, enhancing marketable R&D, and creating a foundation to diffuse and encourage the absorption of existing and newly-created technologies. Countries in the region need to be pragmatic while designing STI policies and programs; they must give high priority to cooperation and collaboration with their regional neighbors.

To translate a technology and innovation agenda into concrete actions, Latin America will require a major shift in the roles of the government and the private sector. Governments should normally be a facilitator with intelligent regulations, proper oversight, financing, enhancing private sector participation with proper policies, tax and other incentives. They should focus on public goods where social returns are highest. A large presence of the domestic private sector and FDI will ensure expansion, higher quality output and relevance where public sector initiatives have been inefficient, insufficient and unreliable. The region has much to learn from Argentina, Chile, Brazil and Mexico in the region; as well as China, India, and South Korea; and from the US, with an STI system that excels globally.

STI strategies specific to individual countries will need to be based on the scientific and technological level of the country and the technological needs of its economy and business climate.

The key recommendations that are common across the region in the area of technology and innovation are:

(i) Repositioned Public Sector. Redirect the role of the Public Sector to focus on production of public goods, and facilitate innovation by the private sector, through legislation, finance and other incentives.

(ii) Regional Cooperation. Enhance cooperation and collaboration in and outside the region to benefit from existing STI facilities in countries with better systems. This will help achieve easier, faster results and benefits at a lower cost.

(iii) Inclusive Innovation. Pursue frontier as well as "inclusive innovation" with the dual purposes of global competitiveness and inclusive growth to benefit all people. Encouraging R&D Institutions and universities to focus on the needs of poor people and improving the ability of informal firms to absorb knowledge, can lower costs and create income-earning opportunities for poor people.

(iv) Innovation Infrastructure. Upgrade basic innovation infrastructure such as metrology standards, testing and quality (MSTQ) system, intellectual property rights (IPR), training, and skills upgrading, to enhance innovation and technology commercialization and diffusion, and to contribute to enterprise competitiveness.

(v) Public Support for R&D and Technology Absorption. Provide public finance for basic research, applied research, technology diffusion, and skills upgrading, thus increasing productivity by diffusing knowledge produced at the local and regional academic and R&D institutions, and knowledge available globally.

(vi) Centers of Excellence. Create "Centers of Excellence" in certain countries (with regional mandates as much as possible). This could include increased efforts in producing more economically relevant public goods, such as pre-competitive research, and socially-relevant innovations, such as access to clean water, urban congestion, urban transport, clean energy technologies, renewable energy, public health, and technologies for sustainable livelihoods.

D. Upgrading and Integrating Infrastructure[14]

14 Based upon findings in Scandizzo, Stefania and Pablo Sanguinetti, 2009

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Empirical evidence has shown that the level of infrastructure is a key determinant of long-term economic growth in Latin America, as elsewhere, and that an increase in the stock of infrastructure would have significant effects on the region's growth rate. Improving the stock of infrastructure, both in terms of quantity and of quality, is a priority for Latin American countries. Important infrastructure bottlenecks are increasingly apparent, creating obstacles to trade and economic growth. Problems associated with congestion and poorly maintained infrastructure threaten the region's competitiveness and have contributed to constraining Latin America's participation in world trade and FDI. The quality of life is also affected directly by improvements in the provision of basic services and infrastructure.

With respect to access to basic infrastructure services, Latin America has made important advances, but such advances have been slow and uneven across countries and income groups. In the case of sanitation, for example, Bolivia is well below the regional average, with only 46 percent of the population with access to improved sanitation (Table 5).

Most countries in the region rank consistently in the bottom half of the ranking with respect to overall infrastructure quality, with the average Latin American country ranking well below East Asia, as shown earlier in Figure 12.

Latin America's poor infrastructure is even more evident if one considers individual sectors, as the region consistently scores behind all regions except South Saharan Africa (SSA). Moreover, in the case of railroads, Latin America scores even worse than SSA. Only in the case of electricity does Latin America score comparably to Asia (Figure 26).

