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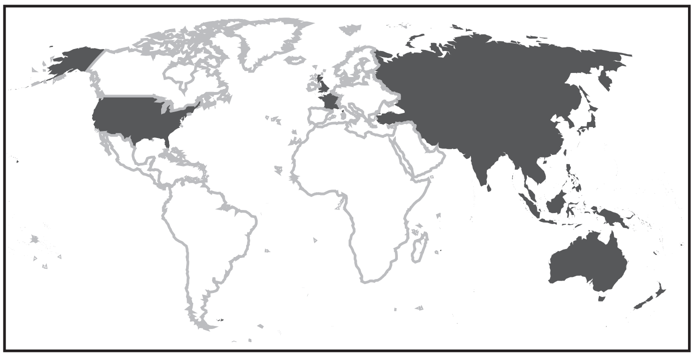

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The *Asia-Pacific Development Journal* is published twice a year by the Economic and Social Commission for Asia and the Pacific.

Its primary objective is to provide a medium for the exchange of knowledge, experience, ideas, information and data on all aspects of economic and social development in the Asian and Pacific region. The emphasis of the *Journal* is on the publication of empirically based, policy-oriented articles in the areas of poverty alleviation, emerging social issues and managing globalization.

The *Journal* welcomes original articles analysing issues and problems relevant to the region from the above perspective. The articles should have a strong emphasis on the policy implications flowing from the analysis. Analytical book reviews will also be considered for publication.

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A Note from the Editor

There are five papers in this issue, drawn from a diverse range of subjects. The first paper explores the very topical issue of the establishment of an East Asian Economic Community. There are three papers on India. Under this cluster, the first one looks at the extent of financial market integration in the wake of 1991 economic reforms. The second paper explores the interdependence of growth among Indian states. The third paper probes into the role of individual enterprise in recent Indian economic development. The last paper in this issue addresses some of the emerging health concerns in the region.

The first paper, "Is there a case for an East Asian Economic Community", looks at the long-discussed idea of forging greater economic cooperation and integration among the 10 members of the ASEAN Free Trade Area (AFTA) and three north-eastern countries, namely China, Japan and the Republic of Korea.[1] Together with subsidiary institutions relating to security and other regional concerns, the community would be expected to develop into a large trading bloc at par with other trading blocs found elsewhere. The main impetus for moving towards the creation of an East Asian Economic Community seems to have come from a desire to increase mutual trade. The recent proliferation of all sorts of trading agreements also seems to have influenced the move towards the formation of an East Asian Economic Community. The paper offers a menu of different propositions concerning the hypothetical East Asian Community and draws attention to some of the likely problems and difficulties. The author points out that the large volume of intra-trade in the Community could sustain such an arrangement. Intra-AFTA exports, for instance, doubled in value, from US$ 44 billion to $98 billion, between 1993 and 2000. The proposed community, with roughly a third of the world population and a combined GDP of over $7 trillion at market prices, could rival the European Union and the North American Free Trade Association in several respects. With a surging China and a rebounding Japan, East Asia's share in world trade is rapidly rising. Foreign direct investment remains robust, and GDP per capita is increasing sharply. The core of the community could be patterned along a preferential trade area, such as the Common Market, but without a common external tariff regime. An economically and politically cohesive East Asia could also be attractive to the United States of America and the European Union, which might find it easier to deal with a single entity rather than contract and re-contract on trade issues with 13 different countries. However, the author cautions that there are several areas of concerns that would need further attention before firm conclusions could be drawn. One is the historical openness of East Asia to global trade and investments flows, in particular, its extensive trade with the United States of America and the European Union. The possibility of trade

[1] Australia also joined the first meeting of the East Asian Economic Community, convened by Malaysia in December 2005.

diversion cannot be entirely ruled out. On balance, the paper concludes that it would be worthwhile to pursue the possibility of forming an East Asian Economic Community.

The three papers on India examine issues related to its financial market integration, the interdependence of growth among states and the role of individual enterprise in its recent economic development. The paper, "Financial market integration in India", looks at possibilities for maximizing the benefits of growing capital inflows into India's domestic financial markets, particularly short-term capital flows. The growing integration of the global financial markets provides the backdrop for the paper's focus on Indian markets. With the liberalization of trade and financial markets, there has been a corresponding globalization of investment resources, seeking out markets and instruments for higher returns. Increased openness to financial flows provides opportunities for both diversification as well as financial deepening. A greater number of countries can secure access to global financial markets to meet their investment needs. However, openness to international financial markets does have its risks, most in the form of abrupt withdrawal of capital from the recipient country. India joined a growing number of countries in liberalizing its financial markets during the 1990s. Financial liberalization in India seems to have been designed to improve the productivity and efficiency of the economy as a whole and to make the economy more internationally competitive. The liberalization process included a whole range of reform measures with the important objective of developing an integrated financial market where arbitration opportunities could be reduced and the impact of monetary policy enhanced. Using a multiple co-integration model, the paper uses data on call money rates, 91-day Treasury Bill rates, Indian rupee/United States dollar exchange rates, and LIBOR for the post-1991 reform period to test for integration of domestic call money market with LIBOR. Three broad findings are presented in the paper. Firstly, the domestic call money market is strongly integrated with LIBOR. Secondly, there is a long-term co-movement between domestic foreign exchange market and LIBOR, although it is not robust. Thirdly, the government securities market is yet to be integrated with the international market. The authors issue the usual caution in interpreting their empirical results as there are difficulties both with the statistical techniques employed as well as the small sample size. Bearing that in mind, one could make the case for further integration of the financial markets both within India and with the rest of the world as there are significant benefits that can still be realized through such integration.

The second paper on India, "Growth interdependence among Indian states", revisits the issue of economic growth and its trickle-down effects. Earlier writings in development economics postulated that economic growth would, by itself, lead to trickle-down effects, obviating the need for any redistribution polices. As a variation of this line of development thinking, geographically contiguous states or regions, placed "horizontally" across a nation state, could be expected to benefit from each other's growth impulses. Based on that expectation, balanced development has long been a policy objective in India. Such an objective can be achieved by harnessing multiple linkages that potentially exist between a set of states/provinces operating within an overall economic, political and regulatory framework. These linkages can manifest themselves in the form of input-output linkages, production-consumption linkages and savings-investment linkages. A high-growth state would therefore stimulate the growth in a neighbouring state. But subsequent evidence, both from cross-country and time series analyses, showed that growth was necessary but not sufficient to achieve economic growth as well as socially desirable goals, such as poverty eradication. In other words, top-to-bottom trickle-down effects of economic growth were in no way guaranteed. Several studies also cast doubt on the existence of spillover effects across regions. This paper looks at spillover effects of economic growth across states in India. Using data from 1971 to 1998, and employing standard statistical test of causality, the authors find limited transmission of growth impulses across Indian states. The paper finds that the structure of state economies, their growth rates, and the quality of institutions operating in those states critically determine the extent of trickle-down effects (i.e., spillover effects). These findings easily lend themselves to policy implications. While it may not be very easy to change the structure of a state economy in the short-term, measures can be taken to boost economic growth and improve the functioning of state institutions. Measures can also be taken to exploit the inter-state linkages in production, consumption and investment, thereby enhancing the possibilities for greater spillover effects of economic growth.

The third paper in this cluster, "Economic development in India: the role of individual enterprise (and entrepreneurial spirit)", suggests that recent market reforms in India aimed at encouraging individual enterprise have contributed to its higher economic growth. The authors chose India as a case study as it offered a contrast between how individual entrepreneurs reacted when they moved from a government-controlled investment environment to a market-based environment. The authors revisit some of the old issues in development economics which, one would have thought, were well settled in the light of recent development experiences. The authors also seem to use the roles of the state and the government interchangeably, although a distinction between those two roles would have added clarity to their analyses. In the case of India, a democratic country from its very inception, equating the role of state with that of government is a bit confusing. However, the authors do provide a useful though widely documented view of the economic policies pursued by India in recent decades. From this review, they try to distill the role of individual entrepreneurship and come to the conclusion that enhanced entrepreneurial activity could generate additional growth for India. For this to happen, India would need to create opportunities in several areas, including education directed specifically at creating entrepreneurial skills, financing entrepreneurship and networking among potential entrepreneurs and their more experienced counterparts. The authors also suggest that the Government of India should minimize its overall role in the economy so that the potential of the free market can be fully harnessed for individual enterprises to flourish.

The last paper in this issue is on health. The paper entitled, "Emerging health issues in Asia and the Pacific: implications for public health policy", promises little but delivers a lot. Based entirely on a single source for data and information, i.e., the *World Health Report 2004* by WHO, the paper raises a wide range of health-related issues from prevailing communicable and non-communicable diseases to issues related to health-care personnel, infrastructure, financial resources, and health systems. It is a broad sweep, complicated by the fact that the Asian and Pacific region is as diverse in its health-care systems as it is in terms of economic development and the severity of diseases in a specific country. A further complication is that different income groups would need access to different types of health-care systems, not just across countries but also within a specific country. The author faces these issues quite boldly and provides a menu of health policy options which, on the whole, would appear to be useful for a range of countries for selected health-related challenges. The proposal for a dual track-approach to health intervention is interesting. The paper advocates a greater role for the private sector, although it should be remembered that this role needs continuous monitoring, keeping in view both the needs of the specific groups of patients and the stage of economic development of a particular country. The paper also provides a good summary of the different kinds of diseases and the associated consequences currently confronting the region.

This issue of the *Asia-Pacific Development Journal* ends with a book review. The review is on the second of the two publications dealing with the Millennium Development Goals (MDGs) since 2003, entitled *A Future Within Reach: Reshaping institutions in a region of disparities to meet the Millennium Development Goals in Asia and the Pacific*. This brief review is rather descriptive and fails to convey the richness of the publication. Published by ESCAP, UNDP and ADB in 2005, the report provides an excellent empirical analysis of the progress of Asian and Pacific countries in achieving the MDGs. Using a classification scheme that categorizes countries into four groups according to the progress made so far and the probability of reaching each of the selected targets, the publication makes a valuable contribution for the policymakers in designing and implementing appropriate policy responses in reaching the MDG targets by 2015. The report finds that the region has made a significant overall progress in reducing poverty. The region is also well on its way to halving poverty by 2015. It has made good progress in achieving gender parity in primary and secondary school enrolment rates. However, very grave challenges remain in the areas of reducing maternal mortality and child mortality rates, combating HIV/AIDS and other communicable diseases, and ensuring environmental security. In terms of policy response, the report argues for strengthening and scaling up institutions, particularly those engaged in the delivery of service to the poor and other disadvantaged groups of the society. The report ends with some innovative recommendations for regional cooperation with a view to achieving the MDGs by 2015.

Shamika Sirimanne

IS THERE A CASE FOR AN EAST ASIAN ECONOMIC COMMUNITY?

*Jaleel Ahmad**

The paper undertakes a preliminary economic analysis of the recently proposed East Asian Economic Community. The proposal envisages that the core of the Economic Community would include the ten member countries of the ASEAN free trade area (AFTA) and the three North-East Asian economies, namely, Japan, Korea, and China. The Community is also expected to include subsidiary institutions relating to security and other regional concerns. A major motivation behind the proposal seems to be not only to increase mutual trade but also to construct a regional group of its own in a trading world increasingly dominated by large economic entities. The large volume of intra-trade in the Community can certainly sustain a free trade area. Currently, the region is in the grip of a trading agreement frenzy which can be curbed only by moving rapidly toward a unified trading community. The region's substantial two-way trade with the West, however, raises some concerns about trade diversion but they do not seem insurmountable.

At the end of 2003, there were over 100 active preferential trading areas (PTAs) in different parts of the world that covered a significant proportion of world trade. Today, their coverage and scope is far greater than at any time in the history of world trade, and is likely to increase as many more of such arrangements are contemplated. But in Asia, the largest of the continents with three-fourths of the world's population, there is only one fledgling PTA, the ASEAN Free Trade Area (AFTA) between the ten member states of the Association of South-East Asian Nations (ASEAN). The AFTA was created by an "enabling" clause of the WTO and, accordingly, had no liberalization targets or a negotiating strategy. Nevertheless, AFTA has made some halting progress in trade liberalization between its member

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countries. Intra-AFTA exports doubled in value between 1993 and 2000 from US$ 44 billion to US$ 98 billion, although the proportion of this increase that can be ascribed to AFTA tariff liberalization is rather small. AFTA coexists with a number of *bilateral* trading arrangements either already in existence or in the process of being negotiated between countries of the East Asian region, as well as with countries outside the region. Paradoxically, the proliferation of bilateral arrangements constitutes a major bottleneck toward the emergence of a unified East Asia – wide economic union, as we discuss later in this paper.

It seems that the situation could change in the not too distant future if the recent ASEAN proposal for the creation of an enlarged and consolidated trading space in East Asia begins to take concrete shape. There appears to be a gathering momentum toward the creation of what is dubbed, in its preliminary version, the East Asian Economic Community. The recent ASEAN meeting held in Tokyo in 2004 has emphasized the creation of the East Asian Economic Community as the official agenda for the region.

The community is envisaged to include, in addition to the 10 ASEAN countries, the three "powerhouse" economies of North-East Asia, namely, Japan, China and Republic of Korea. China has already signed in December 2004 an accord for trade liberalization with the 10-member ASEAN, and Japan is negotiating free trade agreements with individual members of the AFTA. The Community could also include Australia and New Zealand as the idea begins to take shape. The designation of the Community appears to be a rebottling of what has been known for some time in the literature as ASEAN + 3. But there are some novel elements in the preliminary blueprint. Its distinguishing feature is the sharp new image of Asia's future economic direction as a unified trading entity. The current proposal clearly reflects a growing trend toward a multi-polar configuration of world trade within the broader framework of the World Trade Organization (WTO).

This paper makes a preliminary analysis of the economic factors and their policy implications, especially those that have a bearing on the viability of the proposed economic community, as well as the risks that it faces. A brief description of some aspects of the Community is given in section I. East Asia's current trading patterns are also described in Section II, while section III discusses the salient features of East Asia's *intra-regional* trade. Section IV draws attention to the proliferation of bilateral trading arrangements in the region. Questions concerning the relevance of the model of the European Union (EU) to the East Asian Community, as claimed in the ASEAN proclamation, are raised in section V. Section VI contains some concluding comments.

I. THE PROPOSED COMMUNITY

The East Asian Economic Community, excluding Australia and New Zealand, would have a population of over two billion, roughly a third of the world's population, and a combined GDP of a little over US$ 7 trillion at market prices, roughly one-fifth of the world's GDP. Largely as a result of aggregation of a few large and rich economies with some very small and poor ones, the proposed community exhibits vast disparities in per capita incomes, ranging from a high of US$ 32,580 in Japan to a low of US$ 350 (according to one estimate) in Myanmar. The Community would rival the European Union (EU) and the North American Free Trade Association (NAFTA) in several aspects. East Asia's share in world trade in 2001 was estimated by the IMF to be 18.7 per cent, compared to NAFTA's 19 per cent, and that of the European Union (of 15 countries) as 34.3 per cent (Zebrege, 2004). The East Asian region is at present the most dynamic part of the world economy and its share in world trade is likely to increase much faster than that of NAFTA or the EU. Over the period 1985-2000, the share of exports going to other East Asian countries rose by over 11 percentage points from 23.7 to 35 per cent of the total, according to data contained in ICSEAD (2004).

