AN ECONOMIC STUDY OF CAPITAL FLIGHT FROM DEVELOPING COUNTRIES

A DISSERTATION SUBMITTED FOR Ph.D DEGREE IN ECONOMICS (ARTS)

AT THE UNIVERSITY OF NORTH BENGAL
APRIL 2008

BY

TARUN SENGUPTA
LECTURER IN ECONOMICS
SOUTH MALDA COLLEGE
PUBARUN, MALDA

SUPERVISORS

PROF. ANIL BHUIMALI
PROFESSOR OF ECONOMICS
UNIVERSITY OF NORTH BENGAL

DR. PARTHA CHAKRABORTY
PRINCIPAL
SOUTH MALDA COLLEGE
PUBARUN, MALDA

DEPARTMENT OF ECONOMICS
UNIVERSITY OF NORTH BENGAL
Raja Rammohunpur
Darjeeling – 734013
West Bengal, India

ACKNOWLEDGEMENT

First of all I want to convey my humble gratitude to my supervisor, Prof. Anil Bhuimali, Department of Economics, the University Of North Bengal whose proper guidance has always shows me the right way to complete this thesis. All the time he allowed me to inquire into his wide area of knowledge any matter regarding this thesis throughout the time. I also at the same time want to convey my gratitude to the Principal of South Malda College, Dr. Partha Chakraborty, who also jointly supervises this thesis. He always helped me by giving a lot of favourable opportunities in the college, where I am serving as a Lecturer in Economics, so that I can complete the work. My special thanks also go to Sidhartha, of Economics Department of NBU who helped me a lot in computer work, printing and binding. I also want to thank all the staff of the department. My special thanks also go to my wife Kshanaprava, without whose sacrifice this work could not be completed.

Tarun Sengupta 15/4/08

TARUN SENGUPTA

CONTENTS

CHAPTER 3

CALCULATION OF CAPITAL FLIGHT AND OPENNESS INDEX FOR THE SIX SELECTED COUNTRIES

CHAPTER 4

TRADE, FINANCE AND CRISIS

CHAPTER 5

FINANCIAL CRISIS AND CAPITAL FLIGHT FOR THE SIX SELECTED COUNTRIES

CHAPTER 6

CAPITAL FLIGHT AND INCOME DISTRIBUTION

CHAPTER 7

EMPIRICAL STUDIES OF INEQUALITY

CHAPTER 8

SUMMARY AND CONCLUSION

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

- ***THE BASIC CONCEPT AND THE PROBLEM***
- ***OBJECTIVE OF THE STUDY***
- ***DEFINITION***
- ***THE UN AND THE CAPITAL FLIGHT***
- ***RESEARCH GAP AND EXPECTED CONTRIBUTION***
- ***RESEARCH QUESTIONS***
- ***HYPOTHESES TO BE TESTED***
- ***REVIEW OF RELATED LITERATURE***
- ***OVERVIEW***

CHAPTER 1

INTRODUCTION

1.1 BASIC CONCEPT AND THE PROBLEM

Over the last two & half decades the flow of capital from the developing to the developed world has increased to a large extent. After the globalization of the financial markets such capital outflow is becoming a means of increasing returns of the households through portfolio diversification. Conventionally, the capital flow from the developed world to the developing world is better known as FDI, while the reverse flow is known as 'capital flight' (CF). Such type large capital outflow has proved to be an important case of serious macro-economic problems for many LDCs for the last 25 years. The prime concern is that capital flight amounts to a substantial portion of the resources which are essential for financing economic growth of the LDCs. Here we mention a report appeared in 'Financial times'-2002, which indicates that one of the most likely sources of unrecorded funding of the US colossal $392 billion current account deficit is capital flight from poor countries.

Capital flows from one country to another may take place for a number of reasons. Globalization of financial markets has resulted in capital flows that result from households' attempts to maximize returns through international portfolio diversification. Savings of households in advanced countries flow to developing countries through portfolio investment via Foreign Institutional Investors (FIIs) whose activities are now spread across stock markets worldwide. The expansion of world trade and commerce has increased enterprises' efforts to promote trade through providing export credits leading to movement of capital. Worldwide dispersal of productive units by multinational enterprises has led them to accumulate working balances abroad and invest directly in the acquisition of productive capacity abroad. Commercial banks' efforts to expand their activities have resulted in their accumulating deposits with foreign banks and acquiring claims on non-residents through portfolio and direct investment.

The above movement of capital can be considered to be "normal". However, capital outflows may also be motivated by the concern that assets held domestically would be subject to substantial loss or impairment due to risks of expropriation, exchange rate depreciation, taxation or other forms of financial repression. They are then not considered part of the normal flow process and defined as capital flight (Depler and Wlliamson, 1987)

For many developing countries, the ability to draw upon a large amount of financial capital offers large benefit. Economic output of these countries is constrained by low levels of capital per worker. Foreign resource inflows – fiscal deficits- can be used to raise their internal savings and to create a higher level of domestic growth . Access to the means of international capital markets provides the means to finance this resource flow. It is also argued that some for. Cap. Inflow , especially FDI, helps the transfer of managerial and technical knowhow. Portfolio investment and bank lending are also helpful in this respect. The free flow of capital across countries has a good effect of promoting more disciplined macroeconomic policies and reducing the policy defects. The obvious benefit of open trade in goods and services creates the pre-condition of positive net benefits of open trade in all financial institutions.

On the other hand the opening of the domestic financial markets creates added risk of frequent financial crisis in LDCs, and also in industrialized countries. These crises are blamed on wrong macroeconomic policies i.e. as bad fundamentals. But in recent crisis of Mexico and East-Asia with successful financial policy regimes provides a greater emphasis on inherent stability of financial markets. The risk that cross-border financial transaction can raise with relatively unsophisticated financial system and weak regulatory oversight. Today's crises are triggered by liquidity problems as the countries are caught in a maturity mismatch of their foreign assets and liabilities. This is similar to the financial panics of US banking system of 19th century. In addition because the lender and the borrower assume the risk of exchange rate change, a hazard is involved in International financial transaction, which is not present in domestic markets. In such case the Govternments are drawn in by their commitment to an explicit exchange rate or by the social consequences of large swings in currency values.

Most of the recent policy decision implicitly accepts the notion that open capital markets are highly beneficial, and policy for reform is directed towards reducing the risks of financial instability and crisis. Available measures of return on investment in emerging markets show a low correlation with overall global indexes of return. Again the return among emerging markets often shows low correlations with one another.

Here we are going to analyze the consequences of capital flight. Capital flight refers to international capital movements which respond to heightened economic and political uncertainty. This paper focuses on the experiences of developing countries, the essence of capital flight lies not in the level of economic development, but in the degree of economic, social, and political fracture. Indeed, capital flight has characterized both developed and developing nations throughout this century.

During the late 1970s and 1980s capital flight plagued many developing nations; the concurrent LDC Debt Crisis prompted both theoretical and empirical analyses

of flight. However, widespread interest in the topic abated as the immediacy of the crisis subsided, foreign lending dissipated, and countries embarked upon stabilization and structural adjustment programs. Towards the end of the 1980s many developing countries began to enjoy renewed capital inflows of a substantial magnitude. The capital inflows in fact were not driven primarily by domestic reform, but a conspicuous lacuna of attractive foreign (U.S.) investment opportunities, and that much of the investment in emerging markets was domestic investors reversing capital flight of the 1980s and hence limited in scope.

The political and economic events which occurred in Mexico throughout 1994, culminating with the devaluation of the peso in December, highlighted the fragility of these renewed capital inflows to emerging markets. In response to the Mexican crisis, international investors, investors of any nationality and residence with access to global capital markets, reduced their investment in Mexico and other emerging markets. Capital flight recurred.

Despite the negative connotation associated with the term capital flight, its impact on an economy is ambiguous. Indeed, only when its potentially detrimental effects are borne out during a crisis do economists, policy makers, politicians, bankers, and investors focus on its possible adverse effects on an economy, or potential for systemic contagion. The possible disruptive effects on domestic investment, the foreign exchange market and public finances which stem from flight become more severe and a greater possibility when one considers the magnitude of flight for some developing countries.[1] Flight on the order of 5 to 10 percent of GNP represents a substantial outflow of resources from the domestic economy.

A striking feature of several debtor countries is the extent to which private capital outflow have eroded net inflows. These outflows have increased the cost of these countries of rising revenue to service debt, and have consequently generated concern about the prospects for debt repayment. The outflow means that borrowing by these countries added much less to domestic resources than was initially thought. In some cases this is reflected in the decline of domestic fixed capital formation. In addition funds invested abroad frequently escape the tax base of the borrowing-country Govt. for this reason these outflows have been referred to as capital flight. The implication of capital flight for public policy in both debtor and creditor countries remain largely uninvestigated. To a significant extent the standard portfolio diversification motives can explain two-way flow.

A major part of lending to LDCs has taken the form of public or publicly guaranteed debt. Even where no guarantee was provided, lenders have held governments accountable for the debt of private borrowers in default. There is evidence that governments assumed a substantial amount of private debt during the period in which capital flight appears to have been most dramatic. Through the budge constraint of the Govt. implicit or explicit public guarantees create

interdependence among private investment decision. A move by one borrower that increases the likelihood of his own default increases the expected tax obligation of the other borrowers. This increases the incentives of the other borrowers to place their own funds abroad, and increases the likelihood of default on their own loans as well. Capital flight arises as a form of contagion.

In most of the cases the mechanism of capital flight takes the form of outright fraud. Private borrowers have the ability to invest their own and borrowed funds from abroad, where they are not only less productive than in domestic investment projects, but they earn less than the cost of funds from abroad. Thus by placing the funds abroad they escape the obligations to repay his loan are to pay taxes to his Govt. this is largely observed in the operation of international capital markets. Transfer of these funds are often not recorded and affected through the activities like underinvoicing of export and overinvoicing of imports. Without official record taxation is difficult. At the same time borrowers can make if difficult for the lenders to match the identities of particular private depositors and private borrowers. Again interfamily transfer can make funds difficult to tress. Hence while lending institutions have knowingly accepted deposits of private individuals from large debtor countries, they apparently do not have the legal ability to use these deposits as collateral against the outstanding loans. Given the tax obligation of the domestic borrowers. Lenders can restrict loan amounts to ensure that investing domestically and subsequently repaying is in each borrower's interest. Potential nationalization of private debt means that the flight of any one borrower's capital raises the tax obligations of other borrowers. Hence it raises the incentive for other borrowers to invest abroad as well.

The borrower's effort in managing his project and generating return on his investment will determine whether he is able to finance repayment. But the incentive to put in necessary effort depends negatively on debt-service obligation and anticipated tax obligations. Here again potential nationalization of private debt implies that a low level of effort by one borrower, leading to his default, increases the tax obligation of others. Their incentive to expand effort diminishes as well the interdependence of borrowers' effort decisions generates some potential for contagion.

Capital flight from developing countries represents a lost potential for economic growth and development. In the contemporary literature of development economics, there has been increasing attention to the notion of capital flight. Many analysts have attributed sluggish economic growth and persistent balance of payments deficits in most developing counties to capital flight (Ajayi, 1996). In addition, capital flight has adverse consequences for developing countries.

First, the loss of capital through capital flight erodes the domestic tax base and therefore affects income redistribution.

Secondly, it reduces a bank's ability to create money for investment projects. Most importantly, capital flight contributes to the distribution of income from the poor to the rich (See Pastor, 1990, and Ajayi, 1997).

The literature also highlights several routes of capital flight from developingCountries. Prime among those are external borrowing and trade misinvoicing. Also many authors have identified factors that cause capital flight including risk of inflation, taxation, political risk instability, financial repression, weak institutions, ineffectiveness of macroeconomic policies, business cycles, overvaluation of exchange rates, and poor investment climate, to name a few (See, Hermes, Rensink and Murinde, 2002, Schneider, 2003 and Boyce and Ndikumana, 2002).

The integration of global markets for capital has increased the ease by which nationals of both developed and developing countries can move their assets abroad: both because controls of capital have been dismantled and because markets have they become more efficient. Such 'portfolio diversification' can be economically efficient in itself as it spreads risk, and indeed many developing country companies have become to emerge as 'southern multinationals' in their own right, while intra-regional investment flows are becoming more important.

The scale of Capital Flight from developing countries is a legitimate cause for concern because it implies potential investment foregone. The motives for capital flight are complex. On the one hand, the absence of secure property rights, excessive market risk and lack of policy credibility in some developing countries are often cited as 'legitimate' motives.1 On the other hand, the desire to avoid taxes, the criminal origin of assets and the anonymity of offshore accounts are also significant factors; but require International co-operation in order to tackle them.

In addition, financial crises in a number of leading emerging markets the latter half of the 1990s caused widespread concern about the premature liberalization of financial sectors in developing countries. In a number of cases large inflows of short-term funds led to overheating of the domestic economy, excessive credit expansion (and a decline in savings rates), real estate bubbles and over-valuation of the exchange rate. The large outflows of funds once the cycle turned, the collapse of investment and output, the rise of unemployment and the fiscal retrenchment; have had serious consequences for poverty and development, as did the 'contagion' for neighboring countries. These episodes renewed interest on capital controls.

The issue of capital flight from developing countries is dogged by misunderstandings and controversies which detract from attempts to find the appropriate and necessary responses. The question of a satisfactory definition of capital flight is not one which should be allowed to interfere with policy-making, and nor are methodological issues concerning data on the magnitude of flows.

Academic research on the question of capital flight from developing countries has been characterized by a number of confusions and controversies over these and other (primarily non-central) issues, which have gradually eroded the policy relevance and applicability of the results. The emphasis attached to capital flight has therefore been reduced also.

In particular, a change of approach from examining the institutional framework in developing countries to emphasizing the role of (developed) host countries for capital flight instead is advocated. This emphasis is less concerned with efforts to repatriate the capital flight of individuals such as Mobutu or Mahathir, but much more generally with the interactions between home and host country systems of taxation and financial supervision. It is argued that – partially through the weakening of the debate mentioned - host country systems have operated with a lack of responsibility towards developing home countries, which has generated incentives for flight independent of political and external debt conditions in developing home countries. Efforts to redress these failings of host country systems should be put at the top of a new and more high-profile agenda of policy responses to capital.

1.2 OBJECTIVE OF THE STUDY

The primary objective of the study is to measure the volume of capital outflow flow from Six South Asian countries, with a comparison of their pre and post macroeconomic liberalization era. The selected countries are India, Pakistan, Bangladesh, Nepal, Bhutan, and Sri Lanka. Thus the time period for the study is chosen from 1987-88 to 2003-04. The method of estimation of capital flight requires the calculation of total stock of external claims. The stock of external claim is the sum of recorded claims of non-residents less direct investment abroad using BOP data, cumulated errors and omissions from BOP account and an estimate of unrecorded stock of the external claims. The relation between trade openness , overall balance position , growth rate and domestic inflation is shown with that of capital flight to consider the fact whether liberalization has influenced such out flow of capital.

The amount of capital flight is to be estimated on the basis four or five different estimates (methods are discussed in the following). Then our objective is to analyze the related factors influencing capital flight from the countries those are selected for the purpose of the study. Basic variables are to be determined on the basis of the literature surveyed. Then a model for capital flight is to be determined which will capture the effects of the selected variables. Considering several risk and return factors their relative effectiveness is also to be judged. Finally some policy prescription will be done on basis of the study. Another important objective is to predict for the future so that such type of illegal outflow can be avoided to some extent.

Our next objective is to find out a link between income distribution and capital flight for these selected countries. In this regard the link considering poverty-inequality – openness is related with capital flight is also stressed out. In what ways such link matters for overall growth and income distribution is the other objective of the study

1.3 DEFINITION

During the early 1990s the interest for the capital flight phenomenon waned, since most Latin American countries had reduced their external debt problems and capital started to flow back to many of the emerging economies in this region, as well as to East Asia.

Yet, from the mid-1990s the international financial system was confronted with the outbreak of several major financial and economic crises. These crises contributed to large outflows of capital from several developing countries and led to renewed attention to the capital flight phenomenon. First, in 1994-95, Mexico and some Latin American countries experienced the Tequila crisis. Then, in 1997-98, several Asian countries experienced a deep financial and economic crisis, followed by Russia in 1998 and Brazil in 1999.

These financial crises added an important dimension to the capital flight problem. For example, the mounting complexity of imbalances in the underlying economic fundamentals in the Asian economies culminated into a scenario of collapsing exchange rates and share prices, initially in Thailand and Indonesia, which provoked domestic and international investors to immediately withdraw their money, and thereby caused panic on the international financial markets. There were even fears of bank runs which, due to bandwagon and contagion effects, threatened the stability of the international banking system. In this context, the Asian financial crisis demonstrated how adverse domestic economic conditions influence the behavior of domestic and international investors in accelerating capital flight.

In general Capital flight is the accumulation of resident, claims on non-resident, that escape control by domestic Government; i.e. they are not subject to any taxation or regulation or confiscation. It is the short-term speculative capital exports by private non-basic sector.

Before considering the definition of capital flight , its effects – and hence its importance to development – should be considered. The effects of capital flight can be seen under two main headings. Firstly, it compounds the already serious problem of capital scarcity in the poorest countries; this will result in increasing (relative) reliance on foreign capital, with the associated problems. In particular, difficulties in accessing, and maintaining the stability of access to International capital markets, are a persistent problem for the poorest countries. Secondly, capital flight generally results in increasing levels of inequality in these societies; the poorest are not able to investment overseas in order to avoid

domestic taxation, and therefore not only bear the brunt of tax-financing of deficits, but also the necessary increases to maintain revenue levels in the face of capital flight.

1. Broad definition of capital flight

All outflows of resident capital if invested in the domestic economy would yield a higher rate of social return.
A variant of this concept is a narrower approach often termed **hot money flows** in which only resident outflows which accrue in the short term or those which get reflected in the errors and omissions category in the balance of payments are be treated as capital flight.

2. Capital flight defined as a response to discriminatory treatment of domestic capital

In this concept capital flight is only that part of resident capital outflow which is a response to asymmetric risk...

3. Illegal transaction concept of capital flight

This concept links only those outflows of capital to capital flight which are illegal.

1. The Broad definition

The most widely used concept of the term capital flight links the loss of capital through domestic capital outflows to a lowering of national utility. This definition of capital flight is based on the assumption that all outflows of capital by the domestic resident sector if domestically invested would yield a higher rate of social return. This definition includes measured acquisitions of foreign assets by banks and individuals plus errors and omissions in the balance of payments. This approach leads to a very broad definition of capital flight since it includes all reported and unreported increases in foreign assets of the public and private sector. Some economists prefer to work with a narrow version of this definition where capital flight is confined to short term capital of the private sector and errors and omissions in the balance of payments.

It is often referred to as the "hot money" measure. However, both the broad and narrow version are based on the assumption that the magnitude captured in the estimate leads to loss of national utility or welfare. This belief is reflected in the restrictive assumptions on which the broad and the narrow measure of capital are based and assumes that the social rate of return on domestic investments is higher than the private rate of return. Presumably if capital the most widely used concept of the term capital flight links the loss of capital through domestic capital

outflows to a lowering of national utility. This definition of capital flight is based on the assumption that all outflows of capital by the domestic resident sector if domestically invested would yield a higher rate of social return. This definition includes measured acquisitions of foreign assets by banks and individuals plus errors and omissions in the balance of payments. This approach leads to a very broad definition of capital flight since it includes all reported and unreported increases in foreign assets of the public and private sector. Some economists prefer to work with a narrow version of this definition where capital flight is confined to short term capital of the private sector and errors and omissions in the balance of payments. It is often referred to as the "hot money" measure. However, both the broad and narrow version are based on the assumption that the magnitude captured in the estimate leads to loss of national utility or welfare.2 This belief is reflected in the restrictive assumptions on which the broad and the narrow measure of capital are based and assumes that the social rate of return on domestic investments is higher than the private rate of return. Presumably if capital did not leave the country domestic invisible resources would have gone up by that amount. This is, of course, assuming that no leakage into conspicuous consumption or consumption of foreign goods would take place.

Capital flight - according to both the broad and narrow definition - is negatively correlated to aggregate domestic investment and that these reductions in domestic investment are inefficient. Gordon and Levine (1989) reason that traditional capital theory provides no basis for the presumption regarding the nature and stability of the relationship between total resident capital outflows and capital formation. The complex and dynamic process of growth, technological change and political evolution elicits a rich array of possible relationships among capital flows by residents and foreigners. Moreover, even if this relationship is known, it is not possible to classify changes in investment as efficient or inefficient by observing gross capital outflows.

Much of the capital flight literature is based on the assumption that resident capital outflows adequately capture distortion-induced flows and that these signal changes in the level and efficiency of domestic investment. There is no sound basis for such an assumption. In a later section the components of resident capital outflows are discussed and show that the estimated capital flight consists of a normal component. If the normal component were a stable and steady function of a set of variables it would be easy to elicit the abnormal component but there is no reason to believe that capital outflows from an economy are stable over time.

Investors move their capital in response to the changing risk/return environment and real investment opportunities. This also occurs when firms transfer capital abroad to finance their operations. In addition, a second assumption that they have harmful effects on the efficiency of domestic investment is not supported by empirical evidence. Asymmetry in incentives faced by domestic and foreign investors and the possibility of substitution between different assets and

investors leaves the relationship between outflows of resident capital and domestic investment unclear.

Varman-Schneider (1991) discusses the problems in linking the definition of capital flight to some notion of welfare. The first problem is that economic principles assume that utility maximizing consumer behavior and profit-maximizing producer behavior accompanied by efficient distribution leads to maximum national welfare. Yet, in the case of capital flight, utility maximizing behavior of private capital exporters may lead to the creation of disutilities (Such as a decline in investment and growth) thereby resulting in a decline in national welfare.

This outcome is contradictory to accepted economic principles and makes the definition of flight in terms of national utility extremely contentious. The subjectivity involved in defining social return presents another problem. It is difficult to prove that social return on domestic investment would be higher than private returns. If, in reality, actual returns are equal to social returns then the hypothesis outlined in the national utility definition is correct. But if the perceived returns are higher than actual social returns, control of capital flight will lead to sub-optimal outcomes. Defining capital flight in terms of social return results in unavoidable subjectivity as measurement of social return is at best arbitrary due to human judgment/error.

2. Capital flight defined as a response to discriminatory treatment of domestic Capital

Traditionally capital flight was defined as a one-way flow caused by political and economic uncertainty. 4 The destabilizing effects of capital flight are then easily noticeable because of a real resource transfer. The debate on capital flight after the 1982 debt crisis departed from the earlier debate because empirical evidence in the late 1970s and after pointed to a new phenomenon: foreign borrowing flowing in and private capital moving out. The traditional definition had to be modified to explain this new phenomenon. A suitable definition of capital flight should then be able to explain two-way flows of capital in an unstable, uncertain environment and distinguish between "normal" and "flight induced" outflows of capital. If capital inflows are taking place it does not follow that the abnormal components of capital outflows is small or even zero. Movements of capital in and out of a country can occur in response to perceived changes in risk and return influenced by uncertainties not captured by portfolio theory. It is this component of the outflow that is termed capital flight. Capital flight is a sub-set of international asset deployments or portfolio adjustments undertaken in response to an unusual perceived deterioration in risk/return profile associated with assets located in a particular country that occur in the presence of conflict between the interests of asset holders and governments. Two-way flows of capital occur because of the differential impact on domestic and foreign investors arising from asymmetries in information, risk, return and the impact of political risk.

Capital flight, in this case, is defined as a response to discriminatory treatment of domestic capital. It is a component of private capital outflows. Capital flight can co-exist with massive inflows of capital. The latter may indeed be a source of finance for the outflow of flight capital. The paradox is explained by asymmetrical information, political and economic risk. Capital flight then, according to this definition, is one side of a two-way flow driven by the attempt to arbitrage a yield/risk differential. There are two categories here:

I) Resident outflows, which finance an inward flow of capital motivated by a desire to arbitrage a tax or risk differential. Capital flight from China is a good example of this. Resident capital comes back into the country in the guise of foreign direct investment.

II) Resident outflows that are financed by an inflow of external capital such as external borrowing to finance capital flight. Mexico is a good example of this type of capital flight.

In the late 1970s and early 1980s, external borrowing financed capital flight. Defining capital flight as outlined above is superior in that it distinguishes between the normal and abnormal component. The disadvantage in adopting this definition universally is that capital flight does not necessarily coexist with inflows of capital, nor is it the only type of capital flight that may occur. A point may be reached when inflows of capital from abroad tapers down or comes to a standstill. This event is likely to occur when foreign investors become aware that capital flight is taking place and see it as a sign of a potential risky country to invest in or - even without the knowledge of capital flight - perceive a deteriorating actual or potential investment climate. Alternatively, inflows of capital may have occurred because the government of a particular country offers special incentives and guarantees to foreign investors up until a point when the stock of liabilities to non-residents becomes sufficiently large for it to become worthwhile for the government to consider introducing taxes in order to remove the asymmetry between domestic and foreign investors. When the opportunities to arbitrage a risk differential become limited, credit to developing countries can decrease or stop altogether.

Another sub-set of two way-flows concerns outflows of capital finance and inflow. The case of Hong Kong and China are illustrative of this. At some point, it is possible that real capital flight takes place and the funds are no longer intermediated back into the economy. Defining capital flight as a response to economic and political instability has the advantage that it encompasses both a one-way or two-way flow. Reduction of the former entails an improvement in the overall investment climate. A reduction in the latter implies removal of the factors leading to discriminatory treatment of domestic capital. The situation can also change over time from one to the other. The very magnitude of resident capital outflows from developing countries suggest they cannot be interpreted as capital

flight in terms of real resource transfer. Difference in regions and countries could account for a wide range of factors affecting these outflows and inflows.

3. Defining Capital Flight as an Illegal Transaction

Capital flight is often defined as an illegal transaction which occurs when traders keep capital abroad by the falsification of trade documents. Capital flight can be transacted by deliberately underinvoicing exports and/or overinvoicing imports. Bhagwati (1964) and Bhagwati, Krueger, Wiluswadia (1974) regard the occurrence of capital flight through the faking of trade documents as a consequence of exchange controls in LDCs. Under this interpretation capital flight only occurs when domestic investors transfer illegally earned foreign exchange abroad. The purpose of the transfer is assumed to be a desire to avoid investments in the domestic financial market. Confining the definition of capital flight in this way is very restrictive as it ascribes the occurrence of capital flight to one channel – trade and, as a consequence, only to one group of transactors - traders. However, the agents transferring money abroad may not only be traders. It is well known that during the debt crisis capital flight transactions were not just carried out by, but other private investors as well. Therefore, restricting capital flight to an illegal transaction captures only a small component of total flight capital.

Capital flight can also be transacted through several other channels such as cash movements or smuggling of goods, antiques, precious gems, gold, silver and other precious metals. Bribery may be another conduit for capital flight and has a special feature: the capital involved need neither originate in the country concerned nor enter the country at all. The e corruption of government officials and politicians in various arms deals is well known. Bank transfers and swap arrangements are also possible channels for transferring money abroad. A
Further drawback of this definition is that it may include earnings kept abroad to evade quotas and tariffs. They are included in the estimation even though it is not possible to measure them statistically and it is therefore not possible to distinguish between the flight component and the component due to such evasions.

Thus we have the following definitions of Capital Flight in a nutshell:

(I) "Outflows from developed countries are called foreign investment while from developing countries the same activity is called capital flight. Investors from developed countries are seen to be responding to investment opportunities while investors from developing countries are said to be escaping the high risks they perceive at home...

"Thus, CAPITAL FLIGHT can therefore be defined as the acquisition or retention of a claim on non-residents that is motivated by the owner's concern that the

value of his asset would be subject to discrete losses or impairment if his claims continue to be held domestically (Deppler & Williamson, 1987)."

(ii) CAPITAL FLIGHT [is defined as] International capital movements which respond to heightened domestic economic and political uncertainty..., CAPITAL FLIGHT responds to the degree of domestic macroeconomic mismanagement, postulated to generate a domestically undiversifiable risk that can significantly reduce the returns to local investment."
Schineller, 1997b, p.1.

(iii) "The problem [of assessing] CAPITAL FLIGHT is to measure the accumulation of claims of nonresidents that are not subject to taxation, regulation, or, in extreme circumstances, confiscation by domestic governments."
- Dooley & Kletzer, 1994, p.4

The three quotes above present a useful illustration of the main difficulties which beset the problem of defining of capital flight.

Four distinct types of private sector acquisition of overseas assets should be distinguished.

First, there is direct investment overseas by larger domestic companies resident in developing countries. This may reflect

- their 'newly industrializing' status (such as firms from Korea, Taiwan, Malaysia and Mexico investing manufacturing plant in the US and the EU);
- companies seeking the means of market access to developed countries markets (such as oil company acquisition of distribution networks); or
- Emerging regional patterns of investment such as those of South Africa, Brazil in Mercosur and India in South Asia.

Further, as local banks grow in size and experience, they can be expected to lend abroad, particularly to neighboring countries. This is an entirely natural development and clearly should not be restricted.

The Latin American experience in the 1990s is particularly notable, following the East Asian FDI outflows of the 1980s. UNCTAD estimates "assets held abroad by firms headquartered in [Argentina, Chile, Mexico and Brazil to be] between $40 and $50 billion" (UNCTAD, 1999, p.66). While there have been losers – notably sub-Saharan Africa – the overall picture is one of increasing outward FDI, including from the least developed countries.

Second, there is the justifiable diversification of financial portfolios away from domestic assets in order to reduce the risk inherent on exposure to domestic assets, particularly when local capital markets are narrow and shallow. In this way savings can be protected from domestic business cycles and exogenous

shocks. One good example of this is the policy of some natural resource exporters (primarily oil producers but also some mining economies) to acquire substantial overseas assets as a buffer against future declines the quantity or price of their exports; when investment in their own economies would face the barriers of limited adsorptive capacity and pro-cyclical valuation. Another is the problem of large pension funds in developing countries, where the regulatory restriction of their portfolios to domestic investment grade assets limits them in effect to a few large domestic firms and government bonds. They are thus highly vulnerable to volatile domestic markets; and would benefit from being allowed to invest abroad in (say) US Treasury Bills – which would in effect increase the country's foreign reserves.

Third, there is the acquisition of overseas assets for the purpose of evading the proper exercise of the powers of domestic authorities. On the one hand, developing country treasuries find it very difficult to tax overseas assets effectively, particularly because they do not enjoy full exchange of information with host countries. Thus the larger wealth holders in developing countries are attracted towards overseas assets in order to evade tax – even though this involves breaking the law. On the other hand, the proceeds of criminal activity – particularly the proceeds of narcotics deals, arms trade and smuggling - but also 'commissions' on government procurement and the like, are commonly held abroad in order to avoid the attention of domestic authorities.3 Offshore financial centers are a major recipient of capital flows from developing countries in this category and, as in the case of developed countries, their activities present a serious problem for fiscal and law enforcement.

Fourth, the shift from domestic to overseas assets in order to avoid imminent loss of ownership or value. The former eventuality refers mainly to the prospect of nationalization of large land holdings or key firms (such as banks) by radical regimes. This has become less significant since the end of the Cold War, but is still relevant when there are major regime shifts or immigrant communities are threatened. The latter eventuality is probably more common, and occurs when the prospect of an economic collapse (particularly a large devaluation) or of the outbreak of conflict leads wealth holders to anticipate a sharp decline in asset values. In this context, it should be noted that industrialized countries themselves have always imposed capital controls in wartime and that there is wide recognition that crisis management may require similar action.

The first and second categories above tend to strengthen the developing economy and reflect a beneficial participation in the process of globalization. The overseas asset acquisitions should be reported in the balance sheets of firms, banks and funds in the usual way and subject to appropriate prudential supervision by the financial authorities. In marked contrast, the third and fourth categories above can be properly described as 'capital flight': they are essentially matters of the placing of personal wealth beyond the reach of the appropriate authorities and are thus a cause for concern.

Finally, it should be noted that not all capital flight is 'lost' to the home country. In many cases (including those of China, Mexico and Russia in particular) flight capital is actually re-invested in the country of origin. The explanation is that in this way a domestic investor can gain both tax exemption and the protected status of foreign investor.

The term capital flight connotes illegal movements of capital from one country to another. This connotation implies that there may be 'normal or "legal" and "abnormal" of "illegal" flows (Kindle Berger, 1987). Normal capital flows are those which are sanctioned by the Govt. the question of legality of capital flows, then implies that the country in question imposes exchange or capital controls, the fact that complicates the issue of "capital flight". For instance, it is argued that capital flight has taken place even in countries that have no capital control such as Argentina, Mexico and Venezuela (Lessened &Williamson, 1987). Hence labeling capital outflows from such countries as 'capital flight" while similar flows from industrialized countries as "resident foreign investment" is arbitrary.

However , Lessened &Williamson, refers to "capital flight" as capital that "runs away" or 'flees' abnormal risks at home regardless of whether or not the flight is legal. Measuring capital flight, thus defined, requires an attempt to measure 'normal" capital outflow and deduct it from total outflow. Dooly (1986) attempted the measurement of abnormal outflows defined as those propelled by the desire to escape the control of domestic authorities corresponds to the concept of capital fleeing abnormal risk at home (however his method of measuring "normal" capital flows has generated controversy)

But there is no significant way scientific way of separating "normal "from "abnormal" flows. In addition the consequences of capital outflow to the national economy are the same whether the outflow is normal portfolio diversification or abnormal flight. If the normal outflow is small the resulting economic cost from the resident capital outflow will be modest. However, the cost will escalate when normal capital outflows are reinforced by money running away from abnormal risks at home.

1.4 THE UN AND CAPITAL FLIGHT

The UN general assembly at the 2005 World Summit resolved to "support efforts to reduce capital flight and measures to curb the illicit transfer of funds."

Research by the Tax Justice Network has revealed that the amount of funds held by individuals in offshore and onshore tax havens, and undeclared in the country of residence, is about $11.5 trillion. This estimates capital flight from all countries, and not only from developing countries. Annual worldwide income on such undeclared assets is estimated to be about $860 billion, and the annual world wide tax revenue lost is approximately $255 billion. That figure is equal to the annual funds needed to reach the UN's Millennium Development Goals.

Onshore tax havens include financial centers which are important members of the IMF, such as Luxembourg, Switzerland, the United Kingdom and the United States. Offshore tax havens include jurisdictions monitored by the IMF in its Offshore Financial Sector Assessment Program. Capital flight exacerbates the problem of emerging market countries being net capital exporters. The IMF itself has expressed concern over this issue "in light of the conventional wisdom suggesting that capital normally flows from capital rich to capital-scarce emerging markets".

The United Nations has emphasized the need for developing countries to mobilize domestic resources for development, and has spoken out against capital flight. The 2001 UN report by the high level panel on financing for development 2001 (also known as the Zedillo report) stated "... globalization has progressively undermined the territoriality principle on which traditional tax codes are based. Developing countries would stand to benefit especially from technical assistance in tax administration, [and] tax information sharing that permits the taxation of flight capital."

Previously, many countries relied on exchange controls to try to prevent capital flight and resulting tax evasion. The increasing liberalization of economies and the resulting relaxation or dismantling of exchange controls has raised the question of how countries can combat capital flight. The liberalization of economic activity, resulting in the exponential increase in cross-border commercial and financial transactions, has converted the private sector into a world without borders. This has created a major problem for national tax authorities since it has not been accompanied by similar changes in their enforcement powers. The answer is to override bank secrecy in onshore and offshore financial centers, improve tax administration in developing countries, and further implement international exchange of tax information.

In a joint IMF-OECD-World Bank paper in March 2002, the three organizations indicated that they would assist developing countries in improving the effectiveness of their tax administrations, with the goal of increasing government revenues. "Developing countries must be able to raise the revenues required to finance the services demanded by their citizens and the infra-structure that will enable them to move out of poverty. Perhaps the greatest challenge facing these countries is to improve the effectiveness of their tax administration. In this context, the increasing globalization of the economy is relevant both for developed and developing countries. The constraints that it places on countries' ability to set and enforce their own taxes are felt increasingly keenly."

1.5 RESEARCH GAP AND EXPECTED CONTRIBUTION

In most cases the empirical studies on the determinants of capital flight implicitly use a portfolio model to decide which variables should be taken into account. Almost all studies estimate a reduced form equation. Consequently, this leads to equations of a rather *ad hoc* nature, which in a way is a shortcoming of the empirical literature on capital flight. Only Lensink *et al.* (1998) aim at estimating a full portfolio model, in which capital flight is taken into account as one of the assets, and which allows for investigating the simultaneity of different effects between different variables.

Most studies estimating a reduced form equation apply OLS. In some cases the empirical studies deal with time series, in other cases they use pooled regressions. As was already mentioned, most cases empirical studies implicitly use a portfolio model to decide which variables should be taken into account. If we take the different categories of determinants of capital flight as discussed in the previous section, the following broad picture emerges.

With respect to *macroeconomic instability*, one or more variables such as exchange rate overvaluation, government deficits, the inflation rate, and current account deficits appear in almost all studies. In particular, measures of the degree of exchange rate overvaluation are prominently present in these studies. The results of the empirical investigations indicate that macroeconomic instability causes capital flight. In most specifications variables measuring the extent of macroeconomic instability are statistically significant and positively related to capital flight.

Few studies focus on measures of *political instability* as determinants of capital flight. Several kinds of measures have been used. In some cases, the empirical investigations focus on the regime type as measure of political instability, using different dummy variables that proxy for the degree of democracy of a country. Other studies use dummy variables to measure issues related to the policy regime, such as indexes of civil rights and liberties. Still other studies use more direct measures for political instability, such as the number of assassinations and revolts, dummies for the fact that a country has been involved in a war situation.

In many studies, *capital inflow* variables are taken into account. In several cases these capital flows have been split into one or more forms of inflows. In particular, research has focused on investigating the impact of long-term versus short-term foreign debt. A few studies have also investigated the role played by aid flows. Among others, Bauer (1981) argues that development aid would be used to finance capital flight. The table shows that especially long-term debt inflows have a statistically significant influence on capital flight. The hypothesis put forward by Bauer on the relationship between aid and capital flight is supported in some of the studies surveyed.

Recent turmoil on emerging markets in recent years has prompted new interest in capital controls. Capital controls are permitted under the IMF Articles of Agreement - specifically Article VI, Section 3. Article VIII only requires member countries to avoid imposing restrictions on current account transactions, such as those related to trade in goods and services and the remittance of profits and dividends. Almost all IMF members, mainly developing countries but also industrial ones have imposed some capital account controls since WWII. Such controls are imposed with the objectives of limiting the acquisition of foreign assets by domestic residents and moderating or eliminating short-term speculative capital flows during and after a balance of payments crisis.

Much of the recent interest has been on restricting capital inflows (see FitzGerald, 1999) in order to prevent speculative 'bubbles'. The extensive literature for the industrial and developing countries (Dooley 1995, Gros 1987; Obstfeld, 1995, Eichengreen and Mussa, 1998) suggests that the government can drive a significant wedge between domestic and international yields on similar short-term financial instruments for extended time periods. In the five cases (Brazil, Czech Republic, Colombia, Malaysia and Mexico) during the 1990s examined in Glick (1997) the composition of flows has been effected by the lengthening of maturities, particularly in the cases of Chile, Colombia and Malaysia where the controls have been accompanied by an active monetary policy.

Quantitative restrictions have typically involved limitations on external asset and liability positions of domestic financial institutions (especially banks); on the domestic operations of foreign financial institutions; on the external portfolios, real estate holdings or direct investment of non-bank residents. Often the type of instrument to be used is controlled rather than the volume - such as restricting the ability of domestic borrowers to issue bonds on international markets. The difficulty with quantitative restrictions is that their scope and application will be uncertain, introducing an unknown element of investor risk, and amplifying the opportunities for corruption. In addition, the ability of even honest administrators to keep up with new forms of derivatives is limited.

Another notable fact is that none of the study is done considering the south Asian countries, viz. India, Pakistan, Bangladesh, Nepal, Bhutan and Sri Lanka from where a significant amount has flown out illegally to the industrialized nations of the west and in US. The present study tries to capture this gap by estimating the amount of flown out capital from these countries following different methodology of measuring Capital Flight. The relation between Capital Flight and the openness (total trade as a proportion of GNP)is shown for all the selected South Asian countries which helps to explain the fact that whether Capital flight has been influenced by increased international transaction after the era of Globalization or more out ward orientation

The various definitions of Capital Flight also explains that there is a link among External Debt, Price Index (Inflation level), Overall Balance position, Growth Rate with the estimated amount of Capital Flight other than Openness Index. This link is also explained in this study. The domestic macro problem, like capital account liberalization, has also influenced outflow of capital.

A few studies, discussed earlier, only mention the interlinked relation between Capital Flight and general Income Inequality of the nations. Present study tries to capture this important link by analyzing the inequality indices, like Gini and Theil index. The correlation among Openness- Growth Rate- Inequality is analyzed in this study, which remained nearly untouched in other studies so far. The well-known link between inequality and poverty is also explained in the light if the experience of the six selected countries and the derived result is compared with the experience of the other countries of the World. Global income share at different percentile levels, in this respect, are compared with the income share of the selected six countries. This gives an idea of unequal distribution of income, which in some sense motivates Capital Flight from these countries.

An extended empirical study is conducted in order to find out the growth-inequality nexus and to relate this with the flight of capital from these six countries. Here a comparison is also drawn with that for the rest of the world where also we have the same experience that capital flight necessarily aggravates poverty.

1.6 RESEARCH QUESTIONS

The present study tries to deal with the following research questions to satisfy the relevancy of the study:

1. How does the openness index (defined as total trade as a percentage of GNP) is linked with Capital Flight?
2. In what ways international trade and financial crises influences outflow of capital from developing countries?
3. How do domestic macroeconomic problems fueled capital out flows?
4. How capital flight does affect income distribution, especially in developing countries?
5. What are the different channels of affecting inequality through capital flight?
6. Why does the inequality and capital flight link matter?

1.7 HYPOTHESES TO BE TESTED:

In course of our research investigation we would like to test the following hypotheses relevant for our purpose:

i) The first hypothesis is that, the quantum of capital flight increases out of fear of domestic currency devaluation. The amount of capital flight is measured as a proportion of GNP and this is estimated for the six South Asian nations.

ii) Secondly, the relation between capital flight and openness index is established. How the other determinants of capital flight (influencing factors) are also correlated that is shown in the study. The relation among capital flight with external debt, price index, overall balance position and growth rate of GDP is captured here.

iii) The third hypothesis we want to test is that, capital flight mostly from developing countries to the developed nations may be due to political or financial crisis and macroeconomic instability. The testing of this hypothesis will be done with the help of historical data of those developing countries experiencing such a crisis.

The model finally selects four factors:

1. Investment return in home relative to the rest of the world.
2. Investment risk in home relative to the rest of the world.
3. The degree of co-movements between investment return at home and in abroad.
4. The ratio of foreign owned to domestic- owned wealth.

The Net Foreign Asset (NFA) is negatively related to the measure of domestic investment return and to the ratio foreign to domestic wealth, and NFA is positively related to measure of riskness.

The others hypotheses are (with the previous three):

iv) Capital flight is directly related to External Debt of the Nation.
v) The process of liberalization has influenced capital flight.
vi) Capital flight has a negative impact on income distribution.

Finally the openness—growth – inequality link is searched with that of capital flight for these countries. In order to find out this link the causal relation between inequality and poverty is explained also. The poverty inequality nexus is linked with the capital flight to show that capital flight necessarily affects poverty and in some cases it helps to increase poverty.

The study will also find the relation of Capital Flight with the other determinants of capital flight like, macroeconomic instability, amount of capital inflows, amount of capital outflows, public policy uncertainty etc.

Mainly OLS method will be followed to fit the linear equation stated earlier

1.8 REVIEW OF RELATED LITERATURE

The private benefit from access to international capital markets for both savers and borrowers and is a basic conclusion of welfare economics. Free capital movement tends to allocate to its most productive uses across countries and allow the residents of different countries to engage in welfare improving intertemporal consumption smoothing. Economic theory suggests that exception to this general rule is possible in cases in which pre-existing distortion violate the assumption necessary to support the "first-best" situation. Such "second best" argument is to be dealt with. If the economy is assumed to suffer from one distortion it is possible to improve welfare through the introduction of another distortion. One conclusion can be drawn that an ideal govt. dealing with one clear distortion can improve welfare by intervening in international capital markets (ICM). But not all arguments for govt. intervention in ICM are based on second best consideration. The govt. constraints on capital mobility may be welfare reducing areas in cases in which stable multiple equilibrium are possible. Thus first best equilibrium is possible through govt. intervention in ICM.

The Mudell-Fleming model is a good place to start an assessment of what the literature has to offer in evaluating policies that affect ICM. The M-F model stars from the assumption that policies designed to stabilize economic activity are useful and welfare improving. Further, the govt. values the ability to distort domestic spending decisions by altering the real interest rate in order to influence the growth in output and the rate of inflation. In this literature the primary existing distortion is the slow adjustment of nominal wages and prices. It follows that the assumption of flexible nominal prices eliminates the distortion and the rationale for welfare improving capital controls. If capital is free to move across national boundaries and the nominal exchange rate is fixed or heavily managed, the govt. loses control over domestic monetary conditions. If the exchange rate is not managed monetary policy still be under constraint of capital movements, because changes in domestic interest rates can generate large changes in nominal and real exchange rates. In contrast fiscal policy is a powerful tool for stabilizing domestic output even if capital markets are highly integrated. This theory provides criterion for evaluating the optimality of capital account restriction

Branson argues that existing capital control imply that govt. faces constraints on the application of fiscal policy for stabilization. It follows that removal of capital

controls may not be optimum unless the constraints on the effective utilization of fiscal policy are first eliminated.

The M-F model provides a rationale for manipulating domestic interest rates, but it also suggests that the ability to pursue monetary policy independently over time is strictly limited. Thus effective control after the mechanism through which an inconsistent regime is forced to collapse, but they do not change the eventual result.

Krugman (1979) provide models of speculative attacks against the consistent policy regime when capital is internationally mobile. In order to finance the fiscal deficit a govt. might set a rate of growth for the domestic asset of the central bank that is consistent with the fixed nominal exchange rate and the growth in them demand for money. With perfect capital mobility and purchasing power parity, the demand for real money balances is predominant so that the increase in the domestic part of the monetary base is instantly offset by changes in the international reserves. The key feature of the speculative attack models is that the private sector can no longer adjust its money holding by trading private debit for foreign exchange or in turn trade the foreign exchange for doestic money. With capital control, the private sector can adjust its money holding only through net sales or purchase of goods and services with the rest of the world. Thus the evaluation of capital control requires a model of current account, because the private sector's willingness to distort its consumption over time is probably limited. Effective capital control might considerably extend the life of an inconsistent regime.

Delbecque (1993) develops a model of dual exchange rate system. In this model all private capital transactions are effectively limited to the financial foreign exchange markets. As govt. does not participate in this market, the net private capital flows are necessarily zero. Current account transactions are permitted in the commercial exchange market. The govt. intervenes to fix the exchange rate in this market. An important implication of this model is that private net intertemporal trade is matched by a secular change in govt. net international reserves. I.e. govt. acts as a financial intermediary in a system with capital control. The inconsistent policy setting causes deterioration in the current account that eventually exhausts govt. stock of international reserves.

Gross (1992) points out that while cap. Control can limit private sector speculation in most cases, govt. is forced to augment cap. Control program with domestic interest rates that are much higher or lower than would be the case in the absence of speculative pressure. In this set up govt.'s commitment to maintain the peg can easily be monitored by the private sector as it is revealed in the interest rate policy. When the govt. reveals that it unwilling to sacrifice control over domestic interest rates, the private sector will know that a small speculative attack (with low cost of avoiding the capital control) will be successful. The welfare effect on control is not well defined.

Wyplosz (1986) argues that capital control that is only temporarily effective, make an adjustable peg regime viable. Capital control plays a vital role in this system. The crisis in this model comes when non-residents believe that selling off all their holdings of domestic money will trigger a devaluation or revaluation of nominal exchange rate. At this point the central bank announces a discrete change in the parity. He does not assess the optimality of this model.

Calvo (19870 develops a model with the issue of the behavior of private sector where it is known that the regime is inconsistent and will be abandoned when the govt. exhausts its international reserves. The model predicts that in cases in which successful speculative attacks are expected, public will increase its consumption, i.e. a current account deficit, until the regime changes and then decrease consumption thereafter. The key of this result is that, after the attack, revenue from inflation must rise to balance the fiscal budget. With higher rate of actual and expected inflation, optimum real money demand falls, and so the marginal utility of consumption just before the crisis must be less than the marginal utility of consumption just after the crisis. It makes clear that as a distortion in the time profile of consumption is suboptimal, there must be some offsetting benefit of extending the life of the inconsistent regime.

According to Park (1994) if the domestic real interest rate is initially below the world rate, the initial result of liberalization is an incipient net capital outflow and a rise in the domestic real interest rate. It assumes that the increase in the debt service cost of the govt.'s domestic debt will be met by an increase in the growth in the domestic asset in order to finance the resulting fiscal deficit. If the liberalization is a surprise, foreign and domestic yields equalizes immediately. If a speculative attack is to be successful, the private sector reduces the demand for real money balances because of the higher rate of inflation, which follows the successful attack.

Adams and Greenwood (1985) summarize the effect of capital control in flexible price system. They said that, dual exchange regime is equivalent to a program of taxation of capital movements, and a restriction on capital movement is equivalent to a system of taxes or dual exchange markets. They show that any effective capital control program can be manipulated to attain govt.'s target for the current account balance. Finally, the govt.'s manipulation of the current account balance generates

Welfare loses that are analogous to those associated with restriction on temporal international trade. Distortion of relative prices are necessarily welfare reducing. Optimal second best control programs are possible only in cases where there are some pre-existing distortions to interest rate or prices.

A stylized fact associated with liberalization of control over capital flows among developing countries is that the resulting adjustments include suboptimal

appreciation of the real exchange rate. This appreciation may be an undesirable feature of an open capital market if temporary relative price changes and allocation of resources are welfare reducing. Krugman argues that temporary appreciation of the real exchange rate may permanently injure the export industries. Thus capital mobility should be limited until policies designed to offset the real exchange rate changes are in place. The obvious choice to combat the effect of capital inflow would be a reduction in govt. spending.

Sussman (1992) uses the version of Dornbusch to explain the unsuccessful liberalization of capital account in Israel in 1977. Liberalization here takes the form of eliminating controls supporting a tax on domestic asset yields and domestic bank loans. He presents evidence that the controls in place generated large differentials between onshore and offshore lending and deposit rates in Israel, both before and after liberalization. The lesson from this model is that the liberalization itself generates inflationary shock to the economy and a temporary distortion of the prices. An appropriate fiscal policy could minimize this damage. But if the fiscal system is unable to respond (due to elimination of subsidy) the liberalization will involve short-run cost.

Edwards (1989) considers a model with an export, import and a non-traded good. In such a model, capital flows related to liberalization of capital account can generate real exchange rate changes because excess demand for the home non-traded good can increase its nominal price while the price of the traded goods is determined in the world market. He also shows that capital account liberalization in the face of trade distortions can be welfare reducing. The intuition is that tariff can distort investment decision and capital control can offset this distortion.

Calvo (1988) develops the idea that any govt. policy that affects relative prices and is expected to be temporary is equivalent to a distortion of intertemporal relative prices. e.g. temporary tariff reform implies that the relative price of traded goods will change when the liberalization is abandoned. In general liberalization of capital account is not a good idea if the govt. really has reformed but the private sector does not find its commitment credible.

Rezin and Sadaka (1991) argue that empirical estimates of capital flight from developing countries suggests that govt. cannot tax its residents' income from foreign capital at the same rate at which it taxes domestic capital income. In their model it is optimal for the govt. to restrict capital outflows if it cannot tax foreign assets. Dooly and Keltzer (1994) argue that simultaneous gross capital inflows and outflows are frequently the response of private investors to a variety of govt. guarantees and subsidies. If it is not possible for the govt. to credibly refuse to grant subsidies, quantitative restriction on some capital outflow and inflow can be welfare improving. It is necessary to limit offsetting private capital outflows through a capital control program. They suggest that, because investment growth

benefits future generation the present generation might invest at a sub-optimal rate. But, if the govt. has the tool and wisdom, it might be able to attain a superior equilibrium by borrowing on ICM. During the transition it is necessary to prevent private capital outflows which the current generation finds optimal.

Frankell and Rose (1996) present evidence that successful speculative attack is less likely to occur in countries with a relatively high share of direct investment inflows. One interpretation is that, in countries where foreign investors bypass domestic financial markets (particularly banks) foreign savings are more likely to be transformed into productive capital. It tends to support the view that imperfections in domestic financial markets justify measures that discourage portfolio capital flows.

The role of capital control is also problematic because self-financing attacks can go in opposite direction. E.g. a spontaneous decline in private inflationary expectations could set in motion a sequence of falling interest rates and fiscal deficit that generates a good equilibrium. Laban and Larrain (1993) argue that removing control on capital outflows generates capital inflows, because control on outflows makes investment irreversible. Thus, by altering expectations concerning terms on which investment can be reversed, the decontrol of capital flows helps to generate welfare-improving capital inflows.

Gross (1987) reports spread between euro-currency and domestic deposits for Italy and France from 1997—1986. He says these differentials (nearly 24 %points) predict that controls are temporarily effective in restraining large changes in investors positions. i.e. in time of turbulence in the ERM , private speculators were not able to adjust their position without cost. Nevertheless, the interest differentials rapidly returned over longer horizons to very low levels. Similar evidence for 5 industrial countries from 1982—1992, given by Obstfeld (1995), showed that then link between offshore and onshore markets are very close but the data also show that actual govt. intervention remain a significant factor in time of turbulence. These data rejects the view that capital controls are always ineffective. However, the data also suggests that either the govt. involved quickly removed the incentives for speculation through policy changes or speculators retreated to await another attack.

Melvin and Schlagenhauf (1994) find that in the early 1980s controls had a significant effect on capital flows in Mexico. In considering the same point Spiegel (1990) also finds that political risk was important but estimates it to have the opposite sign of that reported in the M&S. Both papers indicate that the controls in place were effective.

Edwards (1989c) provides a qualitative evaluation of capital control programs leading up to 34 devaluations in developing countries. He concludes that govt. typically intensified their control programs in the year before devaluation. In most cases the financial rate premiums in most cases increased sharply in the one or

three months before the exchange crisis led to devaluation. Nevertheless, the data for these same episodes show that current account weakened and reserve asset declined despite the controls. During the episodes of capital outflows in response to increased risk from inflation and default risk, countries with capital control did not did not prevent capital flight. At the same time the private sectors' reaction to a deterioration of the fundamentals was delayed.

The findings of Alesina, Grilli and Milesi-Ferretti (1994) suggest that countries with strong govt. dependent central banks are likely to utilize controls, presumably to generate revenue from inflation and to reduce real debt service.

The important point is that direct investment and other international capital transactions might be welfare improving even if no capital flow is associated with free trade in financial services. Obstfeld develops the idea that closed international credit markets might be very unlikely to finance high-risk investments because of risk aversion among domestic savers and the inability to diversify within the domestic markets. If high risk investment projects also have relatively large payoffs in term of endogenous economic growth, the closed capital market implies that the growth rate of the country is limited. Opening the capital account in this model allows non-resident investors with lower levels of risk aversion to hold high- return investments in the country while residents hold relatively safe foreign assets. Thus, with no net capital flow, domestic savings are channeled into investments that generate a higher growth rate. The welfare benefit of a higher growth path can be very large.

Partial Equilibrium. Models of the potential benefits for the investors of greater access to equity markets in developing countries also suggests that significant welfare gains are available. These models employ an international capital asset pricing model to evaluate the possibility that opening equity markets would improve the risk return trade-off faced by an investor currently limited to industrial country equities. Several analyses suggest that existing controls have had significant effects on yield of equities and that removal of such restrictions would benefit investors.

Capital flight is usually a symptom rather than a cause of financial crisis. Occasionally, however, rumors of a devaluation can trigger capital outflows. Expectations of devaluation can become self-fulfilling, as depletion of the central bank's reserves for to devalue. In these cases capital flight becomes a source of financial instability, much as withdrawals by worried depositors can cause an otherwise sound bank to fail.

Not surprisingly, episodes of capital flight are most frequent when exchange rates are unstable. In the twenties and thirties demise of the gold standard led to numerous speculative attacks on the French franc and German mark. When the Bretton Woods system of fixed exchange rates began to break apart in the late

sixties, the United States tried to defend the dollar with capital controls and by refusing foreign banks' demands to convert dollars to gold. (U.S. citizens were already barred from owning gold.)

After exchange rates were set free in 1973, the U.S. dollar replaced gold as the flight vehicle of choice. Convertible to most currencies, dollars also earn interest in convenient offshore or Eurodollar account. Since the Third World debt crisis in the eighties, the term "capital flight" has been applied more broadly to capital outflows from residents of developing countries. One reason that capital fled the debtor countries is that domestic investors felt their government would give precedence to its foreign rather than its domestic debt obligations. This situation contrasts with the earlier experience with direct foreign investment, when domestically owned assets were considered safe from expropriation while foreign-owned assets were at risk.

Offshore holdings are notoriously difficult to measure, so economists simply subtract foreign currency payments for imports, debt service, and additions to official reserves from total sources of foreign exchange (exports, borrowing, investment by multinationals, etc.). The difference—unaccounted-for dollars—is called capital flight.

Using this broad measure, the International Monetary Fund estimates that citizens of developing countries amassed about $250 billion worth of foreign assets between 1975 and 1985 (compared to a total foreign debt of $800 billion). Although Mexico had the largest dollar total ($40 to $50 billion), Venezuela's and Argentina's holdings were a larger proportion of national income (nearly equal to their foreign debt). Indonesia, Nigeria, the Philippines, and even South Korea also had substantial capital outflows during this period.

This second type of capital flight superficially resembles the classic variety of currency speculation. It is often most intense during periods of currency overvaluation or just after an exchange rate crisis, for example. But unlike "hot money" these funds tend to remain abroad after the currency crisis ends. The driving force behind these outflows is generally a perceived decline in the return, or an increase in the riskiness, on long-term assets held in the country. A loss of confidence may be caused by an excessively large foreign debt burden, large fluctuations in commodity export prices, or chronic government mismanagement of the domestic economy. Interestingly, though, nationalization was not a major cause of rapid capital outflows. The reason is probably that most nationalization was of foreign-owned assets rather than assets held by the country's residents.

This flight capital is held offshore until conditions improve or until the source of uncertainty is resolved. The tens of billions of dollars that fled Mexico in the early eighties, for example, did not begin to return until 1990, after Mexico got debt relief under the Brady Plan, committed itself to liberalizing trade and finance, and announced it would sell the banks it nationalized in 1982. All of these measures

helped to restore confidence in domestic financial markets and reduce fears of recurrent external debt crises.

While exporting countries often exaggerate the harmful consequences of capital flight, there are some legitimate areas of concern. Unlike movements of capital from Texas to New York, rapid international capital flows can disrupt financial markets and raise interest rates by causing unanticipated exchange rate movements, especially in small countries. Also, an unknown fraction of international funds transfers is due to tax evasion or to efforts to conceal illicit gains or embezzlement of public funds. The foreign holdings of the Philippines' Marcos family fall into this category. The use of offshore banks and Swiss accounts for tax evasion and money laundering taints all international capital flows to some degree.

Legitimate or not, once it starts there is no easy cure for capital flight, and preventive measures often having unpleasant side effects. Following the financial instability of the interwar period, currency speculation was reduced by fixing exchange rates and changing them very infrequently. The International Monetary Fund was set up to assist countries that ran into foreign exchange problems. This system fell apart in the early seventies, but some countries are still trying to return to fixed rates on a more modest scale (those joining the European Monetary System, for example).

When fixed exchange rates fail, governments often resort to capital controls, as the United States did in the sixties. Imposing controls during or just after a capital flight episode, however, is a little worse than closing the barn door after the horse has fled. Controls further reduce confidence in local financial markets and make capital that has flown less likely to return. Capital controls encourage black markets for foreign currency and other costly methods of evasion. Those who import or export goods can also export money by simply overstating the value of the goods they import or by understating their export earnings. Even the most draconian measures to limit capital flight often fail. Capital flight from the Weimar Republic continued in 1931, despite the fact that capital expatriation was made an offense punishable by death.

Another strategy that governments can use to limit capital flight is to make holding domestic currency more attractive by keeping it undervalued relative to other currencies or by keeping local interest rates high. The drawback to this approach is that raising interest rates and making imported equipment more expensive can reduce domestic investment. A more sophisticated defense against hot money flows, but one that is harder to execute, is for the central bank to occasionally turn the tables on speculators.

A classic "squeeze" of this type was engineered by Lazard Frères for the French government in 1924. Using a $100 million loan from J. P. Morgan, they bid the franc from 124 to 61 per dollar in a few weeks. Speculators who had sold the

franc short in the expectation that its value would fall were hit by big losses. Italy, the United States, and Sweden have also used this unexpected intervention tactic from time to time.

Yet another option is to reduce the tax benefits of capital flight by having rich and poor countries adopt new tax treaties and exchange data on income paid to foreigners. The U.S. Government's termination in 1984 of the 30 percent withholding tax on U.S. portfolio income paid to foreigners and a similar lack of reporting by European governments are often blamed for encouraging capital outflows to those countries. But offshore tax havens and international competition for capital make new tax treaties unlikely.

In the end the most practical strategy for reducing capital flight is for governments to pursue fiscal and monetary policies that minimize the need for large changes in exchange rates. Agreements among countries and central banks can add to the credibility of these commitments. Tax evasion can be reduced by relying more on consumption or sales taxes and less on taxes on interest and profits. Developing countries in particular can also promote the development of domestic financial markets and trade in assets that offer investors a "safe" alternative to foreign assets. Brazil used this strategy with some success before 1988. Small countries with limited domestic financial markets and currencies that are more vulnerable to external shocks can hold a portfolio of foreign assets and try to diversify their exports over the longer term. During the seventies Indonesia, Kuwait, and tiny diamond exporting Botswana, among others, used international financial markets to smooth their volatile revenues from commodity exports.

Overview of empirical studies on the determinants of capital flight

Author(s)	Methodology	Countries	Sample period	Estimation technique	Main determinants tested
Cuddington (1986)	Hot money	Argentina, Brazil, Chile, Korea, Mexico, Peru, Uruguay and Venezuela	1974-82	OLS	*REER* (+/–), *FINC*, *RINTR*, *RINTRF*, *INFL* (
Cuddington (1987)	Hot money	Argentina, Mexico, Uruguay and Venezuela	1974-84	OLS	*REER* (+), *RINTRF*, *INFL*
Dooley (1988)	Dooley	Argentina, Brazil, Chile, Mexico, Peru, Philippines and Venezuela	1977-84	OLS (pooled) with instruments	*INFL* (+), *FINC* (+), *PR* (–)
Kelkar and Kelkar (1989)	Hot money	Argentina, Brazil and Mexico	1977-86	OLS	*RINTR*, *RINTRF*, *INFL* (+), *REER* (+), *DUM* (+), *SPREAD*
Pastor (1990)	Residual	Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay and Venezuela	1973-87	OLS (pooled)	*INFL*, *FINC* (+), *REER* (+), *BUDDEF* (+), *YG* (–), *TAXGDP*
Mikkelsen (1991)	Weighted average of residual and hot money	22 LDCs	1978-85	OLS (pooled)	*YG* (–), *E (FINC)* (+), *BUDDEF* (+)
	Weighted average of residual and hot money	Mexico	1976-85	OLS	*E (FINC)* (+), *RINTR*, *DUMG* (+)
Hermes and Lensink (1992)	Residual and asset	Côte d'Ivoire, Nigeria, Sudan, Tanzania, Uganda and Zaire	1978-88	OLS (pooled)	*DEBTGDP* (+), *REER* (+) *FINC*, *YG*, *RINTI* *AIDGDP*, *SHDGDP*
Muscatelli and Hallet (1992)	Hybrid	4 Latin American countries + Philippines	1976-88	OLS	*INFL* (+), *YG* (–), *BUDDEF* (+), *RINTR* (–), *REER* (+)
Vos (1992)	Residual	Philippines	1971-88	OLS	*DEBTGDP* (+), *REER* (+) *CFS* (+), *SPREAD* (+)
Boyce (1992, 1993)	Residual	Philippines	1962-86	OLS	*DEBTGDP* (+), *RINTR* (+), *BUDDEF* (+), *Yi*
Henry (1996)	Residual	Barbados, Jamaica and Trinidad and Tobago	1971-87	OLS	*BUDDEF*, *YG*, *TAXGDP*, *REER*, *INFL*, *DEBTGDP* (+), *SPREAD*
Murinde *et al.* (1996)	Residual	Côte d'Ivoire, Nigeria, Sudan, Tanzania, Uganda and Zaire	1976-91	SUR	*DEBTGDP* (+), *REER*, *FINC*, *INFL*, *YG*, *RINTRF*, *AIDGDP*
Lensink *et al.* (1998)	Residual	9 African countries	1970-91	SUR	*DEBTGDP* (+), *REER*, *FINC*, *INFL*, *YG*, *RINTRF*, *AIDGDP*
Hermes *et al.* (1999)	Residual	Hungary, Poland and Romania	1982-95	OLS	*DEBTGDP* (+), *REER*, *BUDDEF*, *FINC*, *AIDGDP*
Lensink *et al.* (2000)	Residual, hot money and Dooley	84 LDCs	1971-90	EBA and CDF	*BANKL* (+), *AIDGDP* (+), *FDI*, *PINSTAB*, *WA* *CIVLIB* (+), *PRIGHTS*, *PARCOM* (+)
Ng'eno (2000)	Residual	Kenya	1981-95	OLS	*YG*, *RINTR*, *REER*
Nyoni (2000)	Residual	Tanzania	1973-92	OLS	*YG*, *INFL*, *FINC*, *POLRISK*
Olopoenia (2000)	Residual	Uganda	1971-94	OLS	*YG*, *INFL*, *FINC*
Collier *et al.* (2001)	Residual	39 LDCs	1970-90	LAD	*DEBTGNP* (+), *REER* (+), *CFS* (+)
Hermes and Lensink (2001)	Residual	84 LDCs	1971-91	CDF	*BANKL* (+), *AIDGDP* (+), *PINSTAB* (+), *CIVLIB* (+), *EGOVC* (+), *ETAX* (+), *EBUD* (+; *EINFL* (+), *ERINTR* (+)
Ndikumana and Boyce (2002)	Residual	30 Sub-Saharan African countries	1970-96	OLS	*KF-1* (+), *KF-2* (+), *DEBGDP* (+), *DEBST* (+ *INFL*, *BUDDEF* (–), *FINC*, *VOICE* (–), *FREE* (–), *CORR* (+), *GOVEFF*, *CONT*

In all studies listed in the table the dependent variable is capital flight, measured in different ways, however (see Column [2]).

The estimation techniques mentioned in column [5] are: ordinary least squares (OLS), seemingly unrelated regressions (SUR), quantile regressions using least absolute deviation estimation (LAD; see Collier *et al.* 2001), extreme bound analysis (EBA; see Levine and Renelt 1992), and estimation with cumulative distribution functions (CDF; see Sala-i-Martin 1997).

Column [6], indicating the 'main determinants tested', only shows those variables of interest to the study of capital flight and its determinants. In several cases the specification of the equations estimated also may contain control variables. These variables have been left out of the table. A (+) or (–) behind a variable in

this column indicates that this variable is significantly positive (or negative) related to capital flight, i.e. t-values for this variable are above 1.7 in the majority of the equations estimated in the studies listed.

For abbreviations of variables used in the table, are shown in the following table:

Δ= change in a variable
AIDGDP =development aid as a percentage of GDP
BANKL= bank and trade related lending as a percentage of GDP
BUDDEF= overall budget deficits, including grants as a percentage of GDP
CFS= stock of capital flight
CIVLIB= index measuring civil liberties
CONT= measure of risk of contract repudiation
CORR= index measuring the extent of corruption
CREDITPR= credit to the private sector as a percentage of GDP
DEBTGDP= the external debt to GDP ratio
DEBTS= total external debt service as a percentage of GDP
DEBST= total stock of external debt service as a percentage of GDP
DUMG= dummy variable for regime change
E (.)= expected value of a variable
EBUD= uncertainty with respect to government budget deficit
EGOVC= uncertainty with respect to government consumption expenditures
EINFL= uncertainty with respect to inflation
ERINTR= uncertainty with respect to real interest rate
ETAX= uncertainty with respect to taxes
FDI=foreign direct investment as a percentage of GDP
FINC= difference between domestic and foreign interest rate corrected for changes in the exchange rate
FREE= measure of political freedom
GOVEFF= measure of government effectiveness
INFL= annual domestic inflation rate
KF-1=capital flight one period lagged
KF-2= capital flight two periods lagged
LDCs= developing countries
PARCOM= extent to which non-elites are able to access institutional structures for political expression
PINSTAB= measure of political instability, calculated as 0.5 times the number of assassinations per million population per year plus 0.5 times the number of revolutions per year
POLRISK= measure of political risk
PR= political risk variable (specified in Dooley 1986)
PRIGHTS= index of political rights
REER= real (effective) exchange rate
RINTR= real interest rate (%)
RINTRF= foreign real interest rate (%)
SHDGDP= short term debt to GDP ratio
SPREAD= interest rate spread (i.e. foreign minus domestic real interest rate)
TAXGDP= total taxes as a percentage of GDP
VOICE= measure of voice and accountability
WAR= dummy variable (1 = country participated in at least one external war during 1960-1985; 0 = no participation in external wars)
YG= rate of domestic economic growth

[All these variables are termed as has been shown in different literature studied from different literature.]