Latin America's long-term infrastructure requirements thus remain substantial despite the recent global economic slowdown. Based on the model used in this study and assuming business as usual, the 21 Latin American countries covered in this study would need to invest $7.8 trillion (2009 prices)

Table 5 **Access to Infrastructure Services, by Region**

	Improved Sanitation Facilities (% of population with access)		Improved Water Source (% of population with access)		Mainline and Mobile Phone Subscribers (per 100 people)		Electrification Rate (% of households with access to electricity)	
Region	1990	2006	1990	2006	1990	2008	1990	2008
Latin America	67.9	78.3	83.9	91.4	6.0	98.8	70.0	92.7
Europe & Central Asia	88.3	88.7	90.3	95.0	12.3	135.5		100.0
Middle East & North Africa	66.7	74.5	88.8	87.7	3.3	74.3	61.0	93.6
East Asia & Pacific	48.1	65.6	68.3	87.4	0.8	174.6	56.0	90.3

Source: *Intenational Emergy Agency* (IEA) 2007.

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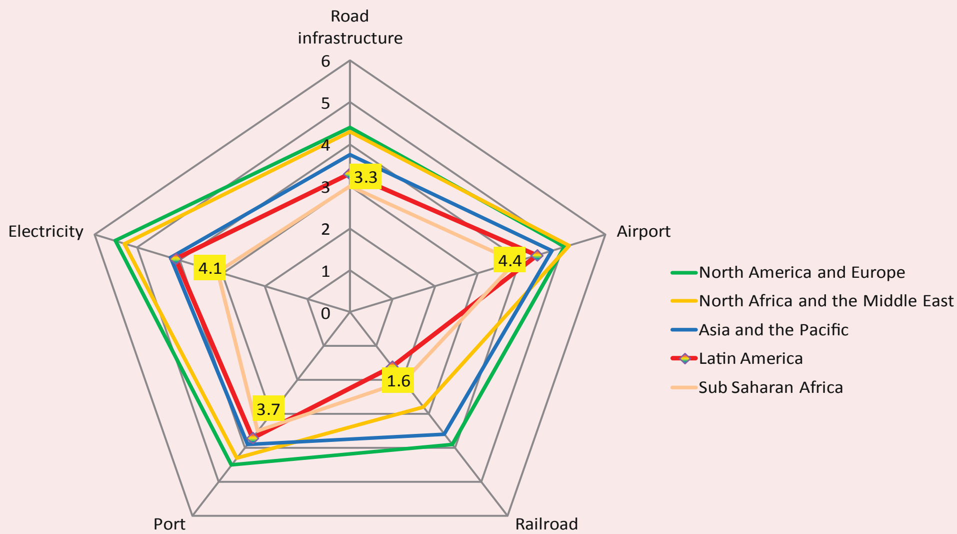
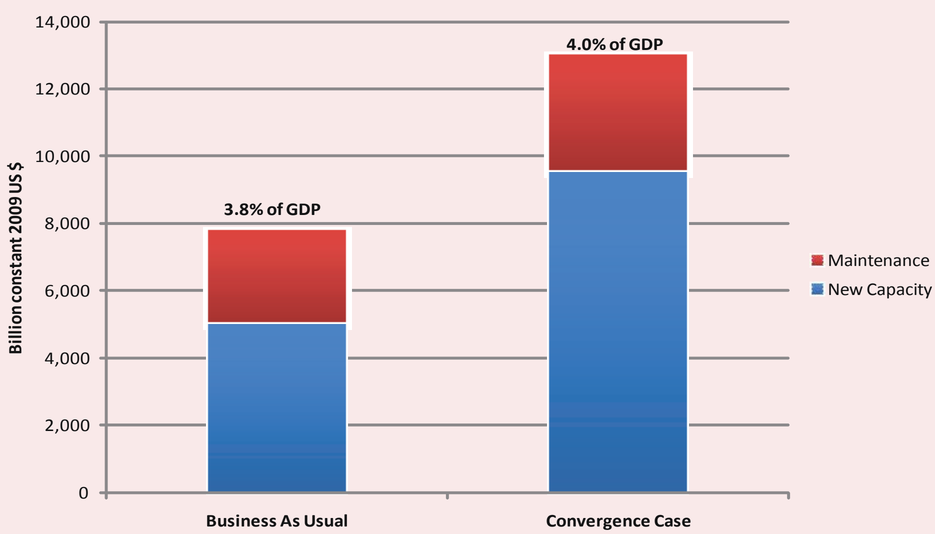
Figure 26
Quality of Infrastructure by Sector and Region
1-7 scale, with 1=underdeveloped and 7=world's best



