

**STRUCTURAL ADJUSTMENT AND REFORMS IN  
LATIN AMERICA, POLICIES AND  
PERFORMANCE**

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**CERTIFICATE**

This is to certify that the dissertation entitled, “**STRUCTURAL ADJUSTMENT AND REFORMS IN LATIN AMERICA, POLICIES AND PERFORMANCE**”, submitted by **PRABHU PRASAD MISHRA** in partial fulfillment of the requirements for the award of the degree of **MASTER OF PHILOSOPHY**, is his own work and has not been submitted for the award of any degree or diploma, in part or full, of this university or any other University

We recommend that this dissertation be placed before the examiners for evaluation.

**Prof. Alokesh Barua**  
(Chairperson)

**for Prof. Manmohan Aggarwal**  
(Supervisor)

*To*

*My Parents*

*With Lot of Love and Regards*

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# CHAPTER I

## Introduction

The decades of 80s and 90s saw the countries of Latin America and leaving behind long pursued import substitution industrialization model. They adopted IMF-WB led of stabilization and structural reform programme, which was intended mainly to usher in a market oriented development strategy. Proponents of this model argue that it was the only way to overcome the problems of inflation, BOP deficits, rising international debt, inefficiency and the lack of international competitiveness. However at the end of 90s the results of the new approach leave much to be desired and remain the subject of considerable debt. Assessment of the structural adjustment programmes at macro-economic level give some credence to the argument that the success of SAP was becoming evident after a difficult transition period. Regional GDP and export growth were once again strong. Unemployment was falling although still high by historical standards and real wages were rising *albeit slowly*. (Reinhardt and Peres-2000). But the aggregate features for the region marked considerable variation between countries in growth rates. Most countries have suffered negative effects from the Asian crisis and the region's overall growth fell sharply in 1998 and 1999. Trade deficits are high in many countries as is unemployment and both have risen since 1997. The need to sustain capital inflows has forced some governments to maintain high real interest rate. Clearly this recent slump underlines the macro-economic vulnerability of the regions' economies.



## **1.1 Rationale Of Structural Adjustment Programme**

The typical country initiating an adjustment program supported by world bank and in the initial phases usually supported by the IMF-faces pressing macro-economic problems as a large fiscal deficit and unsustainable BOP deficit and in many cases as open or repressed inflation. These problems usually stem from a mixture of expansionary demand policies and large external shocks to the real interest rate, commodity prices, the demand for export, and the availability of external financing. Typically political and institutional weaknesses limit the capacity of the country to respond to the external shock.

Structural adjustment as defined by Corbo and Fisher (1995) is a process of market oriented reform in policies and institutions with the goal of restoring a sustainable BOP, reducing inflation and creation of conditions for sustainable growth, in per capita income. Structural adjustment programmes generally start with a conventional stabilization programme, intended to restore the viability of the current account and the budget but they are distinguished from pure stabilization programme by the inclusion of a set of micro-economic-institutional policy reforms. Of course there are exception to this order (Mexico mid 1980s and Argentina in late 1980s).

Stabilization measures aimed at restoring macro-economic balanced and reducing inflation focus on bringing the level of demand and composition (tradable relative to non-tradable goods) into line with the level of output and the financeable level of trade deficit. Typically stabilization requires a reduction of both fiscal deficit and real devaluation in order to restore internal and external balance. The longer term structural reforms focus on the removal of micro-economic obstacles to the efficient allocation of resources both by

removing institutional bottlenecks and creation more appropriate incentive structures. These measures include liberalizing the trade regime; removing price controls; deregulation of domestic goods markets; reforming the public sector, including the tax system, the structure of government spending and state owned enterprises; removing constraints on factor employment and mobility, deregulating domestic financial markets, and removing obstacles to saving and investment and on strengthening institutions to support stabilization and structural transformation.

## **1.2 IMF-World Bank And Policy Reforms**

During 1980s almost all major episodes of policy reforms in developing world were instigated and supported by structural adjustment loans---(SAL)s and sectoral adjustment loans (SECALS) from World Bank. The reforms usually took place in the context of intense policy dialogue with World Bank-as well as with IMF. Furthermore disbursements were made under the extended structural adjustment and enhanced structural adjustment facilities. The policy dialogues with these institutions along with the conditionalities that go with these lending helps accounts for the remarkable uniformity that has characterized the reform agenda. These also came with frustration in the Bank with the lack of real development despite substantial commitment of resources in the form of project assistance. With two rounds of oilshocks in 1970s and the early 80s debt crisis, the Banks attention turned towards the massive distortion in the micro-economic systems. So the goals for SALs covered macroeconomic stabilization for demand management and microeconomic reforms for enhanced supply response to engineer

sustainable long-term growth, but it is not always easy to draw clear distinction between stabilization and structured measures.

### **1.3 Issues And Elements of Structural Adjustment Program**

#### **1.3.1 Stabilization Measures**

The success rate of stabilization programme involves dealing with inflation as well as excess spending and there are choices about the methods (fiscal, monetary, exchange rate) by which macro economic adjustments attained. The structural component involves more than getting prices right, and there are issues about sequencing of reforms furthermore in economics with many distortions

For countries with large distortion, it will generally take time for the supply side measures to affect output positively and the initial adjustment effort is likely to reduce demand and output that imposes short run cost.

Mostly the expenditure reduction policies, which only shift the budget line, need simultaneous expenditure switching policies, which changes the relative price to produce the desired adjustment.

In high inflation countries adjustment has a third dimension beyond expenditure reduction-output expansion and the real devaluation issues that is the need to break dynamics of inflation. The success rate of stabilization programmes in countries that have experienced prolonged periods of inflation is poor, typically they make many attempts to stabilize but success can be obtained by a temporary fiscal adjustment with restrictive

monetary policy and/or a fixing of exchange rate in short run. Longer-term success cannot be achieved without enduring reduction in public sector deficit. In some countries income policies can also help by stabilizing expectations, breaking the inflationary momentum and increasing political support for stabilization programme. But it must be accompanied by the fiscal adjustment otherwise it may be counter-productive.

The order between stabilization and reforms depends upon country specific situation. But both help each other in the sense that stabilization help in carrying out reforms and reforms cement stabilization and lay the basis for renewal for growth.

Many other issues are of importance in the debate between heterodox and orthodox policy implications. (i.e. heterodox emphasizes the supply side measures for stabilization to reduce cost, income policy, wage price-freeze, and index change) issue of seigniorage and public finance and choice between various nominal anchors and the role of external financing in stabilization programmes.

### **1.3.2 Structural Reform Measures**

Once inflation has been reduced in a credible way and progress has been achieved in reducing the non-interest current account deficit the potential benefit of structural reforms aimed at improving the allocation of resources and achieving sustainable growth are increased. After the large distortions are identified which may be country specific, the next issues are sectoral reforms, sequencing of reforms and speed of reforms.

## **Sectoral Reforms: -**

Analysis of World Bank adjustment programs shows the extent of emphasis given to sectoral reforms. Policy measures supported in these areas are intended to increase the efficiency and to improve the supply response of the economy. Predominant area of reform is trade, public enterprise and rationalization of government finance and agricultural and financial sector reforms.

Public sector reforms include macro-economic measures aimed at reducing the public sector deficit and micro-economic reforms aimed at increasing the efficiency of public sector and to improve the capacity of the public sector to provide basic primary services. The rationale of trade policy reforms lies in reducing misallocation of resources in import competing industries and to reduce the rent seeking activities and to enhance productivity by ensuring the competition. New trade theory that emphasizes imperfect competition and intervention has not been reflected in SAP primarily because it is difficult in practice to identify the policies that will work leading to the conclusion that free trade is good rule of thumb (Corbo and Fisher, 1995). Financial sector reform is the result of the perception that efficient working of financial sector is essential for growth. Initial conditions play an important role in design and implementation of financial sector reforms. Normally lending rates are deregulated first and then deposit rate to avoid insolvency and macro instability. Also it emphasizes the appropriate supervisory and regulatory role. Another important area of reform is labor market reform, which is hindered by rigid labor practices and political reasons.

### **Sequencing and speed of reforms: -**

Where there are multiple distortions identifying the optimal sequence of reforms is difficult because policy is working in a world of second best and under these conditions welfare benefits of reforms are case specific and depends of initial conditions and inter relations across market.

Some general recommendation can be made on this

1. Reforms are best initiated with large reduction in big distortion.
2. Liberalization of current account should precede the liberalization of capital account because

Speed of adjustment in asset market is faster than in goods market and prices of assets are determined for expectation on goods market and price.

Also there is no definite conclusion about the order of stabilization and trade liberalization although there is general presumption that macro-economic stabilization should precede the trade liberalization should precede the trade liberalization.

First best solutions regarding speed of a reform is simultaneous removal of all distortion but institutional bottlenecks will prevent this. While the second best option is gradual reforms, it must foster credibility.

#### **1.4 From Adjustment To Sustainable Growth**

Structural reforms that contribute to the macro-economic stability and the improvement of resources allocation create the foundations for a recovery of growth.

There are five main requirements for sustained growth.

1. Stable macro-economic condition
2. An appropriate structure of incentives generally provided through market.
3. An adequate human and physical capital base
4. An adequate level of saving
5. Efficient institution to turn saving into productive investment

The last three are more important for sustaining growth.

The upgrading of infrastructure and human capital base requires restructuring of public sector with emphasis on expenditure on above two factors. Also it needs private participation in these sectors. Such as health and education. Increasing national savings is the most assured way of raising investment rate. Empirical evidence suggests that private saving rates are not very sensitive to the policy variables especially interest rate. So then we have to raise our public saving which shows the central importance of fiscal balance. The rate and efficiency of private saving is much affected by the stability of macro-economy and by clear property right and tax rule.

Recent endogenous growth literatures suggest that there is link between policy, investment and long-term growth (Easterly, 1993).

## **1.5 Structural Adjustment In Latin America**

### **1.5.1 A Brief Review**

While the implementation of the SAP in Latin America emerged out of the crisis of 1980s, the call for basic reforms of the model predated the crisis by several decades. As early as 1950s, critics of the dominant ISI were based on its misguided rejection of the basic principles of market economy. As problems with ISI emerged, a growing debate over its merits focused particularly on the experience of the Latin American countries (ECLAC, 1969). The Latin American monetarist school argued that the inflation spreading through out the region was a result of excessive government spending to support an inherently inefficient and ultimately unsustainable growth, while overvalued exchange rates promoted even greater inefficiencies in resource use. In this environment industries could only survive through rent seeking, made possible by protection and subsidies and were unable to compete in international market.

In 1950s and 60s monetarists proposed attacking these problems through devaluation, a reduction of money supply and decrease in fiscal deficit. The emphasis was on stabilization rather than on structural change although reduction in government expenditure would also have secondary consequence of affecting resource allocation. With the acceleration of inflation and slowing of growth in most countries following the 1973 oil crisis, critics of ISI model became not only more vocal but also more radical in their policy recommendations. The objective was now not only stabilization, but also a transformation of production structure through its complete liberalization from



government intervention. This so-called neo conservative model was introduced in three southern cone countries, Argentina Uruguay and Chile, in mid-70s. Key policies included liberalization of domestic markets, privatization, trade opening and opening to international financial flows as well as the withdrawal of the states from many previous activities of economic activity (Reinhardt and Peres-2000). The experiments in Argentina and Uruguay were of short duration and ended before the debt crisis of the 1980s with poor results. The results in the first decade of Chilean reforms were also not encouraging with sharp recession in the mid-1970s, followed by growth in late 70s, characterized by increasing over valuation of the currency and culminating in collapse in 1982. It was not until the mid 1980s following a moderation of the reforms (greater government involvement on financial sector, temporary increases and recovery of copper prices that Chile emerged as the growth leader in the region. Agarwal and Sengupta (1999) in his paper have explained how this crisis of 1982 was different from other crises of 1970s. While internal policies were responsible in part, the contractionary policy of US Federal Reserve and recession in the US and in the EU countries precipitated the situation. It was impossible to get external finance. Most of the countries in the region experimented with a variety of orthodox and heterodox reforms in an attempt to recover from the destabilizing effect of debt crisis. The failure of most of these attempts during this period of 'muddling through' contributed to a growing conviction that what was needed was no less than a complete reform of economic policy and structure along the line of the Chilean programme. This approach was championed in two works the World Development Report (World Bank1991) and John Williamson's 'What Washington means by policy reforms,' (Williamson, 1990). Williamson explicitly delineated the so-

called Washington consensus to be the necessary package of sound economic policies to achieve the desired objectives of growth, low inflation and sustainable BOP. This consisted of 10 recommendations of policy instruments incorporating the basic ideas of orthodox stabilization and liberalization. These policies also lay at the heart of the World Bank's call for a market friendly approach to economic development (World Bank, 1991) an approach based fundamentally on the principle that state intervention should be exceptional and constrained by checks and balances (For example by forcing government programmes to undergo market test).

While the conclusions of these documents were strongly debated in the region and some of their main components were modified through out 1990s, they were the foundation for the region's economic reform process. Agarwal and Sengupta (1999) questioned whether all the reforms during this past decade of 80s had aid the basis for a renewal of a sustained high growth rate. While this can be examined, it is certain that these initial reforms, couples with changing external circumstances by 1980s- the restoration of liquidity in international banking system, the establishment of a secondary market for Latin American debt and the recovery of export prices – all contributed to the economic stabilization and facilitated the implementation of reforms in foreign trade, the financial system and the labour market and in reducing the widespread activities of the state.

The implementation of these reforms spread from Chile first to Bolivia, Costa Rica and Mexico, where reforms begin by mid 1980s. They were joined by Argentina, Peru and Venezuela later that decade or at the beginning of the 1990s. The most important late reformer was Brazil, which started opening up its economy in 1990 and

developed and developed a strong privatization programme after 1999. By mid 1990s most countries in the region were implementing economic reforms although their scope and intensity varied considerably.

The macro-economic policy reforms could have both static as well as dynamic consequences static effects involving a reallocation of existing resources in resources to the changing incentive structure, could occur both within and between firms and /or within and between sectors. Between sectors, we can expect the over all response to the reforms to involve a shift from production of importable to the production of exportable. The overall result to these responses should be increased productivity; both through greater efficiency at firm level and through a shift in resources towards more productive firms and sectors.

The greater efficiency and income resulting from these responses would in turn generate higher rates of growth in the long run- i.e., there would be an outward shift of the production possibility frontier. This is because the greater income could generate higher rates of domestic saving and investment, while the increased profitability of exportables production would attract more foreign capital.

But it is interesting to see that supporters to structural adjustment pay little explicit attention- to the long run dynamic consequences of the new productive structure i.e., potential impact on accumulation of knowledge and technological capability factors crucial to the sustained competitiveness and growth.

### 1.5.2 Latin America's Performance in 1990s

Before we set the objectives of the study we briefly review of performance of Latin America during 1990s. Some studies like Agarwal and Sengupta (1999), Ramos (2000) and Reinhardt and Peres (2000) have shown that the macro-economic results of the region have been mixed. Among this Agarwal and Sengupta (1999) has been most detailed in the analysis of macro result. They had taken indicators i.e., per capita growth, inflation, trade performance, BOP, investment GDP ratio, and external debt to analyse the performance.

There have been two notable success, First sharp reduction in fiscal deficit which resulted in inflation falling from three digit level in 1980s about 10% in 97-98. Exports increased 4 times faster in 1990s than during 3 decades of ISI, despite the exchange rates appreciation due to financial liberalization and ensuing capital flows. Moreover, the growth of non-traditional exports has been greater so that today some 50% of the Latin American export are non-traditional, where as in 1980s it was 25%. Yet the results in term of growth and productivity have been modest if not mediocre. The economic growth in 1990s has averaged 3.5% per year above that of the last decade of 1980s but well below the 5.0% per year of the 1<sup>st</sup> period. Labour productivity growth is a dismal 1% per year. Thus the disappointing outcomes are low GDP and employment growth, the minimal recovery of investment coefficients, the poor dynamics of total factor productivity and the persistence of one of the world's worst regional income distribution. In addition, two particularly problematic outcomes are instability of growth, in the

decades after the reform and its variability between countries. The region went through two very short period economic cycles in 1990s, 1991-95 and 1996-99 each ending with almost no GDP growth. The liberalization of the capital account has not only opened access to world capital markets, but has also increased the region's vulnerability to external shocks.

Some authors have examined the diverse growth performance across countries. Stalling and Peres (2000) found two types of countries in the region. The first, which include Argentina, Bolivia, Chile and Peru, grew much faster in 1990-1998 post reform period than in the 1950-80 ISI period (5.7% and 4.0% respectively). While for the 2<sup>nd</sup> group which includes Brazil, Colombia, Costa Rica, Jamaica and Mexico the converse is true (2.6% and 6.1% respectively). Moreover, the individual countries in 1<sup>st</sup> group also performed better than all individual countries in 2<sup>nd</sup> group. The reasons behind these different performances are still not very clear. Many researchers have attempted to explain it in terms of reform intensity, initial conditions which forced them to undertake simultaneous stabilization and reforms. To date the question of the independent impact of structural reforms unanswered.

Agarwal and Sengupta (1999) enquired in their paper whether the structural adjustment programmes of 1980s have resulted in better economic performances in 1990s and whether a base has been laid for future sustained growth and concluded that although there has been better performances in 1990s, it does not inspire confidence that there will be rapid sustained growth.

To be sure the SAP has not been fully implemented in all countries and several countries did not put it into effect at all until well into 1990s. Moreover, the region had simultaneously to cope with galloping inflation. A fairer assessment would thus have to discount some of the disappointing results due to macro-economic instability and stabilization and then take into account appropriate time lags before the desired results could be expected.

## **1.6 Scheme of the Study**

The present study has been divided into five chapters. Chapter I presents the whole issues of structural adjustment programme and reforms in Latin American countries. **Chapter-2** will assess the growth and its determinants in Latin America over the period 1970-1998 taking twenty major countries of the region using a panel data framework. **Chapter-3** will analyse the nature of growth process by examining the breaks that have occurred over the sample period in twelve major countries by carrying out Chow-test to examine the parameter stability and its impact on long run growth. **Chapter-4** will examine whether there occurred any structural change in Latin American countries at sectoral levels, on the basis of production, exports, imports and employment. **Chapter -5** summarizes the concluding remarks and also presents a few policy implications. Data appendix contains a brief notes on data sources and concepts used in the study.

## **CHAPTER II**

### **A Panel Study Of Growth And Its Determinants Across Latin American Countries Over The Period 1970-1998**

In this chapter the growth performance and its variation will be analyzed across Latin American countries over the period 1970-1998. In recent years the theoretical and empirical literatures on economic growth have grown extensively providing new insights into the mechanics of growth and its determinants. Studies on growth empiric are becoming more refined enabling us to test the implications of the ever-expanding growth theories and to determine the main sources of growth using cross section and time series data for large samples of countries. Another important issue, on which both theoretical and empirical studies are focused, is the issue of convergence that is one of the central implications of the neo-classical growth theories. The new growth theories particularly the endogenous growth theories have attempted to explain the persistent variations in both the level and rates of growth of income over long period.

While there are many empirical studies dealing with the issues of sources of growth and convergence with very large sample of countries, studies about the sources of growth and convergence across the Latin American countries are very few in numbers (De Gregorio 1992). The present is an attempt to bridge that gap.

The present chapter is organized in following manner. Firstly, we will describe briefly the evolution of growth theories and issue of convergence. Then we will review some of the previous studies on growth empiric dealing with both sources of growth and convergence. Next we will present a simple theoretical framework to

analyze the growth performance and the empirical set-up used to estimate this model. Then the specification issues and the estimation procedure to be followed are discussed briefly. Lastly, the results of the estimations by a panel data approach will be analyzed to unfold the various determinants of growth. This will also examine the issue of convergence in Latin American countries.

## **2.1 Evolution of Economic Growth Theories**

There have been assertions in many review literatures on economic growth, that economist cannot agree on one universal theory of economic growth. While this is true, another aspect, which is neglected, is that literature on economic growth and its empirical counterpart have grown rich and refined because of this so called controversies. It is evolutionary, in fact both theories and empirical work on growth are complimentary to each other. As it has been pointed out in Basu (1998), there have been three major surges in growth theory in this century. The first occurred in response to the work of (Harrod 1939), & (Domar, 1946). The second surge was so called neo-classical response to the Harrod:Domar model, for which Solow (1956) was the most important trigger. The third surge came from the works of Romer (1986) and Lucas (1988), and has given rise to what is called the theory of endogenous growth.

The works of both Harrod and Domar were essentially attempts to fill the dynamic part of Keynesian macro economist for capitalist economies. Yet the central message of Harrod and Domar model has been used in developing economies to



conceptualize the problems of development and to determine various targets for policy.

The original neo classical production function specifies through a simple equation that the output of an economy depend solely on the inputs of labour and capital. According to other scholars this is very simplistic because the perfectly competitive market as assumed by neo classical theories is unrealistic and that the other socio-economic variable are important in explaining variation in economic performance. The first attempt to specify a neo classical production function originates with Ramsey (1928) who developed a model to analyze optimal economic growth under certainty. To understand the implications of the Ramsey model for economic growth, it is necessary to know the two restrictions on neo-classical production function i.e. 1) constant returns to scale to both labour and capital, 2) diminishing returns to scale to both labour and capital in case of a given stock of capital, respectively a given labour force.

And two implications of these assumptions are: 1) in an economy where the stock of capital is expanding faster than the labour force the returns to new investments should fall in due time, 2) according to this theories poor countries should find it easier to grow faster and capital would flow from rich countries to poor countries as the returns on investment should be higher there.

In the 1950s following Solow, actually economic growth was decomposed along the lines of Ramsey model. It was found that the model could explain about half of the cross-country growth differential. The unexplained rest is called the Solow residual, which is attributed to exogenous technical progress search for explaining

part of the Solow residual lead to inclusion of human capital accumulation variable in growth studies in light of Asian tigers phenomenon during 1980s.

A first attempt to include learning into production function was made by Romer (1986). He assumed that individual firms through costly learning gather knowledge by doing, but that other firms and industries may profit from this research cost free. Further more Romer assumed that on an aggregate level output growth has increasing returns to scale due to the spill over effects of the learning. The basic difference between the neoclassical and Romer model is the abandonment of constant returns to scale in Romer model, which implies that poor and rich countries no longer necessarily converge. Romer implicitly assumed that knowledge has characteristics of a local public good, i.e. countries learn nothing from abroad.

Lucas (1988) presented another alternative endogenous growth theory. He argued that human capital formation is not a free good but is instead accumulated by individual agents through education and training. According to Lucas an individual's human capital is simply his general skill level. He States (p.17): "a worker with human capital  $h(t)$  is the productive equivalent of two workers with  $\frac{1}{2} h(t)$  each or half time worker with  $2 h(t)$ ". It should be noted that Lucas assumes that individuals start with certain level of human capital inherited from parents and family. He proceeds with the statement that: "human capital accumulation is a social activity, involving groups of people in a way that has no counter part in the accumulation of physical capital." Consequently according to Lucas, human capital  $h(t)$  has no diminishing returns to scale. There fore like Romer (1986), by adding human capital

formation to the neoclassical production model Lucas came to abandon the assumption of constant returns to scale.

A third alternative growth theory argues that the level of investment in R&D determines technological progress. Like many previous authors, Romer (1990) assumes that the Solow residue might be partly explained by technological progress. However in contrast with previous studies, Romer assumes that technological progress is the result of intentional actions by individual agents, instead of being a predetermined entity. Also technology is a non-rival good according to him. He also assumes that innovations are partly excludable. There have two implications. First, non-rival goods can be accumulated without bound. Second, incomplete excludability makes knowledge spill over possible. Both factors together explain that the production function may exhibit increasing returns to scale.

### **2.1.1 The Issue of Convergence**

One of the central focuses of neo-classical work has been the issue of convergence. The crucial assumption in the Solow model of diminishing marginal returns to capital leads the growth process within an economy to eventually reach the steady state where the per capita output, capital stock, and consumption grow at a common constant rate equaling the exogenously given rate of technological progress. This led to the notion of convergence, which in turn can be understood in two different ways. The first is in terms of level of income. If countries are similar in terms of preference and technology, then the steady state income levels for them will be the same and with time they will all tend to reach that level of per capita income. The Second is in

terms of the growth rate. Since in the Solow model the steady state growth rate is determined by the exogenous rate of the technological progress, and then provided that technology is public good to be equally shared, all countries will eventually attain the same steady state growth rate.

While finding convergence has been generally thought of as evidence in support of neo-classical model, absence of convergence has been regarded as supportive of endogenous growth theories. The controversy has given rise to the concept of "conditional convergence" meaning convergence after differences in the steady States across countries have been controlled for. Barro and Sala-I-Martin (1992).

## 2.2 A Brief Review Of Previous Studies On Growth Empirics

The development of the so-called endogenous growth models spurred many new empirical studies into long-term economic growths. By nature most of the studies are on cross-section basis, as long-term average growth is the only good approximation of steady state growth on which all or most of the growth theories are based.

A logical starting point for investigating the basic facts on growth is an examination of its sources. Most of the previous empirical studies used neoclassical growth accounting procedure, at least as a starting point, to estimate the sources of growth and its determinants. As our subject of interest is growth studies about Latin-American countries, we should focus on it. But as pointed out by De Gregorio (1992) there are few studies about the sources of growth in Latin American. So we will also discuss other studies on growth, which are more general, and of larger sample size.

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Levine and Renelt (1992) used Edward E Leamer's extreme -bound analysis to test the robustness of coefficient estimates of large number of cross-country regression results to alteration in the conditioning set of information. His paper addresses the question: how much confidence should we have in the conclusions of cross-country growth regressions? Two themes emerged from the study. First, there are many econometric specifications in which measures of economic policy are significantly correlated with long run per capita growth rates. The second theme is that the cross-country statistical relationship between long run average growth rates and almost every particular policy indicators considered by the profession are fragile; small alteration in other explanatory variables overturns the past results. In particular broad array of fiscal expenditure variable, monetary policy indicators and political indicators are not robustly correlated with growth. Only the average share of investment has a positive and robust correlation with growth. They found qualified support for the conditional convergence hypothesis i.e. a robust and negative correlation between initial level of income and growth over 1960-89, which includes initial investment in human capital. This result does not hold over 1974 to 89.

Fisher (1993) used cross-sectional and panel regressions for a sample of 73 countries for 1960-89 to perform growth accounting. It shows that growth is negatively associated with inflation, large budget deficit and distorted foreign exchange market he has shown that the causation runs from macro economic policy to growth. He used a regression analog of growth accounting developed by Elias (1992) to identify the channels of these effects. Inflation reduces growth by reducing the investment and productivity growth through uncertainty due to defective price

signal. Budget deficit also reduces both capital accumulation and productivity growth. While low inflation and small deficits are not necessary for high growth even over long periods, high inflation is not consistent with sustained growth. His paper supports the view that quality of macroeconomic management matters for growth.

Mankiw, Romer and Weil (1992) examine whether the Solow growth model is consistent with international variation in standard of living. It argues that the Solow model predictions are approximately correct in the sense that saving and population growth affects income in the direction that Solow predicted and more than half of cross country variations in per capita income can be explained by these two variables. An augmented Solow model that includes accumulation of human as well as physical capital provides an excellent explanation, about 80% cross-country variation in income. Evidences on convergence contrast sharply, with that of endogenous growth advocates. In particular, after controlling for those variables that Solow model says determine the steady state there is substantial convergence in income per capita.

Islam (1995) takes the work by Mankiw, Romer and Weil (1992) as its starting point and examines how the result changes with the adoption of panel data approach to estimation. They reformulated the regression form of growth equation used in the study of convergence into a dynamic panel data model with individual (country) effects and used the panel data procedure to estimate it. This yields the results that are different from corresponding results obtained from single cross-sectional methodology. First, the estimated rates of conditional convergence proved to be higher. Second the estimated values of elasticity of output with respect to capital are found to be much lower and more in conformity with its commonly accepted

empirical values. The panel data approach corrects the omitted variable bias, which occurs in the cross-country regressions of aggregate production function. From growth theories point of view, panel data approach allows us to isolate the effect of 'capital deepening' on the one hand and technological and institutional differences on the other, in the process of convergence.

De Gregorio (1992) specifically deals with the economic growth in Latin-American countries, which performs growth accounting exercise and examines exhaustive set of growth determinants through panel estimation for 12 countries over 1950-85. Here all regressions were estimated using panel data with random effect model. The main findings of this paper are as follows:-

1. The rate of growth in Latin American has been comparatively modest during 1950-85.
2. Growth has been higher in countries where the share of industry and exports has had largest increase and where the changes in the share of agriculture have been the lowest.
3. There is no evidence of (unconditional) convergence of per capita income across Latin-American countries.
4. Labor's share is about 50% of income, which is substantially lower than in developing countries.
5. The proportion of growth explained by the factor productivity growth increases with the rate of growth itself. This finding is inconsistent with traditional version of neoclassical growth model.

6. Investment is one of the main determinants of growth, but its components have a differential impact. Foreign investment appears to be more efficient than domestic investment.
7. The terms of trade appears to have no significant effect on growth.
8. The level of inflation as well as its variability has negative effect on growth, beyond their possible negative effect on the rate of investment. This result is valid in general and not only in countries, which have experienced high rates of inflation.
9. Human capital, measured by literacy rates has a positive effect on growth. Paradoxically school enrolment indices have no positive relationship with growth.
10. The degree of openness of the economy and distribution of income are found not to have significant effects on growth.
11. The effect of govt. consumption on growth is negative. The degree of political stability, measured as an increase in civil and political rights is positively correlated with growth. These results are however less robust than the others reported in this paper.

Corbo-Rojas (1994) focuses on Latin-American economic growth to examine the factors accounting for the growth performances of Latin-American countries in period 1960-1988. Panel estimation using 5-year sub-period averages to preserve the long-term information was performed. Explicit role for macro-economic stability was introduced in accounting not only for the level of output but also for the rate of sustainable growth. Besides 17 Latin American countries, 69 'rest of the world' countries are included in the sample. Variables used were initial per-capita GDP,



current and lagged investment to GDP ratio, current Govt. expenditure to GDP ratio, and proxies for stock of human capital. To control for world economic condition 4 time-period dummy variables were used. The results when the basic model was estimated are

1. In Latin American sample initial per-capita has a negative and non-significant coefficient.
2. The coefficient of current Govt. expenditure to GDP ratio is negative and significant in the Latin American sample.
3. The coefficient of the primary school enrolment variable is positive and significant
4. Both current and lagged investment to GDP ratio is significant having a positive total effect on growth in the all samples. The Latin American regression explains around 53% of variations in dependent variables. This is higher than that obtained for other pooling estimates for Latin American countries. For example Grier and Tullock (1989) who obtained a  $R^2$  of 29% while De Gregorio after controlling for various other variables got  $R^2$  of 52%.

When other control variables are introduced the results obtained changes significantly. He estimated five different models with different specification with regard to different control variables and one final model for whole sample in which control variables were introduced. The results he got are that inflation coefficient is negative and significant. The coefficient of openness variable is negative but not significant. The trade-deficit share of GDP as a measure of economic stability has significant effect on growth for Latin America. The coefficient for foreign investment

is positive but not significant. The significance of the time period dummy variables indicates that there was evidence of a rising average growth during the period of early seventies. This effect was reverted during the 80-84 period shown by negative and significant coefficient for 80-84 period dummies.

Morley, Machado, Pettinato (1999) attempted to quantify the process of structural reform in Latin America in five areas: trade reform, financial liberalization, tax reform, liberalization of external capital transactions and privatization. It presents indexes for these five areas for 17 countries for the period 1970-1995. The resulting indexes permit one to make comparisons of the degree of reform across countries over time and to examine in a quantitative way the impact of these reforms. The indexes show that the reform process has not been uniform across time, country, or area of reform. The reforms started in the 1970s in the Southern Cone stopped or even reversed after the debt crisis of 1982-1985, but spread to the rest of the region after 1985. Trade reform and domestic financial liberalization were the first components to be widely adopted with eleven countries reaching a level of 85% of the most liberalized by 1990, and all but one of the rests reaching that level by 1995. The period after 1990 witnessed a very significant opening of the capital account. Judging by the reform indexes by 1995 there was widespread agreement and policy convergence in these three areas of reform. However, there is much less convergence and more variance in the indexes of privatization and tax reform. With respect to privatization, there have been significant sales of government enterprises in a number of countries, but the overall change in the regional index is still quite small. Partly

that is because the government enterprise sector is small in quite a large number of countries, and partly it is because of the continuation or even the expansion of big state-owned enterprise in mining and petroleum in a few countries. With respect to tax reform, only seven of their countries reached the reform threshold that they set. According to their opinion this is due to the conflicting goals of tax neutrality and equity, but it may also reflect differences in the size of the government sector as well.

Paunovic (2000) has attempted to shed some light on the connection between the growth performance in the 1990s and economic reforms in seventeen Latin American and Caribbean countries. It presents a classification of the countries studied based on comparison of the growth rates in the 1990s and the “base period” (1951-1980). Three groups of countries are identified: leaders, laggards and intermediate cases. An attempt is made to see if there emerges a pattern or any kind of regularity with respect to the causes of the adoption of reforms. Relevant short-term and long-term factors are identified. The way reforms were implemented, and in particular, whether different levels of intensity of macroeconomic stabilization and structural reforms were related to the growth performance in the post-reform period, is also analyzed. Several characteristics define countries in each of the three groups identified. The “leading” economies had a lower average rate of growth in the base period than in the 1990s and low or negative growth rates coupled with huge macroeconomic imbalances immediately before the reforms took place. That sparked the reform process that was much more comprehensive than in other countries. “Laggards”, in contrast, fared much better during the three post-war decades than during the 1990s. Also, their growth rates immediately before the adoption of reforms were not as low

as the ones of the “leading” economies, and in most cases they did not experience hyperinflation. As a consequence, the pressure to change was not as strong as in the countries hit harder by the crisis. The intermediate cases have some characteristics of both groups. An attempt has been made to explain these patterns using political economy concepts. In countries where growth was strong during the base period, powerful interests had a stake in maintaining the status quo and hindered the reform process. In slow-growing economies, in contrast, such vested interests were weaker and less ubiquitous, and thus possibility of change was greater. In addition, pre-reform crises in the former economies did not weaken vested interests enough to enable reformist governments to act successfully. In the latter, crises did have that kind of effect. Moreover, many governments faced credibility problems because of numerous failed attempts at macroeconomic stabilization. Those that adopted far-reaching structural reforms and macroeconomic stabilization signaled their commitment to reforms. Others that lacked a combination of strong stabilization and strong reforms made things worse with partial reforms since the absence of positive results further undermined the support for reforms.

Barro and Lee (1993) examine the growth rates in 116 economies from 1965 to 1985. He finds that the lowest quintile had an average growth rate of real gross domestic product (GDP) per capita of  $-1.3\%$ , whereas the highest quintile averaged  $4.8\%$ . They isolate five influences that discriminate reasonably well between slow and fast growers. (1) A conditional convergence effect whereby a country grows faster if it begins with slower real GDP per capita in relation to its initial level of human capital in the forms of education attainment and health; (2) a positive effect on growth from a

high ratio of investment to GDP (although this effect is weaker than that reported in some previous studies) (3) a negative effect from excessively large government, (4) a negative effect from government induced distortions of markets; and (5) a negative effect from political instability. Overall, the fitted growth rates for eighty-five economies for 1965-85 had a correlation of 0.8 with the actual values. We also find that female educational attainment has a pronounced negative effect on fertility, whereas female and male attainment are each positively related to life expectancy and negatively related to infant mortality.

There are other cross-section studies such as Barro (1991), Roubini and Sala-I-martin (1992) in which the Latin-American dummy has significant negative coefficient. Besides above studies which we have reviewed above there are numerous other large sample growth studies such as Easterly and others (1993), Benhabib and Spiegel (1994), Easterly (1991), Dornbush (1991), Senhadji (2000), Collins and Bosworth (1996), Siermann (1998) etc.

### **2.3 The Model**

Most empirical literature on the effects of economic policies on structural characteristics on economic growth builds upon a common family of growth models, based on steady state properties of economic systems where the long term equilibrium growth rates is determined essentially by changes in the productivity, while the observed short run growth rates is related to the difference between the initial and the long run steady state level of income per capita. Unless some particular variable

affects the growth rate of productivity, it does not influence the steady state growth rate at all. Rather it affects the long run level of income. In this case, such variables can affect the short run growth rate by changing the gap between the current or the initial level of income and the long run level of income. In literatures three kinds of variables are mentioned which may influence long run income-level. Firstly, environmental variables which include policy instruments under the control of government, and external factors such as terms of trade, secondly structural variables which include factors such as the size of the economy, type and availability of natural resources and geographical position etc. These variables are not under the control of policy makers and do not change over time. Thirdly, there are behavioral variables such as saving and investment ratio, labour force growth etc. that may affect the potential level of output to the economy.

Thus the basic theoretical model can be written as

$$y = f(INPCGDP, Y^*) \text{ -----(1)}$$

$$Y^* = g(z) \text{ -----(2)}$$

Where,  $y$  = per capita GDP growth rate.

$INPCGDP$  = Initial per-capita GDP.

$Y^*$  = Potential GDP obtainable given the structural characteristic of the economy.

$Z$  = structural, environmental and behavioral variables.

In this type of model, the larger distance between the initial income level and the potential income level, will result in higher growth rates which in turn gives rise to convergence.

### 2.3.1 The Empirical Set-Up

For the empirical estimation of the Latin American growth we basically followed the methodology used by Corbo-Rojas (1994) and De Gregorio (1991). The equation usually estimated by many empirical studies both for time series data for a single country as for cross sectional country studies is

$$y_t = a_0 + a_1 l_t + a_2 i_t \text{-----}(3)$$

where,  $y_t$ ,  $l_t$ , and  $i_t$ , denotes the growth rates of output, growth rates of labour and investment rates respectively and given the assumption that capital output ratios and technology are the same in all countries,  $a_1$  and  $a_2$  should represent the marginal product of capital and labour share respectively.

Basically, most cross sectional studies begin with this basic model and then include other variables (Corbo-Rojas, 1994). Levine and Renelt (1991), present a list of forty one cross sectional growth studies published since 1980. Each study regresses the output growth rates over a given period against a set of variables that includes variables relating to trade, policy, fiscal policy, exchange rate policy, political and social stability human capital and macroeconomic policy and outcomes.

In light of the above studies our growth equation to be estimated by panel data procedure is:

$$y_{it} = \alpha_i + \beta_i x_{it} + u_{it} \text{-----}(4)$$

Where ' $i$ ' denotes a country and  $t$  denotes time period (yearly), ' $\alpha_i$ ' is a country specific parameter ' $y$ ' represents the rate of growth of per capita GDP while  $x$  is a matrix of explanatory variables.

More specifically our empirical model will be

$$y_{it} = \alpha_i + [\beta_{1i}INPCGDP_i + \beta_{2i}P_{it} + \beta_{3i}CV_{it}] + u_{it} \text{ -----(5)}$$

Where  $Y_{it}$  = average growth rate of per capita GDP for country  $i$  and period  $t$ .

$\alpha_i$  = country specific parameter.

$INPCGDP_i$  = initial per capita GDP (at the beginning of the period) for country  $i$ .

$P_{it}$  = proxy for policy variables for country  $i$  and period  $t$ .

$CV_{it}$  = other control variables which includes qualitative variables such as political factors.

The long-run output level is not directly observable. So  $Y^*$  in equation (1) is approximated by a set of structural environmental and behavioral variables ( $P_{it}$ ,  $CV_{it}$ ) which makes up the economic environment and may either encourage or be detrimental to production and capacity output. Some potential variables to be included in this category are proxies for reforms such as export coefficients or total trade coefficients for trade openness;  $M_2/GDP$  as the proxy for financial deepening variable, physical investment, human capital, various macro indicators such as govt. consumption as % of GDP, budget balance as % of GDP, rate of inflation and change in rate of inflation as an indicator of macro economic stability or resource balance as an indicator of economic stability. Terms of trade adjustment as an indicator of



impact of world market condition, for financial sector reforms, money and quasi, money ( $M_2$ ), % of GDP, Net foreign Assets as % of GDP or credit to private sector as a % of GDP can be used as proxies. Also indicators of political characteristic of a country have been used. [Please see the data appendix for the source, the definition and construction of all the variables used in the growth regressions].

### **2.3.2 Specification Issues And Estimation Procedure**

The above stated empirical set up has several problems. The first one and the most important from both a theoretical and empirical point of view is that the exact list of variables on the right hand side of the equation is unknown. This problem of model uncertainty has led researchers to try a large number of possible alternative specifications, which basically means trying different combinations of potential explanatory variable capable of explaining growth variations. While including redundant variables has a cost in terms of efficiency and model stability, the omitted variable problem has more serious negative consequences on statistical property of the empirical model and the inferences that can be drawn from it.

Also some of the identified variables are not directly observable (stock of human capital) or are subject to error of measurement (stock of fixed capital). The use of proxies to capture the impact of unobserved variables leads to greater variance and some loss of information when the theoretical variables do not coincide perfectly with the observed ones.