II. EAST ASIA'S TRADING PATTERN

East Asia's intra-regional trade has grown at an annual rate of 16.4 per cent between 1975 and 2001 while, by comparison, intra-NAFTA trade grew at a more modest 9.9 per cent per year (Ng and Yeats, 2003). It is inevitable that in a region as disparate as East Asia there would be significant differences in the size of intra-regional trade flows of different countries. During the period 1985-2001, the share of the current five largest countries in intra-regional trade rose by almost 10 percentage points, accounted for largely by the rising share of China and the Republic of Korea, while that of Japan remained constant. At the other end of the spectrum, the five smallest regional exporters, namely Brunei Darussalam, Cambodia, Lao People's Democratic Republic, Mongolia and Viet Nam have a combined share of under 2 per cent. (ICSEAD, 2004)

All countries in the proposed community are, with the exception of a few, fairly transparent economies with largely democratic traditions, and open to trade and foreign investment. The intra-regional trade between members of the community is already close to 50 to 60 per cent of their total trade, which compares well with the current figure of 70 per cent in the European Union. The individual countries in the Community also trade extensively with the rest of the world, in particular with the United States and the European Union. Indeed, their strong trading relations with the rest of the world raise concerns about possible trade diversion following the formation of the Community, which need to be carefully assessed.

The East Asian Economic Community is an alluring prospect, although its contours and methods of realization remain far from clear. Nonetheless, most observers believe that a preferential trade area, similar to the Common Market in the EU but without a common external tariff, would almost certainly form the central core of the Economic Community, around which other subsidiary institutions may be built under the rubric of "regional cooperation." The latter is expected to include mutual security (which was the original purpose behind ASEAN), joint action against piracy on the sea, drug trafficking, transportation networks, diffusion of information technology, and the resolution of regional conflicts. It is clear that the emergence of China as a major trading entity has fundamentally changed the equation, greatly enlarging the appeal of a formal, treaty-based regional trading arrangement, since every country in the region has an eye on the large and lucrative market of over a billion people whose incomes are rapidly growing.

III. EAST ASIA'S INTRA-REGIONAL TRADE

Until recently, most Asian policymakers were skeptical about the feasibility of an East Asian trading community, in part because of anticipated opposition from the United States, but largely due to the fixation of East Asia on exporting to the West. The reasons for the shift toward the desirability of an economic community are varied and complex. But the most obvious is the region's growing intra-regional trade and the resulting interdependence between countries – a fact that has greatly enlarged the realm of possibilities. Two-way trade between China and ASEAN alone is growing at a rate of 20 per cent per annum even before the two parties entered into new tariff cuts agreed last year.

Largely as a result of its prowess in trade, the region has also become a magnet for foreign direct investment (FDI), both from within the region as well as from outside. Intra-regional FDI in 2001 soared to $70 billion in 1997, a 20-fold increase from about $4 billion in 1985 (Bonapace, 2005). The unprecedented rise in the level of FDI flows from outside the region has gravitated mostly to China because of its above-average growth prospects. Growing mutual trade has increased the prospects for economic growth in the region which has become a magnet for FDI from within as well as from outside the region. Capital movements in the contemporary world economy have acquired a decidedly "regional" character. Witness the surge in FDI in the East European countries (notably Poland) in the wake of their membership in the European Union.

Nevertheless, most observers believe that the East Asian region's intra-regional trade, though substantial, is still short of its full potential, when compared with that in the EU and NAFTA, and could increase further with a free trade area in place. This generalization is based on the existence of considerable overlap and duplication in production activities across the region. It should be pointed out, however, that arguments that rely on magnitudes of current trade are deceptive. They have two parallel interpretations. Large volumes of existing trade may signify a low potential for expansion, but at the same time may also signify the preconditions for future expansion. By the same token, low volumes of current trade can serve as a powerful argument for enlarging it, while in less favorable circumstances may suggest the opposite.

What is noteworthy about the surge in intra-regional trade in the East Asian region, is its self-propelling character, having been fostered by spontaneous market forces and being remarkably free of policy initiatives, such as mutual tariff preferences. In this respect, the East Asian Community has perhaps a more enviable record than that of the EU itself where tariff discrimination has been the hallmark of integration for the past fifty years. In fact, the spontaneous character of the growth of intra- regional trade in East Asia has prompted many observers to question the need for trade preferences. Nonetheless, the swapping of trade preferences among member countries, as envisaged in the proposal for an economic community, holds the promise of a continuing increase in intra-regional trade, especially if the three North-East Asian economies are brought on board. The swapping of trade preferences are perhaps a powerful antidote to protectionist tendencies which are all too common. Another major reason for moving ahead with the formation of the Community is the search for a credible mechanism for dealing with non-tariff barriers which hamper trade in the region to a greater extent than existing tariffs. The removal of non-tariff barriers can perhaps be undertaken on a unilateral basis, but an economic union provides a more cohesive environment. Moreover, inspired by the experience of the EU, trade preferences have come to be seen as a strategic symbol of economic cooperation, even though they frequently give rise to economic losses from trade diversion.

A major World Bank study of East Asia's trade (Ng and Yeats, 2003) concludes that *intra-regional trade* in East Asia has been growing since the early 1990s at a rate roughly double that of world trade and is higher than the corresponding figures for intra-regional trade of NAFTA and the EU. As noted by the authors (p. 37), East Asia's intra-regional trade is dominated by 30 four-digit Standard International Trade Classification (SITC) products that accounted for over one half of this trade in 2001. Within this group, electronic products are of major importance, as are several SITC categories that are components of manufactured products. The latter phenomenon reflects the rapid expansion of "production sharing" operations, or "vertical integration" in which various stages of the manufacturing process are undertaken in different geographical locations.

The World Bank study underscores the fact that the recent surge in mutual trade is due almost exclusively to the above-average growth of *intra-industry trade,* or trade within similar industry categories, which has witnessed unprecedented growth for at least a decade. Based on the data contained in Ng and Yeats (2003), the proportion of intra-industry trade within the proposed community lies between 70 to 80 per cent of total trade. This proportion is in fact higher than in the EU, and close to the average figure for trade between the United States and Canada in NAFTA, two countries known for highly integrated manufacturing industries. A high proportion of intra-industry trade in total trade is widely believed to be a positive indicator of the potential for a trading community (Feenstra, 1998).

AFTA, the first ever attempt at regional trading in East Asia, was established under the less stringent "enabling" clause of the WTO, which exempted it from adherence to the Article 24 requirement that a preferential trading area (PTA) should result in the liberalization of the bulk of intra-trade to qualify for an exemption from Article 1 of the WTO. Accordingly, AFTA came into being without any concrete liberalization targets or a negotiating strategy. The implementation of mutual trade concessions was based largely on voluntary commitments on an *ad hoc* basis. As a result, the process of tariff cuts has largely been *spotty and fitful*, and has left large volumes of trade outside of its scope. It is likely that the formation of an economic community in the region with clear targets and negotiating strategies would lead to a substantially higher growth in intra-industry trade as the centre of gravity shifts toward the larger countries of North-East Asia with large and rapidly growing manufacturing sectors. The three North-East Asian economies, Japan, China and Republic of Korea, contain between themselves a vast and varied assortment of industrial capacity – an auspicious circumstance for the growth of intra-industry trade.

At the same time, the three countries harbour widespread non-tariff protection among themselves, particularly quota restrictions (QRs) and subsidies, particularly in agriculture and automobile production whose removal would pose a major challenge. Major industrial sectors, such as automobiles, electronics and consumer goods, are protected by QRs, in addition to tariffs, removal of which is expected to be contentious. But a PTA with its built-in system of "carrots and sticks" through swapping of trade concessions may turn out to be a particularly effective antidote to domestic lobbies and vested interests in the larger countries of the Community. By the same token, a frontal assault on QRs and other non-tariff barriers, certain to be included in the agenda of the Community, promises large gains in mutual trade, possibly even larger than the one afforded by tariff-cutting alone. Tariff-cutting strategies are not relevant in dealing with QRs. More detailed protocols based on peculiar circumstances in different industries, such as the ones employed in Tokyo Rounds under the then GATT, will be required.

A more proximate reason for the rapid pace of the preliminary agreement on the creation of an East Asian Economic Community is the proliferation of PTAs elsewhere. Asian policymakers may feel that in a trading world increasingly dominated by large PTAs, such as the EU, the NAFTA, the MERCOSUR and the FTAA (Free Trade Area of the Americas), they would be left out in the increasingly regional trading world without a regional grouping of their own. An increasingly large part of world trade is now conducted within preferential trading arrangements. The World Trade Organization (WTO, 2001) has estimated that close to 50 per cent of world trade in the year 2000 was conducted within a network of tariff preferences. This proportion is likely to be higher today and is expected to grow larger as fresh initiatives for regional trade groups materialize. The EU enlarged itself in May 2004 by admitting 10 new members and is currently pursuing active negotiations with several others. The process of regionalism in the conduct of world trade is accompanied by a growing number of bilateral arrangements. In the past few years, the United States alone has signed bilateral free trade agreements with half a dozen countries, some as far-flung as Australia. The “domino” effect of these developments has undoubtedly helped to convince policymakers in East Asia to seek a closer economic union among themselves.

IV. AN ANTIDOTE TO BILATERALISM?

In a deeper sense, the most important reason for moving quickly toward an East Asian trading community appears to be the proliferation of bilateral and regional trading arrangements themselves in the East Asian region. The rampant growth of regionalism in East Asia is documented in Scollay and Gilbert (2001), Scollay (2003) and a number of others. Between January 2002 and January 2005 alone, 37 bilateral arrangements involving East Asian countries were reported to the WTO (Bonapace, 2005, table 1, p. 5-12). This crisscrossing web of trade flows has turned the region into what Bhagwati (2002), in a different context, has termed a “spaghetti bowl” of trade arrangements. Superficially, these bilateral arrangements may appear to be advancing the cause of trade liberalization in the region. In reality, they are a major source of instability and are a stumbling block to the emergence of a unified trading area in East Asia. One reason for the growth of bilateral trade agreements is that some non-Asian trading partners seek to maintain their market shares in that region. A major problem with the bilateral trade arrangements is their proclivity to multiply “rules of origin”, as a necessary complement to bilateral arrangements. These “rules” predictably differ from one bilateral agreement to the other and their net effect may well have been to make the region more restrictive of trade rather than less. Cross-country membership in different bilateral and regional arrangements has led to an inherent indeterminacy, since it is difficult to determine which rules apply to which trade flow from which country. The rules of origin themselves are hidden protective devices and impose cascading levels of inefficiency and welfare losses. As these rules proliferate, they tend to entrench vested interests in individual countries where they have political support, making their eventual elimination all but impossible. Furthermore, bilateral arrangements are a sinister attempt by hegemonic countries to retain a foothold in the trading scene of East Asia. An East Asian Economic Community holds the promise of cleaning the “kitchen-sink” of bilateral arrangements, and thus coalescing the innumerable trade pacts into a unified, seamless zone of trade and investment.

Another reason closer to home is the widespread dissatisfaction in East Asia with the workings of APEC (Asia Pacific Economic Cooperation). APEC is a venerable inter-governmental “consultative” group, although it has some limited trade-enhancing mechanisms. According to the Article 24 of the WTO, APEC cannot be considered a free trade area. It is now being increasingly seen as a mere “talking shop”. The dissatisfaction with APEC grew in the aftermath of the Asian financial crisis of 1997-1998 and its widespread contagion effect across the region. APEC was remarkably ineffective in the wake of this crisis as it was unable to provide either a diagnosis or a solution. The perception that APEC policies are dominated by its rich members, with little understanding of the development needs of the less developed countries has grown.

V. IS THE EUROPEAN MODEL RELEVANT?

The recent ASEAN resolution provides few details of the contours of the East Asian Economic Community, only stating that its model would be that of the EU. Nonetheless, the EU model does not seem to be entirely fitting. Apart from the existence of vast disparities in incomes and economic structure, unlike the EU, it is clearly unrealistic to envisage a trading community in Asia where member countries would be willing to hand over a significant part of economic decision-making to a supra-national body, such as the European Community Commission and the European Parliament.

Such cohesion in East Asia is unlikely to materialize even in the long run. The prospects of graduating to a customs union (with a common external tariff) are equally daunting. The East Asian Economic Community whenever it emerges would probably be conceptually closer to NAFTA where the agreement extends only to matters of trade and foreign investment, with a few "side agreements" on such issues as environment and labour standards, rather than to the EU with its numerous "protocols" designed to "harmonize" the legal and institutional framework of member countries. In its initial stages, a simpler framework with a parsimony of rules governing trade and investment (such as "national treatment") and an agreement to curtail the reckless proliferation of quota restrictions and other non-tariff barriers would be preferable until more cohesive forces gather momentum. Capital movements in the region are already relatively free, but freedom of movement for people, except of those connected with trade in services, and a common currency would remain only distant goal.

The potential of trade enhancement in the East Asian Economic Community lies primarily in the fact that the region is quite varied and disparate in its resources and production capabilities, much more so than in the European continent. When economic structures among potential members differ significantly, a PTA or a customs union is a potent device for creating conditions for specialization in narrower lines of production for each of the countries in question. This is of particular relevance to smaller AFTA countries where limited resources are a constraint on large scale industrial activity, though not necessarily to Japan and China, whose large size is expected to foster specialization based on economies of scale.

The inclusion of Japan, China and the Republic of Korea in an East Asian Economic Community dramatically changes the parameters of economic integration in the region. In particular, China's large internal market, its vast resources of trained labour and growing industrial infrastructure will prove useful in creating prosperous economic community. In a similar vein, Japan's technologically advanced industrial know-how is likely to serve as an invaluable fulcrum for learning and growth in the rest of the region.

The diversity of economic structures in East Asian countries and their different stages of economic development are powerful arguments for the formation of the community. The structural differences provide an economic rationale for PTAs since preferential trading offers the potential of industrial "complementarity" in production where significant areas of overlap now exist. The coordination of national production within the region, which is implicit in an economic community, increases the scope for specialization in narrower lines of production and in fostering mutual intra-industry trade. The European experience is quite relevant in this regard.

The proposal for an East Asian Economic Community comes at a time when the region is in the grip of a bilateral frenzy, as noted earlier in this paper. A recent study (Scollay and Gilbert, 2001) enumerates at least twenty-five different proposals for bilateral and regional trade arrangements between ASEAN and the three North-East Asian countries, as well as between them and many other countries outside the region. Both China and Japan are eager to sign free trade agreements with AFTA or with individual ASEAN countries. Japan has already signed such an agreement with Singapore and is negotiating similar arrangements with Thailand, Malaysia and the Philippines. China has been pursuing negotiations with individual AFTA countries for bilateral trade treaties, but has now entered into an accord collectively with the ASEAN. Singapore is in the process of concluding a bilateral treaty with the United States.

These and a host of similar proposals, if implemented, are likely to blanket the region in a confusing network of bilateral trade relationships, turning the region’s trade into a patchwork of relationships, often contradicting each other. If nothing else, the East Asian Community with a unified structure of preferences would be preferable to a confusing and contradictory web of bilateral arrangements. It would be nearly impossible to reconcile the bewildering array of bilateral arrangements and the “rules of origin” they have spawned. Even if it can be done it would resemble, under the best of circumstances, a patchwork quilt without an overriding motif or design. It would be preferable to start afresh with a treaty drawn at the highest political level, inspired by the Treaty of Rome that established the European Economic Community

Perhaps, the greatest weakness of the East Asian region is its disparate political systems with few common threads to bind the region into a cohesive entity. This is another reason why the EU model is not quite relevant. There will continue to remain doubts as to how united East Asia can be considering its political discord and territorial conflicts. The region is saddled with a painful legacy of conflict between major countries which have not been put to rest. Accordingly, the planners of the Community face staggering political difficulties. On the other hand, this may itself be enough of a reason to try to strengthen economic ties which may in time engender political cohesion. Witness the historical rivalries and minor skirmishes in Europe following the two World Wars. These persisted throughout half a century before the Treaty of Rome in 1958 established the European Economic Community (EEC), now the EU.