Source: World Economic Forum 2009, Global Competitiveness Report.

Figure 27
Total Infrastructure Investment Requirements: 2011–2040



Source: Kohli and Basil 2011.

during the next thirty years (2011–2040). This comprises about $5.1 trillion for new capacity and about $2.7 trillion for maintenance (Figure 27). Under the revival/convergence scenario, these needs would rise dramatically, by over two-thirds, to over $13 trillion, with about $9.6 trillion for new capacity and $3.4 trillion for maintenance. In fact, by 2040, the convergent scenario's yearly investment needs would be over double those of the business as usual case.

Although the aggregate requirements are staggering, as a percentage of GDP, these needs are significantly lower than for other countries, particularly in Asia. Latin America must invest 4 percent of GDP into infrastructure in the next 30 years for the convergent case. Although, for the most part, these requirements may mandate a doubling of current levels, they are lower than the over 6 percent of GDP demands of Asia's infrastructure over the next decade.

Sectorally, power requires the largest share (about 72 percent of total requirements in the convergent case); roads are a distant second (about 11 percent); and the third-largest needs exist in ports (about 9 percent), almost all (87 percent of the costs) for new capacity.

An examination of the state of infrastructure in Latin America underlines not only the need for greater investment, but the importance of improved management. The magnitude of the infrastructure investment requirements suggests that a strong public-private partnership should be developed, both for financing and on efficiency grounds. Moreover, these efforts need to have a strong regional perspective, with the help of international and regional institutions.

An institutional framework based on a combination of appropriate incentives for private participation, independent and effective regulation, and proper planning and coordination are thus essential. Chile, Peru and Mexico are far advanced in these areas and provide good examples for the region to follow. Governments in the region face the challenge of increasing infrastructure financing, and creating the necessary conditions to promote and retain quality investment in the sector. In particular, governments play a fundamental role in providing good institutions, and must dedicate themselves to establishing the necessary juridical and regulatory framework to promote credibility and security in the sector.

In the near term, the main focus of policy should be to:

- Further increase investment levels to overcome current bottlenecks. The region needs to invest an average of about 4 percent of GDP (including maintenance and rehabilitation) to support economic growth of 6-7 percent a year;
- Adopt programs to eliminate electricity and other shortages and accelerate completion of rural electrification and national highways programs;
- Strengthen institutional capacity, including to implement existing policies;
- Simplify and delegate government decision-making;
- Monitor results and enforce accountability.

The longer term effort should be driven by the following reforms:

- Increase the role of the private sector;
- Make markets more competitive—with stronger and independent regulatory bodies;
- Plan and design infrastructure with a long-term (30 to 50 year) perspective.

E. Advancing Regional Cooperation and Trade

Over the last thirty years, trade and capital flows to and from emerging market economies have increased at a very rapid pace. Without question, their economic and trade growth have constituted the most dynamic aspect of international cooperation and globalization in recent years. In the same period, Latin America made considerable progress in liberalizing and integrating into the world economy, possibly the most noticeable structural advance achieved in the last two decades. The impact of liberalization has been significant—albeit with a lag—and Latin America's increasing openness to world trade has resulted in considerable gains relative to its situation 25-30 years ago. The ratio of trade to GDP in actual prices increased dramatically between 1984-2009 from around 18 percent to 47 percent. However, even as Latin America has opened up considerably, it remains behind world and OECD averages (64 percent and 52 percent respectively). Its population-adjusted ratio of trade to GDP of under 60 percent compares with close to 160 percent for the NICs, over 100 percent for China and developing Asia and around 80 percent for India.