When growth equations are estimated using the panel data, the frequency of data is important. This is particularly relevant when using variables that may affect growth

through various channels in the long and short run. We used annual period data. The list of variables included in the growth equation has to be as exhaustive as possible to avoid omitted variable bias that can lead to incorrect conclusion. Whether a variable is included or not may have dramatic effects on the statistical significance of other variables (Levine and Renelt, 1992). Of course the availability and quality of data determines the choice of variables. The strategy followed here is to have at least one proxy for each of the main determinant of growth. These are

- 1) Capital accumulation (human and physical).
- 2) Macro-economic environment.
- 3) Government spending.
- 4) degree of openness
- 5) terms-of-trade
- 6) political stability.

The key issues in panel data estimation is how the country specific effect is treated and consequently how the parameters should be estimated (Hsiao, 1986) there are two ways of estimating equation-5. The “fixed effect method” consist of running an OLS regression of  $y_{it}$  on  $x_{it}$  and country dummies. The procedure is called least square dummy variable or within groups estimation. This approach has several problems- the most important for our study is that it precludes the inclusion of variables that are time invariant for each country, since they are perfectly collinear with the dummies. Because in our study some variables are time invariant (e.g. initial GDP per capita) or there is only one observation for the entire sample period, while other variables are available as regular time series.

The other method is “random effect model” which considers each  $\alpha_i$  as a random variable and hence its stochastic component can be included in the error term. Since

' $\alpha_i$ ' is common for all of the time-series of a given country, the covariance matrix of residual in equation-5 is no longer diagonal. Hence, the equation has to be estimated by GLS. Since it allows inclusion of time invariant variables this random effect procedure is suitable for our study. Hausman specification tests were performed to check that the residuals are in fact un-correlated with regressors and in most of the cases the null-hypothesis of no specification error could not be rejected at standard significant level. Therefore GLS would provide consistent estimates. In our study sample period covers 1970-98.

#### **2.4 Estimation And Results**

For obvious reasons linked to redundancy, strong collinearity and limited degrees of freedom, all chosen variables could not simultaneously be included in the regressions. This was particularly the case when unobserved characteristics had to be approximated by proxy variables for which several alternative and highly correlated candidates are available. This led us to a preliminary screening process, which involves trying a large number of specifications, to see whether the robustness of the specification is maintained in the face of entering new explanatory variable to a pre-specified regression equation. Three criteria were adopted here i.e.

- (1) The coefficient of the new variable should be significant.
- (2) It should help in increasing the explanatory power of the equation.
- (3) Most of the variables in the specified equation should be robust to the inclusion of new variables, i.e. they should at least maintain their significance in most of the specifications. Then we can assume that the variable is robust in explaining Latin American growth.

While this explanatory method is crude relative to sophisticated techniques used by Levine and Renelt (1992). This protects us to a large extent from misspecification of results.

#### **MODEL-1 to MODEL-6a**

This group of specification focuses exclusively on traditional growth variables, which includes initial per capita GDP, physical capital, human capital and government consumption share in GDP<sup>1</sup>. Many proxies for human capital were taken and examined e.g. gross primary enrollment, gross secondary enrolment, gross tertiary enrollment, human capital growth, [constructed from Barro-Lee- Educational attainment data by multiplying average years of schooling with labour force and then calculating its growth rate, literacy rate for male female and adult total<sup>2</sup>.

The first regression (model a) shows that initial per capita GDP has a positive and insignificant coefficient, showing that there is no unconditional convergence across Latin America. According to traditional neo-classical growth theories, the sign of initial incomes coefficient should be negative and significant indicating that countries with higher per capita income should grow slower than the countries with lower per capita income. However, it has been argued that after controlling for variables that explain cross-country differences in the rate of technological progress, rates of output

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<sup>1</sup> Population growth was estimated in preliminary screening process and found not to have significant relationship with growth in most specifications, so it was not taken in final estimations.

<sup>2</sup> Govt. consumption has been taken by many authors to be a basic growth model variable [Corbo Rojas (1994) in empirical studies.

growth should converge (e.g. Barro and Sala-i-Martin, 1990). In many of our specifications in the table 2.1 this hypothesis has been confirmed<sup>3</sup>.

### **Investment Share**

The coefficient for investment is positive and highly significant in all our specifications, which confirms the result shown by Levine and Renelt (1992). Investment share is the most robust explanatory variable for output growth in Latin America in our sample period. But impact of investment on output growth is by no means homogenous across all countries as has been shown in Agarwal and Sengupta (1999). Because our study includes more economies of the region and also has a larger time span for study, it reflects the general relationship between investment and growth.

### **Government Consumption**

Government may provide growth promoting public goods and design taxes to close the gap between private and social costs. On the other hand government may waste funds, funnel resources to endeavors that do not encourage growth and imposes taxes and regulations that distort private decisions. Aggregate measures of government consumption that we have taken, may not capture the potentially important implications of how total government expenditures are allocated. Further more, even if Government funds are always spent on growth promoting goods, there may be complex, non-linear trade offs between the beneficial effects of government services and the deleterious implications of distortionary taxes. Recent literatures on determinants of growth have focused on the role of government spending (Barro,

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<sup>3</sup> Model 28, model 30, model 34, model 39, and model 40 etc. where the coefficients for initial per capita income are negative and significant.

1990; King and Rebelo, 1990). These studies have emphasized the importance of distinguishing between productive spending and not directly productive spending. The argument is that an increase in government consumption will increase the amount of distortionary taxes and hence will reduce growth. An additional channel through which government consumption may affect growth negatively is by inducing a crowding out of private sector investment. It may also be the case that government spending is sometimes complementary to private sector investment.

Our results in regressions 1 to 6a, confirm that government consumption has a significant and negative impact on growth. Also government consumption is generally robust in most of our specification through out the table 2.1.

When we exclude human capital variable from model-1, the coefficient of government consumption still remained significant with little change in value of coefficient confirming that in Latin America, unproductive government expenditure dominates the total government expenditure.

### **Human Capital**

We took several measures of human capital to look for which of these measures of human capital is robust in explaining the growth process in Latin America. In model-1 primary enrollment shows a significant and positive coefficient as expected. One puzzling finding is that secondary enrollment has a negative and significant coefficient (model-2). The result is same whether we take primary enrollment along with it or not. Tertiary enrollment has positive although insignificant coefficient, with primary enrollment and without primary enrollment (model-4 & 5). When we took human capital growth (constructed from Barro-Lee Educational Attainment data set)

as a proxy for human capital it turned out to be insignificant although positive (model-3). But when we excluded physical investment from model-3, the coefficient for other remaining variables changed little. This shows that there may be high degree of complementarities between physical investment and human capital growth. The above finding is also confirmed when we examined Total adult literacy in regressions 6 and 6a. The coefficient for Adult literacy is insignificant and positive in case of model 6 but turned positive and significant when we excluded physical investment.

One of the most significant changes when we included total adult literacy or tertiary enrollment as the human capital is that coefficient for initial per capita GDP is turning negative although not significant showing first indications of conditional convergence.

#### **Main Findings of Model A to Model 6a:-**

(1) There is no unconditional convergence among our sample of 20 Latin American countries.

(2) Investment has a positive and highly significant relationship with per-capita GDP growth.

(3) Government consumption has a significant and negative impact on growth and this is robust to alternative specifications.

(4) Among all the measures of human capital primary enrollment rate shows significant and positive impact on growth. With tertiary enrollment or total adult literacy as control variables the model shows indication of conditional convergence.

(5) Explains maximum variation with between- $R^2$  of 40% and overall- $R^2$  of 13%.

Wald Chi<sup>2</sup> test statistics shows that overall model significance level is very high.

## MODEL-7 TO MODEL-12

In this group of models, the focus is on three time period dummies that we have taken as control for we have world economic condition.<sup>4</sup> When we included dummies for periods 80-89 and 90-98 taking 70-79 as base category in regression-7, the coefficient for both period dummy variable turned out to be negative and significant showing that growth performance dummy both 80s and 90s is worse than what it was in 1970s. It also raises  $R^2$  by 4 percentage point relative to our initial model-1. As we can see the absolute value of coefficient for 80-89 dummy is higher than that for 90-98 dummy and coefficient for 1980-89 dummy is significant at 5% level, which implies that there was declining average growth during 1980s. This is confirmed when we took 1980-89 as the base period in model-14 (basic model). By latter half of 1990s the region seems to be recovering fully from the slump in average growth rate during 1980s. This is further confirmed when we included dummies for a period 1983-94, and for period 1995-98, treating 1973-1982 as base in model-8. While the coefficient for period 83-94 negative and significant; the coefficient for 1995-1998 is positive but not statistically significant.

Again in this group of models we saw that the initial model-1 variables i.e. investment, government consumption and primary enrollment variables are robust to the inclusion of time period dummy variables. Human capital growth variables coefficient is positive but still insignificant in the specification with time period dummy variables (model-9) as compared to model-3. Also, coefficient of the dummy

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<sup>4</sup>In this matter we followed Corbo-Rojas (1994) who has taken 4 time period dummy variables to control for world economic conditions in a study of Latin America's economic growth for a sample period of 1960-1988 in his final model.



for 1990-98 is becoming insignificant when we include Human growth in specification of model-9. This may be interpreted that the growth performance in 1990s would have been better, had there been higher human capital growth. During 80s there was inadequate investment in human capital formation from government as well as private agents. During structural adjustment process the pressure to reduce expenditure resulted in drastic cut in social and educational expenditure. This has a negative impact on growth during 90s. As we see from model-3a and model-6a, human capital and physical investment affect each other. So it can be inferred that countries with a higher level of human capital stock take better advantage of physical capital stock. From 1980s to the beginning of 1990s, Latin America's labour force whose overall educational level is better than other developing region has fewer opportunities to utilize their skills (Weller, 2001).

Model-10 shows that adult literacy rate has a positive and significant impact per capita growth. Up to now we can infer that whenever we are including adult literacy as proxy for human capital the coefficient of initial per capita GDP is becoming negative.

Model-11 and 12 show that female literacy has a significant and positive impact on growth, while male literacy coefficient is not significant.

### **Main Findings Of Model 7 To 12**

(1) There was declining average growth rate during 1980s compared to 1970s and 1990 was a period of recovery from that declining average growth. Towards the latter half of 1990s the region seems to be recovering fully from the slump as model-8 shows.

(2) Investment, government consumption and human capital proxy primary enrollment are robust to the inclusion of time period dummy variables. This shows that these variables are fairly important in explaining Latin American growth process and are independent of world economic conditions.

(3) Total adult literacy has a significant and positive impact on growth and it is more important as a control variable for showing conditional convergence.

(4) Female literacy has a positive and significant impact on growth while male literacy coefficient is not significant.

#### **MODEL 14 TO 26**

For our purpose we took model-14 as the basic model which included initial per capita GDP, investment share, government consumption share, proxy for human capital and two time period dummy variable e.g. 70-79 and 90-98 with 80-89 as base period explanatory variable in right hand side.

Model-14 shows that all the variables except initial per capita GDP have significant coefficient with expected sign. Dummy for 1970-79 and 1990-98 were included with 1980-89 as base period showing that both the dummies have positive and significant coefficient with 1970-79's coefficient greater among them, which shows that both 70s and 80s performance are better compared to 80s. Model-15 is a variant of basic model with total adult literacy as a proxy for human capital. The only major difference among model-14 and -15 is that initial per capita GDP in model-15 has negative coefficient.

For this group of models, our focus variables will be export as percentage of GDP and Total trade (export plus import) as a share of GDP as proxies for economic openness,

change in export coefficient as a transitional variable, terms of trade adjustment as a percentage of GDP as a proxy for shock from change in world market. Foreign direct investment as % of GDP is a proxy variable to control for the adaptation and production of technology (Romer, 1986). Inflation is included as a proxy for macro-economic instability. Levine and Renelt (1992) pointed out that inflation variable is more of a conglomerate index of the result of many policies and shocks rather than a direct indicator of any particular policy such as monetary policy. We started adding control variables one by one. By this we can investigate robustness of the basic model variables and also the increase in the explanatory power of the model.

First we included the proxy for trade openness variables. When we introduced total trade as a share of GDP in model-16, the coefficient of the new variable turned out to be negative although it is not statistically significant and it has almost no impact on  $R^2$ . In model-17 we included export as a share of GDP and the result is same as it was for total trade. In model-19, we included the relative change in export coefficient as a percentage of GDP along with the trade openness variable its coefficient turned out to be negative and highly significant and the trade openness variable becomes positive although not significant. This change in export-variable maintains negative and significant coefficient even when we excludes trade openness variable from the specification (model-20).

In model-18a we estimated the basic model with trade openness variable without including any physical investment variable. And the result is that the trade openness variable has a positive and significant-coefficient. This suggests an important two-link chain between trade and growth through investment. However the theoretical ties

between growth and trade typically seem to run through improved resource allocation and not through a higher physical investment share.

We will further examine the issue after including some other important control variables.

In model-21, we introduced terms of trade adjustment as a share of GDP (please see data appendix) as a control variable. The new variable has a positive and significant impact on growth. This contradicts some previous studies on Latin America where 'terms of trade' appears to either insignificant or negative. Model-22 shows that even without controlling for trade openness variable, terms of trade adjustment variable have a significant and positive relation with growth. Also our basic model variables are robust to the inclusion of terms of trade adjustment variables. This shows that Latin America's growth depends powerfully on export market condition. Then we introduced FDI as a control variable in model-23 and FDI has a positive and highly significant coefficient. The most important change is that trade openness variables, which was negative and insignificant in previous models with gross domestic investment was becoming significant. We also investigated the consequence of FDI along with trade openness by adding FDI as the only investment variable in model-18a<sup>5</sup>. This shows that 'trade openness' which was positive and significant in model-18a is becoming insignificant.

The above analysis confirms our above hypothesis that there is a two way-chain link between growth and trade through investment. Trade as such does not have any direct positive impact on per capita GDP growth as far as our sample period concerned. In model-18a, the trade openness variable is capturing the positive impact of trade on

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<sup>5</sup> Not reported.

growth, through its impact on investment. When we control for investment variables i.e. GDI(Gross Direct Investment) and FDI(Foreign Direct Investment), trade openness coefficient is becoming negative. That is other thing remaining constant, trade has a negative impact on growth.

The reasons for this may be:

- (1) Opening domestic markets to foreign competition had a destructive impact on impact substitution industries.
- (2) Secondly liberalization may have induced investment and growth in the primary sector like plantation, mining and petroleum sector, but at the expense of other, probably more dynamic sector.

When we added inflation as a control variable, its coefficient turned out to be negative and highly significant (model-21). When we included inflation along with all other control variables i.e. trade openness, 'terms of trade', adjustment and FDI all other variables maintain their significance and it is increasing the explanatory power to 72%. One of the important impact is that when we include FDI or inflation or both in any specification or both in any specifications coefficient of initial per capita GDP is becoming negative, showing indication of convergence (model-24, -25 and -26).

#### **Main Findings Of Model 14-26**

- (1) Trade openness has no direct positive impact on Latin American growth. In fact it seems to negatively impact growth but trade has positive impact on growth through its impact on investment. The model may be capturing only short-term impact of trade, as it can be seen from model-19 that when we include the transitory

variable change in export coefficient i.e. the coefficient of export level variable is becoming positive although insignificant.

(2) 'Terms of trade' adjustment has a positive and significant impact on growth, which shows that external demand has a powerful impact on growth in Latin America.

(3) Foreign direct investment has a significant and positive impact on growth. This shows external dependence of economies in the region, growth being determined by foreign capital inflow. The FDI is on the average two to three times more efficient than the domestic investment. The high coefficient on foreign investment may also be capturing the effect of availability of capital inflows. Therefore the results not only reflect that the productivity of foreign investment is higher than that of domestic investment but may also show the positive effect of capital inflows on growth.

(4) On the whole inflation has a significant and negative impact on Latin American growth. This will be elaborated more in the discussion of next group of models.

(5) After controlling for the above-discussed variables i.e. trade openness, terms-of-trade adjustment FDI and inflation, there is convergence with significant and negative coefficient of initial per capita GDP.

#### **MODEL-27 TO MODEL-42**

In this group of model our focus variables will be on various external and internal balance indicator such as resource balance as a % of GDP, external debt as a % of GDP, Total debt service as a % of GDP, Total debt service as a % of GDP, current

account balance as a % of GDP and a more detailed analysis of impact of inflation in growth.

Model-27 and -28 are variants of model-26, in the sense that in model-27 human capital proxy is Barro-Lee human capital growth and in model-28 human capital proxy is total adult literacy. While in both the models, human capital proxy has significant and positive impact on growth, only in model-28; there is indication of conditional convergence with significant and negative coefficient of initial per capita GDP.

Model-29 adds resource balance variables as a % of GDP and it has significant and negative coefficient at 10% level. This result is somewhat puzzling if we take it as a long-term relationship between resource balance and per capita growth because a positive resource balance helps in easing foreign currency constraints, thus helping in diverting domestic saving towards developmental activities. Also positive resource balance helps in diverting domestic saving towards developmental activities. Also positive resource balance helps in paying debt service charge as well as paying for import of productive assets. But what is important is how to achieve positive resource balances. Most of the Latin American countries have had to resort to forced import situation. Also we found out in our previous group of models that those countries who are structurally export oriented have to take a growth penalty for it either due to adverse world market condition or due to inadequate export diversification. Also we will see in our next group of model that import and changes in import coefficient are positively related with growth.

When external debt (% of GDP) was included as a control variable in right hand side of the model-30 the new variable shows positive coefficient although insignificant. All other variables are robust to its inclusion and the model shows evidence of conditional convergence. When we changed human capital proxy to primary enrollment in model-32 remaining some, initial per capita GDP lost its significance. External debt has negative and significant coefficient only when we excluded government consumption and inflation from the right hand side of the specification. This is shown in model-32. This shows that external debt and its negative impact on growth are due to imbalances created by fiscal imprudence financed by resources to foreign borrowing (Agarwal, 1991). Serving the foreign debt involves 3 steps. First, society has to refrain from consuming the output so that savings corresponding to the debt service are generated. Second these savings have to be transferred to the government since the debt is government's debt. Third, the country has to run on export surplus in order to earn the foreign currency to service the debt. When currency is devalued to generate an export surplus. This gives an impetus to inflation. Devaluation also raises the currency cost of servicing the foreign debt, so that the budgetary strain on government rises. Inflation is also one way of forcing people to save and transferring the savings to the government. The increased saving corresponding to the necessary debt service can come out of the consumption or investment. Worsening inflation, declining public sector investment and the uncertainty created by the shift in the demand for domestic goods to wards foreign sources, which is dependent on an appropriate exchange rate policy that has been rarely followed consistently in the past, had led to curtailment of investment rather



than consumption. This adversely affect growth and future export supply, making the position worse in the next period.

Model-33 and -34 are showing that when we do not control for government-consumption and inflation human capital proxies are becoming insignificant.

Model 34 shows when total debt service is included as a control variable, along with other four-control variable i.e. trade, openness, terms of trade adjustment, FDI and inflation, its coefficient turned out be insignificant. In no other specifications also it is showing significance.

Model-35 shows that when current account balance was also included as a control variable, its coefficient was found to be negative and significant. This can be explained by the same argument, which applies to the negative impact of resource balance on growth performance. Besides that even if we assume that trade surplus was archived more through import compression during the later part of 1980s that was a compulsion at that time another factor, which impacted negatively, is the large interest payment despite the rescheduling of debts. There was rapid increase in interest payments because borrowings were at commercial terms.

Model-36 shows when budget balance is included as a control variable its coefficient was positive and significant at 5% level which shows that an improvement in budget balance that is reduction in budget deficit will improve growth performance.

Model- 37 shows that any human capital variable that was in the specifications where budget deficit is a control variable turned out to be insignificant probably budget deficit was capturing a part of the positive impact of human capital, that was primarily the result of deficit financing of the developmental activities by the

Government. We would remember that human capital variables are proxies for the human resources that are affected by the way the government funds are spent.

We saw that inflation has a powerful direct and negative impact on growth performance. How to account for the fact that inflation may have indirect impact on growth performance through its impact on other explanatory variable, notably investment? Although, the inflation and change in inflation have a negative impact on growth providing an estimate of their quantitative effect is difficult because, the value of the parameter is highly dependent on the sample. This feature suggests the existence of a non-linear relationship between inflation and growth, in view of this possibility; the level of inflation was replaced by its, logarithm in specification (model-38) Final-2. The coefficient on inflation then can be interpreted as semi-elasticity and is robust to changes in the sample.

(Model-39 and -40) The total effect of inflation on growth should include the impact of inflation on investment as well. A simple way to estimate this effect without estimating the investment equations is to exclude all forms of investment from the growth equations. The semi-elasticity of growth with respect to inflation rises to 0.008 (model-39). And if we remove the time period dummy variables the semi-elasticity sharply rises to 0.01 (model-40). This result indicates that inflation exerts a negative effect on growth primarily through the productivity of capital rather than through its rates of accumulation. When money is required to buy capital good, inflation is similar to a tax on investment. Inflation induces people and firms to divert resources from productive activities to other activities that allow them to reduce the burden of inflation tax. The resulting reduction of employment in goods producing

sectors that are subject to scale economies may reduce the rate of investment and its productivity. Also producers may divert resources to cash and portfolio management, primarily from activities, which are high cost ventures with low yield potential in the short term such as R and D and human capital, up gradation of plants etc.

Our result is not conforming to the traditional Phillip's curve relation-ship. De Gregario (1992) has also found this kind of negative relationship between growth and inflation by using 5-year averaged data and reasoned it was possible for inflation output growth to display a positive correlation at high frequencies (i.e. a quarterly frequency). Our study negates this contention at yearly frequency, which can be considered very high relative to 5-year average.

Model 41 and model 42 show that change in inflation has a negative and significant impact on growth performance excluding inflation from specification model-41 as well as including inflation in model-42.

### **Main Findings Of Model-27 To Model 42**

- (1) Resource balance has a significant and negative impact on Latin American growth performance. Primarily due to repeated crisis and the way government resort to short-term measures to improve the situation.
- (2) Adult literacy is most important control variable to show that in Latin America there is conditional convergence.
- (3) External debt has negative and significant coefficient only when government consumption and inflation are excluded as control variable. This shows that Latin

America's growth suffers primarily due to government's unproductive expenditure by taking recourse to foreign borrowing to finance it.

(4) Current Account balance has negative and significant impact on growth.

(5) Budget balance has a positive and significant impact on Latin American growth, showing that improving the budget balance i.e. reducing the budget deficit will improve growth performance.

(6) Inflation has direct negative and significant impact, but the total effect of inflation on growth also includes its impact on growth through its impact on investment. Inflation exerts a negative effect on growth primarily through its impact on productivity of capital rather than through its impact on rates of accumulation of capital.

(7) In Latin American case, the traditional Phillips curve relationship is not satisfied not even with yearly frequency of data.

#### **MODEL 43 TO 55**

In this group of models, we will focus on some control variables relating to financial, monetary and external financial resource flow indicators for the region. As before we retained the specification with 6 basic model variables, which include initial per capita GDP, domestic investment, government consumption, one human capital proxy, two time period dummy variables and four control variables which include trade openness variable, terms of trade adjustment variables does not change much the explanatory power of the model.

In model-43, we included change in external debt to GDP ratio as a transitory variable to see what affects it does have a growth performance. And this variable has

a negative and highly significant coefficient compared to the coefficient of external debt level variable in model-32 which is  $-0.004$ , this transitory variable has a much greater negative coefficient (i.e.  $-5.746$ ) with higher significance level and that too with government consumption and inflation in the specification. This shows that this change variable is much more robust than its level variable.

This can be explained in two ways. First during 1980s when debt crisis engulfed the region external financial flows completely stopped. Those countries whose growth was primarily fueled by commercial debts, they have suffered hugely. The form that debt financing basically took was reduced with some new debt. But hardly any new money come in so that grants in Latin American countries had to run large surpluses on trade account by sharp reduction in imports. This national savings were used for servicing rather than in new investments. Diversions of national savings, import reduction, which disrupted production plan and the other accompanying policy measures, resulted in a severe recession and decline in GDP (Agarwal, 1991).

In fact for many countries in the region the total debt/GDP ratio was continuing to rise well into 1990s. And to service the debts the foreign exchange earned by exports had to be used (Agarwal and Sengupta, 1991).

In model-44 we included aid as percentage of Gross domestic investment as a control variable. Its coefficient was found to be negative but it is insignificant. Model-45 credit to private sector as a % of GDP was included a proxy. Its coefficient is positive but not significant. Change in domestic credit to private sector as a % of GDP, which was included in model-40, has positive but marginal impact on growth. These results are somewhat difficult to explain because in the region, most

experiences of banking sector liberalization in 1990s led to boom of credit for consumption and non-tradable activities. In turn, the crisis that followed the financial trouble determined the pattern of stop-and-go growth, which has been an unfortunate characteristic of Latin America during the 1990s, which severely limited the average growth rate (ECLAC, 2000). In model-48 import as a % of GDP has been included as a control variable and it turned out to be positive and significant at 10% level. This explains why import compression to run a trade surplus is harmful for future growth. Also in model-49 the transitional variable relative change in import coefficient has a positive impact on growth. This shows that import as a level variable and as a transitional variable has positive and significant impact on Latin American growth.

In model-50 we included net foreign Assets as a % of GDP as a control variable. Its coefficient was negative although not significant at standard level. Theoretically this variable's impact should be positive as it eases the foreign exchange constraint. It may be that this variable reflects the potential destabilizing effect of short-term capital flows.

Another Financial sector reform proxy i.e. M2 as a % of GDP was included in model-51 and was found to have positive but insignificant. Thus financial deepening measured by M2 as % of GDP is positively but weakly related to growth. But M2/GDP is used as an indicator of macro economic policy. After periods of high inflation, the real demand for national currency tends to increase once inflation is under control. Whether the proxy then represents the effect of financial reforms or successful stabilization is unclear. Credit to private sector, which is most of the time is an indicator of financial reforms (model-45). These two variables show that

financial reforms have positive although insignificant impact on growth. Any alternative specifications did not change the results i.e. it remained insignificant.

In model-53 we included short-term debt (% of GDP) as a control variable and found that its coefficient is negative and highly significant. That is short term debt, which is unstable by its nature, has a negative impact on regions growth. In model-54 we included private capital inflow (%of GDP) and its coefficient turned out to be negative although not significant. But its coefficient becomes positive and significant if we are removing foreign direct investment (FDI) form the specification (model-55). Again this variable may be reflecting the impact of short-term capital. When FDI was controlled for once FDI was removed. Its impact dominated among many qualities of private capital that flows into the region.

#### **Main Findings Of Model 43-55**

- (1) Rescheduling of debt has not reduced the adverse impact of debt burden on growth performance. In fact the change in external debt to GDP ratio has a more severe impact on growth performance than the level variable.
- (2) Aid has no positive impact on growth performance in Latin America.
- (3) Internal financial reforms are positively but weakly related to growth. This confirmed by positive but insignificant coefficient of financial reforms proxies i.e. money and quasi-money as share of GDP and credit to private sector as a % of GDP.
- (4) Import coefficients and change in import coefficients and change in import coefficients have a positive and significant impact on growth performance.
- (5) Short-term debt has a significant and negative impact on growth.

(6) External financial liberalization has shown indications of negative impact on growth but these are not robust.

(7) There is evidence of conditional convergence as in many of the specification the initial per capita GDP has a negative and significant coefficient e.g. model 51, 52, 53 etc.

#### **MODEL-56 TO MODEL-62**

In this group of models the special focus will be on two areas. One, the interaction between economy and the way the political institutions can affect the growth performance. Especially important is the potential influence that political system exerts an economic policy.

Two, the interaction between the regional groupings and its impact on the growth performance has been examined. For assessing the impact of political variables we have examined it from two points of view, one by taking indicators of proxy for the democratic character of a country and two, by taking indicators of level of political stability.

Studies regarding the effects of political and institutional factors on growth can be split into two areas of research.

The first group of studies concentrates on the impact of civil liberties and political rights on economic growth. In other words, these studies examine the role that the constitutional organization of a nation, democratic versus non-democratic, has in explaining cross- country differentials in economic development. Often it is maintained that the price of democracy is a slower improvement of living standards. Others however, have argued that political and civil freedom is a prerequisite for



economic growth. This deference in theoretical insights has, so far, not been resolved by empirical research. For instance, in their review of thirteen recent papers Sirowy and Inkeles (1990) conclude that these studies report very mixed results.

For their group of forty-seven countries, Kormendi and Meguire (1985) find that countries in the high civil liberty category experience about one per cent stronger annual economic growth. In the same vein, Grier and Tullock (1989) conclude that repressive countries in Africa and the Americas have about a one and a half percentage point lower annual growth rate than do other countries included in their study. Barro (1989) presents results for a sample of ninety-eight countries, which also indicate that restricted political rights are associated with lower per capita growth.

The second group of studies has looked into the impact of political instability (PI) on economic growth. Political instability has long been identified as hampering economic growth.

In contrast with studies on the impact of democracy, studies on PI emphasize that in addition to direct negative effects on growth, PI might also affects growth rates indirectly through its adverse effects on growth determining variable. Two very likely candidates are saving and investment. According to the literature on saving and investment, uncertainty about property rights; i.e., uncertainty about the possibility of enjoying the fruits of consumption forgone, adversely affects saving and investment. A second channel through which PI could have an adverse effect on growth is through a so-called 'brain drain'. During periods of political turmoil not only is

property at risk but also lives can be lost. The latter may be true especially for the intelligentsia. And this effect may be more far-reaching than mere numbers would seem to suggest, since economists have come to realize that human capital is an important input factor, apart from capital and labour.

Levine and Renelt (1992) show that most of the suggested explanatory political variables are not robustly correlated with long-term economic growth.

For examining the impact of presence or absence of democratic and civil rights on growth performance we have taken Gastil's political rights index as indicators of democracy. This index is average of Gastil's political rights index for 20 years 1973-1992. The index spread is from 1 to 7 with 1 representing highest political right and 7 representing lowest right. First we have taken it as a time invariable<sup>6</sup> and used it as a growth determinant variable. Then we divided the countries into three categories, one democratic whose political rights index is between 1 and 3.5, two semi-democratic whose PRI is between 3.5 and 4.5 and three, Authoritarian whose PRI is between 4.5 to 7.0 and then by taking dummy for them we estimated the models.

In model-56 we added Gastil's political rights index and its coefficient was found to be negative although insignificant. In model-57, we estimated by taking dummies for democracy and semi-democracy with Authoritarian as the base category. Both the coefficient for democracy and semi-democracy dummy turned out to be positive although not significant. This gives the indication that democracy might be better for growth performance.

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<sup>6</sup> Gregario (1991), Corbo-Rojas (1994) etc. have taken average of political variable indicators in their panel estimation of growth equations and used it as a time invariant data i.e. one observation in the entire period.

Then we estimated models 58, 59 and model 60 taking Gasiórowski (1961-1992) indicators of time period, a country has been ruled by a particular political institution and its stability.

His stability dummy is one if the country has the unbroken record of being ruled by a particular system i.e. democratic, semi-democratic transitional and authoritarian in the period 1961 to 1992. We estimated the growth equation by taking each of the index i.e. index for democracy, index for semi-democracy, index for transitional and index for Authoritarian, index value for a particular system being the ratio of the number of years a country has been ruled by that system to the total number of years i.e. 1961-1992.

And we found that democracy index variable has a positive although not significant coefficient (e.g. model-58). In model-59, we see that coefficient for transitional variable is positive and significant. The other two indexes show no significant impact on growth.<sup>7</sup>

When estimated the model-60 with Gasiórowski dummy for stability dummy for stability the coefficient of stability dummy turned out to be negative although not significant. The results of both the models -59 (which has a very high  $R^2$  of 81%) and -60 are puzzling. It shows that transitional government and institutions have a positive impact on growth performance. This may be explained by relationship between reforms and its political economy. In Latin American countries, in which during 70s growth was strong, there were powerful vested interest and they worked to maintain the status quo as far as possible on fall of severe crisis. But countries where growth was slower during 70s, such vested interest was weaker and less ubiquitous

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<sup>7</sup> Not reported in the table 2.1.

and thus the possibility of change was greater. In addition crisis in the former economies did not weaken vested interests enough to enable reformist government to act successfully. In fact those countries that grew strongly during 1950-70, their growth was slower in 1990s, than those countries whose growth rate was slower during 1950-80, but grew faster during 1990s (Paunovic, 2000). Because there was less resistance to reforms in those countries where growth was slower. As our result shows countries in Latin America which are stable has indications of lower growth performance than unstable countries and also countries under transitional governments perform better. This can be interpreted that in unstable countries there is more opportunities for transitional governments to rule, which are insulated from the necessity of getting public support. So they can implement reform measures fearlessly.

In model-61, we took dummies for countries which are not petroleum exporting countries and found that the performance of non-oil exporting countries are better than the performance of oil exporting countries. This perhaps because, those countries where there is large petroleum sector, the incentive to most in more dynamic sector is less, thus affecting growth adversely compared to non-oil countries

We also categorized the region into 4 sub-regions, each one with a common market i.e. common market of southern cone countries plus Chile, ANDEAN, Central American Common Market plus Mexico and others.

When we took dummies for MERCOSUR, CACM and others<sup>8</sup>, taking ANDEAN group of countries as base category. In model-62, we have only MERCOSUR

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<sup>8</sup> Those countries which are not in any groupings.

dummy with a coefficient positive and significant at 10% level. Coefficients for other dummies are positive but not significant.

### **Main Findings Of Model –56 To Model-62**

(1) Political right shows indication of negative impact on growth. But the coefficient is not significantly different from zero. One thing to note is that the results control for investment. Thus the role of political variables is not confined to their possible negative impact on investment.

(2) There is indication that democratic countries tend to do better in growth performance. But the results are not robust.

(3) Countries then to perform better when under the rule of transitional government. This result is robust. Associated with this result, is that, stability shows indication of negative impact on growth. This result is puzzling but it is possible to interpret this result by taking help of political economy of reforms.

(4) Non-oil countries tend to do better than oil-exporting countries.

MERCOSUR countries along with Chile seem to have done better than any other country grouping in the region. It seems, they are taking advantage of early reforms i.e. Chile and big size of their countries and of better integration than any of the other groupings.

**Table 2.1**

**Growth Determinants (Dependent Variable: GDP per capita Growth)**

VARIABLES	model A	p-value	model 1	p-value	model 2	p-value	model 3	p-value	model 3a	p-value	model 4	p-value	model 5	p-value	model 6	p-value
<b>constat</b>	-1.600		-2.724		-5.410		-1.609		1.282		-2.295		-0.551		-0.780	
'Z -statistic	-0.486	0.627	-0.960	0.337	-1.707	0.088	-0.480	0.631	0.378	0.705	-0.763	0.446	-0.160	0.873	-0.296	0.767
<b>ln(INPCGDP)</b>	0.354		0.050	0.887	0.527		0.109		0.254		-0.038		-0.035		-0.045	
'Z -statistic	0.799	0.424	0.142		1.235	0.217	0.251	0.801	0.574	0.566	-0.095	0.924	-0.075	0.940	-0.111	0.911
<b>GDI(%GDP)</b>			0.204		0.220		0.209				0.206		0.216		0.200	
'Z -statistic			6.461	0.000	6.786	0.000	6.332	0.000			6.461	0.000	6.598	0.000	6.205	0.000
<b>GOC(%GDP)</b>			-0.260		-0.236		-0.254		-0.232		-0.259		-0.250		-0.249	
'Z -statistic			-6.218	0.000	-5.382	0.000	-5.708	0.000	-5.081	0.000	-6.064	0.000	-5.556	0.000	-6.051	0.000
<b>epg</b>			0.022		0.020						0.022					
'Z -statistic			2.217	0.027	1.993	0.046					2.141	0.032				
<b>esg</b>					-0.027											
'Z -statistic					-2.105	0.035										
<b>etg</b>											0.012		0.014			
'Z -statistic											0.554	0.579	0.603	0.547		
<b>H.C Gr</b>							0.092		0.142							
'Z -statistic							1.552	0.121	2.349	0.019						
<b>Lit. rate, female</b>																
'Z -statistic																
<b>Lit. rate, male</b>																
'Z -statistic																
<b>Lit. rate, adult total</b>															0.011	
'Z -statistic															0.608	0.543
<b>70-79dummy</b>																
'Z -statistic																
<b>80-89dummy</b>																
'Z -statistic																
<b>90-98dummy</b>																
'Z -statistic																
<b>no of observation</b>	580		580		580		580		580		580		580		580	
<b>R<sup>2</sup></b>	0.042		0.402		0.374		0.188		0.128		0.392		0.191		0.252	
<b>Wald chi2</b>	0.640		76.93(4)		81.40(5)		73.83(4)		31.57(3)		76.59(5)		71.52(4)		72.02(4)	
<b>Prob &gt;chi2</b>	0.425		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

Note: See Data Appendix for concepts and definition of variables.

Table 2.1 Contd..

**Growth Determinants (Dependent Variable: GDP per capita Growth)**

VARIABLES	model 6a	p-value	model 7	p-value	model 8	p-value	model 9	p-value	model 10	p-value	model 11	p-value	model 12	p-value	model 13	p-value
<b>constat</b>	3.038		-2.038		-3.121		-0.756		1.233		1.716		0.555		-3.121	
'Z -statistic	1.176	0.240	-0.721	0.471	-1.059	0.290	-0.225	0.822	0.460	0.646	0.647	0.518	0.195	0.846	-1.059	0.290
<b>ln(INPCGDP)</b>	-0.333		0.087		0.152		0.156		-0.302		-0.332		-0.203		0.152	
'Z -statistic	-0.824	0.410	0.247	0.805	0.421	0.674	0.360	0.719	-0.727	0.467	-0.831	0.406	-0.458	0.647	0.421	0.674
<b>GDI(%GDP)</b>			0.173		0.202		0.179		0.160		0.156		0.169		0.202	
'Z -statistic			5.544	0.000	5.904	0.000	5.515	0.000	4.949	0.000	4.839	0.000	5.212	0.000	5.904	0.000
<b>GOC(%GDP)</b>	-0.228		-0.224		-0.249		-0.210		-0.222		-0.228		-0.216		-0.249	
'Z -statistic	-5.447	0.000	-5.391	0.000	-5.905	0.000	-4.749	0.000	-5.430	0.000	-5.579	0.000	-5.140	0.000	-5.905	0.000
<b>epg</b>			0.027		0.021										0.021	
'Z -statistic			2.705	0.007	1.978	0.048									1.978	0.048
<b>esg</b>																
'Z -statistic																
<b>etg</b>																
'Z -statistic																
<b>H.C Gr</b>							0.079									
'Z -statistic							1.348	0.178								
<b>Lit. rate, female</b>											0.033					
'Z -statistic											1.905	0.057				
<b>Lit. rate, male</b>													0.027			
'Z -statistic													1.279	0.201		
<b>Lit. rate, adult total</b>	0.041								0.033							
'Z -statistic	2.375	0.018							1.712	0.087						
<b>70-79dummy</b>																
'Z -statistic																
<b>80-89dummy</b>			-2.680		-1.250	('83-94)	-2.492		-2.773		-2.806		-2.705		-1.250	
'Z -statistic			-6.264	0.000	-2.860	0.004	-5.834	0.000	-6.229	0.000	-6.282	0.000	-6.117	0.000	-2.860	0.004
<b>90-98dummy</b>			-0.874		0.039	('95-98)	-0.580		-1.082		-1.144		-0.966		0.039	
'Z -statistic			-2.017	0.044	0.073	0.942	-1.319	0.187	-2.245	0.025	-2.347	0.019	-2.041	0.041	0.073	0.942
<b>no of observation</b>	580		580		520		580		580		580		580		520	
<b>R<sup>2</sup></b>	0.444		0.446		0.376		0.190		0.352		0.368		0.312		0.376	
<b>Wald chi2</b>	32.24(3)		122.22(6)		92.26(6)		115.45(6)		117.09(6)		118(6)		115.4(6)		92.26(6)	
<b>Prob &gt;chi2</b>	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

**Growth Determinants (Dependent Variable:GDP per capita Growth)**

Variables	model 14		model 15	p-value	model 16	p-value	model 17	p-value	model18	p-value	model18a	p-value	model19	p-value	model20
	model (basic)	p-value													
<b>constat</b>	-4.719		-1.540		-4.218		-4.169		0.165		-5.594		-4.824		-4.378
'Z -statistic	-1.661	0.097	-0.582	0.561	-1.327	0.185	-1.377	0.169	0.055	0.956	-1.811	0.070	-1.537	0.124	-1.496
<b>ln(INPCGDP)</b>	0.087		-0.302		0.022		0.020		-0.609		0.493		0.135		0.081
'Z -statistic	0.247	0.805	-0.727	0.467	0.055	0.956	0.054	0.957	-1.261	0.207	1.310	0.190	0.347	0.728	0.222
<b>GDI</b>	0.173		0.160		0.180		0.180		0.177				0.168		0.173
'Z -statistic	5.544	0.000	4.949	0.000	5.098	0.000	5.329	0.000	5.047	0.000			4.811	0.000	5.444
<b>GOC(%GDP)</b>	-0.224		-0.222		-0.220		-0.219		-0.209		-0.226		-0.240		-0.235
'Z -statistic	-5.391	0.000	-5.430	0.000	-5.039	0.000	-5.130	0.000	-4.949	0.000	-5.136	0.000	-5.553	0.000	-5.612
<b>epg</b>	0.027				0.027		0.026				0.033		0.027		0.026
'Z -statistic	2.705	0.007			2.576	0.010	2.608	0.009			3.304	0.001	2.552	0.011	2.555
<b>Lit. rate, adult</b>			0.033						0.040						
'Z -statistic			1.712	0.087					1.996	0.046					
<b>70-79dummy</b>	2.680		2.773		2.664		2.662		2.783		3.065		2.620		2.606
'Z -statistic	6.264	0.000	6.229	0.000	6.204	0.000	6.203	0.000	6.251	0.000	7.101	0.000	5.975	0.000	5.966
<b>80-89dummy</b>															
'Z -statistic															
<b>90-98dummy</b>	1.806		1.691		1.847		1.854		1.797				1.713		1.754
'Z -statistic	4.141	0.000	3.771	0.000	4.102	0.000	4.166	0.000	3.940	0.000	1.775		3.875	0.000	4.061
<b>IM(%gdp)</b>											3.861	0.000			
'Z -statistic															
<b>EX(%gdp)</b>							-0.009						0.007		
'Z -statistic							-0.553	0.580					0.441	0.659	
<b>Trade(%GDP)</b>					-0.003				-0.010		0.016				
'Z -statistic					-0.380	0.704			-1.253	0.210	2.203	0.028			
<b>dEX(%gdp)</b>													-3.619		-3.514
'Z -statistic													-3.766	0.000	-3.778
<b>tot adjmnt(%gdp)</b>															
'Z -statistic															
<b>FDI</b>															
'Z -statistic															
<b>Inflation</b>															
'Z -statistic															
no of observation	580		580		580		580		580		580.000		560		560
R <sup>2</sup>	0.446		0.352		0.444		0.441		0.402		0.506		0.428		0.429
Wald chi2	122.22(6)		117.09(6)		121.72(7)		122.23(7)		118.76(7)		93.07(6)		134.4(8)		134.6(7)
Prob >chi2	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000



Table 2.1 Contd..