In most cases the empirical studies on the determinants of capital flight implicitly use a portfolio model to decide which variables should be taken into account. Almost all studies estimate a reduced form equation. Consequently, this leads to equations of a rather *ad hoc* nature, which in a way is a shortcoming of the empirical literature on capital flight. Only Lensink *et al.* (1998) aim at estimating a full portfolio model, in which capital flight is taken into account as one of the assets, and which allows for investigating the simultaneity of different effects between different variables.

Most studies estimating a reduced form equation apply OLS. In some cases the empirical studies deal with time series, in other cases they use pooled regressions. As was already mentioned, most cases empirical studies implicitly use a portfolio model to decide which variables should be taken into account. If we take the different categories of determinants of capital flight as discussed in the previous section, the following broad picture emerges.

With respect to *macroeconomic instability*, one or more variables such as exchange rate overvaluation, government deficits, the inflation rate, and current account deficits appear in almost all studies. In particular, measures of the degree of exchange rate overvaluation are prominently present in these studies. The results of the empirical investigations indicate that macroeconomic instability causes capital flight. In most specifications variables measuring the extent of macroeconomic instability are statistically significant and positively related to capital flight.

Few studies focus on measures of *political instability* as determinants of capital flight. Several kinds of measures have been used. In some cases, the empirical investigations focus on the regime type as measure of political instability, using different dummy variables that proxy for the degree of democracy of a country. Other studies use dummy variables to measure issues related to the policy regime, such as indexes of civil rights and liberties. Still other studies use more direct measures for political instability, such as the number of assassinations and revolts, dummies for the fact that a country has been involved in a war situation.

In general, the results of the empirical investigations support the view that political instability, measured in various ways, and capital flight are positively related. Proxies of the *interest rate differential* are used in some studies to measure the relative attractiveness of domestic as compared to foreign assets. In most cases, researchers have calculated some kind of exchange rate differential between the domestic interest rate on deposits and a foreign deposit rate, normally the US deposit rate. Another measure proxying for the attractiveness of different assets used is the growth rate of GDP or GNP. Measures of the interest rate differential do not always have a statistically significant relation to capital flight. This may indicate that other determinants, such as macroeconomic and political instability, are more important to explain capital flight.

In many studies, *capital inflow* variables are taken into account. In several cases these capital flows have been split into one or more forms of inflows. In particular, research has focused on investigating the impact of long-term versus short-term foreign debt. A few studies have also investigated the role played by aid flows. Among others, Bauer (1981) argues that development aid would be used to finance capital flight. The table shows that especially long-term debt inflows have a statistically significant influence on capital flight. The hypothesis put forward by Bauer on the relationship between aid and capital flight is supported in some of the studies surveyed.

1.9 OVERVIEW

The total study consists of 7 different chapters (including the initial one) deals with different aspects of the problem stated earlier. Chapter 2 is related to different methods of measurement of capital flight along with the critical assessment of this measuring procedure. Here in this part capital flight is also measured as illegal transaction. Chapter 3 deals with the calculation of capital flight from six selected South Asian nations and their statistical analysis. Here a correlation is also drawn between the proportion of capital flight and openness index if these countries. The six selected countries are India, Pakistan, Bangladesh, Nepal, Bhutan and Sri Lanka. An overall statistical analysis is also shown at the end of this chapter. The next chapter, chapter 4 considers the matter related to International Trade, Finance and Economic crises at the general level and also specifically for these six countries. Different foreign exchange policies, choice of exchange rate regime, international influence on financial stability and the Economic, Social and Trade implications are discussed here. In chapter 5 country wise data on External debt, general Price Index, Overall Balance position and the Growth rate of GDP are presented to draw regression analysis for these data along with Capital Flight and Openness Index. The domestic Macroeconomic issues like Capital Account liberalization and capital outflow are discussed here. The impact of Capital flight on the distribution of income is discussed in Chapter 6 where the openness—growth—inequality link and the empirical study on this nexus is presented. Country specific case study is also presented here. Chapter 7 deals with two different measures of inequality, viz. Gini coefficient and Theil index and their calculation for the selected countries. Reference study on Gini coefficient for the selected countries is presented at five, ten and twenty percentiles. The final chapter, Chapter 8, is the concluding part discussing the question why does the link between inequality and capital flight matter regarding growth and income distribution.

CHAPTER 2

METHODS OF MEASURING CAPITAL FLIGHT

- *INTRODUCTION*
- *BROAD MEASURE OF CAPITAL FLIGHT*
- *HOT MONEY MEASURE*
- *COMPONENTS OF BROAD ESTIMATE*
- *DATA PROBLEMS*
- *CAPITAL FLIGHT: A SUB SET OF PRIVATE CAPITAL OUTFLOW*
- *CRITICAL ASSESSMENT OF MEASURING PROCEDURE*
- *MEASURING CAPITAL LOW AS ILLEGAL TRANSACTION*
- *BRIEF DESCRIPTION OF THE METHODS OF MEASUREMENT*
- *CALCULATION OF CAPITAL FLIGHT*

CHAPTER 2

METHODS OF MEASURING CAPITAL FLIGHT

2.1 INTRODUCTION

Since the debt crisis in 1982 capital flight figures have been widely quoted. This section critically reviews the methods to estimate these figures. The most widely accepted figures used have error components of unexpected magnitude and are based on different estimation procedures which often lead to confusion regarding the size and sometimes even the direction of the capital flow. In reality it is difficult to itemize this phenomenon in a statistical data series and there are strong arguments to support the view that we do not capture what we endeavor to measure. Deppler and Williamson (1987) succinctly sum up the argument by pointing out that the weakness of the statistical base on which any definition could be based is the classification of data "according to characteristics that are too closely related and indirectly related to the constructs being measured."

Problems regarding the magnitude of capital flight arise because there is no direct source for gleaning recorded foreign assets of the private sector in developing countries. Although the Bank for International Settlements (BIS) and the International Monetary Fund (IMF) compile data on the change in cross-border deposits as reported by recipient banks, the coverage is limited in its scope. The BIS provides a geographical breakdown of the liabilities of all its members but the data series is restricted to members of the BIS and liabilities are not broken down to the official and private sectors. The IMF reports the assets of non-banks in 33 banking centers but also does not distinguish between the official and private sectors.

The U.S.Treasury also provides data on the liabilities of US banks and brokerage houses to the private, non-banking sector of foreign countries. The shortcoming of this source of data is that it covers the flow of private capital only into the United States and assets only in bank and custody liabilities. This data series can, however, be regarded as the minimum measure of the external assets of developing countries.

Attempts to measure the magnitude of capital flight can at best only serve as an indicator to the actual figure due to the problems associated with identifying the phenomenon. Estimates of the scale of capital flight vary with the type of definition employed. Capital can flee through channels which, one can safely assume will not be reported to the balance of payments compiling authorities.9

Data problems pose an additional constraint. Several indirect methods to measure capital flight are in existence ranging from all outflows of capital being treated as capital flight to a subset of these flows (the other sub-set being normal flows). The balance of payments data is the starting point for estimating all measures of capital flight from developing countries.

2.2 BROAD MEASURE OF CAPITAL FLIGHT

An indirect method for estimating capital flight from developing countries is widely prevalent.10 In the early 1980's, following the debt crisis, it was presumed that both debt and asset flows were not properly recorded in the balance of payments. As a result, data recorded in the balance of payments was supplemented with data from other sources. On the liability side, data on external debt compiled by the OECD and World Bank was considered a better record of liabilities compared to the flow data in the balance of payments. On the asset side, capital flight was a major problem in many indebted countries, and therefore indirect methods were used to supplement information on external assets. Dooley et al. (1983) used such a method to compute private external claims. Although Dooley et al. (1983) refrained from terming this estimate capital flight, several subsequent studies interpreted the estimated unrecorded flows as capital flight, for example: Claessens and Naude (1993), Claessens and Chang), Morgan Guaranty Trust Company(1986) and notably the World Bank (1985) and Ajayi and Khan (2000). A few departures from this line of interpretation were Lessard and Williamson (1987), Deppler and Williamson (1987) Gordon and Levine (1989), Varman-Schneider (1991), and Anthony and Hallet (1992).

The estimation method uses reported balance of payments data as a starting point. They provide a link between the increase in gross external debt and the portfolio and spending decisions of the economy. An increase in the gross external debt corresponds to three broad sources identified from the balance of payment accounts: the building up of official reserves and other official balances abroad, the financing of current account deficits and the accumulation of private assets abroad. The technique compares the sources of finance (i.e. the increase in gross external debt and the net inflow of direct investment capital, both liabilities and assets) with the uses of finance (i.e. changes in official reserves, current account deficits, and capital outflows). Since the accumulation of private assets are not properly recorded in the balance of payments due to flight motives or incomplete reportage due to inadequate balance of payments recording procedures, an indirect method is in use for their estimation.

The measuring procedure consists of comparing officially recorded changes in foreign indebtedness (data is used based on either the OECD debt data or the World Bank data) with the net figures for all credit related positions in the balance of payments. The difference between the two aggregates allows conclusions to be drawn as to the scale of gross capital outflows. The calculation is based on

the assumption that the current account deficit and the changes in foreign exchange reserves give rise to a financing requirement, which would have to be reflected in the change in gross foreign indebtedness (the redemption of previous loans has already been carried out here). Resident capital outflows are thus estimated as a residual from the balance of payments data and are widely interpreted as capital flight.

TABLE 2.1: SUMMARY PRESENTATION OF MEASURING PROCEDURE
(Broadand Hot Money Measure

Current Account surplus	A
Net Foreign Direct Investment	B
Private short-term Capital Outflows	C
Portfolio Investment Abroad: Bonds+Equities	D
Banking System Foreign Assets	E
Change in Reserves	F
Errors and Omissions	G
Change In Debt	H
IMF Credit	I
Travel (Credit)	J
Reinvested FDI Income	K
Other Investment Income	L
Counterpart items	M
Capital Flight	CF

Broad Measure

a) Erbe and the World Bank::

$$CF = H + B + A + F$$

b) Morgan Guarantee Trust Company:

$$CF = H + B + A + F + E$$

Hot money measure

c) Cuddington:

i) $CF = (- G - C)$
ii) $CF = (- G - C - D)$

Dooley et. al (1983) first estimated the gross capital outflow for eight developing countries. The methodology has since been used in several other studies – for example, the World Bank (1985) and Erbe (1985), Collier et al. (1999) and Ajayi and Khan (2000). The residual resulting from the estimating equation includes the assets of both the banking and then on-banking sector in the estimate of capital flight.

Morgan Guaranty Trust Co. (1986) excluded the acquisition of foreign assets by banks. In this study banking assets were included in the broad measure, motivated by the experience of Mexico in the early 1980s where capital flight was largely transacted through the banking sector leading up to the debt crisis.

2.3 HOT MONEY MEASURE

A common practice when measuring hot money flows is to regard the errors and omissions entry in the balance of payments as a measure of private capital flows. The errors and omissions line is the statistical discrepancy in the credit and debit entries in the current and capital account. This is the narrowest measure of capital flight. Some studies regard the narrow measure of capital flight as one in which the short-term capital outflows of the non bank private sector is added to the error and omissions line in the balance of payments. As discussed in the previous section, it is very difficult to argue that outflows of capital, whether long or short-term are only related to capital flight. In a world where trade and financial market integration is on the increase, it is difficult to argue that developing countries would have no outflow of short-term capital in the normal course of business activity. Assigning flight motivations need additional research. The discussion below on data problems will reveal the difficulty in assigning errors and omissions category as only due to capital flight.

2.4 COMPONENTS OF THE BROAD ESTIMATE

Figure 2.1 presents the components captured by the broad measure of capital flight. The analytical content of these measures is very different and they do not distinguish between the flight component and the non-flight component. They are obviously measures of capital outflows. The literature on capital flight has speculated on the underlying motive of these flows and differences in sectoral coverage arise from different opinions as to which transaction was used as a means for capital flight.

The broad measure of capital flight covers a wide range of transactions. It includes short-term foreign assets by the non-bank private sector; errors and omissions recorded in the balance of payments; assets of the foreign assets of deposit banks; outward portfolio flows; long-term assets of the banking sector; the non-reserve transactions of the monetary authorities and the asset transactions of the non-bank official sector. The broad measure of capital flight can be treated as a measure of resident capital outflows. Deppler and Williamson (1987) point out that although the non-asset transactions of the monetary authorities and the asset transaction of the non-bank official sector are asset transactions of the public sector it may be odd to include them in the private claims measure. This is probably due to the evidence that these items are usually relatively small for most countries.

The broad measure of capital flight thus captures the external claims of residents. As developing countries develop trade and financial relations with the rest of the world, their residents claim on foreigners should increase. Trade credit

is extended along with infrastructure investments to support trade related activities like marketing, warehousing, supplier relationships, finance and insurance. It is difficult to see how outflows of capital related to trade activity can be labeled as capital flight.

In the absence of adequate balance of payments recording procedures which do not capture every type of asset, type of transactor as well as cross-border currency transactions, this is an indirect method of arriving at some measure of the magnitude of capital outflows from developing countries. It would be erroneous to consider all claims of developing countries as capital flight.

Increasing developing country financial integration is evident when we look at various indicators of financial integration. The first indicator is the liberalization of the capital account in a large number of developing countries starting with the move towards liberalization by Argentina, Chile and Uruguay in the mid-1970s. By 1993 one quarter of the 155 developing countries was free of restrictions. The ratio of gross capital flows to GDP is also rising for many countries. A widely debated and discussed indicator of financial integration is the saving-investment correlation ships. Schneider (1999) showed that saving-investment correlationships were generally lower in the 1980s than in the 1970s. If developing countries gain by diversifying their portfolios internationally, there is no sound reason for classifying asset diversification by residents in developing countries as capital flight.

Although the term capital flight refers to domestic investor response to discriminatory treatment of domestic capital and economic and political instability, the measure of capital flight fails to identify this as the flight component. Perfectly "normal" outflows of capital are clubbed with "abnormal" flows in the capital flight measure.

In terms of an accounting identity the broad measure of capital flight consists of:

$$KO = TB + PI + BA + CF$$

where KO is the broad measure of capital flight, TB are the transaction balances flowing abroad, PI are the portfolio investments, BA are the assets of the banking sector and CF, capital flight emphasizing that capital flight is only a sub-set of the gross capital outflow. Precise estimates are difficult to come by as the reportage on them is incomplete either due to inadequate reporting procedures for compiling balance of payment statistics or to a conscious effort to avoid their discovery. Data on transaction balances of firms engaged in international trade is scarce and so is data on the outflow of portfolio investment.

The problem is further aggravated by dynamic growth in financial instruments, developing country financial integration with global markets and by the insufficiency of reporting procedures to cover all types of financial instrument and

all types of investors in the balance of payments. Assets of the banking sector are reported but during the debt crisis it was widely believed that bank deposits were used as a vehicle of capital flight. It is difficult to delineate the "normal" from the "abnormal" flow because of the inadequate statistics on these components. Problems exist not only at the empirical level, but at the conceptual level as well.

The distinction between portfolio investments and capital flight becomes blurred in a savings-short economy. Many believe that poor countries should be able to keep their savings at home, as well as draw on foreign savings. Declining saving-investment correlations for many developing countries on the other hand show that developing countries are increasingly in the process of goods and financial markets integration. Outflow of capital as a consequence is perfectly normal. Further research is needed on a case by case basis to make judgments about capital flight. In this study, estimates arrived at through this measure are referred to as resident capital flows.

2.5 DATA PROBLEMS

As the method of calculating resident capital outflows is essentially an indirect one it can only be as realistic as the corresponding input of data. Some of the problems with the data for both the broad and hot money measure are discussed below.

Errors and Omissions

This category is part of both the broad measure and its variant hot money flows. Although often equated with capital flight, this item in the balance of payments has many other sources. The IMF's Balance of Payments Compiler's Guide (1995, p. 226) points out some possible interpretations. In their view, different patterns may provide insights into the possible causes of errors and omissions in the BOP statistics. Small or large errors or omitted entries do not indicate whether private capital flows have increased or decreased. Statistically, it is quite possible that small errors or omissions are due to mistakes in compiling debit and credit entries in either or both of the current and capital account, or certain transactions not being measured at all. A persistently large but stable (positive) or negative (debit) net errors and omissions item may suggest that coverage of a certain credit or debit item is inadequate. A fluctuating but offsetting (from period to period) item may be evidence of timing differences on volatile terms such as financial account items or large, 'lumpy' current account transactions.

Large errors and omissions that arise in periods of exchange rate fluctuations may suggest problems with methods of currency conversion used to compile accounts. Inadequate coverage of certain types of transactions may be evidence of relationships. For example, a positive net errors and omissions item coinciding with an increase in imports may suggest under-coverage of trade credit liabilities. Similarly, changes in economic circumstances or policies accompanied by changes in the net errors and omissions may suggest some relationship, for example, a large negative errors and omissions item could be attributed to unmeasured capital flight

occurring after the introduction of a law requiring surrender of foreign currency receipts. It is puzzling that the errors and omissions item in the balance of payments is classified as private capital outflow induced by distortionary domestic policies since it has many sources of error. The estimated capital flight measure is liable to obvious measurement problems. A negative errors and omissions entry is no guarantee that capital flight is taking place. As explained above, it picks up other elements which may or may not include capital flight.

Short-term flows

A difficulty with the hot money measure is the interpretation of the short-term assets of the non-bank assets of the private sector as capital flight. The short-term capital item consists largely of commercial credit and this line will tend to increase when imports increase. It therefore includes non-flight "normal" flows and omits long-term assets, which may be relatively good substitutes of the short-term assets covered in this measure. Flight of capital into real estate or an equity portfolio is missing from this measure. Furthermore, since short-term and long-term securities are actively traded in the international financial markets, there is little distinction between the two assets. [Dooley and Claessens and Warner (1993) examine whether short-term flows are more volatile than long-term flows and come to the conclusion that very often long-term flows are as volatile as short-term flows and that by looking at time series (statistics) only, one will be unable to identify the short-term or long-term properties of the flow.] The coverage of short-term transactions of the non-bank sector in the balance of payments data is patchy and also includes normal flows.

A further problem is the data on short-term flows in the new IMF database. Beginning in 1993 with the publication of the fifth edition of the Balance of Payments Manual (BPM5), capital flow data is reported with emphasis on the type of instrument rather than by maturity. Prior to 1993 (with the use of BPM4), maturity was stressed, hence the reason for the short-term capital flow series. Under BPM5 countries no longer report by maturity for Direct and Portfolio Investment and derivatives. Data for other investment are however reported by maturity

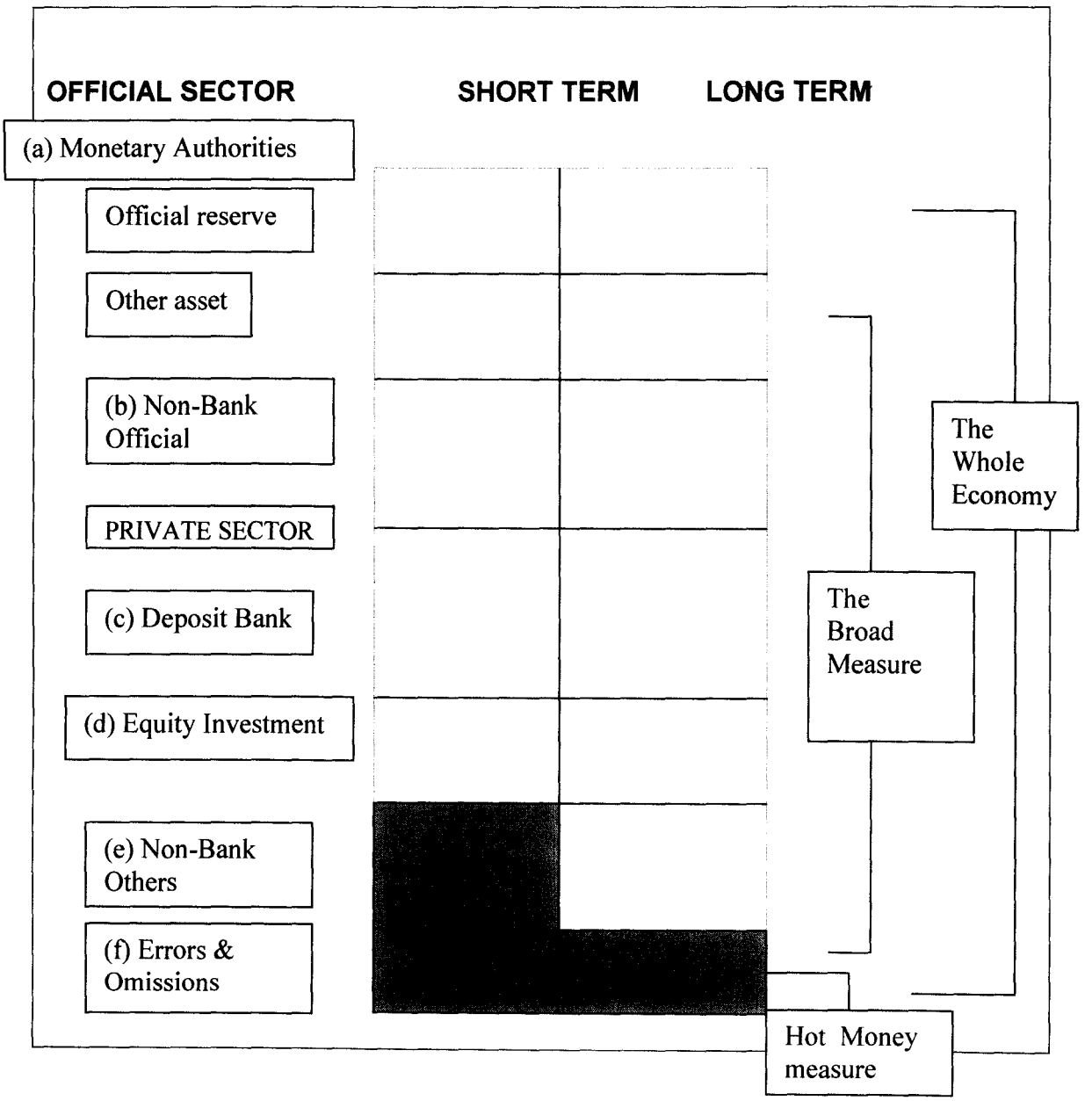
[NOTE: In the fifth edition, coverage of financial flows and stocks is significantly expanded and restructured. The modification reflects, first, an orientation towards compatibility with other IMF statistical systems and the SNA and, second, widespread alterations in the nature and composition of international financial transactions since the fourth edition was published in 1977. These changes include the emergence of financial innovations, new instruments, and transactors that are partly associated with a trend towards increased asset securitization. Such developments tend, in many instances, to blur the distinction between long- and short-term maturities and to make it more difficult to identify resident/nonresident transactions, especially when such transactions involve a number of currencies and a variety of actual and contingent financial instruments or arrangements. Together with the easing or abolition of exchange controls in many countries and the progressive deregulation of national financial markets, these developments create new challenges and problems for data compilers and users. Further complications arise as a result of external debt problems experienced by a number of countries (e.g., accounting for arrears, debt forgiveness or debt reduction schemes, and associated innovative financial arrangements). Partly in response to such developments, classification of the financial account is

Given the nature of current reporting, it is impossible to find a unique total for short-term capital assets, but some of it will show up in the 'other investment' asset category. Unfortunately, the new requirements for the reporting of capital flows make it practically impossible to identify all of the short-term capital assets for the countries.

---

re-oriented. To cover new financial instruments coverage of nonequity *portfolio investment* is broadened to include long and short-term securities supplementary classifications covering exceptional financing transactions (with selected arrears-related entries for balance of payments accounts) and other items of analytical interest are introduced. These include international trade in services; international banking flows and stocks; asset securitization and principal market developments; external debt problems: income payments and growth and links between exchange rates and current account and financial account flows.]

FIG. 2.1: BROAD MEASURE OF CAPITAL FLIGHT: SECTOR WISE COVERAGE OF FOREIGN ASSETS [Adapted from Deppler and Williamson (1987)]



External debt data

The external debt of many developing countries is underreported and the capital accounts themselves prove to be poor indicators of gross capital outflows and inflows. The stock of debt cumulated from the balance of payments data is, in the case of many developing countries, lower than the stock of debt data compiled by the OECD and the World Bank. The difference is often attributed to capital flight.

The estimates presented in this study are based on data from the World Debt tables. Until recently no data was available for the changes in debt stock due to cross-currency exchange rate fluctuations. All non-dollar debt will fluctuate with the exchange rate without any changes in borrowing. With a depreciation of the dollar the value of non-dollar denominated debt increases and the reverse occurs with a dollar appreciation.

A further issue is debt forgiveness which, in real terms, increases the stock of debt and should be added back to the stock of debt. Since 1989, a new section on debt stock-flow reconciliation has been added to the World Bank debt data making it possible to adjust the data series for exchange rate changes, debt forgiveness, interest capitalized and net change in interest arrears. What is notable is a residual item that represents the statistical discrepancy and cannot be accounted for. Misreporting of data could lead to such a discrepancy.

Other data problems pertain to military imports. The estimated measure of capital flight may be too high if military imports are not recorded in the statistics unless the imports are off-set by corresponding military exports or the military imports are financed by military aid credits recorded in the external debt data.

Another problem is the flight into imported durables. Dornbusch (1985) analyses the case of some indebted developing countries with overvalued exchange rates and strict capital controls. Investors will anticipate a devaluation and step up their imports of producer and consumer durables and build up inventories in order to realize inventory or capital gains once the devaluation has taken place. Such behavior can push up the current account deficit in periods of anticipated devaluation thereby, underestimating gross capital outflows.

2.6 CAPITAL FLIGHT: A SUB-SET OF PRIVATE CAPITAL OUTFLOWS

Capital flight is sometimes described as a sub-set of private capital flows developed in response to the symmetrical development in the asset positions of the public and private sectors. Resident capital outflows coincide with non-resident capital inflows. Domestic investors, it is assumed, are aware of the differences in risk involved in investing at home and abroad. Investment risks can be higher at home due to the taxation structure and/or unattractive rates of return combined with an underdeveloped financial system. Foreign investors in developing countries are usually protected by government guarantees.

The asymmetric structure provided the motivation for foreign sources of finance flowing in and private capital from developing counties moving out. The procedure for measuring the magnitude of the transfer of assets in response to dissimilar risks is to be found in Dooley (1986), and has been used by Khan and Ul Haque (1987), Deppler and Williamson (1987) and Varman-Schneider (1991).

The basic premise is that capital flight can be explained by differences in risk perceived by residents and non-residents in holding claims on residents of the

country studied. Empirical tests show that yields implied by recorded investment receipts on external claims have fallen well below levels consistent with market interest rates. The relatively low yield on claims is interpreted as a reflection of capital flight. Whereas yields on claims are lower than market interest rates, rates of return implied by recorded payments on external debt have exceeded levels consistent with market interest rates by a substantial amount. This reflects country risk premiums. Capital flight may be interpreted as a reflection of the differences in perception by residents and non-residents and may be related to the level of confidence that either group of investors place in such holdings.

Dooley (1986 and 1988) identifies capital flight as the stock of claims that do not generate investment income receipts in the creditor's balance of payments data. This approach permits an empirical distinction between capital outflows motivated by normal portfolio decisions and those based on the desire to place these assets out of the control of domestic authorities. The first step in the measuring procedure is to a stock of claims by cumulating identified flows in the balance of payments accounts. The flow data is changed into stocks by capitalizing the first year on the basis of data on reported investment income.

Adjustments are made by adding errors and omissions. The discrepancy between cumulated data on external liabilities in the balance of payments accounts and the World Bank external debt data is added to the measured stock of claims. It is assumed that the discrepancies between the two sources of data are underestimated balancing transactions and represent the acquisition of foreign assets by the private sector. The next step is to cumulate a market interest rate for each country's assets.

Since the currency composition of assets is an unknown variable, market interest rates are computed on a very restrictive assumption, namely that the currency composition of assets is the same as that of external liabilities. The average yield on external debt is calculated with weights assigned to the ratio of official, private, variable and dollar-denominated debt in total debt. These are used in conjunction with appropriate interest rates. The same weighted average is applied to the yield on claims by assuming the share of liabilities to official creditors in OECD debt as one, i.e. the market interest rate is the yield on external liabilities to private creditors, and the average yield is applied to capitalize the investment income receipts reported in the balance of payments data. This measure of the stock of external claims is compared to the calculated stock of claims. The difference between the receipts is the measure of capital flight.

TABLE 2.2: SUMMARY PRESENTATION OF MEASURING PROCEDURE
(Capital Flight: A Sub-set of Total Claims)

Item	Notation
Stock cumulated from flows of External Claims	A
Stock cumulated from flows of Errors and Omissions	B
Aggregate Cumulative Capital Outflow (A+B)	C
Unrecorded Stock of External Claims	D
[Where D=OECD External Debt Data —	
Balance of Payments External Debt Data]	
Total Cumulated Claims (C+D)	E
Recorded Investment Income Receipts	F
Average Yield on External Claims	G

Step by step explanation of the estimation technique:

1. Calculate the stock of external claims implied by investment income receipts and average yield on external claims. These reflect normal portfolio investment.

2. The difference between total cumulated claims (E) and capitalized investment income in the balance of payments accounts as in (1) above is the measure of capital flight.

2.7: CRITICAL ASSESSMENT OF MEASURING PROCEDURE

Theoretically, the measure proposed by Dooley (1988) to capture capital flight by identifying it as the stock of claims on which investment income receipts are not reported is far superior to other measures in that private capital flows are bracketed according to their motives.

However, it is not possible to establish whether the income on the stock of claims which is not reported is beyond the reach of the authorities of individual countries. Also, such estimates include reinvested income in the estimate of capital flight. The measure only captures changes in the stock of capital flight. Capital flight ceases when asset holders report investment income abroad which may not be repatriated. Thus, reversing capital flight need not necessarily increase the resources available domestically in the country from which the

capital outflow occurred. In practice several problems exist with the availability of data as well as methodological problems. Capital flight as measured by this technique is sensitive to:

1) A reliable record of the outstanding stock of external claims

2) The level and structure of relevant interest rates. In the absence of information on the currency mix of assets, the market interest rate is calculated assuming that the currency mix of assets is identical to the currency mix of liabilities to private creditors.

3) A dependable reporting procedure for compiling investment income receipts.

In Varman-Schneider (1991) the drawbacks on these three points are discussed and a sensitivity analysis carried out for India and the Philippines.23 The technique is found to be highly sensitive to all three. It is difficult to make up for the gaps in data which lead to these shortcomings. Estimates of the stock of claims are liable to deficiencies in estimation because of the changes in debt stock due to exchange rate valuation of non-dollar denominated debt and debt forgiveness. But discrepancies may also occur between the money, banking statistics and the debt data. It is possible that capital flight is underestimated because of such discrepancies.

It is difficult to obtain the currency composition of assets for an item which itself is elusive in nature. In Varman-Schneider capital flight was estimated with the assumption that the currency composition of assets was the same as that of liabilities to private creditors and the results compared to estimates based on cross-border interest rate adjusted for currency mix and a six month lag on US LIBOR. The difference in results was dramatic.

In the case of investment income, it is not always the case that the balance of payment figures are compiled from transactions reported by those involved. In the United States for example, interest income receipts are calculated on the basis of figures for various kinds of capital stock and associated interest rates, rather than from the recipients of interest. In Mexico, balance of payment compilers include allowance for imputed interest on foreign assets in investment income when no income is remitted resulting in capital flight being underestimated.

Also when outflows of capital do not generate financial returns, such as investment in real estate abroad, the outflow is classified as capital flight. Practices also vary in India, Chile and Venezuela. In India, investment income recording practices cover only that due to the government and the Reserve Bank of India. In Chile they mainly cover those of the Central Bank and in Venezuela those of the Central Bank, public enterprises and the government. In none of

these is there a scope for recording investment income of the external assets of the private sector.

Capital flight estimated by this method is subject to large measurement errors. Claessens and Naude (1993) discuss the link between the broad measure of capital flight and capital flight measured as a sub-set of claims. Although both the measures differ conceptually, they use some of the same measures and are thus linked through the balance of payments accounting identity. Under the broad measure, capital flight is equal to the sum of change in debt, net foreign direct investment, current account surplus and the change in reserves. By the balance of payments identity this equals the negative of private capital flows (short- and long-term), errors and omissions, and the difference between the World Bank stock of debt and the stock cumulated from the balance of payment statistics.

The last four items were used by Dooley (1986) to calculate the total (reported and unreported) assets held abroad. The annual changes in the total assets held abroad are the simple annual capital flight estimates in the broad measure.

Although Dooley treats only those claims on which investment income is not reported as capital flight, the trend in the broad measure of capital flight (shown in the graph as World Bank residual) and annual changes in the Dooley measure are similar. It is for this reason that this approach was not used for this study as the estimates of flows capture the same information.

2.8: MEASURING CAPITAL FLIGHT AS AN ILLEGAL TRANSACTION

Illegal foreign exchange transactions due to systematic underinvoicing or overinvoicing of imports can be detected through the use of partner country trade statistics as introduced by Zuckerman (1920). This technique was further used by Morgenstern (1959), Bhagwati (1964), Bhagwati, Krueger, Wibulswadia (1974), Gulati (1987), Gemaelich (1989) and Claessens and Naude (1992) who estimated the series for 126 countries. The measurement is based on the assumption that domestic traders falsify trade documents when incentives exist to keep capital abroad.

The estimation procedure can be summarized in the following two equations:

Export Misinvoicing = (Xi/ CIF factor) – Xc

Import Misinvoicing = (Mc/ CIF factor) – Mi.
Where,
Xi are imports from that country as reported by the industrialized countries cif.
X_C are exports as reported by the country fob to the industrialized countries
Mc is imports as reported by the country with the industrialized countries as trade partner. CIF factor is calculated from World Bank data, it is the extra amount that is gven by the trader.

Mi is exports to that country as reported by the industrialized countries.
(cif is the cost of insurance and freight, fob is free on board, i.e. without transaction costs.)

A positive sign signifies capital flight and a negative sign, capital repatriation. Since both underinvoicing of exports and overinvoicing of imports contribute to capital flight, the two are added for the net effect of misinvoicing. There is no reliable method to attribute this discrepancy to current or capital account transactions. It does not consist solely of capital flight. Moreover, as Gulati (1987) argues, the systematic outflow under this item is primarily attributable to tariff and quota-evasions by importers. Indeed the factors underlying this discrepancy can be very complex and could include illegal practices such as smuggling.

Thus the estimate of illegal export of private capital includes that which is due to the evasion of tariffs and quotas. It may also include capital outflows due to tax evasion and criminal activities. It is impossible to distinguish these components from the estimated series. The phenomenon of capital flight has many dimensions that are not captured by such estimated series. It cannot only be regarded as the transfer of foreign exchange to thwart domestic regulations. Conceptually, it is useful to think of capital flight through misinvoicing as additional to those transacted through other channels.

2.9: BRIEF DESCRIPTION OF THE METHODS

In the literature there is no straight forward measurement of capital flight (CF) and a number of CF measurement are available in the literature. Following Classens & Naude (1993) five different measures of CF can be distinguished. 1) The Residual Method 2) The Dooly Method 3) The Hot Money Method 4) The Trade Misinvoicing Method 5) The Asset Method.

Let us consider a brief description of these methods.

1) The Residual Method:

   This is the difference or the residual between the sources of funds and the use of funds. Sources of capital inflow include net increase in external debt and net outflow of foreign investment, i.e. all net official inflows. The use of fund includes current account deficit and addition to foreign reserves. Thus, when the resources of funds exceed the use of funds, there is outward CF and inward CF for vice-versa.

   Therefore, in terms of BOP items CF in residual method (CF_R) is

   $CF_R = \Delta ED + FI - CAD - \Delta FR.$

ΔED is the change in external debt, FI is the foreign investment, CAD is the current account deficit and ΔFR is the change in foreign reserve position.

Form the BOP identity CF is the sum of identified private capital outflow (which includes short-term capital other sector, portfolio investment, change in deposit on banks foreign asset), the net errors and omission and the difference between reported net official capital and the change in the external debt according to the World Bank data.

2) The Dooly Method:

In this method the stock of privately held foreign asset is measured which do not generate income to the domestic country. According to this version, CF is all capital outflow based on the desire to place wealth beyond the control by the domestic authority. It considers some modification with the Residual method.

First, errors and omission (EO) are taken into account to measure total outflow of capital.

Second, the difference between the World Bank data on the change in the stock of external debt and external borrowing as reported in the BOP Statistics (WBIMF). If the first is larger than the second the difference is assumed to be a part of CF.

Third, the stock of external asset (ES) is the deflated interest earning (Intear) by the representative market interest rate (the US interest rate).

Finally, the difference between the total capital outflow and the change in the stock of external asset is defined as CF.

Thus, $CF_D = TKO - \Delta ES$

Where, $ES = Intear / r_{US}$.

$$TKO = FB + FI - CAD - \Delta FR - EO - \Delta WBIMF.$$

3. Hot Money Method: In this measure of CF the private short-term capital outflow and the net errors and omission (NEO) from the BOP are added up. Same as Dooly Method this method also considers that due to illegal nature of capital movement CF goes unrecorded. There are three variants of CF in the Hot Money Method available in the literature.

i) $CF_{H1} = -(OSCOS + NEO)$
ii) $CF_{H2} = -(OLCOS + NEO)$
iii) $CF_{H3} = -(OLCOSOA + OSCOSOA + NEO)$

Where: OSCOS = other short term capital, other sector

OLCOS = other long term capital, other sector
OSCOSOA = other short term capital, other sector, other asset
OLCOSOA = other long term capital, other sector, other asset

4. Trade Misinvoicing Method:

CF can also occur through export underinvoicing and import overinvoicing. Comparing the export- import data furnished by the reference country's trading partner with the official data of the reporting country can identify trade misinvoicing. The discrepancy between official export of the reporting country to the World and World's import from the reporting country can be defined as export misinvoicing. Similarly the import misinvoicing is also identified by cross checking of the reference country and the rest of the World's export – import data. Traditionally all export data are in f.o.b. terms (excluding the cost of shipping & insurance) and all import data are in c.i.f. (Including the cost of shipping & insurance). Therefore the export and import data are to be adjusted by c.i.f. /f.o.b. factor, (say, θ). In this way export and import can be compared on a consistent f.o.b. basis.

Thus, Export misinvoicing = $(X_W / \theta) - X_C$

Import misinvoicing = $(M_C / \theta) - M_W$

Both the misinvoicing adds to CF. So, by adding these two we can get the net effect of trade misinvoicing on CF.

5. Asset Method:

Authors like Hermes & Lensink (1992), Collier (2001) considered total stock of assets of non-bank residents held at foreign banks as a measure of CF. But this can not capture most of the asset held in foreign country as people may hold their asset other than bank account, like foreign equity holding. Till 1994, data on bank asset was provided by IMF, but for recent time this method cannot be applied for the deficiency of information.

2.10: CALCULATION OF CAPITAL FLIGHT:

Calculation of CF from a country essentially uses the official BOP data. In our present analysis calculation is done according to the Residual Measurement of CF. A schematic BOP is shown in the table below.

TABLE 2.3: BALANCE OF PAYMENTS (IMF Balance of Payments Yearbook)

A. CURRENT ACCOUNT: includes—
   1. Travel : Credit
   2. Reinvested Earning on Direct Investment Abroad.
   3. Reinvested Earnings on Direct Investment Domestically
   4. Other Investment Income: Credit.

B. NET EQUITY FLOWS: of which,
   5. Net Foreign Direct Investment
   6. Portfolio Investment: Corporate Equity

C. OTHER SHORT-TERM CAPITAL OF OTHER SECTOR : net of which
   7. Assets

D. 8. Portfolio Investment, Other Bonds.

E. 9. Change in Deposit Money, Banks' Foreign Assets

F. 10. Reserves

G. 11. Net Errors & Omissions

H. 12. Other Long Term Capital of Resident Official Sector *or*

H' 13. Change in External Debt.

Following the methods of measurement of CF stated above (specially the Residual Method)and the BOP items, the private capital outflow including the outflow of loans is equal to [-(5) –(6) + (8)+ (9) –(12)]. In order to avoid problems associated with the term Net Errors & Omission another measurement of CF would be [(8) + (9) – (12)], which is more relevant. This considers the total net private capital outflow minus the net flow of loans. From the BPO accounts the Residual Measurement of CF can be calculated directly. The Residual Measure is defined as:

Change in Debt + Net Foreign Investment – (Current Account Deficit + Change in Reserves).

Of the methods surveyed in this study, the broad measure of capital flight is, in practice, the best method to estimate resident capital flows. The hot money measure is part of this measure and can be regarded as the minimum flow of

resident capital. Estimates of capital movements through misinvoicing of trade documents capture some illegal capital flight along with other items. In as far as country specific analysis reveals that they are due to capital flight, they can be regarded as additional to any measure of capital flight. None of the procedures in current use can be regarded as complete estimates of capital flight without further analysis.
The usefulness of the methodology lies in the estimation of resident capital flows which form the basis for research on delineating normal flows from capital flows with the use of country specific information and statistical procedures.

It is suggested here that it is more meaningful to carry out research with flows rather than stocks. The previous discussion highlights the difficulty in observing flows to conclude whether they are two-way flows or event driven without country-specific analysis. It is therefore, not desirable to convert these flows into a stock. Claessens and Naude (1992) and Collier (1999) convert flows into stocks without taking the components of these flows or the type of capital flight taking place into account. The derivation of stocks from the flow data is problematic. The cumulating procedure is carried out by applying the US Treasury Bill rate to the flow data, assuming that all flight capital is in US dollars. The currency composition of flight capital is important if accumulation is to be carried out. (Moreover, there is not much to be gained by this for the regression analysis. Theoretically this is correct, but the very nature of flight capital makes it difficult to apply conventional portfolio theory to explain the phenomenon). For instance Ugandan flight capital usually finds its way to South Africa, therefore the Treasury bill rate in South Africa is relevant. If the assets are in different currencies, then applying the US TB rate across countries and composition of assets makes the resultant number flawed. It would be simpler, to stick to flow data. More information can be gleaned while working with flows. The consequence of each type of transaction will be different for the country in question.

CHAPTER 3

CALCULATION OF CAPITAL FLIGHT AND OPENNESS INDEX FOR THE SIX SELECTED COUNTRIES

- ***INTRODUCTION***
- ***ESTIMATE OF CF AND OI FOR INDIA***
- ***ESTIMATE OF CF AND OI FOR PAKISTAN***
- ***ESTIMATE OF CF AND OI FOR BANGLADESH***
- ***ESTIMATE OF CF AND OI FOR NEPAL***
- ***ESTIMATE OF CF AND OI FOR BHUTAN***
- ***ESTIMATE OF CF AND OI FOR SRI LANKA***
- ***AGGREGATE ANALYSIS OF CF ANF OI FOR THE SIX COUNTRIES***

CHAPTER 3

CALCULATION OF CAPITAL FLIGHT AND OPENNESS INDEX FOR SIX CELECTED COUNTRIES

3.1 INTRODUCTION

The magnitude of capital flight is estimated for six of the seven SAARC nations viz. India, Bangladesh, Pakistan, Sri Lanka, Nepal & Bhutan over the time period 1987-2004. The remaining country is Maldives due to non-availability of proper data for the chosen time period. The selection of the time period is done on the basis of economic and structural reforms adopted in these countries. The amount of Capital flight is associated with several factor influencing it, here we consider Trade Openness as the primary determining factor of Capital Flight. Trade Openness is defined as the ratio of total external trade to GDP, both expressed in Dollar ($) terms. After economic liberalization international trade has increased to a large extent with all its variants. There are also several other factors like Macroeconomic Instability, Political Instability, Rate of Return differential, Capital Inflow, the Stock of Capital Flight etc. which influence the CF from these countries over the period, but the analysis of these factors are out of the scope of this paper presently.

The selection of trade openness as an important determinant of CF is done on the basis that in the post WTO era total trade has increased to a large extent form these countries and import and export duties has been reduced drastically. It is evident that the trading channel is used as a way of capital flow from the South-East Asian countries.

For the six selected South-East Asian countries a brief economic review is presented for better understanding of these countries socio-economic position. Then a simple regression line is fitted from the data regarding CF and Openness Index (OI). In this part the data sources WDR, BOP statistics, IFS of various years. CF is calculated on the basis of Residual Measure using BOP data.

3.2: INDIA

3.2.1 *THE ECONOMIC OVERVIEW OF INDIA*

The growth of the Indian economy has been decelerating since 1999, with the slowdown becoming more pronounced from the second half of 2000. The slowdown has been driven by sluggishness in the industry sector. The services sector, the prime engine of economic growth during the 1990s, has also shown a moderate decline. Agriculture growth will be high in 2001 compared with a very low turnout in both 1999 and 2000.

In 2000, the gross domestic product (GDP) grew at 5.2 percent. In the first quarter of 2001, GDP growth was a mere 4.4 percent over its level in the same quarter of 2000. In 2001, economic growth is expected to be around 5.0 percent.1 While a disappointing outcome compared with India's high growth rates in the mid-1990s, this still makes the Indian economy— together with the People's Republic of China—one of the best performing economies in 2001. Several factors may have caused below-expectations economic performance.

The global economic slowdown affected the Indian economy, but its impact is, in our assessment, limited. This is because, despite achievements in trade liberalization under the post-1991 reforms and in compliance with World Trade Organization (WTO) commitments, India's openness remains relatively limited. This softens the impact on the economy of external shocks as the September 11 attacks on the United States, and of cyclical patterns in global demand. Of all possible transmission channels—trade, capital flows, and exchange rate—the first is the most likely to be hit by the deepening global slowdown. India's export growth—particularly software and related services—dropped in 2001; however, import growth has slowed even more sharply and the trade balance and current account deficit are unlikely to worsen in 2001. So far, there is no significant impact on foreign capital flows to India, which remain small. And the rupee is fairly stable in the context of a comfortable foreign exchange reserves position.

There were also some major domestic shocks, such as the devastating earthquake in Gujarat in January 2001. Economic losses caused by the earthquake have been estimated at roughly 1 percent of India's GDP. However, aid from the international community, supporting immediate efforts at reconstruction, has helped lessen the impact of the shock.

The main causes of the relatively poor performance of the Indian economy appear to be domestic structural factors. These can be traced back to the unfinished reform agenda. First-generation reforms were designed, on the one hand, to rein in public finances in the medium term by redefining the role of the public sector and, on the other hand, to spur private sector growth. The three key areas covered by the reforms were industrial policy, trade and exchange rate, and the financial sector. A key element in the redefinition of the public sector role was an ambitious program of reform of center and state public sector undertakings (PSU), including restructuring, accompanied by decreasing reliance on the public budget and gradual divestiture.

Trade liberalization involved eliminating export subsidies and reducing peak tariff rates, easing some quantitative restrictions on exports and imports, and allowing current account convertibility of the rupee. Steps were taken to facilitate foreign capital inflows by raising the limits on foreign equity holdings and giving tax concessions for foreign institutional investment. Finally, financial sector reforms pursued the objectives of strengthening and liberalizing the financial market and

improving monetary management. They included measures to simplify and liberalize the interest rate structure; to align capital adequacy, accounting, and provisioning standards with international benchmarks; and to strengthen banking supervision and stock market regulation.

Progress made under first-generation reforms has been substantial. Most industries previously under state monopoly have been opened to the private sector. The role of industrial licensing and small-scale industry reservations has been substantially curtailed. The insurance business has been opened to the private sector. Import restrictions have been substantially liberalized with the abolition of import licensing, removal of quantitative restrictions (QRs) in fulfillment of WTO obligations, and lower tariff rates. Norms relating to ceilings in relation to foreign direct investment and foreign institutional investment have been substantially eased.

However, more remain to be achieved, particularly in terms of

(i) Fiscal consolidation efforts,
(ii) Divestiture and privatization, and
(iii) Creating an enabling environment for private sector growth.

Post-reform efforts at fiscal consolidation were eroded in the second half of the 1990s by the impact of increases in public sector salaries mandated by the Fifth Pay Commission and by the rapidly deteriorating fiscal position of the states. State finances and issues in center-state fiscal relations are given special emphasis in this country economic review, with the final chapter being dedicated to them.

In 2000/01 the consolidated fiscal deficit was back at the pre-crisis level of above 9 percent of GDP. This was accompanied by a worsening in the overall quality of public expenditures, with a decrease in the share of capital and development expenditures, and an increase in revenue deficits as a percentage of gross fiscal deficits. In the context of a slowing economy, tax revenues were low in 2001.

Combined with efforts to pump-prime the economy this led to an acceleration of the Government's borrowing program for 2001 and created some concern that fiscal consolidation efforts may be further undermined. Achievements under the Government's disinvestment and privatization program have been mixed. While there were some successes in privatizing the telecommunications sector, the vicissitudes experienced in the power sector, for example, are well known. Of a targeted disinvestment of Rs100 billion in 2000, only Rs25 billion was realized. Progress toward achieving the 2001 target of Rs120 billion has been limited.

Contrary to the expectations at the onset of the reform process, private sector investment did not effectively substitute for public sector capital expenditure. A significant gap emerged in the infrastructure sector, as the government's

privatization program stalled and the expected private sector investment in the key infrastructure services did not materialize. The drop in public capital investment, combined with slow progress in pursuing restructuring and privatization of public sector undertakings, undermined the quality of the infrastructure base of the economy and created the infrastructure bottlenecks that constrain economic growth today.

The 1991 reform program had included a review of industrial exit policies aimed at easing existing barriers to exit such as laws and regulations on bankruptcy, labor retrenchment, and transfer of land. However, little if any progress has been achieved on all these accounts due to the complex political economy dynamics impeding the reform process. Small-scale industry reservation policies continue to undermine the efficiency of the productive sector.

The program of second-generation reforms articulated in the 2001 budget is comprehensive. The program covers fiscal consolidation, with efforts to contain growth in public expenditures and to rationalize the tax system. It extends reforms to the agriculture sector that had largely been bypassed by first-generation reforms. The program focuses on improving quality in public expenditure with a focus on raising investment in infrastructure and making this investment viable through appropriate user charges. The program in particular addresses the reform of the power sector. Subsidies on non-merit goods continue to be among the main causes of escalating revenue deficits and worsening state finances. Power sector subsidies are a large component of the total subsidy bill. Memoranda of Understanding between central and state governments, which several states have signed, include power sector reforms.

The budget also announced measures easing price control in key sectors. It further promoted financial sector reforms and continuing, progressive liberalization of the capital account. A supplementary plan of reforms to enhance competition, including reform of labor laws, was presented by the Prime Minister to the Council of Economic Advisors in September 2001.

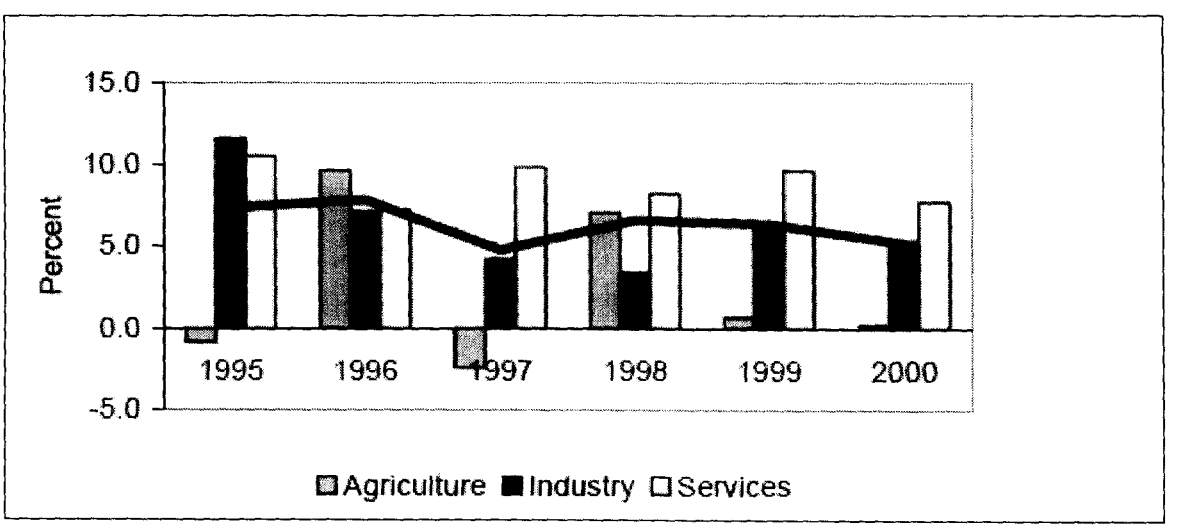
India's prospects for the medium term will depend on the prompt implementation of these reforms, and key reforms of industrial exit policies. Substantial progress on the reform agenda should allow India to move to growth above 6 percent in 2002 and toward the higher growth path of 8 percent envisaged in the Approach Paper to the Tenth Five-Year Plan for the medium term.

3.2.2: RECENT ECONOMIC DEVELOPMENTS OF INDIA

The Indian economy has been experiencing a significant slowdown starting from the second half of 2000. Current official estimates for 2000 place the growth of gross domestic product (GDP) at factor cost at 5.2 percent (FIG. 3.2).

Therefore, the economy was already at low ebb at the time of the September 11 attack on the United States. The September 11 attack contributed to undermining the prospects for early recovery of the weak global economy, which is now expected to grow at only 2.6 percent in 2001.2 The heightened uncertainty and dimmer prospects for a revival in global demand in the wake of September 11 may have an impact on the Indian economy, but this impact is likely to be fairly modest. India's economic problems are essentially homegrown. Large fiscal deficits, infrastructure bottlenecks, factor market distortions, and other obstacles to economic competition and to free trade are taking their toll on the economy. They need to be addressed through appropriate policy responses. In the first quarter of 2001, official estimates indicate that the GDP grew by a mere 4.4 percent over its level in the same quarter in 2000. Growth in the second quarter picked up to 5.3 percent. We project the Indian economy to be growing at 5.0 percent for the whole of 2001.

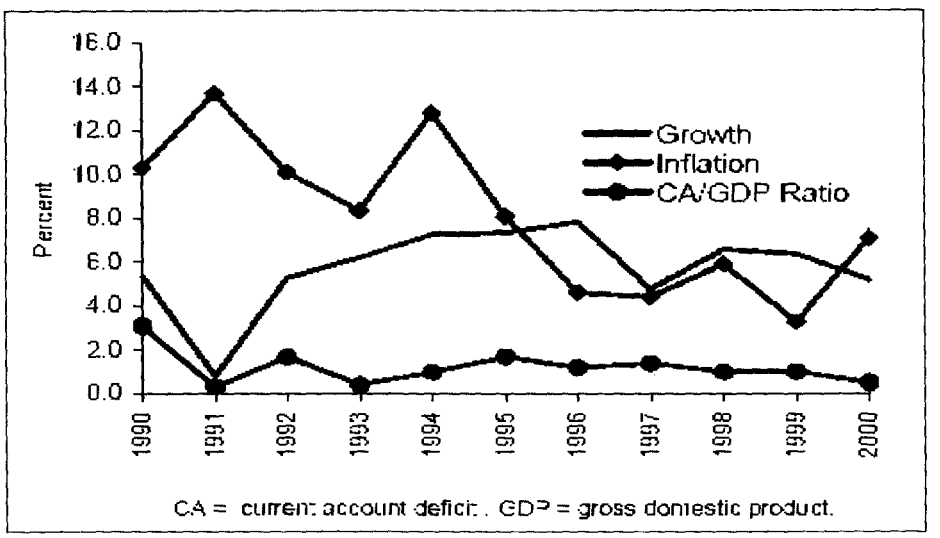
FIG.3. 1: INDIA'S GDP GROWTH RATES AND COMPONENTS
Source : World Development Report(2002)



The economic slowdown, however, should not be seen in isolation. Despite the somewhat disappointing growth outcome vis-à-vis expectations, the Indian economy remains one of the best performing developing economies in 2001. This is a remarkable achievement, considering the weak external demand environment and the dampening impact on India's economic performance of shocks such as the devastating earthquake in Gujarat in January 2001. However, economic growth at 6 percent between 1998 and 2000 appears lackluster compared with India's strong economic performance in the mid-1990s. Following the introduction of a comprehensive policy reform program in the aftermath of the 1991 balance-of-payment crisis, the Indian economy grew at rates higher than 7 percent during 1994-1996. As economic growth slowed down in the latter part of

the decade, inflation continued to beat a downward path and current account deficits remained moderate, generally around 1 percent of GDP (Figure 3.2).

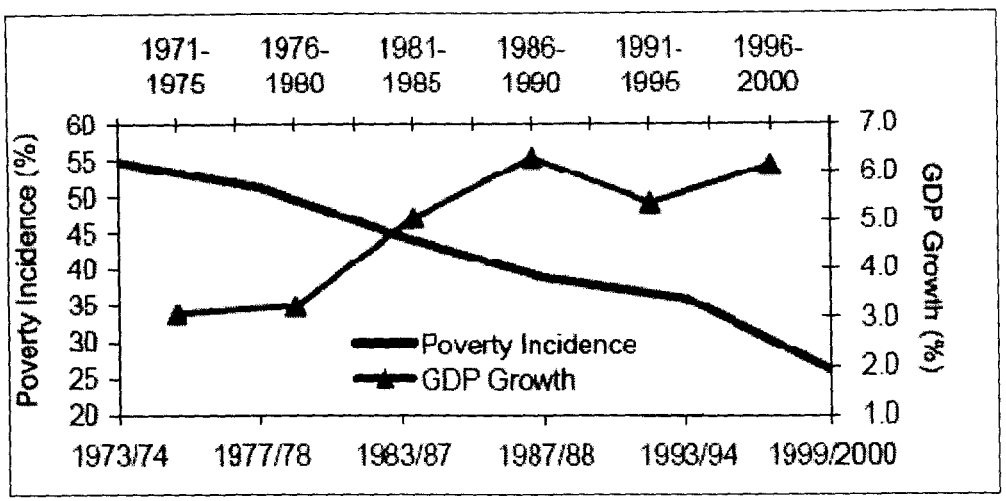
FIG3.2: INDIA'S GDP GROWTH RATE, INFLATION AND CURRENT ACC. DEF. /DGP
Source : World Development Report(2002)



Throughout its post-independence planning experience spanning the last 50 years, India has considered economic growth as a tool to achieve wide and equitable access of its citizens to necessary economic and social resources rather than as an end in itself.3 Practical results, however, have been mixed. While poverty and social indicators have improved, they have done so at a slower pace than in other developing countries originally in a comparable position (e.g., People's Republic of China, East and Southeast Asian countries). Also, even within India, achievements have been widely divergent, with some states—e.g., Gujarat, Goa, Kerala— achieving substantial progress and others—e.g., Bihar and Orissa—being left behind.

Overall, data clearly shows that poverty5 has been reduced the most, and at a more rapid pace, during periods of faster economic growth6 (Figure 3). For example, the post-1991 reform period, during which growth accelerated significantly, also exhibits a faster drop in poverty incidence.

FIG. 3. 3: POVERTY INDICATOR
Source : World Development Report(2002)



The liberalization of the economy under the "first-generation" reforms has beensubstantial. Most industries previously under state monopoly were opened to the private sector. The role of industrial licensing and small-scale industry reservations was curtailed. The insurance business was opened to the private sector. Imports were substantially liberalized with the abolition of import licensing, removal of quantitative restrictions (QRs) in fulfillment of World Trade Organization (WTO) obligations, and lower tariff rates.

Norms relating to ceilings to foreign direct investment (FDI) and foreign institutional investment (FII) were substantially eased. However, a lot still remains to be achieved, particularly in terms of fiscal consolidation efforts, divestiture and privatization, and creating an enabling environment for private sector growth. The 1991 reform program had included a review of industrial exit policies aimed at easing existing barriers to exit such as laws and regulations on bankruptcy, labor

---

NOTE: [1. For an assessment of India's record in social development, see Dreze J. and A. Sen, 1995. *India Economic Development and Social Opportunity*, Oxford University Press.

2. The current poverty level in India is defined based on consumer expenditure. The per capita per month cut-off point was Rs327.56 in rural areas and Rs454.1 in urban areas in 1999-2000. The latest National Sample Survey has put the number of people below the poverty line at a level of 26 percent.

3. The poverty-reducing impact of economic growth is confirmed by several econometric studies. For example, a recent study by the International Monetary Fund (IMF), "Interstate Differences in Rural Poverty in India," part of the IMF Country Report 01/181 (October 2001), finds that economic growth has helped reduce poverty in most Indian states over the last 20 years, except in the early years (1990-1992) of the reform period. The study attributes the widening poverty differential across states in the 1990s to nongrowth

structural factors, such as policies on redistribution and expenditures for the development of human resources.

4. *Poverty in India: An Assessment and Analysis and Implication for Country Strategy and Program*, November 2001— Study carried out for the Asian Development Bank by K. S. and Suresh D. Tendulkar.]

retrenchment, and transfer of land. However, little if any progress was achieved on all these accounts due to the complex political economy dynamics impeding the actual reform process. Current economic woes experienced by the Indian economy can be traced back to the unfinished reform agenda.

In the post reform decade, the Indian economy recorded higher rates of GDP growth—on average, 5.7 percent—than in the 1980s (around 3.2 percent). Overall economic performance was remarkably more stable in the nineties, with fewer and milder cyclical downturns, and exhibited less dependence on agricultural outcomes. In the years immediately preceding the 1991 crisis, however, the economy had also recorded substantial growth of over 7.5 percent per year. Several factors had contributed to this growth performance. These included an exceptionally good agriculture output in 1988, but also pump-priming of the economy. Economic expansion in the late 1980s was financed through high levels of domestic and external indebtedness and the consolidated fiscal deficit of center and states reached 9.4 percent of GDP in 1990.

Between 1990 and 1995, efforts were made at fiscal consolidation, mainly at the center. During this period, the combined fiscal deficit of center and states declined by 2.9 percentage points. Fiscal discipline helped to free resources for investment, and, together with the positive impact of trade and industrial reforms, contributed to the rapid economic growth of the mid- 1990s. Unfortunately, in the latter half of the decade, these initial accomplishments in fiscal consolidation were quickly eroded by the impact of government salary hike under the Fifth Pay Commission and by the rapidly deteriorating fiscal position of the states. As public savings turned negative, the overall quality of public expenditure worsened, with a decrease in the share of capital expenditure and an increase in revenue deficits as a percentage of fiscal deficits. These negative developments in public finances and a slowing down of the reform process are the main structural factors behind the subdued economic performance in of the second half of the 1990s.

Widening fiscal deficits and high interest rates contributed to a mounting debt stock. In turn, the high interest payments on outstanding debt, combined with rising current expenditures on salaries, pensions, and subsidies, narrowed the fiscal room for public capital expenditures. During the 1980s, the public sector was contributing a fairly stable portion of gross capital formation, even though its relative share vis-à-vis the private sector dropped during the latter half of the decade (Figure 6). In the 1990s, following the reforms, the contribution of the public sector to gross capital formation in the economy ebbed as the private sector's rose. This was partly the deliberate result of the liberalization process, which encouraged the public sector to withdraw from economically viable productive sectors. Partly, it was the result of the narrowing fiscal space for

public capital expenditure. However, private sector investment did not effectively substitute for public sector capital expenditure, in both type and sector composition. A significant gap emerged in the infrastructure sector, as the government's privatization program under the first-generation reforms stalled and the expected private sector investment in key infrastructure services did not materialize. The drop in public capital investment combined with lack of progress in restructuring and privatizing public sector undertakings (PSUs) seriously undermined the quality of the infrastructure base of the economy during the 1990s. This created the infrastructure bottlenecks that constrain economic growth today.

The reforms improved the management of the external sector and opened new opportunities for Indian producers in export markets. Trade liberalization led to exports surging to double-digit levels in the late 1990s, and trade as a percentage of GDP went up from around 15 percent in the late 1980s to over 25 percent in the late 1990s. On the capital account, the softening of FDI and FII norms led to increasing and relatively stable foreign capital flows. In an environment of relatively moderate inflation, these positive trends contributed to an increasingly comfortable foreign exchange reserve position.

Despite these achievements, the degree of openness of the Indian economy remains limited. India together with other South Asian countries is still at the bottom of the spectrum in terms of conventional indicators of external openness (trade, FDI, protection). As for the implementation of capital account convertibility, since the early 1990s, gradual steps have been taken in relation to more liberal norms for FDI and FII and repatriation of funds by foreigners and NRIs. However, of the three preconditions laid down by the Tarapore Committee in 1997 for full capital account convertibility, i.e., fiscal consolidation, low inflation rate, and a stronger financial sector, progress has been made on the latter two accounts. Fiscal profligacy still remains a problem.

The Indian economy achieved a gross domestic product (GDP) growth rate of 8.1% in FY2005 (1 April 2005–31 March 2006). On the expenditure side, the economy was lifted by broad-based domestic demand growth. While aggregate expenditure data have not yet been released, consumption growth is estimated at 8.0%, driven by a good monsoon, which supported rural incomes. Gross fixed capital formation grew at an estimated rate of 8.5%, reflecting rising investor confidence (Figure 4.) in the face of strongly entrenched demand growth and as a consequence of the expansion in credit and companies' initial public offerings. The rate of gross fixed capital formation in GDP has increased to 25.9% and that of gross domestic capital formation to 30.1%. Meanwhile, public consumption grew less rapidly than GDP as the central Government set the target to reduce its overall deficit to 4.3% of GDP for FY2005. The Government has announced that it expects to have surpassed this target, reducing the deficit to 4.1% of GDP. The boom in domestic private demand, combined with rising oil import costs,

widened the trade deficit and pushed the current account further into a deficit equivalent to 2.5% of GDP.

Figure 3.1. shows the decomposition of growth by sector. The importance of the services sector was reaffirmed in FY2005. This sector accounts for 54% of economic output and grew by an unprecedented 9.8%. This was mainly the result of significant increases in the demand for domestic services. The export-oriented information technology (IT) and business process outsourcing (BPO) sectors also continue to perform very well due to growing international demand for skilled, low-cost, English-speaking Indian workers, although these sectors constitute only a small portion of total services output. Indian competitiveness in IT and BPO has been aided by substantial investment in telecommunications infrastructure and the phased liberalization of the communications sector

3.2.3 ESTIMATE OF CAPITAL FLIGHT FROM INDIA (1987-2004)

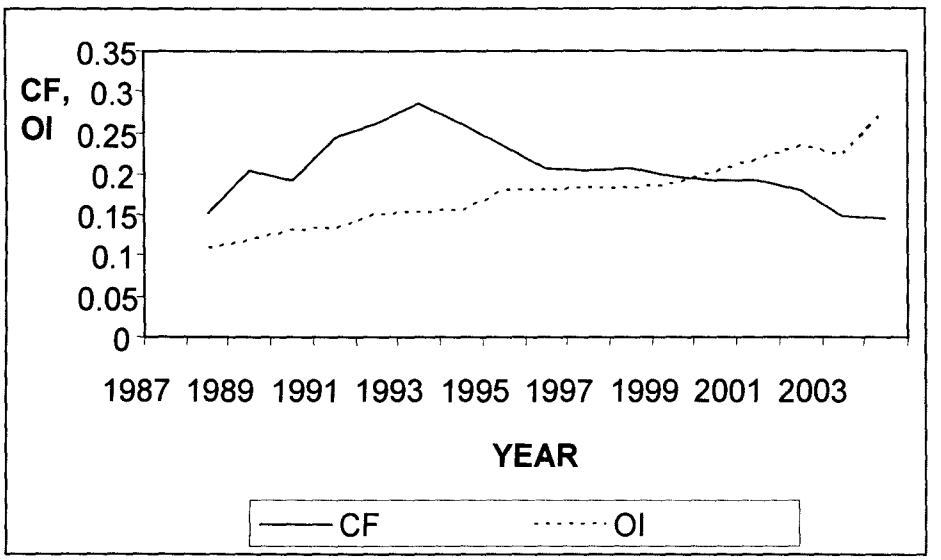
The estimate of capital flight from India over the period 1987-2004 (18 YEARS) is done following the residual method stated above.