The story of Latin American exports is similar. Latin America's exports have grown but those of the NICs have grown more rapidly. While Latin America has maintained its share of world exports of 5-6 percent, the NICs have more than doubled their share, and developing Asia has more than tripled it, from under 5 percent to over 16 percent (Table 6).

Table 6 **Growth in World Exports**

Region	Average Annual Export Growth (%) (1980-2009)	Share of World Exports (%) 1980	Share of World Exports (%) 2009
Developing Asia	10.1	4.7	16.3
NICs	9.8	3.1	7.5
Latin America	6.0	5.6	5.8

Source: International Monetary Fund, Direction of Trade database, 2010.

1. Intra-Regional Trade and Regional Cooperation

Trade integration has been a major objective among different emerging regions. Moreover, these efforts were further enhanced by the stellar progress of the EU over the last half a century. Asia has been able to integrate effectively without a complex institutional framework equivalent to that of the EU. Rather, the process has occurred in response to the liberalization efforts of many of its members, and particularly


Photo Credit: CAF

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Table 7 **Percentage of Exports within Region**

Region	1980	2009
European Union	61.6	67.2
Developing Asia with Advanced Asia	55.8	74.8
Developing Asia	24.1	47.3
Latin America	21.0	21.2

Source: International Monetary Fund, Direction of Trade database, 2010.

China and India. However, this has not been the case in Latin America, notwithstanding official efforts that have extended for well over a century.

Trade flows reflect the process of regional cooperation and integration within each developing area and with other emerging economies. All areas, with the exception of Latin America, have shown a significant increase in intra-regional trade. The degree of regional integration in Asia is particularly impressive at every level, explaining two thirds of total trade for the region, and about half for the emerging economies including China.

In the Americas, the degree of regional trade including the North American countries has increased, but after reaching 40 percent, it declined and remains at about one third of total trade. However, after some years of growth, intra-Latin American trade, at some 20 percent of the total, is at about the same level as in 1980. This suggests that there has been only limited success in developing a process of integration in new activities in spite of the major efforts to establish trade agreements within the region, including trade blocks like Mercosur, the Andean Group, and the Central American Common Market, which have sought to provide the opportunity to integrate these economies (Table 7).

There are three basic reasons for which the Latin America region should seriously consider significantly enhancing intra-regional trade, including through improved regional cooperation:

a) Need for Economies to Specialize

The Growth Commission led by Nobel laureate Michael Spence found that a major characteristic of the economies that have successfully avoided the middle income trap and made an effective transition to becoming high income economies was their ability to become specialized in economic activities. Such specialization involves investments in activities with greater value-added by shifting resources—labor and capital—from labor intensive activities whose viability is dependent on low wages (and hence lower per capita income) into economic activities that have higher innovation and technology content, allowing greater returns to both capital and labor; the resulting higher wage levels in turn raise people's living standards and boost the country's per capital income.

A closer look at higher income countries (developed and NICs) reveals that, except for a few large economies, most high wage economies have achieved at least some degree of specialization in the global marketplace. Given our earlier conclusion that many—though by no means all—Latin American economies have been mired in the middle income trap, it appears logical that an important step in Latin American countries' ability to escape this trap would be their success in moving towards such specialization on a global scale so as to raise their productivity. To successfully achieve such specialization, firms need ready access to markets that are large enough to yield economies of scale at the national or regional level before they can compete in the global marketplace. Unfortunately, doing so at the national level is not possible In Latin America except in Brazil and Mexico.

b) Small Size of Most Latin Economies

Only two Latin American countries rank amongst the top 15 economies in the world: Brazil at number 9 and Mexico at number 11 in PPP terms, and at number 8 and 14, respectively, in terms of market exchange rates. In 2009, again only Brazil and Mexico made the list of the top 10 emerging markets economies (Table 8). All CAF member countries combined were equivalent to only 60 percent of the GDP of China alone. Only two economies—Brazil and Mexico—had more than 1 percent of global GDP. And, in PPP terms their combined GDP was slightly less than that of India and less than half of China.