Variables	<i>Growth Determinants (Dependent Variable:GDP per capita Growth)</i>												
	p-value	model 21	p-value	model 22	p-value	model 23	p-value	model 24	p-value	model 25	p-value	model 26	p-value
<b>constat</b>		-3.530		-4.279		-1.618		-3.037		-1.945		-0.988	
'Z -statistic	0.135	-1.168	0.243	-1.604	0.109	-0.564	0.573	-1.203	0.229	-0.808	0.419	-0.412	0.681
<b>ln(INPCGDP)</b>		0.014		0.112		-0.120		-0.135		-0.159		-0.197	
'Z -statistic	0.824	0.036	0.971	0.341	0.733	-0.340	0.734	-0.425	0.671	-0.527	0.598	-0.667	0.505
<b>GDI</b>		0.180		0.169		0.169		0.176		0.158		0.162	
'Z -statistic	0.000	5.142	0.000	5.501	0.000	4.925	0.000	5.089	0.000	4.641	0.000	4.785	0.000
<b>GOC(%GDP)</b>		-0.220		-0.227		-0.190		-0.148		-0.135		-0.124	
'Z -statistic	0.000	-5.129	0.000	-5.614	0.000	-4.517	0.000	-3.334	0.001	-3.131	0.002	-2.896	0.004
<b>epg</b>		0.022		0.022		0.016		0.027		0.022		0.015	
'Z -statistic	0.011	2.128	0.033	2.296	0.022	1.624	0.104	3.316	0.001	2.812	0.005	1.755	0.079
<b>Lit. rate, adult</b>													
'Z -statistic													
<b>70-79dummy</b>		2.505		2.531		2.403		2.473		2.373		2.224	
'Z -statistic	0.000	5.732	0.000	5.822	0.000	5.568	0.000	5.628	0.000	5.453	0.000	5.077	0.000
<b>80-89dummy</b>													
'Z -statistic													
<b>90-98dummy</b>		1.902		1.838		1.485		1.894		1.322		1.327	
'Z -statistic	0.000	4.226	0.000	4.217	0.000	3.263	0.001	4.184	0.000	2.804	0.005	2.828	0.005
<b>IM(%gdp)</b>													
'Z -statistic													
<b>EX(%gdp)</b>													
'Z -statistic													
<b>Trade(%GDP)</b>		-0.005				-0.018		-0.016		-0.027		-0.030	
'Z -statistic		-0.591	0.554			-2.156	0.031	-1.817	0.069	-3.032	0.002	-3.296	0.001
<b>dEX(%gdp)</b>													
'Z -statistic	0.000												
<b>tot adjmnt(%gdp)</b>		0.055		0.054		0.080						0.069	
'Z -statistic		1.976	0.048	1.968	0.049	2.873	0.004					2.415	0.016
<b>FDI</b>						0.309				0.425		0.463	
'Z -statistic						4.191	0.000			3.883	0.000	4.209	0.000
<b>Inflation</b>								-0.001		-0.001		-0.001	
'Z -statistic								-4.062	0.000	-3.841	0.000	-3.767	0.000
<b>no of observation</b>		580		580		580		555		555		555	
<b>R<sup>2</sup></b>		0.532		0.530		0.593		0.350		0.615		0.715	
<b>Wald chi2</b>		127.5(8)		128.21(7)		150.58(9)		133.49(8)		154.27(9)		162.36(10)	
<b>Prob &gt;chi2</b>		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

Variables	Growth Determinants		Growth Determinants		(Dependent Variable:GDP per capita Growth)		(Dependent Variable:GDP per capita Growth)		(Dependent Variable:GDP per capita Growth)		(Dependent Variable:GDP per capita Growth)		(Dependent Variable:GDP per capita Growth)	
	model27	p-value	model28	p-value	model 29	p-value	model 30	p-value	model 31	p-value	model 32	p-value	model 33	p-value
<b>constat</b>	-0.573		2.220		0.659		2.260		-0.925		0.761		-1.584	
'Z -statistic	-0.247	0.805	0.899	0.368	0.254	0.799	0.895	0.371	-0.375	0.707	0.299	0.765	-0.634	0.526
<b>INPCGDP</b>														
'Z -statistic														
<b>ln(INPCGDP)</b>	-0.128		-0.755		-0.582		-0.767		-0.197		-0.689		-0.285	
'Z -statistic	-0.427	0.669	-1.814	0.070	-1.369	0.171	-1.794	0.073	-0.647	0.517	-1.633	0.102	-0.930	0.352
<b>GDI</b>	0.159		0.158		0.137		0.163		0.167		0.165		0.169	
'Z -statistic	4.670	0.000	4.608	0.000	3.824	0.000	4.567	0.000	4.748	0.000	4.686	0.000	4.851	0.000
<b>GOC(%GDP)</b>	-0.111		-0.114		-0.136		-0.132		-0.138					
'Z -statistic	-2.638	0.008	-2.711	0.007	-3.123	0.002	-2.887	0.004	-2.999	0.003				
<b>epg</b>									0.014				0.010	
'Z -statistic									1.624	0.104			1.164	0.244
<b>H.C Gr</b>	0.112													
'Z -statistic	1.926	0.054												
<b>Lit. rate, adult total</b>			0.033		0.043		0.034				0.024			
'Z -statistic			1.809	0.070	2.285	0.022	1.810	0.070			1.354	0.176		
<b>70-79dummy</b>	2.014		2.357		2.407		2.364		2.211		2.401		2.298	
'Z -statistic	4.624	0.000	5.188	0.000	5.304	0.000	4.990	0.000	4.836	0.000	5.068	0.000	4.993	0.000
<b>80-89dummy</b>														
'Z -statistic														
<b>90-98dummy</b>	1.401		1.233		1.038		1.300		1.396		1.803		1.866	
'Z -statistic	2.976	0.003	2.611	0.009	2.153	0.031	2.708	0.007	2.922	0.003	3.888	0.000	4.046	0.000
<b>Trade(%GDP)</b>	-0.032		-0.035		-0.035		-0.035		-0.029		-0.030		-0.025	
'Z -statistic	-3.698	0.000	-3.942	0.000	-3.955	0.000	-3.790	0.000	-3.125	0.002	-3.682	0.000	-3.112	0.002
<b>tot adjmnt(%gdp)</b>	0.097		0.074		0.074		0.077		0.071		0.081		0.079	
'Z -statistic	3.606	0.000	2.706	0.007	2.724	0.006	2.705	0.007	2.391	0.017	2.977	0.003	2.813	0.005
<b>FDI</b>	0.528		0.475		0.463		0.410		0.404		0.345		0.332	
'Z -statistic	4.880	0.000	4.372	0.000	4.266	0.000	3.457	0.001	3.371	0.001	4.535	0.000	4.324	0.000
<b>Inflation</b>	-0.001		-0.001		-0.001		-0.001		-0.001					
'Z -statistic	-3.684	0.000	-3.671	0.000	-3.889	0.000	-3.709	0.000	-3.725	0.000				
<b>Extdebt(%GDP)</b>									0.002		0.002		-0.004	
'Z -statistic									0.798	0.425	0.617	0.537	-2.133	0.033
<b>RB(%GDP)</b>					-0.066								-0.005	
'Z -statistic					-1.926	0.054							-2.242	0.025
no of observation	555		555		555		536		536		560		560	
R <sup>2</sup>	0.695		0.741		0.735		0.699		0.670		0.692		0.662	
Wald chi2	163.17(10)		162.6(10)		167.13(11)		149.58(11)		148.76(11)		127.66(9)		127.079	
Prob >chi2	0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

Variables	Growth Determinants		(Dependent Variable:GDP per capita Growth)															
	model 34	p-value	model 35	p-value	model 36	p-value	model 37	p-value	model 38	p-value	model 39	p-value	model 40	p-value	model 41	p-value	model 42	p-value
Constat	1.432		0.548		0.209		0.219		-2.157		-1.905		-0.884		2.365		2.310	
'Z -statistic	0.546	0.585	0.202	0.840	0.057	0.955	0.060	0.952	-0.773	0.439	-0.561	0.575	-0.273	0.785	0.949	0.343	0.933	0.351
ln(INPCGDP)	-0.750		-0.549		-0.498		-0.509		0.216		0.809		0.928		-0.666		-0.473	
'Z -statistic	-1.674	0.094	-1.189	0.235	-1.237	0.216	-1.273	0.203	0.616	0.538	1.847	0.065	2.222	0.026	-1.580	0.114	-1.123	0.262
GDI	0.179		0.158		0.208		0.208		0.166						0.142		0.149	
'Z -statistic	4.680	0.000	3.932	0.000	4.706	0.000	4.720	0.000	4.780	0.000				4.037	0.000	4.259	0.000	
GOC(%GDP)	-0.100		-0.130		-0.015				-0.138		-0.153		-0.176		-0.152		-0.121	
'Z -statistic	-2.266	0.023	-2.665	0.008	-0.252	0.801			-3.143	0.002	-3.183	0.001	-3.684	0.000	-3.741	0.000	-2.935	0.003
EPG					0.010		0.009		0.021									
'Z -statistic					0.921	0.357	0.900	0.368	2.177	0.029								
Lit. rate, adult total	0.034		0.036												0.030		0.033	
'Z -statistic	1.680	0.093	1.798	0.072											1.642	0.101	1.775	0.076
70-79 dummy	1.926		2.170		1.895		1.883		1.853	'Z -statistic	2.201				2.465		2.117	
'Z -statistic	3.467	0.001	3.967	0.000	3.570	0.000	3.566	0.000	4.163	0.000	4.885	0.000		5.344	0.000	4.537	0.000	
80-89 dummy																		
'Z -statistic																		
90-98 dummy	1.430		1.429		1.745		1.729		1.184		1.655				0.998		1.003	
'Z -statistic	2.878	0.004	2.897	0.004	2.667	0.008	2.659	0.008	2.547	0.011	3.593	0.000			2.100	0.036	2.129	0.033
Trade (%GDP)	-0.035		-0.037		-0.030		-0.031		-0.031		0.000		0.002		-0.029		-0.035	
'Z -statistic	-3.612	0.000	-3.798	0.000	-2.141	0.032	-2.361	0.018	-3.231	0.001	-0.011	0.991	0.237	0.813	-3.271	0.001	-3.847	0.000
tot adjmnt (%gdp)	0.101		0.113		0.100		0.100		0.063		0.058		0.076		0.074		0.079	
'Z -statistic	3.369	0.001	3.740	0.000	2.524	0.012	2.532	0.011	2.108	0.035	1.797	0.072	2.404	0.016	2.684	0.007	2.880	0.004
FDI	0.383		0.389		0.380		0.382		0.391						0.441		0.371	
'Z -statistic	2.846	0.004	2.694	0.007	2.105	0.035	2.126	0.033	3.507	0.000					3.738	0.000	3.128	0.002
Inflation	-0.001		-0.001		-0.001		-0.001											
'Z -statistic	-3.742	0.000	-3.922	0.000	-3.807	0.000	-3.969	0.000										
ln (inflation)									-0.709		-0.799		-0.959				-0.520	
'Z -statistic									-5.074	0.000	-5.496	0.000	-6.609	0.000			-3.633	0.000
TDS (% exports)	0.005																	
'Z -statistic	0.342	0.732																
CAB (% GDP)			-0.066															
'Z -statistic			-1.670	0.095														
BD (% GDP)					0.153		0.162											
'Z -statistic					2.378	0.017	3.009	0.003										
d (inflation)															-0.528		-0.440	
'Z -statistic															-5.345	0.000	-4.286	0.000
no of observation	461		462		383		383		551		551		551		535		532	
R <sup>2</sup>	0.732		0.737		0.794		0.796		0.621		0.174		0.176		0.686		0.664	
Wald chi2	134.3(11)		142.79(11)		126.21(11)		126.46(10)		166.35(10)		102.63(7)		73.24(5)		167.11(10)		183.28(11)	
Prob >chi2	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

Variables	Growth Determinants				(Dependent Variable:GDP per capita Growth)											
	model 43	p-value	model 44	p-value	model 45	p-value	model 46	p-value	model 47	p-value	model 48	p-value	model 49	p-value	model 50	p-value
Constat	1.723		2.607		2.351		2.250		1.432		0.659		2.534		1.994	
'Z -statistic	0.704	0.481	1.021	0.307	0.948	0.343	0.888	0.375	0.546	0.585	0.254	0.799	1.006	0.315	0.805	0.421
ln(INPCGDP)	-0.693		-0.781		-0.801		-0.743		-0.750		-0.582		-0.817		-0.677	
'Z -statistic	-1.672	0.095	-1.865	0.062	-1.906	0.057	-1.733	0.083	-1.674	0.094	-1.369	0.171	-1.918	0.055	-1.618	0.106
GDI	0.173		0.155		0.157		0.163		0.179		0.137		0.159		0.153	
'Z -statistic	5.010	0.000	4.475	0.000	4.560	0.000	4.598	0.000	4.680	0.000	3.824	0.000	4.459	0.000	4.462	0.000
GOC(%GDP)	-0.093		-0.112		-0.120		-0.142		-0.100		-0.136		-0.117		-0.147	
'Z -statistic	-2.257	0.024	-2.651	0.008	-2.829	0.005	-3.225	0.001	-2.266	0.023	-3.123	0.002	-2.742	0.006	-3.248	0.001
Lit. rate, adult total	0.032		0.031		0.030		0.033		0.034		0.043		0.035		0.035	
'Z -statistic	1.715	0.086	1.693	0.090	1.655	0.098	1.773	0.076	1.680	0.093	2.285	0.022	1.872	0.061	1.907	0.057
70-79 dummy	2.282		2.335		2.472		2.275		1.926		2.407		2.287		2.343	
'Z -statistic	4.956	0.000	5.119	0.000	5.353	0.000	4.834	0.000	3.467	0.001	5.304	0.000	4.883	0.000	5.153	0.000
80-89 dummy																
'Z -statistic																
90-98 dummy	0.598		1.276		1.277		1.232		1.430		1.038		1.298		1.161	
'Z -statistic	1.274	0.203	2.669	0.008	2.691	0.007	2.540	0.011	2.878	0.004	2.153	0.031	2.711	0.007	2.446	0.014
IM (%gdp)											0.133					
'Z -statistic											1.926	0.054				
Trade (%GDP)	-0.032		-0.035		-0.035		-0.032		-0.035		-0.101		-0.035		-0.035	
'Z -statistic	-3.660	0.000	-3.914	0.000	-3.912	0.000	-3.580	0.000	-3.612	0.000	-2.844	0.004	-3.835	0.000	-3.945	0.000
tot adjmnt (%gdp)	0.059		0.074		0.070		0.075		0.101		0.074		0.072		0.077	
'Z -statistic	2.175	0.030	2.688	0.007	2.552	0.011	2.674	0.007	3.369	0.001	2.724	0.006	2.566	0.010	2.807	0.005
FDI	0.393		0.474		0.450		0.413		0.383		0.463		0.414		0.489	
'Z -statistic	3.182	0.001	4.359	0.000	4.076	0.000	3.485	0.000	2.846	0.004	4.266	0.000	3.497	0.000	4.494	0.000
Inflation	-0.001		-0.001		-0.001		-0.001		-0.001		-0.001		-0.001		-0.001	
'Z -statistic	-3.256	0.001	-3.627	0.000	-3.606	0.000	-4.149	0.000	-3.742	0.000	-3.889	0.000	-4.015	0.000	-3.606	0.000
TDS (% exports)									0.005							
'Z -statistic									0.342	0.732						
cdt (pvt sect)					0.018											
'Z -statistic					1.346	0.178										
Aid (% GDI)			-0.002													
'Z -statistic			-0.592	0.554												
Net FA (%GDP)															-0.004	
'Z -statistic															-1.531	0.126
dIM (%gdp)													1.530			
'Z -statistic													1.751	0.080		
d'cdt (pvt sect)							0.000									
'Z -statistic							2.193	0.028								
dExtdebt (%GDP)	-5.746															
'Z -statistic	-7.586	0.000														
no of observation	517		555		553		532		461		555		536		552	
R <sup>2</sup>	0.723		0.748		0.783		0.699		0.732		0.735		0.709		0.725	
Wald chi2	219.79(11)		162.77(11)		164.08(11)		153.82(11)		134.3(11)		167.13(11)		152.7(11)		162.59(11)	
Prob >chi2	0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	

Table 2.1 Contd..

Variables	Growth Determinants		(Dependent Variable: GDP per capita Growth)							
	model 51	p-value	model 52	p-value	model 53	p-value	model 54	p-value	model 55	p-value
<b>Constat</b>	2.522		1.716		0.993		2.227		2.094	
'Z -statistic	1.019	0.308	0.692	0.489	0.390	0.696	0.902	0.367	0.838	0.402
<b>ln(INPCGDP)</b>	-0.899		-0.812		-0.749		-0.766		-0.831	
'Z -statistic	-2.100	0.036	-1.887	0.059	-1.776	0.076	-1.838	0.066	-1.970	0.049
<b>GDI</b>	0.165		0.164		0.172		0.164		0.153	
'Z -statistic	4.771	0.000	4.691	0.000	4.882	0.000	4.627	0.000	4.267	0.000
<b>GOC(%GDP)</b>	-0.144				0.027		-0.112		-0.126	
'Z -statistic	-3.061	0.002			1.506	0.132	-2.657	0.008	-2.957	0.003
<b>Lit. rate, adult total</b>	0.037		0.030				0.033		0.039	
'Z -statistic	2.012	0.044	1.622	0.105			1.843	0.065	2.126	0.033
<b>70-79 dummy</b>	2.560		2.409		2.388		2.390		2.398	
'Z -statistic	5.378	0.000	5.049	0.000	5.092	0.000	5.229	0.000	5.183	0.000
<b>80-89 dummy</b>										
'Z -statistic										
<b>90-98 dummy</b>	1.184		1.422		1.784		1.225		1.668	
'Z -statistic	2.502	0.012	3.023	0.002	3.860	0.000	2.591	0.010	3.595	0.000
<b>Trade (%GDP)</b>	-0.041		-0.042		-0.032		-0.036		-0.023	
'Z -statistic	-4.145	0.000	-4.171	0.000	-4.250	0.000	-3.988	0.000	-2.732	0.006
<b>tot adjmnt (%gdp)</b>	0.071		0.078		0.080		0.076		0.061	
'Z -statistic	2.603	0.009	2.814	0.005	2.974	0.003	2.758	0.006	2.215	0.027
<b>FDI</b>	0.445		0.491		0.317		0.537			
'Z -statistic	4.024	0.000	4.440	0.000			3.820	0.000		
<b>Inflation</b>	-0.001		-0.001		4.133	0.000	-0.001		-0.001	
'Z -statistic	-3.063	0.002	-4.454	0.000			-3.706	0.000	-3.732	0.000
<b>Stdebt (%GDP)</b>					-0.025					
'Z -statistic					-2.903	0.004				
<b>M2%GDP</b>	0.039		0.001							
'Z -statistic	1.416	0.157	0.044	0.965						
<b>Pvt cpt flows (%GDP)</b>							-0.056		0.140	
'Z -statistic							-0.687	0.492	2.205	0.027
<b>Net FA (%GDP)</b>										
'Z -statistic										
<b>no of observation</b>	555		555		560		555		555	
<b>R<sup>2</sup></b>	0.767		0.744		0.683		0.735		0.605	
<b>Wald chi2</b>	164.92(11)		153.19(10)		132.39(9)		162.93(11)		144.72(10)	
<b>Prob &gt;chi2</b>	0.000		0.000		0.000		0.000		0.000	



## CHAPTER-III

### Nature of Growth Process in Latin America

The growth process of any country over long period depends on a complex combination of country's inherent characteristics manifested in its institutional framework such as political institution, economic institution and social institutions, countries' relations with other country manifested in its economic relations, politico military relation resulting in institutional association and by any unforeseen events which may be the result of the contradiction between the aim of the above mentioned different institutions or it may be completely accidental. And differences in these matters give rise to the different growth experiences for different country. Countries' policies regarding how they can achieve greater well being of their citizens depends on the above-mentioned endogenous institutions or the response to any external factors. Again these responses to exogenous factors also depend on the characteristic of its institutions. Latin American countries growth experience presents a rich picture of the above-mentioned arguments.

There are two major types of sources of instability to growth process. One is due to exogenous factors, which are either internal or external shocks to national income. The second one is endogenous, which are policy induced. From our study on Latin American economies we know that 1982 debt crisis and the slump in growth that followed compelled the countries in the region to adopt the structural adjustment and reforms. So we took two-reference time point. One is debt crisis and another starting of reforms and tested by statistical methods to confirm when the break has occurred in the growth process of twelve

major economies of the region in the period 1970-1998. If the break has indeed occurred before the reforms we can reasonably accept that the reform is response to the break and if the break has occurred after the reforms then also we can argue that the break has occurred partly due to the policy induced by reform measures. While the above assumption may not be entirely acceptable we will try to substantiate the results by a descriptive analysis.

### **3.1 About the Chapter**

The present chapter will analyze briefly the issue of whether the growth experiences of Latin American countries are similar or different and what are the underlying causes of these similarities or dissimilarities. In this endeavor we will examine the fluctuations in the growth rates of GDP over our sample period 1970-98 by investigating whether there is any structural break point in our sample country's GDP series over 1970-80, and whether these instability in growth rates have any implications for the long run growth performance. In most of the cases of studies on structural break, the authors relied on detailed country study and then determined (taking all the various indices of performance into account) if a structural break in growth was unavoidable at some point of time. And then did the statistical examination to see if their conclusions are justified or significant.<sup>1</sup> What we did is different in the sense that we first tested the whole GDP series by statistical technique to test for any structural break and then analyzed it to explain it. Of course we have two-reference point in our time period, which provided the starting point for testing the whole GDP series for most significant structural break points. We know from our prior knowledge that two

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<sup>1</sup> For a detailed discussion on structural break and its statistical tests see Lal and Myint(1996) and Chenery and Syrquin (1975).



events that have most significant impact on regional economies are: (1) the debt crisis of 1982 and (2) the reforms. While the first one can be regarded as more or less exogenous<sup>2</sup> the second one can be regarded as endogenous in the sense that those are responses to the impact of the crisis from inside the system (not withstanding the prodding and pushing by IMF and World Bank). We then started testing for breaks in and around these two time points and accepted that year as the break point, which has lowest P value of its F-statistics (or significant at lowest exact level of significance) [Gujrati, 2000, pp.133]. Thus if for some countries Chow test for 1982 returns a F-statistics significant at 10% level and test for 1983 returns F-statistic significant at 1% level then we accepted 1983 as the break point rather than accepting 1982 as the break point.

After discussing the methodology briefly, we will try to present the theoretical reason underlying breaks in growth process. Then we will examine the observations of statistical results and will discuss some important countries' experience to know the proximate causes of breaks in the growth process. In the concluding section we will analyse the relationship among breaks, reform and growth and also between growth and volatility.

### **3.2 Methodology**

The first task in this analysis of the structural pattern of our 12-country GDP series is to test for structural breaks in the series for the 12 countries, given our prior knowledge on turning-points in policies that is initiation of reforms, which sometimes with a lag-can be

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<sup>2</sup> There are arguments which also say this crisis is the consequence of endogenous policy decisions which ultimately resulted in the debt crisis, so according to them it cannot be regarded as totally exogenous.

expected to affect subsequent growth rates. To this end we estimate a first-order autoregressive (AR(1)) model of GDP (Y) given by:

$$Y(t) = c + a * Y(t-1) + e(t) \quad (1)$$

Where Y(t) is GDP at time t,

Y(t-1) is GDP at time t-1

And e (t) is the error term

And test by the use of the Chow test<sup>3</sup> to see if the breaks corresponding to the years around debt crisis and starting of reforms are statistically significant. The results are given in Table -3.1.

Most of these breaks cluster around the early 1980s, reflecting the exogenous shocks of the oil-price rise of 1981 and subsequent debt crisis, but these led to differing policy reactions. The other cluster of breaks is around the beginning of 1990s.

Next, assuming that the growth process between breaks- or over the whole period if there were none- was one with temporary fluctuations around a linear trend, we estimated the time trends in log GDP (y) from the equation

$$Y(t) = c + bT + D_{1T} + D_{2T} + e(t), \text{-----} \quad (2)$$

Where T is time trend and D<sub>1T</sub> is a dummy variable to reflect a possible change in the intercept at the break point t (b), and takes the value of 1 if t > t(b), and 0 otherwise, and D<sub>2T</sub> is a dummy variable to reflect a possible change in the slope at the break point and 0

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<sup>3</sup> Chow test is a popularly used test to find out if there is a structural change in the relationship between the variables under study between two periods. The null hypothesis is structural stability i.e there is no change in the parameters of the equation we are estimating. If the F -statistic returned by the test is significant we reject the null hypothesis i.e. the relation ship between the variables has changed between the two periods.

otherwise. Like wise the dummy variables  $D_{3T}$  and  $D_{4T}$  are used if there are double breaks one of which may be a single major break. If the coefficient of the intercept dummy is significant then we can assume that there is only change in the level of income and if the coefficient of the slope dummy is significant then we can say that there is change in the growth rate also. More specifically there could be three different types of break. They are as follows.

- 1) There is change in the level of trend at the break point, shown by a change in the intercept of the trend before and after the break.
- 2) There is a change in the trend growth rate after the break point, shown by a change in the slope of the trend.
- 3) There is a change in both the level and growth rate of the trend after the break, shown by a change in both the intercept and the slope of the trend function.

Table-3.4 and 3.5, gives the estimates for single and double break respectively. Charts show the estimated trend and actual log GDP.

### **3.3 Sources of Instability**

There are mainly two major types of sources of macro economic instability. The first one can be regarded as exogenous. These are either internal or external shocks to national income, due for instance to climatic variability, which affects agricultural output, or terms of trade fluctuations which have similar effects. The second can be described as endogenous, and are policy induced. These are mostly due to unstable monetary or fiscal policies.

Within a simple rational-expectation model of neo-classical economy, subject to stochastic shocks, it can be shown that if shocks are independent and identically distributed over time, they will have negligible effect on growth, output will deviate from its natural rate only because of the random shocks which cannot be foreseen at the time agents form their expectation. These fluctuations in output; and hence in annual growth rates will have no effect on the long run growth performance of the economy.

An important assumption underlying this view is the wage flexibility nature of the labor market. But in rational expectations models of fixed price labor markets, exogenous shocks could affect the natural rate of output and growth. Any actual economy will have a mix of rigid and flexible wage labor market. Whether the labor market of a developing country is a 'rigid wage labor market' or a 'flexible wage labor market' can be determined from its proportion of labor force in industry (Lal and Myint, 1996). This is because of the characteristic of the employer-employee relationship in a setting of organized or unorganized labor market. In a majority of our sample country, we can see from the table relating to employment in the following chapter (Chapter-IV) that most of them having about 30% of their labor force in industrial sector. (e.g. during 1980, Argentina, Ecuador, Colombia had above 30% of their labor force in potentially rigid wage industries labor market and hence their behaviour in the face of macro-economic shocks is likely to be closer to that of industrial countries.

Macroeconomic instability caused by endogenous shocks is primarily due to unstable and unanticipated monetary and fiscal policies. In most cases the changes in monetary policy are usually the financial consequence of changes in government fiscal policy. Unstable fiscal policies are therefore are likely to be the primary cause of endogenous policy

induced shocks in developing countries. The effect of an unanticipated change in fiscal policy, say, fiscal expansion, will be to change the composition of aggregate demand. It will crowd out investment through a rise in the interest rate. This reduction in investment will affect the capital stock in the current and subsequent periods and hence future output and, consequently growth.

Thirdly, there is an interrelation between exogenous and endogenous shocks, which is common in our sample of Latin American countries. Faced with fluctuations in their terms of trade, many countries have assumed that a rise in prices of primary commodity is permanent and have expanded public expenditure (both their current and future commitments) on that basis. Many countries had expanded their fiscal role during 1970s. When the boom ended, public expenditure could not be curtailed mostly due to political reasons and the resulting fiscal deficit is monetised, which was the source of their chronic inflation. The familiar problem of a boom followed by a balance of payments (BOP) crisis as a result of a *ratchet* effect in public expenditure was common in Latin America during 70s and 80s. Most adjustment programmes in 1980s started from an economic crisis when the government and private sector were no longer able to continue commercial borrowing to finance current account deficit. In these circumstances some adjustment was inevitable. Typically the country suffering from an external crisis also has a large and unsustainable fiscal deficit, and in many crises experiences rapid inflation (Agarwal, 1991).

### 3.4 Observations and Discussion

Now we will discuss our statistical results with the help of the historical experience of some countries in our sample represented by their policies and consequences.

Table-3.1 shows at one place the single major breaks and double breaks that occurred in the GDP series of our sample of 12 countries with its F-statistics and the level of significance returned by Chow test. It also shows the timings of reform (Lora and Barrera, 1997; Paunovic, 2000).

Table-3.2 shows the single major breaks and the mean growth rates and the volatility of growth rates as measured by the standard deviation of growth rates before and after the break.

Table-3.3 shows the double breaks in GDP series of our sample countries with the mean growth rates, which will indicate if there is any significant changes in the growth rates because of shocks and the volatility of growth rates represented by the standard deviation of growth rates before break-1, after break-1 and after break-2.

Table-3.4 shows the estimates of time trends in log GDP with dummy variables  $D_{1T}$  to reflect a possible change in the intercept that is change in the level at break point and  $D_{2T}$  to reflect a possible change in the slope that is a change in the trend growth rate after the break point. The figures chart the estimated trend and actual log GDP.

Observing table-3.1 reveals that in our sample period incase of double breaks most of the first breaks had occurred around the timing of debt crisis or near it. They are Argentina, El Salvador, Mexico, Paraguay, Peru, Uruguay and Venezuela. Only Brazil, Chile and Colombia's first breaks are not near our reference point i.e. 1982 debt crisis. Chile is the only country in our sample, which showed its first break point during 70s. Brazil and

Colombia's first breaks are respectively in 1985 and in 1986. We will show later that Colombia's both breaks are not significant with respect to level change or trend growth rate change. Costa Rica and Ecuador did not show any double breaks; only single breaks have occurred in their GDP series.

Regarding the second breaks in our sample countries. We observe that while in Argentina, Paraguay the break points are corresponding to the years of starting of reforms, in case of Brazil, Chile the break has occurred just before the starting of reforms. For Colombia, El Salvador, Mexico, Peru, Uruguay, Venezuela the second breaks have occurred after the start of reforms.<sup>4</sup>

Now considering only the single major breaks, two points have to be noted. First in most of the cases (except Peru) the single major breaks correspond to one of the double breaks i.e. first break or second break.

The second point to be noted is that in most of the cases single major breaks are nearer to reform times rather than to the time of debt crisis. Mexican and Paraguayan major single breaks corresponding to the timings of the debt crisis and El Salvador did not have any single major breaks although it shows double breaks.

Now we will describe the nature of those breaks by taking help of table 3.4 and 3.5. First we describe the case of single major breaks by observing the table-3.4 which shows the estimates of time trends in log (GDP) with dummies  $D_{1T}$  and  $D_{2T}$ , which reflects any possible changes in Level and trend growth rates respectively. Then we will describe the double breaks if there is any, by observing the table-3.5 which shows the estimates of the time trends in log (GDP) with dummies  $D_{1T}$  and  $D_{2T}$  which reflects the changes in level and

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<sup>4</sup> In case of Chile it is the start of second wave of reforms. Chile's reforms during 1970s were partially reversed during the debt crisis.

trend growth rates for the first break and  $D_{3T}$  and  $D_{4T}$  which reflects the changes in level and trend growth rates for the second break. Along with the description of our statistical results we will also discuss about the nature of the regime of the day in some of our major countries in which our effort will be to see that the breaks found by us are indeed out come of the policies that were adopted by the political institution of the day. The countries about whom we will discuss in detail are Argentina, Brazil, Chile, Colombia, Mexico, and Paraguay.

## **ARGENTINA**

In case of Argentina and Paraguay single major break points correspond exactly with the reform timing (1991) and debt crisis (1982). We see that in Argentina during 1991 there has been a major positive change in trend growth rates after the break in 1991 (as shown by positive and significant coefficient of slope dummy) table-3.4. But the change in the level is not significant although positive (as shown by coefficient of intercept dummy). Also from the chart this description is clear. In fact, we can see from the chart that from 1989 itself the GDP was starting to recover i.e. falling but at a decreasing rate.

Argentina suffered double breaks at two point of time, i.e. one is at 1981 and the other at 1991 which is also the major single break in GDP series over our period 1970-1998, we have already discussed the break at 1991 as single major break.

Now to analyze the break at 1981, we again observe the table-3.5 which reveals that both the intercept and slope dummy coefficient for first break shows negative sign but only the slope i.e. the change in trend growth rate is significant. We also see from the table-3.3, that the mean growth rate after break-1 is negative.



There were some efforts during Martinez de Hoz era (the late 70s) in the area of deregulation. These reforms were aborted under the military regime, although there was a mild-and incredible effort to revive them during the last years of Alfonsin period. In July 1989, when the rate of inflation had reached 4% per day, president Alfonsin handed over the reins of government to Carlos Menem, in the first peaceful transfer of power in Argentina, since 1928.

Argentina, whose consumer price index (CPI) increased by a mere 0.8 % per year between 1914 and 1939 (when wholesale prices increased by an average of 1.4 percent), witnessed average rates of inflation (by the CPI) of 19 percent per year during the first administration of Juan Peron (1945-55), 29 percent during the “golden decade” (1964-74), and 220 % during the following decade, culminating in hyperinflation during the first semester of 1989.(Carlos de Pablo,1990)

It was against this background that Caros Menem started his six-year presidential term on 8 July 1989. From an economic point of view it is important to differentiate between Menem’s stabilization program on the one hand, and his structural reforms on the other.

During the first half of 1989 Argentina suffered hyperinflation due to technical difficulties related to the primavera plan (the stabilization plan launched in September 1988) and the expectation of probable chaos resulting from the electoral victory in the May presidential election of the Peronist candidate Menem himself.

On May 14, Menem won the presidential election. In the wake of the failed stabilization plans of the 1980s (Bruno et al., 1988, Agarwal, 1999) it is well understood that the successful elimination of hyperinflation requires a combination of heterodox measures (some form of freeze of key prices) to break the inflationary inertia and orthodox measures

addressing the fundamentals (notably in fiscal policy). It must be pointed out that the heterodox portion has “worked,” the rate of inflation having declined from 200 % per month in July to 5 % in October, whereas the orthodox portion is lagging. The congress had passed a couple of important pieces of legislation in the area of structural reform. Menem had demonstrated “political will,” a necessary virtue if one is to overcome powerful lobbies, which in Argentina include not just the trade unions but the merchants’ and manufacturers’ organizations as well. Our analysis shows that Argentina had indeed succeeded in recovering it self from the slump because of Menem’s actions.

## **BRAZIL**

Brazil’s single major break occurred during 1993 just one year before it started its reform. Its double break occurred at years 1985 and 1993.

At the single major break point i.e. 1993, Brazil’s GDP series doesn’t show any significant change in levels or trend growth rate, although sign of the coefficient are negative (Table-3.2). Considering the double break, at the break-1, there is significant and negative change in trend growth rate.

Recession was Brazil’s initial response to the 1982 debt crisis. However, this immediate reaction was followed by an export-led recovery in 1984-85. A surge in both investment and consumption in 1986 ended in stagnation in 1988, but by mid-1989 the economy was growing rapidly once again. Brazil is exceptional among Latin American countries in having had a positive average per capita growth rate for the 1982-88 period; the rest of Latin America experienced a decline. In balance of payments terms as well, the Brazilian response to the debt crisis was the most successful in the region. The dramatic growth of Brazil’s trade surplus was the largest in Latin America both in absolute terms and

relative to GDP. Nonetheless, Brazil had not “adjusted” to the debt crisis. Instead the Brazilian government has “accommodated” the disappearance of external sources of finance by printing money and by creating domestic debt. Until 1986 the two rates follow a similar path, but beginning in 1987 the Brazilian inflation rate is approximately four times greater than that in the rest of Latin America. Between 1980 and 1985, the government’s failure to absorb the debt and have shocks in a non-inflationary manner pushed annual inflation up from 50% to 220% and beyond. On 28 February 1986, with inflation at 400 percent per year, Brazil embarked on a major stabilization effort: the Cruzado plan. One year later, when the price freeze was removed, prices exploded. The government initiated new attempts to control inflation in mid-1987 under the Bresser Plan and again in January 1989 under the Summer Plan. Once again the government froze prices and squeezed credit.(Cordoso and dantas,1990)

## **CHILE**

Chile is one of the earliest reformers in Latin America. Its single major break occurred at 1984 just one year before it started its second wave of reforms. This year is also the second break of the two breaks for the whole series. The first break occurred at 1978. At the single major break i.e. 1984, Chile’s change in the in trend growth was significant but the change in trend growth was significant (table-3.4). At first break i.e. 1976, only the change in slope is coefficient that is there is positive change in trend growth rate.

Almost all of the economic reforms recommended to highly indebted countries after the onset of the debt crises in 1982 were implemented in Chile during the 1970. A radical reform attempt was initiated in Chile in 1975. It had entered into a deep economic crisis just before they started their reform efforts. The immediate causes of the crisis were the populist

policies of the Allende regime. Reprivatization, decontrol of prices, and deregulation were begun shortly financial markets were accomplished over a short span of time thereafter. Consequently, by the beginning of the 1980s Chile had an open, free-market economy, with a homogeneous 10% tariff, free domestic interest rates, a relatively liberalization capital market, and a disciplined, non-disruptive labour force. When the debt shock came, however, Chile similar to those in other Latin American countries; the prior implementation of basic structural reforms neither provided a better shelter from external shocks nor reduced adjustment costs. Nevertheless, seven years later, Chile had apparently overcome the external debt crisis while retaining the main features of its economic model. The Chilean adjustment process was neither smooth nor without reversals. GDP fell 15% during 1982-83 before increasing in 1984. This was in turn followed by a slowdown in 1985 before robust growth resumed in 1986 and 1987. The current account deficit followed a similarly bumpy course. The period 1982-83 was one of recessionary adjustment aimed at closing the expenditure-income gap; 1984 (our major single break point) was economic reactivation to close the internal gap; after 1985 structural adjustment became the focus, as the Chilean authorities realized that the external disequilibria was a long-run problem.(Meller,1990)

## **COLOMBIA**

Our data shows that Colombia has one major single break at 1993 and double breaks at 1986 and 1993. Colombia started its reform during 1993.

At the major single break point 1993, Colombia's GDP doesn't show any significant change in intercept or slope (table-3.4). At the first break of the double break i.e. 1986, also it does not show any change in level or the trend growth rate.