Here we present the Capital Flight and Openness index for India over the period.

TABLE: 3.1 CF & OI FOR INDIA

YEAR	CF	OI=TRADE/GNI
1987	0.154877329	0.101841252
1988	0.15345074	0.107538179
1989	0.204625231	0.118661599
1990	0.192192968	0.130401978
1991	0.243790096	0.132210713
1992	0.260890745	0.149265434
1993	0.286972463	0.152109784
1994	0.262344198	0.155918364
1995	0.234573851	0.179513471
1996	0.207788557	0.178795905
1997	0.205282841	0.181684149
1998	0.206629314	0.181253914
1999	0.197134585	0.18782767
2000	0.193155981	0.201689595
2001	0.192837916	0.217920005
2002	0.179698329	0.233032274
2003	0.147522816	0.22158743
2004	0.144915726	0.277071904

FIG.3.4 CF AND OI FOR INDIA (GRAPHICAL REPRESENTATION)



3.2.4: Regression Analysis: CF versus OI (INDIA)

The Statistical analysis is shown below:

The Polynomial regression equation is

log (CF) = 3.49422 +20.9052 log (OI) + 32.3921 log (OI) **2 + 15.8613 log (OI) **3

S = 0.0453816 R-Sq = 77.9 % R-Sq(adj) = 73.1 %

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.101452	0.0338173	16.4203	0.000
Error	14	0.028833	0.0020595		
Total	17	0.130285			

Source	DF	Seq SS	F	P
Linear	1	0.0040915	0.5188	0.482
Quadratic	1	0.0823010	28.1260	0.000
Cubic	1	0.0150595	7.3122	0.017

The linear regression equation is

CF = 0.248 - 0.254 OI

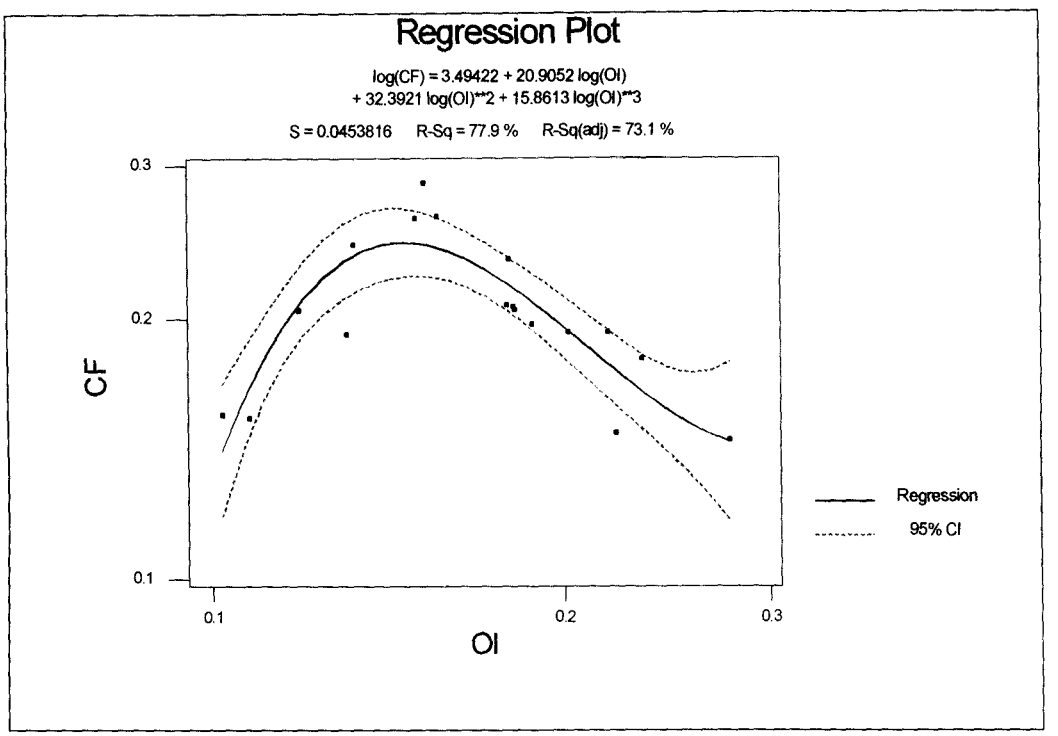
Predictor	Coef	SE Coef	T	P
Constant	0.24772	0.03759	6.59	0.000
OI	-0.2542	0.2105	-1.21	0.245

S = 0.04057 R-Sq = 8.4% R-Sq(adj) = 2.6%
PRESS = 0.034978 R-Sq(pred) = 0.00%

Analysis of variance (linear)

Source	DF	SS	MS	F	P
Regression	1	0.002401	0.002401	1.46	0.245
Residual Error	16	0.026333	0.001646		
Total	17	0.028734			

Durbin-Watson statistic = 0.39



In case of India over the period we have a significant amount of CF. But the most notable fact is that from 1991 to 1995 the burden of CF was severe. These were the initial years of economic and structural reforms. Several Macroeconomic adjustment measures were taken along with a number of trade reforms measure. The positive result of such measures was started coming from 1997-98. From this year India has begun to experience somehow a reverse trend regarding CF and OI. Up to 1997-98 the correlation between CF and OI was highly positive but after that a negative trend was emerging. The emergence of negative trend is mainly due to the rapid growth of the economy. Indian economy has achieved 8-9%annual growth on an average after 1999-2000 and thereafter. The growth has marked a reversing trend in outward investment of the capital flight, as the home economy grows and the internal environment is becoming favorable to investment as well as for healthy return and gradual loosening the tariff and tax

barriers in subsequent budgets encouraged people to follow the reverse trend. The internal changes are widely discussed in the earlier chapter.

Now we consider the Poverty trend along with the CF data. It is seen that after the liberalization there is an achievement in overall domestic growth and at the same time inequality has also risen. The poverty trend is not following the natural growth trend so the obvious factor is that the inequality is rising over the years. But the highlighting fact is that up to 1997-98, where CF and OI had a positive trend, poverty level was not falling as rapidly as it fell in the years with a negative trend. Thus it can be said that CF had an adverse impact on the poverty level and on raising the inequality. [This is analyzed in Chapter 7]

3.3 PAKISTAN:

3.3.1 THE ECONOMIC OVERVIEW

Pakistan's macroeconomic indicators have significantly improved over the last three years. The fiscal deficit has declined, inflation is low, exports have started to grow, the balance-of-payments deficit has declined and foreign exchange reserves are increasing. However, these gains need to be consolidated by continuing the ongoing structural adjustment and stabilization programs with a view to attaining long-run sustained growth and reduction in poverty levels. However, despite the improvement in the economic fundamentals and successful implementation of the International Monetary Fund (IMF) program, the investment rate has continued to decline, as has foreign private investment. Consequently during fiscal year (FY) 1999 to FY2001, economic growth has failed to recover. The average growth rate of gross domestic product (GDP) was constrained to 3.5 percent per year, with agriculture and manufacturing sectors expanding at 1.8 percent and 4.2 percent per year, respectively.

InFY2001, agriculture has suffered, mainly because of drought, but the manufacturing sector has tended to revive on the basis of improved export performance. Real per capita income increased marginally, but in dollar terms it declined because of the sharp depreciation in the Pakistan rupee.

Pakistan' s labor force is growing at a rate of 2.4 percent, while employment is growing much more slowly, and as many as 1.5 million people were added to the ranks of the unemployed in 1998-2001. Declining economic growth, shrinking public sector development spending, and increasing unemployment have led to widespread poverty. While data on the current incidence of poverty are not available, in 1998/99 about one third of the population lived in absolute poverty, and in 1996 31 percent were below the dollar a day poverty line, while 85 percent were below two dollars a day.

Over the three-year period,(1996-97 to 2001-02) the fiscal deficit has fallen from 7.7 percent of GDP to 5.2 percent, primarily as a result of the decline in public expenditure, including defense expenditure, which has declined from 5.1 to 4.5 percent of GDP. However, development expenditure also shows a steep fall, from 3.9 percent of GDP in FY1998 to 2.7 percent in FY2001, which has implications for poverty reduction and social sector expenditures. Public revenues also declined slightly as a percentage of GDP, but the structural changes in the tax system that shift the focus onto domestic taxes from taxes on international trade, replacement of the system of variable petroleum surcharges with a fixed levy, and the restructuring of the Central Board of Revenue hold promise for increase in tax revenues in the future.

Exports, after declining sharply in FY1999, have grown by 11.0 percent and 7.4 percent in the last two years. The depreciation of the exchange rate by 18 percent in real terms over the last three years has encouraged the export-oriented sector, especially non-traditional industries. Over the three years, the trade deficit has declined from $1,867 million to $1,245 million, and the current account deficit from $1,921 million to $508 million. Because of debt rescheduling, as well as aggressive buying in the open market, the own foreign exchange reserves of the State Bank of Pakistan have increased, from $1,122 million in June 1998 to $1,688 million in June 2001, i.e., equivalent to over 7 weeks of imports of goods and services.

Total debt as a percentage of GDP increased from 100 percent in FY1998 to 115 Percent in FY2001. External debt accounted for 55.5 percent of the total debt in FY2001.Because of the large depreciation in the rupee in FY2001, the share of external debt in the total has increased sharply. As a result of debt rescheduling, the external debt servicing burden has fallen from 55.4 percent of total export earnings in FY1998 to 37.4 percent in FY2001. Public debt service as a proportion of tax revenue also declined from 78.4 to 68.9 percent. However, despite debt rescheduling and improved tax revenues the burden of debt is still very high. Events since the 11 September attacks in the United States have adversely impacted Pakistan's economy. Exports are badly affected because international shipping and airline companies have to carry war risk insurance and quite a few airlines have stopped their service to Pakistan, resulting in an increase in freight charges and a sharp reduction in air cargo capacity. Many orders are being canceled and obtaining new orders has become difficult. If the conflict is prolonged, export earnings may fall by as much as $1.4 billion. The planned privatization efforts and expected private investment inflows are also likely to be adversely affected. Thus the external financing gap will widen significantly. Public expenditures will have to increase because of the increased burden of refugees and higher expenditures for defense and law and order. At the same time, tax revenues will be lost because of reduced imports and the economic slowdown. Thus, Pakistan will have difficulty meeting the previous target of fiscal deficit set at 4.9 percent of GDP. The growth rate of GDP may fall

to 3.0 percent, with attendant consequences for employment generation and poverty reduction.

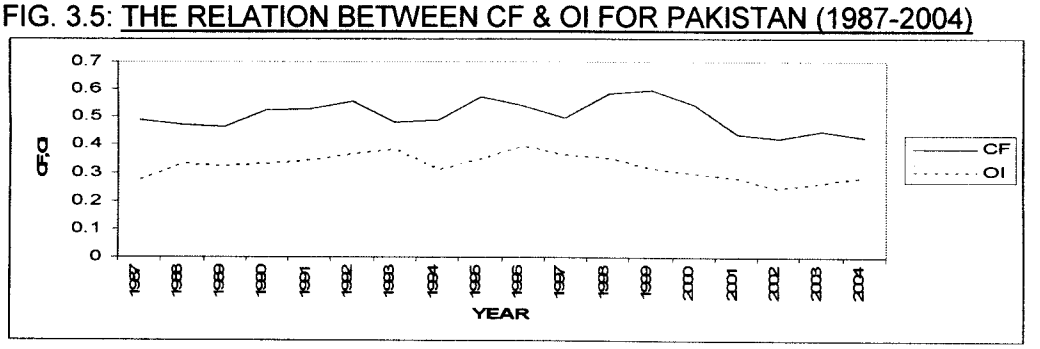
The short-run impact may be recouped over the medium term. By FY2004, the investment rate will likely rise to 16.8 percent of GDP, and the economic growth rate will increase to 5.2 percent. The fiscal deficit is expected to continue to fall, and is projected to be 3.2 percent of GDP in FY2004. Exports are projected to increase more rapidly than imports, resulting in a declining trade deficit. There will also be a significant improvement on the current account of the balance of payments. Net public debt as a proportion of GDP is expected to decline by almost 10 percentage points, to 82.4 percent of GDP. During this three year period, the process of restructuring is expected to be completed and the basis for high, sustainable economic growth and accelerated poverty reduction to have been established.

3.3.2 ESTIMATE OF CAPITAL FLIGHT FROM PAKISTAN (1987-2004)

TABLE: 3.2 CF & OI FOR PAKISTAN

YEAR	CF	OI=TRADE/GNI
1987	0.490210729	0.274676724
1988	0.472277715	0.328926418
1989	0.466657433	0.322223046
1990	0.526945502	0.328887175
1991	0.527887854	0.343087154
1992	0.555581825	0.364376329
1993	0.481862169	0.383072272
1994	0.490469702	0.310747419
1995	0.571368934	0.346496306
1996	0.540932061	0.395465081
1997	0.497870943	0.361594761
1998	0.584274224	0.349526405
1999	0.595903724	0.315700939
2000	0.546163754	0.294170238
2001	0.438129231	0.278180883
2002	0.422185029	0.242394896
2003	0.448371613	0.261316896
2004	0.426747613	0.282438474

FIG. 3.5: THE RELATION BETWEEN CF & OI FOR PAKISTAN (1987-2004)



The capital Flight data for Pakistan shows an upward rising trend over the years. Just after 2000-01 the magnitude of CF begun to reduce as form that time fiscal deficit showed a declining trend after adopting some economic reform and structural adjustment measures. The magnitude of CF was severe when it is seen as a proportion of GNI (measured in $).

3.3.3: Regression Analysis: CF versus OI (PAKISTAN)

The Statistical analysis is shown below:

The Polynomial regression equation is

log (CF) = -3.99450 - 21.4936 log (OI) - 40.2890 log (OI) **2 - 24.2450 log (OI) **3

S = 0.0373182 R-Sq = 46.6 % R-Sq(adj) = 35.1 %

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.0169944	0.0056648	4.06765	0.028
Error	14	0.0194970	0.0013926		
Total	17	0.0364914			

Source	DF	Seq SS	F	P
Linear	1	0.0139096	9.85545	0.006
Quadratic	1	0.0025737	1.92947	0.185
Cubic	1	0.0005111	0.36701	0.554

The Linear regression equation is

CF = 0.271 + 0.725 OI

Predictor	Coef	SE Coef	T	P
Constant	0.27137	0.08281	3.28	0.005
OI	0.7252	0.2556	2.84	0.012

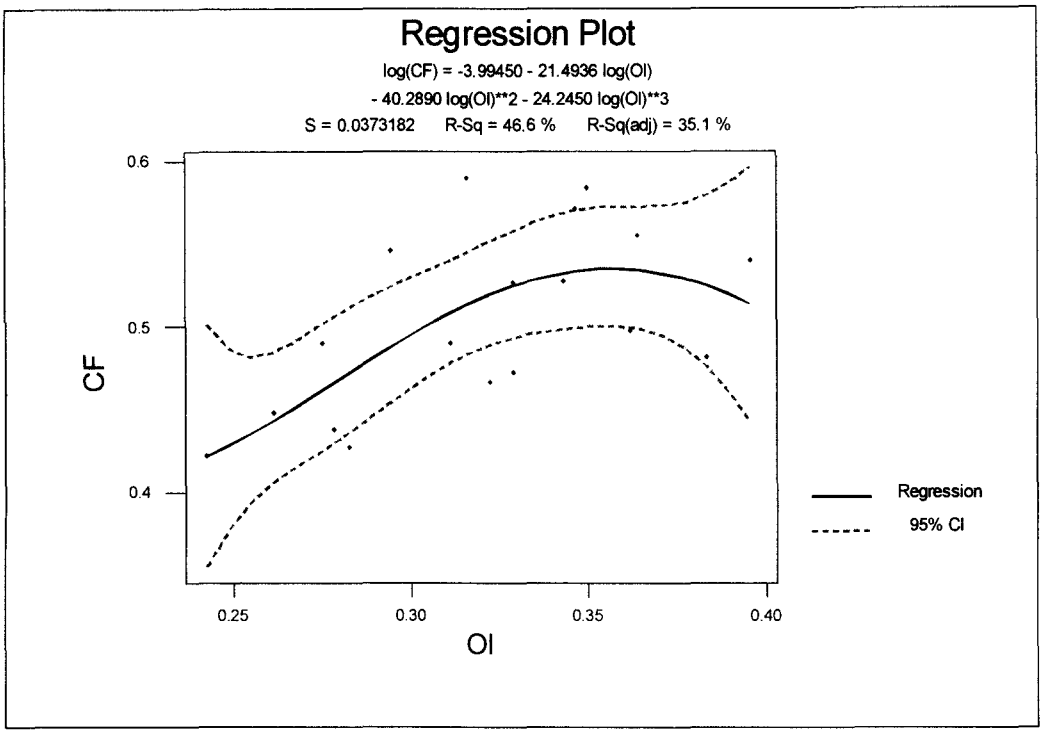
S = 0.04502 R-Sq = 33.5% R-Sq(adj) = 29.3%
PRESS = 0.040046 R-Sq(pred) = 17.83%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.016309	0.016309	8.05	0.012
Residual Error	16	0.032427	0.002027		
Total	17	0.048737			

Durbin-Watson statistic = 1.46

No evidence of lack of fit (P > 0.1)



3.4 BANGLADESH

3.4.1 *ECONOMIC OVERVIEW*

During FY2001 (ending 30 June), Bangladesh maintained robust economic growth with record low inflation despite lingering external and fiscal pressures. Successive bumper harvests and a rebounding industry sector contributed to the strong economic growth during FY2001. During the previous two years, the country succeeded in breaking the 5 percent growth barrier that persisted in the 1990s. Economic growth in Bangladesh over past two years exceeded the average of South and Southeast Asian countries. However, per capita income in Bangladesh is at the lower end among these countries, and extensive poverty continues to afflict around half of the population.

The gross domestic product (GDP) growth rate from FY2001 to FY2005 was about 6 percent on the average, close to the 5.9 percent achieved in FY2000. As in last few years, the agriculture sector accounted for 25 percent of GDP and continued to show strong performance particularly the food grain sub-sector. The industry sector grew by 8.7 percent in FY2001 compared with 6.2 percent in FY2000, due mainly to a surge in manufacturing output. The recovery in manufacturing output from prolonged recession is encouraging, given the lingering political disruption and mounting infrastructure constraints in the country. During FY2001-2005, growth in the services sector was 5.2 percent as against 5.5 percent in the previous year. In this sector, transport,

communications, financial, public administration, defense, health, and social work services recorded notable progress.

TABLE: 3.3 SECTORWISE ECONOMIC GROWTH IN BANGLADESH

Growth Rate (%)	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001[a]
GDP Growth	4.6	5.4	5.2	4.9	5.9	6.0
Agriculture	3.1	6.0	3.2	4.8	7.4	5.0
Industry	7.0	5.8	8.3	4.9	6.2	8.7
Services	4.0	4.5	5.0	5.2	5.5	5.2

GDP = gross domestic product.
[a] Provisional.

Source: Bangladesh Bureau Of Statistics(2001)

Despite the strong revenue outcomes for FY2001, the budget deficit of the central Government remained high at 6.0 percent of GDP on account of a surge in expenditure. Monetary policy remained expansionary during FY2001 due to a spurt in domestic credit, notwithstanding deceleration in broad money (M2) growth to 16.6 percent in June 2001 from 18.6 percent in June 2000. Although the growth of government credit from the banking system declined, it still remained high and crowded out private sector access to credit at lower interest rates. The inflation rate, based on the consumer price index, declined from 3.4 percent in FY2000 to 1.5 percent in FY2001. A decline in food prices due to increased availability of food grains and somewhat depressed demand for nonfood items contributed to this decline. Food inflation declined from 4.1 percent in FY2000 to 0.95 percent in FY2001, while nonfood inflation remained unchanged at around 2.7 percent. Declining food prices outweighed the inflationary impact of monetary expansion. Although the relationship between broad money and inflation is complex in Bangladesh, the expansionary monetary policy may ultimately imperil price stability.

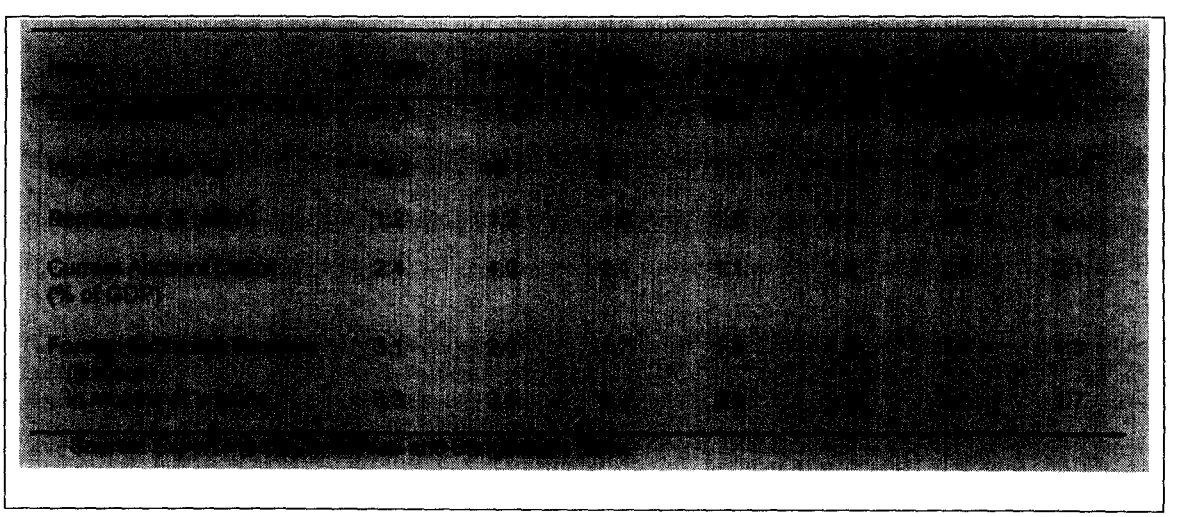
Exports grew at a rate of 12.4 percent in FY2001 compared with 8.2 percent in the previous year. However, export growth decelerated sharply as the year progressed. The export structure of Bangladesh is narrow–concentrating on ready-made garments and knitwear for around 75 percent of total exports. For maintaining a high level of exports, especially after the phase-out of the Multi Fiber Arrangement by the end of 2004, the Government needs to adopt appropriate policy measures to diversify the export base as well as markets; maintain external competitiveness; and improve infrastructure including transport, telecommunication, and port facilities. In FY2001, import growth increased to 11.4 percent from 4.8 percent in the previous year. Trade deficit increased by 9.3 percent in FY2001 over the previous fiscal year. Along with this, a decline in private current transfers including remittances created a current account deficit of $1,034 million (2.1 percent of GDP) compared with $441 million (1 percent of

GDP) in FY2000. Despite mild improvement in the capital account, the overall balance deteriorated, resulting in an erosion of foreign exchange reserves, which were only $1.3 billion (1.7 months' equivalent of imports) at the end of FY2001 compared with $1.6 billion (2.3 months' equivalent) at the end of FY2000.

During the 1990s, major progress was made in trade policy reforms by significant elimination of quantitative restrictions and reduction of tariff rates. However, the pace of trade liberalization witnessed in the early part of the 1990s became more gradual and moderate in the later part of the decade. Although the procompetitive effects of liberalization could bring substantial benefits to an economy, the policy stance reflected a concern for protection of domestic industries. In FY2001, the four-slab duty structure of FY2000 was kept unchanged. Duty rates on raw materials and intermediate goods were generally reduced, evidently to increase protection to value added. For supporting local industries, duty rates on certain items were raised. The average (unweighted) tariff rate stayed at around 17 percent. As in the previous fiscal year, no major trade policy changes were introduced in the FY2002 budget, and an identical rate structure and approach to rate adjustments were followed.

TABLE: 3.4: KEY BOP INDICATORS FOR BANGLADESH

Source: Export Promotion Bureau and Bangladesh Bank (2002)



Portfolio investment after recording an outflow $132 million in FY1997 following a stock market boom and bust has not returned in subsequent years. However, the Dhaka Stock Exchange's all shares price index remained steady during FY2001, recording an increase of 27.6 percent over FY2000. The capital market is still at a nascent stage, with market capitalization amounting to only $1.27 billion at the end of FY2001 compared with $1.05 billion in the corresponding period of FY2000. Investors' confidence in the stock market needs to be restored by further strengthening the regulatory framework and market infrastructure (trading, settlement, clearing, and depository systems), corporate governance of listed companies, issuers of listed securities, and other market institutions.

The slowdown in the global economy and heightened external pressures have aggravated Bangladesh's macroeconomic performance since the beginning of FY2002. In addition, the tragic incident of 11 September 2001 and subsequent developments have added further to the downside risks. The weakening external environment has considerably undermined the country's short- and medium-term prospects for economic growth and consequent poverty reduction. The decline in exports and erosion in confidence of domestic and foreign investors point to a continuing economic downturn.

Given the weakening global environment and emerging domestic developments, the GDP growth rate during FY2002 is expected to be around 4.0-4.5 percent compared with 6 percent achieved during FY2001, mainly due to mounting external pressures and lower growth in the agriculture sector. Heightened external pressures will particularly affect export-oriented manufacturing production, export trade-related services, remittances, and foreign direct investment. During FY2002, the current account deficit is likely to increase to 2.3 percent of GDP from 2.1 percent last year on the assumption of an 8 percent decline in exports, a 5 percent decline in imports, and tapering off of the recent spurt in remittances. The budget deficit is expected to remain high at 6 percent of GDP, mainly on account of shortfall in revenue collection. Over the medium term, i.e., in FY2003 and FY2004, the economic growth prospects of the country should improve, depending on recovery in the global economy, development in the external environment, and progress in the country's structural and economic reforms. Bangladesh is confronting considerable external and domestic risks over the short to medium term which could imperil macroeconomic stability, thereby seriously undermining economic growth prospects and consequent poverty reduction. If the downturn in the global economy lingers, the adverse impact on the country's real and external sectors could be severe. The overall balance of payments situation may deteriorate substantially with a rapid slide in foreign exchange reserves. There could be more severe pressures on the fiscal balance as a result of lower economic activity and reduced imports. The policy measures announced by the Government may prove inadequate to address the slippage in the external and fiscal balances.

Fiscal deficits, which remained largely contained for the greater part of the decade, began to show rising trends during the last couple of years (Figure 4). While revenue growth tapered off, public expenditure increased rapidly. The recent years have witnessed changes in the financing pattern of fiscal deficit. Over the years, the proportion of deficit financed from external resources has decreased and, correspondingly, the proportion of domestic borrowing has increased. The costly domestic borrowing has pushed up the domestic interest payment obligations of the Government. The interest payment on domestic debt as a ratio of revenue— indicating debt-servicing capacity, has been rising— reaching 13.6 percent in FY2001. Borrowing from the banking system, especially the central bank, has also been the prime cause of monetary expansion.

On the domestic front, there are considerable risks that political instability and law and order problems, as in the past few years, may continue to undermine the economic growth prospect in the country. Consensus between the ruling and opposition political parties on substantive national issues will be extremely important if the Government is to carry out much-needed critical reform measures.

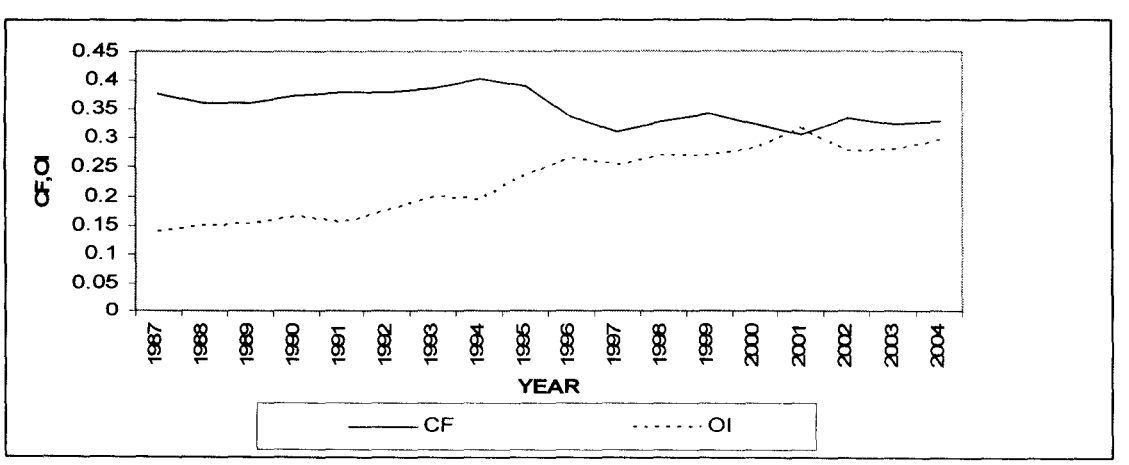
Bangladesh is confronting considerable external and domestic risks over the short to medium term that could imperil macroeconomic stability, thereby seriously undermining economic growth prospects and consequent poverty reduction. If the downturn in the global economy lingers, the adverse impact on the country's real and external sectors could be severe. The overall balance payments may deteriorate substantially with a rapid slide in foreign exchange reserves. If the foreign exchange reserves reach a critically lower level, the Government may face difficulty in servicing its external debt. There could be more severe pressures on the fiscal balance as a result of lower economic activity and reduced imports. The fall in revenue may force the Government either to borrow more from the banking system to meet both current and development spending or to cut the size of the development budget. The policy measures announced by the Government may prove inadequate to address the slippage in the external and fiscal balances. On the positive sides, the Government is discussing balance of payments support with the World Bank and the International Monetary Fund to address the emerging macroeconomic concerns. If oil prices continue to be low, oil imports payments will decline, with some respite for the balance of payments. On the domestic front, there are considerable risks that political instability and law and order problems, as in past few years, will continue to undermine economic growth prospects. A consensus between the ruling and opposition political parties on substantive national issues would be extremely important if the Government is to carry out much-needed critical reform measures.

3.4.2 ESTIMATE OF CAPITAL FLIGHT FROM BANGLADESH (1987-2004)

TABLE: 3.5 CF & OI FOR BANGLADESH

YEAR	CF	OI
1987	0.377025599	0.138939354
1988	0.361410204	0.150098415
1989	0.362040791	0.152806273
1990	0.374551404	0.164203007
1991	0.380600885	0.155264132
1992	0.379628009	0.175596774
1993	0.386612994	0.198294753
1994	0.401865383	0.193649291
1995	0.390671376	0.238514044
1996	0.338639039	0.264291992
1997	0.312482939	0.253663143
1998	0.330465646	0.269509598
1999	0.343461075	0.269999551
2000	0.323373376	0.281435262
2001	0.306436012	0.315821168
2002	0.335273157	0.276045918
2003	0.325218547	0.278664866
2004	0.329737771	0.294762063

FIG.3.6: THE RELATION BETWEEN CF & OI IN BANGLADESH (1987-2006)



The CF estimate for Bangladesh also shows a growing trend up to 1995, and then it declined slightly and continued to be a serious problem for the economy. Large amount of fiscal deficit, foreign borrowing, high rate of inflation have influenced a huge proportion of CF. This was most intense during the period 1991-95.

3.4.3: Regression Analysis: CF versus OI (BANGLADESH)

Polynomial Regression Analysis: CF versus OI (BANGLADESH

The regression equation is

```
log (CF) = -0.879824 - 0.297877 log (OI + 1.70148 log (OI) **2 +
1.69629 log (OI) **3

S = 0.0199813        R-Sq = 75.0 %        R-Sq(adj) = 69.6 %
```

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.0167298	0.0055766	13.9676	0.000
Error	14	0.0055895	0.0003993		
Total	17	0.0223193			

Source	DF	Seq SS	F	P
Linear	1	0.0124045	20.0176	0.000
Quadratic	1	0.0042764	11.3768	0.004
Cubic	1	0.0000489	0.1224	0.732

The Linear regression equation is
CF = 0.440 - 0.385 OI

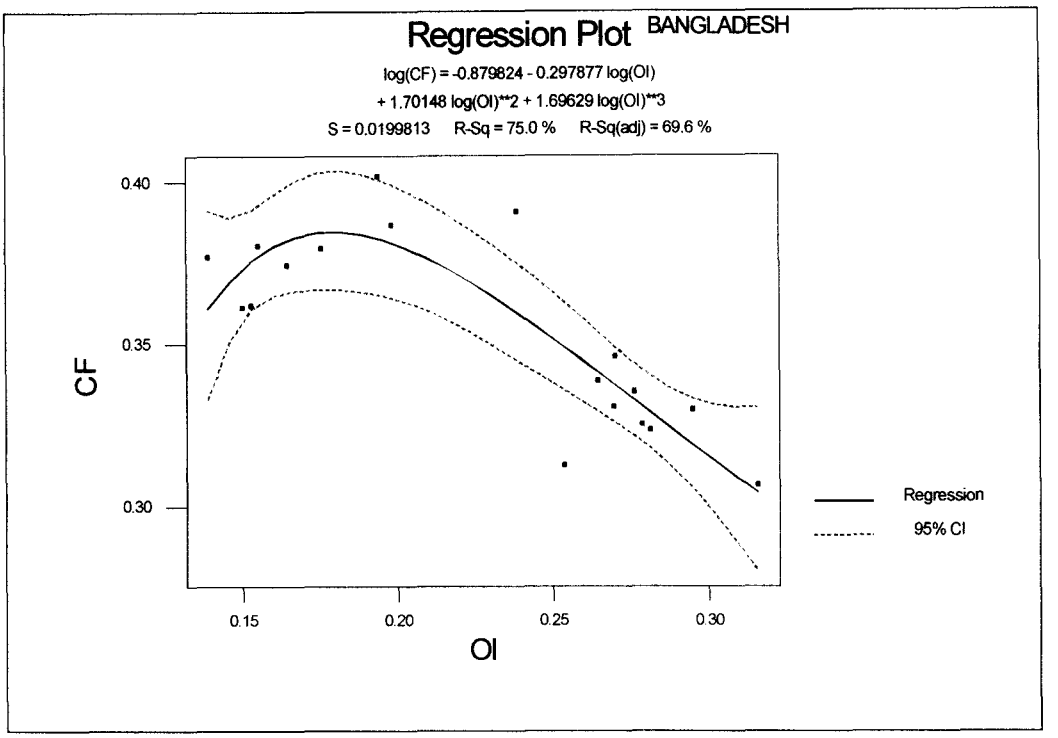
Predictor	Coef	SE Coef	T	P
Constant	0.44047	0.01842	23.91	0.000
OI	-0.38470	0.07895	-4.87	0.000

S = 0.01921 R-Sq = 59.7% R-Sq(adj) = 57.2%
PRESS = 0.007094 R-Sq(pred) = 51.66%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.0087672	0.0087672	23.75	0.000
Residual Error	16	0.0059072	0.0003692		
Total	17	0.0146744			

Durbin-Watson statistic = 0.88



3.5 NEPAL

3.5.1: *ECONOMIC OVERVIEW*

The economic performance of Nepal was exceptionally weak in FY2002, registering a negative growth rate for the first time in the past two decades. Real gross domestic product growth fell precipitously to -0.5% in 2002—the lowest in South Asia—from 4.6% in 2001. A series of domestic and external shocks, especially the continued escalation of the insurgency, irregular monsoon, and weak external demand, have exacerbated the economic downturn that began in mid–2001. Agricultural output slipped to 2.2% in 2002 due to the irregular monsoon, after strong performance in 2000 and 2001. Industry and tourism were hit hard by the insurgency and weak external demand.

After exceptional expansion of 8.7% in 2000, and for the first time since 1990, industrial growth was lower than agricultural growth, plummeting to -3.3% in 2002 after expanding to 2.7% in 2001, largely due to –10% growth in manufacturing, the sharpest contraction in two decades .Service sector growth was kept down by domestic security problems and declined by 1.4% in 2002 after expanding by 5.3% in 2001. Tourist arrivals have declined by 28%, resulting in an estimated 34% reduction in receipts from tourism.

Given the high annual population growth of 2.24%, the country faces a huge challenge of absorbing about 300,000 persons entering the labor force each year on top of the large number of the existing underemployed, estimated at 47% of

the total employed labor force. Consistent with an economy dominated by subsistence agriculture, labor force participation is high and unemployment low. The 1999 Labor Force Survey showed that about 86% of the working-age population was economically active, and unemployment less than 2%. Labor market conditions deteriorated further in 2002, given the weak performance of the agriculture sector and a sharp downturn in the service and industry sectors.

The sharp economic downturn had a major negative impact on the Government's fiscal position. While the budget deficit after grants was contained at 3.3% of GDP in 2002, down from 4.5% in 2001, it was at the expense of development expenditure, which had to be cut sharply. Despite the Government's intensified revenue collection measures, including the introduction of voluntary disclosure of income scheme and raising of special fees on imports and surcharges to income tax, domestic revenue increased only by 4.5% in 2002, down sharply from 13.2% in 2001. To contain the fiscal deficit, in 2002 development expenditure was curtailed drastically by 40% of the budgeted target. The Government was unable to cut regular expenditure due to a steep rise in security spending.

The growth of broad money (M2) decelerated sharply to 6.3% in 2002, much lower than target rates of 12–14%. An abrupt slowdown in the growth of net foreign and domestic assets prompted by income verification efforts of the tax and anti-corruption authorities as well as by the weak economy resulted in acute deceleration. Because the exchange rate is pegged to the Indian rupee, and trade is active across the relatively open border between the two countries, Nepal's inflation rate generally follows India's. Inflation stood at 2.9% in 2002, compared with 2.4% in the previous year. The decrease in nonfood prices helped counteract price increases of rice and rice products, meat, oil, and beverages.

Nepal's current account deficit widened significantly to 7.0% of GDP in 2002 from 5.4% in 2001, below the average deficit of 8.5% that prevailed during the 1990s.1 Despite an increase of 11.8% in the dollar value of net transfers mainly due to rising remittances from out-of-country workers, a steep decline of 62.5% in the dollar value of net service receipts increased the current account deficit. The trade sector was severely set back in 2002. While the trade deficit was reduced to 14.1% of GDP in 2002 from 14.7% in 2001, exports and imports declined acutely. Growth in the dollar value of merchandise exports dropped by 18.0% in 2002, continuously falling from marginal growth of 4.6% in 2001 since substantial growth of 38.0% in 2000. [1]

In response to the fiscal crisis and critical need to improve delivery of basic public services, the Government approved the Immediate Action Plan (IAP) on 3 June 2002, to prioritize and expedite reform programs in the short term, and monitor reform progress.

---

1. The officially recorded remittance from abroad is known to be a significant underestimation of total actual valueThe current account could be surplus at 2.5% of GDP in 2002 if informal remittance were taken into account.

In line with the objectives of the Tenth Plan and MTEF, the IAP focuses on improving public expenditure management, delivery of basic services, and governance and accountability. A key element is to prioritize development expenditure and to drop low-priority projects. The IAP also proposes allocation of resources consistent with the Government's decentralization policy; no cuts were made in the allocation of block grants to local bodies in the 2003 budget.

Governance reform is one of the four strategies of the Tenth Plan and a key element in the Government's broad economic and structural reform program. In particular, the civil service is being made more efficient and streamlined with a pay increase for civil servants and downsizing through a voluntary early retirement scheme. The Government eliminated 7,500 unnecessary vacant positions of 17,000 in September 2002. The computerized civil service personal information system is being installed to improve accountability and transparency of the civil service. Progress was mixed in decentralization. Under the IAP, progress was made in devolving responsibility for key service areas (primary education, agriculture extension, and health service delivery) to local bodies. The Government approved the Decentralization Implementation Plan in January 2002 and charged the line ministries with its implementation.

Over the next few years, economic performance will depend on domestic security and the political scenario, the weather conditions, and the global and Indian economy. While the breakthrough announcement of a cease-fire on 29 January 2003 is a welcome development, any positive impact on the economy is likely to take time. The economy is projected to grow by 1.5% in 2003 and about 3.5% in 2004, assuming that (i) law and order will be restored in 2004 to allow private and public sector investment, (ii) global economic recovery will continue, (iii) the Indian economy will grow by about 6.0%, and (iv) the weather in Nepal and neighboring regions in India will be normal. Agricultural growth may slow to about 2% in 2003, but may recover to about 3% in 2004, depending on the weather and security. This reflects a large cut in the 2003 development budget for agriculture. The irregular monsoon in July-August 2002 adversely affected the production of summer crops such as paddy, maize, and vegetables. Industry is likely to grow by 0.2% in 2003 and may recover to 3.5% in 2004.

However, its recovery will be determined by export growth and domestic political stability. A major upturn in the service sector is unlikely unless the cease-fire leads to significant improvement in security and the political environment. The service sector's growth rate is expected at 0% for FY2003, but 3.5% for FY2004, which is lower than the 6-7% during 1990s, assuming that tourism and trade recover.

Monetary policy is geared to supporting the exchange rate peg with the Indian rupee. Given the projections for real growth and inflation, targets for broad money growth need to be in the range of 12–14% in the medium term. This will

support the central bank's efforts to control inflation and maintain the exchange rate peg to the Indian rupee. Government securities market should be developed to break the link between budget deficits and monetary expansion.

The Government's overdraft with the central bank needs to be kept within prudent limits. The current account deficit may rise to as high as 7%, as the dollar value of net transfers continues to increase. While economic recovery in the Nepal's major export markets such as India, the United States (US) and European Union offers some prospects, domestic security problems continue to be a challenge. India has enjoyed impressive growth of 39% during the past five years and largely benefited from the bilateral trade treaty, which allows Nepal essentially free access to the Indian market. However, export growth is now being adversely affected by non-tariff barriers imposed under the renewed bilateral trade treaty signed in March 2002. Garment exports have rebounded in FY2003 to some extent by US's initiative in providing duty- and quota-free access to Nepali garments until 2005. However, other items remain depressed. Exports of Carpets and Pashmina shawls have declined sharply and export prospects are uncertain due to uneven quality and marketing, and intensified competition with other low-cost producers.

Addressing the root causes of the insurgency—persistent rural poverty and failure to spread the fruits of development more widely, particularly in rural areas—is a prerequisite for effective development. The Government must pursue reconciliation, rehabilitation and reconstruction measures through (i) rural development, especially in conflict-ridden and impoverished areas; (ii) improvements in basic social services and infrastructure; (iii) empowerment of disadvantaged groups, including women; and (iv) governance and fiscal reform in the public sector.

Given the Government's fiscal problems, drastic public resource management reform is needed to ensure the macroeconomic stability and effective use of limited public resources. Major improvements are needed in budget planning, domestic and external resource management, and expenditure management. Development expenditures based on the Tenth Plan should be prioritized to raise the efficiency of public sector investments. As most of the poor depend on agriculture for their livelihood, the Government's continued commitment to improve the performance of agriculture within the framework of the Agriculture Perspective Plan is also important. Improved governance in the public sector will be critical to make development most effective. Civil service reform, which aims to improve efficiency, predictability, transparency, and accountability, is critical to deliver public service effectively and keep recurrent expenditure in check.

Financial sector reform needs to be accelerated to increase the country's savings rate and funnel the funds efficiently into productive investments. While difficult in the short- term, continued efforts are needed to mobilize domestic resources and reduce the fiscal deficit to lessen dependence on foreign assistance for

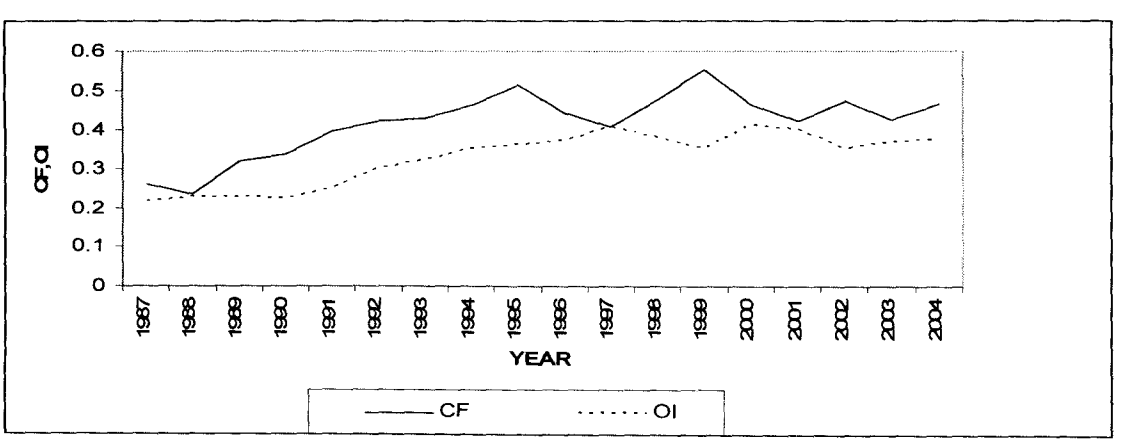
development expenditures over the medium-term. Private sector development and alternative basic service delivery mechanisms through decentralization and involvement of community-based organizations/NGOs should also be listed as part of important reform measures.

3.5.2 *ESTIMATES OF CAPITAL FLIGHT FOR NEPAL*

TABLE 3.6: CF & OI FOR NEPAL (1987-2004)

YEAR	CF	OI
1987	0.259716452	0.216653603
1988	0.233477768	0.229160827
1989	0.317607649	0.226275684
1990	0.334489626	0.222885619
1991	0.397556434	0.249875527
1992	0.422950188	0.299909986
1993	0.430242814	0.323410664
1994	0.462286404	0.348851749
1995	0.514278811	0.363039751
1996	0.444073306	0.373635035
1997	0.410174865	0.407433383
1998	0.478698938	0.379691726
1999	0.552253645	0.349093413
2000	0.466851746	0.410326734
2001	0.423208023	0.400901755
2002	0.472234357	0.349923252
2003	0.427009937	0.368934261
2004	0.465894065	0.372900563

FIG. 3.7: RELATION BETWEEN CF & OI FOR NEPAL (1987-2004)



For Nepal we have a highly positive correlation between CF & OI. The amount of CF remained very high throughout the period. Several macroeconomic maladjustments and political unrest was responsible for this

as discussed in the brief economic history of the country. Here trade becomes a means of transporting capital away from the country through various loopholes of economic policy. The statistical analysis confirms this comment.

3.5.3: Regression Analysis: CF versus OI (INDIA)

Polynomial Regression Analysis: CF versus OI (NEPAL)

The regression equation is
log(CF) = -3.03310 - 13.9643 log(OI) - 22.3203 log(OI)**2 - 10.3710 log(OI)**3

S = 0.0483767 R-Sq = 80.2 % R-Sq(adj) = 75.9 %

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.132591	0.0441968	18.8851	0.000
Error	14	0.032764	0.0023403		
Total	17	0.165355			

Source	DF	Seq SS	F	P
Linear	1	0.109206	31.1189	0.000
Quadratic	1	0.023072	10.4625	0.006
Cubic	1	0.000313	0.1338	0.720

The Linear regression equation is

CF = 0.107 + 0.950 OI

Predictor	Coef	SE Coef	T	P
Constant	0.10675	0.06445	1.66	0.117
OI	0.9500	0.1932	4.92	0.000

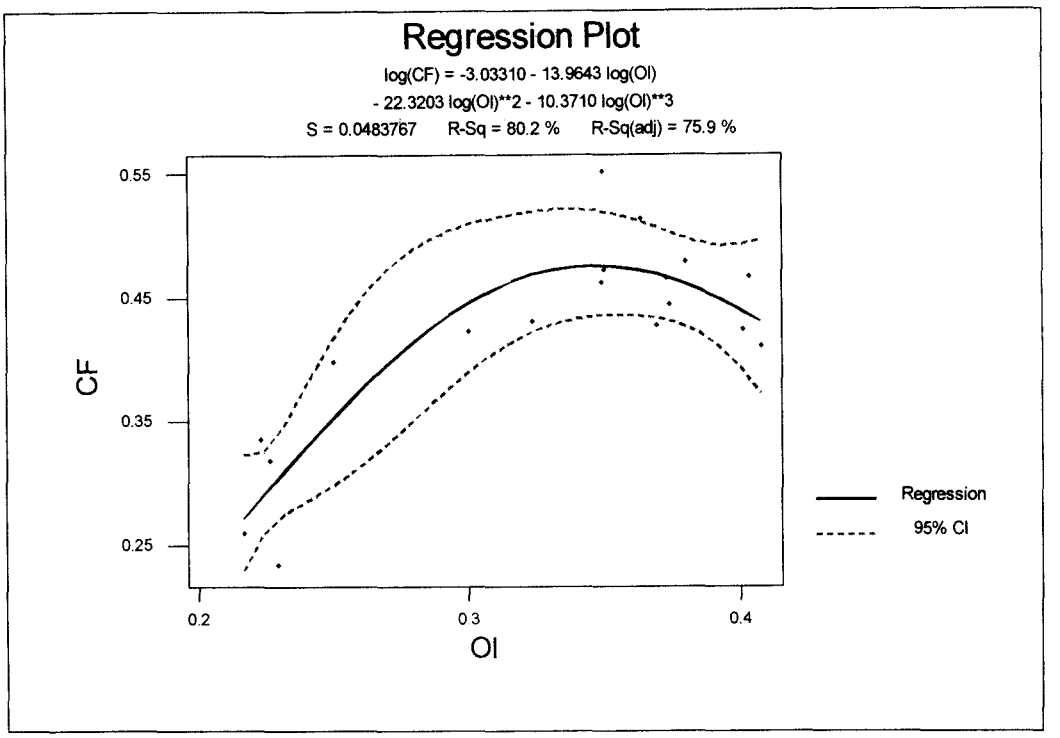
S = 0.05423 R-Sq = 60.2% R-Sq(adj) = 57.7%
PRESS = 0.060646 R-Sq(pred) = 48.67%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.071100	0.071100	24.18	0.000
Residual Error	16	0.047050	0.002941		
Total	17	0.118151			

Durbin-Watson statistic = 1.67

Fitted Line Plot: CF versus OI (NEPAL)



3.6: BHUTAN

3.6.1 *ECONOMIC OVERVIEW*

During the past 5 years, Bhutan's real average gross domestic product (GDP) grew by 6.7% per annum. In this period, the agriculture sector grew by 3.7% per annum, industry sector by 9.6%, and services sector by 7.2%. In recent years, the main drivers of GDP growth have been the hydroelectric power, construction, and transport sectors. The hydroelectric sector accounts for some 12% of GDP and 45% of the Government revenues.

The average per annum savings rate over the past 5 years is 17% of GDP, whereas gross domestic investment rate is 42%. Tax revenues, which have exhibited an average annual growth rate of 19%, have not shown corresponding buoyancy. Direct tax collections during 2002 recorded a 7% growth over the previous year and accounted for 61% of tax revenues and 32% of total revenues. The overall budget deficit rose from 3.9% of GDP in FY2000 to 11.1% of GDP in FY2002, before declining to 5.5% of GDP in the following year. As measured by the consumer price index, inflation continued to decline, falling to 2.3% in December 2002 from 2.7% at the end of June 2002. This is the lowest inflation rate in the past 3 years. To enhance the domestic revenue base, effective 1 January 2002, the Government instituted the personal income tax (PIT) applicable on six sources of income.

Over the past 5 years, Bhutan's trade balance has been negative. The composition of Bhutan's merchandise trade shows that India remains its largest trading partner accounting, on average, for some 90% of Bhutan's exports and about 70% of imports. Power exports are the largest export item to India. Bhutan's stock of external debt outstanding increased by 23.2% to $292 million at the end of FY2002. Corresponding to the growth in total debt, the ratio of outstanding debt to GDP rose to 55% in FY2002, while the debt service ratio rose to 5%.

According to Government estimates, over 60% of the soft loans (both convertible currency and rupee) were disbursed to the power sector, while another 25% were shared by the agriculture, education and industry sectors. As of June 2002, India had provided most soft loans to Bhutan, with cumulative gross disbursements totaling $216 million primarily for the development of the hydropower sector.
During FY2002, growth in commercial bank deposits with the Royal Monetary Authority (RMA) led to an increase in reserve money by 27.9%. Thus, managing excess liquidity remains a key financial sector challenge. Fortuitously, the exchange rate policy—which pegs the ngultrum at par with the Indian rupee—and capital controls ensure that excess liquidity does not act as a destabilizing factor for balance of payments, price stability, and monetary policy. RMA has taken steps to reduce excess liquidity by issuing RMA bills and raising the cash reserve ratio. Nonetheless, as of June 2002, commercial banks were holding excess reserves with RMA equivalent to about 40% of their assets.

The cost of financial intermediation in Bhutan appears high, given the prevailing 4-6% spread between the lending and deposit rates (Royal Monetary Authority Annual Report 2001/02, December 2002). At the same time, the financial system has excess liquidity and the banking system continues to hold some 40% of its assets in non-interest earning deposits with RMA. The high intermediation costs and continued excess liquidity (also reflected in the proportion of non-performing loans, which at end-2002 was some 10%) reflect inefficiencies of the banking system, which are further exacerbated by the lack of competition. The high lending rates and collateral requirements, generally around three times the amount of financing being sought, act as effective barriers for the private sector to access credit from financial institutions.

With a labor force participation rate of 56.5%, the Government estimates the overall open unemployment rate at 1.9% compared with 1.4% in 1998. Within the Ninth five-Year Plan (NFYP), the Government prepared a Human Resource Development (HRD) Master Plan for Private and Corporate Sectors and assigned 50% of NYFP's HRD allocation for implementing this master plan. To make private sector employment more attractive, the Government drafted labor laws that will be presented to the National Assembly for approval. In addition, an Apprenticeship Act was drafted whereby the Government and the private sector, on a 50:50 cost-sharing basis, will train new entrants in the labor market.

In 2002, effective measures were undertaken to deepen the decentralization process. District and village development committees were vested with greater administrative and financial powers, including the authority to retain and spend rural taxes for local development. During the implementation of the NFYP, the

Government plans to maintain the pro-poor focus of its development objectives. The primary school gross enrollment rate increased from 67% in 1990 to 72% in 2000. Although health care coverage is high—90%—the Government plans to improve delivery of health services. Inflows of external assistance as grants and concessional loans are the primary source of financing for capital expenditures.

Given growing pressures on global official development assistance, the quantum of external assistance available to Bhutan may possibly decline in the future. Should this happen, the Government may have to increasingly rely on domestic borrowings or adjust the scope of the NFYP. The NFYP explicitly acknowledges that the private sector will be the engine of growth and prime source of employment. To promote private sector development, a number of incentives were announced as part of the national budget for 2002/03. They included time based tax holidays and incentives for establishing businesses in rural areas.

Private sector representatives have submitted to the Government recommendations for boosting private sector activity in the country. Almost all pertain to the need for reform of financial institutions existing policies and practices for extending credit to the private sector. Foreign exchange revenues of $10.5 million from the tourism sector reached their peak value in FY2000. Thereafter, they have been reflecting a declining trend and were $9million for FY2002. In the NFYP, the Government's objective is to increase tourist arrivals to 15,000 per year by 2007.

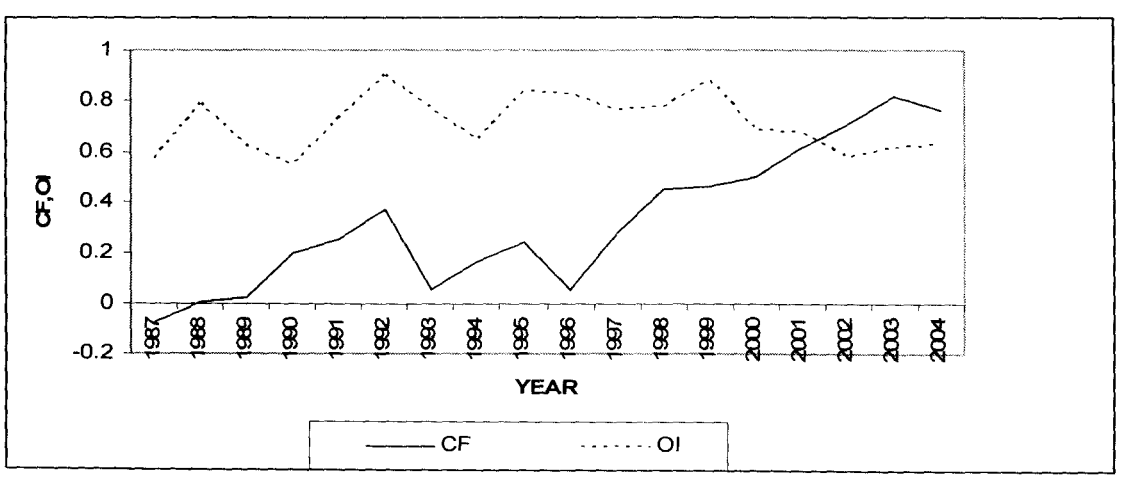
Over the past years, domestic resources financed only 15% of the average annual development budget, making Bhutan highly dependent on external assistance to fund its development programs and initiatives. The Bhutanese economy is overly dependent on hydropower (accounting for 11% of GDP in 2003), whose exports account for some 45% of Government revenues. While this is not likely to change in the near term, given the high capital intensity and low employment elasticity of this sector, alternative sources of employment and income generation would have to be explored to reduce the incidence of poverty, increase per capita incomes, and reduce the economy's current high dependence on the one-country-one export-commodity framework.

3.6.2: ***ESTIMATE OF FAPITAL FLIGHT***

TABLE 3.7: CF & OI FOR BHUTAN (1987-2004)

YEAR	CF	OI
1987	-0.073051607	0.574283395
1988	0.007293401	0.788851209
1989	0.026272655	0.622841512
1990	0.201520313	0.549772395
1991	0.253574832	0.734370856
1992	0.371766272	0.899519573
1993	0.061289277	0.773061917
1994	0.167899764	0.647326032
1995	0.243424196	0.837988157
1996	0.058883216	0.825693699
1997	0.277459946	0.768487063
1998	0.454590395	0.777671198
1999	0.463140356	0.881891399
2000	0.501411468	0.689199225
2001	0.616084224	0.679342757
2002	0.710899464	0.580365116
2003	0.819007639	0.618131319
2004	0.768635182	0.628576216

FIG.3.8: RELATION BETWEEN CF & OI FOR BHUTAN (1987-2004)



Bhutan shows somehow irregular trend regarding the correlation between CF & OI over the period. From 1998 onwards there was a high burden of capital flight in Bhutan. Negative trade balance, high rate of domestic inflation, huge current account deficit and excessive dependence on foreign capital are the primary cause of such severe capital flight.

3.6.3: Regression Analysis: CF versus OI (INDIA)

Polynomial Regression Analysis: CF versus OI

The regression equation is

Log(CF) = 1.30760 + 52.5514 log(OI) + 378.258 log(OI)**2 + 791.801 log(OI)**3

S = 0.575644 R-Sq = 16.7 % R-Sq(adj) = 0.0 %

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.86211	0.287369	0.867227	0.483
Error	13	4.30776	0.331366		
Total	16	5.16987			

Source	DF	Seq SS	F	P
Linear	1	0.182934	0.55024	0.470
Quadratic	1	0.087866	0.25109	0.624
Cubic	1	0.591309	1.78446	0.205

The Linear regression equation is

CF = 0.916 - 0.778 OI

Predictor	Coef	SE Coef	T	P
Constant	0.9163	0.4444	2.06	0.057
OI	-0.7782	0.6079	-1.28	0.220

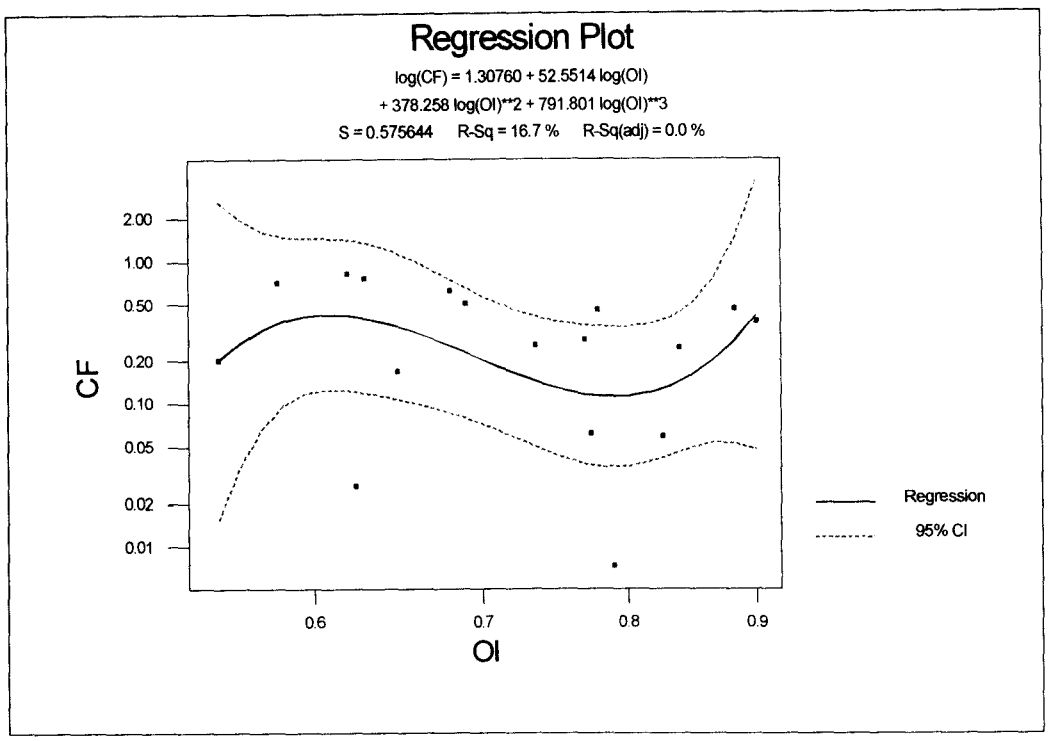
S = 0.2588 R-Sq = 9.8% R-Sq(adj) = 3.8%
PRESS = 1.32033 R-Sq(pred) = 0.00%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.10978	0.10978	1.64	0.220
Residual Error	15	1.00494	0.06700		
Total	16	1.11472			

Durbin-Watson statistic = 0.50

Fitted Line Plot: CF versus OI [BHUTAN]



3.7: SRI LANKA

3.7.1 *ECONOMIC OVERVIEW*

The Sri Lankan economy started to recover in the second half of 1999, and the recovery accelerated in 2000. Both internal factors such as weather conditions and political uncertainties, and external factors such as overall economic fluctuation in the wake of Asian financial crisis and high oil prices were key elements in determining the movement of the economy. However, another key factor that constrained the economy was the civil conflict that started in 1983 and intensified since April 2000.

In 1999, unfavorable external conditions slowed Sri Lanka's economic growth to 4.3 percent, lower than the 4.7 percent achieved in 1998; however, the economy started to recover in the second half of the year. The agriculture sector showed its highest growth since 1993. The annual growth rate of the industry sector was not high but, reflecting the recovery of industrial exports, performance in most industrial categories improved during the second half of the year.

Output in the services sector grew even more slowly because of the continued slump in the wholesale and retail trade. In the production structure, the share of

the services sector in gross domestic product (GDP) continued to increase. An increase in corporate and household savings and a reduction in Government dis-savings contributed to the higher domestic savings. While public investment remained at about the same level as in the previous year, the higher private investment led to higher domestic investment. The gap between domestic investment and domestic savings widened. Fiscal performance improved significantly despite the ongoing conflict in the north and the east. The overall deficit declined to 7.5 percent of GDP from 9.2 percent in 1998. This partially reflects the Government effort to reestablish the fiscal consolidation path achieved during 1995-1997. On the revenue side, the declining trend observed in the total revenue-GDP ratio in the recent past was arrested in 1999 with higher mobilization of tax revenue. On the expenditure side, non interest current expenditure was maintained at about the same level as in 1998, growth of the wage bill was contained at a lower rate, and expenditure on purchases of goods and services declined. In particular, defense expenditure continued to decline at 4.4 percent of GDP, compared with 5.0 percent in 1998. Capital expenditure did not reach the originally expected level owing to significant shortfalls in expenditures in several major projects in ports, agriculture, railways, and energy. The stock of Government debt as a percentage of GDP increased to 95 percent from 91 percent in the previous year.

The monetary policy continued to focus on maintaining stability in the financial market, and further efforts were made to enhance the market orientation of the instruments of monetary policy. Except for a temporary instability in the financial market in April as a result of elections and labor unrest, both the call market and the exchange market exhibited considerable stability. A slight decline in short-term market interest rates reflected a low inflation rate and flexible monetary policy. Although there were some reductions in interest rates, they were much less than the fall in inflation, resulting in an increase in real interest rates. Faster growth in domestic assets was partly offset by a decline in net foreign assets, reflecting the deficit in the balance of payments. Monetary growth was higher than in 1999.

The inflation rate of 4.7 percent was the lowest since 1985. It was the outcome of improved monetary controls and fiscal discipline, rationalized tax and tariff structures, greater agricultural production, and improved domestic marketing network and dissemination of price information systems using modern communication media. In addition, the drop in the world market prices of major imported consumer items compensated for the upward pressure on prices through the currency depreciation.
External sector developments were dominated by the lagged effects of the depressed global demand and the resultant decline in commodity prices. Exports decreased by 3.9 percent, but imports increased by 1.5 percent because of the import of three aircraft by Sri Lankan Airlines. Consequently, the trade deficit widened. The current account deficit increased from 1.4 percent of GDP in 1998 to 3.6 percent. Coupled with a declining surplus in the capital and financial

accounts, the overall balance of payments registered a deficit of 1.7 percent of GDP from a surplus of 0.2 percent in 1998. Exchange markets remained stable during the year in contrast to the high volatility in 1998. The Sri Lanka rupee depreciated by 8.2 percent against the dollar during 1999. Total external assets at the end of the year were equivalent to 4.6 months of imports of goods and services, while total official reserves were equivalent to 2.9 months of imports.

The external debt stock increased and 94.8 percent of the total was medium- and long term debts consisting mainly of concessional assistance. The total external debt-GDP ratio increased from 55.5 percent in 1998 to 57.4 percent. The debt service payments as a percentage of receipts from exports and services also increased.
During the first half of 2000, GDP grew by 7.0 percent helped by a favorable external trade environment that continued from the second half of 1999. While the high growth was broad-based, the industry sector outperformed the agriculture sector and the services sector. The inflation rate was higher than expected at 6.8 percent due to a high increase in food and energy prices. Exports continued to grow by 19.7 percent maintaining the growth momentum achieved in late 1999. The high export growth was accounted for by the strong economic growth in the United States (US) and European countries, and the recovery of the East Asian countries including Japan and the Republic of Korea. Reflecting the export-dependent import structure of Sri Lanka, imports also increased by 38.1 percent. Trade deficit was $1,139 million compared with $549 million in the same period in 1999.

In the second half of 2000, the economic trend of the first half is expected to continue. The real GDP growth rate is projected at 6.0 percent in 2000 and 4.5 percent in 2001. Exports are expected to increase by 19.8 percent, and imports by a higher rate, 22.4 percent due to higher oil prices. The ratio of the current account deficit to GDP is expected to be 6.0 percent in 2000 and 3.8 percent in 2001. High foreign direct investment, private capital flows and Government short-term capital flows will partially offset large current account deficit. The deficit in the overall balance of payments is projected to widen from 1.7 percent of GDP in 1999 to 3.4 percent in 2000. Despite continuing fiscal consolidation efforts, an increase in defense expenditure will reverse the downward budget deficit ratio to GDP. The ratio is expected to reach 8.7 percent in 2000, and only a small improvement is expected in 2001. Inflation will return to a higher level of 6-8 percent.

For sustainable and high economic growth, the Government needs to take the initiative in various areas. A consensus has emerged that a solution to the civil conflict which is estimated to lower GDP by 6 percentage points is a prerequisite to improve economic growth and poverty profiles. Mitigating the high fiscal deficit and public debt is imperative for flexible implementation of both fiscal and monetary policies. The Government must promote the private sector to meet the economy's expanding resource requirements while developing the appropriate

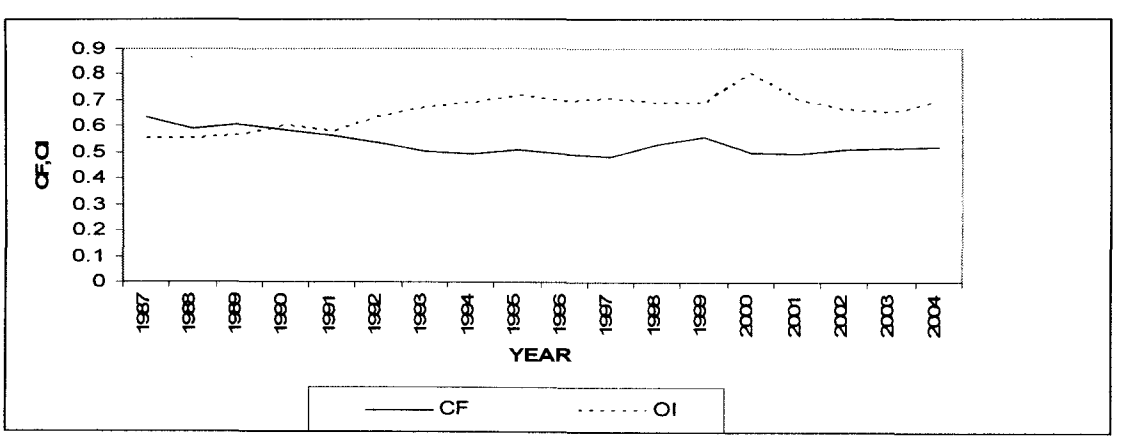
market environment to promote efficiency. More efforts for generating demand should be made in the agriculture sector, an important foreign exchange-earning sector. To link highly developed human capital to high economic welfare, a more flexible labor market and narrowing down the gap between skills demanded and skills supplied are required.