There is no doubt that the formation of the EEC in the 1960s was the catalyst for a gradual “entente” between Germany and France, the two rivals for hegemony in the continent. Perhaps the proposed East Asian Economic Community offers a similar promise to countries of East Asia, particularly those in the

North-East region, to reconfigure their attitudes and policies toward a greater understanding of each other. An economic community can also strengthen broadly progressive forces that may lead to openness in trade and investment in partially "closed" economies such as Myanmar, Cambodia, Lao People's Democratic Republic and Viet Nam, thereby fostering democratization and the rule of law. These wider potential benefits of an economic union may far outweigh the purely trade-enhancing aspects.

The primary focus of the East Asian economies, indeed of all Asia, has traditionally been on increasing their exports to the West as a growth – promoting strategy. This strategy that turned East Asia virtually into an exporting "machine" has enabled a number of small countries (most notably the "Asian tigers") to carve out an enviable niche in the markets of the industrial countries of the West. But this preoccupation with exporting to the West has not only undermined the more "natural" trading possibilities within the region but has also precluded attention to other pressing problems, such as the unequal distribution of income and the persistence of poverty even in relatively richer countries. This export led growth strategy is beginning to falter because the markets of rich countries are not growing fast enough. East Asia needs new initiatives to build its own internal dynamics and to solidify its economic gains into more lasting social progress.

One danger of the PTAs, and economic unions in general, is that they tend to divert the trade of member countries toward each other and away from the most efficient suppliers of goods elsewhere in the world. There is some concern that recent PTAs in different parts of the world have diverted more trade than they created. These results appear to be more negative than those of earlier studies, as shown in Adams, Dee, Gali and McGuire (2003). The extreme case is that of MERCOSUR where almost all trade gains are estimated to have arisen largely from trade diversion rather than from new trade (Yeats, 1999; Preusse, 2001).

The extent of trade diversion depends on the design of the "preferential" tariff structure that emerges as a result of reciprocity and bargaining. In principle, the post-PTA tariff structure can be designed so that possibilities of trade diversion are greatly diminished, if not altogether eliminated. A liberal PTA tariff structure can attempt to liberalize trade with outside countries while preserving preferential margins for partner countries. After an initial phase of looking "inwards", PTAs start to liberalize vis-à-vis the rest of the world in a manner reminiscent of multilateral liberalization. Witness the current dialogs between the EU and MERCOSUR aimed at liberalizing trade between the two blocs. It is quite possible that the East Asian Community as a cohesive group may eventually open the door a little wider in its trading relationships than some of the large countries within the Community do today.

One question that is on everybody's mind is as to how the proposal would be seen in official circles in the United States. In the past, the United States has opposed similar initiatives in East Asia. Most recently, the ill-fated proposal for an East Asian Economic Group (EAEG) floated by Malaysia in the early 1990s was stalled by strong opposition from the United States. Initially Japan was quite enthusiastic about the proposal but withdrew its support when it became clear that the United States had serious reservations. Similarly, a Japan-led initiative for a regional financial institution after the Asian financial crisis collapsed due to lack of support from the United States, even though this proposal was designed to be temporary. However, any presumption that the United States would now oppose the new initiative for the East Asian Community is not a foregone conclusion. The trend toward regionalism in world trade is here to stay despite opposition from some influential quarters (Bhagwati, 2000). Regionalism is being seen increasingly as a parallel route to the same destination – that of a liberal trading order. More significant is the fact that the United States has effectively accepted the principle of "two-tier" liberalization of trade, through the multilateral channels of the WTO on the one hand and through a number of regional arrangements, most notably NAFTA, on the other. It is actively pursuing a hemispheric trade arrangement involving a large number of countries in North and South America called the Free Trade Area of the Americas (FTAA), in addition to a number of bilateral arrangements mentioned earlier. It would appear hollow if the United States were to oppose similar attempts in East Asia. In fact, the United States might find that its trade relations with East Asia graduate to a more rational and cooperative level with an economic community in place. On political and strategic levels, the United States might find it easier to deal with a multilateral body such as the one envisaged in the East Asian Community rather than to continually wrangle trade agreements with 13 countries in East Asia.

With the East Asian Economic Community in place, the trading world may indeed end up becoming tri-polar, as Paul Krugman (1991) had predicted quite a few years ago. But his concern that the three big trade blocs would take turns in putting tariffs on each other in order to improve their own terms-of-trade may not be justified. On the contrary, the possibilities of cooperation among the trade blocs seem more likely. The current talks between the EU and the MERCOSUR are a case in point. It is shown by Frankel and Wei (1998) that in a world of simultaneous continental trade blocs, "open regionalism" in which trade blocs undertake relatively modest external liberalization are more likely. This inter-bloc trade liberalization can usually produce welfare improvements that in a technical sense are "pareto-optimal", meaning that they leave everyone better off without anyone worse off. If correctly designed and implemented, the East Asian Economic

Community can be a stepping stone to a world of liberalized multilateral trading rather than a hindrance.

VI. CONCLUSION

This paper has analysed a number of different propositions concerning the putative East Asian Community, attempting to clarify its *raison d'etre* and, at the same time, highlighting some of its weaknesses and potential problems. On balance, the proposal looks worth pursuing. Perhaps the most crucial reason for moving forward with it is to curb the bilateral trading agreement frenzy which is sweeping the region and, if unchecked, would prove to be a destabilizing and disruptive force in the region.

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FINANCIAL MARKETS INTEGRATION IN INDIA

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In the present study, we examine the issue of integration of financial markets in India. Given the growing movement of capital flows, particularly short-term capital, into the domestic financial markets, it is necessary to examine this issue so as to reap the positive benefits with having stable markets. For this purpose, the present study examines this issue in the post-1991 period by using monthly data on call money rates, 91 day Treasury Bill rates, Indian Rupee/US dollar exchange rates, and the London Inter Bank Offered Rate (LIBOR). By using a multiple co-integration approach, the study found that there is a strong integration of the domestic call money market with the LIBOR. Though, the study found that there is a long-term co-movement between domestic foreign exchange market and LIBOR, it is not robust. This may be due to frequent intervention by the Central Bank in the foreign exchange market. As the Government securities market in India is still in the developing stage, it was not found to be integrated with the international market. Policy measures (or reforms) are necessary to increase integration of financial markets. This would help in reducing the arbitrage advantage in some specific segment of the financial markets.

The degree of integration of financial markets around the world increased significantly during the late 1980s and 1990s. A key factor underlying this process has been the increased globalization of investment seeking higher rates of return and the opportunity to diversify risk internationally. At the same time, many countries have encouraged inflows of capital by dismantling restrictions, deregulating domestic financial markets, and improving their economic environment and prospects through the introduction of market-oriented reforms. This increase in the degree of

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integration of world capital markets has been accompanied by a significant increase in private capital flows to developing countries.

Financial openness is often regarded as providing important potential benefits. Access to world capital markets expands investors' opportunities for portfolio diversification and provides a potential for achieving higher risk-adjusted rates of return. It also allows countries to borrow to smooth consumption in the face of adverse shocks, the potential growth and welfare gains resulting from such international risk sharing can be large (Obstfeld, 1994). It has also been argued that by increasing the rewards of good policies and the penalties for bad policies, free flow of capital across borders may induce countries to follow more disciplined macroeconomic policies that translate into greater macroeconomic stability. An increasingly common argument in favour of financial openness is that it may increase the depth and breadth of domestic financial markets and lead to an increase in financial intermediation process by lowering costs and "excessive" profits associated with monopolistic or cartelized markets, thereby lowering the cost of investment and improving resource allocation.

Increasing integration of financial markets also brings in certain risks. It has been recognized that the risk of volatility and abrupt reversals in capital flows in the context of highly open capital accounts may represent a significant cost. Concerns associated with such reversals were heightened by a series of recent financial crises – including the Mexican peso crisis of December 1994, the Asian crisis triggered by the collapse of the Thai Baht in July 1997, the Russia crisis of August 1998, and the collapse of the Brazilian Real in January 1999. Although misaligned fundamentals of some sort played a role in all of the above crises, they have called attention to the inherent instability of financial markets and the risks that cross-border financial transactions can pose for countries with relatively fragile financial systems and not so strong regulatory and supervision structures. Pro-cyclicality of capital flows may also increase macroeconomic instability, like favourable shocks may attract large amounts of capital inflows and encourage consumption and spending at levels that are unsustainable in the longer-term, forcing countries to over-adjust to adverse shocks as a result of abrupt capital reversals. The large capital inflows induced by financial openness can have undesirable macroeconomic effects, including rapid monetary expansion (due to the difficulty in managing and cost of pursuing aggressive sterilization policies), inflationary pressures (resulting from the effect of capital inflows on domestic spending), real exchange rate appreciation, and widening current account deficits. From this perspective, a key issue has been to identify the policy pre-requisites that may allow countries to exploit the gains, while minimizing the risks, associated with financial openness in an attempt to integrate with the world capital markets.

India, too, has taken a large number of measures in the process of financial liberalization during the 1990s. The overall package of structural reform in India has been designed to enhance the productivity and efficiency of the economy as a whole and thereby make the economy internationally competitive. These reforms include, *inter alia*, partial deregulation of interest rates; reduction of pre-emption of resources from banks through cash reserve ratio (CRR) and statutory liquidity ratio (SLR); issue of government securities at market related rates; increasing reliance on the indirect method of monetary control; participation of the same set of players in the alternative markets; move towards universal banking; development of secondary markets for several investments; repeal of foreign exchange regulation act (FERA); full convertibility of rupee on the current account; cross-border movement of capital and adoption of liberal exchange rate polices that assure flexible exchange rates; and investors' protection and curbing of speculative activities through wide ranging reforms in the capital market. An important objective of reform has been to develop the various segments of the financial markets into an integrated one, so that their inter-linkages can reduce arbitrage opportunities, help achieve a higher level of efficiency in market operation and increase the effectiveness of monetary policy in the economy.

After more than a decade of attempting to foster financial openness an important question remains: how much have these initiatives resulted in narrowing the inter-market divergences and achieved a reasonable degree of market integration both within domestic financial markets and between domestic and overseas markets? The present study tries to address this issue through an empirical exercise. Bhoi and Dhal (1998) tried to study this issue in the Indian context. With the help of monthly data upto 1997 the study found that though the domestic financial markets are integrated among themselves, they are not integrated with the world markets. Since 1997, particularly after the Asian crisis, the Indian financial markets have seen a huge inflow of foreign capital, which could change the open-economy macroeconomic situation in the country. At this juncture, it is necessary to re-examine this issue by using recent data on the returns in different financial markets.

The paper is structured as follows: Section I deals with certain conceptual issues relating to international financial integration. Section II gives a brief survey of the literature on international financial integration. Section III enunciates the econometric methodology used in this study. Section IV examines the results obtained from the empirical study done and Section V concludes with the policy implications.

I. CONCEPTUAL ISSUES

In this section we discuss some of the conceptual issues relating to the financial markets, and their integration. The section also discusses the issues relating to the measurement of the extent of integration.

A well-developed financial sector performs the following functions:

- It promotes overall savings of the economy by providing alternative instruments;
- It allocates resources efficiently among the sectors; and
- It provides an effective channel for the transmission of policy impulses provided the financial markets are *competitive, efficient & integrated*.

A typical *competitive* financial market has the following characteristics:

- There should be large numbers of buyers and sellers of the financial product;
- The price of the product is determined by the market forces of demand and supply;
- There should be a secondary market for the instrument;
- Turnover of instruments in both primary and secondary markets should be fairly large; and
- Agencies involved in the process of intermediation between buyers and sellers should provide intermediation services at a minimum spread.

A market is said to be *efficient* if the rate prevailing at any point of time contains all existing information in the market. If the realized rate contains all information, then the future rate cannot be appropriately predicted. In fact, the future rate reacts differently depending on the information that would be available at that point of time. In other words the future rates can adopt a path of random walk.

Apart from efficiency of individual markets, effective integration of financial markets depends on a few characteristics such as:

(a) Financials markets are efficient and rates are market determined;

(b) Across the board differences in returns on financial products are based on the risk and maturity profile of the instruments;

(c) The rates of returns are related to a benchmark or a reference rate;

(d) There is flow of resources from one segment of the market to the other and thereby the arbitrage opportunity is wiped out; and

(e) The rates of various segments of the financial markets move in tandem.

In general terms, integration is the process by which segmented markets become open and unified so that participants enjoy the same unimpeded access. It can occur through the removal of domestic and international controls on trade in the asset, commodity or service under consideration, for example by implementing policies to deregulate markets, or it can occur simply by a reduction in the effectiveness of controls in markets, for example, by avoidance or non enforcement. In either case the key driving force for integration is the amalgamation of the private interests. The enduring popular representation of financial market integration is the equalization of the rates of return on similar financial assets. This has considerable intuitive appeal: as markets become more open and unified differences in rates of return should reflect only fundamental factors such as differences in asset quality, associated risk, liquidity and such factors.

The integration of financial markets thus implies an increase in capital flows and a tendency for the prices and returns on traded financial assets in different countries to equalize on a common-country basis. The convergence of returns is typically measured by interest parity conditions over a set of traded assets. Direct testing to determine the degree of international market integration can be carried out by examining the validity of various international parity conditions: purchasing power parity (PPP), covered interest parity (CIP), uncovered interest parity (UIP) and real interest parity (RIP). While the PPP condition is based on a comparison of the returns on identical goods, the other conditions are concerned with the returns on perfectly substitutable financial assets across countries.

The extent of market integration can also be tested indirectly by examining the degree of correlation between national savings and investments. The indirect test of international market integration is found in the work of Feldstein and Horioka (1980) and Feldstein (1983) who argue that in an internationally integrated financial market, potentially infinite capital flows eliminate differentials among nominal and real rates of return on identical assets, implying that a shortfall of saving in one country is unlikely to restrict its volume of investment therein. This is because perfect mobility of capital breaks the link between national saving and national investment and, therefore, a fall in private saving or a deficit in the current account in a country is unlikely to crowd out investment by raising the real cost of borrowing: rather, the country can borrow sufficient funds at the going world interest rate to cover the gap.

However, Frankel (1992) argues that there are several problems with the saving-investment criterion:

- The presence of cyclical movements may result in strong correlation between national saving and investment;
- National saving may become endogenous if governments respond to incipient current account imbalances with policies to change public (or private) saving in such a way as to reduce the imbalances;
- The correlation between saving and investment is reduced when large countries are excluded from the sample, implying that the world real interest rate will not be exogenous if the domestic country is large enough in world financial markets.

Given the above conceptual description regarding financial market integration, it can be concluded that increasing integration would lead to convergence in the returns in financial markets in the long-run. Further, the markets are expected to be more efficient with more integration. With this background, in this study we examine the issue of financial market integration in India. Before going onto the design of the empirical analysis, a brief review of the literature on international financial integration is done in Section II.