Colombia, which had a smaller debt and started to adjust earlier is one of the two countries in Latin America i.e. the other one was Chile, which had positive growth rate of GDP during 80s (Agarwal, 1991). In 1984 the government of Colombia started an adjustment program aimed at reducing the public-sector deficit and the current account deficit, promoting exports and export-led growth, and restricting access of the country to international capital market. To archive this last target the government also entered into an agreement with the World Bank to implement a trade liberalization program. The adjustment program involved several major policy areas. Overall, a serious problem had been the failure of Colombia's orthodox macro-economic policies to ensure growth. Whereas during the late 1960s and early 1970s the economy grew at acceptably high rates (above 6% per year), this growth has not been emulated since 1974, except during the periods of external bonanzas. In the case of Colombia, the record of the post adjustment years offers additional clues to the growth question. Growth appears to be intimately related to exports, and more generally to the current account balance, which seem as to be the ultimate constraint. During the period 1983-88, high growth rates, above 5 in 1986 and 1987, seem to have been linked to the coffee price and export revenue bonanza. Undoubtedly, growth responded to expanding aggregate demand, and this explains the acceleration in 1986-87. In 1988, however, when export growth slowed and imports reached with a lag, internal demand was not capable of sustaining growth by itself, and the control exerted by the government on the current account balance may have acted as a deterrent to investment in fixed (mostly imported) capital. The experience of these years suggests that other sources of external demand must be found if Colombia is to replicate the conditions of 1986-87 and remove the obstacles to growth. These sources will be found in the expansion of industrial and other nontraditional exports

and in the substitution of selected industrial imports, namely, intermediate goods. (Hommes, 1990)

## **MEXICO**

For Mexico our test returned 1982 as the major single break in the services of its GDP while for double break it showed that 1982 and 1989 are the two points of time where break in the GDP series are significant (table-3.1) while the year 1982 is the year of debt crisis, the second break has occurred just one year after the start of reform programme in the year 1988.

Now observing the table-3.4 to know the nature of break during 1982 we see that the change in the level and the change in the trend growth rate was negative and highly significant (As the intercept and slope dummy coefficient are negative and significant. This is also clear from the chart of Mexico for single break. Table-3.2 also shows that before the break the mean growth rate was 6.8% per annum but after the break it has dropped to 2.21% per annum.

Now to analyse the nature of double break, table-3.5 shows that the break-1 i.e. break in 1982, has changed the level and trend growth rate negatively [the result is same as it was for single major break except that the significance level of the intercept dummy has reduced].

The second break point i.e. 1989 has changed both the level and trend growth rate to higher level (as both the intercept and the slope dummy for second break has positive and significant coefficient) but not as much as it was before the first break. The new growth after second break is 3.4% per annum where as it was 6.86 % before the first break (table-3.3).

It was the inability of Mexico to continue servicing its external debt that set off the region wide debt crisis in August 1982 (1982 is first and single major break in our study). The immediate reaction of the Mexican government was to deflate, devalue, intensify import restrictions, impose exchange controls, and nationalize the banks. By 1984-85 some relaxation was possible, and modest per capita growth was reestablished, but at the cost of real appreciation, a deterioration of the fiscal position, and accelerating inflation. Concern about that slippage combined with two brutal new shocks, the Mexico City earthquake and the fall in the oil price, to induce an intensification of fiscal austerity and a new real depreciation of the peso. Nontraditional exports responded impressively, but at the cost of acute stagflation, involving a recession in 1986 and further acceleration of inflation. It was this development that stimulated adoption of the Economic Solidarity Pact, which has remained in place from December 1987 to the present. This program, which included wage and price controls and an initial freeze (followed by a gradual crawl) of the exchange rate, has brought inflation down to about 20% per year.

Although macro-economic policy has oscillated from year to year, the underlying trends are unmistakable. The primary fiscal balance went from a deficit of 7% of GDP to a surplus of equal size. Public-sector prices were raised to realistic levels. Even more impressive than the macro adjustment is the revolution in macro adjustment is the revolution in micro policy that got under way after the initial panic reaction. Mexico has joined the GATT, progressively eliminated the near-universal import licensing that prevailed at the beginning of the de la Madrid administration in 1983, and reduced tariffs to a maximum of 20%. It has greatly liberalized restrictions on foreign direct investment. It has undertaken a

substantial privatization program. And it has deregulated trucking undertaken a substantial privatization program. And it has deregulated trucking and dismantled some entry barriers.

In July 1989 (second break point), Mexico reached agreement with its commercial bank creditors on a comprehensive debt reconstruction in both its total indebtedness and the cash flow needed to service its debt. The terms were not as good as those originally sought needed to service its debt. The terms were not as good as those originally sought by the Mexican negotiators (which was doubtless not a surprise to them), but evidently the private sector found them sufficiently reassuring to repatriate a significant sum of flight capital. This in turn gave the Mexican authorities the chance to push interest rates down not less than 22 percentage points in a single month. The return of flight capital combined with a significant pickup in investment suggested that entrepreneurial confidence and growth had revived.

## **PARAGUAY**

Paraguay's single major break corresponds to year 1982 the year of debt crisis. If we look to table-3.4, we can see that Paraguay has a significant negative change in its level at the break point as well as trend growth rate of GDP after the break point [both the intercept dummy and slope dummy has negative and highly significant coefficient].

Paraguay's double break corresponds to the year 1982 and 1989, the years of debt crisis and the start of its reform attempts. Observing the table-3.5 we can see that Paraguay's first break that is 1982 is the only significant break with respect to the changes in both level and the rate of trend growth. The second break 1989 confirmed by Chow test is not significant from the point of view of level change or change in trend growth rate. As we can



see from the table-3.5, the intercept and slope dummy for the second break do not have coefficients, which are significant although the intercept dummy coefficient is positive and slope dummy coefficient is negative.

This is also clear from the charts for Paraguay. The trend has changed significantly at the break point in both of level and slope.

Paraguay was once the fastest growing county, in South America, with a growth rate of 8% per year, during the construction of the Itaipu hydroelectric dam in early 1980s. However since 1982, the per capita income has stagnated, with the recession of 1982-83 and 1986 (a drought year) affecting the intervening recovery. Paraguay did not experience any significant policy reforms until 1989, the recorded fiscal deficit remained moderate, but the public sector suffered from the usual statistics ills and there was a multiple exchange rate over valued matters began to change after the over throw of president. Alfredo Stroessner, Latin America largest surviving director, in early 1989. The new government made a serious attempt to collect taxes and to cut expenditure. Thus Paraguay started a serious effort in the direction of stabilization and structural reforms.

## **PERU**

Peru has suffered a single major break at 1991 during the entire period 1970-1998 and double breaks at 1983 and 1993. Both the major single break and the second break of the double break have occurred after Peru started its reform during 1990. The first break of the double break has occurred one year after the debt crisis started. To examine the nature of break at 1991, the single major break, the observation of table-3.4 shows that while the level has fallen, the tend growth rate has risen. The mean growth rate was 1.92% per year before the break while it has risen to 5.23% per year after the crash (table-3.3). To consider the

double breaks, which have occurred during 1983 and 1993. The observation of table-3.5 shows that at the first break, point i.e. at 83, the fall in level was not significant while the fall in its trend growth rate was significant after the break. At the second break point i.e. at 1993, there was a rise in level and the trend growth rate has risen after the break. The mean growth rate after the first break has fallen to  $-0.87\%$  while the growth rate after the second break has risen to 4.04. The chart of Peru clears this.

### **VENEZUELA**

Venezuela's single major break in its GDP series occurred at 1990, just one year after it started its reform during 1989 (Lora and Barrera, 1997). Double breaks have occurred at 1980 and 1990. Thus the second break was also the major single break. But as we see from the table-3.4, none of the slope and intercept dummy is significant for the break at 1990. The chart shows that the trend was parallel before and after the break. But in case of double breaks, we find that there was negative and significant change in both level and growth rate after the first break, i.e. 1980, while after the second, positive and significant changes in level only.

### **URUGUAY**

Uruguay had its major single break at the year 1986 and double breaks at 1981 and 86 respectively. While its major single break occurred 4 years before it started its second wave of reform. The first break occurred just before the set of the debt crisis at 1982.

During the single major break at 1986, change in level was not significant while its trend growth rate had risen significantly after that (table 3.2). Regarding the double break, at

the first break the level had fallen and the trend growth rate had also decreased after the break. After the second break only trend growth has risen . Its mean growth rate has risen to 4.04% per annum after 1986.

### **COSTA RICA**

This country's GDP series does not show any significant double breaks but its one major break had occurred during 1984; at the break point, the series shows significant drop in level but no change in its trend growth rate.

### **ECUADOR**

Ecuador has no significant double breaks, but its one major break was at 1988. At this break point, both level and trend growth rate have declined as the coefficient of both intercept and slope during shows.

### **ELSALVADOR**

El Salvador doesn't have any single break instead it only show double breaks. At double break point-1, Ecuador has only significant change in both the level and growth, while at break point-2. El Salvador has only significant trend.

## **3.5 Growth, Breaks and Reforms**

Was there any relationship between growth and breaks? In our analysis we found that most of the first break of the double breaks cluster around early 80s, reflecting the exogenous shocks of debt crisis<sup>5</sup>. But these led to different policy reactions. Some countries dithered to initiate the necessary adjustment and paid the price for it. Those countries such

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<sup>5</sup> It's very difficult to give the exact date of debt crisis. Some Authors have also termed 1981 as the initiation of debt crisis (see Lal and Myint, 1996).

as Argentina, Bolivia, Peru, and Venezuela have had to pay a high price for delayed adjustment and the ready availability of finance in the late 70s and early 80s often enabled the politicians to evade the need for adjustment (Agarwal, 1991). We can see from the table-3.3 that, after first break most countries have negative mean growth rate, except Chile and Brazil and Colombia. As Agarwal (1991) observed “Chile which had started its reforms effort earlier and was not as deeply indebted and Colombia which also had smaller debt and started to adjust earlier are two of the few Latin American countries to have a positive growth of their GDP in the eighties” But all countries in our sample show decline in their mean growth rate after the first break. After second break, which mostly cluster around the reform dates as determined by Lora and Barrera (1997). Can we say that reforms are responses to the breaks, if the break had occurred just before the reform started? Can we say that breaks are due to reforms if the reforms had preceded the break? We can observe that after the second break almost all country have increased mean growth rate except Colombia. Paunovic (2000) had provided two explanations for the adoption of reforms. (1) Inadequate long-term growth before the adoption of reforms. According to him, “faced with persistent growth differential, the public in slow growing countries was less reluctant to accept a change. As the previous strategy of economic development, they experimented with other possible strategies. Thus for the slow growing economies the economic social and political cost of adopting reforms were relating low compared with the potential benefit of them and the opposition to reforms was not strong. On the other side of the spectrum are countries that were star performer in the three post war decades and occupied the top of the list in terms of growth. In those crises a change of the model that served them so well was not perceived as a necessity even the prolonged crisis of the 1980s did not succeeded in discrediting the old

model completely. Perceived cost of the reforms were seen there as very high compared to the potential benefits.

2) Another factor, which, led to the acceptance of the reform, is the intensity of crisis. The basic idea is that crisis help in bringing down the opposition to reforms. Paunovic (2000) has used two indicators to show the intensity of crisis and these are slowdown in growth rate in the immediate pre-reform period and the macro-economic imbalance reflected in high fiscal deficits and high inflation rates.

According to Paunovic (2000) first criteria, from our sample of countries, 5 countries' average pre-reform growth is slower than the post reform period i.e. Argentina, Chile, Uruguay, Peru and El Salvador.

According to second criteria i.e. slowdown of growth, almost all country in our sample have reduced growth rate during 1980s with the exception of Chile, which has started its reform earlier.

Considering macro-economic imbalance reflected by average inflation and fiscal deficit during 5 pre reform year, from Paunovic's (2000) study it is clear that in Argentina, Brazil and Peru, inflation in the five pre reform period had skyrocketed. With the exception of Brazil, all of them managed to lower inflation and improve fiscal situation in the post reform period. Other serious cases were Mexico and Uruguay where fiscal situation and inflation situation were very bad.

In these countries the macro economic stabilization was seen as a priority. Hyperinflation has not only ruined private sector agents with fixed income, but also public revenues, aggravating the fiscal problems, which had already deteriorated thanks to the debt

crisis. Capital flight and the inability to borrow in the international capital markets had an adverse impact on investment, both private and public. Which was then reflected in sluggish growth rates to break out of that circle many macro economic stabilization packages were adopted. However, the number of failed macro economic stabilization package during the 80s is impressive. The apparent inability to stabilize the economy further discredited the old model of development and encouraged policy makers to try some thing different.

Incase of Colombia, Elsalvador, Mexico, Peru, Venezuela the second breaks had occurred after the initiation of reforms .In these cases breaks indicate the positive changes in the trend growth rates (please see table 3.5 and the charts). WE have mentioned in the beginning of the chapter that the policy reforms sometimes affect the sub sequent growth rates with lags. This provides a possible explanation of breaks after the initiation of reforms. We can see from the table 3.3 that in these cases, the mean growth rates after the second breaks are higher than the mean growth rate after the first break.

To examine the relationship between the growth rates and their volatility as measured by their standard deviation, we did regression of growth rates and volatility for our sample countries. We did not found any significant relation ship between growth rates and volatility, except for the growth rates and volatility after the first break in table-3.3.

TABLE-3.1

**NATURE OF GROWTH PROCESS IN LATIN AMERICA  
TEST FOR STRUCTURAL BREAKS  
12 LATIN AMERICAN COUNTRIES**

COUNTRY	PERIOD	DOUBLE BREAK	F-STAT Chow Test	level of significance	SINGLE BREAK	F-STAT Chow Test	level of significance	Timings of* St. reforms
Argentina	1970-1998	1981 1991	6.09	1%	1991	10.38	1%	1991(ii)**
Brazil	1970-1998	1985 1993	4.96	1%	1993	3.19	10%	1994
Chile	1970-1998	1976 1684	3.91	5%	1984	4.57	5%	1985(ii)
Colombia	1970-1998	1986 1993	7.47	5%	1993	8.28	5%	1991
Costa Rica	1970-1998				1984	4.05	5%	1988
Ecuador	1970-1998				1988	3.76	5%	1992
El Salvador	1970-1998	1980 1990	17.97	1%				1988
Mexico	1970-1998	1982 1989	4.29		1982	3.63	5%	1988
Paraguay	1970-1998	1982 1989	4.29	1%	1982	8.61	5%	1989
Peru	1970-1998	1983 1993	3.77	5%	1991	3.78	5%	1990
Uruguay	1970-1998	1981 1986	5.23	1%	1986	3.11	5%	1991(ii)
Venezuela, RB	1970-1998	1980 1990	3.76	5%	1990	5.29	1%	1989

Note:

\* Borrowed from Paunovic (2000)

\*\* Start of second round of reforms

Source: WDI CD-ROM, 2000, World Bank.

Table- 3.2

**NATURE OF GROWTH PROCESS IN LATIN AMERICA  
SINGLE MAJOR BREAK AND GROWTH**

COUNTRY	PERIOD	SINGLE BREAK	F-STAT Chow Test	level of significance	Mean Growth Rates			Standard Dev. Of Growth Rates		
					Full Period	Before Break1	After Break1	Full Period	Before Break1	After Break1
Argentina	1970-1998	1991	10.38	1%	2.44	0.93	5.48	5.57	5.16	4.49
Brazil	1970-1998	1993	3.19	10%	4.56	4.83	3.52	4.75	5.24	2.11
Chile	1970-1998	1984	4.57	5%	4.63	1.68	7.39	5.83	6.99	2.41
Colombia	1970-1998	1993	8.28	5%	4.29	4.45	3.64	1.99	1.97	2.14
Costa Rica	1970-1998	1984	4.05	5%	4.20	4.11	4.28	3.54	4.54	2.44
Ecuador	1970-1998	1988	3.76	5%	4.89	5.83	3.36	5.39	6.39	2.78
El Salvador	1970-1998				2.22			4.83		
Mexico	1970-1998	1982	3.63	5%	4.04	6.86	2.21	3.94	2.23	3.73
Paraguay	1970-1998	1982	8.61	5%	4.90	8.54	2.33	4.20	2.98	2.80
Peru	1970-1998	1991	3.78	5%	2.66	1.92	5.23	6.05	6.31	4.70
Uruguay	1970-1998	1986	3.11	5%	2.32	0.92	4.04	4.49	4.93	3.30
Venezuela, RB	1970-1998	1990	5.29	1%	2.32	1.90	3.25	4.29	4.37	4.19

Source: Same as in Table 3.1.



**Table -3.3** **NATURE OF GROWTH PROCESS IN LATIN AMERICA**  
**DOUBLE BREAK AND GROWTH**

COUNTRY	PERIOD	DOUBLE BREAK	F-STAT Chow Test	level of significance	Mean Growth Rates			Standard Dev. Of Growth Rates				
					Full Period	Before Break1	After Break1	after break 2	Full Period	Before Break1	After Break1	after break 2
Argentina	1970-1998	1981 1991	6.09	1%	2.44	3.04	-1.38	6.38	5.57	4.18	5.32	4.87
Brazil	1970-1998	1985 1993	4.96	1%	4.56	6.13	2.40	3.52	4.75	5.39	4.23	2.00
Chile	1970-1998	1976 1984	3.91	5%	4.63	-0.58	3.38	7.39	5.83	6.99	6.94	2.41
Colombia	1970-1998	1986 1993	7.47		4.29	4.59	4.18	3.64	1.99	2.25	1.26	2.14
Costa Rica	1970-1998				4.20				3.54			
Ecuador	1970-1998				4.89				5.39			
El Salvador	1970-1998	1980 1990	17.97	1%	2.22	3.90	-1.95	4.99	4.83	3.10	5.42	1.98
Mexico	1970-1998	1982 1989	4.29		4.04	6.86	0.10	3.40	3.94	2.23	3.08	3.58
Paraguay	1970-1998	1982 1989	4.29	1%	4.90	8.54	1.57	2.85	4.20	2.98	3.88	1.78
Peru	1970-1998	1983 1993	3.77	5%	2.66	4.13	-0.87	6.10	6.05	2.69	8.77	4.44
Uruguay	1970-1998	1981 1986	5.23	1%	2.32	2.99	-3.63	4.04	4.49	3.18	5.93	3.30
Venezuela, RB	1970-1998	1980 1990	3.76	5%	2.32	3.97	-0.17	3.25	4.29	2.87	4.75	4.19

Source: Same as in Table 3.1.

TABLE-3.4

**Estimates of Time Trends  
For Single Break**

	Constant	Time T	D1T	D2T
Argentina	11.25204	0.003382	0.033629	0.013835
<i>t-Statistic</i>	1113.177	4.394777	1.561559	3.147273
<i>Prob.</i>	0.0000	0.0002	0.131	0.0042
Brazil	11.4523	0.0170	-0.0384	-0.0056
<i>t-Statistic</i>	620.8618	13.1876	-0.7820	-0.4041
<i>Prob.</i>	0.0000	0.0000	0.4415	0.6896
Chile	10.28616	0.009356	-0.002824	0.020541
<i>t-Statistic</i>	640.9428	5.31261	-0.127367	8.583427
<i>Prob.</i>	0.0000	0.0000	0.8997	0.0000
Colombia	10.50634	0.017433	0.014225	-0.006317
<i>t-Statistic</i>	1817.171	43.08311	0.924734	-1.449509
<i>Prob.</i>	0.0000	0.0000	0.3639	0.1596
Costa Rica	9.539116	0.016435	-0.03647	0.00148
<i>t-Statistic</i>	717.8043	11.24446	-1.992014	0.677875
<i>Prob.</i>	0.0000	0.0000	0.0574	0.5041
Ecuador	9.788878	0.022649	-0.059148	-0.009813
<i>t-Statistic</i>	477.4466	12.59555	-1.694086	-1.940447
<i>Prob.</i>	0.0000	0.0000	0.1027	0.0637
El Salvador				
Mexico	11.13424	0.027576	-0.04871	-0.016867
<i>t-Statistic</i>	1441.374	28.33457	-5.003766	-13.98672
<i>Prob.</i>	0.0000	0.0000	0.0000	0.0000
Paraguay	9.338051	0.036113	-0.049151	-0.021795
<i>t-Statistic</i>	1092.548	33.53644	-4.563334	-16.33487
<i>Prob.</i>	0.0000	0.0000	0.0001	0.0000
Peru	10.57389	0.006696	-0.076801	0.019986
<i>t-Statistic</i>	662.2687	5.508303	-2.257775	2.878393
<i>Prob.</i>	0.0000	0.0000	0.0329	0.0081
Uruguay	10.03076	0.005787	-0.016378	0.00889
<i>t-Statistic</i>	675.2954	3.992418	-0.72548	3.124143
<i>Prob.</i>	0.0000	0.0005	0.4749	0.0045
Venezuela, RB	10.68902	0.006303	0.034449	0.000427
<i>t-Statistic</i>	956.753	7.084476	1.57519	0.109066
<i>Prob.</i>	0.0000	0.0000	0.1278	0.9140
Note:	D1T	intercept dummy		
	D2T	slope dummy		

Source: Same as in Table 3.1.

**TABLE-3.5**

**Estimates of Time Trends  
For Double Break**

	Constant	Time T	D1T	D2T	D3T	D4T
Argentina	11.2236	0.0080	-0.0153	-0.0091	0.0573	0.0183
<i>t-Statistic</i>	1056.2480	5.9854	-0.9471	-3.3808	3.0347	4.4258
<i>Prob.</i>	0.0000	0.0000	0.3535	0.0026	0.0059	0.0002
Brazil	11.4102	0.0228	0.0007	-0.0203	0.0266	0.0089
<i>t-Statistic</i>	656.2830	12.6858	0.0246	-3.7445	0.6509	0.7630
<i>Prob.</i>	0.0000	0.0000	0.9806	0.0011	0.5216	0.4532
Chile	10.3372	-0.0048	0.0389	0.0171	-0.0166	0.0173
<i>t-Statistic</i>	471.2067	-0.9732	1.4777	2.6858	-0.7307	4.3168
<i>Prob.</i>	0.0000	0.3406	0.1531	0.0132	0.4723	0.0003
Colombia	10.4994	0.0184	-0.0067	-0.0027	0.0235	-0.0046
<i>t-Statistic</i>	1554.2580	27.9079	-0.5240	-1.0254	1.4081	-0.9407
<i>Prob.</i>	0.0000	0.0000	0.6053	0.3158	0.1725	0.3566
Costa Rica						
<i>t-Statistic</i>						
<i>Prob.</i>						
Ecuador						
<i>t-Statistic</i>						
<i>Prob.</i>						
El Salvador	9.7690	0.0147	-0.1445	-0.0100	0.0269	0.0153
<i>t-Statistic</i>	735.9211	7.5091	-7.9548	-3.3522	1.3584	4.3109
<i>Prob.</i>	0.0000	0.0000	0.0000	0.0028	0.1875	0.0003
Mexico	11.1342	0.0276	-0.0275	-0.0229	0.0234	0.0061
<i>t-Statistic</i>	1611.3990	31.6769	-2.3562	-9.6122	2.0018	2.2567
<i>Prob.</i>	0.0000	0.0000	0.0274	0.0000	0.0572	0.0338
Paraguay	9.3381	0.0361	-0.0570	-0.0203	0.0118	-0.0040
<i>t-Statistic</i>	1100.8070	33.7900	-3.9748	-6.9460	0.8222	-1.2121
<i>Prob.</i>	0.0000	0.0000	0.0006	0.0000	0.4194	0.2378
Peru	10.5337	0.0128	-0.0071	-0.0168	0.0702	0.0169
<i>t-Statistic</i>	698.5127	7.2425	-0.3120	-4.8854	2.3346	2.4754
<i>Prob.</i>	0.0000	0.0000	0.7579	0.0001	0.0287	0.0211
Uruguay	9.9878	0.0141	-0.0601	-0.0158	0.0247	0.0164
<i>t-Statistic</i>	985.6808	10.2197	-3.0927	-2.9253	1.5149	3.0380
<i>Prob.</i>	0.0000	0.0000	0.0051	0.0076	0.1434	0.0058
Venezuela, RB	10.6446	0.0151	-0.0593	-0.0091	0.0447	0.0007
<i>t-Statistic</i>	1089.0440	10.4549	-4.4291	-4.1132	3.0308	0.2505
<i>Prob.</i>	0.0000	0.0000	0.0002	0.0004	0.0059	0.8044

Note: D1T intercept dummy  
D2T slope dummy  
D3T intercept dummy  
D4T slope dummy

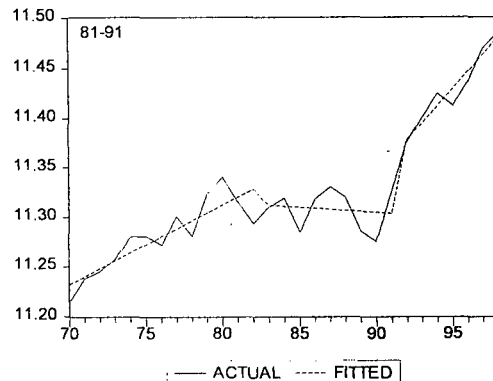
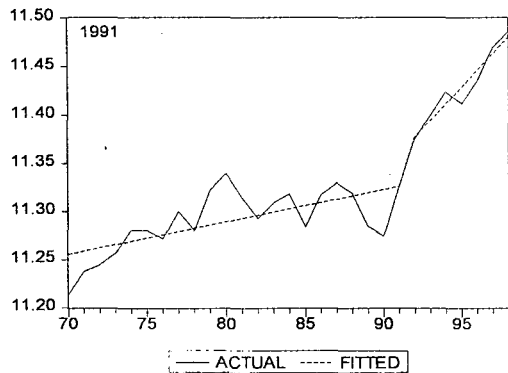
Source: Same as in Table 3.1.

# CHARTS

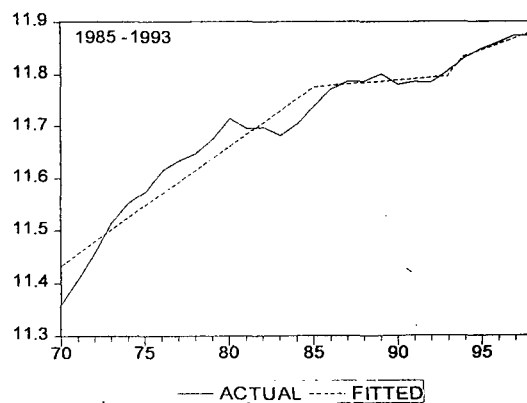
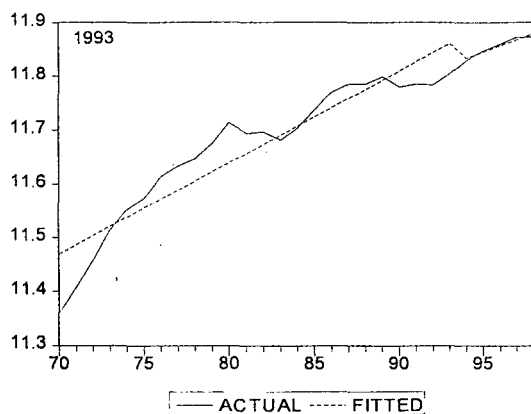
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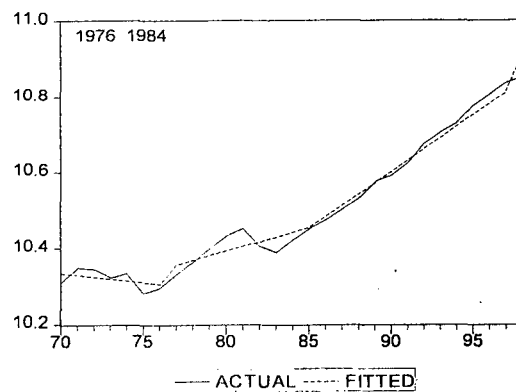
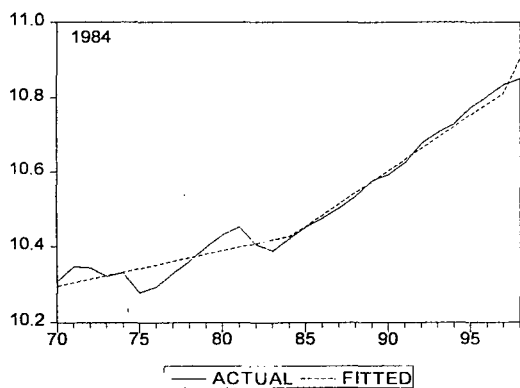
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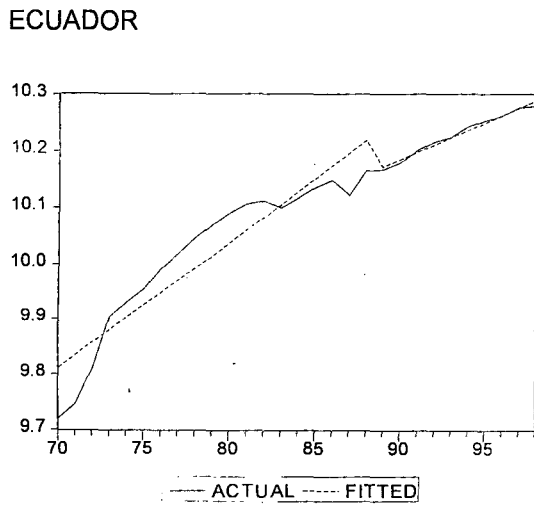
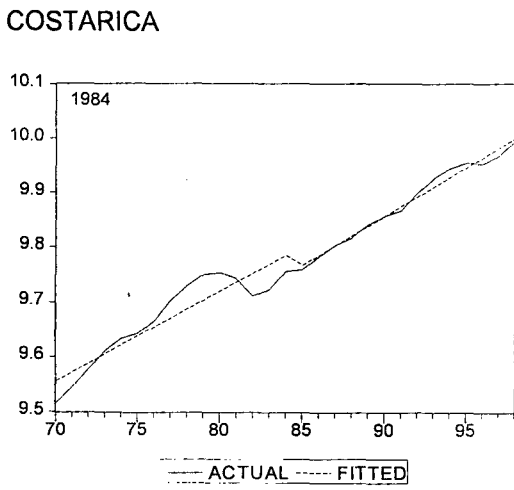
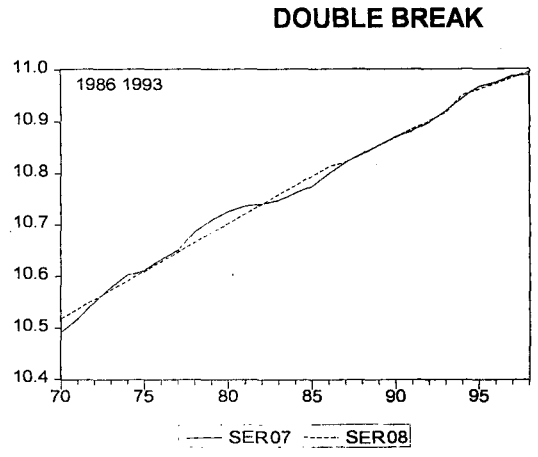
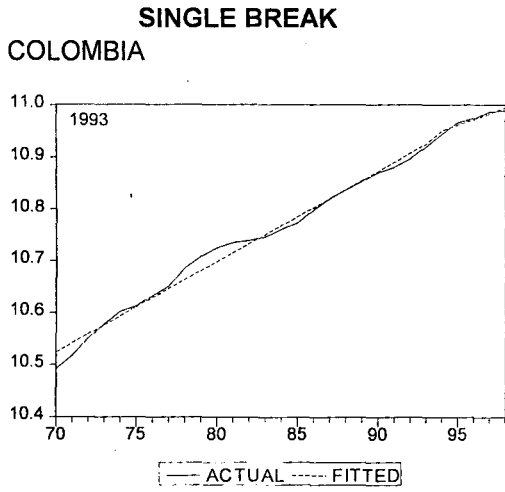


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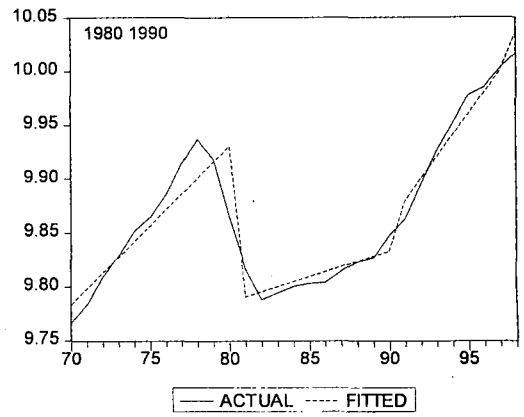
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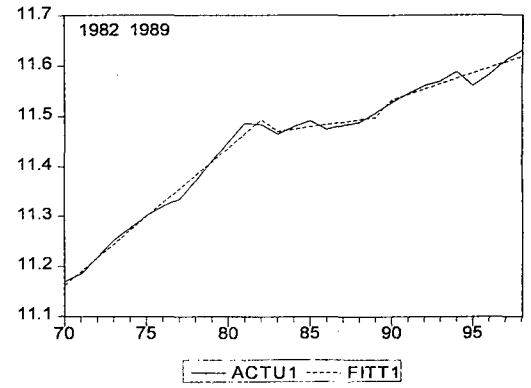
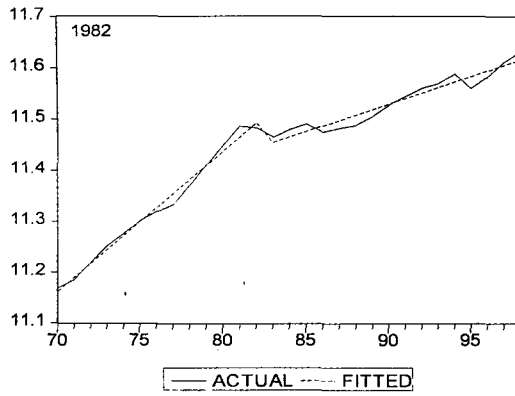


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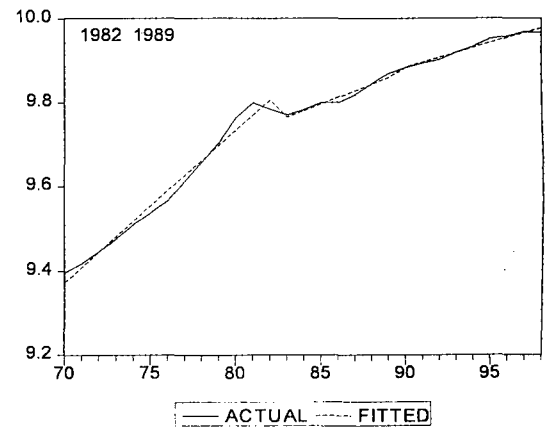
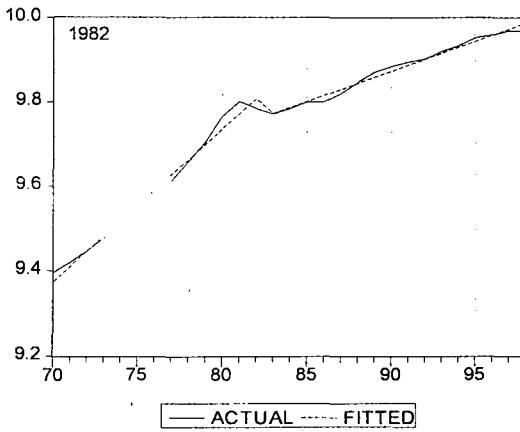
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**MEXICO**



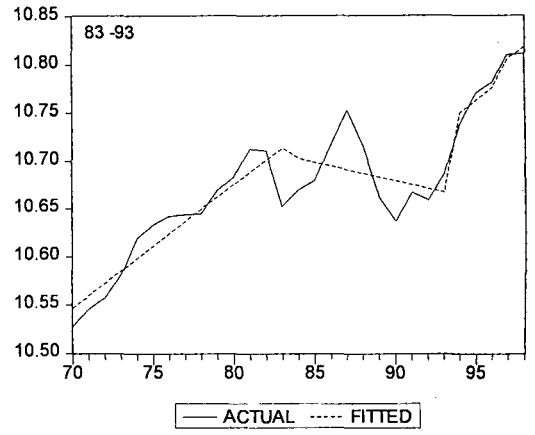
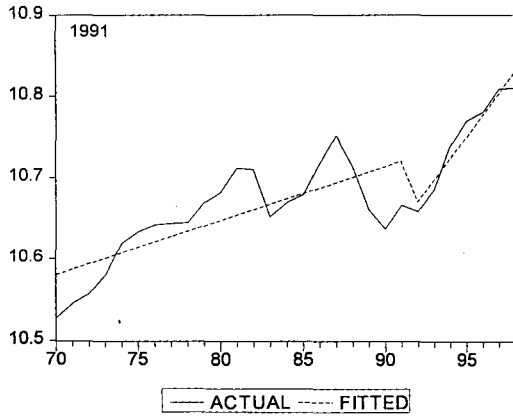
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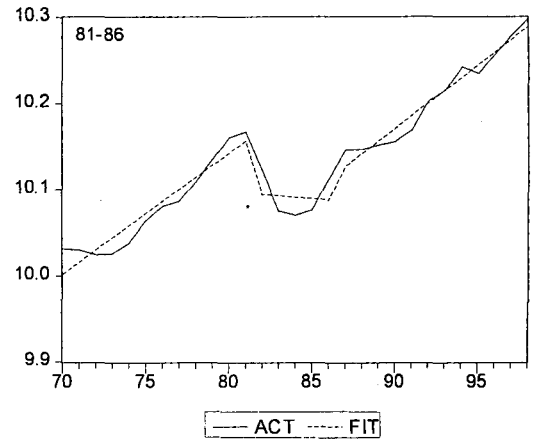
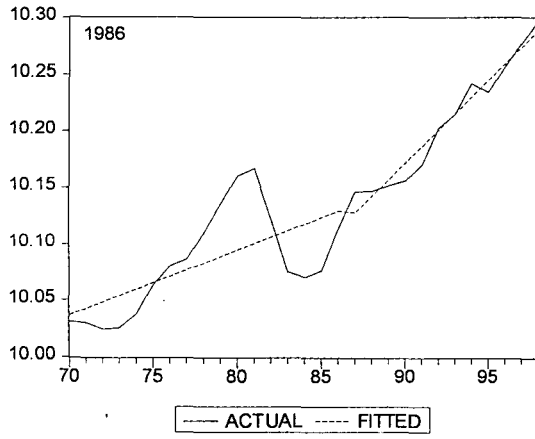
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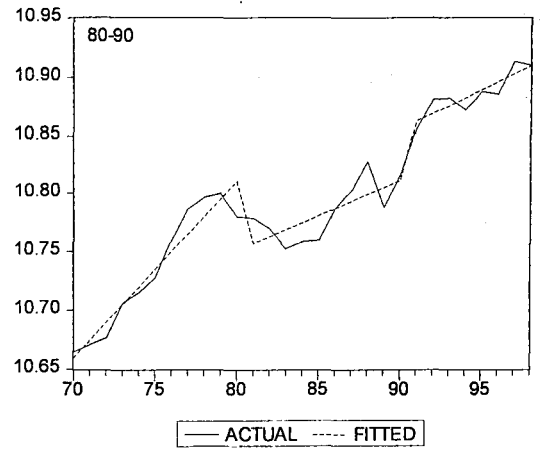
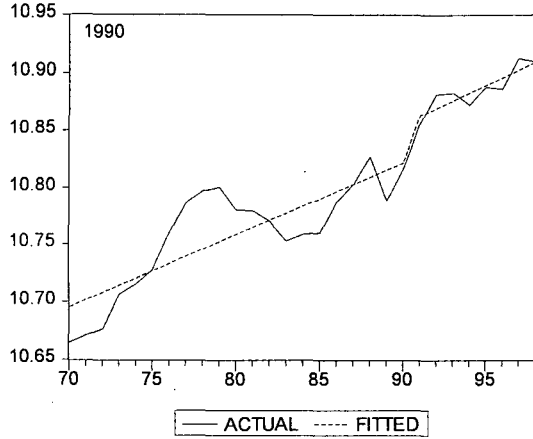
PERU



URUGUAY



VENEZUELA



## **CHAPTER-IV**

### **Structural Changes in Latin America During 1990s**

The logic and content of the reforms initiated in Latin America during the decade of 80s can be summed up in the following few words to restore economic efficiency and thus long term growth potential, by allowing markets rather than the Govt. to direct resource allocation. While the emphasis placed on macro economic stabilization policies are important, the long-term success of structural adjustment programmes depends upon reforms carried out at macro-economic levels. Efficient allocation of resources was to occur through the decision of individual economic agents, with Govt.'s role reduced to that of setting the rules of the game-property rights, rules of jurisprudences and maintaining the macro economic stability.