3.7.2: ESTIMATE OF CAPITAL FLIGHT FOR SRI LANKA

TABLE 3. 8: CF & OI FOR SRI LANKA (1987-2004)

YEAR	CF	OI
1987	0.633487865	0.555015522
1988	0.592615564	0.553788273
1989	0.608276374	0.562504284
1990	0.583708283	0.601202889
1991	0.565196479	0.579572981
1992	0.535649514	0.631730894
1993	0.503022286	0.672868015
1994	0.492015218	0.690095333
1995	0.510754754	0.713125859
1996	0.494984928	0.696232547
1997	0.481393725	0.703424124
1998	0.529710647	0.688437767
1999	0.557213234	0.687404198
2000	0.500143101	0.801024496
2001	0.490907027	0.697153134
2002	0.507315406	0.663537904
2003	0.516520377	0.653108692
2004	0.523099782	0.693029884

FIG.3.9. RELATION BETWEEN CF & OI FOR SRILANKA (1987-2004)



Throughout the estimated period the proportion of CF was very high. For Sri Lanka trade remained a major component of GNI and we have a very significant relation between CF and OI. The statistical table shows the estimated result.

3.7.3: Regression Analysis: CF versus OI (INDIA)

Polynomial Regression Analysis: CF versus OI (SRI LANKA)

The regression equation is
log(CF) = -0.178382 + 2.32311 log(OI) + 12.3219 log(OI)**2 + 14.7694 log(OI)**3

S = 0.0169903 R-Sq = 81.3 % R-Sq(adj) = 77.3 %

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	3	0.0176200	0.0058733	20.3463	0.000
Error	14	0.0040414	0.0002887		
Total	17	0.0216614			

Source	DF	Seq SS	F	P
Linear	1	0.0158814	43.9623	0.000
Quadratic	1	0.0017119	6.3120	0.024
Cubic	1	0.0000268	0.0927	0.765

TheLinear regression equation is

CF = 0.914 - 0.577 OI

Predictor	Coef	SE Coef	T	P
Constant	0.91427	0.06186	14.78	0.000
OI	-0.57723	0.09361	-6.17	0.000

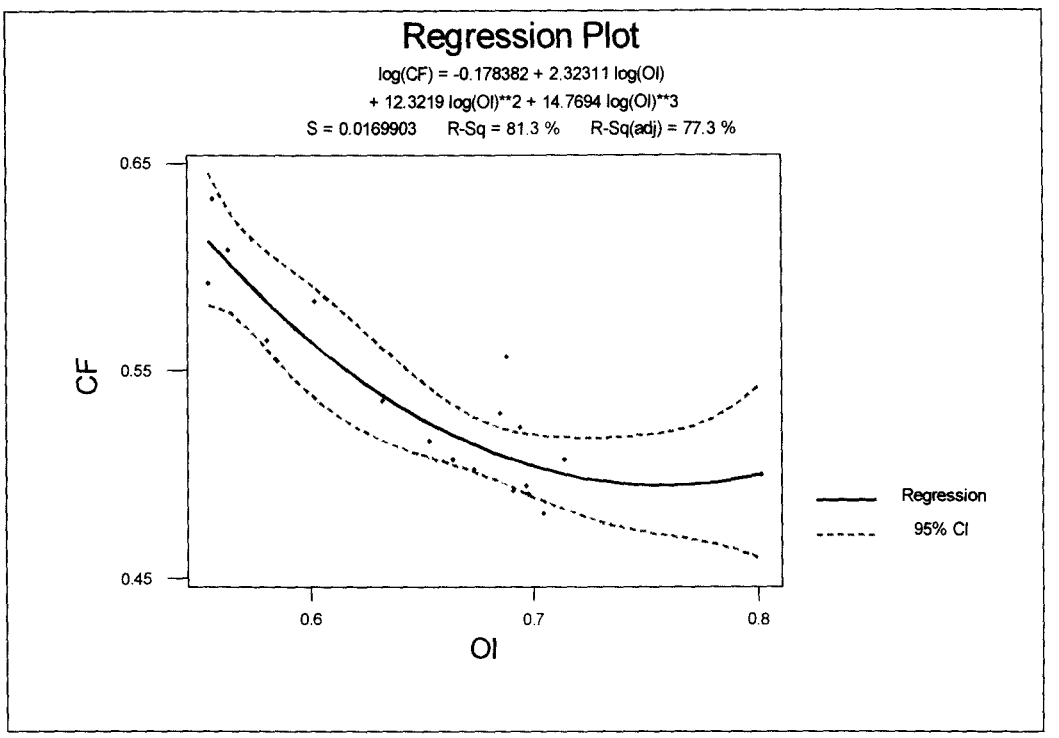
S = 0.02534 R-Sq = 70.4% R-Sq(adj) = 68.5%
PRESS = 0.015256 R-Sq(pred) = 56.03%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	1	0.024422	0.024422	38.02	0.000
Residual Error	16	0.010277	0.000642		
Total	17	0.034700			

Durbin-Watson statistic = 1.23

Fitted Line Plot: CF versus OI (SRI LANKA)



3.8: AGGREGATE ANALYSIS FOR CF AND OI FOR THE SIX COUNTRIES

Now we consider the average amount of CF and Total Trade as a proportion of GNI over the study period (1987-2004) for the six sample countries. Table 3.9 summarizes the result. It shows a highly significant relation between CF and OI . The F test is satisfied at 95% limit and the t-value also signifies the corresponding relation between the variables.

TABLE 3.9: AVERAGE PROPORTION OF CF & OI OVER THE PERIOD (1987-2004)

COUNTRY	AVG. CF	AVG. OI
INDIA	0.203	0.172
PAKISTAN	0.504	0.322
BANGLADESH	0.353	0.226
NEPAL	0.417	0.326
SRI LANKA	0.534	0.657
BHUTAN	0.398	0.605

STATISTICAL ANALYSISOF THE ABOVE DATA

1. Dependent variable: CF Method: LINEAR

Listwise Deletion of Missing Data

Multiple R	.65717
R Square	.43187
Adjusted R Square	.28984
Standard Error	.09976

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	1	0 .03026113	0.03026113
Residuals	4	0.03980837	0 .00995209

F = 3.04068 Signif F = .1562

Variables in the Equation -

Variable	B	SE B	Beta	T	Sig. T
OI	0.388511	222801	657170	1.744	0.1562
(Constant)	0.252053	0.094889		2.656	0 .0566

–

2 .Dependent variable: CF Method: QUADRATIC

List wise Deletion of Missing Data

Multiple R	.82912
R Square	.68743
Adjusted R Square	.47906
Standard Error	.08544

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	2	.04816819	.02408410
Residuals	3	.02190131	.00730044

F = 3.29899 Signif F = .174

Variables in the Equation -

Variable	B	SE B	Beta	T	Sig T
OI	2.694703	1.484821	4.558118	1.815	.1672
OI**2	-2.702682	1.725668	-3.933567	-1.566	.2153
(Constant)	-0.144844	0.266132		-0.544	0.6241

–

3. Dependent variable: CF Method: CUBIC

Listwise Deletion of Missing Data

Multiple R	.97124
R Square	.94332
Adjusted R Square	.85829
Standard Error .	04456

Analysis of Variance:

	DF	Sum of Squares	Mean Square
Regression	3	.06609768	.02203256
Residuals	2	.00397182	.00198591

F = 11.09443 Signif. F = .0838

Variables in the Equation --

Variable	B	SE B	Beta	T	Sig T
OI	13.109456	3.551592	22.174779	3.691	0.0662
OI**2	-32.933859	0.101409	-47.932961	-3.260	0 .0826
OI**3	25.916841	8.625379	26.630062	3.005	0 .0952
(Constant)	-1.214854	0.382205		-3.179	0 .0864

If we consider the primary determinants of CF for these sample countries formally it is seen that, CF is directly related to risk-averse behavior of the private individual that diversifies the wealth for maximizing asset returns. In this way he holds a part of his asset in abroad by the process of portfolio diversification. The main determinants of CF are:

1. Macroeconomic instability,
2. Political instability,
3. Rate of return differential,
4. Public policy uncertainty.

The portfolio decision of the private individual is directly influenced by these key determinants. The economic review of the sample countries also supports this. Among these the macroeconomic instability and political unrest plays the most significant part in determining the amount of CF. There are a number of other factors which essentially influenced CF, like the amount of capital inflow, the stock of capital flight, domestic rate of inflation, the growth rate of GNI, trading relation with the foreign countries, the size of external debt, etc. The individual and joint impact of these factors needs a rigorous study. In this paper we only estimated the amount of CF and showed some indication on which the amount of CF is depending upon. On the whole the figures of CF shows that there may be potentially large resources available for development financing if countries are able to conduct policies that contribute to the reversal of CF.

CHAPTER 4

TRADE, FINANCE AND CRISIS

- *INTRODUCTION*
- *MANAGING RISK IN INTERNATIONAL TRADE TRANSACTION*
- *TRADE AND FOREIGN POLICY*
- *INTERNATIONAL TRADE AND FINANCIAL CRISIS*
- *INTERNATIONAL INFLUENCE ON FINANCIAL STABILITY*
- *ECONOMIC, SOCIAL AND TRADE IMPLICATION OF FINANCIAL CRISIS*
- *ROLE OF FOREIGN TRADE IN CRISIS PREVENTION AND RESOLUTION*
- *STRATEGIES FOR FINANCIAL CRISIS PREVENTION AND RESOLUTION OUTSIDE TRADE POLICY*

CHAPTER 4

TRADE, FINANCE AND CRISIS

4.1: INTRODUCTION

A well developed and stable financial sector and an open international trading system are the two key components of economic prosperity. Finance and trade are linked in a number of ways that are not always obvious. Trade or openness cannot flourish without a stable financial system and also the financial stability fall under threat if the trading system does not function well. Trade openness and financial sector development are good for growth. The financial sector helps to cover a number of risks for traders like commercial risk, transportation risk, political risk, exchange risk etc.
Financial crises are the most important causes for disruption in international trade. In such cases trade related financing may become very expensive and economic disruptions depress demand for traded goods and services. Financial stability is unlikely to prevail without trade.

Here we explain the links between international trade and the financial sector. It argues that modern trade depends on credit and other key financial services to finance trade-related expenditure and cover against trade-related risks. The first part describes the role of financial systems in promoting trade and growth .Next we discusses specific trade-related financial instruments, and then we consider the role of export credit agencies, including the role of governments in this area. In light of the importance of foreign exchange policies for trade here we attach the concept of capital flight to explain the role of financial stability.

Liberal trade and financial policies coupled with technological advance made international trade and financial sector development important engines of post-World War II growth Both international trade and the financial sector are important engines of growth in today's economies. The growing importance of these two sectors is highlighted by their expanding share in output over the last decades. The ratio of international trade of goods and services to global GDP has risen from about 8 per cent at the founding of the GATT in 1947 to about one quarter of global GDP at present. Growth of financial transactions has been similarly spectacular in recent decades. In the United States, the financial sector (including banks, securities, insurance and real estate) expanded from 10.9 per cent of output in 1950 to 19.4 per cent in 1997. In other industrial and developing countries, financial services (excluding real estate) typically account for between 4 and 13 per cent of GDP. Growth of international financial transactions has been even more rapid; with many types of such transactions growing three to ten-folds

over the 1990s alone (see Kono et. al., 1997 for more detail). survey, see WTO, 1998b).

The growth of international trade since World War II was much faster than the expansion of world output (WTO, 1998). This is largely due to significant declines in trade barriers and transaction costs. Tariff and non-tariff barriers to trade were reduced in the context of seven GATT negotiation rounds and as part of regional integration efforts, most importantly in Western Europe. Falling transportation and communication costs also stimulated trade expansion. Similarly, the rapid growth of the financial sector is linked to a favorable policy environment and technological advances. Increasingly liberal financial policies both at the domestic and the international level, coupled with rapid progress in telecommunications and information technology and the development of new financial instruments, allowed an enormous expansion of financial services and capital flows within and across borders either legally or illegally and this influences capital flight to a great extent. This has been discussed in the earlier chapter with case studies of son developing countries.

Regarding international trade, specialization according to comparative advantage across countries can result in significant efficiency gains. Second, specialization allows benefits from economics of scale. Third, international trade increases the choice of goods and services available. In addition to these so-called static gains from international exchange, trade also enhances competition and stimulates international skill and technology transfer which, in turn, can have positive dynamic (long-run) effects on welfare and growth. Empirical studies show significant differences in the growth performance between open and closed economies. Sachs and Warner (1995), for example, find that annual growth in open economies exceeds that of more closed countries by 2- 2.5 per cent, and other studies point in the same direction (for a survey, see WTO, 1998b).

Until only a few decades ago, our understanding of the role of the financial sector was quite limited. Today, we know that there are significant gains from specialization in the financial area as well as in trade. The ability of the financial sector to deal with asymmetric information between creditors and borrowers, where the creditor does not know the "quality" of the borrower is a key reason for its existence. Borrowers with allow likelihood of repayment (bad risks) try to hide their poor quality and are willing to pay higher interest rates than borrowers who are a good risk. This leads to so-called adverse selection, where credit applications tend to come disproportionately from "bad risks". Once a credit has been made, the chances are that the borrower does something which reduces the probability of repayment. This is called "moral hazard".

BOX 4.1: ADVERSE SELECTION

Adverse selection is the problem created by asymmetric information before the transaction takes place. Adverse selection in financial markets occurs when the potential borrowers who are the most likely to produce an undesirable (adverse) outcome – the bad credit risks - are the ones who most actively seek out a loan and are thus most likely to be selected. Because adverse selection makes it more likely that loans might be made to bad credit risks, lenders may decide not to make any loans even though there are good credit risks in the marketplace.

Suppose that you have two entrepreneurs to whom you might make a loan. One is a prudent, competent person who borrows only when an investment is likely to pay off. The other, by contrast, is a gambler. The gambler sees more investment opportunities he would like to bet money on and is, therefore, more likely to ask for a loan. Suppose, though, that you don't know the entrepreneurs well. Because of the possibility of adverse selection you might decide not to lend to either of them even though the prudent one would be a good credit risk.
Source: Mishkin,1998

BOX 4.2: MORAL HAZARD

Moral hazard is the problem created by asymmetric information after the transaction occurs. Moral hazard in financial markets is the risk (hazard) that the borrower might engage in activities that are undesirable ("immoral") from the lender's point of view because they make it less likely that the loan will be paid back. Because moral hazard lowers the probability that the loan will be repaid, lenders may decide that they would rather not make a loan. The term was originally coined by the insurance industry for the phenomenon where people, for example, become less careful with their home once they have theft or fire insurance.
The asymmetric information problem is probably larger in the developing countries than in more developed economies for two reasons: information is more difficult to obtain and instruments which are designed to protect the involved parties may not be readily available. Stock markets, corporate bond markets and credit ratings are less developed, thereby rendering the acquisition of information and the prevention of adverse selection more difficult. The provision of financial services is often severely limited by a less developed legal system, which makes contract enforcement costly and time-consuming. This limits, for example, the use of collateral to reduce moral hazard .
Source: Mishkin,1998

While an open trading and a liberal financial system generate considerable economic benefits, they are not independent of each other. International trade benefits strongly from a well developed and functioning financial environment and vice versa. We will see that international trade requires important services from financial institutions, and if these are not available, the transaction costs of trade are likely to grow strongly. In other words, finance is a "lubricant" for international trade. At the same time, trade creates demand for and promotes the development of financial services and institutions.

International trading activities are basically part of the investment process. An entrepreneur, for example, invests in products aimed for export markets in the hope of making a profit. The financial sector assists in four main ways in supporting international trade.

First, the financial sector helps bridge the period between the need of funds for production, transportation etc. and the payment for such products by the importer. In other words, the financial sector provides working capital. Banks have a most prominent role in this context, making loans to investors/traders. For this purpose they have to collect deposits. Banks are not only the bridge between savers and investors, but also broker the diverging time preferences of depositors (who often want to invest short-term) and borrowers (who often need medium- or long-term capital).

Second, the financial sector provides services which help the exporter to receive payment in the least costly and risky manner. Financial institutions secure a "smooth" money flow, which can range from simple intra-bank transfers of money between two accounts to more sophisticated financial services such as leasing or foreign exchange-related services.

Third, financial institutions provide valuable information to investors/traders. They inform their clients about present and future money and capital market conditions. They broker business contacts, do market research and check credit worthiness of

Fourth, the financial sector provides insurance against certain risks involved in the trading process. Insurance instruments involve freight and export credit insurance but also forward contracts (to insure against exchange rate changes). Certain other provisions can insure against non-compliance by the seller and risks arising from government policy changes. Without these financial instruments, international trade would be much impeded.

4.2: MANAGING RISKS OF INTERNATIONAL TRADE TRANSACTIONS

The availability and costs of trade credits is strongly affected by four types of risks: economic or commercial risk, exchange risk, transportation risk and political risk (table 4.1 & 4.2). of international trade are either much smaller or do not exist at all in domestic trade. The type of financial instrument chosen to deal with them depends on three factors:

— the perception of the type and size of the risk involved in the transaction;

— the distribution of risk and risk reduction efforts between exporters, importers and their banks;

— the costs of risk reduction.

More generally, one can probably safely say that the more well-developed and efficient a financial system, the more likely traders are to find the type of financial arrangement which covers their credit and insurance (risk reduction) needs at low cost.

TABLE 4.1: VARIOUS RISK IN INTERNATIONAL TRADE & PROTECTION OPTION

Economic risk Related to Trading partner	Exchange rate risk	Transportation risk	Political Risk		
			Foreign policy	Domestic policy	Economic policy
1. Importer is not willing or unable to pay	1. Floating ex-rates: variations in Ex-rates.	1. Damage	1. War	1. Revolt	1.Prohibition to transfer foreign exchange.
2. Importer does not accept merchandise	2. Fixed Ex-rate: risk of devaluation	2. Loss of goods	2. Embargo	2.Civil war	2.Currency declared non-convertible.
3. Exporter do not deliver on time or products agreed.			3.Restrictions.		

TABLE 4. 2: OPTION FOR PROTECTION

Economic risk Related to the trading partner	Exchange Risk	Transportation Risk	Political Risk
1. Private insurance Or public export Credit agencies. 2. Letter of credit. 3. Bank guarantees	1. Bank provide hedging facilities, Public exchange risk insurance	1. Private insurance	

Now consider various risks one –by- one:

Economic or commercial risk: Both in domestic and international trade, there is so-called economic or commercial risk. For the exporter, this risk basically involves the danger that the importer does not accept the merchandise or does not pay for it after accepting it. The importer risks that the exporter does not deliver the products at the agreed quality and time. In both cases, the capital invested in the project—be it out of companies' own funds or through a credit facility—is at risk.

Commercial risk is linked to the problem of asymmetric information, which can be significantly larger in the international context. Information about the situation of foreign companies (e.g., importers, foreign banks, economic conditions and foreign law) will be more limited or less familiar to the exporter and his bank than in respect of domestic clients. Large banks, therefore, often maintain correspondent banks or branch offices abroad which provide the needed information about foreign clients, the legal system and other potential pitfalls.

It is frequently pointed out those shortcomings in the legal system increase commercial risk if property rights, contract law, arbitration procedures and bankruptcy laws, and the courts are inadequate. In such a legal environment, international trade is hampered by traders being unable to enforce their claims, so that the costs of reducing such risks rise or even become prohibitive. A poor legal environment, just like a poor financial sector, can then be a strong impediment to international trade.

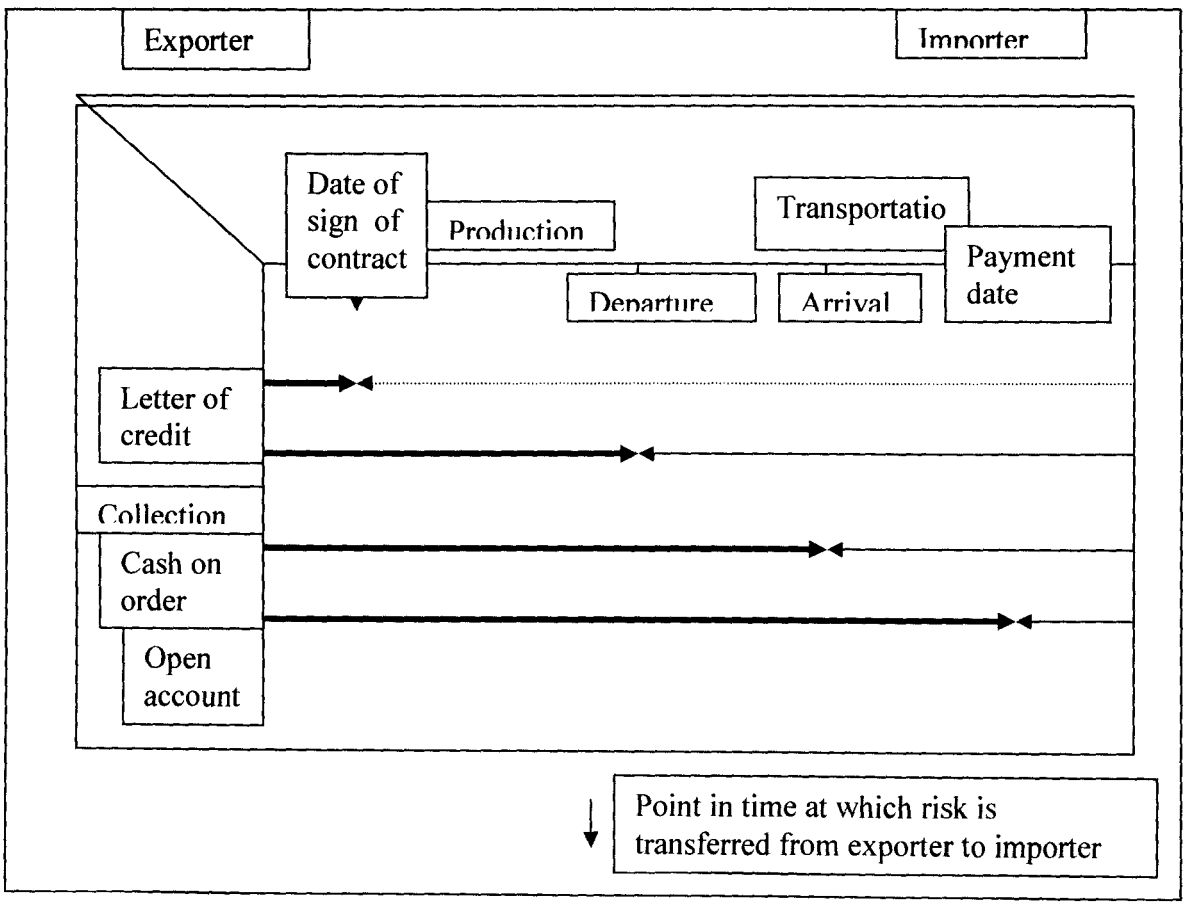
Traders can choose from among a range of instruments depending on the extent of commercial risk and the preferred time of transferring this risk from exporter to importer. There are four main instruments of trade financing, which transfer the commercial risk from the exporter to the importer at different stages of the trade transaction, i.e., open account, collection (of payment) against documents, letter

of credit, and cash upon order. The first three are most frequently used (for more detail, see ITC, 1997).

A key consideration in mitigating commercial risk is the choice of trade financing instrument. If an exporter takes on a credit to finance his trade-related activities, he can seek a guarantee or an insurance against commercial risk from a commercial or public agency (see next part for more detail). Furthermore, a number of instruments have been developed which mainly differ in the time when the commercial risk is transferred from the exporter to the importer (see Chart 3).

If the importer wants to assume the commercial risk as late as possible, he will want to make payment after delivery of the product. When this is done it is typically on an open account basis, where the buyer pays the seller through a money transfer after receipt of documents. Trade on an open-account basis will be chosen for intra-affiliate trade, or exports of a relatively small transaction value to companies with whom the exporter maintains an important longer-term business relationship. In this case, the size of transactions, the repeat nature of business and the special links between buyer and seller result in little risk.

FIG 4.1: SHIFT OF ECONOMIC RISK FROM EXPORTER TO IMPORTER
(Source: Adapted from Jung, 1998)



Exchange rate risk: both exporter and importer run the risk that between order and delivery economic circumstances may change in such a manner that the profitability of the trade deal is undermined for at least one of the parties. Exchange rate risk can produce such a change in economic circumstances, as large exchange rate changes can significantly increase or reduce the benefits from a trade transaction. An importer, for example, who orders goods for one million US dollars may benefit much less (or not at all) from the trade transaction if his home currency suddenly depreciates by 20 per cent and he has to pay 20 per cent more for the imports in terms of his own currency.

The exchange risk is affected to a large extent by the exchange rate regime. In countries with fixed exchange rates, this risk depends on the probability that the parity cannot be maintained and a depreciation or appreciation occurs. Flexible exchange rates can create considerable risk if exchange rates are very volatile. A number of instruments have been developed to hedge against exchange risk, and traders who have access to these instruments can reduce this risk at fairly low cost. In the case of a large contract, an exporter might ask his bank to sell his expected foreign exchange in the forward market. As transactions in forward markets typically start with amounts above 1 million US dollars, smaller exporters generally have to turn to the currency future markets where they can buy "put options" which are options to sell foreign exchange for a specific rate at a certain point of time in the future. The costs of such a hedging operation are a fee/premium (about 0.3 per cent depending on amount and currency) plus the price of the option (which depends on the current exchange rate, the future exchange rate specified in the option, the length of the period during which an option can be executed, relative interest rates, and the past volatility of the exchange rate). If the foreign currency has depreciated beyond the rate specified by the options, the exporter will execute his options and obtain the agreed equivalent in domestic currency. Otherwise, exporters do not exercise their options, but convert their foreign exchange in the "spot" market at the prevailing higher rate. For longer term transactions, the exporter might be able to engage in currency swaps. This is particularly interesting (and inexpensive) if the exporter expects regular foreign exchange receipts which can be swapped against domestic currency.

In some cases, the invoicing currency for trade contracts is given, as for example for oil, and traders may or may not hedge against the exchange risk involved. In other cases, the currency in which trade contracts are made can be indicative of trading partners' ability and preference to hedge against exchange risk. Allen, Carse and Fujio (1987) have shown that British exporters preferred invoicing in British pounds in the early to mid-1980s. This minimized their exchange risk, and in return they frequently accepted more flexible conditions of payment. Japanese exporters, by contrast, showed much flexibility in the invoicing currency but insisted on firm dates of payment which allowed them to hedge the exchange

risk. As a result, over 85 per cent of both countries' exports were not exposed to exchange risk.

About half of world trade was conducted in US dollars in 1992. The German Mark (16 per cent), and the Japanese Yen, Pound Sterling and French Franc (5 per cent each) were the other main invoicing currencies for world trade in that year (Hartmann, 1996). The share of trade invoicing in particular currencies may change with the establishment of the Euro. Inconvertible currencies are rarely used for trade contracts. Often, countries with such currencies also have underdeveloped financial systems with limited or no hedging possibilities. Traders from those countries are therefore at an important disadvantage to traders from countries with convertible currencies and well-developed currency markets.

Transportation risk: Traders can incur losses if the merchandise gets damaged or destroyed during the voyage from the seller to the buyer. This danger is greater in international trade where distances and travel time are often longer, ships can sink, and merchandise can get stuck in customs. Goods can spoil through heat, cold and water or they may not arrive because they are stolen or misdirected on the way. Freight insurance can prevent losses, and insurance agencies cover freight-related losses for a fraction of 1 per cent of the freight value and transportation costs, depending on the risk and destination.

Political risk: Finally, political risk can become a source of loss for the trading parties. This risk is much more limited or almost non-existent for domestic transactions. At the international level, however, wars and embargoes can prevent merchandise from reaching the buyer, or the buyer may not be able to pay in such circumstances. Similarly, revolts or civil wars may prevent the completion of a trade transaction. Political risk also refers to economic policy changes which prohibit the transfer of foreign exchange and thereby prevent an importer from paying for his purchases. Political risk is typically covered through an export credit agency.

4.3: TRADE AND FOREIGN EXCHANGE POLICY

Foreign exchange risk for international trade can arise from the devaluation or appreciation of a fixed exchange rate or the volatility of a floating regime. The price of foreign exchange, and the regime through which its price is determined are, therefore, key policy variables for traders. Furthermore, exchange policies can have important indirect effects on trade, if such policies cause or contribute to financial crisis. However, the formation of exchange rates and the choice of exchange regime are very complex and difficult issues and the following discussion may help clarify some of the trade-offs involved in the choice between various regimes.

The impact of exchange policy on trade is not limited to the price of foreign exchange. If there are foreign exchange restrictions, and foreign exchange is allocated in a manner which penalizes or prevents certain types of trade through multiple exchange rates or rationing mechanisms, trade patterns will also be affected. Sudden shifts in policy here would fall under political risk. An efficient, transparent and flexible exchange allocation mechanism can be equally if not more important for traders than getting the exchange rate "right" (Collier, 1998).

4.3.1: EXCHANGE RATE FORMATION AND VOLATILITY:

If exchange rates are not fixed, they are formed in foreign exchange markets. The current (or spot) exchange rate is determined by so-called spot transactions. Contracts for the purchase and sale of foreign exchange dated in the future determine the forward exchange rate. Most trade in foreign exchange is not in bank notes but in bank deposits. The exchange rate, like any other price, is determined by supply and demand. More demand for a currency results in appreciation; less demand causes a fall in its value or depreciation.

In the long run, exchange rate movements tend to equilibrate prices for the same tradable products across countries:

Economic theory distinguishes between factors determining the exchange rate in the long and short run. If exchange rates can move freely, the law of one price and the concept of purchasing power parity have a strong influence on exchange rates in the long run. This means that identical goods and services should cost the same in similar markets. If this is not the case, goods and services flow from the "cheap" to the "expensive" country, until prices are equilibrated either through adjustment of the price level, or the exchange rate, or both.

There are number of factors which can result in different price levels across countries so that purchasing power parity does not always prevail even in the long run. The main reason is different prices for non-traded products such as land. If the prices of non-tradables rise in one country, overall price levels start to differ even though the law of one price may still hold for tradables. However, as the price of non-tradables (e.g., rent for buildings) affects the price of tradables (e.g., through retail markups), some difference in the price of tradables across countries can persist as well. Other reasons for persistent price differences across countries can be different tax rates (including tariffs and quotas), or regulation (e.g., different safety standards).

Changes in the long run exchange rate can be induced by any measure which affects the demand and supply of currencies, for example by raising a tariff. The latter reduces demand for imports, and thereby demand for foreign currency to buy such imports. This, in turn, induces a devaluation of the foreign currency, and an appreciation of the domestic currency. It is noteworthy that the latter, even if it takes some time to come about, will erode part if not all of the

competitiveness gains from protection. In other words, an import tax is also an export tax.

Another important factor influencing long term exchange rates is inflation. If domestic prices rise more than foreign prices, domestic products become less competitive. More demand for imports follows which results in more demand for foreign currency and a depreciation of the domestic currency. This process continues typically until exchange rate changes have balanced out inflation differentials.

In the short run, interest rate differentials and expectations tend to determine exchange rates, and overshooting is possible

In the short term, however, capital market related factors are more likely to determine exchange rates, and these factors are also responsible for much exchange rate volatility. We mentioned that foreign exchange trading largely involves bank deposits. Since this is a form of capital, the expected return is a key in determining its price. Just as the law of one price suggests an equalization of prices for identical goods across borders, bank deposits will have similar returns, regardless of the currency they are denominated in, if they can move freely across borders. Economists, therefore, use a so-called asset market approach to explain short term movements in exchange rates. In essence, exchange rates in the short term are determined by asset movements which aim to equalize risk-adjusted returns across countries.

The asset market approach can explain why capital market related factors coupled with shifts in expectations about certain market variables can cause short term exchange rates to overshoot, i.e. they change more than needed for re-equilibrating exchange markets in the long term. Variables which influence expectations about exchange rates include domestic and foreign inflation, money supply and price level, but also tariff and import quotas.

The asset market approach is a useful tool for explaining short term exchange rate fluctuations and overshooting.

The asset market approach basically argues as follows: international assets must yield approximately the same return. An example may help to illustrate the interaction of interest rates and exchange rates to achieve this objective. Assume that initially both the United States and Euroland have the same real interest rate of 3 per cent and their exchange rates are in equilibrium. Suddenly, the United States engages in expansionary monetary policies by lowering interest rates to 2 per cent. As a result, assume that inflation in the US is expected to be 1 per cent higher than in Euroland for one year.

In the long term, we know that the dollar would have to depreciate by 1 per cent towards the Euro to maintain the law of one price. In the short term, however, capital flows determine the exchange rate, and the exchange rate will overshoot

(rise). After the interest rate reduction in this example, investors buy Euro deposits which pay a higher interest rate. As a result, the dollar depreciates. But it depreciates by 2 per cent instead of 1 per cent because investors will continue to buy Euro assets until they expect an appreciation of the dollar by 1 per cent. Only then is the expected return to US assets (2 per cent plus 1 per cent appreciation) equal to the return of Euro assets (3 per cent). In other words, the initial depreciation by 2 per cent (overshooting) and a subsequent appreciation by 1 per cent add up to long term depreciation of 1 per cent which re-equilibrates exchange markets.

Empirical evidence supports the relevance of the asset market approach. It has been useful, for example, in explaining part of the strong dollar appreciation in the early 1980s, when high real US interest rates drove up the demand for the dollar. The dollar appreciated (and overshot the equilibrium) until the real interest cum expected depreciation equalized expected returns across countries.

The asset market approach, however, cannot explain all exchange rate overshooting/volatility in all situations. Market imperfections resulting from information problems may exacerbate volatility, especially in underdeveloped financial markets. In those markets, investors may be unable or unwilling to buy and sell assets denominated in certain currencies especially in times of crisis, or demand very high risk premiums. Overshooting may then exceed even the amount justified by interest rate differentials.

4.3.2: THE CHOICE OF EXCHANGE RATE REGIME

There are a number of choices for exchange rate policy—from fully flexible via intermediate to fully fixed rates, but all of them involve important trade-offs.

Considering the importance of exchange rate in trade and other policy objectives, it is difficult for a country to decide on their appropriate exchange rate policy. They can choose regimes of fully fixed or freely floating rates, and there are many regimes with varying degrees of flexibility (Table 6 for a selection of options). There are also two versions of "monetary union" that countries can try to introduce: several countries can adopt a single currency in a Monetary Union of "equals", as recently undertaken by eleven of the 15 EU members. Alternatively a (typically smaller) country can adopt another (bigger) country's currency. This was an avenue considered by Argentina regarding the US dollar in the context of the late 1998 financial turmoil.

Exchange rates can be fully fixed as under currency boards or exchange rate pegs but they may still be allowed to fluctuate by a certain percentage around a target level. The bands (also sometimes called buffer) are "hard" constraints when the central bank has to intervene to prevent breaking the limits. Bands can also be "soft" when the central bank may intervene or not. The latter regime is best characterized as a flexible regime with target zones. The United States has probably one of the most freely floating exchange regimes, as interventions are

very rare. Hong Kong, China and Argentina, by contrast, have versions of currency boards which are the most fixed exchange regimes short of monetary union.

Before choosing an exchange regime, a country should evaluate its policy objectives. A fixed exchange regime, for example, can help achieve a predictable environment for traders. It can also promote price stability by disciplining monetary policy. However, pursuing these objectives implies that the country cannot pursue certain other policy objectives. Devaluation to boost competitiveness, for example, has to be foregone because it leads to higher import prices which, in turn, push up inflation. The following discussion looks at some of the pros and cons of fixed exchange rate regimes in more detail. It should be noted that many of the disadvantages of fixed rates are the advantages of flexible rates and vice versa, but the following discussion does not always mention this explicitly.

Fixed rates make international prices more predictable, and can contribute to macroeconomic stabilization but they mean losing policy autonomy and require sufficient international reserves

One of the most important advantages of a fixed exchange regime lies, as mentioned; in making the returns from international trade more predictable.9The benefits from this are greatest between countries with significant trade links. Furthermore, countries with undeveloped financial markets and lack of hedging possibilities would also be able to reduce the exchange rate risk for their exporters and importers. Finally, fixed exchange rates can contribute to macroeconomic stabilization in countries with a history of high inflation. Argentina, for example, successfully introduced a currency board to raise the credibility of announced reforms and break inflationary expectations. This argument only holds when the chosen exchange rate is approximately "right". This is more easily said than done, given that nobody knows the "right" exchange rate. The question does not arise with flexible rates, but many observers argue that exchange rate in flexible regimes are unpredictable. Thus in the short run this increases the risk for the traders.

Fixed rates require considerable monetary and fiscal policy discipline. When lax monetary policies result in inflation which is higher than in the country to which the exchange rate is pegged, this can undermine competitiveness of domestic producers with adverse consequences for the economy. Excessive fiscal deficits combined with fixed exchange rates can result in very high real interest rates, low growth and unsustainable current account deficits. Growing debt and/or shifting investor confidence could then force devaluation.

If exchange rates are fixed between "equal" countries (where no country can set policies completely independently), some policy coordination is necessary to achieve similar inflation rates and prevent excessive fiscal deficits. In fact, the

members of the European Monetary Union are currently experiencing this pressure for increased policy coordination.

Fixed exchange rates also require sufficient international reserves. The latter are needed if, for whatever reasons, foreign exchange shortfalls need to be financed. A shortage of reserves could otherwise force the country to abandon its currency peg. Such a situation is more likely to arise if high inflation results in overvaluation, current account deficits, and expectations of devaluation. In light of growing international capital mobility and financial integration, the most important indicator of the adequacy of reserves is shifting from the traditional import coverage (i.e. reserves in months of imports) to coverage of external financial liabilities, and especially short term foreign liabilities by the central bank (Eichengreen et. al., 1998). The latter type of liability contributed significantly to the abandonment of the Thai baht's peg to the US dollar which "officially" started the Asian crisis in July 1997.

Monetary management and adjustment to external shocks becomes more difficult with fixed exchange rates, and overvaluation can raise protectionist pressures.

Fixed regimes make monetary policy management difficult when capital inflows or higher inflation elsewhere puts upward pressure on the exchange rate. The central bank may then be required to buy foreign exchange. This, in turn, increases domestic money supply and inflation if it is not sterilized (neutralized). But sterilization policies may not work very well, as such policies drive up interest rates which in turn may attract even more capital inflows. Small countries may find it particularly difficult to absorb large and erratic capital inflows.

Fixed exchange rates can hamper adjustment to internal and external shocks. Primary commodity exporters, for example, often experience a correlation between terms of trade changes, and domestic activity. If prices and wages are not sufficiently flexible and the exchange rate is fixed, strong imbalances can arise when prices and wages do not adjust downward after a terms of trade decline. If commodity prices fall and activity declines, inflexible wages result in unemployment and corporate sector difficulties, as witnessed for instance after the second oil crisis in many oil importing countries. But inflexible prices and wages can also create imbalances in industrialized countries with fixed exchange rates, because this produces inflation differentials and reduces competitiveness.

If under fixed exchange rate system currency becomes overvalued over time this may result in protectionists' pressure. In order to maintain the competitiveness of their product in domestic market requires protection under such regime.

It is mentioned that fixed exchange rate system is helpful for countries with underdeveloped financial markets and limited hedging opportunities. This reduces uncertainty. But financial market development is important for increasing exchange rate stability in countries with either fixed or flexible

exchange regimes. Fixed exchange rate countries, in particular, can experience large exchange rate fluctuations when an exchange rate peg has to be abandoned in an unordered manner and the lack of confidence and market depth lead to collapses of the exchange rate. The Indonesian experience of late 1997/early 1998 probably falls into this category. Financial sector development mitigates the drawbacks of flexible regimes, e.g., by allowing hedging operations through the emergence of new instruments. The development of broader and deeper markets is also likely to increase stability.

From this it follows that fixed exchange rates can have important advantages for traders through more predictable exchange rates. But the costs still often outweigh the benefits, if a fixed rate provokes macroeconomic imbalances and protection, and especially if countries are forced to abandon the fixed rate at some stage. A fixed peg may induce importers to forgo precautionary hedging of their exchange risk, and an unexpected devaluation may then lead to large losses (as witnessed in Asia in 1997). Abandoning an exchange rate peg can also undermine the long term credibility of governments. When governments tie their credibility to the peg and make this a matter of national pride, devaluation often precipitates the downfall of governments (Visser and Smits, 1997). Based on these arguments, recent studies have emphasized the importance of moving early enough to sufficient flexibility in countries where the pre-requisites for stable pegs are not met (see Eichengreen et. al., 1998).

4.3.3: MULTIPLE EXCHANGE RATE AND EXCHANGE ALLOCATION

Multiple exchange rates and foreign exchange rationing distort trade and invite rent seeking and corruption

Countries sometimes try to maintain fixed exchange regimes by providing foreign exchange for certain imports at a preferential rate while applying a less favorable rate to others (or not allocating any foreign exchange for certain imports). Export earnings may have to be fully or partly surrendered at an often unfavorable (below market) rate set by government. Such split exchange regimes which are typically coupled with some rationing mechanism can be introduced with the best of intentions, and in theory, they can help to promote worthwhile public policy objectives through implicit taxes or subsidies. In practice, however, such regimes have typically produced very poor results (Visser and Smits, 1997).

First, multiple exchange rates distort trade. Those transactions which face a favorable rate are likely to grow while others will shrink. In theory, such exchange regimes could serve the promotion of worthwhile policy objectives (although other policy instruments may be more suitable). In practice, multiple exchange rates invite rent-seeking and corruption as the decision on which trade receives favorable treatment is made by government officials who may be susceptible to lobbying and bribes.

A government is also unlikely to be the most suitable agent to allocate foreign currency efficiently, as this requires enormous knowledge about what trade should be encouraged or discouraged. Collier (1998) emphasizes the importance of market-based and private sector-led foreign exchange allocation for developing countries, so that trade transactions are not undermined by government intervention in foreign exchange allocation. Collier examines, in particular, the merits of moving from very controlled regimes with high surrender requirements to more liberal regimes with foreign exchange auctions, bureaux de changes and interbank markets for foreign exchange, with a view to maximizing the efficiency, transparency and flexibility of exchange allocation.

In summary, trade considerations should be one (but only one) of the determinants of foreign exchange policies. If the policy prerequisites are met and trade integration is large, countries can benefit considerably from fixed exchange regimes. Fixed rates for short-term stabilization purposes have also proven useful. However, in many countries the benefits from more flexible regimes outweigh the costs, and greater flexibility may be considered before the markets force an unorderly exit and an excessive devaluation on a country with an ill-conceived and unsustainable peg (see also Collier and Gunning, 1994; Visser and Smits, 1997; and Eichengreen et. al., 1998). Efficient exchange allocation mechanisms are also very important for a functioning trading system, and they should move towards a private sector led and market-based allocation of foreign exchange.

TABLE 4.3: MAJOR EXCHANGE RATE REGIEM AND THEIR CHARACTERISTICS

Exchange regime	**Characteristics**	**Examples (1988)**
1.Fixed exchange rate a) Currency Board b) Exchange rate peg	a) Strongest link to other currency, Money supply adjusts automatically with international reserves. b)Central bank intervenes to maintain peg, some policy discretion possible, depending on the permitted degree of fluctuation	a) Argentina, Hong Kong, China b) CFA zone in Africa, Malaysia
2. Intermediate a) Crawling Peg b) Managed Float	a) Central bank intervenes to maintain peg, Peg is adjusted following certain rule, 'hard' fluctuation band is applied b) Occasional central bank intervention, often 'soft' band or buffers.	a) Brazil b)Many developing countries
3. Free Float	Normally no foreign exchange market intervention	U.S., U.K.

4.4: INTERNATIONAL TRADE AND FINANCIAL CRISES

Crisis can create important disturbance for international trade through two channels:

First, financial crises often result in credit shortages and in the breakdown of financial relations, which makes trade-related financing more costly if not unavailable.

Second, financial crises undermine economic growth, and thereby indirectly trade, and in a large scale crisis these repercussions can be felt even at the global level.

In light of these links between trade and financial stability, we try to examine in this section what financial crises are and what causes them. We continue with a discussion of the economic and trade effects of such crises.

According to our view, that trade is part of the solution to financial crises rather than part of the cause. Trade is typically a very important element in maintaining and regaining financial stability, and liberal trade policies in the crisis countries as well as in their export markets are key to recovery.

A.PROBLEMS OF FINANCIAL CRISES;

Financial sector problem generally stars with growing non-performing loans.

Banks are the most important players in investment and trade related finance providing trade-related loans, letter of credit, etc. at the same time they are also the financial market players which are the most vulnerable to crises.
Such vulnerability is explained with an example of a 'sample bank'. The hypothetical balance sheet of such a bank is shown below.

A) BANK (healthy)

Asset	Liabilities
100 (Loans) (Capital)	10 (Capital)
	90 (deposits)

Capital asset ratio: 10%

B) BANK (after Bankruptcy of client)

Asset	Liabilities
95 (Loans)	5 (Capital)
	90 (deposit)

Capital asset ratio : 5.3%

C) BANK (with reduced loan portfolio)

Asset	Liabilities
62.5	5 (Loans)
	57.5 (deposits)

Capital asset ratio : 8%

Assume the bank has taken deposits of 90. These are recorded on the liability side of the balance sheet because the bank owes this money to its depositors. The bank also has capital of 10 which is a liability to its share holders. Finally, the bank has lent 100 to its clients. Loans are reported on the asset side of the balance sheet as this money is owed to the bank, and the bank can, in principle, sell the loans if it needs the money. The so-called capital-asset ratio for this bank is 10 per cent (10/100=0.1 or 10 per cent). If all borrowers make their interest and amortization payments regularly (and abstracting from risk-weighting and other complications), this could be considered a healthy bank because the capital-asset ratio of 10 per cent exceeds the now widely accepted minimum of 8 per cent (see BIS, 1997).

Now assume a borrower cannot repay a loan, and the bank loses 5. This can be a private borrower, but it can also be a state enterprise, etc. If the bank writes off this amount, loans decline to 95, and the capital falls to 5. This balance sheet is much less healthy: capital of 5 on loans of 95 results in a capital-asset ratio of only 5.3 per cent. To reach the minimum of 8 per cent, the bank either has to raise new capital or it has to reduce lending so that the remaining capital is adequate relative to the bank's loans. If the bank is unable to raise new capital, it has to reduce lending from 95 to 62.5 (as 5/62.5=8 per cent). It can do this through using loan repayments to pay back depositors or through calling in loans which are due. If the losses are too great (and depending on the laws and regulations of a country) a bank may have to close down.

This example already shows the importance of sufficient capital as a contingency for problems. But even with a capital-asset ratio of 15 or 20, banks are still highly "leveraged". This means that their capital is only a small fraction of the loans they give out. The example above is also very close to the real world: it often only takes the loss of 10 per cent of all loans to wipe out a bank's capital. This makes banks much more leveraged than companies, whose capital cushion is typically much larger.

An important question to ask here is why banks lend money to "bad" borrowers in the first place. The main reason is asymmetric information between the bank and the borrower over the borrower's credit-worthiness (see Box II.1 of the previous section for more detail). As a result, banks charge everybody higher interest rates to cover for the bad credits. This, in turn, drives the "good" risks into alternative forms of financing (bond, equity, self-financing). It can lead to the seemingly paradoxical situation where rising interest rates result in less lending because only the bad risks are willing to pay such interest rates, and the banks, knowing this, are unwilling to lend at all (Stlitz and weiss, 1980).

Non-performing loans can also arise through the activities of other financial institutions to which banks have lent money. Hedge funds have become prominent in this regard. Hedge funds are investment funds which are in many ways similar to other types of investment funds. But their fate is intertwined with

banks as they sometimes borrow 10 or more times their capital, so that a fund with US$1 billion in capital in fact operates with US$ 10 billion. This leverage (here by the factor 10) can result in very high losses. If the hedge fund fails, losses in excess of the fund's capital have to be absorbed by the banks which have lent them the money.[hedge funds as limited partnerships are not regulated and do not disclose their positions. This has surrounded them with an aura of secrecy and uncertainty]
In September 1998, for example, banks had to inject several billion dollars into Long Term Capital Management to prevent the failure of the fund to which they had lent large amounts of money.

Widespread banking weakness can result in crisis and cause bank panics.

If non-performing loans and other losses cause the failure of a bank, losses to depositors are often cushioned through the acquisition of the insolvent bank through a healthy bank, through implicit insurance between banks, or through official deposit insurance schemes. But if several banks get into trouble this can undermine the whole financial system. Banks may be unwilling or unable to take over their weak competitors. Insurance schemes may break down from the sheer size of the losses. Furthermore, the weakness or failure of a growing number of banks undermines confidence in the financial system as a whole. Unable to distinguish between sound and weak banks (asymmetric information again), clients may fear that a few bank's problems may just be the tip of the iceberg and may perceive their deposits everywhere as unsafe. This may cause a so-called run on banks or a "panic" as depositors try to withdraw their money regardless of the health of the bank. This is a type of "herding" behaviour at the domestic level. For depositors who do not know which bank is weak and which one is strong it is perfectly rational to withdraw their money everywhere. This is presumably what happened in Russia after the rouble peg to the dollar was abandoned in August 1998. In a panic, even a healthy bank may not be able to pay back depositors because it does not have enough cash and it cannot call in loans quickly enough (as deposits are often more short term than lending). This can broaden the crisis from a number of weak institutions to the entire financial system.

The threshold where the functioning of and confidence in the financial system is threatened by the number of troubled banks and the size of their losses is not equal for all countries. However, Caprio and Klingebiel (1996a and b) argue that this point of "financial crisis" is roughly reached when the net-worth of the banking system is eliminated.

Financial crisis can have international repercussions through trade and—more importantly—financial interdependence.

Financial crises are often intertwined with balance-of-payment crises but they are not identical. A country with a completely closed economy and financial system can experience

financial crisis but the absence of foreign exchange transactions excludes a balance-of-payment crisis. Today, both types of crisis often go hand in hand. This is partly because a financial crisis induces domestic and foreign investors to take their money out of the country. If the country does not have enough foreign reserves to cover these outflows and other obligations like debt service payments, a balance of payment crisis can arise. The withdrawal of foreign funds can put additional pressure on company and bank balance sheets as they cannot roll over old loans or receive new financing. This can exacerbate an existing crisis or it can push a weak financial system over the threshold of crisis. However, most observers agree, that capital flows alone do not cause financial crisis (Goldstein and Turner, 1996; IMF, WEO 1998; World Bank, 1998).

Furthermore, financial crises can spread across countries because of growing financial interdependence. When investors with internationally diversified portfolios take financial problems in one country as an indication that there must be problems in seemingly similar countries as well, they can create so-called contagion. The underlying cause is often the same as for domestic bank runs and capital flight: asymmetric information. Investors do not know which financial systems are healthy and indiscriminately lose confidence in countries which are perceived as similar, and withdraw their funds from all these countries. This happened in many emerging markets after the onset of the Asian crisis.

Growing financial interdependence can also contribute to contagion through another channel. Losses in one market, for example, can force investors to withdraw funds from another market for prudential reasons. If, for example, an investor lost money in Russia and his risk exposure became too high compared to his capital base, withdrawing money from another risky market (such as Brazil at that time) would most likely be the best strategy to abide by prudential norms at home. Ironically, this type of prudent behaviour re-enforced contagion across emerging markets. As a consequence, interest rates for attracting capital to these countries were at times over 10 percentage points higher than for comparable financial instruments in industrial countries.

Financial difficulties faced by companies can also have international repercussions through the trading system. Firms which fail may "export" some of their losses abroad, for example, when unpaid import bills or loans cause foreigners to lose money. This, in turn, undermines the balance sheets of companies and banks with strong exposure to such markets.

The economic and social cost of financial crises may be very high.

Evidence and experience have shown that economic and social cost of prolonged and deep crises can be enormous, only rapid measures of crises resolution can limit such costs. For this reason government intervention is often necessary to prevent protracted instability, as has been experienced, for example, by Japan in the 1990s. Government intervention, however, can be very

costly, raising fiscal deficits and public debt in the process. Larger fiscal deficits and public debt, in turn, must be financed out of tax payers' pockets.

There are two main types of costs associated with financial crisis. First, there are the costs incurred by governments to recapitalize banks, to take over bad loans and to refund depositors. These costs are often very high, and the reason for this can be illustrated quite easily. Most countries report outstanding credit volumes of 50 to 100 per cent of GDP. A financial crisis with, say, 20 per cent fully unrecoverable loans then results in losses of 10–20 per cent of GDP. Assume half of this is absorbed by the banking system itself, then the other half, or losses of 5–10 per cent of GDP have to be paid for by government. If only a small share of the banking system fails or if the economy rebounds quickly and only a small share of loans is unrecoverable, the costs can be smaller. If virtually the whole banking system is affected and other policy errors are committed, the costs can be much larger. The financial crises of Argentina and Chile in the early 1980s saw costs above 40 per cent of GDP.

Second, there are economic and social costs in the form of lost output, less trade and higher unemployment and poverty. This type of cost is hard to measure, but we will see later that the costs can be very significant. The Great Depression, for example, saw output fall by one quarter in many countries. Some of the Asian crisis countries experienced a decline in output by 5 to 15 per cent in 1998.

In summary, there is little doubt today that financial crises have become one of the most-feared economic problems. Nonperforming loans and financial sector losses are at the root of financial weakness. Asymmetric information plays a key role in the emergence of difficulties, and in their spreading to seemingly unrelated banks and countries (through panics and contagion). In the following, we will discuss the causes of non-performing loans and financial crisis in more detail.

B. THE CAUSES OF FINANCIAL CRISIS

We argued before that financial crises mostly have their roots in non-performing loans. Given numerous financial crises in all regions, why are such loans so difficult to contain? First we will look at the domestic roots of crisis before turning to the international linkages. In most countries, however, not just one but a broad array of factors has contributed to financial crisis. Given the complexity of the issues and interdependencies, we can only outline some broad features here.

DOMESTIC CAUSES OF CRISIS

Inadequate macroeconomic policies can weaken the financial system, for example, through creating boom-bust cycles.

There are three main domestic reasons for financial crises:

I) Macroeconomic policy errors,

II) Inadequate financial regulation and supervision, and

III) Inappropriate government financial market interventions (see Kono, Low, Luanga, Mattoo, Oshikawa , 1997)

Poor macroeconomic management puts pressure on financial systems, for example, through creating boom-bust cycles. If a government introduces expansionary monetary policies by lowering interest rates, this permits easy financing of investment projects and consumer credit. The economy picks up, and as long as spare capacities are better utilized such policies can even be non-inflationary. Continued monetary expansion is likely to lead to economic overheating as domestic demand begins exceeding supply. Increases in asset prices such as stocks or real estate follow.

Economic overheating also triggers inflationary pressures more broadly. The government then has to raise interest rates to "cool off" the economy. Often, the correction comes too late and asset prices have already appreciated so much that their prices are mainly justified by anticipated further increases and not by rents or profits. If investors find themselves with debt from buying these assets which is not justified by the returns, and higher interest rates raise the financing costs of debt, they will try to sell their assets. If many of them do this, the asset bubble bursts, and prices tumble.
[In Argentina, for example, apartment prices increased by 50 per cent and stock prices tripled in real terms between 1977 and 1981 before the bubble burst and all gains were lost within a year (Baliño, 1991).]

Highly indebted investors may find themselves with negative equity, i.e., the sales price would not cover their debt. In that situation, many investors may have literally lost everything and default on their loans. This results in the non-performing loans which undermine corporate and bank balance sheets.

Furthermore, the banks' capital often includes shares and real estate. If asset prices fall strongly, banks may have to write down the value of these assets in their books, which reduces the value of their capital, and limits their ability to extend new loans. If many banks are affected by the adverse effects of a bursting asset bubble, a financial crisis may emerge. This chain of events
has been reported in many places from the Great Depression in the early 1930s, Latin America in the early 1980s, the Nordic countries in the early 1990s to East Asia most recently.

Crisis macro management has to balance the threats of deflation and hyperinflation.

If monetary policies (and possibly prudential standards) are relaxed and the central bank extends credits to troubled banks and companies this can trigger hyperinflation. Several Latin American and transition economies experienced this in recent decades. On the other hand, an excessively tight monetary stance may worsen the situation for banks if the resulting high real interest rates drive more companies into default on their loans. If tight monetary policies are followed by deflation, real interest rates rise as nominal interest cannot fall below zero. Furthermore, the real value of companies' debt grows, thereby undermining corporate and (indirectly) bank balance sheets. The Great Depression is the most well-known example of this type of crisis management error (Friedman and Schwartz, 1963).

Overvalued exchange rates followed by devaluation can initially undermine financial stability.

Fixed and overvalued exchange rates can contribute to boom-bust cycles and financial crisis through their implications on the balance-of-payments and on relative prices. This is a very complex issue. If the exchange rate is fixed to a currency with relative price stability like the US$ or the Euro, and if expansionary monetary policies start causing inflation, the exchange rate appreciates in real terms. This raises, in particular, the price of goods and services which are not tradable (such as real estate) as compared to goods which are tradable (such as cars) because increases in the price of the latter products are kept under some control by competition from world markets. In other words, the choice of the exchange regime can worsen imbalances in relative prices and exacerbate asset price bubbles.

Expansionary policies also cause aggregate demand to outstrip domestic supply, the counterpart of which is a growing current account deficit. In the balance of payments this shows up as imports growing more quickly than exports. Strong demand draws in imports while the real currency appreciation makes exporters less competitive. The growing current account deficit has to be financed either through falling reserves or capital inflows. If then, for example, a real estate bubble bursts and much real estate-related debt becomes non-performing, investors may not be able to pay their loans to both domestic and foreign banks. Confidence declines, new financing becomes unavailable, and capital flight sets in. This, coupled with inadequate reserves, may then force the country to abandon its fixed exchange rate.

The potential repercussions from such a devaluation can be very grave in countries where many debt contracts are short term and in foreign currency. A devaluation increases the real (domestic currency) value of foreign currency-denominated debt significantly (Mishkin, 1998a). This may be bearable for companies with hard currency export earnings. But companies with local

currency revenue to finance foreign currency debt are much harder hit. Corporate bankruptcies follow, with the above-mentioned consequences for non-performing loans and bank balance sheets. In the Asian crisis countries, for example, much debt was denominated in foreign currency, and traders did not hedge their obligations in the belief the exchange rate would remain stable. When a large amount of short term loans became due and foreign financing dried up, several currencies experienced very steep falls, thereby exacerbating problems of companies indebted abroad. Although a devaluation can cause significant problems initially, we will see later that it can also be an important element of recovery from a crisis, as it improves the competitiveness of the domestic exporting and import-competing sectors instantaneously.

Poor banking regulation and supervision are another key cause of banking crises.

When banks are under-capitalized they are less able to weather major shocks. Inadequate licensing and management requirements result in poorly managed and, almost by definition, weak banks. If bankruptcy policies are not in place, and banks can continue operating even when they are in trouble, managers have an incentive to be more careless in extending risky loans (to recover their losses). Poor risk management has also been singled out as a main problem area in many countries (Kono et al., 1997; IMF, ICM, 1998). Lack of transparency is almost always criticized in the context of financial crisis. If, for example, a country's accounting rules do not require the timely and appropriate disclosure of non-performing loans, this can delay a timely response to emerging difficulties and exacerbate boom-bust cycles. Recall our example from above, starting with a healthy bank balance sheet. Assume that a borrower stops making interest and amortization payments on his loans. If the bank has to report and write off these loans, a regulator will require the bank to take corrective action before new lending can resume. This indirectly also puts a break on the lending boom, and thereby on asset price inflation. If there is no such reporting/provisioning requirement for nonperforming loans, the bank can continue lending, thereby further fuelling the lending and asset boom. Prudential regulation promoting transparency can hence help contain the emerging asset bubble and the danger of financial crisis. It is now widely held that lack of transparency, allowing non-performing loans to be hidden and delay adjustment in the financial sector facilitated complacency, prevented early warning, and contributed significantly to the depth of the Asian crisis.

Excessive exposure to one single borrower and lending to related parties is also often seen as leading to financial difficulties. If a bank makes a significant share of its loans to just one borrower, a default by the latter would most likely cause the bank to fail as well. Lending to bank employees and managers or companies who have a stake in the bank has often led to imprudent decisions and later difficulties. Negligence by regulators and supervisors in these areas has frequently been reported in past incidences of financial crisis. Finally, good regulation is not enough. Supervisors are often unwilling (because of poor incentives) or unable (because of inadequate means and skills) to perform their

tasks satisfactorily. If supervisors do not discover underreporting of non-performing loans, management errors, fraud etc. and do not demand corrective action, financial stability will suffer.

Inappropriate financial sector interventions, including "cronyism", financial repression and protectionism contribute to financial difficulties.

Various other types of government intervention can undermine the health of the financial sector. Governments in many countries have burdened the financial system with costs which should normally be borne by the budget. An example of such policies is directing credits to priority firms and individuals at below market interest rates. This includes so-called political lending to friends and relatives of the ruling establishment. A related type of intervention aims at reducing government debt servicing costs. The most popular means is financial repression when financial institutions are forced to hold government debt at below market interest rates. Tanzi (1995) reports that some countries have reduced interest expenditure by several per cent of GDP via financial repression in the past.

Such interventions distort credit allocations and thereby reduce the growth potential of an economy. They can also undermine financial stability. The costs of subsidized credits or subsequent non-performing loans have to be met by earnings from other activities. If financial institutions are unsuccessful in making a compensatory profit elsewhere, or if they are not allowed to do so, their balance-sheets are weakened. Depending on the magnitude and severity of interventions, the latter can exacerbate or even trigger financial crises (Kono et. al., 1997). It should also be noted that financial sector interventions are often accompanied by restrictions against foreign financial service providers. This isolates the financial system and may, thereby, generate the rents to pay for the above-named government interventions. But it also shields the financial sector from healthy competition and innovation which, in turn, distorts investment and financial flows (Francois and Schuknecht, 1999).

Kono and Schuknecht (1998) find that restrictive regimes in financial services trade may have resulted in more distorted capital flows and less financial stability.

4.5: INTERNATIONAL INFLUENCES ON FINANCIAL STABILITY

Terms of trade shocks and international interest rate hikes can undermine financial stability in a similar manner as boom-bust cycles.

Two types of external shocks have contributed to financial crisis in the past: declines in the terms of trade and world interest rate increases. When countries experience a negative terms of trade shock, governments and corporate borrowers experience a fall in revenue which may make them unable to pay for their financial obligations at home and abroad. Debt-servicing problems, non-performing loans and financial crisis are likely to follow. Undiversified exporters of

commodities with much price variability are most likely to suffer financial crisis because much of the economy-wide loans are linked with the commodity sector. Examples include the post-boom financial crisis in Africa or Latin America in the early 1980s.

After the second oil crisis, which triggered stagflation (high inflation and low growth) in the West and a debt moratorium in Mexico in 1981, interest rates rose steeply. Most developing countries had contracted large amounts of debt at low or even negative real interest rates in the late 1970s. When interest rates shot up, so did the debt burden of many countries. The subsequent "debt crisis" triggered often not only external payment difficulties but also domestic debt crisis. Eichengreen and Rose (1997) find interest rate increases in industrial countries to be one of the main explanatory factors for financial crises in developing countries.

Lack of transparency promotes "herding" behaviour by international investors and contagion; implicit debt guarantees can result in "moral hazard"

The volatility of international capital flows can also contribute to financial crisis, especially in a non-transparent economic and policy environment. First, strong capital inflows can undermine countries' macro management. Capital inflows raise the money supply but anti-inflationary interest rate increases may then attract even more foreign money. Foreign money which finances asset acquisition and excess demand can also exacerbate an asset bubble. And poorly informed foreign investors are likely to continue "flocking" into a "fashionable" market when the lack of profitability of investment opportunities and financial difficulties are "disguised". When the bubble bursts, investors lose confidence and display "herding behaviour" again—this time in the other direction. Exaggerated inflows turn into excessive outflows which exacerbate the contraction of asset prices and, thereby, the pressure on financial systems. Poorly informed investors are also more likely to invest only for the short-term. This distorts the structure of capital flows and makes countries more vulnerable to changing investor sentiment (Kono and Schuknecht, 1998).

Herding behaviour and international contagion, we mentioned, largely go back to asymmetric information (see Wolf, 1999 for a survey). Growing international financial interdependence and the lack of transparency in many developing country financial markets contributes to spreading financial crisis. When Thailand slipped into crisis, investors began to look at other Asian nations more carefully. It has been widely argued that a lack of transparency had helped to hide problems there as well. Confidence collapsed and capital flows reversed. The five Asian crisis countries experienced average outflows of almost 4 per cent of GDP in 1997, after average inflows of a similar magnitude the year before. Banking systems which had already been weak before could not absorb the additional pressure. In late 1998, non-performing loans in the Asian crisis

countries were estimated at 20–30 per cent of all loans (IMF, WEO, October 1998).

A number of observers argue that the Asian financial crisis was triggered (or at least worsened) by moral hazard, as imprudent investors relied too much on implicit guarantees by governments. The argument is that investors bring more money into countries where they feel that their deposits are implicitly guaranteed than into those where they would have to bear part of the costs of financial difficulties. Although few people doubt the need of international emergency financing in principle, some observers argue that the "generous" bailout of Mexico by the international community in 1995 and the perception that international emergency funds are readily available at non-penalizing terms worsened the moral hazard problem in Asia as it made government debt guarantees more credible.

Protectionist responses during financial crisis are likely to raise rather than reduce pressure on financial systems.

Finally, financial crisis can spread through protectionist trade policies. At first, protection seems to be a ready means to raise the profitability of domestic producers which can then indirectly help strengthen the financial system. However, the adverse repercussions of protection are probably much more serious than the benefits. Protection raises the price of imports. If these are inputs for domestic producers competing in world markets, their competitiveness and financial position suffers. Furthermore protection can hurt foreign producers if they lose export business for which they have incurred fixed costs or if they can only sell such products elsewhere at a loss. This undermines the financial health of foreign producers and, indirectly, financial stability abroad. Finally, protectionist retaliation is likely and this, in turn, will hurt domestic exporters. The net effects of trade protection on the financial sector at home and abroad are, therefore, likely to be negative.

4.6: THE ECONOMIC, SOCIAL AND TRADE IMPLICATIONS OF FINANCIAL CRISIS

This part looks in more detail at the economic, social and trade implications of financial crisis which can be very grave indeed. First, the impact of crisis on macroeconomic variables, such as growth, money and the availability of credit, fiscal deficits, and the current account balance is analyzed. A discussion of the social consequences, especially regarding unemployment and poverty follows. Finally, we turn to the trade implications of financial crisis.

Economic and social implications of financial crises:

A financial crisis can create a credit crunch which, in turn, depresses economic activity

A financial crisis often has severe economic repercussions. If banks experience significant non-performing loans, they may come under pressure to improve their balance sheets. We have seen above that one way to do so is to reduce the loan portfolio by calling in old loans while not extending new ones. The resulting "credit crunch" is magnified in a full-fledged financial crisis when the lack of confidence and uncertainty makes banks even more reluctant to extend new loans to customers whom they cannot easily identify as "good" risks. Even healthy companies may find it difficult to obtain new credit when the banks which know about their good standing are in difficulties or out of business, and other banks do not know their creditworthiness. Uncertainty about future exchange rates (and thereby the profitability of activities) and the value of assets (which could serve as collateral) can worsen the "credit crunch". As a result, firms will find it difficult to get new financing for investment projects, and sometimes even capital for their production and trading activities. The corporate sector may be unable to repay called-in loans, and in extreme circumstances contracts may not be honoured due to lack of capital. All these factors depress economic activity. They may even lead to a vicious cycle of declining activity triggering more non-performing loans and bankruptcies which, in turn, again depress output.

Mexico in the post–1994 crisis period and the Asian countries after mid–1997 experienced a significant credit crunch (IMF, WEO, October 1998). Private sector credit typically expanded at a rate of 10–30 per cent in the pre-crisis year (which is also indicative of the asset price boom stimulated by loose credit policies before the crisis). As the financial crisis unfolded private sector credit started falling. In Mexico and Thailand the crunch was most pronounced, and private credit fell by 20–40 per cent in real terms. The other Asian crisis countries reported declines of up to 20 per cent in the first half of 1998.