So what is the basic conclusion from this information? While most Latin American economies belong to the upper middle-income group, they are relatively small in absolute size—with the exception of Brazil and Mexico. Therefore, local firms operating exclusively in their home country markets would find it extremely difficult to achieve economies of scale and thus face a significant challenge in

Table 8 **Top 10 Emerging Markets by GDP**

2000 GDP (billion US$)		2009 GDP (billion US$)	
China	1,198	China	4,909
Brazil	644	Brazil	1,574
Mexico	329	India	1,236
Korea	533	Russia	1,229
India	462	Mexico	875
Taiwan	326	Korea	833
Argentina	284	Turkey	615
Turkey	266	Indonesia	539
Russia	260	Poland	430
Saudi Arabia	189	Taiwan	379

Source: World Bank, World Development Indicators, 2009, all data from 2004-2007 depending on availability.

becoming globally competitive and creating high paying jobs. Closer regional cooperation in the hemisphere that facilitates much greater regional trade and investment flows that significantly expand the "home" markets can go a long way in helping the region aspire to create global players.

c) Unexploited Potential within the Region

The low trade between the Latin American economies (at 21 percent in 2009) is partly due to the past focus of both the region's governments and private business on the US and European markets. But, it also appears to be a natural outcome of the government policies that over the years have created barriers against trade and investment flows to neighboring countries. In addition, physical transport and logistics facilities between neighboring countries have also been a constraint.

It is critical that regional economies begin to tap the significant unexploited potential for greater trade and investment flows within the region by removing current barriers. The resulting increase in intra-regional trade and investment flows—combined with greater focus on Asia (discussed below)—would not only create newer, faster growing market opportunities but also help diversify the region's export markets and thus further reduce the current heavy reliance on exports to the US and Europe. While this process appears to be already underway, its pace can and should be significantly accelerated.

2. Trade Diversification

a) Diversifying Markets

Latin America's trade has predominantly been with the US, the region's traditional and largest trading partner, and Europe. This has begun to change, particularly over the past decade. Over the past 10 years, the sharpest growth of trade in the last decade is with China (26 percent per annum) and India (22 percent), and the slowest growth, with the US (2.2 percent) (Table 9). China's share has risen from under 1 percent in 1990 to 8.2 percent in 2009. It is worth noting that last year, China became Brazil's largest trading partner, surpassing the United States.

This sharp rise in the region's trade with developing Asia overall—and with China and India in particular—has a number of advantages: it is helping the region to diversify its trade; it is strengthening economic ties with the fastest growing region of the world; it reduces the region's dependence on the mature and slower growing markets in North America and Europe; and, through higher growth of exports, it helps boost the overall economic growth of Latin America.

Continuing to increase its focus on Asia should be an integral part of Latin America's long-term growth strategy.

b) Diversifying into Higher Value-Added Products

The composition of Latin American exports has been considerably less dynamic than the destination of exports; they continue to be dominated by primary commodities and fuels. The region's manufacturing exports are mostly concentrated at the low technology end. The proportion of high technology

Table 9 **Latin America Export Destinations**

Export Markets	Average Annual Growth Rate, 2000-2009 (%)	Share of Total Exports (%)
China	26.1	8.2
India	22.1	1.1
Central & Eastern Europe	13.9	0.8
Africa	13.9	1.9
Rest of World	10.5	10.5
Canada	9.9	2.4
Latin America	9.3	22
Japan	7.8	3.5
Developing Asia (w/o China, India)	7.1	1.7
European Union	7.1	13.3
United States	2.4	34.8

Source: International Monetary Fund, Direction of Trade database, 2010.

goods within manufacturing exports for the region as a whole is under 8 percent compared to 30 percent for China and 25 percent for the NICs. With Mexico and Brazil excluded, the proportion falls below that of India (5 percent).