#### **5.1 Theoretical Prediction**

The incentive structure facing the firms could be affected by reforms, which includes trade reforms. Static effects involving reallocation of existing resources in response to changing incentive structure could occur both within and between firms. Within firms, there will be substitution of labour for capital along the marginal rate of substitution (MRS) curve in response to the falling wage-rental ratio. Under the assumption that firms are responsive to these relative prices also there may be substitution of domestic resources for imported inputs, due to devaluation or the opposite, due to the elimination of import barriers and reduction of tariff. Over all, greater



competition due to trade opening would induce a research for greater efficiency in resource are at the firm level, (although this response may be sensitive to imperfect markets in production or trade as well as depend on the actual degree of firm efficiency before the reforms). In addition production for international markets might allow exports to increase efficiency by capturing economies of scale. But here the effect is more likely for manufacturers and more likely where the country has already a manufacturing base.

[Dijkstra (2000)]

Between sectors the overall expected response to reforms involves a shift from production of importable to the production of exportable as comparative advantage determines profitability in the global market place. This movement would allow for a greater level of real income through trade according to the prediction of Heckscher-Ohlin model. Increased level income and investment would also cause demand for non-tradables to increase although, the relative balance between tradables and non-tradables cannot be predicted a priori. The over all result of these responses should be increased productively both through greater efficiency at the firm level, and through a shift in resources towards more productive firms and sector over all the expected response to the new incentive structure model be a shift from artificially induced capital and import-intensive industrial investment to investment in natural resource and labour intensive production along static comparative advantage time.

The greater efficiency and income resulting from those effects would in turn generate higher rate of growth in the long run i.e. a greater outward shift of the PPF than would otherwise have been the case. This is because, greater income would generate

higher rates of domestic saving and investment, while increased profitability of exportables production would attract expanded inflows of foreign capital. Also there is strong opinion among economists that the economies most open to international trade to have faster growth rates, due both to higher levels of investment and to greater increases in factor productivity

But supporters of reforms have paid little attention to the long run dynamic consequences of new productive structure, which is the potential impact on the accumulation of knowledge and technological capability factors crucial to sustained competitiveness in the new global economy. There is a tacit presumption that the new productive structure, because it rewards efficiency, will lead to a rapid progress of 'learning by doing' and technological capabilities. The growing relative endowments of capital, skill and technology will change each country's comparative advantage toward higher value added products.

Now the above predictions about the outcomes of the reforms regarding the changes in the structure of the economy can be analyzed at two broad levels, the economy as a whole and economic sectors. The analysis will be with respect to four broad parameters i.e. production, exports and imports and employment. After briefly discussing the methodology section, we will present analysis about growth and change in production patterns. Secondly, we will present analysis about change in export patterns. Thirdly we will analyse the change in import patterns. Lastly, we will discuss the changes in employment situation.

## 4.2 Methodology

For calculation of all growth rates related to production, export and import we adopted least square growth rate method, which takes into account all the observations over the entire period.

The least square growth rate  $r$ , is estimated by fitting a linear regression trend line to the logarithmic annual values of the variable in the relevant time period. The regression equation is

$$\ln X_t = a + bt$$

Which is equivalent to the logarithmic transformation of the compound growth equation,

$$X_t = X_0(1+r)^t$$

Where  $X$ = Variable,  $t$ =time,  $a=\ln X$  and  $b=\ln(1+r)$

If  $b^*$  is the least square estimate of  $b$ , then the average annual growth rate  $r = \exp(b^*) - 1$ , which is multiplied by 100 to transform it into percentage.

For calculation of growth rates related to population, labour and employment we used exponential growth rate method, which does not take into account intermediate values of the series

$$r = \ln(p_n / p_1) / n$$

Where,  $p_n$ = last observation

$p_1$ =first observation and

$n$ = No. of years in the period. (WDI-2000)

For comparison of structural change between two periods in a quantitative way a structural change index SCI [(adopted from Reinhardt, (2000))] was calculated for each period.

$$\text{Structural change Index } SCI = \sum_i |S_{ie} - S_{ib}| / 2.$$

Where,  $S_{ie}$  is the share of category  $i$  at the end of period.  $S_{ib}$  is the share of category at the beginning of the period. Since any change in one share is matched by an equal change in other share, the total must be divided by 2 to remove double counting. The value of the index ranges from 0 (no change in shares) to 1 (complete change).

#### 4.3 Growth At Aggregate Level

Based on data for 21 Latin American countries for a sample period of 1970-1998, we will now analyse the changing structure of production in the Latin American economies. The sample period was again divided into three-sub period e.g. 1970-1979, 1980-1989, and 1990-1998, which was again divided into 1970-1974, 1975-1979, 1980-1984, 1985-1989, 1990-1994, and 1995-1998. While we can not establish any exclusive time period as to which period was pre reform or post reform because each country started their reform at different time points (See Appendix, [Sachs and Warner, 1995]), at broad regional level we can say that 1980s was the period of crisis in its early stages and the period of stabilization and reforms in its latter parts. So we may attribute 1970s as the pre crisis period, 1980-85 as the crisis period and 1985-1990 as the period of stabilization and reforms and 1990-1998 as the post reform period. All our analysis in this chapter will

be based on the above period classification. We have a sample of 21 countries (names given in the appendix). For all our aggregation we have taken 19 countries out of this 21 sample countries (i.e. excluding Barbados and Guyana). All aggregation across the countries has been done in terms of constant 1995 US\$.<sup>1</sup>

Now at first looking at aggregate regional level, we can see from table –A the performance in terms of regional growth rates of out put and its components i.e. agricultural value added, industry value added and service value added. While growth rates may not exactly reveal the structural change that has occurred, it can indicate the process or the dynamics through which this change was happening. Every one knows that there was crisis in Latin America during early 80s .If it was due to structural deficiencies then we should expect that there must be some sign before that this was going to happen .as we can see from the table-A that during 70-79 growth rate was modest around 5.5% annual average growth.

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<sup>1</sup> All aggregation across the countries and over time have been done from the time series data available from WDI CD-ROM. kindly provided by Dipanker Sengupta, CSDILE JNU.

**TABLE A: Growth in LATIN AMERICA\* (19COUNTRIES): 1995 CONSTANT US\$**

	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	5.69	7.28	4.93	1.74	-0.43	2.23	3.65	4.23	3.79	3.05
Gr:ava	3.46	3.31	3.60	2.23	1.69	2.43	2.30	1.91	1.96	2.61
Gr:iva	5.69	7.59	5.49	1.47	-1.88	1.98	3.84	4.13	4.74	2.54
Gr:sva	5.90	7.64	4.51	1.89	0.28	2.42	3.67	4.14	3.93	3.32
Gr:mva	5.72	8.22	5.07	1.50	-1.87	1.66	3.12	3.21	3.92	2.18

Data Source: WDI CD-ROM 2000.

Note: Gr:gdp-Growth rate of gross domestic product

Gr:ava-Growth rate of agriculture value added

Gr:iva-Growth rate of industry value added

Gr:sva-Growth rate of service value added

Gr:mva-Growth rate of manufacturing value added

N.A-Not Available

\* Guyna and Barbados are not included.

But if we look at its two sub periods i.e.70-74 and 75-79 we can see that growth performance during the first period was very good around 7%per annum while in the second period this has slumped to around 4.7% per annum. If we look at broad sectoral performance, except agriculture, which remained stagnant in both periods around 3.5% all other sector had faced the same situation. While growth in industry value added slumped from 7.6% in first period to 5.5%in second period, growth in service value added slumped from 7.6% in the first period to 4.5% in the second period. These things indicate that the region as a whole was on a thresh hold of á crisis. Most of the governments in the region were following inward looking import substitution policy. While this approach was apparently successful in the short run in achieving high growth rate, in the long run this was making economies in the region un sustainable which was reflected in decreasing growth rates of the whole region and this has happened through decrease in the contribution of industry and service sector.

#### **4.4 Growth: A Comparison**

To make a comparison of growth in our sample of Latin American countries we will examine their growth rates. While growth rates cannot show us in a quantitative way the structural change in the region, this will help us in understanding the dynamics of structural change in the region.

While comparing growth rates many countries have compared the performance of 90s with that of 1980s, which is in someway unfair. As we know the decade of 80s for L.A. country is called 'lost decade' because of growth collapse during this decade. It was a transition period from one model to another completely new model of economic

development during which a great upheaval was going on with a churning among various ideologies between 1980s and 1990s; the average annual growth rate in Latin America and the Caribbean was only around 1.5% (Table 4.1). In the words of ECLAC 'this period was marked by the crisis which had begun in 1981 and which by 1982 had attained dimensions unrecorded since the great Depression of the 1930s.'<sup>2</sup>

During this time Institutions policies were changing rapidly, sending mixed signals to economic agents, resulting in instability of the rules of game. Secondly, the debt crisis almost completely precluded the access to international financing of the economies in the region. The net transfer of resources was negative during the decade, with its deleterious consequence for growth. Numerous attempts at stabilizing economies failed during the 1980s, resulting in chaotic situations, which do not encourage investment and growth. In this sense the decade of 1990s was a normal one because, there was resumption of flows of international capital towards the region and with reasonably stable macro-economic condition. Also in the decade of 1990s, economic agents were reasonably sure of in which direction the economic policies were directed to.

Thus while comparing the growth performance of 1990s with 1980s; we will also compare it with that of 1970. This will analyse growth rates of GDP and its component i.e. Agricultural value added, Industrial value added and Service value added in our sample countries over three decades 1970-80, 80-90 and 90-98.

From the table-4.1 we see that of the major economies we have taken in our sample they cover almost the entire population and GDP of the region. In our sample

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<sup>2</sup> Economic survey of Latin America and Caribbean 1983



period, our sample countries taken together grew at an average annual rate of 3.1%. But the performance was not uniform through out the period or across the countries. 1970s growth rate was relatively satisfactory with an average annual growth rate of 5.7%. While during 1980s it slumped to around 1.6% per annum. Growth resumed in 1990s but it was not up to 1970s growth rate. Again if we look at 5-year sub-periods within each decade there was further variation. First half of 70s saw growth rate of region's GDP was at its peak at 7.3% but towards the latter part of the 70s it declined, ending in the negative growth rate of -0.4% in the first half of 80s in the wake of debt crisis. The last part of 80s saw the region, beginning to recover from the prolonged shock. During 85-89 our sample countries grew at 2.2 per annum. While first part of 90s, saw the region growing at a reasonable rate of 4.2% per annum, it was apparent that towards the latter part of 90s that this was short lived as the regions growth rate again declining due to the crisis internally generated by investors' abrupt withdrawal from Mexican market which led to severe crisis spreading to the rest of Latin America. The region had barely recovered from this crisis when in 1997 it suffered the consequence of another shock, this time originating outside the region in the financial crisis of East Asia. Across countries, there was also wide variation of performances.

### **Ranking of our 20 sample countries**

Table-4.2 shows the relative ranking of 20 Latin American countries according to their growth rates during 70s, 80s and 90s. The first striking thing to observe is that those countries that were considered to be most successful in 1970s have dropped to the last part of the ranking column. Ecuador, Brazil, Paraguay, Mexico, that were star performer

during 70s have come down to below Latin American average during 90s in terms of growth rate of GDP.

The second thing to observe from the ranking table-4.2 is that those countries who were above the Latin American average growth rate in 90s, all but three countries have their GDP growth rate greater than that of 70s. They have increased their relative ranking with higher GDP growth rate during 90s than 1970s. The third thing to observe is that 3 countries i.e. Dominican republic, Costa Rica and Guatemala who have their growth rates less than that of 1970s have retained their position above Latin American average growth rate.

Except Chile, Peru, Argentina and Uruguay, the other countries that are above Latin American average during 1990s are small, Central American countries or Caribbean countries that were relatively open economies. Their growth decelerated during 90s relative to 70s, but managed to stay ahead of the Latin American average in 70s.

The fourth thing to observe is that those countries that came from bottom in 1970 to the top of the ranking table-4.2 in 1990s are among the aggressive reformers of the region.

The fifth thing to observe is that some countries were less affected by debt crisis of 1980s, such as Colombia and Honduras in the sense that, in terms of growth rates they did not suffer many fluctuations.

And sixthly more and more countries are moving above the regional averages.

So what was the reason that most performing countries in 1970 failed to perform during 1990s and that those countries who were the worst performer during 1970 are top performer during 1990s?

#### **4.5 Production**

The main argument of supporters of reforms is that in Latin America the productive structure was highly distorted due to government interventions, protection and subsidies which had provided incentive to sectors with no comparative advantage to survive while those sectors who have comparative advantage were suffering. The reforms are expected to generate necessary changes in production patterns, which will allow efficient functioning of the country.

Now we will examine this hypothesis.

We will analyse this by taking some major countries out of our sample.

1. Argentina
2. Brazil
3. Chile
4. Colombia
5. Ecuador

Now observing table-4.3 in which the share of 3 sectors in GDP has been given for 5 different points of time. We can see that in Argentina the share of industry has been declining throughout, largest being in the period 80-98 while that of service is increasing and this is a continuous phenomenon. Agriculture remained constant if we consider 1970 and 1998. But agriculture's share has increased in the period of 80s only to decline to pre-80s level at 1998. In fact if we look at the appendix table-1 where growth rates of the components of GDP are also given. We will find that agriculture is the only sector which

was growing positive and significantly throughout heating at the structural change Index table-4.4.

#### **Table-4.4 Structural Change Index table (Production)**

We find that there has been significant shift of the resources between economic sectors during the crisis period 80-85 but little shift during the crisis period 80-90 and throughout 90s there has occurred between sectors, it is because of a response to overcome the crisis in the short period and the 90s trend has been to reverse what ever shift that had occurred during the crisis period.

#### **Brazil**

Looking at table-4.3 again, In Brazil, agricultures share had declined during 70s but again increased during the crisis period 1980-85 and remained more or less the same in 1990s. While industry's share had increased during 70s, but was declining being in the crisis period and service share is increasing, the largest increase being in the crisis period and service share is increasing, the largest increase being in the stabilization period. Looking at appendix table-1, for sectoral growth patterns in Brazil we see that growth during 80s was mainly the result of growth in the second half of 80s. During 80-85 agriculture's share in GDP and service's share in GDP has increased while that of industry has declined. During the first part of 80s the negative growth was mainly the consequence of negative growth in industry value added. During 1990-98 there was negligible shift in the resources between sectors. Their shares almost remain constant during this period.

Structural index table-4.4 reveals that in Brazil overall structural change was highest during 80s and there was no structural change during 90-98. Structural change

was higher during the latter part of 80s than the crisis period. At the same time growth rate of GDP was highest in 1970s very low during 90s compared to that of 70s. Is there any possibility that structural change in one period may affect positively the growth rate in the next period? We will examine this thing after examining some more countries.

### **CHILE**

Chile was the star performer during 1990s. From being one of the slowest growing countries in the region during 70s, its rank became topmost in terms of GDP growth during 1990s. Table-4.3 reveals that during 70s there was decline in the shares of agriculture and industry, while services share has increased. During 80s, agriculture's share has increased while that of services has increased industry's share remained constant. During 90s there was decrease in both agriculture and industry while services share has increased. We can see from the table-4.4 that during 70s and 90s the overall shift in the resources between sectors was same. Also the sum of the structural change index for the period 80-85 and 85-90 was greater than the structural change index for the whole period, which shows that some of the changes during the period of stabilization were a reversal of changes that has occurred during the crisis time.

### **COLOMBIA**

Colombia is one of the countries in our sample whose ranking was improved from 9<sup>th</sup> place in 70s to 1<sup>st</sup> place during 80s, even if its growth rate declined from 5.48% per annum to 3.53%. Its decadal or five year average annual growth rate was never negative as our appendix table-1 shows. Table-4.3 suggests that during 70s its agriculture share was declined and service share was increased, while during 80s its industry share in GDP was increased and service share was decreased. During 1990s its agriculture share in

GDP decreased. Service sector gained in GDP at their expense. Looking at table-4.4, it can be seen that 90s overall structural change was highest in constant to Argentina, Brazil or Chile.

### **ECUADOR**

In our sample Ecuador was the highest growing country during 70s. But its growth rate plummeted to 1.74% per annum. It could never recover from this again and in 1990s it remained a slow growing economy. As table-4.3 reveals during 70s its agriculture and service's share in GDP declined drastically. But industry gained considerably. As we can see from the appendix Table-1, its industry value added grew at a feverish rate of 15.6% per annum. Even, during the crisis period its industry continued to grow. During 80s agriculture share increased marginally and industry's share also increased considerably but the expense of service sector. The structural change Index table -4.4 shows that the overall shift of resources between sectors is highest during 70s. During 80s the structural change indeed was also not insignificant. In 90s there was almost into change. As we can see the sum of SCI of 1980s and 1985-90 was much higher than the overall index of 90s. So we can say that some of the structural change that had occurred during 1<sup>st</sup> half of 80s i.e. crisis period was reversed during the latter half i.e. of stabilization period.

From the above analysis while it is not possible to infer any pattern or causality. What may be said about 80s, is that structural change occurred during 1980s from the deferential effects of the crisis on existing economic structures which was exogenous but the response to it in terms of policy reforms is endogenous. What impact this policy reforms has a economic structure is still uncertain. There was little change in the post

crisis or stabilization period. As Macario (2000) has observed during the latter part of 1980s, the investment was strongly affected by uncertainty with respect to macro-economic situation, especially with regard to exchange rate. In the 1990s, with greater stability, we do see an increase in manufacturing structural change, but it was comparable to 1970s and 1980s.

Our data is not disaggregated much. So it shows broad changes in structure of production. But there may be considerable shifts within sector. There are various studies, which emphasize this aspect of reforms.

David, Dirven and Vogelgesang (2000) in a study on Latin America's agriculture has shown that there are important structural changes in Latin American agriculture during 1990s, and these changes fit reform expectations. There is momentum for export agriculture and thus production for oilseeds, fruits and vegetables had gained at the expense of traditional products like roots and tubers. There is polarization of rural production, since relatively large-scale modern farms are producing the most dynamic products, while the least small-scale traditional farmers by and large produce dynamic ones. Regarding land uses, there are clear directions of changes in land use from late 80s until the present a steep decrease in cultivated land and also in permanent crops. Much of the land was converted to permanent pastures for extensive cattle ranching, some of it to forest plantations or directed towards non-agricultural use. His explanation for this shift is many.

Lack of working capital due to unavailability of credit plus high interest rates, partially linked to the dismantling of public credit institutions; the fall in profitability due to the sustained decline in world prices combined with lower import taxes and high

exchange rates, insufficiently compensated by falling input prices and rising yields of many annual crops; conversion of agricultural land to urban developments and tourist resort; lack of reliable manpower and therefore shift to extensive cattle raising; guerrilla activities (in certain countries) and other security problems which led to a lack of supervision, low investment, and low manpower use strategy; and finally, higher yields resulting in increasing land use.

The opening up of the economies created downward pressure on agricultural prices due to increased import competition and the liberalization of domestic markets, as well as a drop in import prices for agricultural inputs (which in the early to mid-1990s coincided with high exchange rates). This, in turn, encouraged the increased use of imported capital goods and agricultural chemicals.

**Katz (2000)** examined the recent changes in the pattern of production specialization attained by Latin American manufacturing industry. His finding is that the recent reforms did not result in major discontinuity with past. The rate of growth of labour productivity in manufacturing production increased quite significantly during 1990s in all of the countries under consideration. This is particularly the case for Argentina, Brazil and Uruguay, where the acceleration of labour productivity growth in manufacturing production during the 1990s was especially strong. However in all three countries the faster rate of labour productivity growth of the 1990s is more a reflection of a very high rate of labour displacement from manufacturing industry; than of a high rate of expansion of industrial production. In fact manufacturing growth was not particularly strong in most of the countries in his sample under examination throughout 1990s. Therefore the pattern does not seem to be are of rapid rates of productivity growth



deriving from a major outward expansion of output, but rather of major “labour saving” restructuring efforts carried out by an industrial sector, that is not growing very rapidly through time.

**Dajkstra (2000)** studied the relationship between trade reforms and industrial development in Latin America. His study points to the fact that there may be a trade off between static (allocative efficiency) and dynamic efficiency effects; in particular, for countries that do not have a developed industrial base. His empirical study shows that other factors, rather than trade may be more important factors in explaining trade.

Trade liberalization also proved to lead to intensive restructuring within manufacturing. Competition from imports led to a decline of most manufacturing branches and of industry as a whole in both Chile and Nicaragua. In line with theoretical expectations, allocative efficiency effects were stronger in these small and medium countries than in larger countries such as Brazil or Mexico. It seems, however, that the restructuring that occurred in countries such as Chile and Brazil was to a large extent due to factors other than trade policies, in particular, to changes in domestic demand and the exchange rate level. The effect of trade liberalization on allocative efficiency seems to be overstated.

In Latin American countries with a more developed industrial base, trade liberalization is unlikely to bring about a structural change in the direction of sectors with possibilities for dynamic efficiency effects (sectors with high R&D intensity and increasing returns to scale). In Brazil and Mexico, the capital goods sector experienced a relative decline, while in Argentina this sector survived but no substantial new investment came about. The high-tech sectors that did experience growth in these

countries (cars and computers in Mexico, motors in Brazil) benefited from specific export promotion measures and (in Brazil) also from exceptionally large increases in domestic demand.

Although manufactured exports from all Latin American countries increased rapidly in the 1990s, these exports often consist of products from assembly industries based on cheap labour, or of processed raw materials. For Chile, it was demonstrated that manufactured exports had a lower skill and technology intensity than before trade liberalization. Most manufactured trade from small and medium Latin American countries went to stagnant markets.

**Weeks (1996)** examined whether there was structural change within manufacturing for five Latin American countries taking all years during 1970-92 (and sometimes 1963-92) into account. All possible inflection points were tested and only statistically significant results are reported. A structural change in the direction of intermediate goods for the later years is reported for Colombia (1985-92) and Mexico (1983-92), but not for Argentina, Brazil and Chile. There is some evidence for a lower share of consumer durables and capital goods in Chile between 1981 (for capital goods 1983) and 1992, and for a lower share of capital goods in Mexico during 1983-92. It is difficult, however, to draw conclusion from these results. The periods for which statistically significant structural change is reported often begin earlier than the trade liberalization.

#### **4.6 Trade**

If trade liberalization changes the relative prices for importable and exportable, we expect structural changes to occur. The economy will produce more according to its

comparative advantage, or according to its endowments. It can be expected that Latin America is good at labour intensive products and at raw resource intensive products. The former may imply a shift from agriculture to industry the latter a change towards mining and other primary production but also the processing of these new materials. Within manufacturing more labour-intensive production and more raw materials processing (production of intermediate goods) can be expected. Latin American countries that already have a developed industrial base can be expected to specialize more in technology (R&D, increasing returns to scale) intensive and human capital-intensive goods. In Latin America the most industrialized countries before trade liberalization policies were carried out included Brazil, Mexico and Argentina. They had the largest proportions of the manufactured exports out of total exports in 1980s, and they also had the highest R&D expenditure as percentage of GDP in early 1980s. These countries can also expected to experience also dynamic efficiency effects.

By now, all Latin American countries have liberalized their trade. Chile started with radical trade liberalization in 1974; Mexico and Bolivia began in 1985 and most other countries applied serious reforms on export structure and then an import structure.

#### **4.6.1 Export**

As previously our focus will be on changes that are occurring at a broad level. Export growth in Latin America during 80s removed around 5%, which grew to 6% per annum during 1990 and except a slow down during 1991, the regions export growth has been increasing even after reaching a growth rate of exports of 13.2 during 1997. Also the exports of goods and services have increases as a percentage of GDP starting from

10.3% of GDP up to 18.0% of regional GDP during 18.0%. This shows that the shift to exportable has occurred.

Also the intra-regional trade has grown strongly, both absolutely and as a share of total, with the development of bilateral and sub-regional trade agreement. Our analysis will be based on the comparison of three variables, export growth rate, structural change and index in export and GDP growth rate.

Table-4.5 shows the growth rate of exports with marking of the countries on that basis. It shows that Mexico, which was always a good export performer, has come to the top in 1990s. Brazil and Colombia have been slipped from the top part of the ranking column to the bottom part in terms of growth rate. One interesting feature is that small countries of the region especially of Central American and Caribbean seem to have done better as whole than others. El Salvador and Guyana, which were at the bottom part of the ranking table has come to second and third position during 90s. Other countries of that sub region have also increased their growth rates of exports.

On the whole the export performance of almost all countries have improved vastly. Has the structural change in export composition contributed to it, we will examine it by taking 5 individual and important countries: (1) Argentina, (2) Brazil, (3) Mexico, (4) Chile, (5) El Salvador.

#### **ARGENTINA**

Table-4.6 shows the percentage distribution of total exports among different categories.

It reveals that Argentina's food export, which was its prime export good is declining from 1985 onwards while the manufacturing export has been increasing

continuously as a share of total. Also fuel export has come to be one of the important export good. Only travel service is increasing its share while that of other services are decreasing. But on the whole there was no shift in share between goods and services. Table-4.7, which shows structural change index for exports reveals that structural change index for the period 80-98 is 0.22 looking at sub periods 80-90 has the greater SCI than 90-98. This is even after some shift in shares were reversed during the latter part of 80s we can see that the sum of SCI for the period 80-85 and 85-90 is greater than the SCI for overall period of 80-90. This shows that there must be some reversal during the period 85-90. During the past reform period 1990-98 also the SCI was substantial and the shift has primarily occurred between food and manufacture export, and transport and travel services. On the whole there was negligible shift between goods and service share in total export. The change has occurred within goods and service exports. Thus the growth in exports in 90s was occurred primarily due to shift to manufacturing and travel service export besides the contribution of increase in ores and metals.

### **BRAZIL**

Brazil's rank in terms of growth of exports has slipped from second position to the bottom part of the ranking table-4.5. The table-4.7 shows the SCI for exports during 80s much higher than the SCI for export during 90s. Within goods export, as the table-4.6 shows, during 80s, manufacturing exports has increased its share considerably from 34% to 46.5% and food exports share has decreased drastically. Metal and ores and travel services share has increased. That is export was primarily moving away from being predominantly primary export dependent to be manufacturing export oriented. But during 90s, the manufacturing export share as well as food export share has risen marginally and

ore and metal's export share has decreased. Within services only commercial services has increased its shares. Others have either stagnated or declined. This indicates why the export growth is lower during 1990s. Overall goods share has declined as export share over 80s to 98.

## **MEXICO**

Mexico has consistently been a good performer in export front. Mexico has improved its position from low rank in 1980s to top rank in 1990s with substantial higher export growth rate. As the table-4.7 reveals that structural change over the period 1980-98 has been tremendous and both 80s and 90s show very significant structural change. While 90's SCI for export is 0.41, 80's SCI for it is 0.27. The shift in shares between goods and services in export has also been greater in 90s than 80s as the SCI for exports shows. The table-4.6 shows that while food export share has always been moderate, although it declined during 1990s, there was large shift between fuel and manufacture. Manufacturing share in export has increased from being one-tenth of total to be four-fifth of total export, while the share of fuel has been reduced from 50% to 5.4%. All categories of services share have also declined. Overall the SCI between goods and service share has declined. Thus the main propeller of export growth in Mexico has been manufacture. This has many reason of which most important is the expansion of maquila or the assembly line production, which was mainly geared towards exporting to USA (Katz, 2001) and special trade relation with USA.

## **CHILE**

Chile was the best performer during 1990s after being one of slow performer in the region. Its rank was same 5<sup>th</sup> both in 80s and 90s, with a high export growth rate of 10% per annum during 90s.

As we can see from the table-4.7 for structural change index Chile's structural change index for 80-98 is as high as 0.22 and for sub period 80-90 and 90-98 it is same 0.12. The SCI for whole period between good and service is only 0.01 showing that some shifts in shares between goods and services in total trade.

Table-4.6 reveals that Chile's food and manufacture export has increased by two times, while metal and ore export has decreased substantially within services commercial service export has decreased while transport and travel share has increased. There was not much change between goods and service share in total export.

Considering El Salvador, a small country, its overall structural change index for all categories of exports is 0.13, but its structural change index for all category during 80s & 90s, when we consider sub period, are much higher that is above 0.20.

From above analysis of some individual countries, it seems that 90's export growth performance is a result of structural change i.e. change in the composition of exports within all categories of exports. And for countries that were already industrialized to some extent before reform, export growth primarily occurred because of shift from primary to manufactured exports for example Argentina and Mexico etc. Small countries, especially of Central America and Caribbean have also shown good export performance. In these small countries structural change index for all categories are generally higher than main land South America, for example Costa Rica, Dominican Republic. And in

small countries structural change was primarily due to increase in the share of services like travel, tourism etc. Further there has not been much change in share between goods and services in export in large countries.

These findings concur with the findings of (Katz, 2001) who has found sharp differences between Mexico and South American countries especially Argentina, Brazil and Uruguay, which can be generalized into differentiating the pattern of trade between countries nearer to USA and Southern American large countries. In fact Reinhardt and Reinhardt and Peres (2000) has shown that export led model emerging in the north is based not only upon the comparative advantage of low skilled labor, but even more significantly, on geographic proximity to the United States Special trade relations with the United States Special trade relations with the United States (NAFTA, the Caribbean Basin Initiative) have further enhanced these advantages in the northern region. Structural change in response to these factors, in the context of trade opening, has been extensive. In South America, on the other hand, these factors have been insignificant, and the responded to trade opening have been primarily determined by the country's natural resources endowments, by differences in initial conditions (such as level of industrialization), and by the impact of sub regional free-trade agreements (MERCOSUR, Andean Community).

#### **4.6.2 Import**

For Latin America and Caribbean import growth during 1985-90 was negative i.e. -6.5% annual average. While during 1985-90 it was 4.8%. Since 1990 onwards import growth has increased from being 10.8% to 21.8% on 1997. Like wise import as a share of



Latin American GDP was 14.8% during 80-85, but it declined to 9.6% during 85-90. Since 1990 import as a share of GDP has grown from 10.4% to 20.1% in 1997 (ECLAC, structural year book for Latin America and Caribbean, various years)

Our ranking table-4.8 (which ranked the countries according to growth rate of imports) shows that almost all countries in the region have diametrically different growth rates of imports in the three period, First period 1970-79 most countries import growth was above 5% per annum with some countries having double digit import growth ate for, example Chile and Ecuador (Ecuador was also the topmost country in our export ranking table-4.5 during 70s)

But we see that most of the countries growth during 70s has become countries with low, in fact negative import growth rate during two periods, like Costa Rica and Bolivia. But why did countries with such high import growth rate become countries with negative growth rate percentage. The answer is simple, that it was a drastic measure to face a drastic situation arising out of the debt crisis of 1982 and the consequences after wards countries had to impose heavy import restriction to generate the trade surplus to service the huge debt they had incurred. Another important thing to observe is that those countries, whose import growth rate was negative during 1980s, care in the upper part of the import ranking table-4.8 with double-digit import growth rate. This was in response to the removing the restriction imposed during 80s and the consequent explosion of pent up demand for importable.

Import liberalization was one of the central elements of an outward-oriented economic policy that was adopted as part of policy reforms through out Latin America

after stabilization came to the region. Access to the imports of intermediate inputs at competitive prices is regarded as important to export promotion, while a policy of protecting domestic industries against foreign competition is viewed as creating costly distortions that end up penalizing exports and impoverishing the domestic economy. The ideal is a situation in which the domestic resource cost of generating or saving a unit of foreign exchange is equalized between and among export and import competing industries (Williamson, 1990).

Although our data on imports does not conform to the classification by category of consumable capital and intermediate import, the table-4.9, which shows the percentage distribution of various categories of imports, reveals that in most of the countries manufacturers import share has increased steadily. A detailed analysis from disaggregated manufactured import share would have revealed more information about the sector to which these manufactures import was directed some other studies about trade liberalization have analyzed imports by categories of capital intermediate and consumer we will discuss about them latter.

Observing the table-4.10 which shows structural change index for import over 80-98 and its sub period there has been substantial structural change over the period 1980-1998, but small countries, like Costa Rica, Dominican Republic, Guyana, Panama, which are countries of Central American and Caribbean region has shown grater structural change. Another observation is that in most of the countries, the overall structural change index for all categories of imports over the period 1980-98 has been smaller than the sum of the structural change index for the sub periods 1980-90 and 90-98. This shows that come of the structural change in import during 1990s was the reversal of some structural

change during 80s. For example, Argentina's structural change index for the period 1980-1998 was much smaller than the sum of the structural change index for 1980-90 and 90-98.

From the table-4.9 we can observe that during 80s, share of food, fuel manufactures share of import had reduced while, ores and metals, commercial services, transport services travel services had increased. But during 90s shares of food and manufactures import increased while share of commercial services travel service and transport services share of import has decreased. Similar was the dynamics between shares of goods and services in total export. As we can see SCI for goods and services in Argentina, for 80-98 is 0.05 while for sub periods 90-98 and 80-90 it was 0.21 and 0.16 respectively.

But if we see Chile's case which is said to be one of the consistent reformer and leader of reformers, there is small difference between the SCI for period 1980-98 and the sum of the SCI for sub periods 1980-90 and 90-98. So we can say that Chile has been relatively consistent in its trade liberalization over the years.

From the above analysis it can be inferred that not all changes that has occurred in import composition during 1990s is not entirely due to reforms or trade liberalization. It was a combination of many factors, which had brought these changes. The most important were the impact of the general macro economic situation (exchange rate), which was more stable during this period, increased domestic demand, improved access to other markets for exports.

In most countries the growth in manufactured imports, has been accompanied by a higher growth in manufactured exports leading to a rapid deterioration in manufacturers trade balance (Katz, 2000) But the reason behind this lies in the fact that most of these manufactured exports are based on cheap labour and on raw material processing that is the low skill and low technology exports increased during 1990s. According to Katz (2001) “the increasing trade deficit in Latin America is intrinsically linked to the fact that all of the countries in the region have now become heavy importer of capital goods, as well as of intermediate parts and component for industry, while they have concentrated in exporting either low value-added industrial commodities (Argentina, Brazil, Chile and Uruguay) or Maquila (assembly) output (Mexico). The engineering-intensive wage good industries have clearly fallen behind in terms of productivity and have become relatively heavy importers. It is in these industries that the region’s countries are now finding it increasingly difficult to maintain a desirable trade balance, particularly as a result of a high elasticity of demand for imported capital goods and vehicles. In contrast, the natural resource-processing industries and agro-industry and foodstuffs production postpositive balances, but they face a much lower elasticity of demand in world markets.

His study reveals one of the weakest points of the new Latin American economic model. The countries under examination have developed and intrinsically fragile external sector, wrought by the relative demise of the metalworking sector and the contraction of local capital goods production, on the other. In fact, the Latin American economies have specialized in goods for which foreign demand is growing far too slowly or on which industrial countries impose heavy trade restrictions, such as agro-industrial products. At the same time, they have become enthusiastic importers of capital goods, which they used

to produce domestically but which have fallen behind international best practices. This reveals a clear long-term structural weakness of the new economic model.

## **4.7 Employment**

### **4.7.1 Labour Supply**

The way in which labour supply develops depends largely on demographic trends and the degree to which the working age population offers its labour in the labour market. The progression of the demographic transition has caused the annual growth rate of the working age population (15-64) to fall in Latin America and the Caribbean, thus lessening the pressure on the labour market. Table-4.11 and 4.12, which shows the growth rate of population and the growth rate of working age population respectively. From tale-12 we can see that except a big country like Argentina, for most of the countries (e.g. Brazil, Chile, Colombia, Ecuador, Paname etc.) the working age population growth rate has declined during 90-98 relative to 70-80 and 80-90. But the slower growth of the working age population has been counteracted by the long-term trends of increasing labour participation, which stems from growing integration of women in economic activities in the region<sup>3</sup>.

“During the post war years, the working age population of Latin America expanded so rapidly, that even as late as the 1960s and 1970s, growth rates of nearly 3% per annum were still being posted. Since a slowdown in the growth rate of the general population does not manifest itself immediately in the working age population [usually defined as those aged (15-64)], in the early 1980s the latter was still growing at a rate of

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<sup>3</sup>The labor force participation rate (LFPR, also called the activity rate) represents the percentage of the working age population that is employed or seeking employment.

2.9%. There after, the rate gradually declined reaching 2.5% in 1990s and 2.4% in 1995 (Social panorama of Latin America, 1997 ECLAC, U.N.). It was 2.3% for the second half of 1990s and projected growth for 2010 is just 1.7% (Weller, 2001)

At a disaggregated level as our table-4.12 shows in most of the countries in the region except some countries like Argentina, Brazil, Haiti etc. the demographic transition has produced a decline in the growth rates of working age population (15-64 age). In the region as a whole, therefore, as well as in most countries, the demographic pressure of the labour supply has lessened. In our sample, working age population grow at slowest rate in countries like Barbados, Guyana, Chile (under 2%) and some of countries like Honduras, Paraguay, Bolivia, Mexico, Venezuela etc posted growth rate of working age population of over 2.5% (Table-4.12)

As a result of the demographic transition, in particular the slower growth of the active age population, the average age of the labour force tended to increase (thereby boosting levels of labour experience), while the pressure of supply from those without work experience declined (Weller, 2001)

Regarding labour participation rate during 1950s and 60s, the sharp increase in the labour supply induced by demographic growth was attenuated by a decline in the labour market participation. This decline stemmed from trends in male participation rate, which fell from 81.3% to 70.4% between 1950 and 70, in the context of urbanization. A key factor in this regard was the expansion of the educational system, which allowed many youth to postpone their entry into the labour market. By contrast the rate of female participation fell to 19.4% in 1950s and rose again in 1960s. In 1970 it reached 19.6% slightly above the 1950s level between 1970 and 1990, women's labor participation grew

sharply and the labor participation grew sharply, and the labor force participation rate increased from 44.9% to 51.4%. The reason for this is that expansion of education stimulated female participation in conjunction with expansion of non-agricultural activities in which there is greater female employment (Social panorama of Latin America, 1997; ECLAC, UN).

The trend of labour supply during 1980s persisted into 1990s, Because of the demographic transition, the growth rates of the working age population continued to fall while the labour force participation rate continued to rise. As a result, the EPA (labour force) grew at rates that were lower than in the mid-1970s. Table-4.14 (growth rate of labour force) shows that in most of the countries of the region during 1990s growth of the labour has been lower than what it was in 1970s. Also it shows the rate of labour force growth is higher than the rate of growth of working age population (see table-4.12). If we see the table for labor force participation rate has increased more in smaller countries.

From the above analysis is clear that, for the region as a whole, the economic reforms and the improved macro-economic performance of the 1990s, relative to the previous decade, had a marginal impact on the long term trends in the labour supply, since they neither curbed nor spurred them. But reform had an indirect impact in the sense that the expansion of non agricultural activities like trade and services and emergence of new job opportunity i.e. export agriculture, maquila assembly work etc. helped in increasing the women's participation. 'Due to demographic changes alone, the annual growth of the labour supply fell from 2.9% in the 1980s to 2.5% in the 1990s.' (Weller, 2001). Thus during 1990s two important trends in labor supply i.e. the

increasing participation of women in the labor market with raising of educational levels and the “ageing” of the labor force, accompanied by an increase in average labor experience. These trends reflect long-term structural changes, and it can therefore be assumed that they will persist, as is evident for trends grounded in demographic process.

#### **4.7.2 Labour Demand**

In the analysis of labour supply is found that there are long term structural changes corresponding to the development of human resources, increasing participation in economic activities. But these changes will benefit in terms of higher standard of living only if economic growth favors quality job creation. That the reform should help in this matter was a foregone conclusion theoretically. But has reform created more jobs favoring a higher standard of life?

The theoretical argument of reform advocates that the elimination of existing distortions would accelerate economic growth and that such growth would be more labour intensive, since growth should shift towards activities and technologies that would use labour intensively thus resulting in higher employment growth.

Now we will examine this hypothesis as the table-4.15 shows the growth rates of employment during 80s and 90-97, for 3 broad sectors as well as for total employment response to the reforms is not satisfactory. In fact out of 18 countries for which data is available for both period, 9 countries have had lower growth rates of total employment in 1990s than what it was in 1980s. Among these are there important countries of which Chile is most advanced reformer.

Surprisingly our data shows that during 80s there is positive growth both in industrial employment as well as in service sector employment.



Overall employment growth rate for the region (our sample countries) turns out to be higher during 80s (80s 2.6 and 90s 1.1). How can we explain this puzzle? All this while labour force participation has increased during this time. An examination of employment level during 1980s and 90s leads to surprising conclusion that in most countries employment levels increased at rather high rates even though the region was weathering macro economic and institutional reforms that resulted in massive layoffs in high productivity sectors and industry. This puzzle is that the adjustment of occupational structure has primarily taken the form of increased under-employment and low productivity jobs rather than in open unemployment. It should first be borne in mind that during the economic downturns experienced on more than one occasion during the period, the Latin America labour force has tended to rely heavily on under-employment strategies, that is, to take “fall back” jobs, usually in very low productivity sectors. This type of strategy clearly acts as a buffer in terms of impact of a recession on open unemployment figures. As a result of this phenomenon, open unemployment never even came close to 10% of the economically active population. In Brazil and Mexico, for example, even during the most critical stages of crisis.’ (Social Panorama of Latin America, 1997; ECLAC, UN).