II. SURVEY OF LITERATURE

There are several reasons why policymakers and economists focus on financial integration. In the first place it is axiomatic that the macroeconomic policy mix depends crucially on the openness of the financial system (Fleming, 1962; Mundell, 1963). The more mobile capital is, the more the portfolio shifts and the less flexible the exchange rate is, the more difficult it is for a country to set its interest rates independently of interest rates in the rest of the world. The degree of financial openness is an empirical question which needs to be resolved if policymakers are to know the structure of their economies and implement policies that will be effective in achieving their aims.

One implication of integration is that the market determines the price of the good or the asset in an efficient and equitable manner. The degree of integration would also indicate whether there are efficiency gains in the liberalization process. Financial integration also induces changes in the basic economic structure and in the operating environment for policy, business and households. This change can also often make it confusing and difficult to determine the behaviour of an economy in transition, which is very much necessary when it is considering liberalization of the capital account. Liberalization of the capital account has been impeded in most of the countries due to concerns that international financial integration will stimulate capital inflows, induce appreciation in the real exchange rate and thereby reduce international competitiveness (Dornbusch and Park, 1994).

Another policy aspect that arises from the analysis of financial markets is the increasing importance of foreign interest rates in the formation of domestic rates and foreign influence on the local economy in general. This in turn may change the synchronization of economic cycles between countries. Financial asset prices play a key role in the economy, since they affect marginal valuations and decisions and since they contain future expectations. As financial asset prices across countries converge, some shocks that were previously idiosyncratic should become common and the impulses they generate should be common to the local and foreign economies. The economy may respond to the same impulses but the generating mechanism of the impulses would change with internationalization. Financial integration, therefore, may imply greater integration of real economies. (Brouwer, 1999)

The extent of international market integration greatly affects the behaviour of exchange and interest rates across countries, which in turn have crucial implications for the degree to which the domestic monetary authorities can pursue independent monetary policies (Agenor, 2001). There is little dispute over the proposition that the more integrated the international markets for goods, capital and foreign exchange, the more limited is the scope for pursuing independent domestic monetary policies. For example, if goods and capital move around to eliminate the differential between prices and interest rates across countries, then the domestic monetary authorities will have no control over their real exchange and interest rates relative to those of other countries, limiting the impact of their stabilization policies. Therefore, it is necessary to take full account of the possible repercussions of international market integration.

It is important to determine whether there has been a genuine increase in financial market integration. It has to be borne in mind that the same technological innovations that have paved the way for cross-border financial transactions have also increased the worldwide diffusion of information in real time. Accordingly, it could be the case that the main driving force behind the apparent increase in financial market linkages is the globalization of the news that affects financial prices instead of a higher degree of market integration. It is worth noting that the assessment of a hypothetical increase in financial market linkages will depend on the causes of the increase. In terms of welfare, for example, it should be clear that whereas a removal of barriers implies an increase in diversification opportunities -thus reducing the levels of risk that agents have to accept to obtain a given return- a greater globalization of the relevant information set would mean exactly the opposite. Ayuso and Blanco (1999) studied the stock market returns for the United States, Germany and Spain in the nineties and found that there has been an increase in the degree of financial integration among the markets considered. This has meant higher financial market efficiency and an improvement in the risk-and-return combinations available to investors.

Most of the empirical work done in this field has focused on OECD countries and East Asia. Kaminsky and Schmukler (2002) studied the dynamic aspects of international financial integration and suggested that equity prices tend to be more internationally connected than interest rates. Moosa and Bhatti (1997) provide conclusive empirical evidence on the high level of integration between goods and financial markets of Japan and six Asian countries by testing uncovered interest parity (UIP) and *ex ante* purchasing power parity (PPP).

The macroeconomic impact of international financial integration depends on the extent of domestic financial integration, that is to say the integration of domestic institutional interest rates such as deposit and loan interest rates with domestic money market rates which themselves turn on the regulatory and competitive structure of domestic financial markets. Bhoi and Dhal (1998) have attempted to empirically evaluate the extent of integration of India’s financial markets in the post-liberalization period. According to them, there exists a fair degree of convergence of interest rates among the short-term markets-money, credit and gilt markets – but the capital market exhibits fairly isolated behaviour. Furthermore, they find that the integration of domestic and overseas financial markets is not robust.

According to Makin (1994), there is a consensus that UIP fails to provide any information about the degree of financial integration. This is based on concerns regarding time varying currency risk premia or irrational expectations about exchange movements. But UIP can be restated with the focus on the relationship between domestic and foreign interest rates, given expectations about movements in the exchange rate. In particular, if interest rates and exchange rates are non-stationary processes, then it could be interesting to see whether domestic and foreign interest rates have long-run co-movements. This would prove that both variables are co-integrated. In the next section we discuss the methodology that has been employed and the database used in this current study.

III. METHODOLOGY AND DATABASE

In the literature, one of the most extensively used methods used to examine the long-run relationship between two variables, is the co-integration approach. This issue of testing long-run relationships was addressed first by Engle and Granger (1987). But the most popular test for co-integration was developed by Johansen and Juselius (1990) that tests for the presence of multiple long-run relationships. In this study we use this co-integration approach to examine the integration of returns in both domestic and foreign markets. One of the pre-requisites for undertaking the co-integration framework is that the variables that are expected to have long-run relationship should be non-stationary at their levels and should be stationary at the same order (or difference).

The long-run relationship that we are examining here can be expressed as below

$$i_{t,k} = \alpha + \beta\ i^*_{t,k}$$

Where ‘I’ and ‘i*’ are the return (interest rates) in domestic and foreign markets respectively and the constant term is a wedge parameter between interest rates possibly caused by a risk premium or other asset differences. As specified earlier, first we check the stationarity properties of both the variables (in other words whether the returns are non-stationary at levels and stationary of same order) and then test whether they are co-integrated by the maximum likelihood technique outlined by Johansen and Juselius (1990).

Tests for non-stationarity

The first econometric step is to test if the series are non-stationary. The classical regression model requires that the dependent and independent variables in a regression be stationary and the errors have a zero mean and finite variance.

In the presence of non-stationary variables there might be what is called *spurious regression*. Hence, before fitting any reasonable model, one needs to examine the time series properties of the variables that are used in the model. This can be examined by using the augmented Dickey – Fuller (1979) (ADF) test. (The technical details for this method can be seen in any of the standard text books on time series econometrics).

There are some inherent problems with the ADF test, to overcome these we follow the sequential ADF test procedure, due to Dolado, Jenkinson and Sosvilla-Rivero (1990), is used to test for the presence of a unit root when the form of the data-generating process is unknown. Such a procedure is necessary as when we include the intercept and trend term in the ADF test, it reduces the degrees of freedom and the power of the test implying that we may conclude that a unit root is present when, in fact, this is not true. Further, additional regressors increase the absolute value of the critical value making it harder in decision making. On the other hand, inappropriately omitting the deterministic terms can cause the power of the test to go to zero. In the ADF test the null hypothesis would be the presence of unit root (in other words the variable is non-stationary at levels).

If the variables are non-stationary, we test for the possibility of a co-integrating relationship using the Johansen and Juselius (1990) methodology. Given a group of non-stationary series, we may be interested in determining whether the series are co-integrated, and if they are, in identifying the co-integrating (long-run equilibrium) relationships.

The results of the Johansen's co-integration test are sensitive to the lag length. The lag length is selected using the multivariate generalizations of the Akaike's Information Criterion (AIC) or Schwarz Bayesian Criterion (SBC). Johansen and Juselius (1990) provide the critical values based on two tests, namely maximum likelihood test and the trace test. Once we establish the presence of co-integration between two variables, we estimate the co-integrating relation. While the estimates of the co-integrating relation indicate the direction of attractions that maintain long-run stationarity in each system, however they offer no information about the adjustment speeds of the variables to deviations from their common stochastic trend in the short-run. To capture the speed of adjustment between two non-stationary variables, we estimate the error correction mechanism (ECM). The ECM restricts the long-run behaviour of the endogenous variables to converge to their co-integrating relationships while allowing for a wide range of short-run dynamics. The co-integration term is known as the *error correction term* since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments.

In this paper we deal with the integration of domestic financial markets with international markets as the issue of financial markets integration domestically was studied by Bhoi and Dhal (1998), where the study found that there is an increasing integration between the domestic financial markets. This paper uses 91-day Treasury bill rates (TB-91), call money rates (CMR) and Indian Rupee/US dollar exchange rate (ER) as a measure of returns in the domestic financial markets and attempts to find whether they are co-integrated with the London Inter-bank Offer Rate – LIBOR (used as the measure for the foreign interest rate). The study uses monthly data from January 1993 to December 2002. The main source of the data is the *Handbook of Statistics on Indian Economy, 2001* published by the Reserve Bank of India. In the next section we discuss the empirical results based on the multiple co-integration method.

IV. EMPIRICAL RESULTS

Before discussing the empirical results it may be interesting to note the relationships between domestic and foreign returns that are presented in the charts 1 and 2. It may be noted that though there is no visible relationship between TB-91 and CMR with LIBOR in the initial period, there seems to be some relationship from beginning of January 1999. This seems to specify that there are growing inter-linkages between domestic and foreign financial markets return particularly in the post-1999 period. The stationarity results, based on ADF test, are presented in tables 1 and 2. It may be noted that all the four variables, i.e., CMR, TB-91, ER and LIBOR were found to be non-stationary in their levels while found to be stationary in their first differences, thus satisfying the necessary condition for using multiple co-integration approach. The results based on multiple co-integration are presented in table 3.

Figure 1. Trends in TB-91 and LIBOR

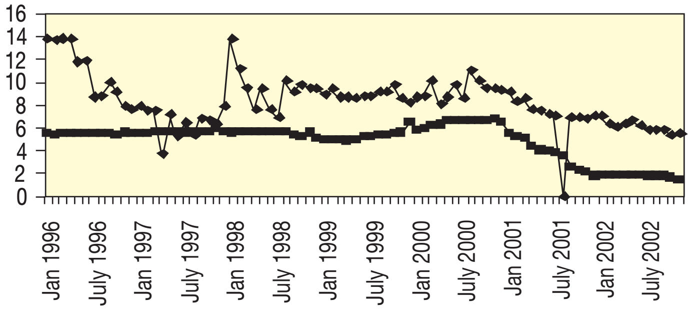

Figure 2. Trends in CMR and LIBOR

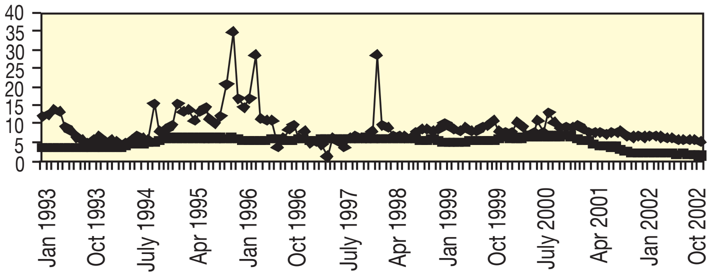

Table 1. Sequential ADF unit root tests at levels

Model	*LIBOR*	*CMR*	*TB-91*	*ER*
With trend & intercept	-1.39	-2.87	-2.994	-2.87
With intercept and no trend	-1.21	-2.79	-2.69	-0.272
With no intercept & no trend	-0.73	-1.27	-1.30	-1.52
RESULTS	Has a unit root	Has a unit root	Has a unit root	Has a unit root

Table 2. Sequential ADF unit root test on first differences

Model	*ΔLIBOR*	*ΔCMR*	*ΔTB-91*	*ΔER*
With trend and intercept	-3.85	-5.81	-6.91	-3.96
RESULTS	Does not have a unit root	Does not have a unit root	Does not have a unit root	Does not have a unit root

Critical values at 95 per cent level as follows.

With trend and intercept = - 3.4494

With intercept and no trend = -2.8868

With no trend and no intercept= -1.9428

Table 3. Cointegration between CMR and LIBOR

With no intercepts or trends

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	23.11	11.03	9.28
r <= 1	r = 2	0.34	4.16	3.04

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	23.45	12.36	10.25
r <= 1	r = 2	.335	4.16	3.04

Both the tests show that there is one co-integrating vector.

The normalized co-integrating equation is -1.0 CMR + 1.7683 LIBOR = ε_t

ECM = –.022548 CMR + .039782 LIBOR

For CMR

REGRESSOR	COEFF	P-VALUE
ΔCMR (-1)	-.10643	.244
ΔLIBOR (-1)	-1.6402	.247
ECM (-1)	19.2762	.000

For LIBOR

REGRESSOR	COEFF	P-VALUE
ΔCMR (-1)	-.00134	.826
ΔLIBOR (-1)	.15184	.110
ECM (-1)	.11163	.667

Co-integration test with an intercept and no trend

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	23.86	14.88	12.98
r <= 1	r = 2	.0223	8.07	6.5

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	23.88	17.86	15.75
r <= 1	r = 2	.0223	8.07	6.5

Both the tests show that one co-integrating vector exists.

The normalized co-integrating equation is -1.0 CMR + 1.271 LIBOR = ε_t

ECM = .023436 CMR -.029779 LIBOR

For CMR

REGRESSOR	COEFF	P-VALUE
Intercept	1.21	.007
ΔCMR (-1)	-.093	.317
ΔLIBOR (-1)	-1.47	.299
ECM (-1)	-19.56	.000

For LIBOR

REGRESSOR	COEFF	P-VALUE
Intercept	-.0068	.819
ΔCMR (-1)	-.0014	.822
ΔLIBOR (-1)	.151	.113
ECM (-1)	-.105	.687

Co-integration between TB-91 and LIBOR

With no intercepts or trends

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	6.18	11.03	9.28
r <= 1	r = 2	.499	4.16	3.04

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	6.68	12.36	10.25
r <= 1	r = 2	.499	4.16	3.04

Both the tests show that no co-integrating vector exists.

With an intercept and no trend

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	11.62	14.88	12.98
r <= 1	r = 2	.535	8.07	6.5

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	10.97	17.86	15.75
r <= 1	r = 2	.54	8.07	6.5

Co-integration between ER and LIBOR

With no intercepts or trends

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	10.65	11.03	9.28
r <= 1	r = 2	2.16	4.16	3.04

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	12.81	12.36	10.25
r <= 1	r = 2	2.16	4.16	3.04

Both the tests show that there is one co-integrating vector.

The normalized co-integrating equation is -1.0 ER + 16.056 LIBOR = ε_t

ECM = -.0021 ER + .0342 LIBOR

For ER

REGRESSOR	**COEFF**	**P-VALUE**
ΔER (-1)	.083	.350
ΔLIBOR (-1)	-.01	.952
ECM (-1)	1.51	.001

For LIBOR

REGRESSOR	**COEFF**	**P-VALUE**
ΔER (-1)	-.225	.653
ΔLIBOR (-1)	.152	.109
ECM (-1)	-.0013	.996

With an intercept and no trend

Maximum likelihood test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r = 1	13.29	14.88	12.98
r <= 1	r = 2	4.58	8.07	6.5

Trace test

Null hypothesis	*Alternative hypothesis*	*Test statistic*	*95 per cent critical value*	*90 per cent critical value*
r = 0	r >= 1	15.84	17.86	15.75
r <= 1	r = 2	4.58	8.07	6.5

Both the tests show that one co-integrating vector exists.