Financial crises can have repercussions on growth abroad

Financial crisis can also depress economic activity abroad. If banks have to cover for unpaid debt, they may have to scale back their lending activities not only in the crisis country but also abroad. Similarly, a company experiencing losses from unpaid trade bills or diminished export opportunities, may want to cut investment. These spillovers and growing import competition from crisis countries are likely to depress economic activity in non-crisis countries as well. Repercussions are likely to be strongest in countries with close trade links and a large financial exposure to crisis countries. The Asian crisis provides a prominent example of global repercussions from financial crises. World growth projections have been repeatedly revised downward between May 1997 (pre-crisis period)

and fall 1998 (Table III.1). In May and still in October 1997, IMF growth forecasts were exuberant, looking at world growth of over 4 per cent for 1998 and 1999. By May 1998, growth for 1998 had been revised down ward to about 3 per cent and by fall 1998 to only 2 per cent, before being revised slightly upward again in spring 1999. Growth prospects for 1999 had been reduced to 2.5 per cent by fall 1998. These projections include the direct effect of the financial crisis on economic activity in South-East Asia and also the indirect effect on other countries. Japan experienced the strongest revisions, as its economy and banking system were more exposed to South East Asia than the ones of other industrialized countries. Japan's 1998 growth projection was revised from almost 3 per cent in May 1997 to –2.5 per cent in October 1998. Other industrialized and developing countries, however, also found their growth forecasts reduced, especially after the financial crisis spread to Russia and threatened to affect Latin America.

Financial crisis can undermine monetary and fiscal stability.

The impact of financial crisis on other macroeconomic variables are also worth discussing. We mentioned above that monetary management is very difficult during financial crisis. If a country attempts to "solve" a crisis through extending central bank credit, such monetary expansion can lead to hyperinflation. Amongst the Asian countries, Indonesia probably came closest to this scenario as lack of reforms and central bank credit growth fuelled inflation in late 1997 and early 1998. On the other hand, financial crisis coupled with overly contractionary monetary policies can result in deflation with equally adverse consequences for economic activity. Tight monetary policies coupled with falling international commodity prices, deflation and accelerating bank failure in the late 1920s and early 1930s is now seen as key in explaining the Great Depression of the early 1930s. The fear of deflation, therefore, induced industrialized country central banks to reduce interest rates in late 1998.

TABLE 4.4: TRADE DEVELOPMENTS IN A COUNTRY WITH FINANCIAL CRISIS:

Issues	Exports volume I	Import volume
Credit crunch, confidence loss	Down	Down
Decline in domestic demand	Possibly up	Down
Financial and economic contagion	Down	--
Policy choices:		
Devaluation	Up	Down
International financial support	Possibly up	Up

Financial crisis put pressure on Govt. finances mainly through three channels.

First: they raise public expenditure on social obligations such as unemployment benefits and social assistance.

Second, revenue specially from the corporate profits tend to fall.

Third, fiscal deficit and public debt rise when governments have to bail out financial system with public money.

In this process the weakening public sector accounts and loss of confidence in holding domestic currency debt force the Govt. to print money, and in a vicious circle this causes hyperinflation and further economic deterioration.

The end of the boom and falling external financing often require painful adjustment of the current account and aggregate demand.

Financial crises also often require a painful adjustment of the current account, especially if the crisis was preceded by an economic boom, high external deficits and growing debt. An economic boom characterized by excess domestic demand and high current account deficits at some point has to be followed by a period of tighter demand and more balanced external accounts. But during a financial crisis, capital outflows may demand a large improvement in the current account, and this can only be achieved through a strong contraction of domestic demand.

If the crisis is severe, the credit crunch and the confidence loss cause domestic demand to shrink as producers stop or scale down investment projects and run down stocks, and consumers cancel or delay purchases. If the magnitude of this "automatic" adjustment in demand does not suffice to achieve the necessary adjustment in the external accounts, government fiscal policies may have to be contractionary to prevent external payment difficulties. But if the contraction of domestic demand "overshoots", there may be room for countervailing fiscal expansion.

With falling domestic demand and the onset of recession (or even depression), government social policies become very important. Despite the growing social needs, however, an excessively loose fiscal stance in times of crisis can be counterproductive. Fiscal expansion could offset the necessary adjustment of the current account and put pressure on the exchange rate by raising public consumption and deficits. Growing deficits might also absorb a large share of the available (and scarce) liquidity, thereby crowding out private investors and driving up interest rates.

In a severe crisis, international financial support can be of crucial importance to contain the decline in economic activity (by reducing the necessary adjustment in the current account) and to support crisis resolution. International support can

help prevent default on international debt payments, and thereby prevent worse repercussions on the domestic and international economy.

Foreign direct investment (FDI) can help re-capitalize banks and the corporate sector. Despite international support, the required external adjustment can still be enormous: some Asian countries experienced a turn-around in the current account by over 10 per cent of GDP between 1997 and 1998—and this is closely linked to the reversal in capital flows and the strong decline in economic growth in these countries.

Unemployment and poverty constitute the social costs of crisis

Financial crisis can cause considerable social hardship. As economic activity slows down, and banks and companies close or work at less than full capacity, people are laid off and real wages fall. The unemployed and those at the lower end of the wage scale who have to feed large families are most likely to suffer and are possibly even pushed below the poverty line. Social assistance programs become over-stretched, health and nutrition levels fall and the poorest may not be able to pay school-related expenditure for their children anymore. Acknowledging these costs, governments in crisis countries and the international community emphasize social safety nets and human capital formation in their assistance programs.

Trade implications of crisis:

Credit shortages are likely to reduce imports and may under certain circumstances, render trade financing more difficult

There are important trade implications for a country affected by financial crisis and we touched upon some of them above. First, the credit crunch following financial crisis adversely affects imports. Credit-financed investment projects (which usually have a large component of imported capital goods) are scaled back. The Great Depression, for example, witnessed a decline in gross investment by almost 90 per cent (Kindleberger, 1973), and the Asian crisis resulted in a decline in gross investment by about one third in Thailand and the Republic of Korea in 1998. Consumer credit is also likely to suffer, and together with falling consumer confidence, is likely to affect especially imports of consumer durables such as cars and luxury items.

The credit crunch can also adversely affect export and import volumes through raising the costs of trade financing. In a financial crisis, credits to finance imports or to advance export payments, like any other form of financing, will face higher interest rates. Premiums for export guarantees are bound to rise, as agencies find it more difficult to assess the creditworthiness of trading partners in crisis countries.

In severe crises with significant short term private debt and exchange rate volatility, producers may find it difficult to finance their trading activities at all. First, domestic banks may not be solvent enough to finance imports which are needed to produce exportables. Similarly, working capital may be hard to come by, even if the export orders for which the capital is needed have already come in. Second, uncertainty about the solvency of domestic producers—which is likely to be greater the higher their short term foreign indebtedness—may also undermine their ability to obtain credit. Third, exchange rate volatility may make banks reluctant to extend foreign currency letters of credit. An Indonesian bank, for example, may not want to guarantee a payment in dollars, if it does not know whether tomorrow's exchange rate still permits the domestic producer to pay.

Despite these obstacles to obtaining credit, and reported difficulties of obtaining trade-related financing, such claims should be examined with caution (Stephens, 1998a). Exporters are most likely to receive credits during a financial crisis. First, if the exporter is indebted domestically or abroad, cutting off trade credit lines is not in the interest of financial institutions. This would further reduce his ability to repay his debt. An exporter earning hard currency may also receive preferential treatment by banks which want to pay back hard-currency obligations elsewhere.

Second, exporters can find alternative means to finance their trading activities. The credit crunch can be circumvented through trade credit by foreign banks. Export proceeds can also be deposited in an escrow account out of which import bills are paid first, before the remaining funds are released to the exporter. Furthermore, in some instances difficulties in getting credit may be justified if the producer is insolvent and continuation of his operations is not guaranteed.

Declining growth reduces trading opportunities while raising competitive pressure

The decline in domestic demand accompanied by rising unemployment and declining business and consumer confidence depresses import volumes. Domestic producers whose home-markets are eroded by crisis may increase their sales abroad to seek alternative business and to service their financial obligations. This is likely to increase exports. On the other hand, in third countries, the loss of export opportunities to crisis countries and potential repercussions from financial problems can undermine growth. This in turn reduces the opportunities for exporters from crisis countries to sell abroad (second-order effects).

Devaluation and international financial support can stimulate trade

If a country devalues relative to its main trading partners, domestic producers of traded goods and services become more competitive at home and abroad. As a consequence, export volumes are likely to increase, while import growth slows down or even becomes negative. [Another concern sometimes raised is that of competitive devaluation. If all countries devalue the relative position of countries does not change.]

However, we have seen above that the "disorderly" abandonment of exchange rate pegs can result in extreme exchange rate volatility and "overshooting", as experienced by some Asian countries, (Eichengreen and Masson, 1998), This can undermine trading activities as financing is withheld and corporate solvency is threatened. The costs of such financial turmoil may outweigh the benefits from a more competitive exchange rate in the short run, until financial markets have stabilized.

International financial support allows countries in crisis to sustain higher import levels. In as much as this takes pressure from the financial system, sustains economic activity and restores confidence, it can also be good for a country's export performance. Bulgaria, for example, experienced a virtual collapse in the financial and productive sector and a severe contraction in exports and imports in 1996 and early 1997, before an international support package arranged through the IMF stabilized the economy and revitalized trade.

The Asian crisis resulted in substantial revisions in global trade projections.

At the global level, severe financial crises in important countries are not only likely to depress world output but also world trade. Table III.3 illustrates the adverse effect of financial crisis on global trade, as witnessed by the Asian crisis. Before the onset of the Asian crisis, the IMF WTO projected 1998 world export volume growth at 6.7 per cent. This was revised downward to 3.6 per cent in the October 1998 WTO and to a similar number in the 1998 WTO Annual Report, before being revised further to 3.1 percent in 1999.

Similarly, trade growth for 1999 has also been revised downward from 6.0 per cent (May 1998) to 3.7 per cent (May 1999). The change in projections for developing Asia is even more dramatic. In May 1997, the IMF WEO projected double-digit export and import growth for 1998. Subsequently export volume growth was revised downward to less than 4 per cent for both 1998 and 1999. Import volumes even contracted in 1998 before recovering to modest growth in 1999.

4.7: THE ROLE OF TRADE IN CRISIS PREVENTION AND RESOLUTION

A functioning trade financing system is important, but government intervention should be very careful to avoid unintended adverse consequences

Liberal trade policies and trade-related financial policies which help trade to flourish are key variables in preventing and solving financial crises. We mentioned above that breakdowns in trade-financing and trade protection can trigger and re-enforce a vicious circle of financial crisis and declining growth. Stephens(1998a) provides a detailed discussion of the role of trade financing and related government policies in preventing and coming out of crisis. It is noteworthy, that banks typically do not have an incentive to cut off (relatively low

risk) trade credit lines during financial crisis as this would undermine borrowers' ability to pay their debt. 5 But creditors and borrowers have an incentive to draw attention to trade financing problems strategically if they think that governments and international agencies might step in and provide more favorable financing. A careful assessment of the extent of the problem is therefore important before initiating such action.

Trade growth can be an important vehicle to emerge from crisis, and well-conceived trade liberalization and exchange rate adjustment can contribute to this aim.

During financial crisis, governments sometimes contemplate trade protection to provide relief to domestic producers. However, as outlined above, the effect on input prices, the distortions it creates, and the danger of retaliation do not make this an advisable option to deal with financial crisis. By contrast, trade liberalization has featured prominently in a number of countries to escape from financial crisis. The reason is that liberalization enhances economic efficiency and lowers input prices, and thereby helps the economy to escape from crisis through trade.

Trade liberalization is probably more feasible when combined with the correction of an overvalued exchange rate. This dual approach allows the efficiency gains to be reaped from freer trade for domestic and export-oriented industries while compensating import competing industries with the import-price-boosting effect of devaluation. Liberalization cum devaluation can then trigger a strong output response in the tradable goods sector which helps to re-ignite the economy and absorb unemployment. Devaluation alone could also boost the competitiveness of the export sector which, in turn, could help improve corporate balance sheets, repay debt, and speed up crisis resolution. We mentioned above that an "orderly" devaluation is key in minimizing adverse short-term repercussions of devaluation. High foreign debt can also reduce the beneficial effects of devaluation, as the increased debt burden in domestic currency terms may undermine the health of non-exporting producers.

The 1994 CFA franc devaluation in West Africa, which was also accompanied by trade liberalization measures, provided such an impetus to trade, and export volumes in most countries of the CFA zone increased strongly (Clément, Mueller, Cossé and LeDem, 1996). Mexico saw export volumes increase by over 50 per cent in the two years following the floating of the Peso at the end of 1994. Exports, thereby, contributed strongly to the economic rebound that occurred in Mexico in 1996. We will see in the next section that strong export growth also played a pivotal role in other financial crisis episodes, and is likely to do so in the context of the Asian financial crisis as well.

Liberal financial services trade policies can lead to more efficient and developed financial sectors, and less destabilizing capital flows.

The Asian crisis has shown that even countries with a seemingly favorable policy environment, including balanced fiscal accounts, export-oriented trade policies and relatively low import tariffs are not immune from financial crisis. As it turns out, policies have not always been as favorable as perceived, and inappropriate government interventions in the financial sector were particularly prominent. In several countries, domestic financial institutions suffered from directed and political lending. At the same time, certain protectionist policies in the financial services sector may have encouraged an over-emphasis on short-term lending in foreign financing (Kono and Schuknecht, 1998). In the Republic of Korea, for example, such policies probably favored short-term over long-term capital inflows (World Bank, 1998). A bias towards short-term lending in external financing is now widely seen as having exacerbated the financial turmoil in Asia.

Kono and Schuknecht (1998) discuss the importance of financial services trade policy for financial stability. The commercial presence of foreign service providers and liberalization across the full spectrum of financial services is particularly beneficial to financial systems. First such liberalization instills competition and encourages the transfer of skills (although it can give rise to transitional adjustment problems in the financial sector).

Second, market and infrastructure development, risk management and transparency are increased. Finally, a better information base for investors and deeper and broader financial markets are likely to generate a more balanced maturity and instrument structure of foreign debt which is less conducive to financial crisis.

Thailand and the Republic of Korea started changing their policy course in 1997 and, in a widely welcomed move, opened their financial services sectors to further foreign participation. Financial services trade liberalization could probably become an important vehicle of crisis prevention in other countries as well. The last Section will deal in more detail with the role of the WTO in this context.

4.8: STRATEGIES FOR FINANCIAL CRISIS PREVENTION AND RESOLUTION OUTSIDE TRADE POLICY

Here we briefly discuss the policy recommendations outside the trade area which are seen as key issues in solving financial crisis, i.e. macroeconomic and regulatory policies and issues related to the international financial architecture.

Proper macroeconomic policies are key for maintaining and regaining financial stability.

In previous parts, we described the adverse consequences of inappropriate monetary and fiscal policies on the financial sector. Much attention has been paid

to macroeconomic management to prevent and to solve financial crisis. Here we can only restate some basic principles. Crisis prevention involves cautious monetary and fiscal policies to prevent economic overheating. Both can help avoid a boom-bust cycle. Fiscal and monetary transparency is also important conditions for improving macroeconomic management. The IMF has been developing codes of conduct in these areas.

In some countries, interest rate ceilings and financial repression weaken the financial system. Such policies should be replaced by indirect monetary policy instruments and market based debt financing (coupled with fiscal consolidation if deficits are too high). This strengthens financial institutions and promotes financial market development. Political or directed lending should also be avoided as frequent losses from such loans weaken financial systems.

Overvalued exchange rates are not conducive to financial stability. However, an orderly exchange rate adjustment in the middle of a financial crisis is not always possible, especially if market participants did not hedge against a change in the peg, and financial market turmoil could result in strong exchange rate overshooting and volatility. This was the experience of several Asian crisis countries in late 1997 and early 1998. Although there is no one "right" exchange rate regime for all countries, Eichengreen and Masson (1998) and Mishkin (1998a) suggest that emerging market countries should seek more flexible exchange rate regimes in "good" times, so that there is enough flexibility for an "orderly" adjustment in times of crisis.

Strong prudential regulation and supervision in the financial sector is now widely held as a prerequisite to financial stability

Weak financial regulation and supervision in many countries and the globalization of financial activities has induced the development of the so-called Basel Core Principles for Effective a set of "Principles for effective Banking Supervision. These are guideposts for evaluating and reforming a country's regulatory and supervisory policies. The International Association of Insurance Supervisors (IAIS) released a set of "principles, standards and guidance papers" for insurance supervision dealing with internationally active insurance companies. We can only review a few core recommendations here, and more details are provided by BIS, IOSCO, IAIS and IMF reports, and Goodhart, Hartmann, Llewellyn, Rojas-Suarez and Weisbrod, (1998).

An adequate capital base is a safeguard against crisis; transparency, licensing, management and supervision of financial institutions may need to be improved

We noted before that the capital of the banking system is like a safety net to depositors. A bank with a large capital base is perceived to be more trustworthy and stable because depositors are more likely to get back their money even in hard times. A large capital base will also allow the bank to extend new loans when profitable investment projects are coming up. The Basle standards specify

a number of additional elements of effective banking regulation and supervision. Licensing, transfer of bank shares and ownership, corrective measures and liquidation procedures shall ensure that only competent and financially "healthy" banks offer financial services. Management has to be capable, and risk management needs to be up to scratch so that banks are not weakened from within. [A tightening of prudential standards during financial crisis can worsen the credit crunch as banks may have to cut back lending further to meet such tightened prudential standards] Supervisors must carry out their tasks effectively with adequate means and training, and political influence on supervisors should not undermine their role.

Much attention, however, has focused on increasing transparency. Accounting and auditing standards need to secure full transparency over the financial position of companies and financial institutions. Especially, uncertainty about non-performing loans can undermine confidence. The experience in Asia has shown that obfuscation first delays the response of investors. Once rumors of problems spread, domestic and foreign capital flight is likely to make things much worse than if transparency had allowed an earlier and more gradual response. The international harmonization of auditing and accounting standards is, therefore, an important step in both strengthening domestic financial systems and preventing international "herding" behavior.

Government intervention may be necessary to re-start the economy, but reforms should aim at preventing the recurrence of crisis.

Should governments "help" financial institutions in the case of crisis? This is a difficult question to answer, and a case by case approach on how and to what extent governments should intervene is probably warranted. In the case of isolated bank failures, governments may be well advised to take a hands-off approach and let those institutions be liquidated or taken over. This also provides a ready warning for other institutions. In case of a "systemic" crisis, however, governments can hardly watch the banking system collapse. But governments should not just provide financial support. They should also secure that orderly procedures for the liquidation, restructuring or recapitalization are in place (Folkerts-Landau and Lindgren, 1998), and they should also create the regulatory and macroeconomic policy framework which prevents the recurrence of crisis in the future.

On the procedural level, laws and regulations for bankruptcy and corrective action are very important. Very weak banks often should not be allowed to continue operating as they are likely to take on excessive risk and, thereby, raise the costs of crisis unnecessarily. Conservator ship (control by the supervisory authority) or closure (if there are no chances for return to profitability) might be necessary in this case. Lender of last resort facilities can help protecting the payments system, avoid runs, and prevent illiquidity which could lead to insolvency. Speedy, collateralized short term lending at penalty rates could be

made available to the financial system. A deposit insurance scheme can also provide a safety net for depositors but a number of pitfalls must be avoided (see IMF, 1998a and b for more detail).

When non-performing loans are very extensive and widespread, he banking system may need to be rehabilitated. The weakest institutions may be closed down while public funds could save distressed but viable banks. Governments can re-capitalize the latter directly. Nationalization through an independent public agency and a later resale to the private sector is another option (IMF, WTO 10/98). In any case, public intervention and funds should be employed in a way that minimizes moral hazard IMF, ICM, p 73ff). There may be a need for a large amount of public funds as the latter must be sufficient to re-establish confidence. he bail-out package decided by the Japanese government n fall 1998, for example, foresees public funds of up to 60 trillion yen (12 per cent of GDP) to revitalize the financial system.

Herding behavior and moral hazard may warrant better international transparency, early warning, private sector "burden haring", and international cooperation.

We identified herding behavior and moral hazard arising from implicit debt guarantees as the two ways by which international investors and capital flows can exacerbate financial crisis. After the onset of the Asian crisis, the debate on these problems intensified, and although there is no certainty as to the degree hat this problem contributed to the depth of the crisis, a number of remedies have been implemented or are under discussion.

First, we mentioned that a number of international standards have been developed to improve the transparency and the regulation and supervision of financial markets. These include the Basle standards, securities and insurance regulation standards, the IMF fiscal and monetary standards, and the development of international accounting and corporate governance standards. Private sector efforts aim at improving and coordinating payment systems to reduce foreign exchange settlement risks over different time zones. These initiatives enhance the institutional infrastructure, the international comparability of companies' and financial institutions' health, and the soundness of macroeconomic and regulatory policies.

For the same transparency reasons, data dissemination standards have been developed, and the IMF now provides information about countries' key economic and financial data. Revised data standards are being developed to adapt them to the new financial sector challenges. Revisions on the reporting of foreign debt, international reserves (including forward commitments by central banks), and exposure by international investors, including investment banks and hedge funds are under consideration. Economic and financial early warning indicators are also being developed. An international "financial stability forum" intends to strengthen international surveillance and supervision. Orderly capital market and capital account liberalization are of key importance to maintaining financial stability,

especially when the appropriate policy framework is not in place (Johnston, 198; IMF, ICM, 1998). In some instances, capital controls may need to be retained (Dooley, 1995), although price-based measures are clearly preferable to quantitative restrictions (Schuknecht, 1999). Chilean type reserve requirements on term flows considerable attention in this context (see Laurens and Cardoso, 1998, for more details on this case).

International communication and cooperation between governments and supervisors needs to be strengthened to improve transparency and crisis management. The IMF has been asked to improve its surveillance process, and a new financing facility for crisis countries (charging a penalty rate in return for speedy disbursement)has been put in place. Finally, private sector "burden sharing" and better mechanisms for orderly crisis resolution (also sometimes called debtor-creditor regimes) are being discussed. Governments may need to exercise great care when (explicitly or implicitly) guaranteeing financial liabilities. On many of these issues, however, the discussion is still very much in flux.

Countries which tackle their policy problems rapidly can reduce the severity and duration of crisis

Finally, the effect of crisis on trade and growth depends on the speed and determination with which policy makers address the crisis. A country which speedily implements far-reaching reforms is more likely to come out of the crisis quickly with less protracted declines in trade and growth. Mexico, for example, experienced a steep decline in growth and imports in 1995 before a strong rebound only one year later. Japan, by contrast, had not been able to implement adequate reforms until 1998,several years after financial difficulties had started undermining economic growth.

CHAPTER 5

FINANCIAL CRISIS AND CAPITAL FLIGHT FOR THE SIX SELECTED COUNTRIES

- *INTRODUCTION*
- *STATICAL ANALYSIS OF FINANCIAL CRISIS AND CF FOR :*
    - *INDIA*
    - *PAKISTAN*
    - *BALGLADESH*
    - *NEPAL*
    - *BAHUTAN*
    - *SRI LANKA*
- *CAPITAL ACCOUNT LIBERALIZATION AND ESTIMATED OUTFLOW*
- *ISSUES RELATING TO CAPITAL OUTFLOW AND MACROECONOMIC POSITION*

CHAPTER 5

FINANCIAL CRISIS AND CAPITAL FLIGHT FOR THE SIX SELECTED COUNTRIES

5.1: INTRODUCTION

Financial crisis often caused a significant deterioration in growth, fiscal and trade balance, price stability. Macroeconomic variables noticeably improved when the crisis was being resolved. From the discussion of the previous chapter it is clear that the financial position of a country is naturally reflected on some macro variables. Specifically external debt, price index, overall balance position and the growth rate of GDP are the basic indicators of the economies financial position.
Let us take a look into some of the Macro- economic indicators of our selected countries over the period of study (1987-2004-06). Here we place the relevant table and graph for each of the countries to show the change in these variables before the financial crisis, during the crisis and after the crisis. On this background the macroeconomic position of our six selected countries are depicted here in this part of the study.
In each case the tabular presentation is done for the basic macroeconomic indicators over the period of study, then the graphical presentation is done for the same and finally there is the statistical analysis representing the relation with CF and OI. Therefore CF is linked with the other macroeconomic variables along with OI (the data regarding CF and OI are drawn from CHAPTER 3 of this present study). The regression equation and the correlation for each of the variables with the other are shown below.

The correlation for among these variables is also drawn here.

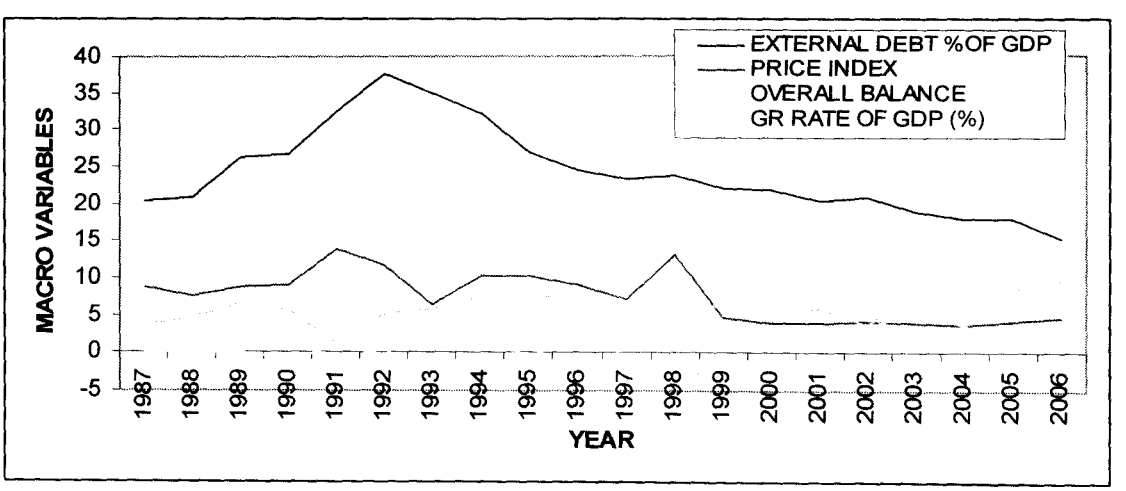
5.2: STATISTICAL ANALYSIS OF FINANCIAL CRISIS AND CF

5.2.1 INDIA:

TABLE 5.1: MACROECONOMIC POSITION OF INDIA

YEAR	EXTERNAL DEBT %OF GDP	PRICE INDEX	OVERALL BALANCE	GR RATE OF GDP (%)
1987	20.5	8.8	0.0	3.8
1988	21.0	7.7	0	4.6
1989	26.1	8.8	0.1	6.7
1990	26.7	9.0	-0.8	5.6
1991	32.5	13.8	0.9	1.3
1992	37.6	11.8	-0.2	5.1
1993	34.9	6.4	3.0	5.9
1994	32.2	10.2	1.8	7.3
1995	26.9	10.2	-0.3	7.3
1996	24.5	9.0	1.7	7.8
1997	23.2	7.2	1.1	4.8
1998	23.8	13.2	1.0	6.5
1999	22.2	4.7	1.4	6.1
2000	21.9	4.0	1.3	4.4
2001	20.5	3.9	2.4	5.8
2002	21.0	4.1	3.4	3.8
2003	19.0	4.0	5.3	8.5
2004	18	3.7	3.8	7.5
2005	18.0	4.2	1.9	8.4
2006	15.4	4.7	4.0	9.4

FIG. 5.1: GRAPHICAL REPRESENTATION OF INDIA'S MACROECONOMIC POSITION



Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (INDIA)

The regression equation is

CF = - 0.0086 + 0.00737 EXT DEBT - 0.00062 PR INDX - 0.00183 OVRL BLNCE + 0.00095 GDP GR + 0.168 OI

Predictor	Coef	SE Coef	T	P
Constant	-0.00859	0.03760	-0.23	0.823
EXT DEBT	0.0073738	0.0009805	7.52	0.000
PR INDX	-0.000615	0.002027	-0.30	0.767
OVRL BLN	-0.001828	0.004182	-0.44	0.670
GDP GR	0.000949	0.002592	0.37	0.721
OI	0.1682	0.1467	1.15	0.274

S = 0.01741 R-Sq = 87.3% R-Sq(adj) = 82.1%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	0.0250959	0.0050192	16.56	0.000
Residual Error	12	0.0036381	0.0003032		
Total	17	0.0287339			

Source	DF	Seq SS
EXT DEBT	1	0.0243231
PR INDX	1	0.0002176
OVRL BLN	1	0.0000530
GDP GR	1	0.0001034
OI	1	0.0003987

Unusual Observations

Obs	EXT DEBT	CF	Fit	SE Fit	Residual	St Resid
6	37.6	0.26089	0.29172	0.01123	-0.03083	-2.32R

R denotes an observation with a large standardized residual

Durbin-Watson statistic = 1.33

Possible curvature in variable OI (P-Value = 0.035)
Overall lack of fit test is significant at P = 0.035

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (INDIA)

	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	0.630				
	0.005				
OVRL BLN	-0.338	-0.627			
	0.171	0.005			
GDP GR	-0.175	-0.229	0.342		
	0.488	0.361	0.164		
CF	0.920	0.512	-0.231	-0.080	
	0.000	0.030	0.357	0.753	
OI	-0.462	-0.621	0.741	0.372	-0.289
	0.053	0.006	0.000	0.128	0.245

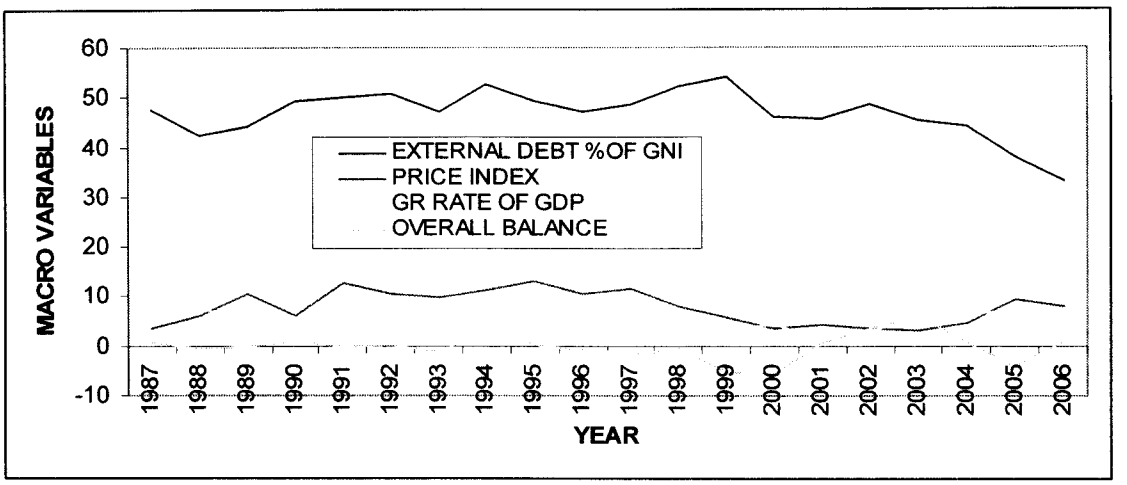
Cell Contents: Pearson correlation

5.2.2: PAKISTAN

TABLE 5.2: MACROECONOMIC POSITION OF PAKISTAN

YEAR	EXTERNAL DEBT %OF GNI	PRICE INDEX	GR RATE OF GDP	OVERALL BALANCE
1987	47.4	3.6	6.5	0.8
1988	42.5	6.3	7.6	-0.4
1989	44.1	10.4	5.0	0.0
1990	49.5	6.0	4.5	1.0
1991	50.2	12.7	5.5	0.0
1992	50.7	10.6	7.3	0.3
1993	47.3	9.9	1.8	-1.2
1994	52.6	11.2	3.7	3.1
1995	49.5	13.1	5.0	0.4
1996	47.3	10.7	4.8	-0.7
1997	48.6	11.8	1.0	-1.7
1998	52.4	7.8	2.6	-0.5
1999	54.3	5.7	3.7	-5.3
2000	45.9	3.6	4.3	-5.5
2001	45.7	4.4	1.9	0.5
2002	48.7	3.5	3.2	3.6
2003	45.4	3.1	5.1	6.3
2004	44.4	4.6	6.0	0.8
2005	37.9	9.3	7.7	-4.0
2006	33.4	7.9	6.9	1.0

FIG. 5.2: GRAPHICAL REPRESENTATION OF PAKISTAN'S MACROECONOMIC POSITION



Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (PAKISTAN)

```
The regression equation is
CF = - 0.0314 + 0.00911 EXT DEBT + 0.00165 PR INDX + 0.00724 OVRL
BLNCE
           - 0.00863 GDP GR + 0.168 OI

Predictor        Coef     SE Coef        T        P
Constant      -0.03144     0.07694    -0.41    0.689
EXT DEBT      0.009113    0.001972     4.62    0.000
PR INDX       0.001649    0.001792     0.92    0.372
OVRL BLN      0.007236    0.003440     2.10    0.053
GDP GR       -0.008634    0.002583    -3.34    0.004
OI              0.1682      0.1369     1.23    0.238

S = 0.02636     R-Sq = 89.3%     R-Sq(adj) = 85.7%

Analysis of Variance

Source            DF          SS          MS         F        P
Regression         5    0.087103    0.017421     25.07    0.000
Residual Error    15    0.010424    0.000695
Total             20    0.097527

No replicates. Cannot do pure error test.

Source       DF      Seq SS
EXT DEBT      1    0.066667
```

PR INDX	1	0.000405
OVRL BLN	1	0.005775
GDP GR	1	0.013207
OI	1	0.001049

Durbin-Watson statistic = 2.60

No evidence of lack of fit (P > 0.1)

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (PAKISTAN)

	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	0.100				
	0.667				
OVRL BLN	0.177	-0.136			
	0.444	0.556			
GDP GR	-0.351	0.009	-0.051		
	0.118	0.970	0.826		
CF	0.827	0.147	0.373	-0.627	
	0.000	0.526	0.096	0.002	
OI	0.684	0.220	0.376	-0.503	0.814
	0.001	0.337	0.093	0.020	0.000

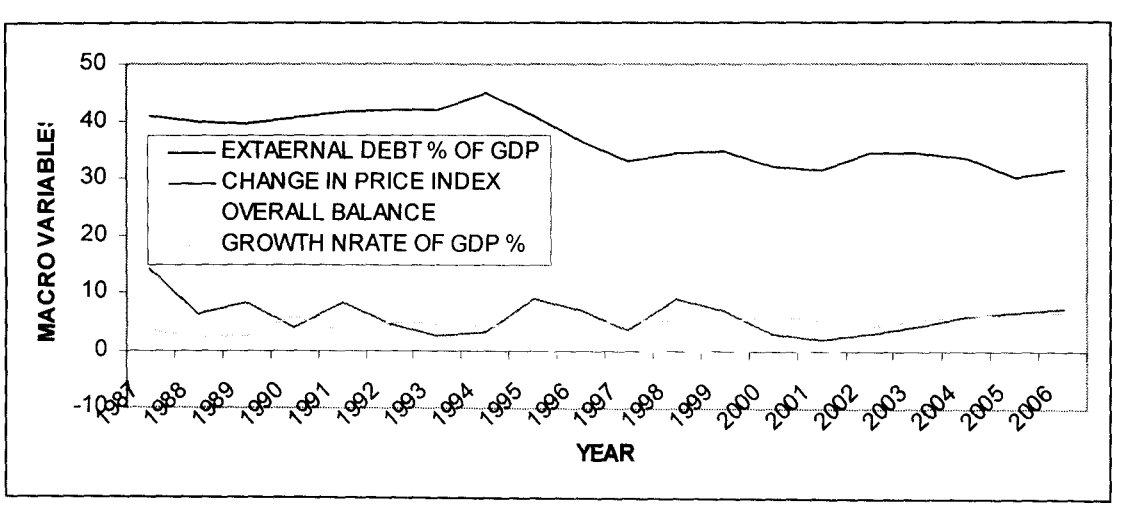
Cell Contents: Pearson correlation P-Value

5.2.3: BANGLADESH

TABLE 5.3: MACROECONOMIC POSITION OF BANGLADESH

YEAR	EXTAERNAL DEBT % OF GDP	CHANGE IN PRICE INDEX	OVERALL BALANCE	GROWTH NRATE OF GDP %
1987	40.7	13.9	2.1	3.7
1988	39.78	6.3	1.7	2.1
1989	39.5	8.4	1.3	2.7
1990	40.4	3.9	0.5	5.9
1991	41.6	8.3	2.2	3.3
1992	41.8	4.6	1.7	5.0
1993	41.8	2.7	1.5	4.6
1994	44.9	3.3	2.4	4.1
1995	40.7	8.9	1.2	4.9
1996	36.6	7.0	-2.6	4.6
1997	33.0	3.7	-0.4	5.4
1998	34.4	9.0	0.1	5.2
1999	34.9	7.0	-0.4	4.9
2000	32.1	2.8	0.4	5.9
2001	31.4	1.9	-0.6	5.3
2002	34.3	2.8	0.9	4.4
2003	34.3	4.4	1.6	5.3
2004	33.5	5.8	0.3	6.3
2005	30.0	6.5	0.1	6.0
2006	31.2	7.2	0.6	6.7

FIG.5.3: GRAPHICAL REPRESENTATION OF BANGLADESH'S MACROECONOMIC POSITION



3. Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (BANGLADESH)

The regression equation is

CF = 0.0283 + 0.00770 EXT DEBT +0.000877 PR INDX + 0.00200 OVRL BLNC + 0.00240 GDP GR + 0.0805 OI

Predictor	Coef	SE Coef	T	P
Constant	0.02827	0.03841	0.74	0.476
EXT DEBT	0.0077035	0.0007425	10.38	0.000
PR INDX	0.0008771	0.0005837	1.50	0.159
OVRL BLN	0.001999	0.001694	1.18	0.261
GDP GR	0.002399	0.001973	1.22	0.247
OI	0.08054	0.06025	1.34	0.206

S = 0.006527 R-Sq = 96.5% R-Sq(adj) = 95.1%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	0.0141632	0.0028326	66.49	0.000
Residual Error	12	0.0005113	0.0000426		
Total	17	0.0146744			

Source	DF	Seq SS
EXT DEBT	1	0.0138925
PR INDX	1	0.0000141
OVRL BLN	1	0.0000153
GDP GR	1	0.0001652
OI	1	0.0000761

Durbin-Watson statistic = 2.41

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (BANGLADESH)

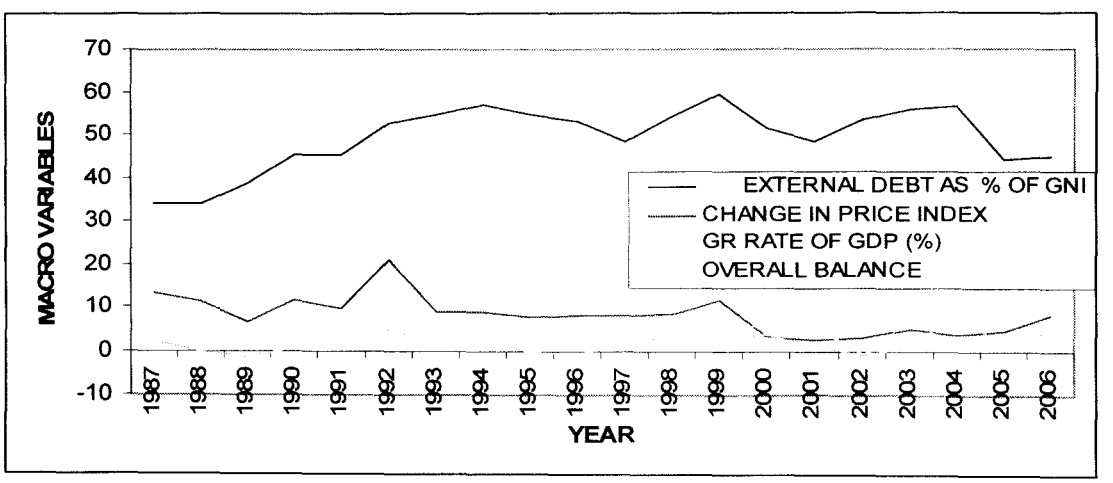
	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	0.275				
	0.269				
OVRL BLN	0.635	0.157			
	0.005	0.533			
GDP GR	-0.525	-0.408	-0.438		
	0.025	0.093	0.069		
CF	0.973	0.297	0.643	-0.439	
	0.000	0.231	0.004	0.068	
OI	-0.840	-0.415	-0.629	0.677	-0.773
	0.000	0.086	0.005	0.002	0.000

5.2.4: NEPAL

TABLE 5.4: MACROECONOMIC POSITION OF NEPAL

YEAR	EXTERNAL DEBT AS *% OF GNI*	CHANGE IN PRICE INDEX	GR RATE OF GDP (%)	OVERALL BALANCE
1987	33.8	13.3	1.7	2.2
1988	33.8	11.1	7.9	-0.2
1989	38.7	6.3	4.4	-1.3
1990	45.1	11.5	4.5	0.6
1991	45.2	9.8	6.6	5.1
1992	52.9	21.1	4.3	4.4
1993	54.8	8.8	3.5	1.9
1994	57.1	9.0	8.6	1.6
1995	54.9	7.6	3.3	-0.1
1996	53.2	8.1	5.3	-0.4
1997	48.5	8.1	5.3	1.2
1998	54.4	8.3	2.9	3.9
1999	59.3	11.4	4.5	2.9
2000	51.6	3.5	6.1	3.9
2001	48.5	2.4	5.6	1.3
2002	53.5	2.9	-0.6	-0.8
2003	55.7	4.8	3.2	0.9
2004	56.8	3.9	3.5	8.8
2005	44.3	4.5	2.4	1.1
2006	45.0	8.0	2.4	5.0

FIG.5.4: GRAPHICAL REPRESENTATION OF NEPAL'S MACROECONOMIC POSITION



Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (NEPAL)

```
The regression equation is
CF = - 0.0053 + 0.00952 EXT DEBT - 0.00171 PR INDX - 0.00343 OVRL
BLNCE
           + 0.00173 GDP GR - 0.069 OI

Predictor        Coef     SE Coef          T        P
Constant      -0.00527     0.05406      -0.10    0.924
EXT DEBT      0.009517    0.001651       5.76    0.000
PR INDX      -0.001712    0.001990      -0.86    0.403
OVRL BLN     -0.003429    0.003684      -0.93    0.367
GDP GR        0.001729    0.003294       0.52    0.607
OI             -0.0688      0.1624      -0.42    0.678

S = 0.03280     R-Sq = 87.1%     R-Sq(adj) = 82.8%

Analysis of Variance

Source            DF          SS          MS         F        P
Regression         5    0.108740    0.021748     20.21    0.000
Residual Error    15    0.016142    0.001076
Total             20    0.124881

Source       DF      Seq SS
EXT DEBT      1    0.105786
PR INDX       1    0.000654
OVRL BLN      1    0.001722
GDP GR        1    0.000385
OI            1    0.000193

Durbin-Watson statistic = 1.25
```

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (NEPAL)

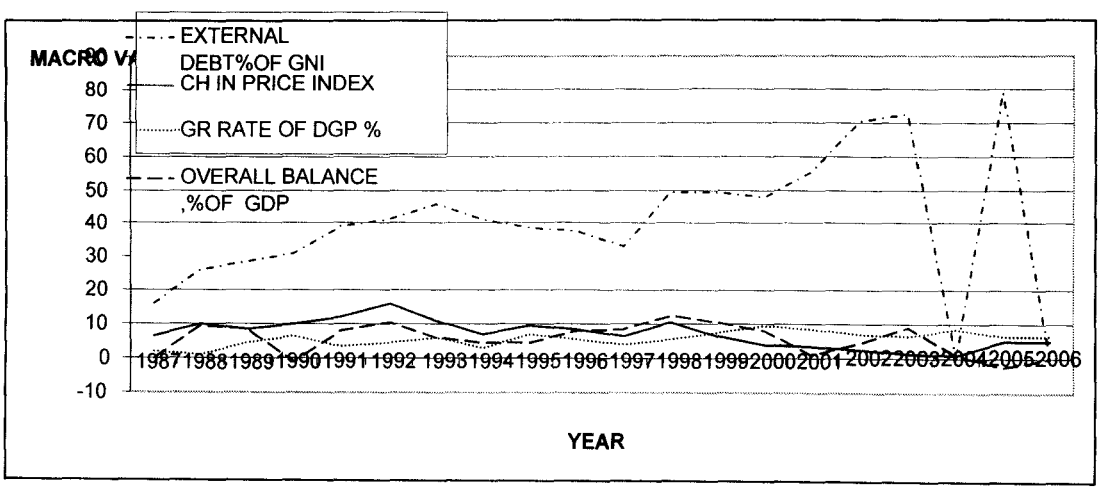
	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	-0.214				
	0.352				
OVRL BLN	0.094	0.082			
	0.686	0.722			
GDP GR	0.210	0.145	-0.007		
	0.360	0.530	0.977		
CF	0.920	-0.267	-0.037	0.238	
	0.000	0.241	0.872	0.298	
OI	0.787	-0.413	0.289	0.029	0.690
	0.000	0.063	0.204	0.900	0.001

5.2.5: BHUTAN

TABLE 5.4: MACROECONOMIC POSITION OF BHUTAN

YEAR	EXTERNAL DEBT%OF GNI	CH IN PRICE INDEX	GR RATE OF DGP %	OVERALL BALANCE ,%OF GDP
1987	16.3	6.4	1.9	NA
1988	26.2	10.1	1.0	9.7
1989	28.8	8.8	4.7	8.5
1990	31.4	10.0	6.6	-1.1
1991	39.2	12.3	3.5	8.0
1992	41.1	16.0	4.5	10.5
1993	45.6	11.2	6.1	6.1
1994	41.2	7.0	2.9	4.7
1995	38.7	9.5	7.3	4.8
1996	37.9	8.8	5.8	8.0
1997	33.0	6.5	4.2	8.6
1998	49.3	10.6	5.8	12.5
1999	49.2	6.8	7.8	10.6
2000	47.7	4.0	9.5	7.9
2001	55.4	3.4	8.6	1.0
2002	70.6	2.5	7.1	4.8
2003	72.2	1.8	6.8	8.9
2004	NA	1.3	8.7	1.2
2005	79.0	5.1	6.8	-2.5
2006	NA	5.0	6.5	NA

FIG.5.5: GRAPHICAL REPRESENTATION OF BHUTAN'S MACROECONOMIC POSITION



Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (BHITAN)

```
The regression equation is
CF = - 0.238 + 0.0139 EXT DEBT - 0.0011 PR INDX + 0.0210 OVRL
BLNCE
          + 0.0096 GDP GR - 0.313 OI

17 cases used 2 cases contain missing values

Predictor        Coef     SE Coef          T        P
Constant      -0.2380      0.2596      -0.92    0.379
EXT DEBT     0.013914    0.003586       3.88    0.003
PR INDX      -0.00113     0.01089      -0.10    0.919
OVRL BLN      0.02099     0.02042       1.03    0.326
GDP GR        0.00964     0.01192       0.81    0.436
OI            -0.3132      0.2504      -1.25    0.237

S = 0.1260      R-Sq = 81.3%     R-Sq(adj) = 72.8%

Analysis of Variance

Source            DF          SS          MS         F        P
Regression         5     0.75891     0.15178      9.56    0.001
Residual Error    11     0.17471     0.01588
Total             16     0.93362

No replicates. Cannot do pure error test.

Source       DF      Seq SS
EXT DEBT      1     0.72983
PR INDX       1     0.00103
OVRL BLN      1     0.00321
GDP GR        1     0.00000
OI            1     0.02485

Unusual Observations
Obs   EXT DEBT         CF         Fit      SE Fit    Residual
St Resid
  8       45.6     0.0613      0.3285      0.0538     -0.2672
-2.35R

R denotes an observation with a large standardized residual

Durbin-Watson statistic = 2.52

No evidence of lack of fit (P > 0.1)
```

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (BHUTAN)

	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	-0.488				
	0.040				
OVRL BLN	0.610	-0.548			
	0.007	0.015			
GDP GR	-0.003	0.269	-0.267		
	0.992	0.280	0.283		
CF	0.900	-0.562	0.642	-0.161	
	0.000	0.012	0.003	0.524	
OI	-0.016	0.056	0.237	0.514	-0.131
	0.951	0.820	0.329	0.029	0.593

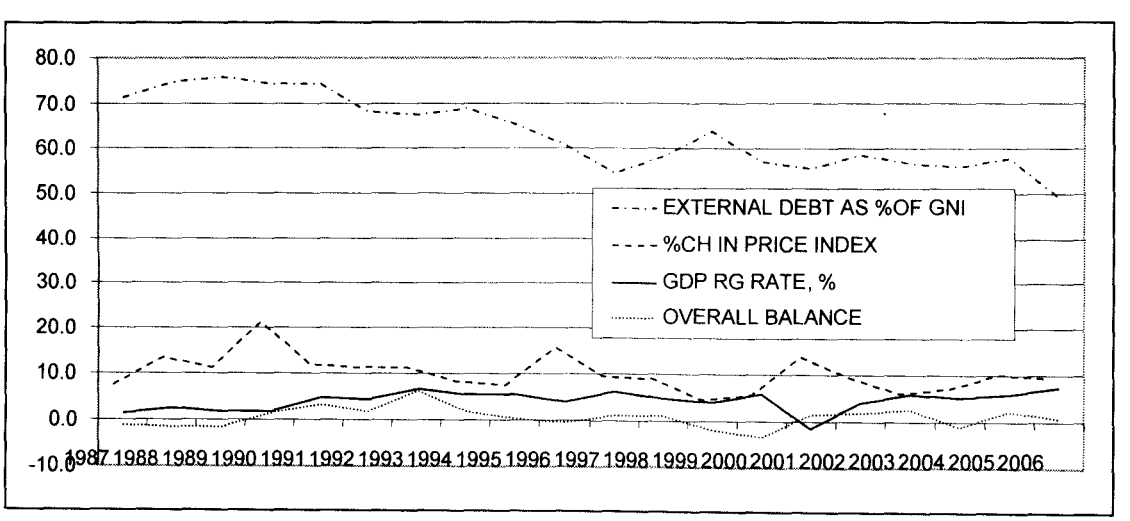
Cell Contents: Pearson correlation
P-Value

5.2.6: SRI LANKA

TABLE 5.6: MACROECONOMIC POSITION OF SRI LANKA

YEAR	EXTERNAL DEBT AS %OF GNI	%CH IN PRICE INDEX	GDP RG RATE, %	OVERALL BALANCE
1987	71.4	7.7	1.6	-1.0
1988	74.8	14.0	2.8	-1.3
1989	75.9	11.6	2.0	-1.3
1990	74.6	21.5	2.0	1.5
1991	74.6	12.2	4.8	3.2
1992	68.0	11.4	4.4	2.0
1993	67.5	11.7	6.9	6.4
1994	68.9	8.4	5.6	2.0
1995	65.1	7.7	5.5	0.4
1996	60.6	15.9	4.0	-0.5
1997	54.4	9.6	6.4	1.1
1998	57.9	9.4	4.7	1.0
1999	63.7	4.7	4.3	-1.7
2000	57.1	6.2	6.0	-3.2
2001	55.3	14.2	-1.5	1.4
2002	58.6	9.6	4.0	2.0
2003	56.7	6.3	6.0	2.8
2004	55.8	7.6	5.4	-1.0
2005	57.5	10.6	6.0	2.1
2006	49.3	9.6	7.4	0.8

FIG.5.6: GRAPHICAL REPRESENTATION OF SRI LANKA'S MACROECONOMIC POSITION



Regression Analysis: CF versus EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, OI (SRI LANKA)

```
     The regression equation is
CF = 0.767 + 0.00167 EXT DEBT - 0.00177 PR INDX - 0.00167 OVRL
BLNCE
           - 0.00682 GDP GR - 0.471 OI

Predictor        Coef     SE Coef          T        P
Constant       0.7674      0.1224       6.27    0.000
EXT DEBT    0.0016696   0.0009389       1.78    0.101
PR INDX     -0.001771    0.001382      -1.28    0.224
OVRL BLN    -0.001669    0.002856      -0.58    0.570
GDP GR      -0.006825    0.002219      -3.08    0.010
OI            -0.4707      0.1162      -4.05    0.002

S = 0.01744     R-Sq = 89.5%     R-Sq(adj) = 85.1%

Analysis of Variance

Source            DF          SS          MS         F        P
Regression         5   0.0310485   0.0062097     20.41    0.000
Residual Error    12   0.0036511   0.0003043
Total             17   0.0346996

No replicates. Cannot do pure error test.

Source       DF      Seq SS
EXT DEBT      1   0.0193023
PR INDX       1   0.0006249
OVRL BLN      1   0.0048725
GDP GR        1   0.0012568
OI            1   0.0049919

Unusual Observations
Obs   EXT DEBT         CF         Fit      SE Fit    Residual
St Resid
  4       74.6    0.58371     0.55727     0.01245     0.02644
2.16R

R denotes an observation with a large standardized residual

Durbin-Watson statistic = 2.13

No evidence of lack of fit (P > 0.1)
```

Correlations: EXT DEBT, PR INDX, OVRL BLNCE, GDP GR, CF, OI (SRI LANKA)

	EXT DEBT	PR INDX	OVRL BLN	GDP GR	CF
PR INDX	0.402				
	0.098				
OVRL BLN	-0.244	-0.481			
	0.330	0.043			
GDP GR	0.065	0.229	0.249		
	0.797	0.360	0.320		
CF	0.746	0.177	-0.454	-0.302	
	0.000	0.481	0.059	0.223	
OI	-0.775	-0.385	0.437	-0.109	-0.839
	0.000	0.114	0.069	0.666	0.000

Cell Contents: Pearson correlation
P-Value

The chart suggests that the average economic growth declined by almost 4 to 5 per cent between the period of economic set back and the recovery. The time periods vary from country to country depending on their economic performances. After the recovery the growth moved upward strongly, averaged over 5% in the following periods. The overall deficit also shows the similar trend as the growth rate in the economic downfall and the recovery phases. The recovery of deficits takes a longer time than the recovery of growth rate. The chart also shows that the rise in average inflation before and during the economic fall out and stabilization policies brought down the inflation lower. No country experienced deflation during the period.

Then we consider Capital Flight along with these macroeconomic variables over the study period for the selected countries. The statistical analysis considers a linear regression equation where Capital Flight as a function of countries External Debt (taken as percentage of GNI), percentage growth rate of GDP, changes in average price level (inflation rate), country's Overall Balance and Openness Index (as described earlier – ratio of total foreign trade to GDP). The calculation of Capital Flight is done earlie, here we just apply those results.

The Domestic macroeconomic and regulatory problems are amongst the key causes of Capital Flow

The factors contributing to financial crisis in and the consequent Flight of Capital seem quite well-known by now—although the debate on the division of responsibility between the different elements is likely to continue for some time (IMF, WEO, December 1997 and October 1998;World Bank, 1998). Most observers stress domestic policy errors as the prime cause of contributing an illegal economy that caused Capital Outflow which is no generally captured in normal BOP accounts, which also on the other hand precipitated the financial crisis. In these six countries of the South Asian region, however, the financial sector was relatively under-developed and weak to begin with. Governments attempted to promote domestic industrial and service producers through directed lending to priority sectors, interest ceilings and state-run financial institutions. To facilitate the implicit subsidization of various producers through the financial sector it had to restrict international competition. In addition, financial sector interventions were influenced for political and personal reasons.

In some cases a bubble economy emerged in the beginning of 1990s and in cases of Bangladesh and Sri Lanka it was in the mid 1990s, when strong private credit extension coupled with weak prudential regulation and supervision, provoked "risky" lending and declining investment productivity. In fact, current account deficits (an indicator of domestic excess demand) became quite large and, over the years, accumulated to considerable external debt in some countries. Initially, nontransparent accounting and corporate governance structures made it possible to obscure growing financial and corporate sector problems. When the bubble ultimately burst and banks and enterprises got into difficulties, weak or absent bankruptcy laws and procedures made things worse.

When (poorly informed) international investors ultimately recognized that they had invested in a bubble economy, and debt had reached a magnitude which undermined the credibility of the implicit government guarantees, domestic and foreign "capital flight" set in. Underdeveloped financial markets made things worse [that had happened in Indonesia and the Republic of Korea in time of Asian crisis], where foreign financing was heavily skewed towards short-term lending. When large amounts of foreign short-term liabilities became due, and markets became illiquid, staggering exchange rate depreciations and near-debt defaults in these two countries followed. This resulted in severe liquidity shortages, affecting virtually all financial transaction.

Sometimes the flow of this capital finances an inflow: China and India are examples. In India resident capital outflows financed the smuggling of gold into the country in the pre-gold liberalization period. 29 In China, the outflows returned in the guise of foreign direct investment arbitraging a tax differential30. This aspect cannot be gauged by merely observing the estimated series. Country specific analysis is also needed.

5.3: CAPITAL ACCOUNT LIBERALISATION AND ESTIMATED OUTFLOWS

It is reasonable to expect that with capital account liberalization, estimated resident capital outflows would go down legal channels now available to transfer capital abroad. Twelve countries are used as an illustration to examine this expectation. Table 5.7 summarizes the timing of liberalization and the behaviour of estimated flows.

TABLE 5.7: DOES LIBERALISATION OF THE CURRENT AND CAPITAL ACCOUNT AFFECT ESTIMATES OF RESIDENT, HOT MONEY FLOWS AND MISINVOICING? AN ANALYSIS OF SELECTED COUNTRIES.

Country	Cap. Account Liberalization	Resident Capital Flows	Under & Over Invoicing	Hot money Flows
India 1994	Gradual liberalization of inflows since 1990s	Both inflows & outflows seen. Continuous repatriation since 1996	A tendency to under-invoice exports and over-invoice imports. Repatriation in some years including 1993-96	Tendency towards inflows since 1984.Outflows registered in 1996and 1997
Bangladesh 1995-96	Inflow liberalized in mid 1980s, out flow in early 1990s	Both inflows and outflows seen. Repatriation observed after liberalization till 1993 and 1996, otherwise outflows	Frequent change in sign. Overall, after liberalization of the capital account, a tendency for capital to leave.	Tendency towards inflows
Pakistan 1994-95	Gradual liberalization of in & out flow since 1995	Both inflows and outflows in the entire period	Outflows of capital through this channel throughout	Inflows in most years since 1993. A slight turn around after 1998.

(TABLE 5.7 CONT.)

Country	Cap. Account Liberalization	Resident Capital Flows	Under & Over Invoicing	Hot money Flows
Nepal 1996-97	Complete liberalization in 1997	Inflows and outflows have occurred both with the closed and open capital account.	Throughout the Period a general tendency for underinvoicing exports and underinvoicing imports. No relationship to liberalization discernible	Frequent change in signs. No obvious trend
Bhutan	1994-95	Continuous repatriations, inflow and outflow	Tendency of Misinvoicing throughout	No specific trend follows
Sri Lanka	1993-4	Continuous outflow and inflow	Outflow of capital over the period	Inflow occurred , no specific trend of outflow.

The above cases studied illustrate that capital movements through the channels covered by these estimates take place with and without capital controls. The belief that capital controls lead to the movement of capital which remains largely unrecorded in the balance of payments is not borne out by the estimates carried out for this study. The movement of resident capital has occurred with and without capital controls

It is not always the case that liberalization signals credibility and leads to repatriation of these flows. Individual country experiences vary. Pakistan and Sri Lanka experienced a brief period of repatriation after liberalization which later turned into an outflow. India , Nepal are other examples of countries where was followed by repatriation. However both have been experiencing outflows in recent years. In the East Asian countries in the sample, liberalization was not accompanied by repatriation, whereas Bangladesh experienced a steady inflow and outflow over the period. In case of Bhutan there is no specific case trend of inflow, only outflow is more prominent.

[Thailand experienced both inflows and outflows.]. Liberalization of the current account in most cases led to a jump in misinvoicing which then petered out. It is possible that estimated resident capital outflows could also be a consequence of liberalization in as far as they capture inadequacies in reported data on capital flows such as the problems in recording the flow of capital due to derivative

transactions, changes in asset prices, FDI only recorded at book value in the balance of payments and also leads and lags in the current account31. However, as argued in the next paragraph it is possible that estimated resident capital flows may capture some domestic investors' perception of risk and may conduct transactions which are not recorded as they are a response to instability. In some countries, resident capital outflows may simply arbitrage a tax differential and bring back the capital in the guise of foreign investment. It was pointed out in section III that the estimates of resident flows include assets of the banking sector. It is possible that flight of capital can take place through perfectly legal channels too. It is for this reason they have not been subtracted from the estimate of resident capital flow.

There is reason to believe that in the recent past, there has been substantial reverse capital flight. Partial evidence is available from an analysis of the trade data. This is plausible because both direct and indirect taxes (customs duties) have come down and also because the exchange rate is more realistic now. As a result, perhaps, the exporters and importers may find it less attractive than in the past to keep their money abroad, or cycle it to avoid taxes.

It is also likely that, with the adoption of current account convertibility and liberalized trade, the financing needs of illegal imports have come down. That is evident from some reduction in the difference between legal and hawala (illegal) exchange rates. The link between the hawala market and illegal imports through smuggling of gold was very clearly brought out in a discussion paper in the RBI (Gold Mobilization as an Instrument of External Adjustment) in 1992 by Atul Sarma, A.Vasudevan, K.Kanagasabapathy, Mythili Narayan and Mahua Roy, under the aegis of the Development Research Group. The
relevant extracts is that:

"Large smuggling of gold is operationally feasible only if the foreign exchange can be obtained outside the level foreign exchange market. Hawala market provides this channel. This hawala premium can therefore be reasonable expected to reflect the demand for foreign exchange for smuggling gold, it being the major commodity for illegal imports. Transaction of foreign exchange in the hawala market can be expected to depend on the availability of foreign exchange provided by non-resident Indians outside the legal supply of foreign exchange as in the case of FCNR deposits. remittances, etc. To the extent hawala premiums attract these foreign currencies, their inflow into the country through legal channels will decline. It is generally recognized that over-invoicing of imports and under-invoicing of exports have given rise to large capital flight. At least a part of this leakage provides a source of supply of foreign exchange in the hawala market. Therefore, the magnitude of annual capital flight is likely to influence the supply of fund for smuggling gold."

Though gold import has been liberalized, there is still demand for illegal foreign exchange to finance import of gold both through smuggling and non-resident channels. However, the demand from smugglers of consumer goods seems to be down as a result of reduction in duties and liberalization of such imports.

Overall, the incentives for, as well as magnitudes of capital flight through illegal channels appear to have come down drastically,
though they still persist to some extent. As mentioned, the introduction of current account convertibility had reduced the financing needs of illegal imports. But, the current account convertibility provides scope for capital movement, in the guise of current transactions as long as the incentive structures encourage such capital flows. In fact, this was clearly anticipated by the High Level Committee on Balance of Payments (Chairman Dr.C.Rangarajan) in April 1993.

The Report states "In the medium-term, care has to be taken to ensure that there is no capital flight through liberalized windows of transactions under invisibles." What is significant is that, in the guise of current transactions, both capital inflows and outflows can occur – nor merely a one-way flow.

As regards legal flows, there is evidence to show reverse capital flight. Although there was a drop in non-resident deposits to the tune of US $ 1.5 billion in 1991, it was soon followed by subscriptions to India Development Bonds. More important, when the Bonds matured during this year, about US dollar one billion was transferred to the residents. No doubt, there are some who argue that a part of NRI deposits are, in any case, in the nature of reverse capital flight. There are some who hold that a part of the amounts raised by our corporate may also be a channel for reverse capital flow. It is hard to obtain evidence of the flows arising from criminal activities. Perhaps, it is reasonable to presume that no new developments are noticeable.

First, it is clear that, there is at present, no evidence of larger capital flight out of the country through legal or illegal channels after the reform process has been initiated as compared to the pre-reform period. On the contrary, there is a possibility of net reverse capital flight. Except Nepal and Pakistan, their political condition is somehow responsible for that.

Secondly, there is no reliable basis for suspecting large capital outflow now, through trade transactions.

Thirdly, while it is true that our country, like many other developing countries, might have faced capital flight in the past, a good part of such capital has been simultaneously used for financing illegal import of gold valued at billions of US dollars each year. In fact, even now, most of gold imports may be financed through such capital flight. Hence, it would be inappropriate to estimate the stock of capital held abroad illegally as the sum of gross capital flight that took place in the pat.

Fourthly, there is reason to believe that capital flight in our country now is very much a two-way process or a two-way flow. A one-way flow is a real resource transfer. A two-way flow, whenever it is in the nature of recycling of money, essentially means that there is an erosion of domestic tax base. For example, an exporter may over-invoice exports and use that foreign exchange to under-invoice imports in order to save on customs duty on imports. Such an exporter is simply avoiding tax but there is no net capital outflow.

Fifthly, the problem of capital flight was viewed, in the past, in the context of scarcity of foreign exchange and fear of devaluation. Now, our foreign currency reserves are comfortable, and our currency has exhibited significant stability in relation to all major currencies in the world in a market-led exchange rate regime. Some observers feel that, in regard to foreign currency resources, we have moved from struggling with scarcity to managing plenty.

5.4: ISSUES RELATING TO CAPITAL FLOW AND MACROECONOMIC POSITION

It appears reasonable to assume that, of late, there is a reduction in extra-legal or illegal gross capital flight. There are indications of reverse capital flight in the recent past which may continue for sometime. The recently approved Budget is widely believed to encourage reverse capital flight, more so when voluntary disclosure scheme takes off. These developments have the effect of enhancing normal capital inflows. Hence, the issue of managing large capital inflows assumes significance. This would call for an appropriate exchange rate, intervention and sterilization policies.

In spite of substantial liberalization and a drastic reduction in illegal transactions in the foreign exchange market, the hawala market for foreign exchange still exists and there is some, through vastly reduced, premium for foreign exchange in this market. This establishes continued existence of gross capita flight through illegal or extra-legal channels. If a reasonable assumption is made that there is little or no incentive in the current policy stance for residents to keep the capital outside the country, we have to find reasons for this still active hawala market.

Firstly, there is an inevitable demand for domestic consumption of gold. This demand is, at present, met mostly through imports by some non-residents, who are believed to specialise in this activity, and by smugglers. There is a belief that import by non-residents is financed by non-residents themselves out of foreign exchange that would not be otherwise coming into our country. Considering the large value of such imports, it is safe to assume that most of these imports are financed through the hawala market, just as almost a similar magnitude of gold smuggling is financed. In fact according to the World Gold Council Report, 1996, India was the largest importer of gold in 1996. Data indicates that total import of gold during 1996 was 379 tonnes valued at about $ 4.7 billion, of

which about 266 tonnes valued at $ 3.3 billion was through official channels. It is possible to argue, perhaps convincingly, that as long as the unstoppable domestic demand for gold is not permitted legally and liberally, the hawala market for foreign exchange and consequent distortions will persist.

Secondly, there are some consumer goods whose import is subject to quantitative restrictions and perhaps some of them are illegally imported through smuggling using the hawala market. Currently, these magnitudes appear small, but some though not all of them, do create scope for hawala.

Thirdly, transaction costs, particularly delays in actual transfer of non-resident remittances of small amounts through official banking channels could provide scope for hawala, though this need not necessarily add to the premium over legal rate.

Fourthly, there may still be procedural bottlenecks which make it cumbersome for resident Indians to obtain foreign exchange through legal channels for meeting their genuine needs. This also gives scope for some demand, certainly not very significant, for foreign currency in the illegal market. Any approach to eliminating capital flight through illegal channels will thus have to tackle all these issues.

As regards capital flight to finance criminal activities, two issues may need attention. First, whether the enforcement agencies are in a position to give adequate attention to serious crimes, since under the current FERA, very large number of routine transactions are accorded the status of crimes. The second relates to whether the existing legal framework is adequate to tackle serious crimes in areas such as money laundering. The Finance Minister had already announced that FERA will be replaced with the Foreign Exchange Management Act and that there would be a new Act to tackle money laundering.

There are a few other issues of a general nature which warrant attention and I will refer to some of them now. Like some developing countries, if we were to extend some facilities such as guarantees to foreign investors and if the domestic corporate do not get a similar or compensatory treatment, there would be asymmetry. In such a situation, while foreign capital comes in, domestic capital may go out. In fact, domestic investors may even try to take domestic capital out and bring it back in the garb of foreign investment. In the former case, there is an outflow of domestic capital while in the latter case there is both an outflow and a corresponding inflow of capital.