Now to examine the employment growth and the structural change in employment within the economy we will make use of structural change index for total employment as well as the structural change index for employment of male and female categories in three broad sectors: agriculture, industry and service. Observation of table-4.17 reveals that, there has been massive shift of employment from one sector to another in some countries during the 80s. Bolivia, Ecuador, Paraguay, Peru and El Salvador have all SCI

above 0.30 during 1980s. Mexico and Jamaica have also SCI above 0.01 during 1990s. If we observe table-4.14 we will see that in the above-mentioned countries there were large negative employment growth in agricultural sector. Also these countries SCI for male employment during 80s are correspondingly very high, for example in Peru, Ecuador, El Salvador, the SCI for male employment in 1980s are 0.44, 0.34 and 0.40 respectively. This reflects the fact that in agricultural sector the share of women has been traditionally very low. Another observation is that most of the countries whose SCI for total employment were very high during 80s have SCI for total employment growth shows strong recovery during 1990s. For example Peru's SCI for total employment during 80s and 90s are 0.39 and 0.07 respectively while its agricultural employment growth during 80s and 90s have been 34% and 38% respectively. Table-4.16 shows that Peru's agricultural labour force primarily shifted to service sector during 80s, but during 90s, the shift was more evenly spread with industrial employment share declining as also service share while agricultural share increased. This shows that the change during the crisis period has become a long-term structural change in employment structure. That is shift from agriculture to service during the crisis period has come to stay in many countries. Besides Peru, if we examine the case of Bolivia, Paraguay and Ecuador we will find the same type of transformation. The growth of agricultural employment during the 90s has primarily come from addition of new labour in agricultural labour force.

Another observation is that employment growth in industrial sector during 1990s was very dismal. The overall employment growth in industrial sector for whole Latin America (our sample countries or subset of it if data were not available) is  $-0.05\%$ , while

for agriculture it is 2.9 only Bolivia, Chile, Honduras and Panama have had some reasonable growth rate of industrial employment.

What is the cause of such dismal performance of industrial sector in employment generation during 1990s while almost all countries have implemented reforms since the beginning of 1990s? If we examine the industrial output growth (appendix table-1) we will see that, industrial employment growth in 1990s have been most of the cases below the growth rate of industrial output. This shows that the firm level response to the reforms have contributed to this poor performance. In the crisis period of early 1980s, firms sought to reduce costs through cut backs in both investment and employment. In the second half of the 1980s, with reforms spreading in the region uncertainty replaced crisis. Firms acted defensively, adopting a cautious approach focusing on the cost reduction through the reorganization of production process, reduction in inventories and retrenchment in product diversity (Macario, 2000).

In the 1990s, overall manufacturing investment recovered to pre crisis level while this had positive effect on output it had a minimal effect on employment. Wellre (2000), in a study for six countries, has shown that average manufacturing employment fall 0.8% yearly during 1990-96, while manufacturing value added increased by 3.9%.

Katz (2000) found that manufacturing labour productivity growth in many Latin American countries during 1990s coincided with significant decrease in employment.

Another observation (table-4.15) is that whatever better industrial employment growth has occurred it was mostly in Central America and Caribbean region. This is mainly because of the expansion of maquila employment, which provides mostly low

paid job. Except Paraguay and Peru Chile other southern American countries have done extremely bad in terms of industrial employment growth

How can we explain such dismal performance of industrial sector, which contradicts the theoretical prediction? According to Reinhardt and Peres (2000) there can be 3 explanations:

- (1) Relative price of capital has fallen due to trade liberalization.
- (2) Firms have introduced labour displacing and output enhancing high technology.
- (3) New investments, south of Panama have been directed more towards capital-intensive sectors especially in natural resource processing activities.

As against these negative trends in agriculture and industry service sector filled the gap in employment opportunity. From table-4.15, we can see that service sector employment has grown better than other sectors. Also table-4.16 shows that in most of the countries it is absorbing the employment share. In fact Weller (2001) in his study has shown that about 70% of the new job were created in commerce, hotels & restaurants and social, commercial and personal services and other services such as telecommunications and banking.

	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
ARGENTINA	2.31	3.56	2.19	-0.14	-0.46	0.15	5.23	7.97	6.14	1.62
BRAZIL	8.28	11.86	5.58	3.06	-0.74	3.27	3.18	2.29	2.76	3.56
CHILE	1.05	0.44	7.21	2.92	-1.93	6.94	7.09	7.62	5.77	4.18
COLOMBIA	5.48	6.83	5.87	3.53	1.91	4.71	3.34	3.35	2.46	3.96
COSTARICA	6.07	7.04	7.14	2.79	-0.57	4.74	4.75	5.72	4.77	3.78
DOM REP	6.92	10.34	4.37	3.38	2.70	5.29	5.48	4.34	7.62	4.02
ECUADOR	9.64	14.20	6.84	1.86	1.10	1.83	2.89	3.54	2.11	3.98
EL SALVA	4.50	5.13	3.72	-0.18	-3.38	1.54	5.25	6.39	3.15	1.16
GUATEMALA	5.89	6.62	6.25	0.38	-1.62	3.04	4.19	4.17	4.17	2.85
GUYANA	2.17	1.82	-1.69	-2.84	-6.48	-1.91	6.58	7.70	4.32	0.10
HAITI	3.41	3.68	4.71	-0.30	-1.31	0.19	-1.68	-5.71	2.29	0.61
HONDURAS	5.67	4.71	8.80	2.66	0.93	4.37	3.65	3.77	3.95	3.66
JAMAICA	-0.83	2.77	-1.96	1.54	1.52	4.67	0.50	1.58	-1.35	0.74
MEXICO	6.17	6.80	6.29	0.99	1.20	1.11	2.50	3.40	5.69	3.52
NICARAGUA	2.41	6.00	-5.04	-1.69	1.85	-4.64	2.80	0.62	4.67	-0.81
PANAMA	3.79	5.39	4.44	0.49	2.51	-3.77	4.36	6.52	3.87	2.87
PARAGUYA	8.11	6.82	10.35	2.19	0.19	4.34	2.75	2.89	1.28	4.82
PERU	3.69	5.14	1.74	0.35	-1.94	-0.89	5.75	5.28	3.52	1.65
URUGUYA	2.82	0.20	4.06	0.04	-6.06	4.35	3.99	5.15	4.95	1.98
VENZUELA	4.01	3.20	4.25	0.96	-1.56	2.24	2.19	3.28	2.18	1.82
L.A	5.69	7.28	4.93	1.74	-0.43	2.23	3.65	4.23	3.79	3.05

Data Source: WDI CD-ROM, (2000)  
World Bank

TABLE-4.2 RANKING TABLE (based on GDP growth rate)

COUNTRY	70-79	COUNTRY	80-89	COUNTRY	90-98
ECUADOR	9.64	1 COLOMBIA	3.53	1 CHILE	7.09
BRAZIL	8.28	2 DOM REP	3.38	2 GUYANA	6.58
PARAGUYA	8.11	3 BRAZIL	3.06	3 PERU	5.75
DOM REP	6.92	4 CHILE	2.92	4 DOM REP	5.48
MEXICO	6.17	5 COSTARICA	2.79	5 EL SALVA	5.25
COSTARICA	6.07	6 HONDURAS	2.66	6 ARGENTINA	5.23
GUATEMALA	5.89	7 PARAGUYA	2.19	7 COSTARICA	4.75
L.A	5.69	8 ECUADOR	1.86	8 PANAMA	4.36
HONDURAS	5.67	9 L.A	1.74	9 GUATEMALA	4.19
COLOMBIA	5.48	10 JAMAICA	1.54	10 URUGUYA	3.99
EL SALVA	4.50	11 MEXICO	0.99	11 L.A	3.65
VENZUELA	4.01	12 VENZUELA	0.96	12 HONDURAS	3.65
PANAMA	3.79	13 PANAMA	0.49	13 COLOMBIA	3.34
PERU	3.69	14 GUATEMALA	0.38	14 BRAZIL	3.18
HAITI	3.41	15 PERU	0.35	15 ECUADOR	2.89
URUGUYA	2.82	16 URUGUYA	0.04	16 NICARAGUA	2.80
NICARAGUA	2.41	17 ARGENTINA	-0.14	17 PARAGUYA	2.75
ARGENTINA	2.31	18 EL SALVA	-0.18	18 MEXICO	2.50
GUYANA	2.17	19 HAITI	-0.30	19 VENZUELA	2.19
CHILE	1.05	20 NICARAGUA	-1.69	20 JAMAICA	0.50
JAMAICA	-0.83	21 GUYANA	-2.84	21 HAITI	-1.68

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.3** %DISTRIBUTION OF VALUE ADDED BY DIFFERENT SECTORS\*

Country Code		1970	1980	1985	1990	1998
ARG	AVA%	6.7	6.2	7.5	7.9	6.7
	IVA%	41.5	38.4	34.6	33.2	33.8
	SVA%	51.7	55.4	57.9	58.9	59.5
BRA	AVA%	11.4	8.0	9.3	8.9	8.9
	IVA%	37.8	42.6	40.0	37.6	37.3
	SVA%	49.9	49.6	50.6	53.6	53.6
BRB	AVA%	15.0	10.3	9.6	7.3	7.0
	IVA%	19.3	21.5	20.4	20.6	21.3
	SVA%	65.7	68.2	70.0	72.1	70.3
CHL	AVA%	9.5	8.9	10.1	11.4	7.4
	IVA%	38.5	34.0	35.0	34.0	32.7
	SVA%	52.0	57.1	54.9	54.6	59.9
COL	AVA%	20.1	17.9	17.2	17.2	11.4
	IVA%	30.5	30.0	30.9	32.0	30.5
	SVA%	49.4	52.2	51.9	50.9	58.1
CRI	AVA%	20.2	15.1	16.1	16.2	15.0
	IVA%	15.7	20.6	19.6	18.8	16.1
	SVA%	64.1	64.3	64.3	65.0	68.9
DOM	AVA%	23.2	16.7	16.3	13.4	11.6
	IVA%	26.1	31.1	28.7	31.4	32.8
	SVA%	50.7	52.3	55.0	55.2	54.9
ECU	AVA%	17.3	9.9	10.2	12.2	12.0
	IVA%	22.2	36.6	40.4	34.4	35.7
	SVA%	57.3	54.5	50.4	53.1	52.2
GTM	AVA%	27.3	24.8	25.9	25.9	23.3
	IVA%	18.7	22.0	19.7	19.8	20.0
	SVA%	54.0	53.2	54.5	54.3	56.5
GUY	AVA%	23.5	22.2	27.5	27.1	28.3
	IVA%	43.4	36.5	29.9	24.6	32.0
	SVA%	33.0	41.3	42.6	48.4	39.9
HND	AVA%	27.2	21.0	21.2	21.5	19.4
	IVA%	27.5	29.4	30.9	30.6	32.2
	SVA%	43.2	49.6	48.1	48.1	49.2
HTI	AVA%	40.2	32.3	32.1	33.3	30.4
	IVA%	16.9	25.5	23.4	21.8	20.1
	SVA%	42.9	42.3	44.5	49.3	49.6
JAM	AVA%	7.1	7.8	8.2	6.6	7.7

Table 4.3 Contd...

Country Code		1970	1980	1985	1990	1998
JAM	IVA%	47.6	37.3	34.6	39.2	36.1
	SVA%	45.3	54.9	57.1	54.2	56.2
MEX	AVA%	8.0	5.9	6.1	5.5	4.8
	IVA%	29.1	29.2	27.9	28.8	30.5
	SVA%	62.4	64.8	66.0	65.7	65.1
NIC	AVA%	29.7	28.6	29.7	30.5	35.2
	IVA%	21.6	22.9	23.0	21.0	21.9
	SVA%	48.1	47.1	46.1	48.2	43.1
PAN	AVA%	0.0	7.6	8.3	8.9	7.2
	IVA%	0.0	17.9	15.9	14.6	16.7
	SVA%	0.0	74.4	75.8	76.7	76.1
PER	AVA%	8.9	5.8	6.8	7.8	7.5
	IVA%	35.0	38.6	37.0	34.4	37.3
	SVA%	54.6	56.3	59.6	56.5	50.6
PRY	AVA%	30.0	22.9	25.2	25.8	25.7
	IVA%	21.7	29.5	23.3	25.0	25.7
	SVA%	48.5	48.5	52.2	49.8	48.8
SLV	AVA%	18.4	18.7	18.3	16.8	12.2
	IVA%	33.4	29.5	27.2	27.8	29.5
	SVA%	48.7	52.0	54.5	55.4	58.9
URY	AVA%	11.4	9.0	10.7	9.2	9.2
	IVA%	34.8	36.6	32.9	32.6	26.9
	SVA%	53.9	54.4	56.5	58.3	63.9
VEN	AVA%	5.5	5.4	6.4	6.0	5.5
	IVA%	49.5	36.6	37.2	38.0	43.1
	SVA%	45.0	58.0	56.4	56.0	51.4

Data Source: WDI CD-ROM, (2000)  
World Bank

\*AVA% (AGRICULTURE VALUE ADDED)  
IVA% (INDUSTRY VALUE ADDED)  
SVA% (SERVICES VALUE ADDED)



TABLE-4.4

SCI(PRODUCTION): (3 BROAD SECTORS)\* [CONSTANT PRICE]

Country name	70-80	80-85	85-90	90-98	80-90 (80-85)+(85-90)	
<i>Argentina</i>	0.04	0.04	0.01	0.01	0.05	0.05
<i>Barbados</i>	0.05	0.02	0.02	0.01	0.04	0.04
<i>Brazil</i>	0.04	0.02	0.03	0.00	0.05	0.05
<i>Chile</i>	0.05	0.02	0.01	0.05	0.02	0.03
<i>Colombia</i>	0.03	0.01	0.01	0.07	0.02	0.02
<i>Costa Rica</i>	0.05	0.01	0.01	0.04	0.02	0.02
<i>Dominican Republ</i>	0.07	0.03	0.03	0.02	0.03	0.06
<i>Ecuador</i>	0.12	0.04	0.05	0.01	0.03	0.09
<i>El Salvador</i>	0.04	0.03	0.02	0.05	0.03	0.04
<i>Guatemala</i>	0.03	0.02	0.00	0.02	0.02	0.02
<i>Guyana</i>	0.08	0.07	0.06	0.09	0.12	0.12
<i>Haiti</i>	0.09	0.02	0.04	0.02	0.06	0.06
<i>Honduras</i>	0.07	0.02	0.00	0.02	0.02	0.02
<i>Jamaica</i>	0.10	0.03	0.05	0.03	0.02	0.07
<i>Mexico</i>	0.02	0.01	0.01	0.01	0.01	0.02
<i>Nicaragua</i>	0.02	0.01	0.02	0.05	0.02	0.04
<i>Panama</i>	0.50	0.02	0.01	0.02	0.03	0.03
<i>Paraguay</i>	0.04	0.03	0.03	0.05	0.03	0.06
<i>Peru</i>	0.07	0.06	0.02	0.01	0.04	0.08
<i>Uruguay</i>	0.02	0.04	0.02	0.06	0.04	0.06
<i>Venezuela, RB</i>	0.13	0.02	0.01	0.05	0.02	0.02
<b>LATIN AMERICA</b>	<b>0.02</b>	0.02	0.01	0.01	0.03	

\*(1)AGRICULTURE

(2) INDUSTRY

(3)SERVICE

Data Source: WDI CD-ROM, (2000)  
World Bank

TABLE-4.5 EXPORT RANKING (growth rate)

COUNTRIES	70-79	COUNTRIES	80-89	COUNTRIES	90-98
<i>Barbados</i>	N.A	<i>Barbados</i>	N.A	<i>Barbados</i>	N.A
<i>Panama</i>	N.A	<i>Paraguay</i>	10.49	<i>Mexico</i>	14.48
<i>Venezuela, RB</i>	N.A	<i>Brazil</i>	8.13	<i>El Salvador</i>	12.40
<i>Ecuador</i>	14.44	<i>Mexico</i>	7.26	<i>Guyana</i>	11.26
<i>Chile</i>	11.64	<i>Colombia</i>	6.86	<i>Nicaragua</i>	10.97
<i>Uruguay</i>	9.76	<i>Chile</i>	6.28	<i>Chile</i>	10.05
<i>Paraguay</i>	9.67	<i>Costa Rica</i>	5.36	<i>Argentina</i>	9.51
<i>Mexico</i>	9.55	<i>Ecuador</i>	5.12	<i>Costa Rica</i>	9.00
<i>Brazil</i>	7.98	<i>Jamaica</i>	5.07	<i>Peru</i>	8.40
<i>Haiti</i>	7.95	<i>Dominican Republic</i>	4.16	<i>Uruguay</i>	7.86
<i>Argentina</i>	7.85	<i>Uruguay</i>	3.63	<i>Paraguay</i>	7.33
<i>Costa Rica</i>	6.66	<i>Argentina</i>	2.85	<i>Dominican Republic</i>	7.23
<i>Guatemala</i>	6.53	<i>Venezuela, RB</i>	2.07	<i>Guatemala</i>	6.66
<i>Nicaragua</i>	5.94	<i>Honduras</i>	0.99	<i>Venezuela, RB</i>	6.40
<i>Colombia</i>	4.72	<i>Haiti</i>	0.03	<i>Bolivia</i>	5.66
<i>El Salvador</i>	4.16	<i>Bolivia</i>	-0.59	<i>Ecuador</i>	5.46
<i>Honduras</i>	3.83	<i>Panama</i>	-1.08	<i>Brazil</i>	5.27
<i>Peru</i>	3.50	<i>Peru</i>	-1.59	<i>Colombia</i>	4.89
<i>Bolivia</i>	3.14	<i>Guatemala</i>	-3.35	<i>Haiti</i>	2.38
<i>Dominican Republic</i>	2.91	<i>El Salvador</i>	-4.20	<i>Honduras</i>	2.36
<i>Jamaica</i>	-1.72	<i>Guyana</i>	-4.48	<i>Jamaica</i>	0.25
<i>Guyana</i>	-3.60	<i>Nicaragua</i>	-6.01	<i>Panama</i>	-0.18

Data Source: WDI CD-ROM, (2000), World Bank.

TABLE-4.6

## EXPORT SHARE DISTRIBUTION(%) OF VARIOUS CATEGORIES

	1980	1985	1990	1998		1980	1985	1990	1998
<b>ARGENTINA</b>					<b>COSTARICA</b>				
Agricultural raw materials exports%	5.1	3.4	3.4	1.7	Agricultural raw materials exports%	0.8	1.6	3.5	3.2
Food exports%	55.2	55.4	47.3	43.6	Food exports%	54.1	56.5	40.5	31.5
Fuel exports%	2.5	5.9	6.8	6.8	Fuel exports%	0.8	1.6	0.7	0.0
Manufactures exports %	19.5	17.6	24.5	29.9	Manufactures exports %	23.7	17.3	18.9	45.3
Ores and metals exports%	1.7	1.7	1.7	2.6	Ores and metals exports%	0.0	0.0	0.7	0.8
Other commercial services%	2.9	1.9	1.4	1.3	Other commercial services%	4.2	7.2	10.5	3.1
Transport services %	8.5	8.9	7.9	3.5	Transport services %	4.1	4.2	4.9	2.9
Travel service%	3.6	5.2	6.2	9.8	Travel service%	7.2	10.3	14.7	13.1
goods%of total	84.9	84.0	84.5	85.4	goods%of total	84.5	78.4	69.9	80.8
services%of total	15.1	16.0	15.5	14.6	services%of total	15.5	21.6	30.1	19.2
<b>BRAZIL</b>					<b>DOM REP</b>				
Agricultural raw materials exports%	3.7	2.8	2.7	3.5	Agricultural raw materials exports%	0.0	0.0	0.0	0.0
Food exports%	42.5	34.3	25.0	26.4	Food exports%	55.4	33.1	0.0	7.4
Fuel exports%	1.8	5.6	1.8	0.9	Fuel exports%	0.0	0.0	0.0	0.0
Manufactures exports %	34.2	40.8	46.5	48.3	Manufactures exports %	18.2	23.0	0.0	5.4
Ores and metals exports%	8.3	8.4	12.5	8.8	Ores and metals exports%	2.3	0.0	0.0	0.0
Other commercial services%	3.4	1.5	2.8	6.7	Other commercial services%	8.5	7.1	16.4	2.8
Transport services %	3.7	5.4	3.8	3.2	Transport services %	1.9	2.6	3.3	0.8
Travel service%	0.6	0.2	3.9	2.3	Travel service%	13.7	34.2	39.9	29.1
goods%of total	92.3	92.8	89.4	87.8	goods%of total	75.9	56.1	40.4	67.3
services%of total	7.7	7.2	10.6	12.2	services%of total	24.1	43.9	59.6	32.7
<b>BARBADOS</b>					<b>ECUADOR</b>				
Agricultural raw materials exports%	0.0	0.0	0.0	0.0	Agricultural raw materials exports%	0.9	0.9	0.8	4.2
Food exports%	19.2	7.4	7.0	8.0	Food exports%	29.0	28.4	37.1	53.4
Fuel exports%	0.0	0.0	7.2	0.6	Fuel exports%	55.4	55.9	43.8	17.8
Manufactures exports %	21.6	38.6	11.1	11.7	Manufactures exports %	2.6	0.9	1.7	8.5
Ores and metals exports%	0.0	0.0	0.0	0.0	Ores and metals exports%	0.0	3.5	0.0	0.0
Other commercial services%	8.9	11.1	13.2	20.9	Other commercial services%	3.1	1.8	2.4	3.8
Transport services %	4.3	2.3	0.8	1.7	Transport services %	4.5	5.4	7.5	5.6
Travel service%	45.8	40.7	60.0	56.9	Travel service%	4.6	4.1	5.8	5.9
goods%of total	40.8	45.9	25.9	20.5	goods%of total	87.9	88.7	84.3	84.7
services%of total	59.2	54.1	74.1	79.5	services%of total	12.1	11.3	15.7	15.3
<b>BOLIVIA</b>					<b>GUATEMALA</b>				
Agricultural raw materials exports%	2.8	0.9	6.9	4.9	Agricultural raw materials exports%	14.4	14.3	4.8	3.3
Food exports%	7.4	3.5	16.4	24.7	Food exports%	47.7	59.2	53.2	50.7
Fuel exports%	22.1	49.1	21.6	6.6	Fuel exports%	0.9	1.9	1.6	1.7
Manufactures exports %	2.8	0.0	4.3	24.7	Manufactures exports %	21.6	20.0	19.1	27.4

Table 4.6 Contd..

Ores and metals exports%	57.1	34.2	37.9	21.4 Ores and metals exports%	4.5	0.0	0.0	0.8
Other commercial services%	1.5	2.8	2.8	6.6 Other commercial services%	4.0	2.9	11.3	5.2
Transport services %	2.8	5.2	5.0	6.0 Transport services %	2.4	0.6	1.5	2.6
Travel service%	3.5	4.2	6.0	5.1 Travel service%	3.7	1.2	7.7	9.2
goods%of total	92.2	87.6	86.2	82.3 goods%of total	90.0	95.4	79.5	83.1
services%of total	7.8	12.4	13.8	17.7 services%of total	10.0	4.6	20.5	16.9
<b>CHILE</b>				<b>GUYANA</b>				
Agricultural raw materials exports%	7.9	6.8	7.4	7.1 Agricultural raw materials exports%	1.9	0.0		
Food exports%	11.9	20.5	19.8	22.8 Food exports%	44.9	0.0		
Fuel exports%	0.8	0.0	0.8	0.0 Fuel exports%	0.0	0.0		
Manufactures exports %	7.1	6.0	9.1	13.4 Manufactures exports %	6.7	0.0		
Ores and metals exports%	50.8	50.3	45.3	33.8 Ores and metals exports%	40.1	0.0		
Other commercial services%	10.8	5.6	5.3	6.7 Other commercial services%	2.0	3.4		
Transport services %	6.9	6.3	7.0	8.6 Transport services %	1.5	4.2		
Travel service%	3.0	2.8	5.2	6.1 Travel service%	1.0	10.3		
goods%of total	79.4	85.3	82.4	78.6 goods%of total	95.6	82.0		
services%of total	20.6	14.7	17.6	21.4 services%of total	4.4	18.0		
<b>HONDURAS</b>				<b>PANAMA</b>				
Agricultural raw materials exports%	4.6	5.4	3.5	1.7 Agricultural raw materials exports%	0.0	0.0	0.8	0.0
Food exports%	69.1	76.5	72.2	67.0 Food exports%	51.2	53.0	59.0	61.7
Fuel exports%	0.0	0.9	0.9	0.0 Fuel exports%	17.6	4.8	0.0	3.2
Manufactures exports %	11.1	3.6	7.9	14.4 Manufactures exports %	6.9	8.8	16.5	13.6
Ores and metals exports%	5.5	3.6	3.5	1.7 Ores and metals exports%	0.8	1.4	0.8	1.6
Other commercial services%	1.9	2.3	4.8	5.2 Other commercial services%	5.6	4.6	3.5	3.9
Transport services %	3.2	4.9	4.1	3.1 Transport services %	12.9	20.9	13.8	11.2
Travel service%	2.7	2.8	2.9	6.9 Travel service%	5.2	6.6	4.0	4.8
goods%of total	92.2	90.1	88.1	84.8 goods%of total	76.4	67.9	78.7	80.2
services%of total	7.8	9.9	11.9	15.2 services%of total	23.6	32.1	21.3	19.8
<b>HAITI</b>				<b>PERU</b>				
Agricultural raw materials exports%	0.7	0.0	0.9	0.0 Agricultural raw materials exports%	3.4	4.1	2.5	1.6
Food exports%	22.3	0.0	12.1	0.0 Food exports%	13.7	14.1	17.3	20.2
Fuel exports%	0.0	0.0	0.0	0.0 Fuel exports%	18.0	19.9	8.2	3.9
Manufactures exports %	45.4	0.0	73.2	0.0 Manufactures exports %	14.5	10.0	14.8	18.6
Ores and metals exports%	2.9	0.0	0.0	0.0 Ores and metals exports%	36.8	35.7	38.7	32.6
Other commercial services%	1.0	1.5	0.3	12.8 Other commercial services%	3.3	5.1	4.7	6.6
Transport services %	1.7	2.1	2.6	0.8 Transport services %	4.8	6.7	7.7	4.2
Travel service%	25.3	28.3	11.0	23.7 Travel service%	6.4	5.1	5.4	11.6
goods%of total	72.0	67.8	86.1	62.7 goods%of total	85.5	83.0	82.3	77.6
services%of total	28.0	32.2	13.9	37.3 services%of total	14.5	17.0	17.7	22.4

Table 4.6 contd.

<b>JAMAICA</b>				<b>PARAGUYA</b>				
Agricultural raw materials exports%	0.0	0.0	0.0	0.0	35.8	37.2	31.9	11.5
Food exports%	10.1	13.1	10.4	0.0	27.2	34.2	43.6	63.9
Fuel exports%	1.4	2.5	0.5	0.0	0.0	0.0	0.0	0.0
Manufactures exports %	45.3	26.6	37.9	0.0	8.6	3.8	8.4	13.3
Ores and metals exports%	15.1	7.5	5.5	0.0	0.0	0.0	0.0	0.0
Other commercial services%	1.3	1.6	2.2	11.5	5.7	9.8	6.7	6.7
Transport services %	8.4	11.7	8.1	7.8	0.5	1.1	3.0	1.7
Travel service%	18.3	36.5	34.7	35.8	16.3	17.1	3.4	2.9
goods%of total	72.0	50.2	55.0	48.3	71.7	75.9	83.8	88.8
services%of total	28.0	49.8	45.0	51.7	28.3	24.1	16.2	11.2
<b>MEXICO</b>				<b>EL SALVADOR</b>				
Agricultural raw materials exports%	1.6	0.9	1.7	0.9	10.8	1.6	0.7	0.9
Food exports%	9.7	6.9	10.2	5.4	42.2	52.8	38.8	42.2
Fuel exports%	53.9	51.5	32.3	5.4	2.7	2.3	1.4	3.6
Manufactures exports %	9.7	23.2	36.5	77.2	31.4	20.2	25.9	42.2
Ores and metals exports%	4.8	3.4	5.1	1.8	2.7	1.6	2.0	1.8
Other commercial services%	3.3	2.9	1.7	2.0	7.0	10.9	15.4	5.5
Transport services %	2.0	1.9	1.9	1.1	2.1	6.6	8.4	1.5
Travel service%	14.3	9.5	11.5	6.1	1.1	4.9	8.0	3.1
goods%of total	80.4	85.8	84.9	90.8	89.8	77.6	68.1	89.8
services%of total	19.6	14.2	15.1	9.2	10.2	22.4	31.9	10.2
<b>NICARAGUA</b>				<b>URUGUYA</b>				
Agricultural raw materials exports%	7.3	30.1	12.7	2.4	15.4	15.3	16.5	6.0
Food exports%	68.7	50.5	69.8	69.8	27.4	29.2	31.5	34.3
Fuel exports%	1.8	0.0	0.0	0.8	0.0	0.0	0.0	0.7
Manufactures exports %	12.8	5.3	7.3	6.3	26.7	24.3	30.7	26.2
Ores and metals exports%	0.9	0.9	0.9	0.8	0.7	0.0	0.0	0.7
Other commercial services%	0.6	7.6	4.4	3.6	4.2	5.2	2.4	8.2
Transport services %	3.3	1.7	1.9	3.4	5.8	6.3	7.9	8.1
Travel service%	4.5	2.0	3.3	13.7	19.8	19.1	11.1	16.5
goods%of total	91.6	88.7	90.7	79.3	70.2	69.4	78.6	67.2
services%of total	8.4	11.3	9.3	20.7	29.8	30.6	21.4	32.8
<b>VENZUELA</b>								
Agricultural raw materials exports%	0.0	0.0	0.0	0.0				
Food exports%	0.0	2.9	1.9	3.7				
Fuel exports%	90.9	76.0	75.2	67.0				
Manufactures exports %	1.9	9.5	9.4	17.7				
Ores and metals exports%	3.9	6.7	6.6	5.6				

Table 4.6. contd..

Other commercial services%	0.7	0.6	0.9	0.3
Transport services %	1.4	1.7	2.4	1.5
Travel service%	1.2	2.7	2.6	5.1
goods%of total	96.7	95.0	94.0	93.1
services%of total	3.3	5.0	6.0	6.9

**COLOMBIA**

Series Name	1980	1985	1990	1998
Agricultural raw materials exports%	3.8	4.9	3.3	4.2
Food exports%	54.4	48.1	27.1	27.1
Fuel exports%	2.3	13.1	30.4	25.4
Manufactures exports %	15.1	13.9	20.5	27.1
Ores and metals exports%	0.0	0.0	0.0	0.8
Other commercial services%	7.5	6.1	7.6	3.4
Transport services %	7.9	8.1	5.6	4.9
Travel service%	9.1	4.3	4.7	7.0
goods%of total	75.5	81.6	82.1	84.7
services%of total	24.5	18.4	17.9	15.3

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.7: SCI\* (EXPORTS STRUCTURE)(70-98)(Current US\$)  
(22 LATIN AMERICAN COUNTRIES)**

	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
<b>Argentina</b>					
ALL CATEGORY*	0.05	0.09	0.10	0.12	0.22
GOODS&SERVICES	0.01	0.01	0.01	0.00	0.01
<b>Brazil</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.12	0.15	0.07	0.20	0.19
GOODS&SERVICES	0.00	0.03	0.02	0.03	0.04
<b>Barbados</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.19	0.29	0.10	0.26	0.24
GOODS&SERVICES	0.05	0.20	0.05	0.15	0.20
<b>Bolivia</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.31	0.28	0.34	0.20	0.51
GOODS&SERVICES	0.05	0.01	0.04	0.06	0.10
<b>Chile</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.09	0.07	0.12	0.12	0.22
GOODS&SERVICES	0.06	0.03	0.04	0.03	0.01
<b>Colombia</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.13	0.26	0.10	0.34	0.36
GOODS&SERVICES	0.06	0.00	0.03	0.07	0.09
<b>Costa Rica</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.08	0.15	0.24	0.18	0.28
GOODS&SERVICES	0.06	0.09	0.11	0.15	0.04
<b>Dominican Republic</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.26	0.36	0.20	0.56	0.43
GOODS&SERVICES	0.20	0.16	0.27	0.36	0.09
<b>Ecuador</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.05	0.15	0.28	0.13	0.37
GOODS&SERVICES	0.01	0.04	0.00	0.04	0.03
<b>Guatemala</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.12	0.16	0.11	0.18	0.16
GOODS&SERVICES	0.05	0.16	0.04	0.11	0.07
<b>Guyana</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.54	N.A	N.A	N.A	N.A
GOODS&SERVICES	0.14	N.A	N.A	N.A	N.A
<b>Honduras</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.10	0.07	0.11	0.07	0.10
GOODS&SERVICES	0.02	0.02	0.03	0.04	0.07
<b>Haiti</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.38	0.53	0.56	0.29	0.43
GOODS&SERVICES	0.04	0.18	0.23	0.14	0.09
<b>Jamaica</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.26	0.12	0.31	0.18	0.48
GOODS&SERVICES	0.22	0.05	0.07	0.17	0.24
<b>Mexico</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.13	0.21	0.41	0.27	0.67
GOODS&SERVICES	0.05	0.01	0.06	0.04	0.10
<b>Nicaragua</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.31	0.22	0.12	0.10	0.13
GOODS&SERVICES	0.03	0.02	0.11	0.01	0.12
<b>Panama</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.14	0.15	0.07	0.20	0.18
GOODS&SERVICES	0.08	0.11	0.02	0.02	0.04
<b>Peru</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.07	0.13	0.15	0.11	0.20
GOODS&SERVICES	0.03	0.01	0.05	0.03	0.08
<b>Paraguay</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-97</b>
ALL CATEGORY	0.10	0.19	0.25	0.19	0.43
GOODS&SERVICES	0.04	0.08	0.05	0.12	0.17
<b>El Salvador</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.22	0.16	0.22	0.21	0.13
GOODS&SERVICES	0.12	0.09	0.22	0.22	0.00
<b>Uruguay</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.04	0.11	0.15	0.11	0.14
GOODS&SERVICES	0.01	0.09	0.11	0.08	0.03
<b>Venezuela, RB</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.15	0.02	0.12	0.15	0.25
GOODS&SERVICES	0.02	0.01	0.01	0.03	0.04

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.8**

IMPORT RANKING (GROWTH RATE)

Country Name	70-79	Country Name	80-89	Country Name	90-98
1 Barbados	N.A	1 Barbados	N.A	1 Barbados	N.A
2 Panama	N.A	2 Jamaica	9.38	2 Argentina	21.0
3 Venezuela, RB	N.A	3 Costa Rica	6.03	3 Colombia	16.5
4 Paraguay	13.38	4 Bolivia	3.84	4 Brazil	15.1
5 Ecuador	11.70	5 Paraguay	1.86	5 Chile	14.2
6 Haiti	10.22	6 Honduras	1.08	6 Uruguay	13.3
7 El Salvador	8.65	7 Dominican Republic	0.82	7 El Salvador	11.7
8 Brazil	8.28	8 Haiti	0.79	8 Peru	11.7
9 Costa Rica	7.48	9 Chile	0.04	9 Mexico	10.7
10 Guatemala	7.35	10 Colombia	-0.13	10 Guyana	10.7
11 Honduras	6.59	11 Brazil	-0.55	11 Haiti	9.5
12 Mexico	5.34	12 Uruguay	-0.94	12 Guatemala	9.3
13 Uruguay	4.11	13 Venezuela, RB	-0.94	13 Nicaragua	9.1
14 Argentina	3.51	14 Mexico	-1.57	14 Costa Rica	8.2
15 Bolivia	3.35	15 El Salvador	-1.64	15 Dominican Republic	7.9
16 Nicaragua	3.30	16 Ecuador	-1.71	16 Bolivia	6.6
17 Colombia	3.26	17 Nicaragua	-2.95	17 Paraguay	6.3
18 Dominican Republic	1.77	18 Guatemala	-3.02	18 Venezuela, RB	5.5
19 Peru	1.09	19 Panama	-3.24	19 Ecuador	4.4
20 Chile	0.28	20 Peru	-4.04	20 Panama	4.1
21 Jamaica	-1.82	21 Argentina	-6.16	21 Honduras	3.7
22 Guyana	-2.22	22 Guyana	-6.27	22 Jamaica	2.6

Data Source: WDI CD-ROM, (2000)  
World Bank



Table 4.9

## % DISTRIBUTION OF SHARE OF VARIOUS CATEGORIES OF IMPORTS ( % of total)

	1980	1985	1990	1998		1980	1985	1990	1998
<b>ARGENTINA</b>					<b>COLOMBIA</b>				
Agricultural raw materials imports(%)	2.9	1.9	2.3	1.5	Agricultural raw materials imports(%)	2.4	2.9	3.0	1.6
Food imports%	4.3	3.2	2.3	3.8	Food imports%	9.5	6.5	5.3	9.6
Fuel imports%	7.2	7.6	4.5	2.3	Fuel imports%	9.5	8.7	4.5	1.6
Manufactures imports%	55.5	47.7	44.0	68.5	Manufactures imports%	54.6	50.9	57.9	63.4
Ores and metals imports%	2.2	3.2	3.4	1.5	Ores and metals imports%	2.4	2.2	2.3	1.6
Other commercial services imp%	4.4	11.6	11.6	4.6	Other commercial services imp%	6.7	11.3	9.4	6.0
Transport services imp%	9.8	12.8	14.2	7.4	Transport services imp%	9.8	9.7	8.7	7.3
Travel service imp%	13.7	12.1	17.7	11.1	Travel service imp%	4.4	6.2	6.7	6.4
goods imp%of total	72.1	63.6	56.4	76.9	goods imp%of total	79.1	72.8	75.2	80.3
services imp%of total	27.9	36.4	43.6	23.1	services imp%of total	20.9	27.2	24.8	19.7
<b>BRAZIL</b>					<b>COSTARICA</b>				
Agricultural raw materials imports(%)	0.8	1.6	2.3	1.6	Agricultural raw materials imports(%)	1.7	0.8	1.5	0.8
Food imports%	8.4	7.1	6.8	7.9	Food imports%	7.5	6.3	6.2	6.7
Fuel imports%	36.0	37.3	20.4	7.1	Fuel imports%	12.5	13.3	7.7	3.3
Manufactures imports%	34.4	30.2	42.2	59.7	Manufactures imports%	56.5	55.7	50.7	71.6
Ores and metals imports%	4.2	3.2	3.8	2.4	Ores and metals imports%	1.7	1.6	1.5	0.8
Other commercial services imp%	4.8	6.7	8.2	7.2	Other commercial services imp%	3.2	6.3	6.9	3.8
Transport services imp%	10.0	11.2	10.9	6.9	Transport services imp%	10.1	10.7	9.5	7.2
Travel service imp%	1.3	2.7	5.5	7.3	Travel service imp%	3.6	4.5	6.7	5.9
goods imp%of total	83.8	79.4	75.4	78.6	goods imp%of total	83.1	78.4	76.9	83.2
services imp%of total	16.2	20.6	24.6	21.4	services imp%of total	16.9	21.6	23.1	16.8
<b>BARBADOS</b>					<b>DOM REPUBLIC</b>				
Agricultural raw materials imports(%)	1.6	1.6	2.2	2.1	Agricultural raw materials imports(%)	1.6	1.7	0.0	0.0
Food imports%	14.4	12.0	12.3	11.7	Food imports%	13.5	9.9	0.0	0.0
Fuel imports%	12.0	14.3	10.2	5.5	Fuel imports%	19.8	28.9	0.0	0.0
Manufactures imports%	48.8	50.2	45.0	48.8	Manufactures imports%	42.9	41.3	0.0	0.0
Ores and metals imports%	0.8	0.8	1.5	0.7	Ores and metals imports%	1.6	0.8	0.0	0.0
Other commercial services imp%	6.4	7.6	10.6	13.7	Other commercial services imp%	3.7	4.9	5.3	3.0
Transport services imp%	10.4	9.3	11.1	11.2	Transport services imp%	8.3	7.1	7.8	8.8
Travel service imp%	3.1	3.4	5.7	6.3	Travel service imp%	8.7	5.4	6.5	2.9
goods imp%of total	80.0	79.7	72.6	68.8	goods imp%of total	79.4	82.6	80.5	85.4
services imp%of total	20.0	20.3	27.4	31.2	services imp%of total	20.6	17.4	19.5	14.6
<b>BOLIVIA</b>					<b>ECUADOR</b>				
Agricultural raw materials imports(%)	0.7	1.3	1.5	0.8	Agricultural raw materials imports(%)	1.5	2.2	2.2	1.6
Food imports%	13.4	12.1	8.7	6.4	Food imports%	6.2	5.8	6.7	9.8
Fuel imports%	0.7	0.0	0.7	4.0	Fuel imports%	0.8	4.4	1.5	4.1
Manufactures imports%	55.1	52.5	61.8	69.3	Manufactures imports%	67.2	52.9	62.2	62.0
Ores and metals imports%	1.4	0.7	0.7	0.8	Ores and metals imports%	1.5	7.3	1.5	0.8
Other commercial services imp%	5.5	7.7	4.8	4.3	Other commercial services imp%	6.2	5.9	4.8	4.9
Transport services imp%	17.0	20.6	16.8	12.4	Transport services imp%	8.7	12.8	13.6	9.8
Travel service imp%	6.8	4.4	5.6	2.7	Travel service imp%	7.9	8.8	7.6	3.8

ic 4.9 Contd..

goods imp%of total	70.7	67.3	72.7	80.6 goods imp%of total	77.2	72.5	74.1	81.5
services imp%of total	29.3	32.7	27.3	19.4 services imp%of total	22.8	27.5	25.9	18.5
<b>CHILE</b>				<b>GUATEMALA</b>				
Agricultural raw materials imports(%)	1.6	2.2	1.6	0.8 Agricultural raw materials imports(%)	1.5	1.7	1.6	1.7
Food imports%	11.8	6.0	3.1	5.7 Food imports%	6.1	7.8	8.0	10.2
Fuel imports%	14.1	14.2	12.5	7.3 Fuel imports%	18.3	31.2	13.6	6.8
Manufactures imports%	47.1	48.4	58.6	65.6 Manufactures imports%	49.4	45.0	55.0	65.3
Ores and metals imports%	1.6	1.5	0.8	0.8 Ores and metals imports%	0.8	0.9	1.6	0.8
Other commercial services imp%	6.6	5.9	6.8	4.5 Other commercial services imp%	6.1	3.4	6.4	3.6
Transport services imp%	11.9	12.7	10.4	10.1 Transport services imp%	9.3	8.2	8.3	8.4
Travel service imp%	2.9	6.9	4.7	4.4 Travel service imp%	8.5	1.9	5.6	3.1
goods imp%of total	78.6	74.5	78.1	81.0 goods imp%of total	76.0	86.6	79.7	84.9
services imp%of total	21.4	25.5	21.9	19.0 services imp%of total	24.0	13.4	20.3	15.1
<b>GUYANA</b>				<b>95.0 NICARAGUA</b>				
Agricultural raw materials imports(%)	0.8	0.0	0.0	0.0 Agricultural raw materials imports(%)	0.9	0.0	0.9	0.8
Food imports%	11.0	0.0	5.4	0.0 Food imports%	13.5	8.6	16.8	15.1
Fuel imports%	21.3	0.0	8.5	0.0 Fuel imports%	17.9	27.5	16.8	10.1
Manufactures imports%	44.9	0.0	62.5	0.0 Manufactures imports%	56.5	49.0	52.3	57.9
Ores and metals imports%	0.8	0.0	0.0	0.0 Ores and metals imports%	0.9	0.9	0.9	0.8
Other commercial services imp%	9.6	11.0	8.5	11.1 Other commercial services imp%	0.9	6.3	1.1	5.9
Transport services imp%	10.0	11.7	11.8	9.8 Transport services imp%	5.9	7.1	8.1	5.9
Travel service imp%	1.6	9.7	2.4	3.0 Travel service imp%	3.5	0.6	2.3	4.2
goods imp%of total	78.8	67.6	77.2	76.2 goods imp%of total	89.7	85.9	88.6	84.0
services imp%of total	21.2	32.4	22.8	23.8 services imp%of total	10.3	14.1	11.4	16.0
<b>HONDURAS</b>				<b>PANAMA</b>				
Agricultural raw materials imports(%)	0.8	0.8	0.8	0.9 Agricultural raw materials imports(%)	0.8	0.0	0.8	0.0
Food imports%	8.5	7.4	8.1	13.7 Food imports%	8.3	9.7	10.1	10.5
Fuel imports%	13.6	21.4	13.0	6.8 Fuel imports%	25.8	16.9	13.4	7.8
Manufactures imports%	61.1	51.9	57.5	63.3 Manufactures imports%	48.3	51.5	58.8	68.0
Ores and metals imports%	0.8	0.8	0.8	0.9 Ores and metals imports%	0.8	0.8	0.8	0.9
Other commercial services imp%	4.1	6.7	7.1	3.2 Other commercial services imp%	3.7	5.2	3.0	3.4
Transport services imp%	8.3	8.5	8.7	9.1 Transport services imp%	11.4	12.0	10.6	7.4
Travel service imp%	2.8	2.5	3.4	2.2 Travel service imp%	1.7	2.3	2.4	2.0
goods imp%of total	84.9	82.4	81.0	85.5 goods imp%of total	83.3	80.5	84.0	87.2
services imp%of total	15.1	17.6	19.0	14.5 services imp%of total	16.7	19.5	16.0	12.8
<b>HAITI</b>				<b>PERU</b>				
Agricultural raw materials imports(%)	0.7			Agricultural raw materials imports(%)	2.4	2.0	1.5	1.6
Food imports%	15.7			Food imports%	15.8	13.0	17.6	12.6
Fuel imports%	9.3	66.3	86.2	63.4 Fuel imports%	1.6	2.0	8.8	6.3
Manufactures imports%	44.1			Manufactures imports%	57.6	49.8	44.6	57.6
Ores and metals imports%	0.7			Ores and metals imports%	1.6	1.4	0.7	0.8
Other commercial services imp%	1.8	4.2	0.0	0.7 Other commercial services imp%	5.9	14.0	7.8	7.9
Transport services imp%	17.9	21.2	6.6	32.2 Transport services imp%	12.4	12.0	11.6	9.1

Table 4.9 Contd..