Latin America stands to make significant gains by increasing the value-added of its output and exports and, within manufacturing, to move up the technology ladder—a critical measure for getting out of the middle income trap and making progress toward high income status.

F. Improved Governance, Institutions and Implementation

A closer look at each and every crucial issue facing the region reveals that the underlying problems in each are rooted in poor governance, and that without fundamental improvements in governance it will not be possible to tackle these issues effectively.

Most political scientists equate good governance with democratic governments. In our view, while a democratic political system is indeed highly desirable and Latin America has made marked progress in that direction, governance comprises of many facets that go well beyond the political system. The various facets of governance are intertwined with each other like pieces of a jigsaw puzzle.

As shown by a variety of reliable public opinion surveys—Latin American Barometer, Americas Barometer and others—political attitudes in the region are generally supportive of a democratic

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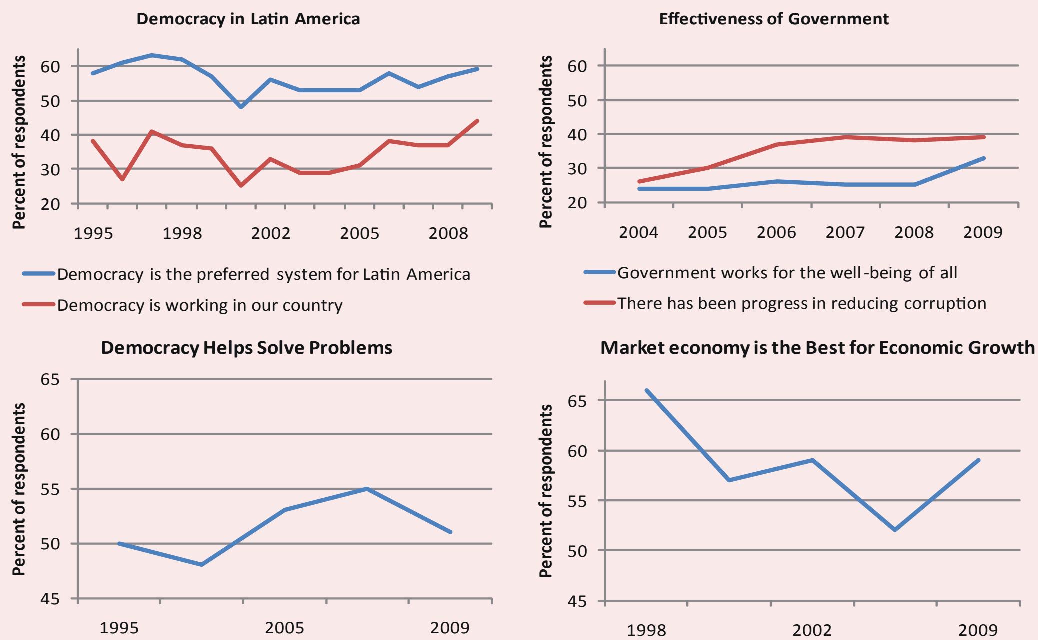
Table 10 **Democracy Gets the Upper Hand in Most Countries**