The normalized co-integrating equation is -1.0 ER + 2.063 LIBOR = ε_t

ECM = .0154 ER + .0318 LIBOR

For ER

REGRESSOR	**COEFF**	**P-VALUE**
Intercept	-.347	.327
ΔER (-1)	.093	.305
ΔLIBOR (-1)	.114	.510
ECM (-1)	.62	.001

For LIBOR

REGRESSOR	**COEFF**	**P-VALUE**
Intercept	.554	.004
ΔER (-1)	.0024	.961
ΔLIBOR (-1)	.093	.319
ECM (-1)	-.75	.521

It may be noted that there is presence of long-run relationship only between CMR and LIBOR. But we found that the relationship between ER and LIBOR seems to be weak (at 10 per cent level of significance). There is no long-run relationship between TB-91 and LIBOR. These tests are sensitive to the lag-length chosen. Using AIC/SBC criteria we have chosen the number of lags as two. The results indicate that while the short-term money market is more integrated with the international financial market, there is no so robust integration between the domestic foreign exchange market and the foreign market. This may be due to the financial market reforms that are initiated in the money market. Also, the foreign exchange market in India is still a managed market with regular (both direct and indirect) intervention by the Reserve Bank of India in its day to day business. In the case of the Treasury bill market, it is still in the developing stage.

In table 3 we have also presented the co-integrating relations and the error correcting terms. It may be noted that for any changes in the LIBOR market, the speed of adjustment in the CMR is much higher than in ER. It only indicates that the Indian short-term money market, compared with any other segment of domestic financial markets, is more integrated and adjusts comparatively fast to the changes in the international financial markets.

These empirical results must be interpreted with caution, bearing in mind problems associated with the testing techniques and the sample size. A small sample bias arises because the test statistics have asymptotic properties. With respect to this study, the possibility of structural breaks could arise because of the measures of financial deregulation implemented at different points in time, which this study could not consider and also it may be difficult to pinpoint.

V. CONCLUSIONS

As, in the Indian context, the call money rate and the exchange rate are found to be co-integrated with the LIBOR, there is some evidence that there exists a common stochastic trend between the domestic and foreign market returns. And the degree of integration seems to be growing over the period. It is desirable to strengthen the integration of financial markets to reap the positive benefits of it. But, since the degree of integration is dependent on policy and institutional infrastructure, the ongoing financial reform programme needs to be accelerated to further deepen the degree of convergence between the overseas and domestic markets. But even as efforts are intensified for deepening and broadening financial market segments and for developing a seamless and vibrant market continuum, a policy response to the transition should rely on multiple interventions. For this purpose a constant surveillance mechanism is needed to distinguish between the market reactions to fundamentals vis-à-vis transitory forces to ensure financial stability while reaping the positive benefits of free capital inflows.

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EMERGING HEALTH ISSUES IN ASIA AND THE PACIFIC: IMPLICATIONS FOR PUBLIC HEALTH POLICY

*Amarakoon Bandara**

The Asia-Pacific region is confronted with several emerging health-related issues. The prevalence of diseases causing high rates of mortality and morbidity, and the lack of skilled health personnel, infrastructure, financial resources and health systems that are responsive to the needs of society, are among them. A pragmatic approach with a focus on issues of major health and socio-economic concern is vital for the development of successful public health services. Striking a balance between different service providers taking into account overall resource constraints, efficacy of service delivery and welfare gains is a key challenge for many countries in the region. While the governments of poor countries need to reinforce their involvement in public health service delivery, its role in other areas could be more of a policymaker and a regulator providing stewardship to different stakeholders. The paper proposes a dual track-approach to health intervention, and highlights the need for prioritization of interventions, better targeting, and effective pooling of both public and private resources in making public health systems efficient and sustainable. Policy reforms that encourage private sector participation in health service delivery and health insurance, and a regulatory framework to protect the environment could be important elements of a re-oriented health policy agenda.

The Asia-Pacific region is confronted with several emerging health related issues resulting in deterioration in its health indicators despite the economic progress of some countries. The high level of deaths due to diseases and the burden of diseases is striking. Over 30 million people in the region died of preventable diseases in 2002.[1]

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[1] WHO, *World Health Report 2004* (Geneva, 2004).

The number of deaths due to non-communicable diseases (NCD) is on the rise and the occurrence of communicable diseases, in particular infectious diseases has become more prevalent. Although the number of deaths and the disease burden due to Human Immuno Deficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) is relatively low compared to NCDs, tackling HIV/AIDS has become an urgent public health challenge in some countries in the region due to its explosive nature. According to World Health Report 2004, roughly 60 per cent of total deaths in the region in 2002 have been due to non-communicable diseases, a reflection of the correlation between changing socio-economic conditions and health. Communicable diseases account for around 29.9 per cent of total deaths in the region. Meanwhile, non-communicable diseases accounted for approximately 50 per cent of the disease burden in disability adjusted life years (DALY) in the region while communicable diseases accounted for around 37 per cent in 2002.

The lack of financial and human resources has become a major constraint for many poor countries in the region, posing a serious obstacle to the promotion of public health, particularly in the context of achieving health-related Millennium Development Goals[2] by 2015.[3] Poor countries in the region are also grappling with the lack of technology and infrastructure, and an appropriate health policy framework within which different actors could play their role in health service delivery. The socio-economic consequences of diseases would have both short-term and long-term implications on governments and households. While some diseases, in particular infectious diseases, could disrupt the day-to-day activities and livelihood of affected people in the short-run, diseases such as malaria, tuberculosis and HIV/AIDS could have long-term implications for education and labour markets, with adverse effects on the economy, as evidenced from the African experience.

Developing countries in the Asia-Pacific region are in different stages of economic development and have varying levels of health systems. For the very poor, outreach of adequate basic health services is still a challenge; for others the issue is making policy choices on resource allocation and the appropriate balance of public-private interventions to address persistent and emerging health issues. While reinforcement of government involvement in ensuring public-oriented health

[2] Health related Millennium Development Goals are (i) reduce child mortality, (ii) improve maternal mortality and (iii) combat HIV/AIDS, malaria and other diseases. The respective targets are (i) reduce by two thirds the mortality rate among children under five, (ii) reduce by three quarters the maternal mortality rate and (iii) halt and begin to reverse the spread of HIV/AIDS, and halt and begin to reverse the incidence of malaria and other major diseases. <www.un.org/millenniumgoals/ >

[3] Sachs (2005). Available at <www.unmillenniumproject.org >.

service delivery is required in some cases, the private sector could play a vital role in others.

How should Governments respond to present and future health challenges? What does the recurrent emergence of diseases imply for public health policy in the region? What should be the role of government, private sector, and the local communities in re-orienting public health systems in the region to better suit the changing socio-economic conditions and the global context? Should the government continue to be in the driving seat in health service delivery or should it provide strong stewardship for various service providers? How to galvanize private sector involvement in health service delivery? These are some of the questions addressed in the paper.

The objective of the present paper is at the broader level of health sector strategy and is to review and analyze the implications of diseases on public health and explore how developing country governments could re-orient their public health policies to meet present and future health challenges. The paper is organized as follows. Section I provides a brief account of the impact of diseases on human life and health systems. Section II discusses ways to promote responsive public health systems. Section III presents a dual-track approach to health intervention. Section IV sets out a brief summary of policy options for interventions in improving public health.

I. DISEASES AND SOCIETAL IMPACT

Why are diseases a concern for governments and society at large? Deaths due to diseases and morbidity could disrupt normal functioning of day-to-day life and the livelihood of people as they affect institutions, in particular health-care systems and the people. They also impose a resource burden on governments and society, and constrain economic development and social welfare. This section reviews the impact of diseases on human life and health-care systems in an attempt to identify key issues related to the provision of basic health services.

Loss of human life and morbidity

As indicated above, non-communicable diseases have become the major killer in the Asia-Pacific region. As reflected in table 1, in 2002 non-communicable diseases caused 18.5 million deaths accounting for 60.1 per cent of the total deaths due to diseases in the region. Communicable diseases accounted for 9.2 million deaths or 29.9 per cent. Cardiovascular diseases, which resulted in 8.8 million deaths in 2002, was by far the largest cause of death across the region.

Table 1. Death by cause in Asia and the Pacific 2002*

	South-East Asia			*Western Pacific*			*Eastern Mediterranean*			*Asia-Pacific*			
	Deaths ('000)	*rank*	*Per centage*	*Deaths ('000)*	*rank*	*Per centage*	*Deaths ('000)*	*rank*	*Per centage*	*Deaths ('000)*	*Per centage*	*Rank by type*	*Rank by cause*
I. Communicable diseases, maternal and perinatal conditions and nutritional deficiencies	**5 768**		**39.4**	**1 698**		**14.2**	**1 729**		**41.7**	**9 195**	**29.9**		
Infectious and parasitic diseases	2 922			804			953			4 679	15.2	2	
Tuberculosis	599	5		366	4		138	5		1 103	3.6		4
HIV/AIDS	436	6		61	7		44	7		541	1.8		7
Diarrhoeal diseases	604	4		154	6		259	3		1 017	3.3		5
Respiratory Infections	1 474			498			354			2 326	7.6	4	
Lower respiratory infections	1 453	2		471	3		348	2		2 272	7.4		3
Nutritional deficiencies	189			27			53			269	0.9	7	
Perinatal conditions	1 012			349			303			1 664	5.4	5	
II. Non Communicable diseases	**7 423**		**50.6**	**9 013**		**75.5**	**2 030**		**48.9**	**18 466**	**60.1**		
Cardiovascular diseases	3 911			3 825			1 079			8 815	28.7	1	
Ischaemic heart disease	2 039	1		993	2		538	1		3 570	11.6		1
Cerebrovascular disease	1 059	3		1 957	1		227	4		3 243	10.5		2
Malignant neoplasms (cancer)	1 160			2 318			272			3 750	12.2	3	
Neuropsychiatric disorders	267			167			89			523	1.7	6	
III. Injuries	**1 467**		**10.0**	**1 229**		**10.3**	**392**		**9.4**	**3 088**	**10.0**		
Road traffic accidents	296	7		304	5		133	6		733	2.4		6
Total	**14 658**		**100**	**11 940**		**100**	**4 151**		**100**	**30 749**	**100**		

Source: WHO, *World Health Report 2004* (Geneva, 2004).

* The regional classification is based on the WHO (2004) classification criteria i.e. South-East Asia: Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand Timor-Leste; Eastern Mediterranean: Afghanistan, Bahrain, Djibouti, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates, Yemen; Western Pacific: Australia, Brunei Darussalam, Cambodia, China, Cook Islands, Fiji, Japan, Kiribati, Lao People's Democratic Republic, Malaysia, Marshall Islands, Federated States of Micronesia, Mongolia, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Tonga, Tuvalu, Vanuatu, Viet Nam.

Within this category of disease, ischaemic heart disease and cerebrovascular disease accounted for 3.6 million (11.6 per cent) and 3.2 million (10.5 per cent) deaths respectively in 2002, ranking these silent killer diseases among the most serious. The pattern of deaths due to diseases is reminiscent of those observed in developed regions several decades ago. The changing socio-economic environment, stress due to pressure at work and the resulting work-life imbalance, lack of physical activity, lifestyles, in particular dietary habits appear to have had a major impact on the present high level of cardiovascular diseases in the region. This is particularly true in countries which experienced rapid economic progress.

Deaths due to infectious diseases at 4.7 million accounted for 15.2 per cent making it the second most serious category of disease in the region as well as across sub-regions except the Western Pacific. Within this category, tuberculosis, diarrhoea and HIV/AIDS claimed 1.1 million, 1.0 million and 0.5 million lives, respectively in 2002, indicating high levels of pollution, malnutrition, lack of access to clean water and sanitation, high risk sexual behaviour, and lack of adequate knowledge in disease prevention. However, in terms of individual diseases, lower respiratory infection was the most serious infectious disease and ranked third behind ischaemic heart disease and cerebrovascular disease. South-East Asia and the Eastern Mediterranean regions appear to be more prone to lower respiratory infection perhaps reflecting overcrowding, poorly managed local environments and the increasing level of pollution due to industrialization. Malignant neoplasms (cancers), another category of disease with strong links to consumer behaviour, in particular high tobacco consumption, have claimed 3.7 million people or 12.2 per cent of total deaths in the Asia-Pacific region in 2002.

A similar pattern is also observed in the burden of disease in DALY (table 2). Non-communicable diseases accounted for 50 per cent of the disease burden in 2002, while communicable diseases, maternal and perinatal conditions, and nutritional deficiencies accounted for 36.5 per cent. Injuries accounted for 13 per cent of the disease burden. However, in terms of the type of disease categories, infectious and parasitic diseases appear to cause more morbidity due to high diarrhoeal infections, tuberculosis and HIV/AIDS, accounting for 48 per cent of the total disease burden in 2002 followed by neuropsychiatric disorders (36 per cent) and cardiovascular diseases (29 per cent). Among the individual diseases lower respiratory infection (17 per cent), diarrhoeal diseases (12 per cent) and ischaemic heart disease (11 per cent) caused the most disease burden. The increasing level of morbidity due to infectious diseases has strong links to changes in ecological conditions, rising levels of pollution, and lack of access to clean water and sanitation.

Table 2. Burden of diseases in DALY 2002

	South-East Asia		*Western Pacific*		*Eastern Mediterranean*		*Asia-Pacific*	
	Burden of diseases in DALY ('000)	*Percentage*	*Burden of diseases in DALY ('000)*	*Percentage*	*Burden of diseases in DALY ('000)*	*Percentage*	*Burden of diseases in DALY ('000)*	*Percentage*
I. Communicable diseases, maternal and perinatal conditions and nutritional deficiencies	**184 649**	**43.3**	**54 287**	**20.5**	**64 373**	**46.3**	**303 309**	**36.5**
Infectious and parasitic diseases	88 953		23 671		32 410		**145 034**	
Tuberculosis	13 931		6 030		3 040		**23 001**	
HIV/AIDS	12 129		2 303		1 402		**15 834**	
Diarrhoeal diseases	20 299		6 687		8 661		**35 647**	
Respiratory Infections	33 026		8 654		10 819		**52 499**	
Lower respiratory infections	32 258		7 769		10 453		**50 480**	
Nutritional deficiencies	12 128		4 360		4 491		**20 979**	
Perinatal conditions	39 147		14 389		12 138		**65 674**	
II. Non Communicable diseases	**186 376**	**43.7**	**173 618**	**65.5**	**57 223**	**41.1**	**417 217**	**50.2**
Cardiovascular diseases	42 987		32 413		12 060		**87 460**	
Ischaemic heart disease	20 734		7 502		5 321		**33 557**	
Cerebrovascular disease	10 395		17 276		2 531		**30 202**	
Malignant neoplasms (cancer)	13 742		24 822		3 816		**42 380**	
Neuropsychiatric disorders	48 314		46 534		15 020		**109 868**	
III. Injuries	**55 547**	**13.0**	**36 974**	**14.0**	**17 481**	**12.6**	**110 002**	**13.2**
Road traffic accidents	10 016		8 904		4 588		**23 508**	
Total	**426 572**	**100**	**264 879**	**100**	**139 077**	**100**	**830 528**	**100**

Source: WHO, *World Health Report 2004* (Geneva, 2004).

Overall, while “the classical epidemiological transition”[4] may explain the changing disease pattern in some countries, in others it could be due to a combination of factors such as heavy environmental pollution resulting from industrialization and changing lifestyles and consumption patterns due to modernization of societies. It could also be due to both these factors as in the case of China (Cook and Dummer, 2004). The above analysis also revealed two important points. Firstly, taken individually, some communicable diseases, in particular lower respiratory infections and diarrhoeal diseases appear to cause more disease burden in DALY than any other disease. Secondly, although these infectious diseases appear to cause more disease burden than non-communicable diseases such as heart diseases, they are not as fatal as the latter. In terms of minimizing the societal impact, these point to the need for prioritization of health intervention depending on the severity of the diseases.