Travel service imp%	9.2	8.3	7.2	3.7 Travel service imp%	2.7	5.7	7.4	4.1
goods imp%of total	71.2	66.3	86.2	63.4 goods imp%of total	78.9	68.3	73.2	78.9
services imp%of total	28.8	33.7	13.8	36.6 services imp%of total	21.1	31.7	26.8	21.1
<b>JAMAICA</b>				<b>97.0 PARAGUYA</b>				
Agricultural raw materials imports(%)	0.7	1.4	0.7	1.4 Agricultural raw materials imports(%)	0.8	0.0	0.0	0.0
Food imports%	14.9	13.0	10.8	12.0 Food imports%	8.9	7.9	6.6	17.4
Fuel imports%	28.3	23.0	14.3	9.1 Fuel imports%	22.7	22.2	11.6	8.7
Manufactures imports%	29.0	33.1	43.8	45.7 Manufactures imports%	48.6	47.6	63.7	60.1
Ores and metals imports%	1.5	0.7	0.7	0.7 Ores and metals imports%	0.8	0.8	0.8	0.9
Other commercial services imp%	8.5	8.9	9.9	12.1 Other commercial services imp%	3.4	2.8	3.2	1.7
Transport services imp%	14.7	13.8	13.5	13.1 Transport services imp%	11.5	12.3	10.6	8.3
Travel service imp%	2.4	5.2	4.8	4.5 Travel service imp%	4.2	5.7	3.4	2.9
goods imp%of total	74.5	72.0	71.7	70.3 goods imp%of total	80.9	79.4	82.8	87.1
services imp%of total	25.5	28.0	28.3	29.7 services imp%of total	19.1	20.6	17.2	12.9
<b>MEXICO</b>				<b>ELSALVADOR</b>				
Agricultural raw materials imports(%)	2.3	3.1	3.2	1.8 Agricultural raw materials imports(%)	1.6	1.5	2.4	2.6
Food imports%	12.3	9.3	12.1	5.5 Food imports%	14.1	12.3	11.4	14.0
Fuel imports%	1.5	3.1	3.2	1.8 Fuel imports%	14.1	18.4	12.2	8.7
Manufactures imports%	57.7	58.1	60.4	77.2 Manufactures imports%	47.7	43.8	51.4	59.4
Ores and metals imports%	3.1	3.1	2.4	1.8 Ores and metals imports%	1.6	1.5	3.3	0.9
Other commercial services imp%	5.3	7.4	3.9	2.2 Other commercial services imp%	5.7	8.4	6.2	3.9
Transport services imp%	6.7	5.6	4.9	3.8 Transport services imp%	7.0	7.2	8.5	6.0
Travel service imp%	11.2	9.5	10.7	3.1 Travel service imp%	9.2	7.6	3.8	2.7
goods imp%of total	76.9	77.5	80.5	90.9 goods imp%of total	78.1	76.8	81.6	87.3
services imp%of total	23.1	22.5	19.5	9.1 services imp%of total	21.9	23.2	18.4	12.7
<b>NICARAGUA</b>				<b>URUGUYA</b>				
Agricultural raw materials imports(%)	0.9	0.0	0.9	0.8 Agricultural raw materials imports(%)	3.2	3.4	3.1	2.4
Food imports%	13.5	8.6	16.8	15.1 Food imports%	6.3	4.7	5.4	8.9
Fuel imports%	17.9	27.5	16.8	10.1 Fuel imports%	23.0	23.0	14.0	4.8
Manufactures imports%	56.5	49.0	52.3	57.9 Manufactures imports%	44.4	35.2	53.6	63.7
Ores and metals imports%	0.9	0.9	0.9	0.8 Ores and metals imports%	2.4	1.4	1.6	0.8
Other commercial services imp%	0.9	6.3	1.1	5.9 Other commercial services imp%	3.8	7.9	4.7	4.0
Transport services imp%	5.9	7.1	8.1	5.9 Transport services imp%	7.2	8.0	10.7	9.4
Travel service imp%	3.5	0.6	2.3	4.2 Travel service imp%	9.7	16.3	6.8	5.9
goods imp%of total	89.7	85.9	88.6	84.0 goods imp%of total	79.4	67.8	77.7	80.6
services imp%of total	10.3	14.1	11.4	16.0 services imp%of total	20.6	32.2	22.3	19.4
<b>PANAMA</b>				<b>VENZUELA</b>				
Agricultural raw materials imports(%)	0.8	0.0	0.8	0.0 Agricultural raw materials imports(%)	2.2	3.2	3.0	1.5
Food imports%	8.3	9.7	10.1	10.5 Food imports%	10.1	10.3	8.2	9.1
Fuel imports%	25.8	16.9	13.4	7.8 Fuel imports%	1.4	1.6	2.2	1.5
Manufactures imports%	48.3	51.5	58.8	68.0 Manufactures imports%	57.0	60.1	57.2	61.9
Ores and metals imports%	0.8	0.8	0.8	0.9 Ores and metals imports%	1.4	4.0	3.0	1.5
Other commercial services imp%	3.7	5.2	3.0	3.4 Other commercial services imp%	5.7	5.0	6.1	4.5

Table 4.9 contd..

Transport services imp%	11.4	12.0	10.6	7.4 Transport services imp%	8.9	9.6	8.6	7.6
Travel service imp%	1.7	2.3	2.4	2.0 Travel service imp%	13.3	6.3	11.0	12.5
goods imp%of total	83.3	80.5	84.0	87.2 goods imp%of total	72.1	79.1	74.3	75.4
services imp%of total	16.7	19.5	16.0	12.8 services imp%of total	27.9	20.9	25.7	24.6
<b>PERU</b>				<b>ELSALVADOR</b>				
Agricultural raw materials imports(%)	2.4	2.0	1.5	1.6 Agricultural raw materials imports(%)	1.6	1.5	2.4	2.6
Food imports%	15.8	13.0	17.6	12.6 Food imports%	14.1	12.3	11.4	14.0
Fuel imports%	1.6	2.0	8.8	6.3 Fuel imports%	14.1	18.4	12.2	8.7
Manufactures imports%	57.6	49.8	44.6	57.6 Manufactures imports%	47.7	43.8	51.4	59.4
Ores and metals imports%	1.6	1.4	0.7	0.8 Ores and metals imports%	1.6	1.5	3.3	0.9
Other commercial services imp%	5.9	14.0	7.8	7.9 Other commercial services imp%	5.7	8.4	6.2	3.9
Transport services imp%	12.4	12.0	11.6	9.1 Transport services imp%	7.0	7.2	8.5	6.0
Travel service imp%	2.7	5.7	7.4	4.1 Travel service imp%	9.2	7.6	3.8	2.7
goods imp%of total	78.9	68.3	73.2	78.9 goods imp%of total	78.1	76.8	81.6	87.3
services imp%of total	21.1	31.7	26.8	21.1 services imp%of total	21.9	23.2	18.4	12.7
<b>PARAGUYA</b>								
Agricultural raw materials imports(%)	0.8	0.0	0.0	0.0				
Food imports%	8.9	7.9	6.6	17.4				
Fuel imports%	22.7	22.2	11.6	8.7				
Manufactures imports%	48.6	47.6	63.7	60.1				
Ores and metals imports%	0.8	0.8	0.8	0.9				
Other commercial services imp%	3.4	2.8	3.2	1.7				
Transport services imp%	11.5	12.3	10.6	8.3				
Travel service imp%	4.2	5.7	3.4	2.9				
goods imp%of total	80.9	79.4	82.8	87.1				
services imp%of total	19.1	20.6	17.2	12.9				

Data Source: WDI CD-ROM, (2000)  
World Bank

TABLE:4.10

**SCI (IMPORT STRUCTURE)**  
**(22 LATIN AMERICAN COUNTRIES)**

	80-85	85-90	90-98	80-90	80-98
<b>Argentina</b>					
ALL CATEGORY	0.12	0.08	0.26	0.17	0.13
GOODS&SERVICES	0.09	0.07	0.21	0.16	0.05
<b>Brazil</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.06	0.18	0.20	0.18	0.34
GOODS&SERVICES	0.04	0.04	0.03	0.08	0.05
<b>Barbados</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.04	0.09	0.07	0.08	0.11
GOODS&SERVICES	0.00	0.07	0.04	0.07	0.11
<b>Bolivia</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.07	0.11	0.11	0.07	0.18
GOODS&SERVICES	0.03	0.05	0.08	0.02	0.10
<b>Chile</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.07	0.11	0.09	0.13	0.19
GOODS&SERVICES	0.04	0.04	0.03	0.00	0.02
<b>Colombia</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.07	0.08	0.10	0.10	0.12
GOODS&SERVICES	0.06	0.02	0.05	0.04	0.01
<b>Costa Rica</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.04	0.08	0.17	0.10	0.16
GOODS&SERVICES	0.05	0.02	0.06	0.06	0.00
<b>Dominican Republic</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.10	0.42	0.03	0.42	0.43
GOODS&SERVICES	0.03	0.02	0.05	0.01	0.06
<b>Ecuador</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.15	0.11	0.07	0.07	0.10
GOODS&SERVICES	0.05	0.02	0.07	0.03	0.04
<b>Guatemala</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.15	0.18	0.13	0.09	0.20
GOODS&SERVICES	0.11	0.07	0.05	0.04	0.09
<b>Guyana</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.45	0.43	0.41	0.21	0.41
GOODS&SERVICES	0.11	0.10	0.01	0.02	0.03
<b>Honduras</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.11	0.08	0.12	0.04	0.08
GOODS&SERVICES	0.02	0.01	0.05	0.04	0.01
<b>Haiti</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.62	0.20	0.26	0.77	0.68
GOODS&SERVICES	0.05	0.20	0.23	0.15	0.08
<b>Jamaica</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.08	0.12	0.06	0.19	0.24
GOODS&SERVICES	0.02	0.00	0.01	0.03	0.04
<b>Mexico</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.05	0.06	0.19	0.05	0.21
GOODS&SERVICES	0.01	0.03	0.10	0.04	0.14
<b>Nicaragua</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.16	0.15	0.12	0.06	0.08
GOODS&SERVICES	0.04	0.03	0.05	0.01	0.06
<b>Panama</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.09	0.08	0.10	0.13	0.23
GOODS&SERVICES	0.03	0.04	0.03	0.01	0.04
<b>Peru</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.12	0.13	0.13	0.16	0.08
GOODS&SERVICES	0.11	0.05	0.06	0.06	0.00
<b>Paraguay</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.03	0.16	0.11	0.16	0.21
GOODS&SERVICES	0.02	0.03	0.04	0.02	0.06
<b>El Salvador</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.07	0.12	0.11	0.09	0.14
GOODS&SERVICES	0.01	0.05	0.06	0.03	0.09
<b>Uruguay</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.12	0.22	0.13	0.14	0.24
GOODS&SERVICES	0.12	0.10	0.03	0.02	0.01
<b>Venezuela, RB</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-90</b>	<b>80-98</b>
ALL CATEGORY	0.08	0.07	0.07	0.04	0.05
GOODS&SERVICES	0.07	0.05	0.01	0.02	0.03

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE:4.11 : POPULATION GROWTH RATE  
(22 LATIN AMERICAN COUNTRIES)**

<b>COUNTRIES</b>	<b>:Average Annual % growth</b>				
	<b>70-80</b>	<b>80-90</b>	<b>90-98</b>	<b>80-98</b>	<b>70-98</b>
<i>Argentina</i>	1.59	1.47	1.31	1.40	1.47
<i>Barbados</i>	0.41	0.35	0.36	0.36	0.37
<i>Bolivia</i>	2.40	2.05	2.38	2.20	2.27
<i>Brazil</i>	2.37	1.95	1.43	1.72	1.95
<i>Chile</i>	1.60	1.61	1.54	1.58	1.59
<i>Colombia</i>	2.32	2.06	1.93	2.00	2.12
<i>Costa Rica</i>	2.74	2.71	2.04	2.41	2.53
<i>Dominican Repu</i>	2.53	2.22	1.87	2.06	2.23
<i>Ecuador</i>	2.88	2.54	2.13	2.36	2.55
<i>El Salvador</i>	2.43	1.08	2.13	1.55	1.86
<i>Guatemala</i>	2.63	2.49	2.63	2.55	2.58
<i>Guyana</i>	0.68	0.46	0.82	0.62	0.64
<i>Haiti</i>	1.69	1.90	2.08	1.98	1.88
<i>Honduras</i>	3.20	3.13	2.91	3.03	3.09
<i>Jamaica</i>	1.32	1.19	0.87	1.05	1.15
<i>Mexico</i>	2.89	2.08	1.76	1.94	2.28
<i>Nicaragua</i>	3.19	2.70	2.82	2.75	2.91
<i>Panama</i>	2.58	2.07	1.78	1.94	2.17
<i>Paraguay</i>	2.81	3.04	2.66	2.87	2.85
<i>Peru</i>	2.72	2.19	1.75	1.99	2.25
<i>Uruguay</i>	0.37	0.64	0.72	0.67	0.56
<i>Venezuela, RB</i>	3.42	2.56	2.19	2.40	2.76

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.12: GROWTH RATE OF POPULATION AGED15-64**

<b>COUNTRIES</b>	<b>22 LATIN AMERICAN COUNTRIES (Average Annual % growth)</b>						
	<b>70-80</b>	<b>80-90</b>	<b>80-85</b>	<b>85-90</b>	<b>90-98</b>	<b>80-98</b>	<b>70-98</b>
<i>Argentina</i>	1.2	1.3	1.2	1.4	1.7	1.5	1.4
<i>Barbados</i>	1.4	0.9	0.9	0.8	1.2	1.0	1.1
<i>Bolivia</i>	2.5	2.3	2.0	2.5	2.6	2.4	2.4
<i>Brazil</i>	3.1	2.5	2.6	2.4	2.2	2.4	2.6
<i>Chile</i>	2.5	2.1	2.2	1.9	1.6	1.9	2.1
<i>Colombia</i>	3.2	2.8	3.1	2.5	2.4	2.6	2.8
<i>Costa Rica</i>	3.9	3.0	3.5	2.5	2.5	2.8	3.2
<i>Dominican Re</i>	3.5	3.1	3.3	2.8	2.3	2.7	3.0
<i>Ecuador</i>	3.2	3.2	3.3	3.2	2.9	3.1	3.1
<i>El Salvador</i>	2.6	1.7	1.1	2.3	3.0	2.3	2.4
<i>Guatemala</i>	2.6	2.4	2.4	2.5	3.1	2.7	2.7
<i>Guyana</i>	2.0	1.7	2.2	1.2	1.2	1.5	1.7
<i>Haiti</i>	1.6	1.5	1.4	1.6	2.8	2.1	1.9
<i>Honduras</i>	3.3	3.5	3.5	3.4	3.5	3.5	3.4
<i>Jamaica</i>	2.4	2.0	2.8	1.2	1.7	1.9	2.1
<i>Mexico</i>	3.3	3.3	3.3	3.2	2.6	3.0	3.1
<i>Nicaragua</i>	3.3	2.9	3.1	2.8	3.5	3.2	3.2
<i>Panama</i>	3.2	2.9	3.0	2.8	2.3	2.6	2.8
<i>Paraguay</i>	3.5	3.2	3.1	3.3	3.1	3.2	3.3
<i>Peru</i>	3.1	2.8	3.0	2.6	2.4	2.6	2.8
<i>Uruguay</i>	0.3	0.6	0.6	0.7	0.7	0.7	0.5
<i>Venezuela, RE</i>	4.3	2.9	3.0	2.9	2.8	2.9	3.4

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.13 Participation rate in economic activity (by sex) (EAP AS A % OF THE TOTAL POPULATION IN THE GROUP)**

	<i>Both Sexes</i>						<i>Male</i>						<i>Female</i>					
	1970	1980	1985	1990	1995	2000	1970	1980	1985	1990	1995	2000	1970	1980	1985	1990	1995	2000
<b>Argentina</b>	49.2	47.1	49.0	50.5	51.4	52.6	73.9	71.1	69.0	66.5	66.9	67.7	24.5	24.1	29.9	35.4	36.7	38.4
<b>Barbados</b>	50.3	58.7	60.5	..	..	..	65.1	66.0	68.4	..	..	..	36.7	52.3	55.4	..	..	..
<b>Bolivia</b>	46.5	46.9	47.0	48.9	50.1	51.3	74.6	71.4	69.0	68.1	67.8	67.7	19.5	23.4	26.0	30.5	32.9	35.4
<b>Brazil</b>	44.9	55.0	55.8	56.2	56.8	57.8	71.5	75.9	76.4	76.1	75.4	75.4	18.4	33.9	35.6	36.8	38.7	40.8
<b>Chile</b>	41.2	41.3	43.2	44.9	47.0	48.3	65.4	63.0	64.2	65.1	66.0	65.8	18.1	20.4	23.0	25.4	28.7	31.4
<b>Colombia</b>	44.5	45.3	46.5	48.3	50.0	51.6	69.6	65.0	64.1	65.2	66.1	66.9	20.2	26.3	29.4	32.1	34.6	37.0
<b>Costa Rica</b>	44.9	46.2	47.6	48.8	49.9	51.1	72.9	72.8	74.0	73.7	73.2	72.9	16.7	19.3	20.8	23.6	26.2	28.9
<b>Ecuador</b>	44.1	43.1	45.3	47.6	49.4	51.5	74.2	69.3	69.9	70.7	71.1	72.0	14.0	16.9	20.7	24.4	27.6	31.0
<b>El Salvador</b>	49.8	48.2	46.9	46.2	48.5	50.9	78.6	74.1	71.6	69.2	70.3	71.6	20.9	22.7	23.6	24.6	28.0	31.6
<b>Guatemala</b>	44.6	42.8	44.0	45.2	46.7	48.5	76.6	71.2	70.7	70.0	69.8	70.2	11.8	13.9	17.0	20.1	23.3	26.7
<b>Guyana</b>	42.3	45.9	47.5	..	..	..	67.9	70.3	71.8	..	..	..	17.1	22.3	23.6	..	..	..
<b>Haiti</b>	72.7	62.7	58.3	57.9	57.5	57.4	80.4	73.6	70.8	69.6	68.2	67.5	65.5	52.6	46.7	47.1	47.3	47.9
<b>Honduras</b>	45.4	46.2	48.2	50.0	51.1	52.4	78.6	76.7	77.9	78.9	77.8	77.0	12.3	15.7	18.4	21.0	24.3	27.6
<b>Jamaica</b>	57.3	59.3	62.3	..	..	..	68.6	65.8	68.7	..	..	..	46.9	53.1	56.0	..	..	..
<b>Mexico</b>	40.4	47.8	47.9	48.9	51.1	53.0	65.7	71.3	70.7	71.3	72.4	73.0	15.2	24.6	25.7	27.1	30.5	33.7
<b>Nicaragua</b>	43.5	48.8	51.3	51.5	51.9	53.5	69.9	70.6	70.9	70.3	69.3	69.9	17.7	27.4	32.2	33.5	35.1	37.6
<b>Panama</b>	50.3	44.0	45.5	47.4	49.4	51.0	73.7	63.2	64.6	66.5	67.6	68.1	26.0	24.2	25.9	28.0	31.0	33.6
<b>Paraguay</b>	46.5	47.6	48.3	49.2	49.3	50.0	73.9	76.5	76.1	74.3	73.1	72.7	19.6	18.9	20.6	24.0	25.3	27.0
<b>Peru</b>	46.9	48.7	50.0	51.0	52.3	54.1	67.6	67.7	68.4	68.7	69.3	70.3	26.0	29.5	31.6	33.5	35.7	33.3
<b>Dominican Re</b>	50.2	50.6	52.5	54.4	56.1	57.3	75.0	73.6	74.5	75.5	76.2	76.2	24.7	26.8	29.7	32.6	35.3	37.6
<b>Uruguay</b>	48.5	49.2	52.2	52.6	53.2	53.6	71.4	66.9	67.1	66.8	67.4	67.9	26.2	32.4	38.3	39.5	40.2	40.4
<b>Venezuela, RE</b>	41.7	44.4	46.5	48.1	49.6	51.1	65.2	66.3	67.4	67.7	67.9	68.1	17.8	22.0	25.3	28.2	31.2	34.1

**SOURCE-STATISTICAL YEAR BOOK FOR LATIN AMERICA AND CARIBBEAN  
(VARIOUS ISSUES)**





**TABLE-4.15 EMPLOYMENT GROWTH DURING 80s & 90s  
(\*22 LATIN AMERICAN COUNTRIES)**

COUNTRIES	:Average Annual % growth emp gr(80-90)			total emp gr 80-90	:Average Annual % growth emp gr(90-97)*			total emp gr 90-97		
	AG	IND	SER		AG	IND	SER			
Argentina	0.81	1.06	1.85	1980-90	1.5	-31.95	-1.92	6.09	1990-96	1.7
Barbados	-3.02	1.60	0.33	1981-90	0.4	-4.81	-0.51	2.17	1990-95	1.1
Bolivia	-32.90	5.02	9.68	1980-90	2.5	10.44	5.18	1.16	1990-96	2.5
Brazil	0.16	1.92	4.97	1981-90	3.0	5.12	0.13	2.00	1990-95	2.4
Chile	4.17	3.28	2.06	1980-90	2.7	-2.04	3.85	3.06	1990-97	2.3
Colombia	3.31	2.68	4.67	1980-90	4.0	-1.88	1.58	3.48	1990-97	2.8
Costa Rica	2.60	4.19	3.62	1980-90	3.5	-0.73	1.38	4.55	1990-97	2.5
Dominican Republic	0.30	5.06	3.48	1980-90	3.0	N.A	N.A	N.A	1990-95	
Ecuador	-12.68	6.63	8.20	1980-90	3.4	2.82	1.13	4.30	1990-97	3.3
El Salvador	-13.24	6.02	6.66	1980-90	2.2	20.03	-0.20	0.52	1990-97	3.5
Guatemala	2.54	1.91	3.79	1980-90	2.8	N.A	N.A	N.A	1990-96	
Guyana	0.33	2.03	3.55	1980-90	2.4	6.07	-2.52	-1.67	1990-92	0.5
Haiti	0.44	2.76	1.76	1981-88	1.0	N.A	N.A	N.A	1988-96	
Honduras	1.56	4.45	5.11	1980-90	3.1	0.43	8.59	6.82	1990-97	3.7
Jamaica	-1.35	6.27	2.57	1980-90	2.0	-0.87	-0.18	3.43	1990-96	1.7
Mexico	-2.29	2.60	5.17	1980E-90	2.2	5.04	0.18	6.21	1990-97	4.3
Nicaragua	2.69	1.99	4.30	1980E-90E*	3.3	N.A	N.A	N.A	1990E-96	
Panama	3.02	0.97	4.61	1982-91	3.6	-3.65	5.69	4.22	1991-95	3.1
Paraguay	-26.57	6.85	9.29	1980-90	2.8	19.34	2.12	2.80	1990-94	3.5
Peru	-33.90	6.84	8.97	1980-91	3.0	38.30	0.91	2.24	1991-97	3.1
Uruguay	7.33	2.32	0.88	1984-92	1.5	3.25	-1.00	2.87	1992-95	1.5
Venezuela, RB	1.77	2.41	4.23	1980-90	3.4	3.54	1.65	3.81	1990-95	3.3
<b>L.A(AVERAGE)</b>	<b>-1.90</b>	<b>2.60</b>	<b>4.80</b>		<b>2.6</b>	<b>2.70</b>	<b>-0.32</b>	<b>3.80</b>		<b>1.1</b>

Note: \* Data collected from Statistical Year Book for Latin America and Caribbean.  
Data Source: WDI CD-ROM, (2000)  
World Bank

TABLE-4.16

**LATIN AMERICA (22 COUNTRIES) :BROAD OCCUPATIONAL STRUCTURE  
BY SECTOR OF ECONOMIC ACTIVITY AND SEX**

	COUNTRY	SEX	YEAR	AGRICULTURE	INDUSTRY	SERVICES	TOTAL
1	2	3	4	5	6	7	8
1	<i>Argentina</i>	Total	1980	12.94	33.68	53.38	100.00
		Male		16.70	39.60	43.80	100.10
		Female		3.10	18.20	78.60	99.90
		Total	1990	12.13	32.37	55.50	100.00
		Male		15.80	38.60	45.50	99.90
		Female		2.90	16.70	80.50	100.10
		Total	1996	1.61	26.08	72.31	100.00
		Male		2.20	32.50	64.80	99.50
		Female		0.30	11.60	87.60	99.50
2	<i>Barbados</i>	Total	1981	9.40	21.48	69.12	100.00
		Male		9.80	23.70	66.60	100.10
		Female		8.90	18.70	72.40	100.00
		Total	1990	6.94	24.04	69.02	100.00
		Male		6.90	28.80	55.90	91.60
		Female		5.50	13.40	69.30	88.20
		Total	1995	5.16	22.06	72.78	100.00
		Male		5.50	25.50	59.60	90.60
		Female		3.60	13.10	71.20	87.90
3	<i>Bolivia</i>	Total	1980	44.14	20.40	35.46	100.00
		Male		52.10	21.20	26.70	100.00
		Female		28.20	18.80	53.00	100.00
		Total	1990	1.28	26.19	72.53	100.00
		Male		1.90	34.60	63.00	99.50
		Female		0.20	11.50	88.00	99.70
		Total	1996	2.06	30.84	67.10	100.00
		Male		2.10	39.80	58.10	100.00
		Female		2.00	15.80	82.10	99.90
4	<i>Brazil</i>	Total	1981	29.58	25.06	45.36	100.00
		Male		33.60	30.00	36.40	100.00
		Female		19.80	13.00	67.30	100.10
		Total	1990	22.96	22.78	54.26	100.00
		Male		28.10	28.10	43.80	100.00
		Female		13.30	12.80	73.80	99.90
		Total	1995	26.34	20.39	53.27	100.00
		Male		28.40	26.40	45.10	99.90
		Female		22.50	9.30	68.20	100.00
5	<i>Chile</i>	Total	1980	16.91	24.08	59.01	100.00
		Male		21.90	26.80	51.10	99.80
		Female		2.80	16.30	80.80	99.90
		Total	1990	19.50	25.40	55.10	100.00
		Male		25.30	30.30	44.40	100.00
		Female		5.90	13.90	80.20	100.00
		Total	1997	14.43	27.30	58.27	100.00
		Male		19.20	33.50	47.20	99.90
		Female		4.40	14.20	80.70	99.30
6	<i>Colombia</i>	Total	1980	1.53	35.58	62.89	100.00
		Male		1.90	39.00	59.10	100.00
		Female		0.50	25.90	73.50	99.90
		Total	1990	1.43	31.23	67.34	100.00
		Male		1.90	34.70	63.40	100.00
		Female		0.60	25.00	74.30	99.90
		Total	1997	1.03	28.26	70.71	100.00
		Male		1.40	32.20	66.00	99.60

Table 4.16 contd. . .

1	COUNTRY	SEX	YEAR	AGRICULTURE	INDUSTRY	SERVICES	TOTAL
1	2	3	4	5	6	7	8
		Female		0.40	20.80	75.90	97.10
7	<i>Costa Rica</i>	Total	1980	28.55	24.29	47.16	100.00
		Male		34.40	25.30	40.00	99.70
		Female		5.90	20.10	73.80	99.80
		Total	1990	26.14	26.06	47.80	100.00
		Male		33.60	26.50	39.20	99.30
		Female		6.40	24.30	68.60	99.30
		Total	1997	20.89	23.82	55.28	100.00
		Male		27.20	26.40	45.80	99.40
		Female		5.90	17.40	76.10	99.40
8		<i>Dominican Republic</i>	Total	1980	32.48	23.67	43.86
	Male			39.50	26.10	34.40	100.00
	Female			11.00	16.20	72.60	99.80
	Total		1990	24.83	29.10	46.07	100.00
	Male			30.50	31.50	37.90	99.90
	Female			9.40	22.50	68.00	99.90
	Total		1995	N.A	N.A	N.A	N.A
	Male			N.A	N.A	N.A	N.A
	Female			N.A	N.A	N.A	N.A
9	<i>Ecuador</i>		Total	1980	39.83	20.21	39.96
		Male		44.30	21.40	34.20	99.90
		Female		21.90	15.40	62.70	100.00
		Total	1990	7.94	27.79	64.26	100.00
		Male		10.30	30.00	59.70	100.00
		Female		0.80	21.10	78.10	100.00
		Total	1997	7.67	23.56	68.78	100.00
		Male		9.80	26.50	63.60	99.90
		Female		1.90	15.60	82.70	100.20
10		<i>El Salvador</i>	Total	1980	40.19	20.98	38.83
	Male			51.00	20.90	28.10	100.00
	Female			10.20	21.20	68.60	100.00
	Total		1990	8.58	30.74	60.67	100.00
	Male			11.30	34.60	54.10	100.00
	Female			2.70	22.40	74.90	100.00
	Total		1997	27.20	23.70	49.10	100.00
	Male			38.10	25.20	36.60	99.90
	Female			7.00	20.90	72.20	100.10
11	<i>Guatemala</i>		Total	1980	53.74	19.02	27.24
		Male		64.40	16.60	19.00	100.00
		Female		16.80	27.40	55.80	100.00
		Total	1990	52.44	17.43	30.13	100.00
		Male		63.60	15.70	20.70	100.00
		Female		15.90	23.10	61.00	100.00
		Total	1996	N.A	N.A	N.A	N.A
		Male		N.A	N.A	N.A	N.A
		Female		N.A	N.A	N.A	N.A
12		<i>Guyana</i>	Total	1980	26.82	25.60	47.58
	Male			31.60	28.90	39.60	100.10
	Female			12.70	15.90	71.40	100.00
	Total		1990	21.83	24.71	53.46	100.00
	Male			28.10	28.60	43.30	100.00
	Female			8.10	16.20	75.80	100.10
	Total		1992	31.11	21.03	47.86	100.00
	Male			36.20	23.70	37.30	97.20
	Female			17.10	13.20	65.50	95.80

Table 4.16 contd.

1	COUNTRY	SEX	YEAR	AGRICULTURE INDUSTRY SERVICES TOTAL			8
				5	6	7	
13	<i>Haiti</i>	Total	1981	68.86	8.07	23.07	100.00
		Male		81.30	8.20	10.50	100.00
		Female		53.10	7.90	39.00	100.00
		Total	1988	66.43	9.16	24.41	100.00
		Male		76.10	8.60	12.90	97.60
		Female		49.60	9.30	37.80	96.70
		Total	1996	N.A	N.A	N.A	N.A
		Male		N.A	N.A	N.A	N.A
		Female		N.A	N.A	N.A	N.A
14	<i>Honduras</i>	Total	1980	57.18	14.77	28.05	100.00
		Male		62.90	16.60	20.40	99.90
		Female		40.10	9.30	50.70	100.10
		Total	1990	48.92	16.87	34.21	100.00
		Male		65.30	14.50	20.10	99.90
		Female		6.00	23.00	70.90	99.90
		Total	1997	38.63	21.73	39.63	100.00
		Male		52.50	19.30	28.10	99.90
		Female		7.10	27.20	65.70	100.00
15	<i>Jamaica</i>	Total	1980	35.80	14.44	49.76	100.00
		Male		46.70	20.00	32.70	99.40
		Female		22.70	7.80	68.90	99.40
		Total	1990	25.51	22.04	52.46	100.00
		Male		33.90	31.10	34.40	99.40
		Female		15.40	11.20	72.80	99.40
		Total	1996	21.92	19.74	58.34	100.00
		Male		31.00	26.60	42.30	99.90
		Female		11.30	11.70	76.90	99.90
16	<i>Mexico</i>	Total	1980E	36.55	29.00	34.45	100.00
		Male		42.90	29.40	27.70	100.00
		Female		19.30	27.90	52.80	100.00
		Total	1990	23.35	30.23	46.42	100.00
		Male		28.60	30.00	31.20	89.80
		Female		3.40	20.80	66.60	90.80
		Total	1997	24.53	22.56	52.91	100.00
		Male		30.10	24.20	45.70	100.00
		Female		12.60	18.90	67.50	99.00
17	<i>Nicaragua</i>	Total	1980E	43.62	15.72	40.66	100.00
		Male		57.20	16.00	26.80	100.00
		Female		8.00	15.00	77.00	100.00
		Total	1990E	41.12	13.83	45.05	100.00
		Male		56.00	15.10	28.90	100.00
		Female		9.10	11.10	79.90	100.10
		Total	1996	N.A	N.A	N.A	N.A
		Male		N.A	N.A	N.A	N.A
		Female		N.A	N.A	N.A	N.A
18	<i>Panama</i>	Total	1982	28.04	18.18	53.78	100.00
		Male		37.20	20.50	39.00	96.70
		Female		5.50	11.50	81.30	98.30
		Total	1991	26.64	14.37	58.98	100.00
		Male		37.50	16.40	46.10	100.00
		Female		4.30	10.20	85.50	100.00
		Total	1995	20.36	17.88	61.76	100.00
		Male		29.10	21.40	49.50	100.00
		Female		3.30	11.00	85.60	99.90
19	<i>Paraguay</i>	Total	1980	44.82	20.16	35.03	100.00

Table 4.16 contd.