We are in the process of financial integration with the rest of the world. In such an integrated market, there would be both inflows and outflows of capital. Ideally, we should ensure that they occur through legal channels. Further, we should have efficient procedures for recording these flows. Unfortunately, recording procedures are not in a position to keep pace with the rapid developments in financial instruments. We have to address this issue, and we in the Reserve

Bank of India, intend undertaking a special exercise for this purpose. Recently, a Sub-Group was formed in the RBI to report on foreign exchange transactions by authorized Dealers (Ads). It recommended that data could be collected on a simplified basis on electronic media every fortnight from the Authorized Dealers' branches which are identified as 'critical' from the point of view of compilation of balance of payments data. Over a period of time, the data could be provided through online connectivity, once the entire financial sector is covered by V-Sat communication network.

In today's world, capital is extremely mobile and it moves wherever it perceives profit and security. It is extremely difficult to hold on to capital, both domestic and foreign, in the face of perceived economic instability or inappropriate policy framework. With capital controls, such mobility may be restricted, but now, as never before, there is increased scope for circumventing such controls and mobility occurring through illegal channels. Without capital controls, such mobility may be made easier, but the advantage is that capital flows can be monitored better and policy response could be proactive.

There are advantages of some capital control, but effectiveness and benefits are being rapidly overtaken by the costs of such controls. But, the downside risks of totally dismantling capital controls could be high, if the will for and faith in sound macroeconomic management is lacking. Hence, as mentioned by Dr.Rangarjan, in his address at Carnegie Mellon University

"Reduction in fiscal deficit, moderation in inflation and a flexible financial system which can adapt to the changing situation are some of the essential preconditions for capital account convertibility."

CHAPTER 6

CAPITAL FLIGHT AND INCOME DISTRIBUTION

- ***INTRODICTION***
- ***ECONOMIC DISPARITIES AND INEQUALITIES***
- ***NEO LIBERAL IDEAS ON THE NEXUS BETWEEN OPENNESS AND INEQUALITY***
- ***CONCEPT OF THE WORLD INCOME INEQUALITY***
- ***THE GROWTH CHANNELS IN THE OPENNESS-GROWTH-INEQUALITY-POVERTY NEXUS***
- ***INEQUALITY-POVERTY LINK VIA FUTURE GROWTH***
- ***DEBATE ON PRO POOR GROWTH***
- ***OTHER CHANNELS IN THE GLOBALIZATION-INEQUALITY- POVERTY NEXUS***

CHAPTER 6

CAPITAL FLIGHT OPENNESS AND INCOME DISTRIBUTION

6.1: INTRODUCTION

Capital flight from developing countries represents a lost potential for economic growth and development. In the contemporary literature of development economics, there has been increasing attention to the notion of capital flight. Many analysts have attributed sluggish economic growth and persistent balance of payments deficits in most developing counties to capital flight (Ajayi, 1996). In addition, capital flight has adverse consequences for developing countries. First, the loss of capital through capital flight erodes the domestic tax base and therefore affects income redistribution. Secondly, it reduces a bank's ability to create money for investment projects. Most importantly, capital flight contributes to the distribution of income from the poor to the rich (See Pastor, 1990, and Ajayi, 1997).

The literature also highlights several routes of capital flight from developing countries. Prime among those are external borrowing and trade misinvoicing. Also many authors have identified factors that cause capital flight including risk of inflation, taxation, political risk instability, financial repression, weak institutions, ineffectiveness of macroeconomic policies, business cycles, overvaluation of exchange rates, and poor investment climate, to name a few (See, Hermes, Rensink and Murinde, 2002, Schneider, 2003 and Boyce and Ndikumana, 2002

The residual approach developed by the World Bank, we define capital flight as the difference between capital inflows and foreign exchange outflows. The rational behind such characterization lies in the argument that capital inflows are either used to finance current account deficits or else accumulated in the central bank as foreign exchange reserves. Accordingly, flows that do not go to either account are regarded as capital flight. More specifically, a surplus of inflows over reported uses reflects positive capital flight. Such funds are not recorded in the official statistics and therefore, according to the residual approach, counted as capital flight.

6.2: ECONOMIC DISPARITIES AND INEQUALITIES

The breakdown of political and social cohesion is being exacerbated by the way the world economy is evolving. Expectations of prosperity that had been raised with the triumph of capitalism have not been fulfilled. The following is now beyond doubt:

- But for a few countries, economic globalization has increased the prosperity of then few and the poverty of the many instead of increasing wealth and eliminating poverty. This is true of rich and poor countries alike.
- instead of lifting developing countries out of *underdevelopment* economic globalization has exacerbated the inequalities between rich and poor countries.
- instead of taking the former industrialized countries of the Soviet communist empire into the promised land of mass consumption, it meant de-industrialization and a sharp decline in mass incomes for many of them.

If the overall economic performance of the past 15 years is anything but pitiable in statistical terms, it is thanks to India, China and a number of smaller Asian countries that scored tremendous successes with their own economic policies. As these countries are home to more than one-third of humanity, their advances count for a lot.

When the World Bank underlines the reduction of worldwide poverty in the 1990s, that achievement is attributable to the successes of India and China and has nothing to do with the performance of the other developing countries.

Inequalities

If we think of the 6 billion human beings as members of one and the same society, then we live in a crass class society. Somewhat more than one thousandths of the world's population (7.7 million of 6 billion people) are dollar millionaires. Just under one per cent of this one-thousandth, or 17,000 so-called ultra high net worth individuals, own a fortune of over 30 million dollars. This small tribe of super rich owns the lion's share of all of the world's publicly protected assets. The army of the poor is immense by comparison. The World Bank and our governments classify the 1.2 billion or 24 per cent of humanity who live on less than a dollar a day as the poorest. Their number is to be halved by 2015 thanks to aggressive international assistance. The 600 million poorest, who should be faring better in 2015, will perhaps be earning as much as two dollars per day, which is the current daily income of 3 billion people, or half the world's population.

For a true appreciation of the rather low one-dollar poverty line – no-one from the North would know how to survive on their own on a dollar a day in Sudan – a comparison with the gross domestic product of the poorest countries would be meaningful. According to World Bank figures, it averaged $430 in 2002, or $1.17 a day. From this we must subtract the disproportionate incomes accruing to those in power, owners of capital and the ruling elites, the costs of preserving their power and running the state, as well as the amortization of the capital stock

and new investments. The bulk of the remainder goes to men, the crumbs to women and children.

The World Bank's poverty line conveys the misleading impression that the other half of the world's population that has more than two dollars per day is doing comparatively well. World Bank economist Branko Milanovic paints a more accurate picture in his studies. He defines as the rich class all those with a yearly income of over $PPP 8,000 (purchasing power parity), which is the mean income for Italy. This wealthy class covers only 11 per cent of all humanity. Another 11 per cent represents something like a small global middle class with an income of $PPP 3,800-8,000, where $ 3,800 is the average income in Brazil. By this calculation, 78 per cent, or almost four-fifths of the world's population fall into the class of the poor.

The great dilemma

As far as we know, spreading the industrial production and consumption patterns of the world's wealthy class to 6 billion people would seriously deplete the natural resources vital to human survival. This is even more true for the 10 billion people expected by middle of the century. That is one side of the dilemma. On the other hand, the North-South gap and the world's crass class society will hardly be overcome without some catch-up industrialization in the developing countries. This could be essential to preserving humanity's vital social resources as well as a measure of global peace and human freedom. The billions of people now living in cities and mega cities have no practicable way back to traditional agriculture let alone a path to modernized, high-output and hence less labour-intensive farming.

There is thus a certain contradiction between preserving humanity's social resources and preserving the natural ones. And each cannot be preserved at the cost of the other without reaching the realm of the absurd.

As it is defined in the Brundtand Report and by the 1992 UN Rio de Janeiro Summit, sustainable development is an attempt to come to grips with the dilemma in practical political terms. Sustainable development attempts to propagate industrial production and consumption patterns worldwide, while simultaneously halting and reversing the concomitant process of environmental degradation. It further strives to strengthen the social cohesion that is being permanently undermined by industrialization, the erosion of traditional social bonds and by environmental setbacks.

Critics have been observing from the outset that sustainable development is inherently contradictory. Yet it is that very contradiction that makes the concept attractive. All players felt included, even the most powerful, and it seemed that everyone could benefit from a clever policy mix. The promise to turn serious conflicts of aims into pure win-win situations was tempting, for the privileged

above all, because social or environmental improvements did not seem to be at their cost.

Many who did not believe that all conflicts could be harmoniously resolved still judged the concept positively. If the ruling classes realised that their activities were running into serious conflicts of aims, then – it was to be hoped – they would take more balanced decisions, examine conflicting interests and strike genuine compromises. If sustainable development is to progress beyond mere rhetoric, then efforts must be concentrated on the environmentally sustainable conversion of industrial production and consumption patterns. Only in this way can it be extended to all mankind while avoiding environmental meltdown. The centerpiece of this is giving up energy production from non-renewable energy sources whose combustion is undoubtedly harming the climate. In addition to the shift to renewable energy sources, it is also vitally important to switch industrial production to closed raw materials circuits and in general to promote the dematerialization of the economy.

Much of what would have to be done was discussed exhaustively as much as three decades ago. There is now a variety of technologies for harnessing energy from renewable sources. Scientific and technological investment must nevertheless be drastically stepped up if any real headway is to be made with respect to closed raw materials circuits and more broadly in the dematerialization of the economy. The tasks to be done are enormous and cannot simply be left up to the «invisible hand of the market», not least of all, for as Stiglitz quips, it is invisible because it does not exist at all. It is clear – and was even written into the Rio declarations – that the industrialized countries must take the lead in converting industrial production methods.

They are the ones chiefly living above their environmental means. They have the means of actively pursuing this conversion. And they provide the role model for catch up industrialization, and often the requisite hardware as well. Yet the industrial countries and their big corporations are pursuing «technological revolutions» of another kind whose environmental sustainability (except for communication technologies) is dubious. Generally speaking, despite our leading elites' reiterated commitment to sustainable development, we are treating the environment in a manner that does not guarantee the survival of humanity beyond the 21st century.

Most environmental indicators have deteriorated over the past 15 years. Of greatest global significance is climate warming, which if allowed to continue unchecked is likely to destroy the living space of hundreds of millions of people especially in developing countries. Besides, there are signs of serious shortages when it comes to the key resources for human survival, i.e. water and fertile land. Rather than any strengthening, the past 15 years have seen the weakening of the political will to tackle environmental risks and to convert industrial production

patterns. The policy of economic globalization has fostered the opposite of sustainable development.

And in the core industrial countries, substantial currents of conservative opinion are now pouring scorn over the scientific bases underlying the predictions of environmental risks and are setting about dismantling existing environmental policy instruments in their countries and undermining the few international agreements concluded. There is no doubt that environmental risks are greater for those less able to find the wherewithal to protect against negative environmental impacts. Not only is the *laissez-faire* environmental policy resulting from the conservatives' denial of reason shoring up the crass worldwide class society, it is also compounding the plight of most of humanity.

6.3: NEO LIBERAL IDEAS ON THE NEXUS BETWEEN OPENNESS AND INEQUALITY

The relation between some prevailing neo liberal ideas on the nexus between openness and inequality issues, and mainstream economic theory, more specifically, neoclassical economics is worthwhile to state here. We will show that these propositions are not rigorously grounded on mainstream economics. Since most supporters of the criticized ideas consider themselves neoclassical economists, this paper is an exercise in immanent criticism. We will discuss the theoretical foundations of the following three common fallacies:

(1) Trade liberalization reduces inequality within developing countries,
(2) Trade liberalization reduces inequality across countries, and
(3) Capital account liberalization also reduces inequality across countries.

1."Trade liberalization reduces inequality in developing countries by raising the employment levels and real wages of the poor".

This fallacy can be illustrated with the following typical quote from two World Bank economists, Matusz and Tarr (1999):

"Unskilled labor is relatively abundant in developing countries. In the context of the Heckscher- Ohlin model, trade reform can be expected to increase the overall demand for such labor in the long run. This follows since such countries have a comparative advantage in goods that use unskilled labor intensively. Removing policies that favor import-competing sectors at the expense of (labor-intensive) export sectors ultimately results in an expansion of the latter and contraction of the former. Any increase in the demand for unskilled labor results in a combination of higher wages and employment for this segment of the population".

This is an example of the simplified, commonly used version of the Heckscher-Ohlin- Samuelson model of international trade, which assumes two goods, two

factors, identical production functions across countries and no factor-intensity reversals. The factor couple is usually capital and labor, or capital and unskilled labor, as in the quotation above.

The implication of the quoted proposition is quite obvious: developing countries should not fear trade liberalization, because it would bring not only higher efficiency but also more equity. Then, the costs of adjustment associated with liberalization would mainly be due to a temporary jump in frictional unemployment.

However, the quoted proposition is not a simplification, but a generalization of some South Asian and East Asian cases, which in regard to Latin America, is a wrong one. It is a simplification because it tells a two-factor story in a world with more than two factors, and it is a wrong generalization because the more relevant couple (if it were defensible to stick to the two-factor version of the model) of factors need not be the same across the developing world.
Indeed, the most relatively abundant factors in the South Asian countries are natural (agricultural) resources and unskilled labour. Hence, trade liberalization most likely raises the rents perceived by the owners of these resources. In some South Asian countries, labor is even a scarce factor; therefore, the rigorous application of Heckscher-Ohlin theorems would imply (if we stick to the two factor version) that most likely trade liberalization hurt the poor and raised inequality, especially, because of the high concentration in the property of natural resources.

On the other hand, the non-reversal of factor-intensities assumption might be too strong in some cases.[Recall that factor-intensity reversals are only ruled out when factor elasticity of substitution do not differ between sectors (Bhagwati and Srinivasan, 1983, p.58)] For instance, there is evidence that agriculture, more specifically, corn production, is labor intensive in S. Asian nations while it is capital intensive in the United States. These reversals have been detected long ago comparing rice production factor intensities in Asia *vis-à-vis* the United States (Arrow *et al*, 1962). This means that even if unskilled labor is among the abundant factors, which is probably true in the case of India , Bangladesh and Pakistan, we cannot predict a higher demand for unskilled labor. Indeed, in a two-good, two-factor model, if the autarky relative price of corn in India & Bangladesh is higher than the free trade price (after a still not accomplished removal of agricultural subsidies in the United Sates), trade liberalization will lead to a lower demand of unskilled labor at initial factor prices.

Perhaps, what is most disturbing about the use of an unqualified textbook version of the Heckscher-Ohlin for policy advice is the fact that even its most sophisticated versions have been empirically rejected (see, for instance, Bowen et al, 1987; Trefler, 1993 and 1995). The existence of significant technological differences across countries, even after controlling for different kinds of natural resources and categories of labor is the main reason behind the empirical failure

of the Heckscher-Ohlin model. The fact that these differences have not been uniform across countries and goods, might have important distributional implications. For instance, suppose that a labor-abundant country has a larger technological gap in labor intensive goods than in other classes of goods, then a likely result of trade liberalization will be a lower demand for labor-intensive goods with negative distributional consequences.

Clark and Feenstra (2001) report that something like this happened in India under British rule: Indian exports were land-intensive while Indian imports were labor-intensive.

2."Trade liberalization favors per capita income convergence and therefore it reduces inequality across countries".

In a well-known paper, Ben-David (1996) claims to provide empirical "evidence that income convergence, while far from being a worldwide phenomenon, seems to be a prevailing feature among countries that trade a lot with one another". He also claims that "the *degree* of convergence is also likely to be affected by the magnitude of trade among partners. Groups that experience greater increases in volumes of trade are also more likely to experience faster reductions in their income disparity".[Causality is an issue, since correlation between two variables says nothing about the former.

At the beginning of the paper, Ben-David recognizes trade could be caused by income similarity between countries as claimed by Linder, instead of income convergence being caused by trade.] Ben-David concludes that his findings "would appear to corroborate Heckscher (1919) and Ohlin's (1933) intuition that trade does indeed play an equalizing role ..." and does not hesitate to draw the following policy conclusion: "evidence that heightened trade may be associated with a reduction in these [income] gaps should provide some reassurance to the advocates of free trade."

Ben David's "equalizing exchange" argument for trade liberalization had an impact in the 1990s and it was used to support preferential trade agreements between developing and developed countries, such as the so-called Free Trade Area of the Americas. It is interesting to point out that Ben-David's hypothesis was not derived from theory but merely conjectured as an extrapolation of the factor-price equalization theorem. Slaughter (1997) has rightly shown that factor-price equalization does not ensure income convergence since the latter depends not only on the former but also on convergence of relative factor endowments.

Following Slaughter (1997), this can be illustrated with Equation 1, an accounting identity which shows that GDP per worker can be decomposed into two terms, capital income per worker and the worker's wage (W); in turn, capital income per worker equals the rental price of capital goods (R) times a real measure of the stock of capital goods per worker (K/L). Let's assume that trade liberalization

equals R and W across countries. Still, income (absolute) convergence will need equalization of K/L across countries. As a static model, Heckscher- Ohlin is mute on this issue.

$$(1)\ Y/L \equiv R\ K/L + W$$

Indeed, not even factor price equalization should reduce the income gap between countries. Both, Ben-David and Slaugther have overlooked this possibility. Suppose there are two autarkic countries: a rich country, endowed with a high stock of capital goods per worker, and a poor country endowed with a lower stock of capital goods per worker. Under orthodox assumptions, both countries will gain from trade liberalization, which means that income per worker will go up in the two countries. Income per worker convergence would require a larger relative gain in the poor country than in the rich one, but this result is not warranted. In fact, it can be shown that the relative income per worker gain of a country is increasing in the country's relative capital per worker gap with respect to the free trading world average, regardless the sign of the gap.

In fact, since the world's average relative factor endowment is closer to the region's relative factor endowment with more workers, most likely, the relative gains from trade liberalization will be larger for the richer and smaller (in terms of labor) region, implying divergence instead of convergence. However, the main problem with Ben-David's conjecture is the confusion between static model (trade theory) and dynamic model (growth theory) results.

Let us examine more carefully the consequences of plugging some trade model results in two popular neoclassical growth models, Solow's and Ramsey's. To accomplish this, we need to open up Uzawa's two sector growth model, which assumes different production functions for capital and consumption goods. Recall that a recurring sufficient condition for uniqueness of the momentary equilibrium, the balanced growth path, and the stability of the latter in Uzawa's closed economy two sector growth models, is a lower capital intensity in capital goods Sector. Otherwise, it wouldn't be possible to make predictions.

The former assumption has strong implications. After trade liberalization the labor-abundant country will specialize in the production of the capital goods and the capital-abundant country will specialize in the production of consumption goods. Of course, this outcome is brought 5 For a summary of all the sufficient conditions see Stiglitz and Uzawa (1969), pp. 406-7. about by an increase in the after trade relative price of capital goods for the labor-abundant country and vice-versa for the capital abundant country.

The impact of the after trade change in relative prices implies that GDP would decrease in terms of the good which became more expensive and would increase in terms of the other good. For the labor-abundant country this means that its GDP would buy less units of the capital good. If capital accumulation were

driven a-la-Solow by a constant savings rate, then the stock of capital goods (and GDP)would fall after trade. Therefore, the dynamic effect of trade liberalization would be negative in a stable two-sector neoclassical model for the poorer country. Since the effect would be the opposite in the rich country, the case for "equalizing exchange", that is to say, income convergence, is even weaker.

[The implication that in the open "well-behaved" two-sector growth model the poor country should specialize in capital goods might seem at odds with the facts. Please, keep in mind that we are not judging the empirical relevance of the two-sector neoclassical model but to what extent some popular conjectures might be derived from it.]

It is unclear whether the fall of GDP caused by a lower capital stock, the dynamic effect of trade liberalization, will offset the static gain mentioned above. Of course, a priori we cannot rule out the possibility that the negative dynamic effect might be greater (in absolute value) than the static gain. Perhaps the most interesting thing about these results is that we did not assume any market failure. Of course, the presence of market failures would weaken or even destroy the case for trade liberalization. The wide class of dynamic comparative advantage models has grown significantly. Even Lucas (1988) contributed to this literature arguing that it was impossible to explain the Korean miracle on the basis of traditional neoclassical models of trade and growth. But this is well known.

Let us examine now what we can get from combining Heckscher-Ohlin with the infinite horizon neoclassical model, usually known as the Ramsey model. It is worth noticing that the so-called Ramsey model differs in some important respects from the original: (1) Ramsey assumed no discounting of future utility; (2) he modeled a planner's problem instead of a household choice, that is to say, his model was rather normative than positive. Therefore, from now on we will talk about the infinite-horizon neoclassical model (IHNM).

Assuming constant returns to scale, output per worker y can be expressed as a function of the stock of capital goods per worker k. The closed economy aggregate IHNM has a steady state or balanced growth path when the rate of return on capital r equals the rate of time preference ρ (assuming no growth in consumption per worker for simplicity).[If we assumed positive growth of consumption per worker in steady state at the rate g, then steady state r would equal $\rho+\theta g$, where θ is the inverse of the intertemporal elasticity of consumption. For a standard and complete treatment see chapter 2 in Romer (1996) or Barro and Sala-i-Martin (1995).]This pinpoints the steady state stock of capital goods per worker k^* from the aggregate production function, given the depreciation rate δ:

(2) $y = f(k)$

(3) $r = \rho = f'(k^*)-\delta$

(4) $k^* = f'^{-1}(\rho+\delta)$

In the transitional dynamics towards the steady state of the economy, capital accumulation is driven by the difference between *r* and ρ. In other words, *k* grows as long as $r > \rho$.

Reasonably, this result translates to the two-sector version of the IHNM. It is not clear how to explain differences in the stocks of capital per worker between a poor country and a rich country within the IHNM. Some alternatives are:
(a) the rate of time preference is the same in both countries, but the while rich country is already at the steady state level of capital per worker, the poor country is still behind in this regard because it is in the transitional dynamics;

(b) both countries have reached their steady state levels of capital accumulation but they differ because the rate of time preference is greater in the poor country (it is more "impatient").

Explanation (a) can be interpreted as a situation resulting from different initial conditions. Explanation (b) is harder to sustain; certainly, rates of time preference might differ across countries and times, but then we would like to understand what causes their variation.

Let us now open up the two-good model. Suppose that trade liberalization leads to the equalization of good and factor prices across countries; then, rates of return on capital should also be equalized, as shown by Findlay (1995, chapter 2). This stems from the definition of the rate of return as the ratio of the rental rate the capital good to its price *pK* minus the depreciation rate:

(5) $r = R/p_K - \delta$

Before we consider Let us now consider the effect of trade liberalization on capital accumulation. The crucial issue is what will happen to the rate of return. Again, Findlay shows that the rate of return should be a decreasing function of the relative price of the labor intensive good, which once more is presumed to be the capital good (the "well-behaved" case). Therefore, the impact of trade liberalization on the poor country will be a fall in the rate of return on capital. If the poor country accumulated less capital per worker because it was still in the transition, trade liberalization will bring *r* down to its steady state level, ρ, and therefore, capital accumulation will stop.

The truncation of the transitional dynamics implies that trade liberalization will abort income convergence. Again, we have a dynamic effect that runs contrary to the apparently equalizing static effect. The case with different rates of time preference poses some logical puzzles. Let us assume that we start from autarkic steady states; then, rates of return will differ across countries.

If after trade, factor price equalization takes place, the prevailing rate of return on capital will be lower (higher) than the rate of time preference for the poorer (richer) country. Therefore, *k* will rise in the richer country and decrease in the poorer leading to ... income divergence! The divergence in *k* will eventually reverse factor price equalization.[Given the usual assumptions of the Heckscher-Ohlin model, that is to say, constant returns to scale, no factor intensity reversals, and same technology across countries, factor price equalization will fail when countries relative factor endowments are very different.]

From then on, *r* will fall in the rich country and rise in the poor country until they equate each country ρ and reach new steady states with wider differences in *k*.

3. "Capital account liberalization also favors income convergence across countries".

The following quotation from the econometric literature is quite typical: "we find that financial liberalization mostly strengthens convergence" (Bekaert *et al*, 2002). It is also typical not to ground the hypothesis tested on any theory. A popular and informal argument for fallacy 3 goes like this:

poor countries have lower stocks of capital per worker and higher rates of return on capital than rich countries; then, capital account liberalization will benefit all countries because it will enable capital flows from the rich countries to the poor countries, thereby increasing the returns to rich countries' savers and lowering the cost of capital for poor countries' investments. [For the present discussion we will leave aside the important issues related to uncertainty in capital markets. Somehow, this means that we will examine the strongest case for capital account liberalization.]

Capital account transactions are usually interpreted as intertemporal trade. The presumptions of gains from intertemporal trade stem from the analogy to commodity trade. Again, gains from intertemporal trade will not necessarily imply convergence since the latter will depend on the distribution of the gains. The rationale behind the argument of what we might call "equalizing intertemporal trade" is a Solovian neoclassical aggregate production function like the one in equation 2. However, it is crucial for the argument that the production function be not only neoclassical (that is to say, with constant returns to scale and decreasing marginal productivities) but also the same across countries.

Let us illustrate the point with a Cobb-Douglass production function (equation 6). Symbols have their usual meanings and A is a parameter reflecting the efficiency of labor, usually interpreted as related with the state of technical progress. Equation (6') and (6") show the production function in its "intensive form", in which output per worker *y* depends on the stock of capital goods per worker *k* and the efficiency of labor.

(6) $Y = K^{\alpha}(AL)^{1-\alpha}$, $0<\alpha<1$

(6') $Y/L = (K/L)^{\alpha}A^{1-\alpha}$

(6") $y = k^{\alpha}A^{1-\alpha}$

(7) $\partial y/\partial k = \alpha k^{\alpha-1}A^{1-\alpha}$

The popular argument for capital account liberalization implicitly assumes that differences in *y* across countries are mainly explained by differences in *k* and neglects the role of differences in the efficiency of labor. Equation 7 shows that the marginal productivity of capital (*the* determinant of the rate of return in the neoclassical view), also depends on both the stock of capital per worker *k* and the level of *A*. Hence, it is perfectly possible to find countries that are richer than others in terms of income per worker but do not have lower marginal productivities of capital. Why? because differences in capital per worker are offset by differences in the efficiency of labor. But if the marginal product of capital is not necessarily lower in rich countries than in poor countries, the case for capital account liberalization will break down. Indeed, discussions about "why doesn't capital flow to the poor countries?" are commonplace in the new growth literature (Lucas, 1990); explanations differ but the fact is not disputed.

We mentioned before that the case for capital account liberalization rests on the hypothesis that differences in income per worker across countries are mainly explained by differences in capital per worker. However, this hypothesis has been so consistently rejected from an empirical viewpoint that it became a standard textbook example of the failures of the Solow growth model (Romer, 1996, chapter 1; Mankiw, Romer and Weil, 1992). As usual, the empirical failures might have several interpretations, but the evidence against the assumption of a common production function with no differences in efficiency across countries is overwhelming and ranges from the trade literature (v.g., Bowen, Leamer and Sveikauskas, 1987; Trefler, 1993 and 1995) to the growth literature (v.g., Easterly and Levine, 2001; Clark and Feenstra, 2001). This empirical evidence shows that factors other than capital per worker play an important role in explaining differences in income per worker.

Then, the opening up of the capital account *per se* will not necessarily bring in major capital inflows in developing countries. In a well-known paper, Mankiw, Romer and Weil (1992) have included human capital in the Solow model while

keeping the assumptions of constant returns and common technology. Therefore, the above differences in labor efficiency are interpreted as differences in human capital endowments. It is interesting to note that even this conservative departure from Solow also invalidates the argument for capital account liberalization precisely because the differences in human capital endowments across countries have the same effect as the differences in A, namely, they might compensate for differences in *k* preventing the marginal product of capital from falling.

On the other hand, the endogenous growth literature has built a strong case against the hypothesis of a rate of return that decreases in the level of output per worker. Partly motivated by the need to explain nonconvergence in income per worker (Romer, 1986), all endogenous growth models predict nondecreasing rates of return. The well known "AK models" are examples of the constant rate of return variety. Two examples are the two-sector growth models developed by Lucas (1988) and Rebelo (1991), both based on Uzawa's (1965) idea of a self-reproducible factor. It is interesting to recall that Lucas (1988) paper was partially motivated by the need to explain the failure of many developing countries to attract foreign capital inflows.

Within the endogenous growth literature, the knowledge-based models developed by Paul Romer (1986, 1990) and others, provide even stronger ammunition against capital account liberalization. Romer (1986) argues for increasing returns to scale based on R&D externalities that might lead to increasing rates of return. We will present a simplified version of Romer's 1986 model. Equation 8 shows the firm's production function which has constant returns to scale on the factors controlled by the firm. Output *Yi* is produced with a composite capital good *Ki* which combines physical capital and an R&D firm's specific investment, and labor *Li*. The efficiency of labor is an exogenous parameter for each firm but it is determined by the aggregate stock of the capital good.

[This means that the measure of each firm is negligible, that is to say, we are talking about competitive markets] (equation 9). Parameter φ measures the degree of R&D spillovers from a firm's specific investment to the rest of the economy. As a result of these spillovers, the aggregate production function has increasing returns to scale.

There is also a wedge between the private and social marginal productivity of capital, as shown in equations (11) and (12), which leads to a suboptimal level of investment in a market equilibrium.

(8) $Y_i = BK_i^{\alpha}(AL_i)^{1-\alpha}$, $0<\alpha<1$

(9) $A = (\Sigma_i K_i)^{\varphi}=K^{\varphi}$, $\varphi>0$

(10) $Y = BK^{\alpha+(1-\alpha)\varphi}L^{1-\alpha}$

(11) $\partial Y_i/\partial K_i = \alpha BK_i^{\alpha+(1-\alpha)\varphi-1}L_i^{1-\alpha} = \alpha B(K_i/L_i)^{\alpha-1}K_i^{(1-\alpha)\varphi} = \alpha Bk_i^{\alpha-1}K_i^{(1-\alpha)\varphi}$

(12) $\partial Y/\partial K = [\alpha+(1-\alpha)\varphi]BK^{\alpha+(1-\alpha)\varphi-1}L^{1-\alpha} = [\alpha+(1-\alpha)\varphi]B(K/L)^{\alpha-1}K^{(1-\alpha)\varphi-1}=$
$= [\alpha+(1-\alpha)\varphi]Bk^{\alpha-1}K^{(1-\alpha)\varphi-1}$

If φ equals 1, the marginal productivity of capital will be an increasing function of the amount of labor: constant with constant labor (an "AK model") and increasing if labor grows over time. If φ is greater than 1, the marginal productivity of capital will be increasing in capital. In all cases, even when φ is between 0 and 1, the marginal productivity of capital will be an increasing function of the stock of capital. That is to say, larger (in this regard) countries will, *ceteris paribus*, have a greater rate of return. In such a world, capital account liberalization might lead to polarization and divergence through cumulative processes, a result that certainly rings a bell in the developing world.

Romer (1990) presents a more Schumpeterian model in which market power allows innovators to recover their R&D investments. An important result is that both the growth rate and the rate of return are increasing functions of the stock of human capital. Therefore, capital account liberalization might again lead to income divergence.

We have examined three neoliberal propositions regarding economic openness and inequality that are commonplace in multilateral financial organizations, the business community, and even in the academia. According to them, free trade and capital account liberalization should, on one hand, help the poor and decrease inequality in developing countries, and on the other hand these policy reforms should reduce inequality between developing and developed countries by fostering income per capita convergence.

After careful scrutiny we show that these propositions are a *non sequitur* of mainstream neoclassical economics. That is why we call them fallacies. Some of them are based on wrong simplifications and generalizations of textbook models that have been consistently disproved in the empirical arena. Others are just plain wrong as they stem from the confusion between static theory results and dynamic theory problems.

Given the weak theoretical foundations of these fallacies, their popularity, especially in some academic circles, deserves an explanation.

Globalization offers participating countries new opportunities for accelerating growth and development but, at the same time, it also poses challenges to, and imposes constraints on policymakers in the management of national, regional and global economic systems. While the opportunities offered by globalization can be large, a question is often raised as to whether the actual distribution of gains is fair, in particular, whether the poor benefit less than proportionately from globalization—and could under some circumstances actually be hurt by it.

The risks and costs brought about by globalization can be significant for fragile developing economies and the world's poor. The downside of globalization is most vividly epitomized at times of periodical global financial and economic crises. The costs of the repeated crises associated with economic and financial globalization appear to have been borne overwhelmingly by the developing world, and often disproportionately so by the poor who are the most vulnerable. On the other hand, benefits from globalization in booming times are not necessarily shared widely and equally in the global community.

The fear that the poor have been by-passed or actually hurt by globalization was highlighted by the finding from a number of studies, emerging in the last half dozen years, which explicitly examined the trend of world income distribution as it evolved during the heyday of the globalization era. Many of these studies point towards an increasing inequality in the world income distribution and limited—if not a lack of— convergence among participating national economies and across regions as globalization has proceeded. Concern about inequality trends is relevant to the extent that the latter may affect growth and thereby poverty alleviation in the future.

Inequality acts as a filter between growth and poverty.1 [Wealth (asset) inequality does matter for poverty outcome as much as income inequality. Since wealth and income tend to be correlated among individuals, these two types of inequality are clearly interrelated. Due to the paucity of data on asset distribution, however, most empirical studies are limited to and focus on income inequality.] Inequality is also relevant to the measurement of poverty, if the *relative* definition of poverty is used rather than the *absolute* definition of poverty. While absolute poverty is defined in reference to a poverty line that has a fixed purchasing power determined so as to cover basic needs, relative poverty is determined as a fixed proportion of the mean income of population (Bourguignon 2004).

Practically all estimates of poverty are based on absolute poverty rather than relative poverty lines. The most recent estimate based on household surveys (Chen and Ravallion 2004) suggests that if one uses a poverty line of PPP adjusted US$1 per day as a cutoff line, there were 390 million fewer people living

in poverty in 2001 than in 1980. The number of poor fell from 1.5 billion in 1981 to 1.1 billion in 2001, and the share of the population of the developing countries living below US$1 per day declined from 40 per cent to 21 per cent. However, this study also shows that this progress on poverty reduction was mainly achieved by the substantial reduction of the poor in China (400 million fewer people were poor in China in 2001). Their estimate also indicates that the absolute number of the poor has fallen only in Asia and risen elsewhere and the total number of people living under US$2 per day actually increased worldwide. In particular, poverty has increased significantly in Africa in terms of poverty incidence as well as the depth of poverty.2 [See Wade (2002) and Deaton (2001, 2002) for critical discussions of the World Bank's estimates of global poverty and inequality used in these studies.]

Though any trend in poverty and income inequality observed so far cannot be exclusively or even mainly attributed to the globalization effect as such, without rigorous analyses, these various estimates, even the most optimistic ones, cannot dismiss the concerns raised that the globalization process, as it has proceeded so far, may have had adverse effects on poverty and income distribution.3 These concerns have generated a passionate debate worldwide as well as a powerful anti-globalization movement.

The extent of controversy surrounding this debate reflects the fact that globalization is not a process proceeding neutrally in a policy vacuum, but a policy-induced condition.[See Wade (2002) and Deaton (2001, 2002) for critical discussions of the World Bank's estimates of global poverty and inequality used in these studies.] Globalization is not purely driven by new technological innovations and progress or by 'neutral' market forces and other inescapable sociopolitical forces, as often depicted in popular writings.5 In particular, the contemporary phase of globalization is, to a certain extent, an outcome emerging from the global consolidation and diffusion of the economic policy paradigm, which emphasizes benefits and positive features of the liberalized policy regime. In this paradigm, trade and financial liberalization is seen, along other market-based institutional reforms such as privatization, legal and other regulatory systems, as the *sine qua non* of a successful integration into a globalizing world economy. This kind of position with a particular ideological stance might be questioned in the context of the fiercely contested debate on the appropriate roles of markets versus states. Indeed, in this regard, the recent discussion over the effects of globalization on poverty mirrors very much the earlier controversy over the appropriateness of structural adjustment programmes as a development strategy for low-income countries and the poor in particular.

Cornia (2000) argues, for example, that growing polarization among countries has been accompanied by a surge in inequality within most nations, where growth and poverty alleviation have suffered substantially. He suggests that the rising trend in inequality in recent decades cannot be explained by the 'traditional causes of inequality' (i.e., those responsible for income inequality in the 1950s-

70s), which include high concentration of land and other assets, dominance of natural resources and associated rents, unequal access to education, and urban bias.

While noting that these traditional conditions remain important factors for cross-country differences in inequality, Cornia argues that the increased global inequality in recent decades is attributable more directly to the contemporary globalization effects, i.e., the nature of technological changes and policy reform measures such as frequent application of deflation policy under stabilization-cum-adjustment; trade liberalization; the rise of financial rents following financial liberalization and privatization; changes in labour institutions; and erosion of the redistributive role of the state. [See Culpeper (2002) for further discussion of the effect of economic liberalization policies on income distribution and the poor.]

However, despite the utmost importance of understanding the globalization-poverty nexus, the precise nature of the various mechanisms, whereby the ongoing process of globalization has altered the pattern of income distribution and the conditions facing the world's poor is yet to be carefully analysed. As discussed below, the globalization-poverty relationship is complex and heterogeneous, involving multifaceted channels. It is highly probable that globalization-poverty relationships may be nonlinear in many aspects, involving several thresholds effects. Indeed, each subset of links embedded in the *globalization (openness)-growth-income distribution-poverty nexus* can be contentious and controversial. Besides the 'growth' effects of globalization on poverty (i.e., the effects of globalization on poverty filtered through economic growth), globalization/integration is known to directly create winners and losers, affecting both *vertical* and *horizontal* inequalities (Ravallion 2004a). Because these multifaceted channels interact dynamically over space and time, the net effects of globalization on the poor can only be judged on the basis of 'context-specific' empirical studies.

6.4: CONCEPTS OF WORLD INCOME INEQUALITY

An important issue that needs to be addressed at the outset, is what is meant by 'inequality' in the globalization debate. At least four different concepts (types) of income inequality can be identified. The first three concepts listed here were defined by Milanovic (2004).

— The *first concept* measures differences in mean incomes between countries (or regions). There is no population weighting and every country counts the same. This concept is useful in determining the extent of convergence or divergence among countries or regions.

— The *second concept* takes mean national (or regional) incomes but weights them by the population of the countries (regions). In this case the resulting

income distributions will be strongly affected by large countries (e.g., China and India) and regions.

The *third concept* measures interpersonal inequality at the global, national or regional level, respectively. At the global level, this concept yields the world's income distribution.

— A *fourth concept* is that of vertical and horizontal inequality. While vertical inequality refers to inequality among individuals at different levels of the income pyramid, horizontal inequality refers to inequality among individuals within the same broad income or socioeconomic class. [Ravalion-2004]

A crucial question is whether the worldwide income distribution has become more or less even during the recent globalization era. According to concept 1 (national GDPs per capita with each country weighed equally) there has been an almost continuous and sharply rising divergence over the last 50 years with the Gini coefficient rising from around 0.43 in 1950 to 0.53 in 2000. On the other hand, based on concept 2 (with each country's mean income weighed by population size), worldwide income distribution has become significantly more even with the qualification that this trend is totally driven by China. Hence, estimates of 'between-country' inequality vary widely, depending on whether estimation is made on the basis of using country weights (concept 1) or population-weights (concept 2) [Estimates with country-weights take each country as one observation, while those with population weights give people equal weights. The merits and demerits of using either method are discussed in detail in Ravallion (2004). He favours some hybrid weighting scheme as the best way of analyzing between-country inequality.] Note that both of these concepts ignore entirely the distribution of income within countries, as well as any change over time in those intra-country distributions.

The third concept captures inequality across individuals of the world as it includes the 'within-country' distributions. In this sense, it is the best measure of world income inequality and its evolution over time. The various attempts to measure this concept are in general agreement that worldwide inequality is very high and rose slightly up to the early nineties before falling marginally. The one exception is the study by Sala-i-Martin that appears to suffer from methodological flaws (Milanovic 2002a). [Estimates with country-weights take each country as one observation, while those with population weights give people equal weights. The merits and demerits of using either method are discussed in detail in Ravallion (2004). He favours some hybrid weighting scheme as the best way of analyzing between-country inequality.]

While globalization could alter both vertical and horizontal inequality (concept 4), as Ravallion (2004a) argues, globalization may affect horizontal inequality particularly adversely by producing winners and losers among broadly similar groups. But clearly, class conflicts could result from vertical inequality. For

example, a structural adjustment and trade liberalization programme could lead to higher food prices in a developing country, benefiting the farmers who are net sellers of food, while agricultural workers (the landless) who are net purchasers of food would be negatively affected by the reform.

6.5: THE GROWTH CHANNEL IN THE OPENNESS-GROWTH-INEQUALITY-POVERTY NEXUS

Policies of openness through liberalization of trade and investment regimes, and capital movements have been advocated worldwide for their growth and welfare enhancing effects on the basis of the propositions embedded in the wellknown economic theories of international trade and investment (i.e. the Ricardian comparative advantage theory, the Heckscher-Ohlin-Samuelson model, the new trade theories of Krugman, or the model of intertemporal international borrowing/lending or portfolio allocation models). In these models, the main growth-enhancing effects of openness are assumed to filter through: (I) static efficiency gains associated with improved resource allocation for national economies as well as for the world economy due to increased specialization; (ii) dynamic efficiency gains from such factors as economies of scale, diffusion of information, technology transfers, knowledge spillover effects as well as inter-temporal trade gains from cross-border borrowing/lending for increased investment and consumption smoothing and portfolio risk diversification.

In order to analyze and understand the impact of openness on poverty, the causal chain *openness-growth-inequality-poverty* has to be scrutinized link by link.

The openness-growth link

The first link of the chain is from openness to growth. The main manifestation of openness is through trade and capital movement liberalization which in turn is presumed to affect growth directly through three sub-channels: exports, imports and capital inflows. Trade liberalization policies encourage exports which benefit export industries and contribute to GDP growth. Although this link is relatively transparent, one issue still debated in the literature is the direction of causality. Do exports influence growth or does growth influence exports or are they interlinked into a virtuous circle? Using an instrumental approach, Frankel and Romer (1999) make a rather convincing case that trade influences growth both by increasing human and physical capital and by boosting total factor productivity growth.

A second sub channel links increased imports to growth. A country that switches from a regime of import substitution to one of trade liberalization will, in the short run, hurt the previously protected domestic industries, and suffer from a fall in

fiscal revenues as a result of lower tariffs. However, the initial negative consequences on output are likely to be more than compensated through a more efficient allocation of resources and benefits of competition, leading to a higher growth path. Successful cases of trade liberalization leading to growth are usually found when import liberalization is preceded by, or implemented in tandem with, export promotion policy and other measures to strengthen the technological capability of domestic producers, as was observed in the Asian NICs.

The third sub channel operates through the impact of foreign investment (FDI) and portfolio and other capital flows on domestic output and growth. If FDI takes the form of 'Greenfield' investment as opposed to investment through merger and acquisition, much of the capital inflow from transnational corporations (TNCs) tends to be converted directly into factories producing new products. However, the transfer of technology, skills and management know how that is assumed to accompany FDI is not necessarily automatic or guaranteed. Further, the postulated positive effects of portfolio and other capital flows (hot money) on growth have been questioned increasingly in recent years. The recent IMF study (Prasad *et al.* 2003) acknowledges that it is difficult to establish a strong positive causal relationship between financial globalization and economic growth.11 Furthermore these short-term capital flows contribute to the increased vulnerability to external shocks of the recipient developing countries.

[conducted to show the beneficial effects of an open economy regime on growth, e.g., Dollar (1992); Sachs and Warner (1995); Dollar and Kraay (2001a, 2001b). However, the validity of these empirical exercises has been contested on technical grounds by many researchers.13 In a recent comprehensive critical analysis of the various studies on the relationship between trade and growth, Cline (2004: 248) concludes that 'overall it would seem that the weight of the empirical evidence is on the side of those who judge that more open trade policies lead to better growth performance'. It is worth noting here, however, that the positive openness-growth link is neither automatically guaranteed nor universally observable]

The growth-inequality interrelationship

The second link in the causal chain from openness to poverty is the interrelationship between growth and inequality. There are two contradictory theoretical strands relating income- and wealth-inequality to growth. The classical approach best reflected by Kaldor argues that a higher marginal propensity among the rich to save than among the poor implies that a higher degree of initial income inequality will yield higher aggregate savings, capital accumulation and growth. Additional arguments in favour of the growth-enhancing effect of inequality are based on the existence of investment indivisibilities and incentive effects.

The contrasting new political economy theories linking greater inequality to reduced growth operate through a number of subchannels shown on Figure 1, which is adapted from Thorbecke and Charumilind (2002). These subchannels are, respectively:

(i) unproductive rent-seeking activities that reduce the security of property;

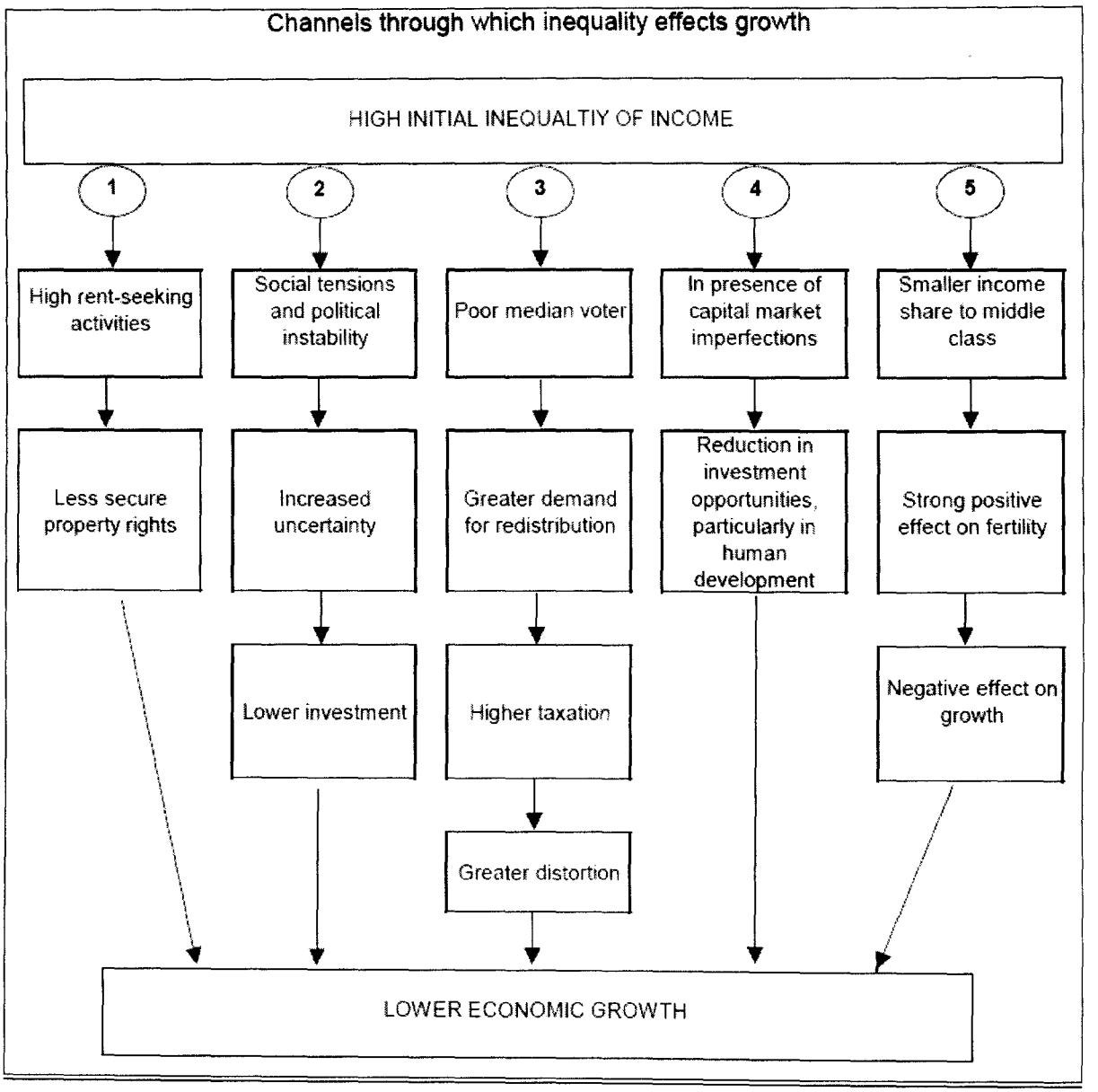
(ii) the diffusion of political and social instability leading to greater uncertainty and lower investment;

(iii) redistributive policies encouraged by income inequality that impose disincentives on the rich to invest and accumulate resources;

(iv) imperfect credit markets resulting in underinvestment by the poor particularly in human capital; and

(v) a relatively small income share accruing to the middle class implying greater inequality—has a strong positive effect on fertility, and this, in turn, has a significant and negative impact on growth.

FIG. 6.1: CHANNELS THROUGH WHICH INEQUALITY AFFECTS GROWTH



[Sources: (1) Benhabib and Rustichini (1991); Keefer and Knack (2000);
(2) Alesina and Perotti (1994); (3) Alesina and Rodrik (1994); Bertola (1993); Persson and Tabellini (1991)
(4) Banerjee and Newman (1993); Aghion and Bolton (1997); (5) Perotti (1996).]

Some additional indirect paths (and more circuitous routes) through which inequality ultimately affects growth are likely to exist. Wide income and wealth disparities can impact on education, health and crime, respectively, through such manifestations as underinvestment in human capital, malnutrition leading to low worker productivity and stress and anxiety, respectively. In turn these manifestations may contribute to lower long-term growth.

High initial inequality is detrimental to growth in this way the Kuztnets Hypothesis is widely criticized in several empirical studies. The proponents of this approach, while rejecting the immutability of the Kuznets curve, argue that growth patterns yielding more inequality in the income distribution would, in turn, engender lower future growth paths. Although country-specific evidence is quite limited and might not be generalizable to other settings, a recent study of the dynamics of inequality and growth in rural China based on the growth experience of villages finds robust statistically significant evidence that inequality reduces growth (Benjamin, Brandt and Giles 2004). The authors suggest that the mechanism by which inequality exerts its negative effect was through its tilting of village economic activity away from higher growth nonagricultural development towards agriculture, thereby impeding structural transformation into nonagricultural activities.

In the light of the new literature that emphasizes the impact of inequality on incentives, social conflicts, transaction costs and property rights, the possible link between growth and poverty is examined in recent UNU-WIDER studies (Cornia 2000 and Addison and Cornia 2001). These studies argue that: (i) there is a concave relationship between inequality and growth: growth can be low at low levels of inequality due to disincentive effects and low at high levels of inequality through depressing effects on private investment caused by social conflicts; (ii) in this concave growth-inequality relationship, there exists a 'growth-invariant efficient inequality' range.15 Given this growth-inequality relationship, these studies suggest that any country that intends to maximize poverty reduction should choose the lowest level of inequality within the broadly growth-invariant, efficient inequality range.

6.6: THE INEQUALITY-POVERTY LINK VIA FUTURE GROWTH

Since inequality is supposed to affect future growth and the future growth path, it also influences poverty. The UNU-WIDER volume cited above (Cornia 2004) concludes that the widespread increase in inequality has been detrimental to the objective of poverty reduction, because large rises in inequality have stifled growth, and because poverty, at any given growth rate of GDP, falls less rapidly in the case of a more unequal distribution than in the case of a more equitable one. Thus, in the analytical framework used to examine the inequality-growth-poverty relationship reviewed above, the UNU-WIDER study clearly indicates that high inequality tends to reduce growth. The obvious policy implication following from the above causal sequence is that successful poverty alleviation depends not only on favourable changes in average GDP per capita growth but also on favourable changes in income inequality.

The conclusions drawn from the UNU-WIDER study challenge the dominant mainstream views derived from a number of World Bank studies such as

Deiningerand Squire (1996); Li, Squire and Zou (1998); Dollar and Kraay (2001a, 2001b). These conventional views argue that: (i) the 'within-country distributive impact' of globalization-cum-liberalization is on the whole neutral; (ii) the long-term distribution is broadly stable; (iii) there is no clear association between inequality and growth and growth is distribution neutral; hence growth is the only realistic option. For example, Dollar-Kraay (2002a, 2002b) argue that 'since the share of income going to the poor does not change *on average* with growth, the poor benefit from growth', and 'trade is good for growth and growth is good for the poor' [Dollar (2002) further reaffirms the strong positive causality from integration through growth to poverty reduction on the basis of the experiences of five countries (Bangladesh, India, Uganda, Vietnam and China) during the period 1992-98.] They estimate that the *average* growth elasticity of poverty reduction ranges from 0.6 per cent to 3.5 per cent.[An early study by Ravallion and Chen (1997) estimates that based on a sample of developing countries, the growth elasticity of poverty on average, as measured by the headcount ratio (the proportion of people living below the conventional US$1 a day poverty line) is around. Bourguignon (2002) reports an average growth elasticity of poverty of 1.6]

However, the methodology used in yielding these results has since then been challenged. Ravallion (2002) argues, for example, that average neutrality found in the Dollar-Kraay study and other studies is not inconsistent with strong distributional effects at the country level. He concurs with Cornia's position, reaffirming that a critical question is whether or not inequality is an impediment to poverty-reducing growth, or in other words, whether high inequality attenuates the growth elasticity of poverty. His analysis confirms that the elasticity of poverty with respect to growth is found to decline with the extent of inequality.

There is probably no greater fundamental issue in economic development than a better understanding of the mechanisms through which growth affects poverty. Foster and Szekely capture the heart of the debate between two alternative approaches and models of development: one model emphasizes growth and efficiency under the idea that they eventually, if not immediately, improve the standard of living of the population at large, including the poor; the alternative model stresses that the state must play an active role in determining where the benefits of development end up, since it is not clear that the poor will benefit automatically (Foster and Szekely 2000: 59). While it is axiomatic that growth is a necessary condition for poverty alleviation, the key questions are how the impact and the magnitude of growth on poverty reduction can actually be fully ascertained and measured; and what is the optimal degree ofactive state intervention to reduce poverty without sacrificing (or with a minimum loss of) efficiency.

An inherent limitation of poverty measures is that they totally ignore the state of the income distribution above the poverty line.18 An aggregate poverty measure

is essentially a welfare function in which the poor receive all the weight and the non-poor receive no weight (Kakwani, Prakasah and Son 2000). Ideally, analysts would like to have access to a measure, spanning the whole income distribution, that combines poverty and inequality in a relatively non-arbitrary manner. Clearly, truncating income distribution at the poverty line is arbitrary and leads to a loss of information by failing to consider the distribution of income above the poverty line. Foster and Szekely (2000) quite cogently raise the question, 'Why should an income slightly higher (than the poverty line) be ignored, just because it is above the arbitrary cutoff being employed?'

They proceed to develop a methodology where the measurement of poverty is sensitive to the state of income distribution and includes a weighting scheme that is continuous in which the non-poor also receive positive weight which may be made as small as one wishes. It is based on Atkinson's (1970) family of 'equally distributed equivalent income' functions called *general means*. For different values of the parameter α, more weight is placed on higher incomes (for higher parameter values) and more weight on lower incomes (at lower parameter values). Based on 144 household surveys from 20 countries over the last 25 years, Foster and Szekely show that the growth elasticity of the general means can vary from 1.08 to a very low 0.22, depending on the choice of α. They conclude that: the positive value of the elasticity indicates that growth is good for the poor.

However, it seems that it is even better for other sectors of society. This suggests a role for additional policies aimed specifically at guaranteeing that the poor share the benefits of development more proportionally (Foster and Szekely 2000: 69). Indeed, despite the opposite inferences made by mainstream economists on the basis of cross-country regression analyses,19 it has been increasingly recognized that the *pattern* of economic growth and development rather than the rate of growth *per se* may have significant effects on a country's income distribution and poverty profile.

This issue has led to a debate on what constitutes pro-poor growth.[Culpeper (2002) notes, however, that the World Bank's strategy of 'pro-poor growth' usually consists simply of: (I) growth-oriented economic policies at the Washington consensus; (ii) social investments in health and education; (iii) social safety nets that cannot take advantage of new opportunities created by economic growth. Indeed, these three components constitute the strategy adopted in the HIPC Initiatives so far.]

6.7: DEBATE ON PRO-POOR GROWTH

DFID (2004) notes that there are two competing approaches to defining what constitutes pro-poor growth: an *absolute* and a *relative* concept. The *absolute* concept is associated with the work by Ravallion (2004b). Focusing on the rate of change in absolute poverty, he defines pro-poor growth as any growth in mean

income that benefits the poor in absolute terms. According to this definition, any increase in GDP that reduces poverty measured by some agreed indicators is pro-poor growth, even if it is accompanied by a worsening income distribution. In contrast, the relative concept places much more emphasis on the distributional effect of growth, i.e. changes in inequality during the growth process. For example, Kakwani and Pernia (2000) consider growth as pro-poor if the distributional shifts accompanying growth favour the poor proportionately more than the non-poor.

As Osmani (2004) notes, what matters most for the relative concept is the nature and pattern of growth, whereas the absolute concept captures the effect of the totality of the growth process on poverty. Seen in this light, both concepts are useful for policymakers in tackling the issue of poverty reduction, although it is difficult for some analysts to *accept* as pro-poor growth a situation where, for example a 10 per cent aggregate GDP growth rate would reduce the incidence of poverty by only 1 per cent.[It is important to note here that irrespective of which concept is used in discussing pro-poor growth, what is considered *pro-poor* critically depends on the choice of standards for poverty measurement, in particular, the shape of the distribution around the poverty line and the choice of poverty lines (Grinspun 2004).] Recognizing this point, Kakwani, Khandker and Son (2004) propose a better measure of pro-poor growth, using the concept of the 'poverty equivalent growth rate (PEGR)' which takes into account both the magnitude of growth and how the benefits of growth are distributed to the poor and the non-poor.[If PEGR is larger than the actual growth rate, which occurs when the incomes of the poor grow more than the average income, then growth is pro-poor; if PEGR is equal or less than the actual growth rate, growth is said not to be pro-poor.]

Indeed, the debate on the meaning of pro-poor growth is related to the issue underlining the complex triangular relationships among poverty, growth and inequality, as discussed above. Taking up this relationship, Bourguignon (2002 and 2004) notes that first, absolute poverty reduction could be achieved through two effects:

(i) the growth effect, i.e. the effect of the growth rate of the mean income of the population; and

(ii) the distribution effect, i.e., the change in the income distribution.

Second, he emphasizes that these two effects are not independent of each other, but dynamically interact over time in a country-specific context, producing heterogeneity and nonlinearity in the poverty-growth relationship. More specifically, both the growth-elasticity and the inequality-elasticity of poverty are increasing functions of the level of development and decreasing functions of the degree of relative income inequality.

Hence, Bourguignon (2004) advances the following three interrelated points:

i) Distribution matters for poverty reduction;
ii) Effective redistributive policies may in fact yield a double dividend: they reduce poverty today and accelerate poverty reduction in future, as discussed above;
iii) The real challenge in establishing a development strategy for reducing poverty lies in understanding the interactions between distribution and growth.

Thus, despite the heated debate concerning the definition of pro-poor growth, there appears to be general agreement that poverty reduction would require some combination of higher growth and a more pro-poor distribution of the gains from growth. For Ravallion (2004c), the real issue is not *whether* growth is pro-poor, but *how* pro-poor it is, which can be measured by a 'distribution-corrected' rate of growth. Referring to the growth-distribution relationship, Ravallion (2004c) supports the points made by Bourguignon above by arguing that 'while there may well be tradeoffs between what is good for growth and good for distribution, but some factors that impede growth may also prevent the poor from fully sharing in the opportunities unleashed by growth'.23 From this perspective, one could reach a general definition acceptable to both sides of the debate, i.e. growth is considered pro-poor if it, in addition to reducing poverty, also decreases inequality.

Now, from a policy perspective, it is important to note that pro-poor growth cannot be achieved spontaneously. There is increasing recognition that the postulated 'trickle down' *process* often fails to materialize or is too slow to have a significant impact. Hence, pro-poor growth requires strong commitments on the part of policymakers to adopt pro-poor policies capable of producing and sustaining a distribution-corrected growth path. The exact design of such pro-poor policies depends on initial conditions and institutions in country-specific settings.

6.8: OTHER CHANNELS IN THE GLOBALIZATION-INEQUALITY-POVERTY NEXUS

Aside from the *growth* channel discussed above, there are *various other* channels, through which globalization can produce winners and losers, and hence impact upon poverty. The globalization channels we examine here are:

- Changes in relative product and factor prices;
- Differential cross-border factor mobility and associated changes in global market and power structures;
- The nature of technical progress and the technological diffusion process;
- The impact of globalization on volatility and vulnerability;
- The impact of globalization on the flow of information;
- Globalization and global disinflation; and

- Institutions in developed and developing countries that mediate the various channels and transmission mechanisms linking globalization to poverty.

1) Relative product and factor prices:

The income distribution effects induced by a shift in relative product prices in the process of *the* opening up of trade are well-known, as postulated in the Samuelson-Stolper theorem of international trade theory. The losers (especially the poor residing in either urban or rural area) may be vulnerable to these induced effects in addition to changes in absolute and relative prices of wage goods (Williamson 2002). Thus, globalization can affect poverty directly through relative price changes in factor markets and goods markets.

According to the Stolper-Samuelson theorem as applied to the within-country inequality, developing countries well-endowed with unskilled labour should experience a decline in income inequality through an increased demand for unskilled labour, while unskilled labour in developed countries would lose out with an adverse effect on equity. However, the postulated narrowing wage gaps between skilled and unskilled labour have not been observed in many developing countries, particularly in Asia, Latin America and Africa.

Kanbur (1998) explains this disconnect between what theory predicts and the actual outcome in terms of segmented factor markets and the time horizon of the analysis, suggesting that the benign income distribution effects would eventually materialize on the strength of long-run factor mobility.25 Wood (1999) proposes two possible explanations for the increased wage disparity in South Asia: (i) the entry into the world markets in recent decades of low-income Asian and African economies, with abundant reserves of unskilled labour; and (ii) the nature of new technology heavily biased in favour of skilled and educated labour. [Many mainstream economists argue that higher unemployment and greater poverty observed following trade openness are the direct results of pervasive labour market 'distortions' such as minimum wage legislation or imperfect labour mobility across sectors induced by these distortions]

2) Cross border factor mobility:

Globalization winners and losers can be produced through channels other than changes in relative product and factor prices which are a main conduit for the income distribution effect of trade openness in the Heckscher-Ohlin-Samuelson-Stolper (HOSS) model. For example, unlike in the HOSS world which assumes factor. In this context, it is of interest to note that income convergence among the globalizing countries during the first wave of modern globalization between 1870 and 1914 was driven primarily by migration. Sixty million people, including largely

unskilled workers, migrated from Europe to North America and other parts of the new world during that period (Williamson 2002 and World Bank 2002). In contrast, in the current phase of globalization, the extent of cross-border mobility differs significantly between skilled and unskilled labour. In consequence, as noted by Faini (2001), the 'wage equalization' theorem postulated by the international trade theory is less likely to take place through labour migration.

Furthermore, according to theory, capital seeking higher returns should move to capital-scarce developing countries, thereby raising the marginal productivity and labour wages in these countries (Easterly 2004). However, in reality capital does not flow to developing countries to finance productive investment as much as predicted (known as the Lucas paradox). International capital markets in recent decades have not acted as an intermediation function between saving supply and investment demand on a global scale. Rather, as Obstfeld and Taylor observe today's foreign asset distribution is much more about asset swapping by rich countries—diversification—than it is about the accumulation of large one-way positions—a critical component of the development process in poorer countries in the standard textbook treatments. It is more about hedging and risk sharing than it is about long-term finance... (Obstfeld and Taylor 2001: 64).

Indeed, the large discrepancies between *gross* capital flows and *net* capital flows reflected in countries' current account positions point to the condition where *diversification* finance far overwhelms *development* finance in cross-border capital transactions. More generally, Culpeper (2002) summarizes several distinctive features of factor movements in the current wave of globalization:

(i) capital and skilled labour do not migrate to poor countries as much as among developed countries;
(ii) there is a tendency for skilled labour to migrate from developing countries to developed countries;
(iii) with capital market liberalization, there is a propensity of capital flight to developed countries, particularly during periods of crisis or instability.

With such 'perverse' movements, he points to the possibility that as globalization proceeds, developed countries would see inequality fall, while developing countries would experience rising inequality. We can indeed expect greater global integration to affect internationally mobile factors (skilled labour and capital) differently from those factors that are not—or [See Nissanke and Stein (2003) for more discussion on the nature of financial globalization.] less—mobile (unskilled labour and land) in both developed and developing countries (Rodrik 1997 and Kanbur 1998). In this context, Basu (2003) explains why unskilled labour is additionally disadvantaged in the current phase of globalization. He argues that while the mobility of unskilled labour is severely restricted and regulated, *de facto* labour mobility has taken place through the increasingly free cross-border capital mobility and TNCs' ability to relocate production sites in response to changes in relative labour costs. In fear of driving away TNCs,

governments of developing countries are less likely to enact regulations to protect and enhance labour rights.28 Thus as observed over recent decades, the differential factor mobility may profoundly affect the functional income distribution between labour and capital.

3) Technological progress and technological diffusion:

The nature of technical progress and of the technological diffusion process can be a further channel through which globalization could affect income distribution and poverty. Culpeper (2002) suggests that technical change emanates predominantly from R&D activities in the developed (industrialized) countries in response to conditions typical of their own resource endowment. Hence, technical change tends to be labour-saving and skill-biased, and would tend to increase inequalities universally in both developed and developing countries. Referring to the importance of distinguishing between three categories of labour (skilled, semi-skilled and unskilled labour), Milanovic (2002b) also explains the increased wage inequality in low-income countries with the situation in which increased globalization, through trade and FDI, has raised the demand for semi-skilled labour but not for unskilled labour, as a minimum skill level is required for production. Hence, it is the skilled or semi-skilled labour that benefits from globalization, while unskilled labour has been increasingly marginalized by it.

However, technological diffusion and access to new technology is not universal and spontaneous. Hence, global productivity differences may widen over time, which may increase income inequality. For example, Easterly (2004) argues that in addition to differences in factor endowments, productivity differences between countries have driven trade and factor flows, and income inequality.29 Indeed, the technological gaps between innovating and imitating countries as discussed in Vernon's product cycle model are still a dominant factor in determining global inequality between countries in income and wages.

Arguably, globalization has accelerated the process of privatization, including the privatization of research. Nowhere is this trend clearer than in agriculture. The green revolution, which was in the public domain, has been replaced by the biotechnological revolution which is very much in the private domain. The latter is led by TNCs expecting royalty payments for their new products, largely genetically modified (GM) seeds. A potential issue is whether small farmers in developing countries (e.g., in Sub-Saharan Africa and South Asia) can actually afford to adopt biotechnology and if not, what are the consequences for income distribution and poverty. While it is probably too early to judge, it has been argued that the concern that risk-averse poor farmers cannot afford to purchase the costlier GM seeds does not seem to be vindicated by the dramatic take up of GM cotton in developing countries as soon as it is available and seen to be profitable. [adoption experience of all the selected South Asian countries.]

4) Volatility and Vulnerability:

Greater openness tends to be associated with greater volatility and economic shocks, which affect more severely the vulnerable and poor households, and deepen poverty and income inequality (Culpeper 2002). Goldberg and Pavcnik (2004) also emphasize the effect of trade liberalization on inequality because of the increasing vulnerability of unskilled labour through several 'labour market' channels. Birdsall (2002) reports growing empirical evidence of validating the claim that the poor are hurt disproportionately more during contractionary periods than they benefit from expansionary periods. Similarly, on the basis of a very extensive survey of the empirical literature, Winters, McCulloch and McKay (2004) conclude that while the empirical evidence broadly supports the theoretical proposition that whilst trade liberalization will be poverty-alleviating in the long run and on average, it also necessarily brings about distributional changes. A lot of evidence can be placed to show that poorer households may be less able than richer ones to protect themselves against (short-term) adverse effects, or take advantage of trade liberalization.

The Asian financial crisis and the consequent analysis of the selected South Asian countries (discussed earlier) demonstrated unambiguously the high price poor households had to pay during the downturn. Massive capital outflows during the crisis combined with tight monetary and fiscal policies mandated by the IMF, led to wide currency fluctuations and a liquidity crisis that reduced output and employment. Poor households in the urban areas, lacking safety nets, suffered disproportionately during the transition period before these economies recovered.

Interestingly, there is some evidence that volatility is negatively correlated with growth in developing countries in contrast with developed countries where this correlation is positive (Kose, Prasad and Terrones 2004). An implication of this finding is that poor countries growing slowly are further burdened by greater volatility.

5) Flow of information:

Globalization has contributed to the enormous increase in the flow of information and knowledge worldwide. Internet technology and the spread of mass media transmit information almost instantaneously. Clearly, this provides enormous potential to contribute to the human and technical capital of households in the third world. At this stage, an important issue is the design and development of channels through which this flow of information is made accessible to poor households in useful form.