Country	Democracy is preferable to any type of government % of surveyed respondents who agree: 1996	2001	2008	2009	Change since 2008
El Salvador	56	25	50	68	18
Honduras	42	57	44	55	11
Brazil	50	30	47	55	8
Chile	54	45	51	59	8
Guatemala	50	33	34	42	8
Panama	75	34	56	64	8
Costa Rica	80	71	67	74	7
Peru	63	62	45	52	7
Argentina	71	58	60	64	4
Bolivia	64	54	68	71	3
Uruguay	80	79	79	82	3
Venezuela	62	57	82	84	2
Mexico	53	46	43	42	-1
Nicaragua	59	43	58	55	-3
Dominican Rep.	na	na	73	67	-6
Paraguay	59	35	53	46	-7
Colombia	60	36	62	49	-13
Ecuador	52	40	56	43	-13

Source: The Economist based on Latino-barómetro 2009.

system (Table 10 and Figure 28). While there are some important reversals in the support for democracy in countries such as Colombia and Mexico, that is the model preferred by most respondents in the region. That good news is countered, however, by widespread dissatisfaction with government services, including the provision of security, justice, education, and basic infrastructure. Some of these issues are illustrated in Table 11, based on the 2009 Survey of the Latin American Barometer. Confidence in key public institutions such as political parties and justice systems is disturbingly low in a number of countries, even some with sound economic performance. For sustainable prosperity, levels of trust need to increase, which democratic governments and effective leaders can best accomplish by delivering sound services. Looking ahead, that is the primary political challenge. The pressures of globalization mean that, increasingly, pragmatism must trump ideology in policy-making throughout Latin America. That trend has significant implications for the region's long-term political landscape.

Figure 28 **Political Views in Latin America—2009**



Source: Latino-barómetro 2009.

For Latin America to pursue a path towards significantly greater prosperity in coming years, it will be crucial to build more effective democratic governance throughout the region. Such a political development is not only consistent with, but essential for, the social and economic policies outlined in this book. It will be important to forge a political system based on consultation, dialogue and consensus-building. That formula has proved effective in the case of Chile, and appears to be taking hold and producing positive results in Brazil as well.

Such politics needs to be accompanied by an effective political party system characterized by competition. This is the best way to keep political leaders fully accountable, and to yield decisions that respond most effectively to citizens' demands. Alternative models can produce short-term benefits but are rarely sustainable. As globalization intensifies, the governance structures marked by an open party system will best correspond to the region's challenges and needs.

Over the coming decades, expectations are likely to continue to rise among groups that are newly incorporated into Latin America's politics. Sustainable prosperity will be difficult to achieve without being inclusive, reaching out and consulting with such key populations as indigenous and afro-descendant groups. The importance of such a political approach can be seen in the case of Peru, both in the conflicts surrounding the privatizations that took place in 2001 and the ongoing violence

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Table 11 | **Key Issues at National Level**

I. Main Problems for Latin American Countries	
Unemployment	21%
Crime and Security	19%
Economic Problems	16%
Poverty	7%
Political Issues	6%
Inflation, Violence, Corruption, Health, Education	3% each

II. Confidence in Institutions	
Church	68%
Media	49-56%
Army	45%
Government	45%
Private Sector/Banks	42-44%
Municipalities/ Police/ Congress/ Judiciary	28- 34%
Labor Unions	30%
Political Parties	21%

III. Guarantees under Democratic Regime	
Religion	79%
Gender Equality/Freedom of expression/ Professional Development	57-67%
Private Property/ Equality of Opportunity/ Environment	44-47%
Solidarity with the Poor and Social Security	33-36%
Labor Opportunities/Income Distribution	27-29%
Protection against Crime	25%

Source: Latino-barómetro 2009.

over natural resources—oil and gas—in the Amazon region. Coherent and responsive party systems, and sound political leadership, are best equipped to anticipate such problems and defuse tensions before they become destabilizing and put ambitious and worthy economic goals at risk.

Another key dimension of effective democratic governance in Latin America involves striking the right balance between national authority and local control. Decentralization is well underway throughout the region. There have been considerable advances. But it is also important to ensure a greater measure of financial autonomy in Latin American cities, while at the same time guarding against anti-democratic practices at the local level. There is no single recipe that applies in all Latin American countries, but decentralization combined with accountability to the local population is a critical area for policy experimentation and reform.