[4] This is a situation where the high rates of infectious disease and early mortality associated with a predominantly peasant society have changed into disease patterns that correspond to an ageing, increasingly urban, population.

Weakening health-care systems

Diseases add considerable strain to public health-care systems. This is particularly true in the case of most developing countries where health systems are financed almost entirely by state funds. In the absence of adequate human capital and financial resources and private health care provision to meet the rising demand, a higher level of disease burden implies deteriorating quality of public services, over crowded hospitals with long queues and long waiting times not only for specific treatments such as surgeries but also out patient treatments.

The low quality of health services in Asian developing countries is reflected in the scarcity of doctors and the high rates of births not attended by skilled health personnel (table 3). In such countries as Bangladesh, Bhutan, Cambodia, Indonesia, the Lao People's Democratic Republic and Nepal, physician to population ratios are so small that one cannot expect patients to receive quality health care. In these countries the share of births attended by skilled health personnel is also very low indicating high probability of high maternal and infant mortality rates.

The health systems in many developing countries are also burdened with the high likelihood of disease outbreaks due to lack of sustainable access to clean water and improved sanitary conditions. The problem is particularly acute in rural areas in South-East Asia where the majority of people do not have access to clean water and sanitation. The status of health in the region could be summarized as follows:

Status of health

a) The changing socio-economic environment in the region has resulted in a major health transition in the region; non-communicable diseases, in particular cardio vascular diseases are taking a heavy toll both in deaths and disease burden.

b) Communicable diseases, in particular respiratory infections and parasitic diseases continue to be a major health problem.

Health systems

a) Health systems in most developing countries are plagued by lack of skilled health personnel due to a host of factors including lack of financial resources. As a result the existing health systems in many developing countries in the region are not in a position to provide access to quality health services on their own.

Table 3. Selected health indicators 2000

	Number of physicians per 100,000 population	*Years*	*Births attended by skilled health personnel (percentage)*	*Population with sustainable access to improved water source (percentage)*		*Population with access to improved sanitation (percentage)*	
				Urban	**Rural**	**Urban**	**Rural**
South-South West Asia							
Bangladesh	20.0	(1997)	12.1	99	97	71	41
Bhutan	16.0	(1995)	15.0	86	60	65	70
India	48.0	(1992)	42.3	95	79	61	15
Iran (Islamic Republic of)	85.0	(1996)	..	98	83	86	79
Nepal	4.0	(1995)	11.9	94	87	73	22
Pakistan	57.0	(1997)	20.0	95	87	95	43
Sri Lanka	36.5	(1999)	94.1	98	70	97	93
Turkey	121.0	(1998)	80.6	81	86	97	70
South-East Asia							
Cambodia	29.7	(1998)	31.8	54	26	56	10
Indonesia	16.0	(1994)	55.8	90	69	69	46
Lao People's Democratic Republic	24.3	(1996)	21.4	61	29	67	19
Malaysia	65.8	(1997)	96.2	..	94	..	98
Myanmar	29.7	(1999)	56.4	89	66	84	57
Philippines	123.0	(1996)	56.4	91	79	93	69
Singapore	162.7	(1998)	100.0	100	..	100	..
Thailand	24.0	(1995)	85.0	95	81	96	96
Viet Nam	48.0	(1998)	69.6	95	72	82	38
East-North East Asia							
China	161.7	(1998)	89.3	94	66	69	26
Japan	193.2	(1996)	100.0	..	..	..	..
Mongolia	243.3	(1998)	96.6	77	30	46	2
Republic of Korea	136.1	(1997)	100.0	97	71	76	4
United States of America	279.0	(1995)	99.0	100	100	100	100

Source: WHO, *World Health Report 2004* (Geneva, 2004), WHO Estimates of Health Personnel <www.who.int/whosis/health_personnel/health_personnel.cfm> (accessed on 10 June 2004).

Major causes of diseases

a) Changing lifestyles, dietary habits, work-life imbalance and lack of physical activity.

b) High levels of pollution, malnutrition, overcrowding and poor living conditions.

c) Lack of sustainable access to clean water and improved sanitation is a major cause for concern and is a prime factor for parasitic diseases.

Issues arising from these problems, in particular those relating to access to basic health services, health promotion, the role of different service providers, localization of service delivery, and alternative options for financing health care will be discussed in detail in the next section.

II. PROMOTING RESPONSIVE PUBLIC HEALTH SYSTEMS

Building a health system that is responsive to the needs of the society and has the capacity to cope with emerging health issues, particularly in the context of globalization and the associated behavioural changes that affect health, would require an effective division of responsibilities among the government, the private sector and communities taking into account overall resource constraints, efficacy of service delivery and welfare gains.

(1) Service providers

The government

The government, as the lawmaker and the caretaker of people, has primary responsibility for ensuring good public health. Affordable access to basic quality health services is a human right. The provision of public goods in health, infrastructure, human resources, financing of primary health care and implementation of an effective health policy are some of the areas where the government has taken the lead and will continue to do so. The level of government intervention in service provision depends not only on the level of economic development of the country but also on the social costs involved.

(a) Intervention in service delivery

It is often argued that public, rather than private, provision of basic health services is socially optimal.[5] Public intervention in the health sector, particularly at the primary level, is often justified on the basis of its impact on poverty, the distribution of resources or access to resources within a society. In addition, diseases impose heavy economic and social costs on governments and society, in which case the government may intervene in disease prevention. For example, there could be negative externalities relating to infectious diseases as infectious people can infect other people who in turn infect other people. This is particularly important when the public, including the government, reflect prevalence-elastic

[5] See Filmer et al. (1997) for an account on health policy in poor countries.

behaviour, of the degree to which prevention rises in response to disease outbreaks.[6]

However, governments need to strike a balance between state and private sector interventions in health service delivery. In poor countries the government needs to play a catalytic role in the direct provision of primary health care and other health services with a special focus on access to health in remote areas, the role of government in more affluent countries may be more as a policymaker and a regulator. In the latter case rather than being in the drivers seat for service provision, the government has an important role to play in providing stewardship, particularly in designing a pro-active public health policy framework within which the private sector can operate efficiently, re-aligning government functions, institution building and altering incentives for private sector institutions to perform better. In most countries an appropriate mix of both approaches could be most effective.

For example, the system adopted by Malaysia, which has done better in terms of health care than many developing countries in the region, provides good examples for government involvement in health care provision. The success comes basically from its pragmatic approach towards the development of public health services, giving priority to major issues of health and socio-economic concern. The country has embarked on an extensive infrastructure development in under served areas within its overall objective of "Health for all" by 2020. Its health programmes are mainly targeted at diseases of major incidence and prevalence, and at high risk groups (Bin Juni, 1996).

(b) Institution building

An effective institutional setup is a prerequisite for the efficient delivery of public health services.[7] In addition to health infrastructure, technology, financial and human resources, a responsive health policy is also required to meet the emerging health challenges. Health systems in many developing countries in the region are plagued by a lack of skilled health personnel, financial resources and political commitment resulting in heavy disease burdens. On the other hand, weaknesses in public health policies could also be symptoms of longer-term institutional factors arising from a systemic mismatch between the incentive structure

[6] See also Brito et al (1991), Francis (1997), Gersovitz and Hammer (2000), and Philipson (1999).

[7] According to Kittikanya (2004), the introduction of the 30-baht universal health insurance system by the Thai government in the absence of appropriate infrastructure and institutional setup and a good financial management system has negatively affected medical professionals and the public's access to health care services.

in the public sector and tasks of the health service.[8] Correcting public health policies without addressing the institutional drawbacks will bring few long-term benefits.[9]

An integrated approach to building an efficient institutional system of health care would include:

- Provision of adequate resources through taxation, particularly for universal primary care. Taxes specially earmarked for health services would be a better way to provide equitable services and ensure firm commitments.
- Development of human resources in the health service sector, taking into account country specific requirements. For example increasing the number of medical doctors may not be the most effective way to improve human resources in the medical sector if the most urgent need is for nurses or mid-wives.
- Provision of incentives to health personnel that adequately reflect their tasks and responsibilities.
- Provision of physical infrastructure needed to efficiently deliver services.

It may also be necessary to redefine public sector responsibilities and objectives within an integrated framework enabling the private sector, including non-governmental organizations to play a greater role in health care provision, particularly in view of resource constraints.

(c) Public policy on environment

Many infectious diseases are thought to worsen or spread by poor environmental quality.[10] Diseases such as tuberculosis, diarrhoeal diseases and respiratory infections, which altogether account for 15 per cent of total deaths due to diseases in the region, are closely linked to pollution. It is also a cause for

[8] For example, payments in cash or kind are increasingly expected for consultation as doctors and nurses seek to survive on an income of less than US$ 5 per month in Tajikistan (Fallkingham, 2004). A top factor cited by health-care workers for resigning from their jobs in Thailand is workload, followed by low wages (Kittikanya, 2004).

[9] See for example, Easterly and Lavine (2002).

[10] The pneumonia plague that hit India in early 1990s was considered the result of a filthy urban environment (Garrett, 2000). See also Newsweek (5 May 2003) and World Bank (1992).

some vector borne diseases such as dengue and filariasis. With the exception of catastrophic events, human behaviour has a far more negative impact on Earth's ecology than natural change. Almost any activity that disrupts the environment and ecological balance can enhance the emergence and the mobility of disease-causing microbes. Increased competition in an environment of globalization and shifts in economic policies without proper safe guards have led to a depletion in the quality of the environment, making human beings prone to infectious diseases. Hossain (2000) points out that the shift to a more market oriented economy has changed environmental and behavioural factors, thus diversifying the types of disease across regions in China.

Pollution, deteriorating sanitary conditions and sub-standard farm practices provide an environment conducive to the emergerce of deadly viruses. As such, environmental policy could be used as an effective policy tool to prevent the creation of an environment conducive to diseases. The increasing exposure to health hazards arising from environmental degradation calls for urgent and effective action to protect the environment at the domestic, regional and global level.

Policy options available to governments include:

- Implementation of a regulatory framework to protect the environment and minimise the potential damages to ecological balance and thereby the emergence of infectious diseases.
- Imposing punitive charges for those who violate environment regulations.
- Sale of pollution rights for firms engaged in environment damaging activities; such funds shall be used for environmental cleanup.
- Implementation of effective waste disposal systems at the local level along with strict penalties for violating regulations as in the case of Singapore.

The private sector

The increasing demand for health services and the constraints faced by governments necessitate private sector involvement in health service delivery along with the public sector, particularly in catering to the needs of different income strata.

(i) Health service provision

Private sector involvement in health service delivery could have several advantages not only because competition impacts performance but also because it is an effective alternative to public health services, particularly in resource constrained developing countries. Lack of financial resources is one of the major reasons for poor quality public health services. In countries where public infrastructure is weak, disease prevention strategies may not be scaled up without private sector involvement. On the other hand, social marketing is increasingly being used to stimulate demand for effective public health interventions, such as family planning and the treatment of sexually transmitted diseases through the private sector (Mills et al. 2004). Contracting out certain activities could also offer advantages in terms of cost reduction, service quality and management convenience. However, private provision of health services could become ineffective in the absence of an effective regulatory environment.

(ii) Making public-private partnerships effective

Public-private partnerships would be most effective in areas where both the public sector and the private sector fail when operating on their own. These partnerships would reflect the recognition by the public, the private sector and communities that some emerging health issues require complex organizational mechanisms, diverse skills and resources. Both for-profit and not-for-profit private sector institutions could collaborate with governments in areas such as community level health service delivery.

When there is market failure in the distribution of health benefits to people, particularly the poor in developing countries, public-private partnerships offer an innovative mechanism in delivering health services to the poor.[11] Addressing issues arising from the diversity of partners involved in such a mechanism however, would require mutual understanding and flexibility in organizational culture. It is especially important to take into account the diverse organizational and working cultures of the public, private sectors and the community level participants.

The region provides several examples of successful partnerships in the health sector which could be replicated by developing countries. For example a partnership between a private hospital and the state Tuberculosis Training and Demonstration Centre in Andra Pradesh in India has resulted in 85 per cent cure

[11] For a detailed account of public private partnerships for public health see Reigh (2002).

rate of TB.[12] Aga Khan Health Services (AKHS) operates comprehensive private, not-for-profit health-care systems in several developing countries, including India and Pakistan. These services are designed to reach vulnerable groups. It provides services such as immunization, systematic prenatal care, and oral rehydration therapy for diarrhoeal diseases. It has proven the efficacy and cost-effectiveness of private health care.[13]

Recognition of cultural aspects and opening up space for participation are particularly important for success in community-based health-care services. For example, community-based health-care projects in Cambodia, which recognized the important role played by Buddhist pagodas in village social, religious and welfare activities in project implementation were a success (Jacobs and Price, 2003). However similar projects in Bangladesh failed due to limited and unclear responsibilities, bias towards the well-off in selecting members for Community Groupings, the unequal social relationship between the rich and the poor and the low self-esteem of the poor (Mahmud, 2003).

(2) Decentralization of service delivery

Does the provision of services at the local level through decentralization improve public health service delivery both in terms of access and quality? The evidence from empirical analyses are far from conclusive. In principle, local institutions, appropriately staffed and resourced can make services more effective through accurate targeting, better needs based services and cost effective provision (Kumar and Dante, 2005). In most cases, the failure to achieve this outcome appears to be due to incomplete decentralization and lack of institutional arrangements to support efficient functioning of decentralized systems.[14] For example, decentralization of primary health care in Chile without effective fiscal and political decentralization led to inefficient outcomes (Gideon, 2003). Also, health care decentralization in China led to a reduction in funding levels and service quality.[15] In addition, according to Kumar and Dante (2005), several features of health care such as the integrated nature of services, the necessity of formally trained personnel, licensing of health personnel, pharmaceutical quality and safety, as well as the controversial nature of some services such as family planning, make

[12] WHO Regional Office for South-East Asia (2001), <www.whosea.org/tb/tb&you2.htm>.

[13] Aga Khan Development Network, available at <www.akdn.org/agency/akhs.html>.

[14] ESCAP, *Economic and Social Survey of Asia and the Pacific 2004*, (United Nations publication, Sales No. E.04.II.F.20).

[15] Tang and Bloom (2000).

decentralization of health services more difficult than in other sectors. In certain cases, however, the trade-off between economic efficiency and political stability would make decentralization an economically inefficient but socially optimal approach to governance.[16]

For efficient outcomes, decentralization of health services should have the following features:

- Careful planning and sequencing of decentralization, taking into account local conditions.
- Proper institutional arrangements, including skilled health personnel and management capacity in place at the local level.
- Decentralization of fiscal powers along with decentralization of health service delivery.
- Appropriate transparency and accountability rules and regulatory mechanisms relating to health service delivery.

(3) Financing health interventions: alternative approaches

(i) Financing intervention costs

The public goods concept as applied to public health justifies the financing of public intervention costs by the government. This could be done by imposing taxes or through deficit financing. Taxation of the current generation would imply a redistribution of income from the rich to the poor. A deficit financed intervention programme, which spends beyond current taxes and transfers the tax burden to future generations, could also improve social welfare if the public is unwilling to take protective actions by themselves (say by getting vaccinated) and such programmes would benefit the future generation by minimizing the probability of contracting the disease.[17] Yet, investing in health systems has become a major challenge for many countries in the region due to resource constraints. The weak health systems in the region are mainly a reflection of inadequate investments in the health sector.