Notwithstanding the major contribution this flow of information can make to speed up the development process, there are some downsides. Graham (2004) has argued that the increasing flow of information about the living standards of others can result in

changing reference norms and increased frustration with relative income differences, as members of a given socioeconomic or occupational group in a poor country can increasingly compare their welfare with similar groups in richer countries.

Globalization can also increase volatility and insecurity for many cohorts, particularly those (such as older people) not well positioned to take advantage of the new opportunities offered by the opening up of trade and capital movements.

6) Globalization and global disinflation:

In the last decade, global inflation has dropped from 30 per cent per year to 4 per cent. Rogoff (2003) attributes this to a number of factors such as improved central bank institutions and practices, improved fiscal policy, and the technological revolution. However he emphasizes the role played by the increased level of competition, in both product and labour markets, that has resulted from the interaction between increased globalization, deregulation, and a decreased role for governments in many economies.

It would be difficult to argue that this dramatic disinflation channel does not have beneficial effects on the poor worldwide. Even the small subsistence farmers who tend to be relatively sealed off from the market economy must enjoy certain advantages in terms of lower prices for their consumption goods. However, a question to be raised is whether the overemphasis on macrostability in some developing countries might not have been at the expense of some additional growth.

7) Institutions:

Institutions mediate the various channels and mechanisms through which the globalization process affects poverty (Sindzingre 2004). Institutions act as a filter intensifying or hindering the positive and negative pass-through between globalization and poverty, and can help explain the diversity, heterogeneity and nonlinearity of outcomes. This filtering process operates at the multi-country, country and even village level, respectively. International institutions such as the IMF and WTO follow their own rules of the game, having often a major impact on poverty outcomes.

Likewise, institutions that protect agricultural commodities in the developed countries can block the channel of exports for the same commodities from the poorest countries (largely in Sub-Saharan Africa), thereby preventing them from harvesting the benefits of trade openness. At the other extreme there are examples of village-level institutions that can protect resident households from environmental degradation and subsequent poverty caused by overexploitation of resources (such as forest resources) by TNCs.

Indeed, once institutions are defined broadly by North as 'the humanly devised constraints that shape human interaction', institutional environments are important in determining whether the benefits of globalization are harnessed and spread positively and evenly, and negative shocks associated with globalization are filtered out through safety nets. As Sindzingre (2004) argues, for example, the impact of globalization on the poor is intermediated on the one hand by domestic political economy structures and institutions such as social polarization, oligarchic structures, and predatory regimes that may bias, confiscate or nullify globalization gains for particular groups of poor. On the other hand, the positive effects of globalization on growth and poverty can be found when institutional conditions are characterized by such elements as political participation, social cohesion and management of social conflict arising directly from globalization effects.

At the same time, globalization can bring about changes in institutional environments. For example, as globalization proceeds, there may emerge a new set of norms and conventions, as well as new standards of transparency, accountability and enforcement of law and accommodation of human rights and civil movements.33 Yet, traditional institutions may erode under the pressure of market integration. For example, customary land tenure may lose its social security and equity functions through the individualization of land rights and land concentration stemming from market transactions, especially when combined with demographic pressure. More generally, however, institutional changes can be slow and changes tend to work at the margin, since 'institutional change is incremental as a result of the indebtness of informal constraints in societies'. [However, Sindzingre (2004) suggests that globalization as a set of flows and policies is more likely to induce transformation on the aspects of institutions that are already experiencing rapid change, e.g., formal political or economic rules, and less likely to affect slow-changing institutions such as social norms.]

CHAPTER 7

EMPIRICAL STUDIES OF INEQUALITY

- *INTRODUCTION*
- *GLOBAL INEQUALITY AND INEQUALITY IN THE SOUTH ASIAN NATIONS*
- *PERCENTILE SHARE OF GLOBAL INCONE*
- *INEQUALITY MEASUREMENT*
    - *GINI INDEX*
    - *THEIL INDEX*
- *INEQUALITY AT THE GLOBAL LEVEL*

CHAPTER 7

THE EMPIRICAL STUDY OF INEQUALITY

7.1: INTRODUCTION

Now, we turn to the impact of globalization on income distribution and poverty incidence *within* countries. Milanovic's (2002b) cross-country econometric analysis, based on household survey data in 1988 and 1993, suggests that openness worsens individual countries' income distribution before improving it, and that the effect of openness on income distribution depends on the country's initial income level. In his view, this is conditioned by the fact that 'openness helps those with basic and high education, but reduces the income share of those with no education' and 'it is only when basic education becomes the norm even for the poor that openness exert an income equalizing effect'. Thus, Milanovic postulates that 'openness helps income distribution chart an inverted U-shaped curve as the income level increases. At low income levels, openness is bad for equality: at medium and high income level, it promotes equality' (Milanovic 2002b: 13).

Easterly (2003) also advances the hypothesis of an inverted U-shaped relationship between inequality and openness, measured as (*Exports* + *Imports*)/GDP), which would drive out the usual Kuznetz curve between income and inequality, typically found in cross-country empirical studies. However, he explains this in terms of the cross-country difference in factor endowments and the trade openness: less open economies tend to export mainly natural resource-based commodities that are associated with inequality, whilst open economies export labour-intensive manufactures and services, whereby inequality diminishes. However, as he admits, his hypothesis is based on a casual observation rather than a rigorous analysis.

7.2: GLOBAL INEQUALITY AND INEQUALITY IN THE SOUTH ASIAN NATIONS

There are three desirable properties we look for in any measure of inequality.

First: mean or scale independence—the index does not change if everyone's income changes by the same proportion.

Second: population size independence – the index does not change if the number of people at each income level is changed by the same proportion.

Third; the Pigou-Dalton condition – any transfer from a rich person to a poor person which does not alter their relative rank lowers the value of the index.

Here we consider two inequality indices – the Gini coefficient and the Theil entropy index. Both the indices are widely used and satisfy the three desirable condition/ properties stated above. In addition to the indices the percentile share of income – the proportion of global income accruing to percentile to global population, are also examined.
We use the Penn World Table data set [PWT] where the economic variables are expressed in a common set of prices and in a common currency. The development of this data set has allowed for more meaningful comparisons of variables across countries and also served as a catalyst in empirical research on analysis of the international pattern of economic growth.

The sample covers 186 countries of the world which covers 99% of the global income and population. We consider the variable Population and the Per Capita Income (i.e. POP & RGPC in PWT) of each country (or political entity). We examine the data for 5 year period from 1980 to 2003 (4) as no more current data are available. The global income inequality refers to the inequality among the nations of the world rather than individuals of the world. The key assumption made here is that all individuals of the country earn the same level of income. Although there are rich Indians and poor Americans, on average an Americans will be rich and the Indians will be poor on average. Here we would like to investigate whether, on average, the gap between the Indians and the Americans has been narrowing or not over the last two decades; equivalently with the, whether or not the Indians have been catching USA.

Now we examine, briefly, the trend in global population, global income and global per capita income over the years. Global population and Global income is obtained by summing up the populations and national incomes of all the countries of the world and the per-capita income is derived by dividing global income by population.

TABLE 7.1: GLOBAL POPULATION, TOTAL INCOME AND PCI

YEAR	POPULATION (MILN.)	TOTAL INCOME (BL. US $)	PER CAPITA INCOME (US$)
1960	3,034.463	6,713.408	2,212
1965	3,334.056	8,666.272	2,599
1970	3,686.315	11,164.98	3,029
1975	4,053.464	13,576.77	3,349
1980	1,121.143	16,589.04	3,750
1985	4,802.0256	18,997.39	3,956
1990	5,255.081	22,168.57	4,219
1995	5,646.779	37,398.23	6,622
2000	6,052.688	45,730.12	7,555
2003	6,264.281	53,343.86	8,515

It must be emphasized that the empirical evidence we refer to here are actually factual rather than truly empirical. We do not rely on any underlying probability models or draw inferences to larger population, here we simply report the recent trends in international income inequality for the period 1960-2003.

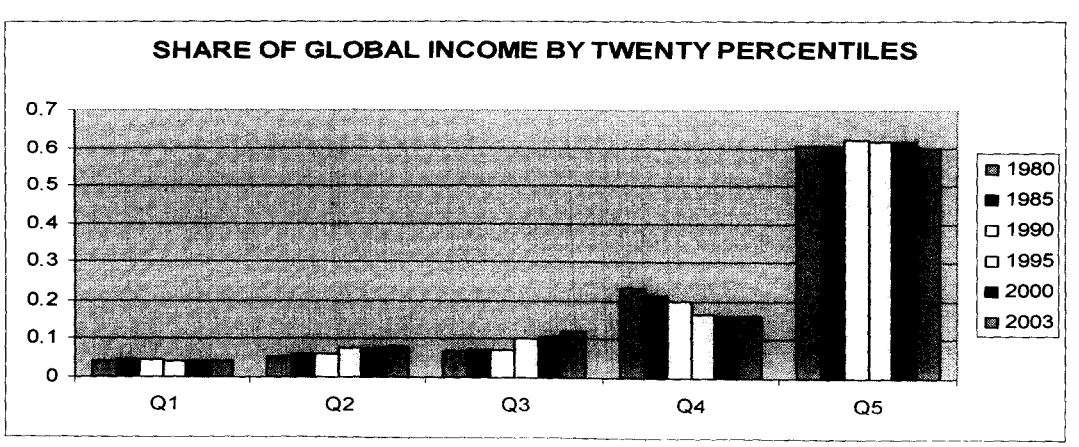
7.3: PERCENTILE SHARE OF GLOBAL INCOME

We divide the world population – or more precisely, the total population of the countries of our sample into fifths, tenths and twentieths. First we rank all the countries by their per capita income. Thus, in 1980, Liberia or Cambodia at one end and Luxembourg at the other. For the case of fifth, we divide the global population by five. In constructing the poorest fifth, we would include all Liberians or Cambodians as well as the population of the next poorest countries until the one fifth of the global population living in the poorest countries are included. On the other hand, the richest fifth would include of all Americans as well as the population of the next richest countries until one fifth of the global population living in richest countries are included. We repeat the same process for the other fifths. Countries at the cut off points will have a part of their population included in one fifth and another included in other fifth. The same methodology is applied for dividing the global population by tenths and twentieths in terms off per capita income.

TABLE 7.2: GLOBAL INCOME SHARE BY TWENTY PERCENTILES

	1980	1985	1990	1995	2000	2003
Q1	0.042448	0.044739	0.046028	0.040747	0.04005982	0.039774442
Q2	0.051208	0.060351	0.061616	0.074407	0.07597654	0.078767487
Q3	0.067434	0.071998	0.071046	0.101624	0.10524635	0.119431048
Q4	0.234082	0.216213	0.200109	0.165907	0.16170674	0.163096283
Q5	0.604828	0.606645	0.6212	0.617292	0.61699277	0.598933146

FIG. 7.1: TWENTY PERCENTILE SHARE OF GLOBAL INCOME



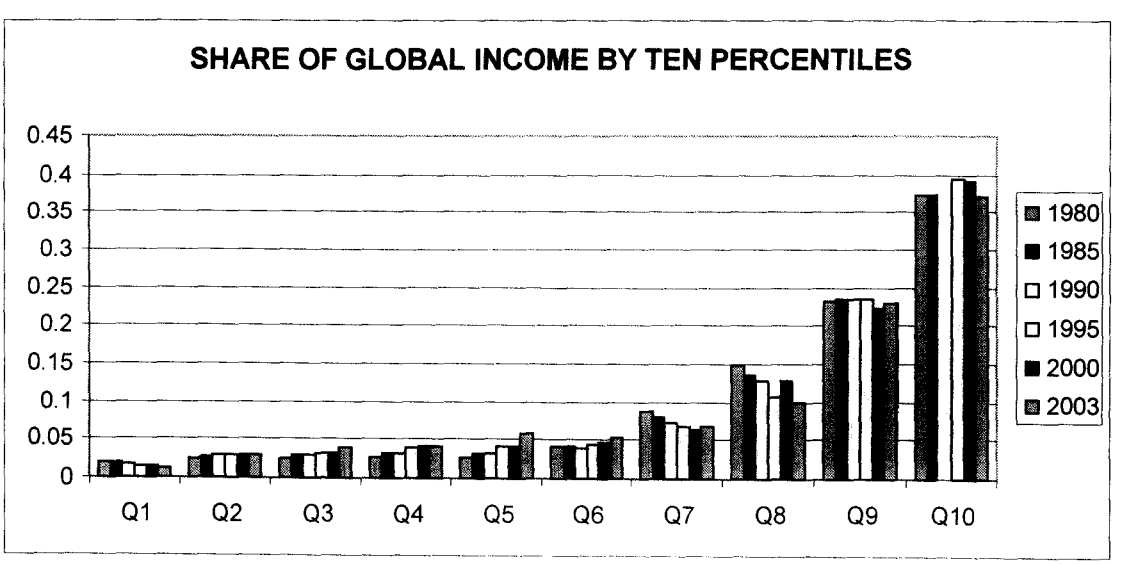
The above table (7.1) shows the share of global income by Twenty Percentile. In this table Q1 refers to the share of the share of the global income accruing to the poorest fifth of the global population, while Q5 indicates the share of the richest fifth. There does not appear that the percentile trend towards convergence. This illustrates that the share of the global income accruing to each has remained fairly stable over the years.

Now we examine the data on the basis of tenth of populations and the corresponding income shares.

TABLE 7.3: GLOBAL INCOME SHARE BY TEN PERCENTILES

	1980	1985	1990	1995	2000	2003
Q1	0.018926	0.018151	0.016855	0.014007	0.013603	0.012435
Q2	0.023522	0.026642	0.029173	0.028536	0.028429	0.02853
Q3	0.025286	0.02833	0.030231	0.032040	0.032051	0.037725
Q4	0.025922	0.032021	0.031386	0.038172	0.040983	0.041566
Q5	0.02732	0.032021	0.031424	0.0407523	0.041297	0.05766
Q6	0.040134	0.039977	0.039622	0.044292	0.046932	0.052489
Q7	0.085921	0.07991	0.071706	0.067597	0.062671	0.067336
Q8	0.148161	0.136303	0.128404	0.1062408	0.127543	0.100305
Q9	0.233457	0.233687	0.234998	0.234707	0.222532	0.22961
Q10	0.371371	0.372958	0.386203	0.394635	0.391243	0.371362

FIG. 7.2: SHARE OF GLOBAL INCOME BY TEN PERCENTILES

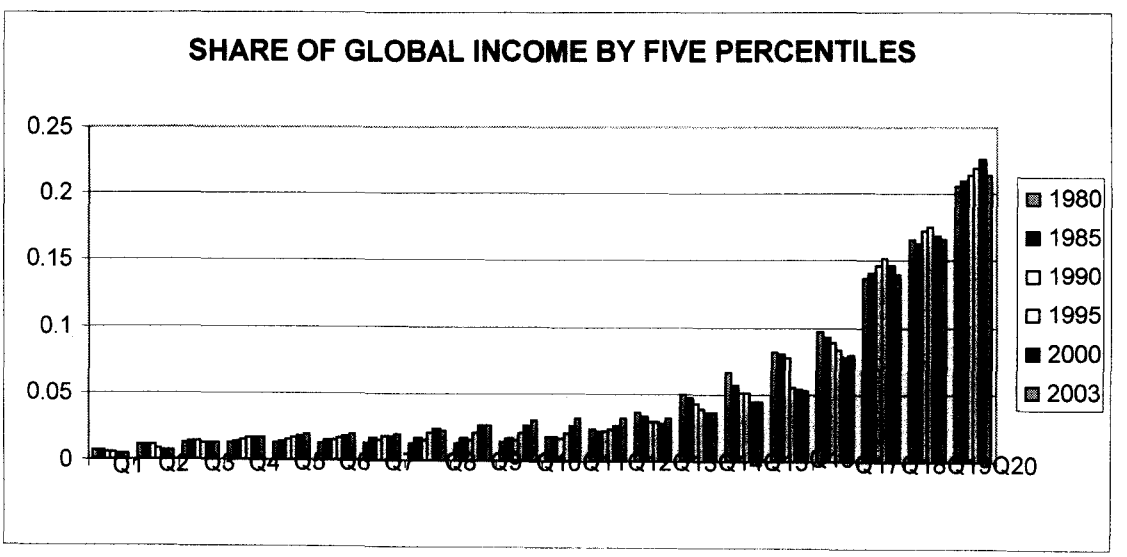


Following the same procedure here the Global income share is calculated by five percentiles. This is shown in the following table.

TABLE 7.4: GLOBAL INCOME SHARE BY FIVE PERCENTILES

	1980	1985	1990	1995	2000	2003
Q1	0.007194	0.006606	0.006152	0.004934	0.004303	0.0041138
Q2	0.011731	0.011545	0.010702	0.008073	0.007327	0.0073901
Q3	0.011761	0.013321	0.014191	0.012519	0.012148	0.0119425
Q4	0.011761	0.013321	0.014982	0.016023	0.016308	0.0159964
Q5	0.012325	0.013332	0.014785	0.015886	0.017497	0.0188627
Q6	0.012961	0.014998	0.015249	0.015886	0.017497	0.0188627
Q7	0.012476	0.016021	0.015793	0.017753	0.017497	0.0188627
Q8	0.012435	0.016321	0.015684	0.020377	0.023487	0.0222157
Q9	0.012337	0.016211	0.015594	0.020377	0.025814	0.0261331
Q10	0.014339	0.016011	0.015732	0.020377	0.026483	0.0310486
Q11	0.017332	0.017774	0.016919	0.020377	0.026483	0.0312444
Q12	0.022802	0.022202	0.022703	0.023916	0.026483	0.0312444
Q13	0.035632	0.032529	0.029312	0.028447	0.027032	0.0312444
Q14	0.050289	0.047381	0.042359	0.03915	0.035641	0.0353314
Q15	0.066641	0.056471	0.050864	0.05079	0.044835	0.0442026
Q16	0.08125	0.079833	0.077543	0.055452	0.054201	0.0528689
Q17	0.097188	0.092197	0.088896	0.082631	0.076707	0.0792084
Q18	0.136296	0.14149	0.146102	0.152089	0.145838	0.1399026
Q19	0.165682	0.162515	0.172709	0.17497	0.168372	0.1659337
Q20	0.205689	0.210442	0.213494	0.219717	0.226078	0.2140928

FIG. 7.3: GLOBAL INCOME SHARE BY FIVE PERCENTILES



As with the twenty percentile, there does not seem to be any significant convergence and the share of each percentile seems to have remained fairly stable over the period 1980 to 2003.

RANGE:

Perhaps the most elementary gauge of income inequality is range, or the difference between the highest and the lowest income level. The range can convey a limited information since it ignores the distribution of income between the extremes. Here we put the range in terms of fifths, tenths and twentieths of population to get an idea of gap between the average incomes of the richest and the poorest countries. Let us first consider the differences between the richest and the poorest fifths.

TABLE 7.5: RANGE OF TWENTY PERCENTILE INCOMES:

	1980	1985	1990	1995	2000	2003
Average income of Q1 of fifth	796	883	971	1367	1513	1698
Average income of Q5 of fifth	11340	11954	13103	19049	23307	25577
Difference between Q5 andQ1	10544	11071	12132	17682	21794	23879
The ratio of Q5 to Q1	14.2	13.5	13.5	13.93	15.4	15.06

Now we examine the gap between the richest and the poorest tenths.

TABLE 7.6: RANGE OF TEN PERCENTILE INCOMES:

	1980	1985	1990	1995	2000	2003
Average income of Q1 of tenth	710	715	711	861	878	990
Average income of Q10 of tenth	13925	14699	16292	26140	29801	31925
Difference between Q10 andQ1	13215	13984	15581	25279	28923	30935
The ratio of Q10 to Q1	19.6	20.6	22.9	30.36	33.94	32.24

Finally we analyze the range of income in terms of the twentieths of global population.

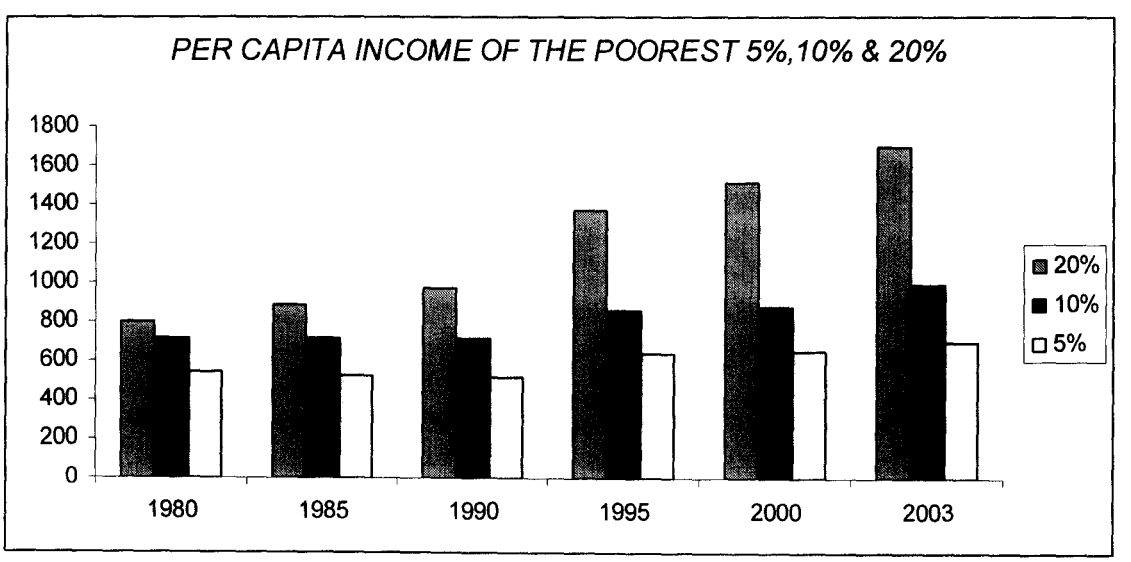
TABLE 7.7: RANGE OF FIVE PERCENTILE INCOMES:

	1980	1985	1990	1995	2000	2003
Average income of Q1 of twentieth.	540	521	519	635	650	699
Average income of Q20 of twentieth	15425	16588	18012	29103	34161	37114
Difference between Q20 andQ1	14885	16067	17493	28468	33511	36415
The ratio of Q20 to Q1	28.6	31.8	34.7	45.8	52.5	53

The ratio or the relative gap in income between the richest and the poorest differs substantially depending on whether we consider fifths, tenths or twentieths of global population as our unit of comparison. For the fifth the ratio rises steadily after 1985. For the tenths the ratio rises form 1980, and for the twentieth the ratio rises throughout. The overall rise is substantial-- from 28.6 in 1980 to 53 in 1990.

In terms of the increase in average incomes of the richest and the poorest countries of the world, there has been a substantial increase in the richest countries over the period 1980 to 2003, regardless we consider fifths, tenths or twentieths. On the other hand, for the poorest, the rise in average income over the same period differs substantially depending on whether we use fifths, tenths or twentieths. In case of fifths, the increase is more than double, the increase is roughly 40 % for tenths and for the twentieths the rise is merely 30%. On the other hand the rise for the richest was considerably larger in all cases. For the fifths the rise was 125%, for the tenths it was 129% and for the twentieths the rise was 140%.

FIG. 7.4: PER CAPITA INCOME OF THE POOREST 5%,10%, & 20%



7.4: THE COUNTRY CASE STUDY

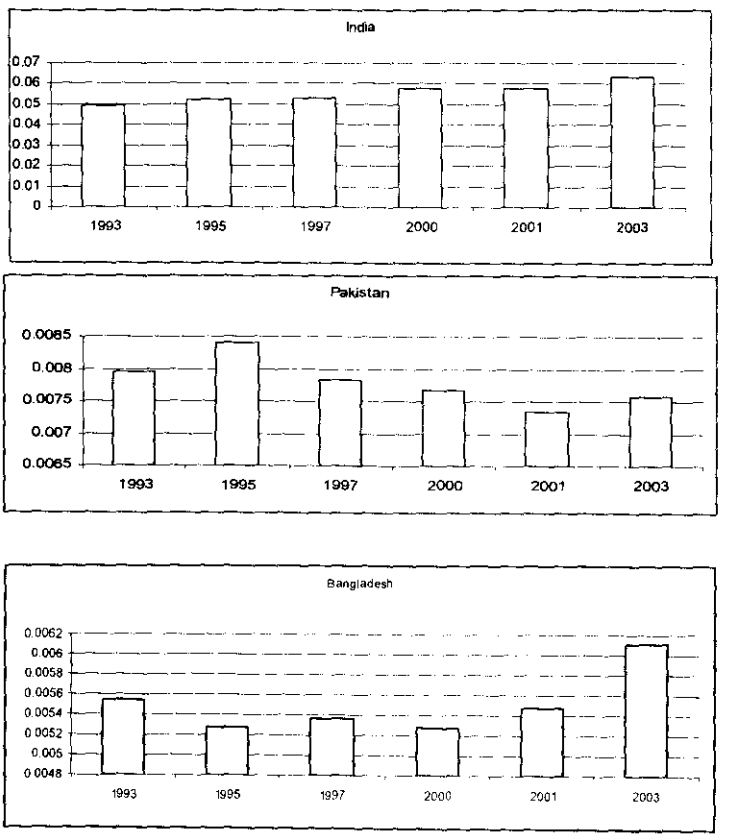
Now we consider the per capita income of the six SAARC nations compared to the world income over the period 1993 to 2003. Here we follow the same procedure as above where we calculate the fifths, tenths and the twentieths. Here for only the six nations it is not statistically valid to calculate the twenty, ten or five percentiles as the total income of these nations are much lesser compared to the global income levels. For this reason we consider only the total income of

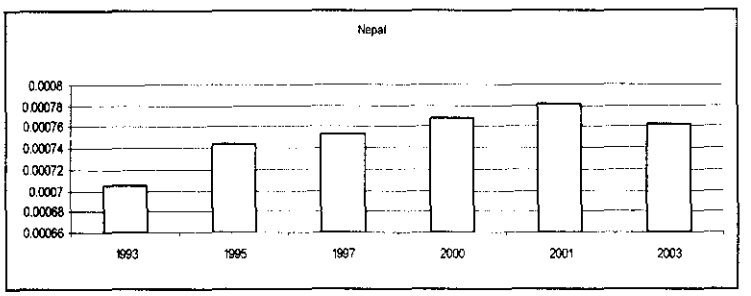
these countries and tried to compare them with the global income in those respective years. In the following table we table we have the income level comparison.

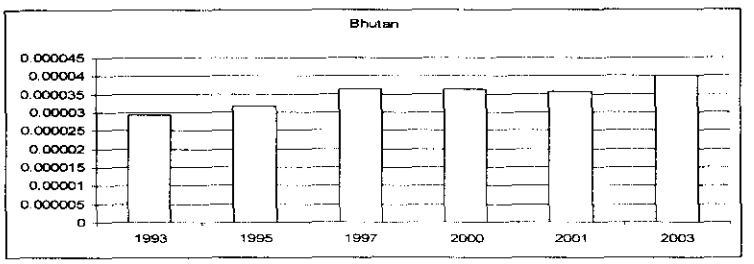
TABLE 7.8: INCOME SHARE OF THE SIX SELECTED COUNTRIES

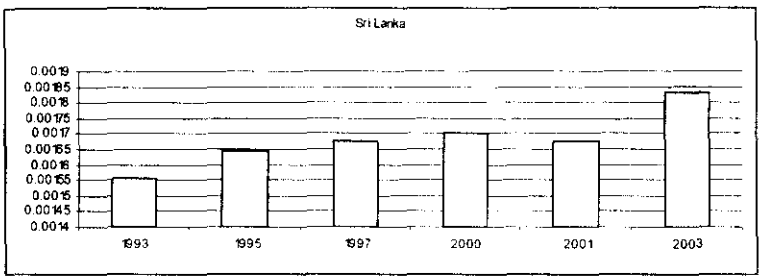
	1993	1995	1997	2000	2001	2003
India	0.049216	0.052339	0.052727	0.057971	0.057922	0.063216
Pakistan	0.007954	0.008393	0.007843	0.007668	0.007333	0.007571
Bangladesh	0.005549	0.005266	0.005364	0.005279	0.005468	0.006102
Nepal	0.000704	0.000744	0.000754	0.000768	0.000782	0.000763
Bhutan	0.000293	0.000316	0.000364	0.000363	0.000356	0.000402
Sri Lanka	0.001554	0.001646	0.001679	0.001702	0.001675	0.001831

FIG 7.5: GRAPHICAL REPRESENTATION OF THE GLOBAL INCOME SHARE OF THE SIX SAARC COUNTERIES







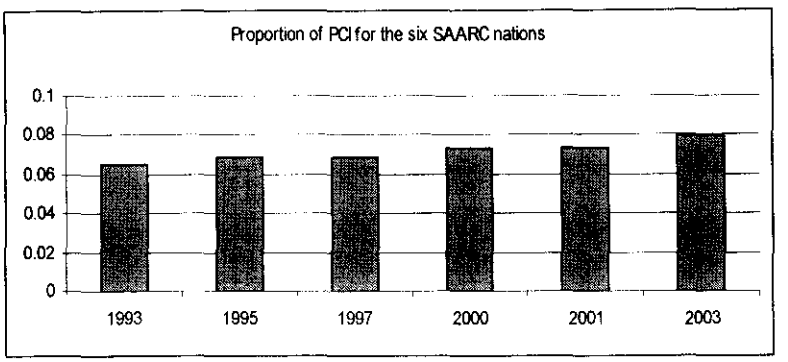


From the data it is seen that in these six countries there are different trends in per capita income growth over the years. Bhutan has more or less unchanged proportion o income during that ten years period, though it covers a very little proportion of income. In case of Nepal there was a steady increase till 2001, and a slight fall in 2003. Bangladesh shows a little bit fluctuating trend, initially a fall and a steady increase thereafter. India depicts a stable trend with a slight rise in recent years and the trend is increasing. There is a declining trend for Pakistan up to 2001 and the trend is turning reverse after that. Only in case of Sri Lanka we have a steady rising trend in per capita income. The primary conclusion for all these countries can be drawn that the proportion of per capita income remains more or less stable over the years, specifically after globalization. The slight increase which is depicted in the figure is a marginal rise and numerically these are not so considerable.

When we consider the total income as a proportion of global income this will also show the same picture, shown in the following table.

FIG. 7.6: INCOME PROPORTION OF THE SIX COUNTRIES AS A WHOLE

Year	Proportion
1993	0.06500724
1995	0.06841897
1997	0.06840304
2000	0.07342371
2001	0.0732159
2003	0.07952335



This shows a slight steady rise in the proportion of PCI as compared to the global income. The rise is not at all significant and it is clear from the numerical data, 6.5% to 7.9% over the ten years while the global income raised nearly 52% over these ten years period. More specifically the per capita income of the richest nations has increased by 43.24% from 1993 to 2003 but that for these poor nations has increased by 22% on overall basis.

7.5: INEQUALITY MEASUREMENT

A) GINI COEFFICIENT

The Gini coefficient is the most well known and the most widely used measures of inequality. It is based of the Lorenz curve, which plots the cumulative share of total income against the cumulative share of total population. The smaller the area between the 45-degree line and the actual income distribution, the smaller the degree of inequality. The Gini coefficient is a convenient one number summary of inequality in the sense of Lorenz curve. The formula for calculating the Gini coefficient is:

$G = 1 + 1/n - 2/n^2 \bar{y} (y_n + 2y_{n-1} + \ldots\ldots + ny_1)$, where y_i = income of ith person and $y_1 \leq y_2 \leq \ldots\ldots \leq y_n$.

We derive the values of Gini coefficients for fifths, tenths and twentieths of the population by simply replacing the incomes with shares of income and average income with the average share of income so that

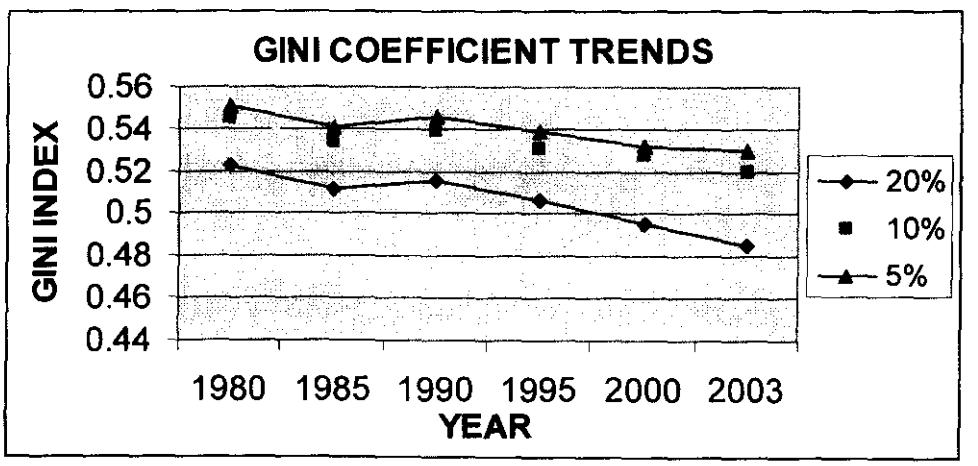
$G = 1 + 1/n - 2/n^2 \bar{q} (q_n + 2q_{n-1} + \ldots\ldots + nq_1)$, where q_i = income of ith person and $q_1 \leq q_2 \leq \ldots\ldots \leq q_n$

Thus we obtain the following result making use of this measure of Gini coefficient.

TABLE 7.9: GLOBAL GINI COEFFICIENT TRENDS AT DIFFERENT INCOME SHARE

	1980	1985	1990	1995	2000	2003
20%	0.52305	0.51182	0.51554	0.50674	0.49573	0.48536
10%	0.54488	0.53341	0.53849	0.53108	0.52768	0.52012
5%	0.55091	0.54073	0.54595	0.53854	0.53213	0.52974

Fig. 7.7: GLOBAL GINI COEFFICIENT TRENDS AT DIFFERENT INCOME SHAR



Regardless of the population share is considered, the Gini coefficient exhibits the same pattern – initial fall, a slight rise and then a subsequent fall up to 2003. In all the three cases the value of the coefficient does not differ substantially from 1980 to 2003.

B) THEIL INDEX

The entropy index (T) developed by Theil (1967) is based on the notion of entropy in information theory, which is expressed as:

$$T = \sum^{n} (y_i / Y) \log \frac{(y_i / Y)}{(1/n)}$$

where (1/n) is the population share of person i and (y_i / Y) is the income share of ith person.

For our purpose, we need to replace the individual share (y_i / Y) with q so that

$$T = \sum^{n} q_i \log \frac{q_i}{(1/n)}$$

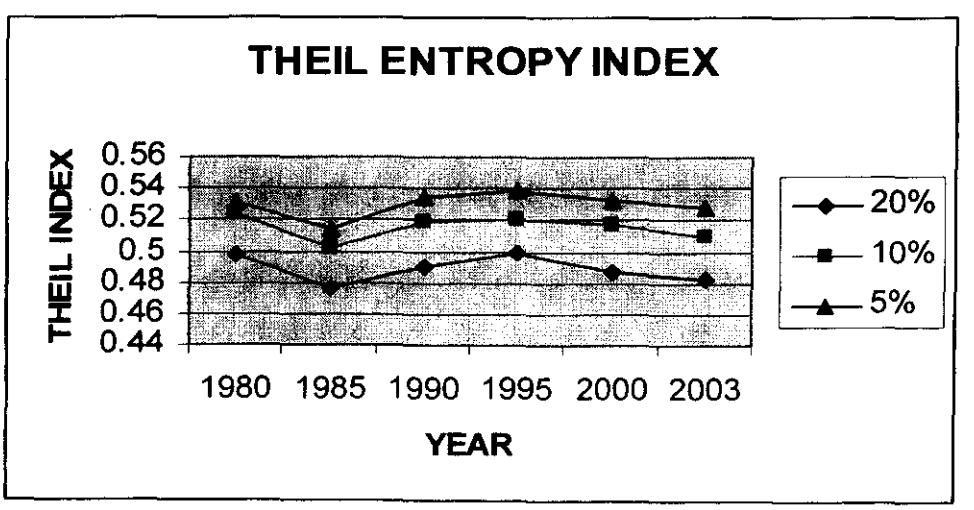
where (1/n) is the population share of group I and q_i is the income share of group i.

Theil index interprets T as "the expected information of a message which transforms population shares into income shares." When there is perfect equality, T becomes zero and conversely, when there is perfect inequality so that single person receives all the income, T assumes its maximum value of 'log n'. (T satisfies all the three desirable properties).

TABLE 7.10: THEIL ENTROPY INDEX FOR 1980 TO 2003 AT GLOBAL LEVEL FOE DIFFERENT PERCENTILES OF INCOME

	1980	1985	1990	1995	2000	2003
20%	0.49728	0.47711	0.49044	0.49875	0.48675	0.48324
10%	0.52300	0.50205	0.51933	0.52052	0.51685	0.51023
5%	0.53141	0.51475	0.53357	0.53879	0.53196	0.52743

FIG. 7.8: THEIL ENTROPY INDEX AT DIFFERENT PERCENTILES OF INCOME



The general patterns are the same as for the Gini coefficient and the squared coefficient of variation, in terms of both trends and changes between 1980 and 2003.

ABLE 7.11 B PAKISTAN

YEAR	GINI	TWENTY PERCENTILE COUNT OF PCI					TEN PERCENTILE COUNT OF PER CAPITA INCOME									
		Q1	Q2	Q3	Q4	Q5	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1984	38.3	7.90	11.89	15.47	22.34	42.40	2.62	3.81	4.67	5.53	6.48	7.58	9.08	11.29	15.31	33.63
1985	35.0	8.54	12.34	16.22	21.53	41.37	3.63	4.62	5.54	6.43	7.38	8.42	9.69	11.40	14.33	28.56
1986	36.0															
1987	37.0	8.47	12.50	16.41	21.66	40.96	3.64	4.71	5.65	6.57	7.51	8.56	9.80	11.48	14.30	27.78
1988	31.2	8.61	12.76	16.60	21.64	40.39										
1990	39.0	5.70	10.67	14.38	19.95	49.30	3.53	4.65	5.39	6.15	6.91	7.79	8.96	10.65	13.85	32.13
1991	38.2															
1992	41.0	6.20	11.21	13.78	20.78	48.03	2.70	3.80	4.60	5.50	6.40	7.40	8.90	10.60	14.10	36.10
1993	42.7						3.26	4.24	4.91	5.52	6.17	6.95	7.95	9.38	12.24	39.37
1995	41.1	6.40	11.04	13.90	20.56	48.10										
1996	39.8						3.58	4.58	5.26	5.86	6.51	7.25	8.19	9.49	11.90	37.36
1998	35.3	7.88	12.34	15.87	21.91	42										
1999	36.3						2.70	4.20	5.30	6.30	7.20	8.50	9.90	12.00	15.30	28.60
2001	36.4															
2003	35.5	8.44	12.47	15.92	21.23	41.94	3.00	4.10	5.00	5.90	6.80	7.70	9.20	11.20	14.80	32.30

ABLE 7.11 C: BANGLADESH

YEAR	GINI	TWENTY PERCENTILE COUNT OF PCI					TEN PERCENTILE COUNT OF PER CAPITA INCOME									
		Q1	Q2	Q3	Q4	Q5	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1983	35.6	8.70	10.90	14.60	21.70	44.10	2.89	4.31	5.39	6.36	7.38	8.56	9.99	11.74	15.08	28.30
1986	38.3						3.24	4.81	5.68	6.54	7.45	8.52	9.86	11.77	15.18	26.97
1988	38.8						3.24	4.81	5.68	6.54	7.45	8.52	9.86	11.77	15.18	26.97
1989	38.0	7.36	11.67	16.04	22.01	42.92	4.07	5.28	6.29	7.22	8.13	9.11	10.24	11.75	14.23	23.68
1992	37.0						3.93	4.78	5.59	6.43	7.32	8.33	9.57	11.27	14.21	28.57
1996	41.2						2.93	4.21	5.09	5.96	6.91	7.93	9.34	11.48	14.96	31.18
2000	33.7	9.00	12.50	15.90	21.20	41.30	3.90	4.34	4.88	5.80	7.76	7.94	10.78	12.67	15.23	26.70

TABLE 7.11 D: NEPAL

YEAR	GINI	TWENTY PERCENTILE COUNT OF PCI					TEN PERCENTILE COUNT OF PER CAPITA INCOME									
		Q1	Q2	Q3	Q4	Q5	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1984	30.0	9.11	12.89	16.68	21.82	39.50	3.66	3.89	4.77	5.64	6.98	7.52	8.67	11.74	14.89	32.24
1987	32.3															
1989	33.4	8.67	12.34	15.78	22.1	41.11										
1990	35.0						2.91	4.11	4.69	5.65	6.98	7.34	9.88	11.22	13.71	33.5
1992	34.6	8.12	11.67	15.02	22.45	42.74										
1993	35.2						2.78	4.01	4.69	5.85	6.88	7.24	8.58	11.62	14.21	34.1
1995	36.6	7.56	11.45	14.78	23.34	42.87										
1996	38.4						2.24	3.33	4.09	4.90	5.89	6.96	8.49	10.63	14.54	38.94
1998	38.2	6.67	10.78	13.88	24.28	44.39										
2000	35.6						3.01	4.21	4.89	5.45	6.78	7.34	8.88	11.12	14.11	34.2
2003	34.6						3.15	4.44	5.25	6.01	6.84	7.78	8.95	10.61	13.52	33.45

TABLE 7.11E: SRI LANKA

YEAR	GINI	TWENTY PERCENTILE COUNT OF PCI					TEN PERCENTILE COUNT OF PER CAPITA INCOME									
		Q1	Q2	Q3	Q4	Q5	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1982	44.9	5.70	9.90	13.80	18.70	51.90	2.34	3.32	4.34	5.12	6.05	7.23	8.50	12.03	14.47	36.6
1995	45.7															
1986	46.0	4.32	8.89	13.21	20.76	52.82	1.70	3.10	4.10	5.00	6.00	7.30	8.80	11.20	15.40	37.40
1987	38.8															
1991	44.7	5.70	9.90	13.80	18.70	51.90	2.02	3.40	4.39	5.32	6.28	7.41	8.88	11.03	14.93	36.34
1994	45.6						2.18	3.55	4.35	5.24	6.35	7.02	8.69	10.71	14.52	37.29
1996	47.5	3.78	8.45	12.78	21.95	53.04	1.89	3.15	4.07	4.93	5.86	6.98	8.48	10.77	15.17	38.71
1998	45.8															
2000	46.8	4.34	9.32	13.53	19.86	52.95	0.58	1.86	2.83	3.69	4.65	5.70	6.96	8.61	11.45	53.67
2001	45.8															
2002	46.9	4.50	9.20	13.80	20.20	52.30	1.50	2.95	4.00	5.21	6.27	7.54	9.00	11.22	15.54	36.77

TABLE 7.11: GINI COEFFICIENT FOR INDIA, PAKISTAN,BANGLADESH,NEPAL & SRI LANKA.

TABLE 7.11.A. INDIA

YEAR	GINI	TWENTY PERCENTILE COUNT OF PCI					TEN PERCENTILE COUNT OF PER CAPITA INCOME									
		Q1	Q2	Q3	Q4	Q5	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
1983	34.1	7.80	12.20	16.10	22.00	41.90										
1986	36.8						2.70	4.60	4.70	5.10	7.50	7.60	9.90	11.50	15.00	31.40
1987	35.6															
1988	34.8	8.30	11.50	15.80	22.20	42.20	2.70	4.00	4.90	5.60	6.60	7.70	8.90	10.70	13.70	35.20
1989	35.6															
1990	34.0															
1991	38.0	7.10	11.80	16.30	23.10	41.70	2.50	3.40	4.50	5.80	6.40	7.50	9.00	11.50	15.80	33.60
1992	35.5															
1993	34.3	7.70	12.10	16.00	21.60	42.60	2.40	3.60	4.20	5.60	6.30	7.60	9.30	11.80	15.80	33.40
1994	37.2						2.70	4.00	4.90	5.60	6.60	7.70	8.90	10.70	13.70	35.20
1995	35.5	7.90	12.30	16.10	21.30	42.40										
1997	36.5						2.90	4.60	5.50	6.30	7.20	8.20	9.50	11.20	13.80	30.80
1999	36.0	8.00	12.00	16.00	22.00	42.00	3.00	4.00	4.70	5.40	6.40	7.50	8.90	10.90	14.30	34.90
1999	34.7						3.24	4.42	5.27	6.12	7.05	8.19	9.67	11.78	15.40	28.87
2001	33.7															
2003	33.1	8.40	12.50	16.30	21.80	41.00	3.10	4.40	5.10	6.00	6.80	7.70	9.10	10.70	13.40	33.70

Now we consider the Gini coefficient for the selected five selected SAARC countries as for reference study, instead of the six, as sufficient data were not available for Bhutan. For the other five countries the income inequality analysis is done on the basis of available date.

INDIA

Here was no significant change in GINI coefficient over the years. In the initial years of economic reforms there was an increase in the coefficient and after ten years of the reforms the coefficient shows an improvement towards parity. But if we look at the twenty or ten percentile income (for Rs.100.00) this shows a clear disparity. Over the period of 20 years the proportion of income of the poorest class increased slightly while the share of income for the richest group remains more or less constant for the twenty percentile income count. Again in case of ten percentile group the share of per capita income for the richest group increased over the years. [data was not available for all the years of study]. In case of twenty percentile group the ratio of income between the poorest and the richest group lies between 1: 5.5 to 1: 4.8, and for the case of ten percentile the ratio lies between 1:13 to 1: 9.

PAKISTAN

In Pakistan the distribution of income has improved a little bit compared to the last two decades. At the same time in the era of economic reforms the value of the Gini had increased by nearly 22percent. After that it begun to show an favorable distribution. Only the exception was the year 1988.The quintile distribution also shows the same trend. It has moved in favor of the poor slightly in recent years while in the reform years it was seriously unfavorable to the poor. The quintile ratio of income of the poorest and the richest varied between 1: 4.8 and 1: 8.6. The deciles positions also varied from 1: 10 to 1: 12, i.e. the distribution was greatly unequal.

BANGLADESH

For Bangladesh a very short range of data were available. From 1986 to 2000 there was a significant improvement if gini coefficient—from 38.3 to 33.7. but when we look at the twenty percentile income share it is seen that the share of income of the poorest quintile has not improved too much and it is noticeable that in the transition years the share fell drastically while the share of the richest quintile fell throughout. Thus, the share of income in the other three quintiles increased more or less. The ratio of income share between the poorest and the richest group varies between 1: 5.8 to 1: 4.55, while the same for the ten percentile group varies between 1: 9.7 to 1: 5.8, the fluctuation was greater in

case of the poorest and the richest group while the intermediate groups shows a more or less stable share in case of deciles measure.

NEPAL

In case of Nepal over the last twenty years the gini index has deteriorated and in the transition era [1993-1999] the income distribution was unfavorable and in has improved slightly after that. So far the data available, the quintile ratio of the poorest and the richest varied between 1: 4.34 to 1: 6.67 and over the years this ratio moved against the equitable distribution. If we observe the deciles ratio, it is seen that the variation was more drastic, from 1: 17.39 to 1: 10.6.and the trend for both quintiles and the deciles are nearly same, describing an inequitable distribution.

SRI LANKA

The data for Sri Lanka shows that it has more inequality in the income distribution than the other neighboring SAARC nations. The average Gini is 45.3. the quintile ratio for the poorest and the richest varies from 1: 14 to 1: 9.1, and the same for the deciles was 1: 22 on the average. There was some irregular trend also in the income distribution.

From the above analysis the general conclusions can be drawn that over the last two decades the distribution of income has moved in favor of the lower strata a little bit [except Sri Lanka, a more longer time analysis is needed], but in almost all cases ,in the transition years the costs of reform were borne by the poorer section of the society. The quintile and the deciles measurement of the income share clearly show an unfavorable distribution of income for the poor. The poorest 10 percent of the population consumes 3 to 4 per cent of the national income while the richest 10 per cent consumes nearly 30 to 35 per cent of the countries national income. This clearly illustrates an inequitable distribution of income. The story is almost same for all the poor countries of the world.

It is to be noted that the Gini for these five nations [data were not available for Bhutan] show a comparatively more equitable distribution of national income than the other poor countries of the World. The following table shows this.

TABLE 7.12: HDI RANK AND GINI INDEX FOR SELECTED DEVELOPING COUNTRES (Source WDR 2004)

		Share of income or expenditure %				Richest 10% to poorest	Richest 20% to poorest	
HDI rank, Country	**Survey year**	**Poorest 10%**	**Poorest 20%**	**Richest 20%**	**Richest 10%**	**1,000.%**	**2,000.%**	**Gini index**
54 Bulgaria	2003	3.4	8.7	38.3	23.9	7.	4.4	29.2
57 Trinidad and Tobago	1992	2.1	5.5	45.9	29.9	14.4	8.3	40.3
58 Panama	2002	.8	2.5	60.3	43.6	54.7	23.9	56.4
60 Romania	2003	3.3	8.1	39.2	24.4	7.5	4.9	31.
61 Malaysia	1997	1.7	4.4	54.3	38.4	22.1	12.4	49.2
92 Turkey	2003	2.	5.3	49.7	34.1	16.8	9.3	43.6
93 Sri Lanka	**1999–00**	**3.4**	**8.3**	**42.2**	**27.8**	**8.1**	**5.1**	**33.2**
94 Dominican Republic	2003	1.4	3.9	56.8	41.3	30.	14.4	51.7
108 Indonesia	2002	3.6	8.4	43.3	28.5	7.8	5.2	34.3
109 Viet Nam	2002	3.2	7.5	45.4	29.9	9.4	6.	37.
110 Kyrgyzstan	2003	3.8	8.9	39.4	24.3	6.4	4.4	30.3
111 Egypt	1999–00	3.7	8.6	43.6	29.5	8.	5.1	34.4
112 Nicaragua	2001	2.2	5.6	49.3	33.8	15.5	8.8	43.1
113 Uzbekistan	2000	3.6	9.2	36.3	22.	6.1	4.	26.8
114 Moldova, Rep. of	2003	3.2	7.8	41.4	26.4	8.2	5.3	33.2
115 Bolivia	2002	.3	1.5	63.	47.2	168.1	42.3	60.1
121 South Africa	2000	1.4	3.5	62.2	44.7	33.1	17.9	57.8
122 Tajikistan	2003	3.3	7.9	40.8	25.6	7.8	5.2	32.6
123 Morocco	1998–99	2.6	6.5	46.6	30.9	11.7	7.2	39.5
125 Namibia	1993	.5	1.4	78.7	64.5	128.8	56.1	74.3
126 India	**1999–00**	**3.9**	**8.9**	**43.3**	**28.5**	**7.3**	**4.9**	**32.5**
133 Lao People's Dem. Rep.	2002	3.4	8.1	43.3	28.5	8.3	5.4	34.6
134 Pakistan	**2002**	**4.**	**9.3**	**40.3**	**26.3**	**6.5**	**4.3**	**30.6**
135 Bhutan	..	..	..	..	..	..	..	..
136 Ghana	1998–99	2.1	5.6	46.6	30.	14.1	8.4	40.8
137 Bangladesh	**2000**	**3.9**	**9.**	**41.3**	**26.7**	**6.8**	**4.6**	**31.8**
138 Nepal	**2003–04**	**2.6**	**6.**	**54.6**	**40.6**	**15.8**	**9.1**	**47.2**
139 Papua New Guinea	1996	1.7	4.5	56.5	40.5	23.8	12.6	50.9
149 Lesotho	1995	.5	1.5	66.5	48.3	105.	44.2	63.2
151 Zimbabwe	1995	1.8	4.6	55.7	40.3	22.	12.	50.1
165 Zambia	2002–03	2.4	6.1	48.8	33.7	13.9	8.	42.1
166 Malawi	1997	1.9	4.9	56.1	42.2	22.7	11.6	50.3
174 Burkina Faso	2003	2.8	6.9	47.2	32.2	11.6	6.9	39.5
175 Mali	1994	1.8	4.6	56.2	40.4	23.1	12.2	50.5
176 Sierra Leone	1989	.5	1.1	63.4	43.6	87.2	57.6	62.9
177 Niger	1995	.8	2.6	53.3	35.4	46.	20.7	50.5

Thus the evidence indicates that the poor countries, especially the south Asian countries have not been catching up with the rich countries over the period 1980-85 to 2004-05. in terms of per capita income, the chosen index of economic welfare, the gap between the developed and developing areas of the world has not narrowed during the period. Again, according to both the Gini coefficient and the Theil index inequality across the countries has increased slightly. This finding is consistent with the study on this issue.

It can be interpreted that, despite the rapid economic growth experienced by some developing countries, the developing economies as a whole have not been able to close the gap. Here it can be mentioned that the combined population of the East Asian miracles, are not large enough to significantly affect the global income distribution and at the same time, for every development miracle, there has been one or more disaster.

[This study will make a methodological contribution toward the empirical analysis of international income inequality. The indices of global inequality provide a convenient one number summary of the extent of inequality across the countries. Those indices are designed to measure inequality among countries rather than individuals since they are based on the assumption that there is perfect income equality within each country – if all the countries of the world had identical per capita incomes, the global indices would indicate perfect equality for the world. This method can readily be applied for other smaller geographical context]

7.6: INEQUALITY AT THE GLOBAL LEVEL

Now we consider the situation for the world as a whole. The data provides a clear idea in this respect. From the following table it is seen that the level of personal income growth showed a decreasing trend in the 1990-2000 than the earlier decade and projected growth for 2000-2015 is much more equitable. The maximum growth will occurred in the range between Decile 2 to Decile 7, where the South Asian countries fall.

TABLE 7.13:GLOBAL INCOME GROWTHBY DECILE
Source : World Development Indicators, World Bank,2005

	1970-80	1980-90	1990-2000	2000-2015	CUMULATIVE 1970-2000
Decile 1	7.50%	18.40%	11.60%	45.90%	42.10%
Decile 2	9.60%	27.10%	20.70%	60.80%	68.10%
Decile 3	10.50%	29.70%	23.20%	64.70%	76.60%
Decile 4	10.40%	29.40%	23.70%	65.50%	76.80%
Decile 5	8.90%	26.80%	21.70%	64.90%	68.10%
Decile 6	5.30%	16.50%	16.20%	62.60%	42.60%
Decile 7	5.10%	-1.40%	1.60%	57.70%	5.30%
Decile 8	13.70%	-0.10%	-9.60%	45.00%	2.60%
Decile 9	19.40%	8.40%	0.90%	30.10%	30.60%
Decile 10	20.70%	18.60%	11.20%	29.90%	59.20%
Mean Income	17.10%	13.20%	7.10%	36.60%	42.00%
Median Income	7.90%	23.90%	19.90%	64.20%	60.20%

TABLE 7.14: INCOME LEVELS BY DECILE, 1970-2015 (PRJECTED FOR 2015)
Source : World Development Indicators, World Bank,2005

(in 1999 PPP dollars)	1970	1980	1990	2000	2015
Decile 1	205	220	261	291	425
Decile 2	343	376	478	577	928
Decile 3	470	519	673	829	1,365
Decile 4	630	696	901	1,115	1,846
Decile 5	878	957	1,213	1,477	2,436
Decile 6	1,404	1,478	1,723	2,002	3,256
Decile 7	2,778	2,920	2,879	2,926	4,615
Decile 8	4,999	5,682	5,676	5,129	7,439
Decile 9	8,348	9,964	10,800	10,901	14,183
Decile 10	18,895	22,808	27,057	30,081	39,081
Mean Income	3,895	4,562	5,166	5,533	7,557
Median Income	1,061	1,144	1,418	1,700	2,791

The above two table describe the world income situation both in absolute terms and in percentage growth terms. [Source: WDR 2005].

Here we consider the poverty level and the poverty gap for the world as a whole. The data are provided region wise, dividing the world into 5 groups according to the level of income.

TABLE 7.15: COMPOSITION OF WORLD POOR BY REGION (2001)

	WORLD	OECD	LAC	EAP	SAS	AFR	EEC
below $700	998.4	0	40	149.7	391.9	415	1.8
below $1,400	2,342.70	0	109	757.9	911	541.6	23.2

TABLE 7.16: AVERAGE INCOMES OF THE POOR AND POVERTY GAP (2000)

AVERAGE INCOMES OF THE POOR AND POVERTY GAP, 2000, distr.-neutral scenario						
	WORLD	LAC	EAP	SAS	AFR	EEC
pop. share, %						
700	17.02%	7.78%	8.09%	28.90%	53.79%	0.38%
1,400	39.93%	21.20%	40.95%	67.18%	70.20%	4.90%
inc. share, %						
700	1.31%	0.58%	1.87%	10.65%	10.21%	0.04%
1,400	5.60%	2.89%	16.51%	40.51%	19.59%	1.04%
inc. of group						
700	426	457	550	479	329	578
1,400	777	832	961	783	483	1,077
poverty gap						
700	39.10%	34.70%	21.40%	31.60%	53.10%	17.50%
1,400	44.50%	40.60%	31.40%	44.00%	65.50%	23.10%

As poverty for OECD and EEC regions [defined as PPP $700 in PCE (Personal Consumption Expenditure, s defined in WDR 2005) terms] is negligible, the main attention was paid to other regions. Both absolute poverty and poverty incidence were studied for two scenarios: (1) distribution-neutral growth, 2000-2015, and (2) pro-poor growth, 2000-2015. [Source: WDR 2005]

(1) Distribution Neutral Growth, 2000-2015. For EAP and SAS regions the time needed to halve poverty was found to be 9 and 10 years, respectively, for poverty incidence, and 8 years for both regions for absolute poverty. For Africa and LAC, under the current assumptions, both absolute poverty and poverty incidence cannot be halved earlier than 30 years. At the global level, absolute poverty will be halved in 15 and poverty incidence in 24 years.

(2) Pro-Poor Growth, 2000-2015. This scenario improves the situation markedly. For EAP and SAS regions the time needed to halve poverty was found to be 4 and 5 years, respectively, for poverty incidence, and 4 years for both regions for absolute poverty. For Africa and LAC, under the current assumptions, poverty incidence will be halved in 30+ and 18 years, respectively, and absolute poverty will be cut in half in 22 and 14 years, respectively. At the global level, absolute poverty will be halved in 9 and poverty incidence in 10 years.

The following table shows this. [Source: WDR 2005.]

	Time to halve poverty (years)			
	Poverty incidence		**Absolute poverty**	
	DNG 2015	*PPG 2015*	*DNG 2015*	*PPG 2015*
WORLD	**24**	**10**	**15**	**9**
Latin America	30+	18	30+	14
East Asia	9	4	8	4
South Asia	10	5	8	4
Africa	30+	30+	30+	22

It is quite remarkable that positive growth does not automatically guarantee a decrease in absolute poverty. The Box below explains how this can be possible.

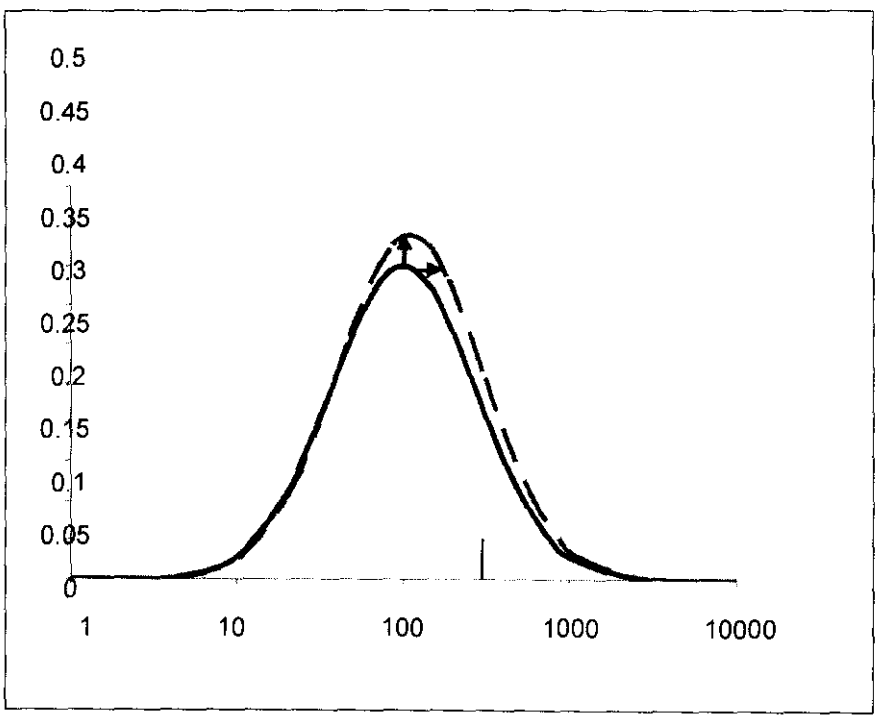
Now illustrates the situation when income growth is not sufficient to decrease numbers of the poor. Two transformations are being applied to the original log normal distribution (solid line): [FIG. 7.9] a horizontal shift equivalent to an income growth, and a scaling up shift equivalent to a population growth. As elsewhere, the horizontal axis corresponds to income and the vertical axis is the distribution density function in logarithmic terms.

In the case when the poverty cut off line is above the median, the income growth may not be enough to crowd out poverty. The exact results depend on the distribution characteristics. For example, for the log normal distribution, if the following is true.

$$d\ln P > d\ln x \frac{F_x'(x_p)x_p}{\int_0^{x_p} F_x' dx},$$

Where x_p is the poverty line, and P is population, the income growth will not be sufficient to crowd out poverty.

FIG: 7.9: INCOME GROWTH AND INEQUALITY



ECONOMIC GROWTH AND INCOME INEQUALITY:

Economists have long sought to understand the link between economic growth and income distribution The main issue listed below, have important policy implications for developing countries:

• In countries with low levels of development, does economic growth result in a more unequal distribution of income, and is it necessary for per capita income to reach a certain minimum level before income inequality begins to decrease?

• Do countries with unequal income distributions experience slower economic growth than more egalitarian countries?

• Should governments consider adopting redistributive policies to improve the situation of the poor?

7.7: WHY DOES THE LINK MATTER

Different assumptions about the links between growth and inequality produce different outcomes for the poor, as illustrated above. The base scenario, represented by the top line, assumes an egalitarian economy where the poorest group's share of total income does not change over a 60-year period. In this case, economic growth (we assume a rate of 4 percent a year) would raise the incomes of the poor.

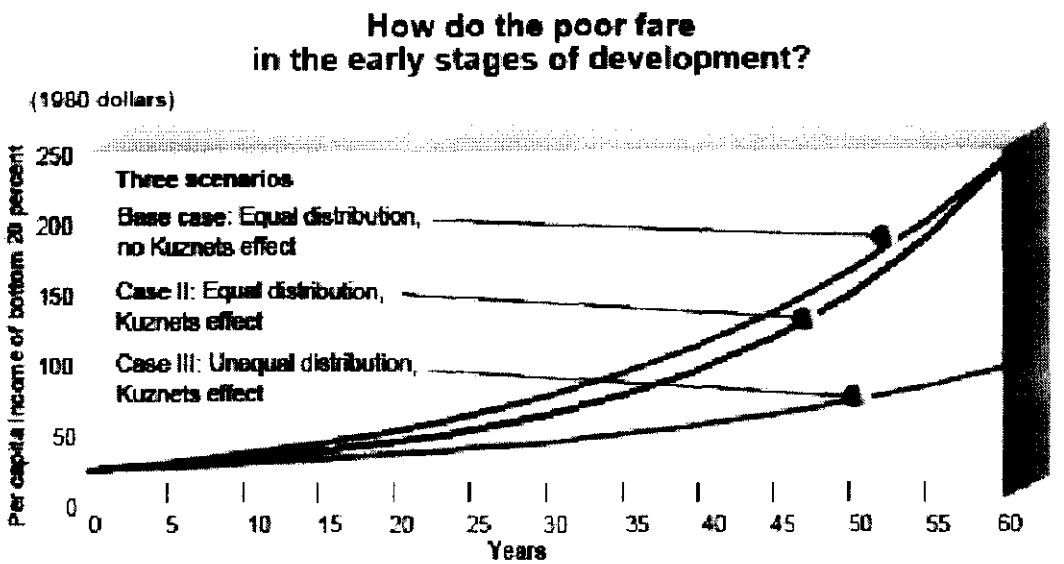
The second scenario (represented by the middle line in Chart 1) is based on the famous Kuznets hypothesis, first formulated by Simon Kuznets more than 40 years ago. This hypothesis suggests that, at low levels of per capita income, inequality increases with rising per capita income and decreases only in the later stages of development—resulting in an inverted U-shaped relationship between per capita income and income inequality—based on a model where individuals migrate from a low-wage rural sector with little inequality to an urban sector characterized by high income inequality and high average income. In this scenario, the poorest group's share of total income would decrease as economic growth takes off and would not be restored to initial levels for 60 years; as a result, the poor's per capita incomes are lower by an average of 10 percent over two generations.

Recent research has also identified a negative relationship between initial inequality and subsequent growth (see Deininger and Squire, 1996). The scenario represented by the bottom line in Chart 1 assumes a significantly higher level of initial inequality— 20 points higher in terms of the Gini coeffcient. (The Gini coefficient, a measure of the extent to which actual income distribution in a country differs from a hypothetical uniform distribution, goes from 0, for absolute equality, with each individual or household receiving an identical share of income, to 100, which indicates that one person or household receives all the income.) In this scenario, the rate of annual income growth would drop to 2.7 percent, and, at the end of our hypothetical

60-year period, the per capita income of the poor would be less than half of what it would be in an economy that had started off with a more egalitarian distribution. This would be true even if the Kuznets hypothesis did not hold.

Such large differences in outcome have far-reaching implications for government policies. However, these simulations draw on available empirical analysis, much of which suffers from an important shortcoming—it is based on a very limited amount of data, and these data are often of unacceptably low quality.

FIG. 7.10: STAGES OF DEVELOPMENT AND INCOME DISTRIBUTION



The data

To be acceptable, data on income distribution need to satisfy three criteria. *They should be based on nationally representative surveys* rather than synthetic estimates built up from national accounts data and general assumptions regarding the distribution of income across occupations or in other countries at a similar stage of economic development. Such synthetic estimates, prevalent in early studies, are unacceptable, since they presuppose the existence of the relationships that are to be tested in subsequent empirical analysis.

They should cover the entire population rather than subsets, such as urban or rural dwellers. Partial coverage, which is often misleading, is particularly common in Latin America, where many countries collect information only for the urban population. In Peru, for example, the Gini coefficient for rural households is 32, compared with 42 for urban households. In South Africa, the Gini coefficient for the white population is 48, compared with 62 for the whole population.

They should encompass all types of income, including nonwage *income* and income from household production. As tax records and labor force statistics are more com- monly available than detailed data from household surveys, many of the figures used in the literature refer to wage or taxable income. We found that this generally overstates the Gini coefficient by about 15 points and, to the degree that data on wage income in the early years are complemented with data on total income in later years, may give the appearance of a spurious decrease in inequality. Own production is particularly important for low-income groups in developing countries. Even in Greece, in 1974, household production (e.g., of vegetables and clothing) accounted for more than 70 percent of the income of the lowest decile of the population. Whether or not own consumption is included will, therefore, have considerable impact on the inequality measure obtained.

Although the above criteria are easily agreed upon in principle, applying them consistently to the available data reduces the number of "acceptable" observations to point where meaningful empirical analysis is no longer possible. To overcome these constraints, we adopted a two-pronged strategy. On the one hand, we expanded the data set on income distribution by adding new observations from primary survey data, official statistical publications, and research papers. This enabled us to increase the number of acceptable observations. It also yielded 58 countries for which 4 or more consistently defined observations are available, thus for the first time allowing at least some inferences regarding changes over time of income distribution within countries. However, it did not solve the problem of limited data availability for the 1960s, which makes it difficult to assess the impact of initial income distribution on subsequent growth.