Civil service reform should be of the highest priority to contribute to more effective implementation and necessary continuity of long-term policies that can help produce sustained prosperity in Latin America. The Chilean experience particularly shows the importance of having a low turnover of key administration officials such as finance ministers. The high turnover in many countries is a major obstacle to economic progress. This is essentially a political challenge that will involve incentives and rewards for long-term public service and measures to discourage key appointments being made for short-term political advantage.

In the end, the outcome of any long-term formulation of policies will depend not only on the political environment but also on the ability to implement policies. In addition to the lack of a shared vision, a major difference between Latin America and the successful growth cases of the past has been the lack of adequate implementing structures (formal and informal). The region will have to undergo a transformation to: create a more competent and motivated civil service, geared to the challenges of the next quarter century; engage in a non-adversarial approach to public-private relations, in a cooperative environment; improve the competitive environment of the region; inculcate a stronger code of ethics for the civil service and the private sector, particularly in regards to the conduct of business with the government; ensure effective formulation of priorities and monitoring of results; and promote accountability with a clear system of rewards and punishment for the political system of government.

Of equivalent importance, there is a need for a transformation of the institutional set-up. While Latin America tends to have a sophisticated and generally comprehensive legislative structure, it has a judiciary that does not operate effectively, and is subject to considerable political pressure. Accordingly, the implementation of existing rules and regulations fall short of the requirements of a modern society. The prevalence of form over substance in the judicial process makes it even more complicated than would be expected under the current circumstances. Aside from the serious flaws in many judicial systems, and the urgent need for reform, there is an equally compelling case to be made for major governmental action on police reform. This has been a relatively neglected area of public policy, but the gap between the gravity of the problem (which, experts claim, shows no sign of abating in coming years) and the capacity of police forces to respond adequately, is growing. Rampant crime and insecurity will continue to limit growth and prosperity in a number of Latin American countries, including Brazil and Mexico. Corruption and lack of professionalism besets police forces throughout the region, and any long-term strategy for significant progress will have to tackle this problem seriously. Otherwise, the potential for huge strides forward will be jeopardized.

If Latin America is to experience significantly enhanced growth and development in the coming decades it will be critical to build a partnership—in effect, a governance model—that involves a lean, efficient government, a socially conscious, responsible, and modern private sector, and a vibrant and pragmatic civil society. In addition to the political aspects of governance, our own definition of governance comprises of all facets of governance that affect economic management: role and focus of governments; importance given to economic and social development by the top political leaders and policy makers; delivery of quality and universality of basic public services (law and order, rule of law, education and health services); and focus on results and enforcement of accountability.

Latin America should strive to emulate the four characteristics that have distinguished East Asia from other developing regions:

- Sharp and primary focus of political leaders and policy makers alike on economic issues;
- Ability to implement policy decisions;
- Insistence on achievement of results on the ground; and
- Enforcement of accountability.

This can only be accomplished if the region would undertake the required transformation of governance. Specifically, Latin America must transform the following ten facets of governance in order to kick start the economies to achieve higher economic growth and make the societies much more inclusive:

- Make economic and social development the primary focus of the political leaders and policy makers, not just in words but also in reality;
- Reverse the deterioration in political governance, while strengthening democratic institutions
- Make governments smarter, more focused and more credible;
- Decentralize, where possible, both the authority and accountability for most public services to local bodies as close to the people as possible;
- Modernize and make more effective all institutions involved in economic management;
- Reform the civil service to meet the needs of modern economies and of democratic, more open and more inclusive societies;
- Improve the quality, honesty and responsiveness of all public services including the police, judiciary, education and health services;
- Actively promote and enforce competitive markets, break down the dominance of entrenched vested interests, and prevent capture of state organs by big business;
- Inculcate a code of self discipline and ethical behavior within the business community; and
- Implement agreed policies and priorities, monitor results and enforce accountabilities at all levels of government (national, state and municipal).