[16] Tanzi (1996) as reported in R. Fisman and R. Gatti, “Decentralization and corruption: evidence across countries”, World Bank Policy Research Working Paper No. 2290, February 2000.

[17] The government is in a better position to face the systemic risks associated with alternative financing arrangements such as health insurance due to its power of taxation. See for example Jack (2000) and Filmer et al. (1997).

Table 4. Health expenditure as percentage of GDP

	Health expenditure as percentage of GDP					*Expenditure on health as percentage of total government expenditure*				
	1997	*1998*	*1999*	*2000*	*2001*	*1997*	*1998*	*1999*	*2000*	*2001*
South and South-West Asia										
Bangladesh	2.9	2.9	3.1	3.6	3.5	5.6	5.9	6.3	8.6	8.7
Bhutan	3.6	3.8	3.5	3.9	3.9	10.1	9.6	8.3	9.2	7.5
India	5.3	5.0	5.2	5.1	5.1	3.2	3.5	3.3	3.1	3.1
Iran (Islamic Republic of)	5.9	6.0	6.5	6.4	6.3	10.5	10.8	11.2	11.8	12.0
Nepal	5.4	5.5	5.3	5.2	5.2	9.3	9.9	9.0	9.0	8.1
Pakistan	3.8	3.9	4.0	4.1	3.9	3.8	4.2	3.7	3.3	3.5
Sri Lanka	3.2	3.4	3.5	3.6	3.6	6.0	5.8	5.7	6.1	6.1
Turkey	4.2	4.8	4.9	5.0	5.0	10.8	11.5	9.1	9.0	9.1
South-East Asia										
Cambodia	10.9	10.8	10.8	11.8	11.8	12.5	11.8	11.3	15.7	16.0
Indonesia	2.4	2.5	2.6	2.7	2.4	2.8	3.2	3.6	3.2	3.3
Lao People's Democratic Republic	2.9	2.5	3.0	2.9	3.1	9.8	5.7	8.8	7.6	8.7
Malaysia	2.8	3.0	3.1	3.3	3.8	6.1	5.1	6.0	6.1	6.5
Myanmar	2.1	2.0	2.0	2.0	2.1	2.7	2.5	3.0	5.0	5.7
Philippines	3.6	3.5	3.5	3.4	3.3	6.7	6.6	6.5	7.1	6.2
Singapore	3.7	4.2	4.0	3.6	3.9	8.4	8.7	8.2	6.7	5.9
Thailand	3.7	3.9	3.7	3.6	3.7	10.2	13.3	11.6	11.6	11.6
Viet Nam	4.4	4.9	4.9	5.2	5.1	5.6	7.1	6.7	6.1	6.1
East and North-East Asia										
China	4.6	4.8	5.1	5.3	5.5	14.2	13.3	11.8	10.8	10.2
Japan	6.8	7.1	7.5	7.7	8.0	14.9	13.2	15.3	15.5	16.4
Mongolia	5.0	6.2	6.1	6.3	6.4	9.1	9.0	9.8	10.5	10.5
Republic of Korea	5.0	5.1	5.6	5.9	6.0	9.0	9.3	9.7	10.7	9.5
Germany	10.7	10.6	10.7	10.6	10.8	16.3	16.3	16.3	17.3	16.6
United States of America	13.0	13.0	13.0	13.1	13.9	16.8	16.9	16.9	17.2	17.6

Source: WHO, *World Health Report 2004,* (Geneva, 2004).

For example, as reflected in table 4, total expenditures on health as a percentage of GDP in developing countries in the region varied from a low range of 2.4 per cent in Indonesia to 5.5 per cent in China in 2001 (excluding Cambodia's relatively high level of 11.8) against 13.9 per cent in the United States. Developing countries in the region in particular need to find innovative and effective ways of mobilizing financial resources needed for investments in the health sector.

The systems adopted by Malaysia and Singapore could provide important lessons for developing countries. Both Malaysia and Singapore have managed to achieve good health outcomes with a relatively low level of investment in the health sector (3 per cent of GDP). In Malaysia, public health expenditure is subject to strict cost control, while equal focus is being made to regulatory functions, increased community participation and cost sharing in health and intersectoral and interagency coordination and collaboration in health and health-related activities (Bin Juni, 1996). In Singapore the government is actively engaged in regulating the supply and prices of health care services. The government's objective is clear: no one but the poor would be entitled to free health care services (Liu and Yue, 1999). Its financing system combines universal savings accounts with supplementary programmes to protect the poor and address potential market failure in health financing.

Increasing pressure on resource requirements and resource constraints in developing countries imply that countries need to strike a balance between the provision of social welfare and resource availability. Non-discriminatory across the board taxation of income of employees at a given rate and channelling such revenue to health and education programmes, application of user charges in certain services and encouraging private sector involvement in health service delivery and human resource development are some options available for governments to fill the resource gap.

Another way out is the promotion of cost cutting through a reduction of unnecessary prescriptions. For example, a survey of prescription charges in Nepal showed that between 20 to 50 per cent of drug costs arise from unnecessary prescriptions (Holloway and Gautam, 2002). This is true for many developing countries where pharmaceutical companies actively promote their prescription drugs. By promoting cheaper generic drugs rather than brand names and making it mandatory for patient consultation prior to prescribing expensive drugs, governments could bring these costs down. The use of limited resources for maximum outcome through quality improvement is another approach to addressing resource constraints. For example, evidence from Sri Lanka shows that by applying modern quality improvement principles used in manufacturing, public health care administration can greatly enhance quality and improve health outcomes without extra burden on budget.[18]

(ii) Health insurance

The introduction of health insurance is an alternative approach to public finance of the treatment component of public intervention. Asymmetric information creates conditions for moral hazard and adverse selection. In addition, imperfect competition may have negative effects on allocative efficiency, leading to failures

[18] The application of five "S" system of Japanese management for quality improvement in reorganizing the Castle Street Hospital for Women, Colombo, Sri Lanka and its health service delivery resulted in a significant drop (64 per cent) in maternal mortality rate in 2004. See Karandagoda (2003).

in insurance markets. This is particularly relevant in health insurance markets making a compelling reason for significant public intervention. However, instead of a comprehensive public insurance package, private involvement could be encouraged by solving the adverse selection problem by providing partial insurance coverage by the public (say for the poor) and allowing the private market to provide supplementary insurance coverage.[19] The private sector should also be allowed to operate in the market along side the government so that pressure on the public health system arising from those who can afford to pay could be minimized.

Despite the potential gains, countries in the Asian region have yet to exploit private insurance markets for the provision of health insurance. Almost all of the private health care expenses in Asian countries is made out-of-pocket. For example, as can be seen in table 5, although a major share of total expenditure on health is borne by the private sector in many countries in the region, private pre-paid plans as a percentage of private expenditure on health still stand at a very low level of below 10 per cent except for the Philippines (19.8 per cent) and the Republic of Korea (17.2 per cent). In contrast to this low level of dependency on private insurance in Asia, some developed countries such as the United States rely more on private health insurance (64.1 per cent) for meeting future health expenditures. Conversion of current out-of-pocket expenditure on health into private health insurance (pre-paid schemes) would not only enable pooling of risks but also reduce average total cost on health expenditure and increase access to health care. For example, the introduction of health insurance in Viet Nam increased the level of access to health care, especially among the poorest groups (Jowett et al. 2004). In Kazakstan, health insurance made up some of the shortfall in state health sector investment due to economic decline in the 1990s (Ensor and Thompson, 1999).

Health insurance, even if it is partially funded by the government, could be an effective way of financing health care in cash-strapped developing countries. However, health insurance may lead to higher costs and poor quality when the insurance is subsidized by the government. For example, community based health insurance in rural Gujarat in India led to higher charges for poor quality care (Ramson and John, 2001). Despite potential benefits, the 30-baht universal health care system in Thailand is said to cause financial strain for hospitals, low wages and a high work load for hospital staff and a high number of complaints (Kittikanya,

[19] Finkelstein (2002) finds empirical support for such an argument in relation to the United States Medicare programme. According to Wilson (1977), when there is a pooling equilibrium in a private insurance market with adverse selection, the government can always Pareto dominate such an equilibrium by providing partial insurance and allowing the private sector to provide supplemental insurance coverage.

Table 5. Expenditure on health 2001

	Private expenditure on health as percentage of total expenditure on health	*Out-of-pocket expenditure as a percentage of private expenditure on health*	*Private prepaid plans as percentage of private expenditure on health*
South and South-West Asia			
Bangladesh	55.8	93.2	0.0
Bhutan	9.4	100.0	0.0
India	82.1	100.0	..
Iran (Islamic Republic of)	56.5	94.2	2.6
Nepal	70.3	93.3	0.0
Pakistan	75.6	100.0	0.0
Sri Lanka	51.1	95.0	1.1
Turkey	29.0	98.8	1.2
South-East Asia			
Cambodia	85.1	84.6	0.0
Indonesia	74.9	91.8	8.2
Lao People's Democratic Republic	44.5	80.0	..
Malaysia	46.3	92.8	7.2
Myanmar	82.2	99.6	0.0
Philippines	54.8	78.2	19.8
Singapore	66.5	97.0	0.0
Thailand	42.9	85.0	9.6
Viet Nam	71.5	87.6	4.2
East and North-East Asia			
China	62.8	95.4	0.4
Japan	22.1	74.9	1.4
Mongolia	27.7	73.4	0.0
Republic of Korea	55.6	74.3	17.2
Germany	25.1	42.4	33.5
United States of America	55.6	26.5	64.1

Source: WHO, *World Health Report 2004* (Geneva, 2004).

2004). These issues could be addressed by (i) introducing community-based health insurance schemes, (ii) targeting the neediest groups, with premiums for the poorest being paid by the local authority preferably through setting up a central fund, (iii) infrastructure development and good financial management and (iv) monitoring the results and costs.

III. A DUAL-TRACK APPROACH TO HEALTH INTERVENTION

How should a resource-constrained country respond to emerging health challenges? Prioritizing interventions may be an effective approach to the efficient utilization of scarce resources for generating maximum health outcomes. This paper proposes a dual-track approach in which health interventions are looked at from two different angles.

Track I

In Track I, disease categories (or individual diseases) are classified in the order of their merit for priority intervention. Prioritization of intervention in disease prevention either at the regional, subregional or national level could be achieved by identifying the seriousness of the disease based on death rates or disease burden. Table 6 provides a classification of disease categories based on the total number of deaths due to diseases in the Asia-Pacific region, identifies possible preventable root causes and proposes low cost preventive measures.

As mentioned earlier, many of the diseases are closely associated with dietary habits, risky behaviour, lack of knowledge, environmental pollution and the lack of basic needs such as access to clean water and sanitation. Health education and promotional campaigns appear to be the single most important low-cost disease prevention strategy. Such programmes should focus on healthy diets, the link between health and physical activity, reducing stress, safe sex behaviour and the adverse effects of smoking. Introduction and effective implementation of laws could be used to limit aggressive campaigns promoting food containing excessive saturated fat, sale of cigarettes to minors, controlling pollution including disposal of industrial and household waste and motor vehicle emissions, standardization of farm practices, and strict enforcement of traffic laws aimed at preventing driving while intoxicated and requiring the use of seat belts. Prohibitive taxation, together with measures to prevent smuggling and local production would be an effective way to reduce demand for cigarettes and alcohol.

Apart from these measures, improving the living conditions of the urban and rural poor by providing proper housing and access to clean water and sanitation would be essential in controlling tuberculosis and diarrhoeal diseases. Financial savings through prioritization of preventive measures and public-private partnerships could be used for improving conditions in these areas. Additional public investments in these areas, particularly targeted at the poor, could be justified as the costs incurred in curative care outweigh those of preventive measures.

Table 6. Matrix of low cost disease prevention

Ranking of disease categories based on deaths	*Preventable risk factors*	*Low cost preventive measures*
1) Cardiovascular disease	Dietary habits	Promotion of healthy diets, Implementing laws to contain aggressive marketing campaigns on food containing excessive levels of saturated fat
Ischaemic heart disease	Lack of physical activity/regular exercise	Promotion of physical activity
Cerebrovascular disease	Lack of work-life balance, stress	Promotion of work-life balance
2) Infectious and parasitic diseases		
Tuberculosis	Pollution, smoking, malnutrition	Implementing laws to restrict pollution and smoking
Diarrhoeal diseases	Lack of clean water and sanitation	Improving nutritional and living conditions Provision of clean water and sanitation
HIV/AIDS	High risk behaviour, lack of knowledge in prevention	Educational programmes on risks and safe sex behaviour
3) Respiratory infections	Pollution, overcrowding, poor living conditions	Improving living conditions, proper planning of cities, Implementing laws to restrict pollution
	Sub-standard farm practices	Implementing laws to maintain minimum standards
4) Malignant neoplasms	Smoking	Prohibitive taxation of tobacco products (cigarettes), laws preventing the sale of tobacco products to minors and imposing restrictions on advertising health education campaigns on the risks of smoking
5) Road traffic accidents	Alcohol and substance abuse, ignorance, lack of law and order	Strict implementation of traffic laws

Prioritization of preventive measures may differ in subregions and countries depending on their vulnerability to certain types of diseases. For example, as table 7 reflects, in terms of the number of deaths, South-East Asia's most serious health issue is ischaemic heart disease while that of the Western Pacific is cerebrovascular disease. Diarrhoeal diseases are more serious in the Eastern

Mediterranean than in South-East Asia or the Western Pacific. Meanwhile, road traffic accidents are becoming a more serious problem in the Western Pacific than elsewhere in the region. As such, countries need to identify their priority areas for more effective preventive interventions so that scarce resources could be used efficiently and to identify areas where low-cost intervention methods may not be effective.

Table 7. Ranking of diseases based on the number of deaths

Disease	*South-East Asia*	*Western Pacific*	*Eastern Mediterranean*
Ischaemic heart disease	1	2	1
Cerebrovascular disease	3	1	4
Lower respiratory infections	2	3	2
Tuberculosis	5	4	5
Diarrhoeal diseases	4	6	3
Road traffic accidents	7	5	6
HIV/AIDS	6	7	7

Source: Author's calculations based on World Health Report 2004

Track II

Track II diseases are those that have the potential to become explosive and cause severe social and economic damage. Such diseases need priority attention even if they may not be the most severe in terms of current death rates or disease burden. HIV/AIDS is a case in point. The disease could spread at an exponential rate if priority action is not taken. Preventive measures are urgently needed, particularly in countries where the disease is making headway, to prevent a catastrophic outbreak such as those experienced in countries such as Botswana or Zimbabwe where the HIV prevalence rate is as high as 39 per cent and 34 per cent respectively.

The control of such diseases would require a national approach supported by local level programmes. Here again low-cost preventive measures would be more effective if national level strategies are backed by political commitment. Institutional arrangements alone may not be sufficient and effective in tackling such diseases. The link between diseases and behavioural changes and habits could very well be a determining factor in disease prevention. Thailand's success in reversing the trend in HIV infection is mainly due to low-cost intervention methods such as making condoms available and awareness campaigns. The increase in the use of condoms from the current level of 20 to 30 per cent to 60 per cent alone could induce a reverse in the trend in HIV prevalence by 2010.