1	COUNTRY 2	SEX 3	YEAR 4	AGRICULTURE INDUSTRY SERVICES TOTAL			8
				5	6	7	
		Male		58.00	19.50	22.40	99.90
		Female		8.50	21.90	69.60	100.00
		Total	1990	2.39	30.33	67.28	100.00
		Male		3.00	36.10	60.80	99.90
		Female		0.80	15.40	83.70	99.90
		Total	1994	4.50	29.98	65.51	100.00
		Male		6.00	37.00	57.00	100.00
		Female		0.80	12.60	86.50	99.90
20	Peru	Total	1980	40.32	18.29	41.39	100.00
		Male		45.10	19.70	35.20	100.00
		Female		25.10	13.80	61.10	100.00
		Total	1991	0.98	26.05	72.97	100.00
		Male		1.20	30.10	68.70	100.00
		Female		0.40	15.60	84.00	100.00
		Total	1997	8.06	22.80	69.15	100.00
		Male		9.60	27.40	63.00	100.00
		Female		4.50	12.20	83.30	100.00
21	Uruguay	Total	1984	2.91	27.96	69.13	100.00
		Male		4.10	31.60	64.30	100.00
		Female		0.60	20.90	78.40	99.90
		Total	1992	4.62	29.77	65.61	100.00
		Male		7.00	35.80	57.20	100.00
		Female		1.00	20.60	78.40	100.00
		Total	1995	4.87	26.79	68.34	100.00
		Male		7.10	33.70	59.30	100.10
		Female		1.60	16.70	81.80	100.10
22	Venezuela, RB	Total	1980	15.23	27.84	56.93	100.00
		Male		19.90	31.30	48.80	100.00
		Female		2.40	18.30	79.20	99.90
		Total	1990	12.95	25.20	61.85	100.00
		Male		18.00	28.80	53.10	99.90
		Female		1.80	17.20	80.80	99.80
		Total	1995	13.09	23.56	63.36	100.00
		Male		18.70	28.30	53.00	100.00
		Female		1.70	13.90	84.10	99.70

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.17: SCI IN TOTAL EMPLOYMENT  
IN 3 BROAD SECTORS  
( '22 LATIN AMERICAN COUNTRIES)**

	80-90	90-96*
<i>Argentina</i>	0.02	0.17
<i>Barbados</i>	81-90 0.03	90-95 0.04
<i>Bolivia</i>	80-90 0.43	90-96 0.05
<i>Brazil</i>	81-90 0.09	90-95 0.03
<i>Chile</i>	80-90 0.04	90-97 0.05
<i>Colombia</i>	80-90 0.04	90-97 0.03
<i>Costa Rica</i>	80-90 0.02	90-97 0.07
<i>Dominican Republic</i>	80-90 0.08	90-95 n.a
<i>Ecuador</i>	80-90 0.32	90-97 0.05
<i>El Salvador</i>	80-90 0.32	90-97 0.19
<i>Guatemala</i>	80-90 0.03	90-96 n.a
<i>Guyana</i>	80-90 0.06	90-92 0.09
<i>Haiti</i>	80-90 0.02	90-96 n.a
<i>Honduras</i>	80-90 0.08	90-97 0.10
<i>Jamaica</i>	80-90 0.10	90-96 0.06
<i>Mexico</i>	80-90 0.13	90-97 0.08
<i>Nicaragua</i>	80-90 0.04	90-96 n.a
<i>Panama</i>	82-91 0.05	91-95 0.06
<i>Paraguay</i>	80-90 0.42	90-94 0.02
<i>Peru</i>	80-91 0.39	91-97 0.07
<i>Uruguay</i>	84-92 0.04	92-95 0.03
<i>Venezuela, RB</i>	80-90 0.05	90-95 0.02

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.18 : SCI IN EMPLOYMENT OF  
MALE AND FEMALE WORKER  
( '22 LATIN AMERICAN COUNTRIES)**

	Male	Female
<i>Argentina</i>	80-90 0.02	90-96 0.20
<i>Barbados</i>	81-90 0.09	90-95 0.04
<i>Bolivia</i>	80-90 0.50	90-96 0.05
<i>Brazil</i>	81-90 0.07	90-95 0.02
<i>Chile</i>	80-90 0.07	90-97 0.06
<i>Colombia</i>	80-90 0.04	90-97 0.03
<i>Costa Rica</i>	80-90 0.01	90-97 0.07
<i>Dominican Republic</i>	80-90 0.09	90-95 n.a
<i>Ecuador</i>	80-90 0.34	90-96 n.a
<i>El Salvador</i>	80-90 0.40	90-96 0.27
<i>Guatemala</i>	80-90 0.02	90-96 n.a
<i>Guyana</i>	80-90 0.04	90-96 n.a
<i>Haiti</i>	81-88 0.04	81-88 n.a
<i>Honduras</i>	80-90 0.02	90-96 n.a
<i>Jamaica</i>	80-90 0.13	90-96 0.08
<i>Mexico</i>	80-90 0.09	90-97 0.11
<i>Nicaragua</i>	80-90 0.02	90-96 n.a
<i>Panama</i>	82-91 0.06	91-95 n.a
<i>Paraguay</i>	80-90 0.55	90-94 0.04
<i>Peru</i>	80-91 0.44	91-97 0.08
<i>Uruguay</i>	84-92 0.07	92-95 0.02
<i>Venezuela, RB</i>	80-90 0.04	90-95 0.01

Data Source: WDI CD-ROM, (2000)  
World Bank

**TABLE-4.19: SHARE OF MEN AND WOMEN EMPLOYED IN EACH BROAD SECTOR OF ACTIVITY  
LATIN AMERICA (22 COUNTRIES),  
(PERCENTAGES)**

COUNTRY	YEAR	'TOTAL LABOUR		'AGRICULTURE		'INDUSTRY		'SERVICES	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Argentina	1980	72.44	27.56	93.39	6.61	85.09	14.91	59.38	40.62
	1990	71.46	28.54	93.18	6.82	85.29	14.71	58.64	41.36
	1996	68.64	31.36	94.14	5.86	85.98	14.02	61.82	38.18
Barbados	1981	55.95	44.05	58.29	41.71	61.66	38.34	53.86	46.14
	1990	54.44	45.56	59.07	40.93	71.20	28.80	48.13	51.87
	1995	54.05	45.95	63.55	36.45	68.96	31.04	48.86	51.14
Bolivia	1980	66.70	33.30	78.73	21.27	69.31	30.69	50.23	49.77
	1990	63.05	36.95	94.20	5.80	83.73	16.27	55.04	44.96
	1996	62.62	37.38	63.74	36.26	80.83	19.17	54.22	45.78
Brazil	1981	70.94	29.06	80.57	19.43	84.94	15.06	56.93	43.07
	1990	65.22	34.78	79.83	20.17	80.44	19.56	52.65	47.35
	1995	64.78	35.22	69.91	30.09	83.94	16.06	54.90	45.10
Chile	1980	73.68	26.32	95.64	4.36	82.17	17.83	63.93	36.07
	1990	70.10	29.90	90.95	9.05	83.64	16.36	56.48	43.52
	1997	67.61	32.39	90.05	9.95	83.04	16.96	54.83	45.17
Colombia	1980	73.82	26.18	91.46	8.54	80.92	19.08	69.37	30.63
	1990	64.12	35.88	84.97	15.03	71.25	28.75	60.37	39.63
	1997	62.68	37.32	85.14	14.86	71.71	28.29	58.74	41.26
Costa Rica	1980	79.18	20.82	95.69	4.31	82.74	17.26	67.36	32.64
	1990	71.90	28.10	93.07	6.93	73.62	26.38	59.38	40.62
	1997	69.80	30.20	91.42	8.58	77.81	22.19	58.18	41.82
Dominican Republic	1980	75.34	24.66	91.63	8.37	83.08	16.92	59.09	40.91
	1990	73.00	27.00	89.77	10.23	79.10	20.90	60.11	39.89
	1995	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Ecuador	1980	79.88	20.12	88.94	11.06	84.67	15.33	68.44	31.56
	1990	75.20	24.80	97.50	2.50	81.17	18.83	69.86	30.14
	1997	72.90	27.10	93.30	6.70	82.09	17.91	67.48	32.52
El Salvador	1980	73.50	26.50	93.27	6.73	73.22	26.78	53.19	46.81
	1990	68.40	31.60	90.06	9.94	76.98	23.02	60.99	39.01
	1997	64.89	35.11	90.98	9.02	69.07	30.93	48.43	51.57
Guatemala	1980	77.60	22.40	93.00	7.00	67.73	32.27	54.12	45.88
	1990	76.60	23.40	92.90	7.10	68.99	31.01	52.63	47.37
	1996	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Guyana	1980	74.82	25.18	88.07	11.93	84.36	15.64	62.21	37.79
	1990	68.68	31.32	88.39	11.61	79.49	20.51	55.63	44.37
	1992	68.37	31.63	81.85	18.15	79.28	20.72	54.82	45.18
Haiti	1981	55.89	44.11	65.99	34.01	56.81	43.19	25.44	74.56
	1988	56.75	43.25	66.60	33.40	54.59	45.41	30.73	69.27
	1996	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Honduras	1980	74.76	25.24	82.32	17.68	84.12	15.88	54.43	45.57
	1990	72.30	27.70	96.60	3.40	62.20	37.80	42.53	57.47



Table 4.19 contd..

COUNTRY	YEAR	'TOTAL LABOUR		'AGRICULTURE		'INDUSTRY		'SERVICES	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Jamaica	1997	69.38	30.62	94.37	5.63	61.67	38.33	49.24	50.76
	1980	53.70	46.30	70.47	29.53	74.84	25.16	35.50	64.50
	1990	53.80	46.20	71.94	28.06	76.38	23.62	35.49	64.51
	1996	53.80	46.20	76.16	23.84	72.58	27.42	39.04	60.96
Mexico	1980E*	73.10	26.90	85.80	14.20	74.12	25.88	58.77	41.23
	1990	69.77	30.23	95.15	4.85	77.09	22.91	52.22	47.78
	1997	67.92	32.08	83.35	16.65	72.85	27.15	58.66	41.34
Nicaragua	1980E	72.40	27.60	94.94	5.06	73.67	26.33	47.73	52.27
	1990E	68.28	31.72	92.99	7.01	74.56	25.44	43.80	56.20
	1996	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Panama	1982	68.26	31.74	93.67	6.33	79.58	20.42	51.19	48.81
	1991	67.30	32.70	94.72	5.28	76.79	23.21	52.60	47.40
	1995	66.12	33.88	94.50	5.50	79.14	20.86	53.00	47.00
Paraguay	1980	73.28	26.72	94.93	5.07	70.97	29.03	46.91	53.09
	1990	72.00	28.00	90.60	9.40	85.77	14.23	65.13	34.87
	1994	71.22	28.78	94.88	5.12	87.89	12.11	61.96	38.04
Peru	1980	76.10	23.90	85.12	14.88	81.97	18.03	64.72	35.28
	1991	72.08	27.92	88.56	11.44	83.28	16.72	67.86	32.14
	1997	69.72	30.28	83.09	16.91	83.80	16.20	63.52	36.48
Uruguay	1984	65.90	34.10	92.95	7.05	74.49	25.51	61.29	38.71
	1992	60.34	39.66	91.42	8.58	72.56	27.44	52.61	47.39
	1995	59.50	40.50	86.70	13.30	74.78	25.22	51.57	48.43
Venezuela, RB	1980	73.32	26.68	95.79	4.21	82.44	17.56	62.85	37.15
	1990	68.72	31.28	95.64	4.36	78.61	21.39	59.06	40.94
	1995	66.97	33.03	95.70	4.30	80.45	19.55	56.02	43.98

Data Source: WDI CD-ROM, (2000)

World Bank

Note\*-Data collected from Statistical Year Book  
for Latin America and Caribbean

## CHAPTER V

# Conclusions

Our study basically focused on three areas, which was important according to the previous theoretical and empirical studies on explaining the Latin American growth dynamics with special emphasis on the transition of development orientation from one ideological mooring to another. We estimated traditional growth equations in the panel data setup to assess the growth determinants in Latin American countries over a sample period which involves various turbulent phases in Latin American growth history. We also examined whether there was any structural changes occurred from macro and micro level. We also investigated the role of instability resulting from exogenous and endogenous shocks and the interaction between them on the growth process of Latin America. Now we will try to present our findings in a succinct manner.

Latin America had in the 1980s its worst decade in the century and this was the consequence of the policies and the institutions developed in the previous decades as well as the external shocks. During the 1970s our most of sample countries' growth rates were reasonably high but this was fueled by unsustainable policies as a results of which the overall macro economy balances were deteriorating as well as the cost arising out of distortionary and inefficient allocation of resources where increasing unhindered. Second oil shock and the early 80s debt crisis unraveled the worst economic crisis in the whole region whose impact was profound. This was the beginning of transition from one development model to another development model with completely different orientation. Thus began the journey of Latin American countries into the era of reforms

and globalisation. Initially some countries hesitated but in due process most of the countries had reoriented their economic policies by the early 90s. And our study involves all these economic upheavals reflected in the sample period we have taken.

We have in our study of growth determinants in Latin America followed the type of exploratory cross country empirical investigations of growth pioneered by Kormendi and Meguire (1985), Fisher (1993) and advanced by Barro (1990,1991) and specifically in Latin American context by De Gregario (1991) and Corbo-Rojas (1994) in a panel data set-up. Representative of large empirical cross country growth literature, each of these study used an assortment of theoretical papers to motivate a variety of economic variables used in cross country growth regressions. After determining some variables, which are more likely to be the robust candidates for determination of Latin American growth, in the light of previous growth literatures, we explored the impact of a large number of variables most of which are related to policies and the immediate economic environments in which we live. Many a time we found puzzling and contradictory results. As we had mentioned before, this is an exploratory attempt and as we do not know what the true model is, the coefficients obtained for a specific independent variable may vary widely when using alternative specifications or estimation procedures.

In fact Sala-I-Martin (1997) has observed of specific variable found in the literature must be considered at best only as broad estimated, because practically no variable has been found robust to the alternative specification and taking all those limitations and observations on our estimates, we briefly summarize our findings of the panel estimate.

We first focused on traditional growth regression variables. These are initial per capita GDP, human capital variables and government consumption share in GDP. Our findings suggest that there is no unconditional convergence across Latin American countries. This is not surprising, since the region consists of diverse countries, with diverse policy followings and the country specific structural characteristics; which gives rise to the divergence between them both in terms of growth rates and level of income. As expected, investment is one of the most robust determinants of growth. While we accepted human capital variables such as primary school enrolment or total adult literacy shows significant and positive impact on growth. But these results of human capital proxies are less robust than the physical investment. Our study indicates that there is high degree of complementarity between physical investment and investment in human capital formation. This is because human capital and physical capital reinforce each other. Countries with a higher stock of human capital can get more returns from the investment in physical capital by the use of their higher skill.

Also our study shows that adult literacy is one of the most important variables to account for the differences in per capita GDP growth in Latin American countries. One of the puzzling results we found that the secondary school enrolment has a negative and significant impact on growth. In contrast tertiary enrolment has a positive and significant impact on growth. One explanation may be that secondary school enrolment implies postponement of the productive use of the labour force, while tertiary enrolment is more directly related to the technical enhancement of the countries productive assets. Also we found that female literacy rate has a positive and significant impact on growth while male literacy has positive but not significant impact on growth.

Government consumption, as expected has a significant and negative impact on growth. From our study it is suggested that Latin American economies pursue a highly inefficient and unproductive government expenditure, in contrast to the ideal of directly productive spending like investment in education, training etc. which will improve the efficiency of other investments.

Our result suggests that there was declining average growth rate during 1980s compared to 1970 and 1990s was a period of recovery from that declining average growth rate. Towards the later half of 1990s, the region seems to be recovering fully from the slump of 1980s.

Trade openness has no direct positive impact on Latin America growth. In fact it seems to negatively impact growth, but trade has positive impact on growth through its impact on investment in Latin America. The model may be capturing the short-term impact of trade because after controlling for the change in export level variable is becoming positive although insignificant.

Foreign direct investment has a significant and positive impact on growth. Our study shows that foreign direct investment is more efficient than the domestic investment.

We found that after controlling for trade openness variables, terms of trade adjustment, FDI and inflation there is evidence of conditional convergence across our sample countries

Resource balance has a significant and negative impact on Latin American growth performance, which is primarily due to repeated balance of payment crisis and the way government resort to short-term measures to improve the situation.

Our models, involving external debt reveals that it has a negative and significant impact only when government consumption and inflation are excluded. This confirms one of the main finding of Agarwal (1991) that one of the main reasons for which Latin America's growth suffers is government's unproductive expenditure by taking recourse to foreign borrowing to finance it. Current account deficits also one of the reasons for which Latin America's growth lags behind. Our study also found that reducing budget deficit will improve the growth performance.

Inflation has significant impact but the total effect of inflation on growth also includes its impact on investment. Inflation exerts a negative effect on growth through its impact on productivity of capital rather than through its impact on rates of accumulation of capital. Our study confirms the antigrowth effect of inflation in Latin American context.

Our study on some of the monetary and financial, both internal and external, does not give any reason to be happy. The change in debt to GDP ratio has more severe impact on growth performance than the level variable i.e. debt as a percentage of GDP.

Our study also gives credence to the views that internal financial reforms are positively but weakly related to growth. External financial liberalization shows indications of negative impact on growth. Import coefficients and change in import coefficient have a positive and significant impact on growth. Short-term debt has a significant and negative impact on growth.

Our studies on the relationship between the economy and political institutions by taking proxies for the democratic character of a country and by taking indicators of levels of political stability has some interesting outcomes regarding the role of political factors

in explaining the cross country growth differential. Using Gastil's political rights index in the context of whole Latin America shows negative but insignificant coefficient. But there is indication that democratic countries tend to do better in growth perform.

When we used another variable (Gasirowski, 1962-92) stability of the regime's (whatever types of regime it may be) index, the regressions revealed that the countries tend to perform better when under the rule of transitional government. Associated with this result, stability shows indication of negative impact on growth. This result is puzzling but it can be explained by taking help of political economy of reforms. Our study also reveals that, non-oil countries tend to do better than oil exporting countries. Our study also reveals that Mercosur countries along with Chile seems to have done better than any other country grouping in the region. It seems they are taking advantage of prompt reform and the big size of their countries.

We examined the impact of structural reforms in the light of the theoretical predictions of the outcomes of reforms. We investigated this at two levels, one by comparing the growth rates of GDP of regions economies over the period 1970-1990 and two at sectoral level taking four indicators i.e. production, export, import and employment to see whether there were any changes in the structure of the economy due to reform. Some of our findings are as follows:

Countries who were star performer during 1970s and slipped to the bottom of the ranking in terms of growth rate of GDP during 1970s and countries who were slow performer during 1970s, most of them had achieved high growth rates of their GDP

during 1990s. Small countries of the region have performed well during 1990s and managed to stay ahead of Latin American average in terms of growth rate.

In case of production the largest structural change has occurred during 80-90. There was significant shift of resources between sectors during the crisis period 1980-85 but little shift occurred during the crisis period 80-90. The 1990's trend has been to reverse what ever shift that had occurred during the crisis period. Our study of some individual countries in this respect reveals that it was not possible to infer any pattern or causality. What may be said about 80s, is that structural change occurred during 1980s from the deferential effects of the crisis on existing economic structures which was exogenous but the response to it in terms of policy reforms is endogenous. What impact this policy reforms has a economic structure is still uncertain. There was little change in the post crisis or stabilization period.

While our study does not show any significant changes in the structure of production at broad sectoral level, other studies, which concentrated on the changes at macro level, found that there were considerable changes in the structure of production within sectors.

Investigating the changes in export sector, we found that during 1990s small countries of the region, especially countries of central America and Caribbean seems to have done well in terms of export growth rate. From our study of some individual and important countries of the region we conclude that 1990s export growth performance was partly the result of structural change. And for countries that were already industrialized to some extent before reform, export growth primarily occurred because of shift from



primary to manufactured exports for example Argentina and Mexico etc. Small countries, especially of Central America and Caribbean have also shown good export performance. In these small countries structural change index for all categories are generally higher than main land South America, for example Costa Rica, Dominican Republic. In small countries structural change was primarily due to increase in the share of services like travel, tourism etc. Further there has not been much change in share between goods and services in export in large countries.

Considering the changes in import structure it can be concluded that there has been substantial structural change over the period 1980-1998, but small countries, like Costa Rica, Dominican Republic, Guyana, Panama, etc. most of which are countries of Central American and Caribbean region has shown greater structural change. Another observation is that in most of the countries, the overall structural change index for all categories of imports over the period 1980-98 has been smaller than the sum of the structural change index for the sub periods 1980-90 and 90-98. This shows that some of the structural change in import during 1990s was the reversal of some structural change during 80s. Not all changes that has occurred in import composition during 1990s is entirely due to reforms or trade liberalization. It was a combination of many factors, which had brought these changes. The most important were the impact of the general macro economic situation (exchange rate), which was more stable during this period, increased domestic demand, improved access to other markets for exports.

During 1990s in most of the countries in the region except some countries like Argentina, Brazil, Haiti etc. the demographic transition has produced a decline in the growth rates of working age population (15-64 age). In the region as a whole, therefore,

as well as in most countries, the demographic pressure of the labour supply has lessened. The adjustment of occupational structure in the wake of structural reforms has primarily taken the form of increased under-employment and low productivity jobs rather than in open unemployment. The change during the crisis period has become a long-term structural change in employment structure in many countries. The shift from agriculture to service during the crisis period has come to stay in many countries.

Another aspect of Latin American Growth Process which we examined is the structural breaks that had occurred in our sample period. While breaks in early 1990s occurred primarily due to the exogenous debt crisis breaks during late 1980s or early 1990s occurred primarily due to wrong policy reasons. Many countries that did not adjust or reform they were forced to accept changes sooner or later mostly after change of the govt of the day. While there was a pattern in the effects of breaks on growth, it was not uniform. Most countries in our sample had declined growth rates after the first break of debt crisis. While after the second break, which mostly cluster around the time of reforms, most countries had increased mean growth rates. Macro-economic crisis reflected in hyperinflation, large fiscal deficit are one of the most persistent reason of break. And most of the time this crisis are the result of endogenous policy decisions taken due to political reasons.

Some of the important policy implications that we can deduce from the present study are as follows. Physical investment and investment in human capital are two of the most important variables affecting the Latin American growth by their complimentary

nature. So emphasis should be given for attainment of higher skill and educational levels of labour force. Our study also confirms the harmful impact of inflation. Prudent policy management is the answer, which involves willingness to implement measures to curb fiscal deficit, productive use of debts, reduction of unproductive govt. consumption. Apart from that emphasis should be given on the diversification of export so that external sector should not be affected much by the fluctuation in the world market.

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**APPENDIX  
US\$**

**Table-1: Growth rates of Output And its Components (For 21 countries)**

**:Average Annual % growth**

**(constant 1995 US\$)**

<b>BRAZIL</b>	<b>1970-79</b>	<b>70-74</b>	<b>75-79</b>	<b>1980-89</b>	<b>80-84</b>	<b>85-89</b>	<b>1990-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	8.28	11.86	5.58	3.06	-0.74	3.27	3.18	2.29	2.76	3.56
Gr:ava	3.97	3.36	4.09	3.06	1.89	3.38	3.10	2.79	2.14	3.29
Gr:iva	9.62	13.44	7.94	2.55	-2.35	2.35	3.18	2.12	3.45	3.28
Gr:sva	8.32	13.02	3.99	3.48	0.01	4.00	3.17	2.30	2.27	3.86
Gr:mva	9.21	13.05	7.70	2.22	-2.82	1.97	2.49	0.90	2.56	2.57
<b>US\$</b>										
<b>ARGENTINA</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	2.31	3.56	2.19	-0.14	-0.46	0.15	5.23	7.97	6.14	1.62
Gr:ava	2.98	4.58	3.08	0.56	2.79	-0.26	3.37	3.14	2.74	1.74
Gr:iva	2.13	3.63	1.45	-0.82	-1.85	-0.09	5.35	9.04	6.85	0.61
GR:sva	2.36	3.36	2.66	0.21	0.07	0.34	5.39	7.96	6.14	2.30
Gr:mva	1.60	4.79	0.20	-0.45	-0.71	-0.52	4.26	7.76	6.04	0.41
<b>CHILE</b>										
<b>US\$</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	1.05	0.44	7.21	2.92	-1.93	6.94	7.09	7.62	5.77	4.18
Gr:ava	2.91	-1.23	2.81	5.40	1.08	9.07	1.19	1.05	-0.43	4.13
Gr:iva	-0.72	0.43	6.43	3.18	-1.43	6.63	6.73	7.42	5.08	3.72
GR:sva	1.94	0.69	8.53	2.33	-2.72	6.73	8.28	8.97	7.04	4.50
Gr:mva	-1.77	0.28	8.10	2.93	-3.70	7.92	5.68	7.45	2.64	3.06
<b>COLOMBIA</b>										
<b>US\$</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	5.48	6.83	5.87	3.53	1.91	4.71	3.34	3.35	2.46	3.96
Gr:ava	4.67	4.30	5.02	2.64	1.25	4.26	-3.03	-4.15	0.01	2.29
Gr:iva	5.19	8.37	4.66	5.09	2.03	5.93	3.14	3.91	-0.41	4.13
GR:sva	5.96	6.84	6.92	2.91	2.07	4.11	5.19	5.24	4.64	4.36
Gr:mva	6.06	9.13	5.48	3.28	0.52	4.73	-1.12	3.23	-10.31	3.08
<b>COSTARICA</b>										
<b>LCU</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	6.07	7.04	7.14	2.79	-0.57	4.74	4.75	5.72	4.77	3.78
Gr:ava	2.69	3.87	2.81	2.91	2.68	5.08	2.66	3.76	1.39	2.86
Gr:iva	8.69	10.60	8.34	2.68	-1.85	4.35	3.83	5.92	3.42	3.82
Gr:sva	6.07	7.03	7.16	2.79	-0.58	4.74	4.76	5.73	4.80	3.79
Gr:mva	8.56	10.84	7.89	2.91	-1.21	4.43	3.87	6.09	2.86	3.95
<b>DOM REP</b>										
<b>US\$</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	6.92	10.34	4.37	3.38	2.70	5.29	5.48	4.34	7.62	4.02
Gr:ava	3.11	4.76	3.55	0.84	3.36	0.80	3.63	2.48	4.48	1.90
Gr:iva	9.01	15.71	4.03	3.88	1.97	8.04	6.10	5.56	8.90	4.34
Gr:sva	7.22	9.71	4.87	3.84	2.92	5.05	5.37	3.97	7.67	4.47
Gr:mva	6.86	9.94	3.89	3.09	1.31	6.24	4.07	5.29	5.76	3.76
<b>ECUADOR</b>										
<b>US\$</b>	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	9.64	14.20	6.84	1.86	1.10	1.83	2.89	3.54	2.11	3.98
Gr:ava	2.90	4.28	0.65	4.23	-0.55	5.60	2.65	2.44	2.49	3.49
Gr:iva	15.60	35.50	7.80	1.44	4.09	-0.80	3.61	5.12	1.45	4.42
GR:sva	9.15	7.67	8.24	1.42	-0.53	2.55	2.50	2.91	2.41	4.02
Gr:mva	10.88	8.59	10.58	0.08	1.34	-0.23	3.04	3.34	2.54	3.66



Appendix Table 1 Contd.

**EL SALVA**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	4.50	5.13	3.72	-0.18	-3.38	1.54	5.25	6.39	3.15	1.16
Gr:ava	3.15	3.74	3.33	-1.56	-3.34	-0.89	0.95	1.00	-0.02	0.11
Gr:iva	4.56	5.00	3.94	-0.27	-4.88	3.33	5.49	5.35	5.84	0.31
GR:sva	4.92	5.72	3.74	0.33	-2.65	1.48	6.29	8.34	2.91	1.93
Gr:mva	3.62	4.62	3.53	-0.73	-5.15	2.71	5.47	5.41	6.08	0.05

**GUATEMALA**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	5.89	6.62	6.25	0.38	-1.62	3.04	4.19	4.17	4.17	2.85
Gr:ava	4.89	7.15	3.58	0.79	-0.87	2.96	2.80	2.67	2.85	2.32
Gr:iva	7.69	6.91	10.11	-0.62	-4.27	3.55	4.27	4.22	4.78	2.94
GR:sva	5.73	6.25	6.18	0.58	-0.92	2.89	4.74	4.84	4.35	3.07
Gr:mva	6.14	6.41	8.33	-0.29	-2.68	1.85	2.84	2.92	2.71	2.33

**GUYANA**

	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	2.17	1.82	-1.69	-2.84	-6.48	-1.91	6.58	7.70	4.32	0.10
Gr:ava	1.51	1.28	0.80	-0.13	-0.42	-0.58	6.57	9.03	2.12	1.42
Gr:iva	-0.13	-0.36	-4.45	-6.23	-12.54	-6.88	10.77	15.19	6.66	-1.52
Gr:sva	5.09	4.88	-0.38	-2.05	-5.14	0.24	4.03	2.38	4.32	0.66
Gr:mva	5.70	5.25	2.27	-6.89	-9.10	-9.29	13.59	23.72	-0.17	-0.42

**HAITI**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	3.41	3.68	4.71	-0.30	-1.31	0.19	-1.68	-5.71	2.29	0.61
Gr:ava	1.74	2.60	0.93	-0.37	-2.02	0.05	-4.29	-2.77	0.09	0.03
Gr:iva	8.46	9.42	9.77	-1.79	-3.08	-1.45	-0.96	-14.93	7.46	0.09
GR:sva	2.48	2.22	5.44	0.52	0.23	1.04	-0.56	-5.93	1.80	1.32
Gr:mva	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

**HONDURAS**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	5.67	4.71	8.80	2.66	0.93	4.37	3.65	3.77	3.95	3.66
Gr:ava	1.95	2.14	6.32	2.47	1.16	4.08	2.82	2.26	0.77	2.80
Gr:iva	7.10	7.88	9.20	3.31	3.71	4.47	3.87	4.82	5.41	4.03
GR:sva	7.56	5.08	10.07	2.46	-0.50	4.47	3.95	4.09	4.75	4.03
Gr:mva	7.41	8.29	8.99	3.70	1.84	5.05	4.13	3.63	5.57	3.94

**JAMAICA**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	-0.83	2.77	-1.96	1.54	1.52	4.67	0.50	1.58	-1.35	0.74
Gr:ava	0.65	-0.53	1.59	0.54	2.01	-1.70	3.00	8.24	-5.34	1.08
Gr:iva	-2.98	1.90	-5.18	1.58	-0.22	7.24	-0.43	-0.39	-0.92	-0.14
GR:sva	0.87	4.16	0.22	1.64	2.58	3.87	0.79	2.09	-1.03	1.40
Gr:mva	-1.26	3.34	-5.54	2.39	2.07	5.02	-1.82	-1.59	-3.27	-0.29

**MEXICO**

US\$	70-79	70-74	75-79	80-89	80-84	85-89	90-98	90-94	95-98	70-98
Gr:gdp	6.17	6.80	6.29	0.99	1.20	1.11	2.50	3.40	5.69	3.52
Gr:ava	3.13	3.06	3.84	0.72	1.74	-1.31	1.42	1.12	1.20	1.93
Gr:iva	6.28	7.27	6.64	0.53	-1.11	1.74	3.14	3.02	8.72	3.51
Gr:sva	6.53	7.15	6.43	1.21	2.08	1.12	2.34	3.77	4.91	3.71
Gr:mva	5.99	6.86	6.68	0.96	-1.05	2.31	3.61	2.53	9.45	3.55

Appendix Table 1 (Contd..)

**NICARAGUA**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	2.41	6.00	-5.04	-1.69	1.85	-4.64	2.80	0.62	4.67	-0.81
Gr:ava	3.78	5.41	0.50	-2.35	3.29	-4.19	5.27	2.76	6.71	-0.41
Gr:iva	2.56	7.20	-6.71	-1.83	1.53	-7.01	3.12	0.63	5.28	-0.93
GR:sva	1.47	5.53	-7.14	-1.28	1.31	-3.26	<b>1.16</b>	<b>-0.58</b>	2.98	-0.96
Gr:mva	3.58	6.38	-2.63	-2.61	2.36	-8.79	1.34	-0.17	2.87	-0.81

**PANAMA**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	3.79	5.39	4.44	0.49	2.51	-3.77	4.36	6.52	3.87	2.87
Gr:ava	N.A	N.A	N.A	2.75	4.65	0.25	2.02	2.07	1.57	2.10
Gr:iva	N.A	N.A	N.A	-1.25	-1.36	-6.32	6.24	11.12	3.21	2.55
GR:sva	N.A	N.A	N.A	0.64	3.23	-3.70	4.19	6.02	4.23	2.56
Gr:mva	N.A	N.A	N.A	0.26	1.22	-5.11	4.23	7.57	3.30	2.68

**PARAGUYA**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	8.11	6.82	10.35	2.19	0.19	4.34	2.75	2.89	1.28	4.82
Gr:ava	6.13	5.27	5.55	3.27	2.48	5.83	2.81	1.43	2.56	4.30
Gr:iva	9.88	8.24	15.21	-0.83	-6.26	3.33	3.12	3.59	0.89	5.23
GR:sva	8.46	7.20	10.91	3.20	2.57	4.01	2.35	3.14	0.78	4.91
Gr:mva	7.40	7.21	11.71	5.66	9.51	3.26	0.87	1.24	-0.45	4.18

**PERU**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	3.69	5.14	1.74	0.35	-1.94	-0.89	5.75	5.28	3.52	1.65
Gr:ava	0.21	-1.54	0.96	3.29	1.65	3.81	5.54	4.19	4.07	1.78
Gr:iva	4.36	5.84	3.63	0.08	-3.33	-1.73	6.90	7.56	4.16	1.74
GR:sva	4.23	5.15	3.03	0.38	-0.51	-1.70	4.43	2.82	3.30	1.39
Gr:mva	3.12	5.37	-0.22	0.19	-5.88	-1.84	8.03	11.94	3.59	0.95

**URUGUYA**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	2.82	0.20	4.06	0.04	-6.06	4.35	3.99	5.15	4.95	1.98
Gr:ava	0.18	-3.16	-0.83	-0.23	-3.28	0.76	4.43	4.59	3.66	1.67
Gr:iva	3.87	-0.11	6.41	-0.53	-7.47	5.28	1.36	0.60	5.02	1.05
GR:sva	2.74	1.24	3.56	0.61	-5.75	5.03	5.49	7.81	5.66	2.65
Gr:mva	3.22	0.28	5.29	0.15	-7.49	4.86	0.32	-1.67	4.23	0.64

**VENZUELA**

**US\$**

	<b>70-79</b>	<b>70-74</b>	<b>75-79</b>	<b>80-89</b>	<b>80-84</b>	<b>85-89</b>	<b>90-98</b>	<b>90-94</b>	<b>95-98</b>	<b>70-98</b>
Gr:gdp	4.01	3.20	4.25	0.96	-1.56	2.24	2.19	3.28	2.18	1.82
Gr:ava	3.43	2.72	3.05	3.43	0.95	3.13	1.11	1.72	1.37	2.31
Gr:iva	0.60	0.28	3.83	1.32	-1.75	2.46	3.54	4.45	3.09	1.67
GR:sva	8.22	7.79	4.95	0.34	-2.65	2.77	0.55	1.12	0.29	1.94
Gr:mva	5.92	5.45	5.45	4.81	3.90	1.60	1.52	1.82	-0.08	3.73

Data source: WDI CD-ROM 2000

World Bank

**N.B:**

Gr:gdp-Growth rate of gross domestic product

Gr:ava-Growth rate of agriculture value added

Gr:iva-Growth rate of industry value added

Gr:sva-Growth rate of service value added

Gr:mva-Growth rate of manufacturing value added

N.A-Not Available

**Data Appendix**

Data Source: WDI CD ROM 2000

World Bank

Oil(2)/ Non-oil(1) Dummies

Non oil

Oil

GROUPS

ANDEAN(2)

CENTRAL AMERICA MERCOSUR(1) OTHERS(4)

COMMON MARKET(3)

**Sample**

**Country Name**

**Non oil Country Name**

**Oil Country Name**

**Country Name**

**Country Name**

**Country Name**

**Country Name**

Argentina

Barbados

Bolivia

Brazil

Chile

Colombia

Costa Rica

Dominican Republic

Ecuador

El Salvador

Guatemala

Guyana

Haiti

Honduras

Jamaica

Mexico

Nicaragua

Panama

Paraguay

Peru

Uruguay

Venezuela, RB

Argentina

Brazil

Chile

Colombia

Costa Rica

Dominican Republic

El Salvador

Guatemala

Haiti

Honduras

Nicaragua

Paraguay

Uruguay

Bolivia

Colombia

Ecuador

Mexico

Peru

Venezuela, RB

Bolivia

Colombia

Ecuador

Peru

Venezuela, RB

Costa Rica

El Salvador

Guatemala

Honduras

Mexico\*

Nicaragua

\* added

Argentina

Brazil

Chile\*

Paraguay

Uruguay

\* added

Dominican Republic

Guyana

Haiti

Jamaica

## Appendix Table-2

<b>Variable Name in regression Table</b>	<b>Actual variable Name</b>
<b>INPCGDP</b>	Initial per capita GDP (average, 1970-1974)
<b>ln(INPCGDP)</b>	Log of initial capita GDP
<b>GDI</b>	Gross domestic investment as a % of GDP
<b>GOC(%GDP)</b>	Government consumption as a % of GDP
<b>EPG</b>	Gross enrollment ratio, Primary
<b>ESG</b>	Gross enrollment ratio, Secondary
<b>ETG</b>	Gross enrollment ratio, Tertiary
<b>H.C Gr.</b>	Human capital growth rate
<b>Lit. rate,female</b>	Literacy rate,female
<b>Lit. rate,male</b>	Literacy rate,male
<b>Lit. rate, adult total</b>	Literacy rate, adult total
<b>70-79 dummy</b>	
<b>80-89 dummy</b>	
<b>90-98 dummy</b>	
<b>IM (%gdp)</b>	Importas a % of GDP
<b>EX (%gdp)</b>	Export as a % of GDP
<b>Trade (%GDP)</b>	Total trade(Export + Import) as a % of GDP
<b>dEx (%gdp)</b>	change in export coefficient(%gdp)
<b>tot adjmnt (%gdp)</b>	TOT adjustment as % of gdp
<b>FDI</b>	Foreign Direct Investment
<b>Inflation</b>	Inflation
<b>ln (inflation)</b>	ln(Inflation)
<b>Extdebt (%GDP)</b>	External debt(%GDP)
<b>Stdebt (%GDP)</b>	Short term debt(%GDP)
<b>TDS (% exports)</b>	Total Debt Service (% of exports)
<b>cdt (pvt sect)</b>	Credit toprivate sector)
<b>M2%GDP</b>	Money and quasi money(%GDP)
<b>CAB (% GDP)</b>	Current Account Balance(% of GDP)
<b>RB (%GDP)</b>	Resource Balance(%GDP)
<b>BD (% GDP)</b>	Budget Deficit (% of GDP)
<b>Aid (% GDI)</b>	Aid (% GDI)
<b>Pvt cpt flows (%GDP)</b>	Pvt capital flows (%GDP)

Appendix Table 2 contd .

<b>Net FA (%GDP)</b>	<b>Net foreign assets (%GDP)</b>
<b>ODA&amp;OA (%GDP)</b>	<b>Official Development Assistance&amp;Official Aid(%GDP)</b>
<b>d (inflation)</b>	<b>change in inflation</b>
<b>dIM (%gdp)</b>	<b>change in import coefficient</b>
<b>dTrade (%gdp)</b>	<b>change in Trade(%gdp)</b>
<b>d'cdt (pvt sect)</b>	<b>change in 'cdt(pvt sect)</b>
<b>dExtdebt (%GDP)</b>	<b>change in Extdebt(%GDP)</b>
<b>PRI</b>	<b>Political right index(Gastil)</b>
<b>demo (Gastil)</b>	<b>democracy(gastil)</b>
<b>semi demo(Gastil)</b>	<b>semi democracy(gastil)</b>
<b>auth(Gastil)</b>	<b>authoritarian(gastil)</b>
<b>oil</b>	<b>oil dummy</b>
<b>non oil</b>	<b>non oil dummy</b>
<b>demo (Gasiorowski)</b>	<b>democracy(Gasiorowski (61-92))</b>
<b>semi (Gasiorowski)</b>	<b>semi democracy(Gasiorowski (61-92))</b>
<b>auth (Gasiorowski)</b>	<b>authoritarian(Gasiorowski (61-92))</b>
<b>trans (Gasiorowski)</b>	<b>transitional(Gasiorowski (61-92))</b>
<b>stable (Gasiorowski)</b>	<b>stable dummy(Gasiorowski (61-92))</b>
<b>mercosure</b>	<b>mercosure dummy</b>
<b>andean</b>	<b>andean dummy</b>
<b>cacm</b>	<b>cacm dummy</b>
<b>others</b>	<b>others dummy</b>

Appendix Table-3

Country Name	PRI	Gastile (73-92)	
		HIGH	LOW
Barbados	1	1	1
Costa Rica	1	1	1
Venezuela, RB	1.17	2	1
Jamaica	1.78	2	1
Colombia	2.11	3	2
Dominican Republic	2.11	4	1
Brazil	3.22	5	2
El Salvador	3.28	6	2
Argentina	3.44	6	1
Ecuador	3.44	7	2
Peru	3.61	7	2
Mexico	3.72	5	3
Guatemala	3.78	6	2
Uruguay	3.78	6	1
Bolivia	3.83	7	2
Honduras	3.83	7	2
Guyana	4.33	5	2
Paraguay	4.78	6	3
Nicaragua	4.83	6	3
Chile	5.33	7	1
Panama	5.5	7	4
Haiti	6.39	7	4

Notes: 20 year average of Gastile's political rights index  
 High: country's highest score on the Gastile's political right index in 1973-1992  
 Low: Idem for the lowest

Source: Siermann (1998)

Country Name	Gasiorowski (61-92)				
	Demo	Semi	Auth	Trans	Stable
Argentina	0.31	0.25	0.41	0.03	0
Barbados	1	0	0	0	1
Bolivia	0.34	0.13	0.05	0.03	0
Brazil	0.34	0	0.31	0.34	0
Chile	0.47	0	0.47	0.06	0
Colombia	1	0	0	0	1
Costa Rica	1	0	0	0	1
Dominican Republic	0.47	0	0.5	0.03	0
Ecuador	0.28	0.31	0.25	0.16	0
El Salvador	0	0.03	0.97	0	0
Guatemala	0	0.22	0.69	0.09	0
Guyana	0	0	1	0	1
Haiti	0	0	0.97	0.03	0
Honduras	0	0.41	0.59	0	0
Jamaica	1	0	0	0	1
Mexico	0	0	1	0	1
Nicaragua	0.06	0	0.91	0.03	0
Panama	0	0.13	0.88	0	0
Paraguay	0	0.13	0.88	0	0
Peru	0.38	0.19	0.34	0.09	0
Uruguay	0.63	0	0.25	0.13	0
Venezuela, RB	1	0	0	0	1

Note:

Demo- The relative number of years a country is categorised as a democracy by Gasiorowski (1993) in the period 1961-1992.

Semi- Idem for the category semi democracies.

Auth- Idem for category Authoritarian regimes

Trans- Idem for categories transitional government.

Stable- 0-1 dummy which equal to one if a country has unbroken record fo being labelled a democracy, semi democracy or authoritarian regime in period 61-92 and it is 0 otherwise.