To deal with this shortcoming, we complemented our data on income inequality with information on the distribution of land holdings, which provides a better measure of initial distribution. Information on the distribution of land in 1960 is available for a much larger number of countries (73) than is information on the initial distribution of income(12). It is attractive also from a conceptual point of view, because it gives us a solid indication of asset distribution and thus enables us to make inferences regarding access to formal credit. [Source: WDR 2005]

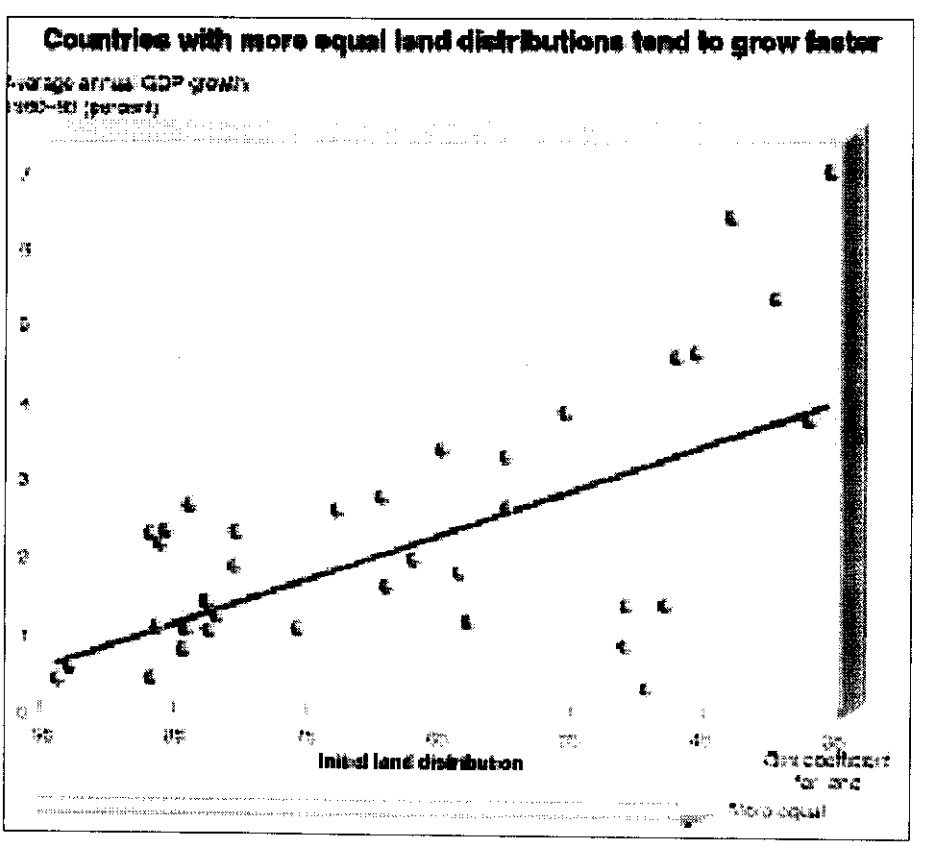
What do the data reveal

First, income inequality is much greater in Latin America and sub-Saharan Africa, which have Gini coefficients in the upper 40s, than in East and South Asia, which have Gini coefficients in the middle-to- upper 30s. The OECD countries, in general, have relatively egalitarian distributions of income, with Gini coefficients around 30, while the Eastern European countries have historically had very low Gini coefficients. Measures of inequality tend to be quite different across regions but to remain relatively stable within

regions and individual countries, regard- less of the considerable changes in aggregate income that have taken place.

Second, land distribution and income distribution are not the same. India, Indonesia, and Korea are all characterized by Gini coefficients for income in the 30s, but the coefficients for land distribution are 63, 55, and 35, respectively. Similarly, Thailand, Tunisia, and Peru all have Gini coefficients for income in the 40s, but the coefficients for land distribution are 45, 64, and 93, respectively. This suggests that tests of the negative relationship between initial inequality and subsequent growth may yield different results depending on whether initial inequality is measured in terms of income or land.

Third, aggregate measures of distribution may hide movements in the incomes of different groups. Thus, the observation that overall inequality may remain relatively stable over time can be consistent with considerable change in the shares of total income received by individual groups. And since we are primarily interested in assessing the impact of economic growth on poor, it is important to complement the analysis of overall changes in income with a more detailed assessment of the welfare of the bottom quintiles of the population. The following figure shows this.



Results

Now we consider the following three questions on inequality.

Does inequality increase in the early stages of development and then decline, as predicted by Kuznets?

The Kuznets hypothesis has spawned a vast empirical literature, much of it driven by concern that development hurts the poor. Empirical analysis of this issue has been hampered not only by the quality of the underlying data but also because what is really a relationship over time has, for lack of data, usually been tested using cross-country evidence. Researchers have used variations in per capita incomes across countries to represent increases in per capita income over time within a country. Using our data, we are able to test for the Kuznets curve within countries and find no evidence of it in almost 90 percent of the cases. Of course, the 30-year period covered by our data may be too short to produce the full inverted U. If this is the case, we should still expect to see inequality increasing in low-income countries and decreasing in countries with high per capita incomes, but the data confirm the presence of a linear trend in only a few countries. Even where it exists, the trend rarely conforms to the Kuznets hypothesis.

We can take the analysis one step further to make more direct inferences regarding the relationship between growth and poverty. Examining the relationship between overall growth and changes in the incomes of the bottom quintile of the population during 10-year periods, we find little systematic relationship between overall growth and changes in inequality. Periods of growth are associated with an increase in inequality almost as often (43 cases) as with a decrease in inequality (45 cases). In contrast, we find a strong systematic relation- ship between overall growth and growth in the income of the poorest quintile; the latter increased in more than 85 percent of 91 cases. This would suggest that even when inequality has worsened; its negative effect on the poor has been more than outweighed by the positive effect of growth.

Do more egalitarian countries grow faster?

If economic growth does benefit the poor, then a focus on factors that increase growth would be warranted from an equity perspective as well as from a development perspective. Recent empirical work indicates that there may be a negative relationship between initial inequality and future growth. If confirmed, this would imply that unequal economies will experience lower rates of growth and, in general, lower rates of poverty reduction.

To investigate the effect of initial in- equality on long-term growth, we look at determinants of growth rates for 1960– 92. Because acceptable data on income in- equality prior to 1960 are scarce, we use country averages of observations for the entire period. We also use the distribution of land, for

which more observations of acceptable quality are available before 1960. While the results confirm a negative link between initial *income* inequality and subsequent growth, they suggest that this relationship is not very strong. By contrast, initial inequality of *assets,* as measured by the distribution of land, exerts a significant negative effect on subsequent growth [Figure at page223]. Only 2 of the 15 developing countries with a Gina coefficient for land distribution in excess of 70 grew more than 2.5 percent annually during 1960–92.

What are the mechanisms through which an unequal initial distribution of assets or income might affect subsequent growth? One possible mechanism is political, that is, poor people may vote in favor of redistributive taxes that reduce investment incentives. If this were the case, one would expect higher taxes and lower investment in democratic—but not in undemocratic—countries with a more unequal distribution of income. The evidence does not support this theory, how- ever. Clearly, other forces are at work.

A second possible mechanism is that the effects of inequality—primarily of assets— are transmitted through financial markets. Access to credit is conditional on owner- ship of assets for example, land, that can be used as collateral. If certain investments in physical or human capital (for example, in basic education) are affected by individuals' access to credit markets, then the distribution of assets in an economy, in addition to the mean income, will deter- mine how many individuals are able to undertake such investments. In more un- equal economies, fewer individuals would be able to make such investments, resulting in lower stocks of human and physical capital and, as a consequence, lower growth. Two pieces of evidence provide support for this line of argument. First, although initial (land) inequality is an important factor reducing future growth in developing countries, it does not have a significant effect in OECD countries.

In the latter, poverty is rarely a reason for non- attendance of primary schools; per capita incomes are higher, so that even relatively poor households can finance a broader range of investment without recourse to credit; and land is less important as a form of collateral. Second, we find that initial (land) inequality is significantly and negatively related to the average educational attainment in the population. Thus, the evidence suggests that credit markets, not the political system, should be seriously considered as a mechanism through which inequality slows economic growth.

Should policymakers seeking to reduce poverty redistribute existing assets or create new ones?

Our analysis shows that the poor generally benefit from growth-enhancing

policies, specifically investment. It also suggests that, given the growth-reducing effect of initial inequality, the poorest groups in a country may benefit from redistribution. What is the relative importance of accumulation compared with redistribution?

Initial land inequality [as well as income inequality, as land is the primary source of income in the developing economies] has a significant impact on income growth for all population groups except the top quintile. But investment, which is associated with significantly higher income growth for all groups, appears to have an even greater impact on the income of the poor. Although increased investment coupled with a redistribution of assets would appear to provide the greatest benefits to the poor, pursuing a redistributive strategy at the expense of investment could actually decrease the income of the poor. Therefore, in situations where redistribution of assets is either not feasible for political reasons or too costly, creation of new assets would be a more promising avenue for improving the welfare of the poor.

Using a new and improved cross-country data set on inequality to examine the dynamics of growth and poverty reduction, we reached three main conclusions:

First, while policymakers should certainly pay attention to the distribution consequences of different policy options, the fear that economic growth on its own will have a systematic negative effect on the distribution of income is unfounded.

Second, unequal distribution of assets, more than of income, can be an impediment to rapid growth, implying that redistributive policies that enhance people's access to credit markets and, thus, their ability to invest could contribute to growth.

Third, although redistributive policies have the potential to benefit the poor both directly and indirectly, they will do so only if redistribution does not jeopardize investment—this may be one explanation for the observation that, in the past, redistributive policies such as land reform have often failed to help the poor. If countries want to implement redistributive policies, their ability to devise mechanisms that would at the same time maintain or increase investment incentives may well determine whether such policies help with poverty reduction.

CHAPTER 8

SUMMARY AND CONCLUSION

- ***SHORT SUMMARY***
- ***CONCLUSION***

CHAPTER 8

SUMMARY AND CONCLUSION

8.1: SHORT SUMMARY

This paper tries to develop some estimates of capital outflows to analyze the determinants, consequences and inter-relationship between capital outflows and consequent income distribution in the developing countries. The literature on capital outflows, i.e. the capital flows deriving from residents, remains relatively small. However, capital outflows from developing countries have also been growing rapidly in the last two decades. Outflows fell during the early 1980's but have grown persistently till the end of the sample period. (1987-88 to 2003-04). They now account for about 2.5% of GDP.

Capital flight refers to international capital movements which respond to heightened domestic economic and political uncertainty. While this paper focuses on the experiences of developing countries, the essence of capital flight lies not in the level of economic development, but in the degree of economic, social, and political fracture. Indeed, capital flight has characterized both developed and developing nations throughout this century. During the late 1970s and 1980s capital flight plagued many developing nations; the concurrent LDC Debt Crisis prompted both theoretical and empirical analyses of flight. However, widespread interest in the topic abated as the immediacy of the crisis subsided, foreign lending dissipated, and countries embarked upon stabilization and structural adjustment programs. Towards the end of the 1980s many developing countries began to enjoy renewed capital inflows of a substantial magnitude.

Capital flows from one country to another may take place for a number of reasons. Globalization of financial markets has resulted in capital flows that result from households' attempts to maximize returns through international portfolio diversification. Savings of households in advanced countries flow to developing countries through portfolio investment via Foreign Institutional Investors (FIIs) whose activities are now spread across stock markets worldwide. The expansion of world trade and commerce has increased enterprises' efforts to promote trade through providing export credits leading to movement of capital. Worldwide dispersal of productive units by multinational enterprises has led them to accumulate working balances abroad and invest directly in the acquisition of productive capacity abroad. Commercial banks' efforts to expand their activities

have resulted in their accumulating deposits with foreign banks and acquiring claims on non-residents through portfolio and direct investment.

The scale of Capital Flight from developing countries is a legitimate cause for concern because it implies potential investment foregone. The motives for capitl flight are complex. On the one hand, the absence of secure property rights, excessive market risk and lack of policy credibility in some developing countries are often cited as 'legitimate' motives. On the other hand, the desire to avoid taxes, the criminal origin of assets and the anonymity of offshore accounts are also significant factors; but require International co-operation in order to tackle them.

Capital flight statistics are not readily available, instead they must be constructed. Since there is no universal definition of capital flight, the literature offers several different approaches for devising flight estimates. The estimates of capital flight this paper presents are based on the *residual approach*, which is premised on circumventing the use of "unreliable" Balance of Payments (BOP) capital account data, and calculates flight *indirectly*. This approach posits that the recorded increase in gross foreign debt provides a better measure of net foreign loans, foreign loans less amortization, than do BOP data. The residual approach yields generally broad measures of flight, and we present capital flight data based on different residual approach definitions: the Dooly approach. The World Bank Approach and the BPO approach or the modified World Bank Approach.

The World Bank (1985) defines capital flight as the change in a nation's foreign assets. It is premised on trying to identify both the *sources* and *uses* of international funds by a nation; source funds consist of the increase in recorded gross external debt and net foreign direct investment, which can in turn be used to finance the current account and/or to increase official reserves. In essence, it equates capital flight with *all* non-official capital outflows.

Dooley (1988) presents another variation of the residual approach which attempts to distinguish between so called *normal* and *flight* capital flows. According to Dooley, flight stems from the desire to avoid domestic taxation. As such, flight need not be a current transaction, but merely reflect a change in the motive for holding a previously acquired foreign asset as the domestic investment climate changes. He defines flight as that *stock of foreign assets whose returns have not been reported as investment income* (in BOP statistics). Should all capital outflows and investment income on them be reported, there would be no capital flight under Dooley's approach.

We present a third "residual" capital flight measure which in essence is a combination of the World Bank and Dooley methodologies; we call it the Modified-World Bank approach. A detailed comparison of the World Bank and Dooley measures reveals that besides the stock versus flow measurement, the key conceptual and *empirical* distinction between them lies in Dooley's attempt to

differentiate *all* capital outflows from *flight* flows, where *flight* is driven by tax avoidance. The Modified-World Bank measure offers an easy way to calculate Dooley *flows*
- capital flight flows broadly defined to encompasses both short and long term non-official capital outflows (the World Bank measure) *less* any capital outflow that corresponds with a desire to avoid domestic taxation.

All empirical measures of capital flight are subject to criticism, and, while employing it, we acknowledge that the residual approach is not above critique. In using this measure, the magnitude of flight varies with the accuracy and comprehensiveness of debt coverage. In addition, this measure, as do all the other measures in the literature, fails to capture flight associated with trade misinvoicing. Since it does not distinguish between normal and supernormal non-official portfolio movements, the World Bank measure overestimates flight by the amount of normal portfolio movements stemming from differences in tastes, technology and endowments, and portfolio movements associated with trade transactions.

In capitalizing certain BOP items, the Dooley approach is subject to measurement error through both the choice of some world interest rate and the reliability of the BOP data. Thus, it is prudent to focus on the relative magnitudes of these flight estimates and how they change over time, and not specific flight estimates. *In general Capital flight is the accumulation of resident, claims on non-resident, that escape control by domestic Government; i.e. they are not subject to any taxation or regulation or confiscation. It is the short-term speculative capital exports by private non-basic sector.*

Here in this study we tried to estimate the amount of Capital Flight from six South Asian countries, they are India, Pakistan, Bangladesh, Nepal, Bhutan and Sri Lanka. According to our knowledge this type of attempt is not done earlier. As CF is primarily influenced by the outward orientation of the primarily unregulated economies, the study tried to capture the correlation between the proportion of CF with that of Openness Index (both measured as a proportion of GNI of the country) over the period from 1987-88 to 2003-04 for these six countries. During this time period the selected countries have experienced economic crisis, to some extent, and followed the path of economic liberalization after that. Thus whether the process of liberalization have aggravated CF is somehow captured in this research. The study shows that opening up of the economy without achieving strong financial position influenced CF from these countries as a whole.

Crisis can create important disturbance for international trade through two channels: First, financial crises often result in credit shortages and in the breakdown of financial relations, which makes trade-related financing more costly if not unavailable.

Second, financial crises undermine economic growth, and thereby indirectly trade, and in a large scale crisis these repercussions can be felt even at the global level.

Evidence and experience have shown that economic and social cost of prolonged and deep crises can be enormous, only rapid measures of crises resolution can limit such costs. For this reason government intervention is often necessary to prevent protracted instability, as has been experienced, for example, by Japan in the 1990s. Government intervention, however, can be very costly, raising fiscal deficits and public debt in the process. Larger fiscal deficits and public debt, in turn, must be financed out of tax payers' pockets.

There are two main types of costs associated with financial crisis. First, there are the costs incurred by governments to recapitalize banks, to take over bad loans and to refund depositors. These costs are often very high.
Second, there are economic and social costs in the form of lost output, less trade and higher unemployment and poverty. There are three main domestic reasons for financial crises:

Macroeconomic policy errors,

Inadequate financial regulation and supervision, and

Inappropriate government financial market interventions with Poor macroeconomic management put pressure on financial systems.

Considering these factors the CF is also correlated with the domestic macroeconomic variables like external debt, changes in price index, the growth rate of GDP and the overall balance position of the country. The results are significant enough to conclude that CF is influenced by these factors and creating international trading problems along with domestic economic and social problems.

After analyzing the cause and consequence of CF the study tied to find out a nexus between openness- growth- inequality- poverty. As integration with the outer world aggravates CF, this also causes more unequal distribution of income in the developing countries. Certainly there are some common benefits of globalization, in terms of trade a) like static gains due to better resource allocation in line with comparative advantage; b) cost savings due to scale economies and enhanced product variety; c) dynamic gains from technology transfer; d) cost reductions from learning-by-doing; and e) reduced unproductive rent-seeking activity associated with reduced trade restraints. In terms of

globalization of finance and capital flows, they includes: a) static resource allocation gains through international specialization in the production of financial services; b) static financial gains through appropriate portfolio diversification

internationally; c) dynamic or x-efficiency gains through the introduction of competition in the financial sector; d) gains from intertemporal trade through access to global financial markets; e) the absence of rent-seeking and other costs of capital restraints; and f) the imposition of market discipline on policy-makers by ensuring that profligate policies, such as unsustainable external and fiscal imbalances and debt accumulation, trigger capital outflows and balance of payments/currency crises.

But the costs of globalization are also not small. Most apparent, perhaps, is the fact that closer financial integration has been associated with several episodes of severe financial turbulence in global currency markets. The World Bank (2000, p.47) has stressed that such financial crises have underlined how...financial integration, exposes developing countries to external shocks. These shocks often reduce the gains in poverty reduction from openness and increase poverty significantly in the short to medium term. This fact underscores the importance of addressing the issue of volatility in order to maximize the positive effects of growth on poverty reduction. With this in mind, a completely *laissez faire* attitude towards international capital movements may be misplaced.

At the risk of overgeneralization, the first best rationale for such levies (on a *permanent* basis) is based on the existence of capital market distortions. These include the existence of multiple equilibria in foreign exchange markets and the herd behaviour of financial market participants. The second best rationale (for *temporary* controls) includes the possibility of over-borrowing as a consequence of incomplete or inappropriately sequenced financial sector reforms, including inadequate prudential regulations.

More generally, the success of a liberal financial regime is directly dependent on having in placed the necessary institutional prerequisites and internationally consistent standards in accounting, auditing, banking, bankruptcy law, corporate governance, and investor-protection (Eichengreen, 1999b).

Relative to the issues of economic growth and development, the distribution of income among individuals and households has largely been neglected among the economists, the enlargement of the pie is generally deemed to be more significant than the division of the pie. Rather examining the income distribution of particular countries over time, the trends in international income distribution is analyzed over the past 25 years. Simple observation suggests that there are vast differences in the standard of living across the countries. to consider the empirical evidence on international convergence, we used the Penn World Table data. The study here considers the percentile share of Global income at five, ten and twenty percentiles after ranking the economies on the basis of their PCI. Then the Gini and Theil index is measured for the said period in different percentile levels. The same tusk is repeated for our six selected South Asian countries separately to show the convergence level with the Global level.

The evidence indicates that the poor and the developing countries have not been catching up with the rich countries over the period 1980 to 2004-05.in terms of PCI, (the chosen index of economic welfare) the gap between developed and developing areas of the world has not narrowed during this period. According to both inequality indices, inequality has increased slightly across countries.

8.2: CONCLUSION

The international debt crisis of 1982 revealed that unrecorded private capital outflow from developing countries occurred simultaneously with borrowing from international commercial banks. The economists surprised to learn that a large part of the borrowing of developing countries from such banks was not matched by net imports of goods and services, but instead by unrecorded private capital outflows from developing countries.

Capital flight, in economics, occurs when assets and/or money rapidly flow out of a country, due to an economic event that disturbs investors and causes them to lower their valuation of the assets in that country, or otherwise to lose confidence in its economic strength. This leads to a disappearance of wealth and is usually accompanied by a sharp drop in the exchange rate of the affected country (devaluation).

This fall is particularly damaging when the capital belongs to the people of the affected country, because not only are the citizens now burdened by the loss of faith in the economy and devaluation of their currency, but probably also their assets have lost much of their nominal value. This leads to dramatic decreases in the purchasing power of the country's assets and makes it increasingly expensive to import goods. In 1995, the International Monetary Fund (IMF) estimated that capital flight amounted to roughly half of the outstanding foreign debt of the most heavily indebted countries of the world.

Despite the negative connotation associated with the term capital flight, its impact on an economy is ambiguous. Indeed, only when its potentially detrimental effects are borne out during a crisis do economists, policy makers, politicians, bankers, and investors focus on its possible adverse effects on an economy, or potential for systemic contagion. The possible disruptive effects on domestic investment, the foreign exchange market and public finances which stem from flight become more severe and a greater possibility when one considers the magnitude of flight for some developing countries. Flight on the order of 5 to 10 percent of GNP represents a substantial outflow of resources from the domestic economy.

The perception that flight drains domestic resources that could, should and would have been allocated towards domestic investment and production is open for question. Should flight occur directly at the expense of efficient and productive

net domestic investment, growth will be affected. When capital inflows no longer finance capital flight, flight must be financed with a fall in net imports or a reduction in official international reserves, which may have real effects on the economy. Flight that exacerbates shortages of and intensifies competition for foreign exchange can result in excess volatility of exchange rates or the collapse, or major devaluation, in a fixed exchange rate regime.

In addition, some institutional features of developing countries imply that massive capital outflows have a potentially detrimental effect on the economy. Given the dependence upon source based taxation and seigniorage of many developing countries, flight could adversely affect public finances as the domestic tax base erodes. Any adverse impact on public finances entails distributional consequences, and efficiency consequences if taxation is distortionary. The distributional consequences for domestic agents are potentially exacerbated by the asymmetry between ownership of private foreign assets and liabilities in developing countries. After the debt crisis it became quite apparent that while private foreign assets are strictly private, private foreign liabilities are effectively public. To the extent that capital flight is financed by foreign borrowing, this asymmetry socializes private risk, which is potentially inefficient and inequitable.

According to the World Bank (1985) approach, flight is calculated as the *difference* between the *increase in gross external debt and net foreign direct investment*, and *the current account balance and increase in official reserves*. Flight consists of identified private capital outflows (both short and long-term), net errors and omissions and the discrepancy between BOP debt flows and the change in the stock of external World Bank debt.

Dooley (1988) constructs the *stock* of flight capital for a nation from external debt statistics and capitalized BOP data. Capital flight is the difference between the stock of *total* external claims and estimates of *interest earning claims* on foreigners, or *reported* claims. Total claims on foreigners are calculated first by capitalizing certain BOP data debit items and errors and omissions, excluding foreign direct investment outflows. However, because Dooley believes there is a discrepancy between BOP and debt data (where the former usually underestimate debt accumulation), the discrepancy between capitalized BOP debt estimates and World Bank debt figures is added to the total claims figure initially calculated; he considers this discrepancy to represent unreported claims on non-residents. To arrive at estimates of the total *reported* interest earning claims, Dooley capitalizes the value of investment income credits from the BOP data. Yearly capital flight *stock* estimates are the difference between the total claims and total reported claims on foreigners.

While conceptually analogous to the Dooley flight flows, the Modified-World Bank approach combines both the World Bank and Dooley methods of actually calculating capital flight. Both empirical approaches are consistent in their BOP accounting methodology (demarcation of BOP credit and debit entries) and the

preference for external debt data over BOP data. They differ because Dooley considers the stock of reported foreign assets (calculated by capitalizing BOP current account "other investment receipts" credit items at the current world interest rate) not to be flight. The Modified-World Bank measure offers an easy way to calculate Dooley *flows* - capital flight flows broadly defined to encompasses both short and long term non-official capital outflows (the World Bank measure) *less* any capital outflow that corresponds with a desire to avoid domestic taxation.

Following Deppler & Williamson(1987) Capital Flight can therefore be defined as the acquisition or retention of a claim on non-residents that is motivated by the owner's concern that the value of his asset would be subject to discrete losses or impairment if his claims continue to be held domestically.
The Residual Measure is defined as:
This is the difference or the residual between the sources of funds and the use of funds. Sources of capital inflow include net increase in external debt and net outflow of foreign investment, i.e. all net official inflows. The use of fund includes current account deficit and addition to foreign reserves. Thus, when the resources of funds exceed the use of funds, there is outward CF and inward CF for vice-versa.
From the BOP data it is calculated as:

Change in Debt + Net Foreign Investment – (Current Account Deficit + Change in Reserves).

Of the methods surveyed in this study, the broad measure of capital flight is, (Residual Method) in practice, the best method to estimate resident capital flows. We follow this measure for the six South Asian countries mentioned earlier for the time period 1987-2003, covering the pre and post economic reform period in these respective countries in general. The study reveals that over the period a large amount of resource has been flown out of these countries in that period. Specifically, the outflow was greater in the transition period and in the out break of financial crisis for all the countries. The general analysis shows that, the correlation between CF and Openness index, defined as the ratio of total trade to GNI, is somehow positive. Though this result varies time to time depending on the other macroeconomic situation of the country. In order to find out the correlation between CF and other Macro variables, the regression analysis of external debt, changes in price index, the growth rate of GDP and the overall balance position of the country and OI on CF reveals that domestic macroeconomic disturbances necessarily influence CF.

Financial Crisis creates important disturbance for international trade as it often results in credit shortages and in the breakdown of financial relations, which makes trade-related financing more costly. Financial crises also undermine economic growth, and thereby indirectly trade and openness. Economic and social cost of prolonged and deep crises can be hard to bear. For this reason government intervention is often necessary to prevent protracted instability,

though this can be very costly, raising fiscal deficits and public debt in the process. Larger fiscal deficits and public debt, in turn, must be financed out of tax payers' pockets. All such cases influence CF from the crises ridden economies.

Generally two main types of costs associated with financial crisis. First, there are the costs incurred by governments to recapitalize banks, to take over bad loans and to refund depositors. These costs are often very high Second, there are economic and social costs in the form of lost output, less trade and higher unemployment and poverty.

According to the World Bank view such financial crises have underlined how...financial integration, exposes developing countries to external shocks. These shocks often reduce the gains in poverty reduction from openness and increase poverty significantly in the short to medium term. This fact underscores the importance of addressing the issue of volatility in order to maximize the positive effects of growth on poverty reduction. The lessons drawn from the East Asian, ERM and Tequila crises seem to provide justification for at least considering the imposition of some form of restraints on international capital flows. At the risk of overgeneralization, the first best rationale for such levies (on a *permanent* basis) is based on the existence of capital market distortions. These include the existence of multiple equilibria in foreign exchange markets and the herd behaviour of financial market participants. The second best rationale (for *temporary* controls) includes the possibility of over-borrowing as a consequence of incomplete or inappropriately sequenced financial sector reforms, including inadequate prudential regulations (Dooley, 2000 and McKinnon and Pill, 1999).

Getting the most from international financial integration involves a balancing act. Financial deregulation and capital account convertibility need to be appropriately timed and sequenced if the full benefits are to be attained from financial globalization. Uppermost on the list of preconditions for an open capital account is the putting in place of adequate supervisory and prudential regulations and the revoking of any implicit or explicit sovereign guarantees for external debt accumulation. Where there is adequate supervision and regulation, there may remain a need for specific controls on capital inflows, such as the deposit requirement imposed by Chile, or at least on the accumulation of unhedged external debt liabilities (Bird and Rajan, 2000b).

In open economies globalization may lead to reduced progressivity (increased inequity) of tax structures. Thus, taxes levied directly on relatively immobile factors would be welfare-enhancing in the sense of having the same incidence as taxes on the mobile factors, without necessarily leading to the flight of the latter in an attempt to *evade/avoid* the burden of the tax. And thus a larger amount of CF leading to more inequality.

Evidence shows that income the poor and developing countries have not been converged with that of the rich countries in the last 25 years eve with rapid

economic growth in some of these countries. The distribution of per-capita income between countries has become more unequal in recent decades. For example, in 1960 the average per-capita GDP in the richest 20 countries in the world was 15 times that of the poorest 20. Today this gap has widened to 30 times, since rich countries have on average grown faster than poor ones. Indeed, per capita incomes in the poorest 20 countries have hardly changed since 1960, and have fallen in several. But greater openness to trade is unlikely to explain why poor countries on average grew less quickly than rich ones, since, openness fosters higher not lower incomes. On the contrary there is some evidence (Ades and Glaeser, 1999) that greater trade openness has tended to reduce inequality between countries. While rich countries have on average grown faster than poor ones, poor countries that are open to trade have grown slightly faster than rich ones, and a lot faster than poor, closed countries.

More current and capital account liberalization hurt the poor. This is not because trade is directly harmful for the poor, but because of the institutional design under which trade is conducted. In particular, trade in a more deregulated environment lowers the income share of the poor, whereas trade in a more regulated environment raises the share of the poor. The short-term effects on the income share of the poor are not offset by faster income growth in the long-run.

It is to be noted that trade and possibly capital flows may have a beneficial effect on growth in the long-run, and no systematic adverse effect on the income share of the poor in a regulated environment. Hence, greater trade and capital mobility in a regulated environment, as was the case for the majority of countries for most of the sample period, appears to be a preferable development choice. More research, though, is needed to identify exactly, which types of regulations are specifically well suited to reap the benefits from trade and capital flows, while letting the poor share in the gains in the short-term and in the long-run.

Globalization and openness can affect poverty indirectly through the 'growth effects' as well as directly through channels such as changes in relative goods' prices in favour of (or against) wage goods, changes in relative factor prices induced by trade or factor mobility; the nature of technological progress and the technological diffusion process; volatility and vulnerability; the nature of the worldwide flow of information; and global disinflation. Likewise, institutions can be designed so as to transmit and amplify the potential positive benefits of the various mechanisms through which globalization affects poverty, or alternatively, to act as a brake (or, at the most, block) the transmission of those effects.

Policymakers need to design and implement an active development strategy not only to benefit from, but also to help counteract the negative effects of the immutable forces of globalization. Globalization should not be viewed as a reliable substitute for a domestic development strategy (Sanchez 2003). It is not enough for governments to assume an active role in liberalizing trade and capital movements and de-regulating their economies while passively waiting for the

fruits of the Washington consensus and the market forces of globalization to pull them on a fast track to development. Instead, governments need to pursue both active liberalization and active domestic development policies.

The last two decades, which witnessed expansion of globalization, are, in terms of overall growth and income convergence between poor and rich countries, vastly less successful than the preceding two decades The attempt to explain divergence of incomes by 'eliminating' the countries with 'bad' policies and focusing solely on those with 'good' policies is flawed because the successful countries, and China in particular, did not follow the orthodox economic advice (Milanovic 2003: 676).

Thus strategic integration is needed when globalization offers large potential benefits for the countries that decide to engage strategically and actively in the globalization process. But benefits are neither automatic nor guaranteed. Only countries that create patterns of comparative advantage towards high-skill and high-productive activities will gain significantly from globalization. Passive liberalization may lead to marginalization. At the same time, countries which have not yet reached the critical threshold, need (i) to invest in agriculture in order to reach the takeoff-point to allow the structural transformation of their economies to proceed; and (ii) to strengthen institutions of social protection.

Rodrik (1997) takes a similar position, arguing that while globalization is a positive trend, globalization can succeed and be sustained only if appropriate domestic measures are undertaken to cushion the impact on groups that are adversely affected. Yet, as Tanzi (2001) notes, the unwillingness or inability to tax international mobile financial capital in the process of tax competition and in fear of capital flight and asset migration, has, among other conditions termed as 'fiscal termites', contributed greatly to the erosion of the capacity of governments to raise revenues for redistributional purposes.

Others argue the need for alternative, more equitable forms and processes of globalization to start with. This requires a much better grasp of the concept of *pro-poor globalization* than what we presently hold. Whichever position one takes in this policy debate, it is critical to conduct well-focused empirical studies towards. Understanding better the globalization-poverty nexus in a country- or region-specific context, since successful policies for maximizing benefits from globalization while protecting the poor can only be designed and implemented in such a context.

BIBLIOGRAPHY

Addison, T., and G. A. Cornia (2001). 'Income Distribution Policies for Faster Poverty Reduction'. UNU-*WIDER Discussion* Paper No. 2001/93. Helsinki: UNU-WIDER.

Agénor, P.-R. (2002). 'Does Globalization Hurt the Poor?'. Washington, DC: World Bank. September. Mimeo.

Aghion, P., and P. Bolton (1997). 'A Theory of Trickle-Down Growth and Development'. *Review of Economic Studies*, 64 (2): 151-72.

Ajayi, I. S. (1997). 'An Analysis of External Debt and Capital Flight in the Severely Indebted Low Income Countries in Sub-Saharan Africa'. *IMF Working Paper WP/97/68*. Washington, DC: IMF.

Alesina, A., and D. Rodrik (1994). 'Distributive Policies and Economic Growth'.

Alesina, A., and R. Perotti (1994). 'The Political Economy of Growth: A Critical Survey of the Recent Literature'. *The World Bank Economic Review*, 8 (3): 351-71.

Alesina, A., and G. Tabellini (1989). 'External Debt, Capital Flight and Political Risk'. *Journal of International Economics*, 27 (3-4): 199-220.

Arimah,B. 2004. "Poverty Reduction and Human Development in Africa." *Journal of Human Development*. 5:399-415.

Aron,J. 2000. "Growth and Institutions: A Review of the Evidence." *The World Bank Research Observer*. 15:99-135.

Auty, R. M. and Gelb, A. H. 2001. 'Political Economy of Resource-Abundant States,' in R.M. Auty (ed.), *Resource Abundance and Economic Development*. Oxford University Press: Oxford, England.

Banerjee, A. V., and A. F. Newman (1993). 'Occupational Choice and the Process of Development'. *Journal of Political Economy*, 101 (2): 274-98.

Basu, K. (2003). 'Globalization and Marginalization: Re-examination of Development Policy'. BREAD Working Paper No. 026. Cambridge, MA: Bureau for Research in Economic Analysis of Development.

Bauer, P. T. (1981). *Equality, the Third World and Economic Delusion*. London:

Beck, T., G. Clarke, A. Groff, P. Keefer, and P. Walsh. 2001. "New Tools in Comparative Political Economy: The Database of Political Institutions," *The World Bank Economic Review*, Vol. 15, No.1: 165-176.

Benhabib, J., and A. Rustichini (1991). 'Social Conflict, Growth and Income Distribution'. New York: Dept. of Economics, New York University. Processed.

Benjamin, D., L. Brandt, and J. Giles (2004). 'The Dynamics of Inequality and Growth in Rural China: Does Higher Inequality Impede Growth?'. Paper presented at the conference on Inequality in China, October. Ithaca, NJ: Cornell University.

Berg, A., and A. Kruger (2002). 'Trade, Growth and Poverty'. Paper presented at the 2002 Annual Bank Conference on Development Economics. Washington, DC: World Bank.

Bertola, G. (1993). 'Market Structure and Income Distribution in Endogenous Growth Models'. *American Economic Review*, 83 (2): 1184-99.

Bhagwati, J. N. (1958). 'Immiserizing Growth: A Geometric Note'. *Review of Economic Studies*, 25: 205-05.

Bhattacharya, R. (1999). 'Capital Flight under Uncertainty about Domestic Taxation and Trade Liberalization'. *Journal of Development Economics*, 59: 365-87.

Bigsten,A. and A.Shimeles. 2004. "Prospects for 'Pro-Poor' Growth in Africa.", World Institute for Development Economics Research. Research Paper No. 2004/42. United Nations University: Helsinki, Finland

Birdsall, N. (2002). 'A Stormy Day on an Open Field: Asymmetry and Convergence in the Global Economy'. Paper presented at the conference on Globalization, Living Standards and Inequality, 27-8 May. Sydney.

Bjerksund, P., and G. Schjelderup (1995). 'Capital Controls and Capital Flight'. *FinanzArchiv*, 52 (1): 33-42.)

Bourguignon, F. (2002). 'The Growth Elasticity of Poverty Reduction: Explaining Heterogeneity across Countries and Time-Periods'. DELTA Working Paper 2002-03. Paris.

Bourguignon, F. (2004), 'The Poverty-Growth-Inequality Triangle'. Paper presented at the Indian Council for Research on International Economic Relations, New Delhi, 4 February.

Bourguignon, F., and C. Morrison (2002). 'Inequality among World Citizens, 1820- 1992'. *American Economic Review*, 92 (4): 727-44.

Boyce, J. K. (1992). 'The Revolving Door? External Debt and Capital Flight: A Philippine Case Study'. *World Development*, 20 (3): 335-49.

Boyce, J. K., and L. Ndikumana (2001). 'Is Africa a Net Creditor? New Estimates of Capital Flight from Severely Indebted Sub-Saharan African Countries, 1970-1996'. *Journal of Development Studies*, 38 (2): 27-56

Brown, R. (1990). 'Sudan's Other Economy: Migrants' Remittances, Capital Flight and their Policy Implications'. Sub-series on Money, Finance and Development Working Paper 31. The Hague: Institute of Social Studies.

Burnside, C. and D. Dollar. 1997. "Aid, Policies, and Growth," World Bank Policy Research Working Paper Series, No. 1777, World Bank: Washington, DC. Cambridge University Press. Cambridge

Chang, P. H. K., and R. E. Cumby (1991). 'Capital Flight in Sub-Saharan African Countries', in I. Husain and J. M. Underwood (eds), *African External Finance in the 1990s*. Washington, DC: World Bank, 162-85.

Chen, S., and M. Ravallion (2004). 'How Have the World's Poorest Fared since the Early 1980s?'. Washington, DC: Development Research Group, World Bank.

Chenery, H., M. Ahluwahlia, C. Bell, J. Duloy, and R. Jolly. 1974. *Redistribution with Growth*. Oxford University Press: London, UK.

Chong, A. and M. Gradstein. 2004. "Inequality and Institutions," Research Department Working Paper No. 506, Inter-American Development Bank: New York, NY.

Christiaensen,L., L.Demery, and S.Paternostro. 2003. "Macro and Micro Perspectives of Growth and Poverty in Africa." *The World Bank Economic Review*. 17:317-347.

Claessens, S., and D. Naudé (1993). 'Recent Estimates of Capital Flight'. Policy Research Working Papers, WPS 1186. Washington, DC: World Bank.

Cline, W. R. (2004). *Trade Policy and Global Poverty*. Washington, DC: Center for Global Development Institute for International Economics.

Collier, P., A. Hoeffler, and C. Pattillo (2001). 'Flight Capital as a Portfolio Choice'. *World Bank Economic Review*, 15 (1): 55-80.

Cord,L., J.H.Lopez, and J.Page. 2003. "When I Use a Word-- -Pro-Poor Growth and Poverty Reduction." World Bank: Washington, DC.

Cornia, A. G. (ed.) (2004). *Inequality, Growth, and Poverty in an Era of Liberalization and Globalization*. Oxford: Oxford University Press for UNU- WIDER.

Cornia, A. G. (2000). 'Inequality and Poverty in the Era of Liberalization and Globalization'. Paper presented at the G-24 Technical Group Meeting, 1 March 2000, Lima.

Cuddington, J. T. (1986). 'Capital Flight, Issues and Explanations'. *Princeton Studies in International Finance*, 58. Princeton, NJ: Princeton University.

Cuddington, J. T. (1987). 'Macroeconomic Determinants of Capital Flight: An Econometric Investigation', in D. R. Lessard and J. Williamson (eds), *Capital Flight and Third World Debt*. Washington, DC: Institute for International Economics, 85- 96.

Culpeper, R. (2002). 'Approaches to Globalization and Inequality within the International System'. Paper prepared for UNRISD Project on Improving Knowledge on Social Development in International Organization, September.

Cumby, R., and R. Levich (1987). 'Definitions and Magnitudes: On the Definition and Magnitude of Recent Capital Flight', in D. R. Lessard, and J. Williamson (eds), *Capital Flight and Third World Debt*,. Washington, DC: Institute for International Economics, 27-67.

Deacon, R. 2003. "Dictatorship, Democracy, and the Provision of Public Goods," Departmental Working Paper, Department of Economics, University of California, Santa Barbara.

Deaton, A. (2001). 'Counting the World's Poor: Problems and Possible Solutions'.

Deaton, A. (2002). 'Is World Poverty Falling'. *Finance and Development*, 39 (2): 4-7.

Deininger, K., and L. Squire (1996). A New Data Set Measuring Income Inequality'.

Deppler, M., and M. Williamson (1987). 'Capital Flight: Concepts, Measurement, and Issues'. *Staff Papers for the World Economic Outlook*. Washington, DC: International Monetary Fund, 39-58.

DFID (2004), 'What is Pro-Poor Growth and Why Do We Need to Know?'. Pro-Poor Growth Briefing Note No.1. London: DFID.

Diwan, I. (1989). 'Foreign Debt, Crowding Out, and Capital Flight'. *Journal of International Money and Finance*, 8 (1): 121-36

Dollar, D. (1992). 'Outward-Oriented Developing Economies Really Grow More Rapidly: Evidence from 95 LDCs, 1976-85'. *Economic Development and Cultural Change*, 40 (3): 523-44.

Dollar, D. (2002). 'Global Economic Integration and Global Inequality'. Paper presented at the conference Globalization, Living Standards and Inequality, 27-8 May. Sydney.

Dollar, D., and A. Kraay (2001a). 'Growth is Good for the Poor'. WB Policy Research Working Paper. Washington, DC: World Bank.

Dollar, D., and A. Kraay (2001b). 'Trade, Growth and Poverty'. Washington, DC: Development Research Group, World Bank.

Dollar,D. and A.Kraay. 2000. "Growth is Good for the Poor." Macroeconomics and Growth Working Paper No. 2587. World Bank: Washington, DC.

Dooley, M. P. (1986). 'Country-specific Risk Premiums, Capital Flight, and Net Investment Income Payments in Selected Developing Countries'. Washington, DC: IMF. Unpublished manuscript.

Dooley, M. P. (1988). 'Capital Flight: A Response to Differences in Risk'. *International Monetary Fund Staff Papers*, 35: 422-36.

Dooley, M. P., and K. M. Kletzer (1994). 'Capital Flight, External Debt and Domestic Policies'. NBER Working Paper 4793. Cambridge MA: National Bureau of Economic Research.

Dooley, Michael P. (1986) "Country Specific Risk Premiums, Capital Flight, and Net

Dooley, Michael P. (1988) "Capital Flight: A Response to Differences in Financial Risks," IMF Staff Papers, 422-436.

Dornbusch, R., S. Fisher, and P. Samuelson (1977). 'Comparative Advantage, Trade and Payment in a Ricardian Model with a Continuum of Goods'. *American Economic Review*, 67: 829-39

Dornbusch, Rudiger (1984) "External Debt, Budget Deficits and Disequilibrium Exchange Rates," NBER Working Paper no. 1336.

Dornbusch, Rudiger, et. al. (1983) "The Black Market for Dollars in Brazil," Quarterly

Dowrick, S., and J. B. DeLong (2001). 'Globalization and Convergence'. Paper presented at the NBER Conference in Historical Perspective, May 4-5. Cambridge, MA: National Bureau of Economic Research

Easterly, W. and R. Levine. 1997. "Africa's Growth Tragedy: Politics and Ethnic Divisions," *Quarterly Journal of Economics*, Vol. 112: 1230-1250.

Easterly, W. (2003). 'A Tale of Two Kuznets Curves: Inequality in the Old and New Globalizations'. Paper presented at the NBER Pre-Conference on Globalization and Inequality, 24-5 October. Cambridge, MA: National Bureau of Economic Research.
Easterly, W. (2004). 'Channels from Globalization to Inequality: Productivity World vs Factor World'. Paper presented at the Brookings Trade Forum, on Globalization, Poverty and Inequality, 13-14 May. Washington, DC.

Easterly, W., R. Levine, and D. Roodman. 2003. "New Data, New Doubts: A Comment on Burnside and Dollar's 'Aid, Policies and Growth' (2000)." National Bureau of

Eaton, J. (1987). 'Public Debt Guarantees and Private Capital Flight'. *The World Bank Economic Review*, 1 (3): 377-95.

Eaton, J., and M. Gersovitz (1989). 'Country Risk and the Organization of the International Capital Transfer', in G. Calvo, R. Findlay, P. J. K. Kouri, and J. Braga de Macedo (eds), *Debt Stabilization and Development: Essays in Memory of Carlos Diaz-Alejandro*. Oxford: Blackwell, 109-29.

Economic Research (NBER) Working Paper No.9846: Cambridge, MA.

eds. D.R. Lessard and J. Williamson. Washington DC: Institute for International Economics.

Eggerstedt, H., R. Brideau Hall, and S. van Wijnbergen (1995). 'Measuring Capital Flight: A Case Study of Mexico'. *World Development*, 23 (2): 211-32.

Erbe, S. (1985). 'The Flight of Capital from Developing Countries'. *Intereconomics*, 20: 268-75.

Faini, R. (2001). 'Development, Trade and Migration'. Paper prepared for the ABCDE-Europe Conference, July.
Financial Times (2002). 26 February.

Foster, J., and M. Szekely (2000). 'How Good Is Growth?'. *Asian Development Review*, 18 (2): 59-73.

Frankel, J., and D. Romer (1999). 'Does Trade Cause Growth?'. *American Economic Review*, 89 (3): 379-99.

Freedom House. 2003. "Freedom in the World 2003 Survey Methodology." http://www.freedomhouse.org/research/freeworld/2003/methodology.htm

Fry, M. J. (1993). 'Foreign Debt Accumulation: Financial and Fiscal Effects and Monetary Policy Reactions of Developing Countries'. *Journal of International Money and Finance*, 12 (4): 347-67.

Galbraith, J. K., and H. Kum (2002). 'Inequality and Economic Growth: Data Comparisons and Econometric Tests'. Inequality Project Working Paper 21. Dallas: The University of Texas.

Gallup, J., J. Sachs, and A. Mellinger. 1998. "Geography and Economic Development," Presented at the Annual Bank Conference on Development Economics, World Bank: Washington, DC.

Gibson, Heather D., and Euclid Tskalotos (1993). 'Testing a Flow Model of Capital Flight in Five European Countries'. *The Manchester School*, 61 (2): 144-66.

Goldberg, P. K., and N. Pavcnik (2004). 'Trade, Inequality and Poverty: What Do We Know? Evidence from Recent Trade Liberalization Episodes in Developing Countries'. Paper presented at the Brookings Trade Forum, on Globalization, Poverty and Inequality, 13-14 May. Washington, DC.

Gordon, David B., and Ross Levine (1989). 'The "Problem" of Capital Flight: A Cautionary Note'. *The World Economy*, 12 (2): 237-52.

Gore, C. (2003). 'Globalization, the International Poverty Trap and Chronic Poverty', Paper presented at the Conference on Chronic Poverty, April. Manchester

Graham, C. (2004). 'Globalization and Poverty, Inequality, and Vulnerability: Some Insights from the Economics of Happiness'. Paper presented at the UNU-WIDER project meeting on the Impact of Globalization on the World's Poor, 29-30 October. Helsinki: UNU-WIDER.
Grinspun, A. (2004). 'Pro-Poor Growth: Finding the Holy Grail'. *One Pager*, 6. Brazilia: UNDP International Poverty Centre, January.

Gulati, S. K. (1987). 'A Note on Trade Misinvoicing', in D. R. Lessard, and

Helleiner, G. K. (2001). 'Markets, Politics and Globalization: Can the Global Economy be Civilized?'. *Journal of Human Development*, 2 (1): 27-46.

Henisz, W. J. 2000. "The Institutional Environment for Economic Growth," Economics and Politics, Vol 12, No.1: 1-31.

Henry, L. (1996). 'Capital Flight from Beautiful Places: The Case of Three Caribbean Countries'. *International Review of Applied Economics*, 10 (2): 263-72.

Hermes, N., and R. Lensink (1992). 'The Magnitude and Determinants of Capital Flight: The Case for Six Sub-Saharan African Countries'. *De Economist*, 140 (4): 515-30.

Hermes, N., and R. Lensink (2001). 'Capital Flight and the Uncertainty of Government Policies'. *Economics Letters*, 71 (3): 377-81.

Hermes, N., R. Lensink, and V. Murinde (1999). 'The Magnitude and Determinants of Capital Flight in Eastern Europe', in A. W. Mullineux and C. J. Green (eds), *Economic Performance and Financial Sector Reform in Central and Eastern Europe*. Cheltenham: Edward Elgar, 243-55.

http://www.cidcm.umd.edu/inscr/polity

Huntington, S. 1968. *Political Order in Changing Societies*. Yale University: New Haven, Connecticut.

Hyden,G., J.Court, and K.Mease. 2002. "Making Sense of Governance: The Need to Involve Local Stakeholders." Overseas Development Institute (ODI): London, UK.

Impoverishment in the Marcos Era. London: Macmillan Press.

Investment Income Payments in Selected Developing Countries". IMF unpublished paper.

Ize, Alain, and Guillermo Ortiz (1987). 'Fiscal Rigidities, Public Debt, and Capital Flight'. *International Monetary Fund Staff Papers*, 34 (2): 311-32.

J. Williamson (eds), *Capital Flight and Third World Debt*. Washington, DC: Institute for International Economics, 68-78.

J. Williamson (eds), *Capital Flight and Third World Debt*. Washington, DC: Institute for International Economics, 7-26.

J. Williamson (eds), *Capital Flight and Third World Debt*. Washington. DC: Institute for International Economics, 103-28, Journal of Economics, *Journal of Political Economy*, 106 (5): 997-1032

Kakwani, N. and E. Pernia. 2000. "What is Pro-poor Growth?" *Asian Development Reivew*, Vol. 18, No.1.

Kakwani, N., and E. Pernia (2000). 'What is Pro-Poor Growth?'. *Asian Development Review*, 16 (1): 1-16.

Kakwani, N., B. Prakasah, and H. Son (2000). 'Growth, Inequality, and Poverty: An Introduction'. *Asian Development Review*, 18 (2): 1-21.

Kakwani, N., S. Khandker, and H. H. Son (2004). 'Pro-Poor Growth: Concepts and Measurement with Country Case Studies'. Working Paper 1. Brazilia: UNDP International Poverty Centre, August.

Kaldor, N. (1956). 'Alternative Theories of Distribution'. *Review of Economic Studies*, 23 (2): 83-100.

Kanbur, R. (1998). 'Income Distribution Implications of Globalization and Liberalization in Africa'. Ithaca, NY: Cornell University. Mimeo.

Kant, C. (1996). 'Foreign Direct Investment and Capital Flight'. *Princeton Studies in International Finance*, 80. Princeton, NJ: Princeton University.

Kaplinsky, R. (2002). 'Spreading the Gains from Globalisation: What Can Be Learned From Value Chain Analysis'. IDS Working Paper 110. Sussex: Institute of Development Studies, University of Sussex.

Keefer, P., and S. Knack (2000). 'Polarization, Politics and Property Rights: Links between Inequality and Growth'. Policy Research Working Paper No. 2418. Washington, DC: World Bank.

Keefer,P. 2004. "A Review of the Political Economy of Governance: From Property Rights to Voice," World Bank Policy Research Working Paper No. 3315, The World Bank: Washington, D.C.

Keefer,P. and S.Khemani. 2003. "Democracy, Public Expenditures, and the Poor." World Bank Policy Research Working Paper 3164, World Bank: Washington, DC.

Ketkar, S. L., and K. W. Ketkar (1989). 'Determinants of Capital Flight from Argentina, Brazil, and Mexico'. *Contemporary Policy Issues*, 7 (3): 11-29.

Khan, M. S., and N. Ul Haque (1985). 'Foreign Borrowing and Capital Flight: A Formal Analysis'. *International Monetary Fund Staff Papers*, 32 (4): 606-28.

Kindleberger, C. P. (1987). 'A Historical Perspective,' in D. R. Lessard, and

Kitson, M., and J. Michie (1995). 'Trade and Growth: A Historical Perspective', in J. Michie and J. G. Smith (eds), *Managing the Global Economy*. Oxford and New York: Oxford University Press.

Klasen,S. 2002. "In Search of the Holy Grail: How to Achieve Pro-Poor Growth?" Paper presented at the ABCDE-Europe Conference "Towards Pro-Poor Policies," June 2002: Oslo, Norway.

Kose, M. A., E. S. Prasad, and M. E. Terrones (2004). 'How Do Trade and Financial Integration Affect the Relationship between Growth and Volatility?'. Washington, DC: IMF. Mimeo.

Kozul-Wright, R., and P. Rayment (2004). 'Globalization Reloaded: An UNCTAD Perspective'. UNCTAD Discussion Paper No.167. Geneva: UNCTAD.

Kraay,A. 2004. "When is Growth Pro-Poor? Cross-Country Evidence." World Bank Policy Research Working Paper 3225, World Bank: Washington, DC.

Krugman, P., and A. J. Venables (1995). 'Globalization and the Inequality of Nations'.

Lensink, R., N. Hermes, and V. Murinde (2000). 'Capital Flight and Political Risk'. *The Journal of International Money and Finance*, 19 (1): 73-92.

Lensink, R., N. Hermes, and Victor Murinde (1998). 'The Effect of Financial Capital Flow'

Lessard, D. R., and J. Williamson (eds) (1987). *Capital Flight and Third World Debt*. Washington, DC: Institute for International Economics.

Levine, R., and D. Renelt (1992). 'A Sensitivity Analysis of Cross-Country Growth Regressions'. *American Economic Review*, 82 (4): 942-63.

Li, H., L. Squire, and H. Zou (1998). 'Explaining International and Intertemporal Variations in Income Inequality'. *Economic Journal*, 108 (446): 26-43.

Li,H., L.Squire, and H.-F.Zou. 1998. "Explaining International and Intertemporal Variations in Income Inequality." *The Economic Journal*. 108:26-43.

Liberalization on Capital Flight in African Economies'. *World Development*, 26 (7): 1349-68.

Lipset, S.M. 1954. "Some Social Requisites of Democracy." *American Political Science Review*, 53: 69-105.

Lopez, J. H. (2004). 'Pro-Poor Growth: a Review of What We Know (and of What We Don't)'. Washington, DC: World Bank. Mimeo.

Lopez,J.H. 2004a. "Pro-Poor Growth: a review of what we know (and of what we don't)." World Bank: Washington, DC.

Lopez,J.H. 2004b. "Pro-growth, pro-poor: Is there a tradeoff?" World Bank Policy Research Working Paper 3378, World Bank: Washington, DC.

Lundberg,M. and L.Squire. 2003. "The Simultaneous Evolution of Growth and Inequality." *The Economic Journal*. 113:326-344.

Maizels, A. (1998). 'The Prebish-Singer Hypothesis Revisited', in D. Sapsford and J. Chen (eds), *Development Economics and Policy*. London: Macmillan Press.

Marshall, M. and K. Jaggers. 2002. "Polity IV Project: Political Regime Characteristics and Transitions, 1800-2002, Dataset Users' Manual," Integrated Network for Societal Conflict Research (INSCR) Program, Center for International Development and Conflict Management (CIDCM), University of Maryland, College Park.

McCulloch, N. and B. Baulch. 1999. "Assessing the Poverty Bias of Growth: Methodology and an Application to Andhra Pradesh and Uttar Pradesh," IDS Working Paper No. 98, Institute for Development Studies: Brighton, UK.

Mikkelsen, J. G. (1991). 'An Econometric Investigation of Capital Flight'. *AppliedEconomics*, 23: 73-85.

Milanovic, B. (1999). 'The World Income Distribution, 1988 and 1993: First Calculation based on Household Survey Alone'. WB Policy Research Working Papers 2244. Washington, DC: World Bank.

Milanovic, B. (2002a). The Richardian Vice: Why Sala-i-Martin's Calculations of World Income Are Wrong'. WB Development Group. Washington, DC: World Bank. Mimeo.

Milanovic, B. (2002b). 'Can We Discern the Effect of Globalization on Income Distribution? Evidence from Household Budget Surveys'. WB Policy Research Working Paper 2876. Washington, DC: World Bank.

Milanovic, B. (2003). 'The Two Faces of Globalization: Against Globalization as We Know It'. *World Development*, 31 (4): 667-83.

Milanovic, B. (2004). 'Half a World: Regional Inequality in Five Great Federations'. Washington, DC: World Bank and Carnegie Endowment for International Peace, April.

Millennium Challenge Corporation (MCC): Reducing Poverty through Growth. http://www.mca.gov/index.shtml

Moore, M. 2004. "Revenues, State Formation, and the Quality of Governance in Developing Countries," *International Political Science Review*. Vol. 25, No.3: 297-319.

Moore,M. and J.Putzel. 1999. "Thinking Strategically About Politics and Poverty." *IDS Working Paper No.101*.

Moore,M., J.Leavy, P.Houtzager, and H.White. 1999. "Polity Qualities: How Governance Affects Poverty." IDS Working Paper No. 99, Institute for Development Studies, University of Sussex: Brighton, UK,

Morgan Guaranty (1986). 'LDC Capital Flight'. *World Financial Markets*, 2: 13-6.

Morgan Guaranty (1988). 'LDC Debt Reduction: A Critical Appraisal'. *World Bank, 1994.*

Mulligan,C.B., R.Gil, and X.Sala-i-Martin. 2004. "Do Democracies have Different Public Policies than Non-Democracies?" *Journal of Economic Perspectives*. 18:51-74.

Murinde, V., N. Hermes, and R. Lensink (1996). 'Comparative Aspects of the Magnitude and Determinants of Capital Flight in Six Sub-Saharan African Countries'. *Savings and Development Quarterly Review*, 20 (1): 61-78

Muscatelli, A., and A. H. Hallett (1992). 'How Successfully Do We Measure Capital Flight? Evidence from Five Developing Countries'. *Journal of Development Studies*, 28 (3): 538-56.

Ndikumana, L., and J. K. Boyce (2002). 'Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries'. *World Development*

New Partnership for Africa's Development (NEPAD). http://www.nepad.org/

Ng'eno, N. K. (2000). 'Capital Flight in Kenya', in I. Ajayi and M. S. Khan (eds),*External Debt and Capital Flight in Sub-Saharan Africa.* Washington, DC: The IMFInstitute, 300-21.

Nissanke, M., and H. Stein (2003). 'Financial Globalization and Economic Development: towards an Institutional Foundation'. *Eastern Economic Journal*, 29 (2): 287-308.

Nissanke, M., and B. Ferrarini (2001). 'Debt Dynamics and Contingency Financing: Theoretical Reappraisal of the HIPC Initiative'. UNU-WIDER Discussion Paper 2001/139. Helsinki: UNU-WIDER.

North, D. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge, MA: Cambridge University Press.

Nyoni, T. (2000). 'Capital Flight from Tanzania', in I. Ajayi and M. S. Khan (eds), *External Debt and Capital Flight in Sub-Saharan Africa*. Washington, DC: The IMF Institute, 265-99.

Obstfeld, M., and A. M. Taylor (2001). 'Globalisation and Capital Markets'. Paper presented at the NBER conference, Globalisation in Historical Perspective, 4-5 May, Santa Barbara.

OECD. 2001. "Rising to the Global Challenge: Partnership for Reducing World Poverty," Statement by the DAC High Level Meeting, April 25-26, OECD: Paris, France.

Olopoenia, R. (2000). 'Capital Flight from Uganda', in I. Ajayi and M. S. Khan (eds), *External Debt and Capital Flight in Sub-Saharan Africa*. Washington, DC: The IMF Institute, 238-64.

Osmani, S. (2005). 'Defining Pro-Poor Growth'. *One Pager*, 9. Brazilia: UNDP International Poverty Centre, January.

Ostrom, E. 1990. *Governing the Commons - The Evolution of Institutions for Collective Action.*

Pastor, M. Jr. (1990). 'Capital Flight from Latin America'. *World Development*, 18 (1): 1-18.

Perotti, R. (1996). 'Growth, Income Distribution and Democracy: What the Data Say'. *Journal of Economic Growth*, 1 (June): 149-87.

Persson, T. "Do Political Institutions Shape Economic Policy?" *Econometrica*, Vol. 70, No.3: 883-905.

Persson, T., and G. Tabellini (1994). 'Is Inequality Harmful for Growth'. *American Economic Review*, 84 (3): 600-21.

Prasad, E., K. Rogoff, S. Wei, and M. A. Kose (2003). 'Effects of Financial Globalization on Developing Countries: Some Empirical Evidence'. Available at:

Pray, C. E., J. Huang, D. Ma, and F. Qiao (2003). 'Impact of Bt Cotton in China'.

Quarterly Journal of Economics, 109 (2): 465-90.

Ravallion, M. (2004). 'Competing Concepts of Inequality in the Globalization Debate'. Paper presented at the Brookings Trade Forum, on Globalization, Poverty and Inequality, 13-14 May, Washington, DC.

Ravallion, M. and S. Chen. 2003. "Measuring Pro-Poor Growth," *Economic Letters*, Vol.78: 93-99.

Ravallion, M., and S. Chen (1997). 'What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?'. *The World Bank Economic Review*, 11 (2): 357-82.

Ravallion, M., and S. Chen (2004). 'China's (Uneven) Progress Against Poverty'. Washington, DC: Development Research Group, World Bank. Mimeo.

Ravallion, M. (2002). 'Growth, Inequality and Poverty: Looking Beyond Averages'. Paper presented at World Bank Annual Bank Conference of Development Economics-Europe, June. Oslo.

Ravallion, M. (2004b). 'Pro-Poor Growth: A Primer'. World Bank Policy Research Working Paper 3242. Washington, DC: World Bank.

Ravallion, M. (2004c). 'Defining Pro-Poor Growth: A Response to Kakwani'. *One Pager*, 4. Brazilia: UNDP International Poverty Centre, November.

Razin, A., and E. Sadka (1991). 'Efficient Investment Incentives in the Presence of Capital Flight'. *Journal of International Economics*, 31 (1-2): 171-81.

Reimer, J. J. (2002). 'Estimating the Poverty Impacts of Trade Liberalization'. GTAP (Global Trade Analysis Project) Working Paper 20. West Lafayette: Purdue University.

Rodriguez, F., and D. Rodrik (1999). 'Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence'. NBER Working Paper 7081. Cambridge, MA: National Bureau of Economic Research.

Rodrik, D. (1998b). 'Globalization, Social Conflict and Economic Growth'. *World Economy*, 21 (2): 143-58.

Rodrik, D. (2005). 'Rethinking Growth Strategies'. WIDER Annual Lecture 8. Helsinki: UNU-WIDER

Rodrik, D. (1997). *Has Globalization Gone Too Far?*. Washington, DC: Institute for International Economics.

Rodrik, D. (1998a). 'Why Do More Open Economies Have Bigger Governments?'.

Rodrik, D. (2002). 'Institutions, Integration and Geography: In Search of the Deep Determinants of Economic Growth'. Cambridge: John F. Kennedy School of Government, Harvard University. Mimeo.

Rodrik, D. (2004). 'Getting Institutions Rights'. Cambridge: John F. Kennedy School of Government, Harvard University, April. Mimeo.

Rogoff, K. (2003). 'Globalization and Global Disinflation'. *Federal Reserve Bank of Kansas City Economic Review*, Fourth Quarter: 45-79.

Sachs, J. D., and A. Warner (1995). 'Economic Reform and the Process of Global Integration'. *Brookings Papers on Economic Activity*, 1.

Sala-i-Martin, X. (2002). 'The World Distribution of Income (Estimated from Individual Country Distributions)'. NBER Working Paper 8933. Cambridge, MA: National Bureau of Economic Research.

Samuelson, P. (2004). 'Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization'. *Journal of Economic Perspectives*, 18 (3): 135-46.

Sanchez, O. (2003). 'Globalization as a Development Strategy in Latin America?'.

Sheets, N. (1995). 'Capital Flight from the Countries in Transition: Some Theory and Empirical Evidence'. International Finance Discussion Papers, 514. Washington, DC: Board of Governors of the Federal Reserve System.

Sindzingre, A. (2004). 'Explaining Threshold Effects on Globalization on Poverty: An Institutional Perspective'. Paper presented at the UNU-WIDER workshop on the Impact of Globalization on the World's Poor, October, Helsinki.

Tanzi, V. (2001). 'Globalization and the Work of Fiscal Termites'. *Finance and Development*, 38 (1): 34-7.

The World Bank Research Observer, 16 (2): 125-47.

Thorbecke, E., and C. Charumilind (2002). 'Economic Inequality and Its Socioeconomic Impact'. *World Development*, 30 (9): 1477-95.

Thorbecke, E., and H. Wan (2004). 'Revisiting East and South East Asia's Development Model'. Ithaca, NJ: Department of Economics, Cornell University. Mimeo.

Thorbecke, E. (2004). 'Conceptual and Measurement Issues in Poverty Analysis'. WIDER Discussion Paper DP2004/04. Helsinki: UNU-WIDER.

Tornell, A., and A. Velasco (1992). 'The Tragedy of the Commons and Economic Growth: Why Does Capital Flow from Poor to Rich Countries?'. *Journal of Political Economy*, 100 (6): 1208-31.

UNCTAD (2004). *Economic Development in Africa: Trade Performance and Commodity Dependence*. New York: United Nations, and Geneva: UNCTAD.

UNCTAD (2002). *The Least Developed Countries Report 2002*. New York: United Nations, and Geneva: UNCTAD.

United Nations Development Program (UNDP). 2004. *Human Development Report 2004: Cultural Liberty in Today's Diverse World*. UNDP: New York, NY.

United Nations Development Program (UNDP). 1997. "Governance for Sustainable Human Development - A UNDP Policy Document". UNDP: New York, NY.

United Nations. 2000. *A Better World for All*. United Nations: New York, NY.

Varman, Benu (1989) "Capital Flight - A Critique of Concepts and Measures including

Varman, Benu (1993) "Capital Flight as a Response to Economic and Political Instability:

Varman, Benu and Wolfgang Schneider (1989) "Measuring Capital Flight: A Time

Varying Regression Analysis, Universitat Kiel Discussion Paper No. 82/89, December.

Vos, R. (1992). 'Private Foreign Asset Accumulation, Not Just Capital Flight: Evidence from the Philippines'. *Journal of Development Studies*, 28 (3): 500-37.

Wade, R. H. (2002). 'Globalization, Poverty and Income Distribution: Does Liberal Argument Hold?'. Paper presented at the conference Globalization, Living Standards and Inequality, 27-28 May. Sydney.

Wade, R. H. (2003). 'What Strategies Are Viable for Developing Countries Today? The World Trade Organization and the Shrinking of 'Developing Space'. *Review of International Political Economy*, 10 (4): 622-44.

Walter, I. (1987). 'The Mechanisms of Capital Flight', in D. R. Lessard, and

Weidenfeld and Nicolson.

Williamson, J. G. (2002). 'Winners and Losers over Two Centuries of Globalization'. WIDER Annual Lecture 6. Helsinki: UNU-WIDER.

Winters, L. A., N. McCulloch, and A. McKay (2004). 'Trade Liberalization and Poverty: The Evidence So Far'. *Journal of Economic Literature*, XVII (March):.72-115.

Wolfensohn, J. and F. Bourguignon. 2004. "Development and Poverty Reduction - Looking Back, Looking Ahead," Paper Prepared for the 2004 Meetings of the World Bank and IMF, October 2004: Washington, DC.

Wood, A. (1999). 'Openness and Wage Inequality in Developing Countries: the Latin American Challenge to East Asian Conventional Wisdom', in R. Baldwin, D. Cohen, A. Sapir and A. Venables (eds), *Market Integration, Regionalism and the Global Economy*. Cambridge: Cambridge University Press.

World Bank (2000). *World Bank Report 2001/2: Attacking Poverty*. New York: Oxford University Press for the World Bank.

World Bank (2002). *"Globalization. Growth and Poverty"*. A World Bank Research Report. New York: Oxford University Press for the World Bank.

World Bank (1985). *World Development Report 1985*. Washington, DC: World Bank.

World Bank (2002). *World Development Indicators*. Washington, DC: World Bank. Zedillo, E. (1987). 'Mexico,' in D. R. Lessard, and J. Williamson (eds), *Capital Flightand Third World Debt*. Washington, DC: Institute for International Economics, 174-85.

World Bank . 1998. *Assessing Aid: What Works, What Doesn't and Why*. World Bank: Washington, DC.

World Bank Economic Review, 10 (3): 565-91.

World Bank. 2001. *World Development Report 2000/2001*. Oxford University Press: New York, NY.

World Development Report, 2000,2001,2002,2003,2004,2005,2006, World Bank, New York.

World Development, 29 (5): 813-25.

World Development, 31 (12):1977-95.

www. IMF.org.

Zedillo, Ernesto (1987) "Case Study: Mexico," in *Capital Flight and Third World Debt*,

Zhang, X. 2004. Security Is Like Oxygen: Evidence From Uganda. DSGD Discussion Paper No. 6. IFPRI. Washington, DC.

INDEX