IV. CONCLUSION

Health indicators for the Asia-Pacific region point to deteriorating health conditions. Prevalence of non-communicable diseases, which are usually seen in developed economies is growing rapidly. For example, nearly 30 per cent of deaths due to diseases within a year are caused by three silent killer diseases: ischaemic heart disease, cerebrovascular disease and lower respiratory infections. Tuberculosis and diarrhoea add another 16 per cent to total deaths due to diseases. The threat of communicable diseases, in particular infectious diseases, is also growing. Meanwhile, HIV/AIDS has become an urgent public health challenge in the region due to its potential explosive nature and grave implications.

The underlying reasons for this rapid health transition are many. While increasing deaths due to cardiovascular diseases reflect the impact of changing socio-economic environment and related changes in life styles and dietary habits, environmental pollution, smoking, malnutrition, overcrowding and poor living conditions also appear to contribute significantly to high deaths due to lower respiratory infection and tuberculosis. The lack of sustainable access to clean water and improved sanitary conditions is the primary cause of diarrhoeal infections and other parasitic diseases.

The health systems in many developing countries are burdened with the high likelihood of disease outbreaks. On top of these, health systems in most developing countries are plagued by lack of skilled health personnel and required infrastructure due to a host of factors including lack of financial resources. Therefore, they are not in a position to provide adequate quality health services.

The deteriorating health systems and the health of people call for an urgent re-orientation of public health systems and policies to cope with the emerging health issues. This paper proposes that while government should reinforce its involvement in ensuring public oriented health service delivery in poor countries, its role in other countries could be in the form of regulator and supervisor. In such countries providing stewardship, particularly in designing a pro-active public health policy framework within which the private sector can operate efficiently, re-aligning government functions, institution building and altering incentives for private sector institutions to perform better would be major tasks. As such, striking a balance between public and private provision of health services would become important.

The paper finds that many of the diseases that the region is confronted with could be effectively addressed by relatively low-cost preventive interventions by government through educational and promotional campaigns, law enforcement, taxation policy and improved access to clean water and sanitation. The paper highlights the importance of a more focussed health policy, prioritising public intervention in critical areas, which can make a significant impact on health outcomes, pooling both public and private resources in an effective manner to make public health systems efficient and sustainable. Policy reforms designed to encourage private sector participation in health service provision and health insurance, and a regulatory framework to protect the environment would be viable options in this regard. In this respect, a dual-track approach to health intervention is proposed prioritizing interventions based on the severity and the explosiveness of diseases.

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GROWTH INTERDEPENDENCE AMONG INDIAN STATES: AN EXPLORATION

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The objectives of this paper are to test whether there are any significant trickling down effects of economic growth across the Indian states and to identify the factors influencing the existence of such effects. Using data from 1971 to 1998, and the standard statistical test of causality, this study suggests that the transmission of growth impulses across states have been limited. The results indicate that the structure of the economies, the growth rates of the states and the quality of state-specific institutions appear to raise the potential for significant trickle down growth effects across states.

Variations in economic growth of regions within national boundaries have been significant across different types of economies around the world. Natural endowments and constraints, initial stages of development, mobility of resources, scale economies leading to specialization and a host of other such factors influence development patterns of regions within national economies. The pattern of growth across the states within India has been a subject of interest both to academics as well as policymakers. Balanced regional development has been a 'touch-stone' for policy evaluation in India in a number of instances (Chelliah, 1996). In the context of 'balanced development', the trickle down of growth from one region to another has generally been implicit. Relatively the large size of the state economies may indeed have led to an assumption that such inter-state trickling down or spillover effects of growth are small. Conceptually, however, linkages between the economies of different states can be wide-ranging. The input-output linkages, linkages between supply and demand centres for consumption, and linkages between sources of savings and investment are obvious (Krugman, 2000; Schmitz, 2000 and Porter, 2001). Nevertheless, testing of the trickling down hypothesis is important because there are studies in the literature which have raised doubts about the existence of spillover or trickling down effects from one region to another

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(Gaile, 1980; Higgins, 1983 and Hansen, 1990). Drawing on Hayami's (1997) discussion of the international development process, it may be inferred that unless states are able to adapt their state-specific institutions for suitable transmission and receipt of the growth impulses, the linkages between states cannot be sustained.

Also, the work on convergence of per capita income across Indian states has presented mixed results: the more recent study of Kalirajan and Akita (2002) points to lack of convergence and a previous study by Cashin and Sahay (1995) points to possible convergence. Lack of convergence implies that growth rates of the states are not negatively correlated with the initial level of income. Differential in income level can also have spillover effects on the growth of lower income states due to the mobility of factors of production, leading to convergence. Lack of convergence does not imply, however, lack of spillover effects: the differentials in growth rates may accentuate differences in per capita income but nevertheless there can be a leader-follower relationship.

This paper is an attempt to examine whether growth in one state trickles down (or spills over) to growth in another state using the statistical tests of 'causality'. Are the Indian states 'islands' isolated from each other's growth impulses, or, does growth in one state 'lead' to growth in another? If there is no such evidence statistically, then why is it so? In the following section of this paper, we discuss the changing nature of centre-state economic relations that may be relevant to the promotion or weakening of the linkages between states. In the third section, we briefly review the growth experience of the states in an attempt to discern if there are patterns with respect to growth across states: do some states generally perform 'better' than other states? In section III, 'causality tests' are discussed. We attempt to examine possible explanation for the causal linkages between states in section IV. In section V, the concluding remarks of this exploratory study are presented.

I. CENTRE-STATE ECONOMIC RELATIONS

The major policy shifts of 1991, in the wake of stabilization and structural adjustment programmes, have important implications on centre-state economic relations in India. These in turn have an impact on the nature of the inter-relationship of the economies of the states. First, the policy changes have meant a transfer of power from government controls in favour of markets in deciding the location and level of new investments. Second, stabilization programmes initiated by the central Government had serious consequences on state finances and through them on state economies. In the domestic sector, stabilization programmes essentially consisted of measures to raise Government resources and/or to curtail Government expenditures to reduce high fiscal deficits from 12.1 per cent of GDP in 1990-1991, the base year for introducing stabilization programmes. Since the states were also contributing to widening fiscal deficits, their active participation was inevitable for the success of stabilization programmes. But, as in most other countries implementing stabilization programmes, the central Government has found the current expenditures sticky and therefore has attempted to reduce deficits by compressing 'developmental' or investment expenditures. In this process the states are affected in two different ways: (a) to the extent that central Government investment expenditures to an individual state shrink, the specific state economies are hurt; and (b) if the efforts to contain fiscal deficits result in a reduction in the transfer of fiscal resources to the states, the level of investment expenditures undertaken by the individual states are adversely affected.

In either case at least a part of the burden of stabilization programmes has fallen on state economies. This implies that the states have to rely increasingly on markets to attract new investments. The markets in turn will be influenced by the interdependence of the state economies for input supplies, demand and other factors influencing production and distribution. Both these influences, namely, the increasing role of the markets in determining location of new investments and the greater need for policy initiatives at the state level would have to take into account the inter-relationship of the state economies to optimize the output from new investments. Industrial policy reforms launched in July 1991 and later reforms concerning industry transfered greater autonomy to states to embark on their industrial development with minimum intervention from the centre. Under industrial policy reforms, now the licensing requirement has been abolished for all but three industries due to their strategic and environmentally sensitive nature or their exceptionally high import content. Existing industries are now permitted to expand according to their market needs without obtaining prior expansion or capacity clearance from the central Government. In the earlier licensing regime, manufacturers could produce only licensed products. Now, with industrial capacity licensing abolished, firms are free to manufacture any item in response to market signals, except for those subject to compulsory licensing. The need for separate permission from the Monopolistic and Restrictive Trade Practices Act (MRTP Act), 1969 for investment and expansion was also abolished. These steps are expected to encourage competition by reducing barriers to entry of new firms and to enable Indian firms to become large enough so that they can compete effectively in global markets.

The above reforms concerning industrial policies have removed past hurdles erected by the centre and the states on establishing and expanding industries. Now, the states have opportunities to contact foreign firms directly to promote foreign investment. However, improvements in the licensing, inspection and approval procedures at the state level seem to be inadequate. Nevertheless, some of the states are moving forward with many reforms to make licensing procedures at the state level more efficient.

This means that not all the states are likely to enjoy similar growth momentum: either before or post-reform. Variation in the economic growth performance of the states has been significant. Based on growth performance, Lall (1999) classifies the states into lagging, leading and intermediate as follows: (i) lagging states: Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh, (ii) the intermediates: Andhra Pradesh, Assam, Karnataka, Kerala, Tamil Nadu and West Bengal and (iii) leading states: Gujarat, Haryana, Punjab and Maharashtra. The classification is based on the growth of per capita income or per capita net State Domestic Product of the states. The persistence of low growth rates is characteristic of the 'lagging states'. This raises the following important questions: Are the trickle down effects of growth not flowing from the leading states to the lagging states? Why are the lagging states insulated from the economic impulses emanating from the leading states?

II. GROWTH EXPERIENCE OF THE STATES

A number of studies have examined the record of growth of state economies in India at different points in time. Both the sectoral and overall performances of output have received attention. A recent study by Shand and Bhide (2000) points to some regularities in the growth at the state level. A common feature that is observed is the decline in the share of agriculture in overall output. Between the three-year periods ending (TE) in 1972-1973 and 1982-1983, the average share of agriculture in the Net State Domestic Product (NSDP) decreased in 15 of the major states considered in the study.[1] This pattern was also observed for the period TE 1982-1983 to TE 1990-1991 and TE 1990-1991 to TE 1995-1996, with no

[1] These 15 major States account for 95 per cent of the population and 92.5 per cent of net domestic product in the country and are therefore representative. It should also be noted that the concept of NSDP only indicates the income originating in different States and does not represent total income accruing to them. Unfortunately, there are no estimates of the net factor income accruing to a State from outside its boundaries, and therefore it is not possible to take these into account. There is also a further issue relating to the comparability of estimates of NSDP across states as states may differ in the methodology of computation of NSDP for some sectors. Changes in the scope and methodology over time are also a concern. Despite their limitations we utilize these data in the present analysis, as they are the only comprehensive measures of performance of the economies of the states in India.

exceptions.[2] In the case of industry, its average share in NSDP declined in eight of the 15 states during TE 1990 to TE 1995, four states in TE 1982 to TE 1990 and four states during TE 1972 to TE 1982. The decline in the share of industry reflects an increase in the share of services, as the share of agriculture declined over the years in all the states considered. Only in one out of the 15 states in the period TE 1982 to TE 1990 and two out of the 15 in TE 1990 to TE 1995, the average share of services decreased where the average share of industry has risen. Thus, the rise in industry and service sectors has not been sustained across all of the major states in both the time periods. The pattern also suggests more rapid growth of services than industry.

Referring again to the results of Shand and Bhide (2000), in terms of pattern of growth performance across states, Haryana, Punjab and Maharashtra achieved the highest average annual growth rates during the 1970s. In the 1980s, Rajasthan, Haryana and Maharashtra were the top three performers with Gujarat and Tamil Nadu close behind. In the period of 1991-1992 and 1994-1995, the top performers were Maharashtra, Kerala and Gujarat, with West Bengal close behind. Thus, new states emerged among the high performers in the 1980s and 1990s although Gujarat and Maharashtra appeared more often in this category.

For a clearer illustration of the pattern of growth across states, data on trends in growth across the states overall as well as sectoral NSDP are shown in tables 1 to 4. While only some states have recorded “high’ growth rates of say over 4 per cent in the 1970s and 5 per cent or more in the 1980s or 1990s, there has been acceleration in growth during the latter two periods compared to the 1970s in all the states. In the 1980s, each of the 15 major states registered ‘acceleration’ in growth over the experience of 1970s. In the 1990s (1990-1991 to 1994-1995), nine states registered acceleration over the experience of the 1970s and six had slower growth. Over the experience of the 1980s, there were six states that saw accelerated growth in the 1990s. The states of Gujarat, Karnataka, Kerala, Maharashtra, Orissa and West Bengal have improved growth steadily during 1980s and 1990s while the others have ‘mixed’ growth performance.

The patterns examined above indicate that some states have succeeded in maintaining a steady rate of growth. The others were not able to sustain the acceleration in growth. It was noted earlier that agricultural growth lagged behind the other sectors in all the states through the three periods considered.

[2] The three-year averages are used to remove short-term year-to-year fluctuations. The year terminology 1970-1971 refers to the financial year of April 1970 to March 1971.

Table 1. Pattern of growth in overall NSDP (real) across states

Sl. No.	*State*	*Growth rate (Per cent)*	*Change in growth rate percentage points*		
		1971-1972 to 1979-1980	*1981-1982 to 1990-1991 over 1970s*	*1990-1991 to 1994-1995 over 1970s*	*1990-1991 to 1994-1995 over 1980s*
1	Rajasthan	1.32	A	A	D
2	Tamil Nadu	1.79	A	A	D
3	Kerala	2.19	A	A	A
4	Orissa	2.28	A	A	A
5	Bihar	2.70	A	D	D
6	Karnataka	3.06	A	A	A
7	West Bengal	3.11	A	A	A
8	UP	3.17	A	D	D
9	MP	3.20	A	D	D
10	AP	3.25	A	A	D
11	Assam	3.28	A	D	D
12	Gujarat	3.88	A	A	A
13	Maharashtra	4.27	A	A	A
14	Punjab	4.43	A	D	D
15	Haryana	4.70	A	D	D
16	All 15	2.96	A	A	D

Source: Based on Shand and Bhide (2000).

Notes: 1. The growth rates are averages for the indicated periods; A = acceleration in growth, D = deceleration in growth; NC = no change in average growth rates.

2. The states are arranged in ascending order of the growth rates in the period 1971-1972 to 1979-1980 (1970s).

Table 2. Pattern of growth in agricultural NSDP (real) across states

		Growth rate (Per cent)	*Change in growth rate percentage points*		
Sl. No.	*State*	*1971-1972 to 1979-1980*	*1981-1982 to 1990-1991 over 1970s*	*1990-1991 to 1994-1995 over 1970s*	*1990-1991 to 1994-1995 over 1980s*
1	Tamil Nadu	-0.11	A	A	D
2	Rajasthan	0.08	A	A	D
3	Kerala	0.14	A	A	A
4	Karnataka	1.70	A	A	A
5	AP	2.00	A	A	D
6	Bihar	2.11	A	D	D
7	Orissa	2.75	D	A	A
8	MP	2.88	A	D	D
9	UP	2.98	NC	D	D
10	Haryana	3.00	A	D	D
11	Punjab	3.09	A	D	D
12	West Bengal	3.15	A	A	A
13	Assam	3.84	D	D	D
14	Maharashtra	4.63	NC	NC	NC
15	Gujarat	5.06	A	D	D
16	All 15	1.86	A	A	D

Source: Based on Shand and Bhide (2000).

Notes: 1. The growth rates are averages for the indicated periods; A = acceleration in growth, D = deceleration in growth; NC = no change in average growth rates.

2. The states are arranged in ascending order of the growth rates in the period 1971-1972 to 1979-1980 (1970s).

Table 3. Pattern of growth in industrial NSDP (real) across states

		Growth rate (Per cent)	*Change in growth rate percentage points*		
Sl. No.	*State*	*1971-1972 to 1979-1980*	*1981-1982 to 1990-1991 over 1970s*	*1990-1991 to 1994-1995 over 1970s*	*1990-1991 to 1994-1995 over 1980s*
1	Assam	-1.45	A	A	D
2	West Bengal	2.30	A	A	A
3	Bihar	2.64	A	D	D
4	Rajasthan	2.81	A	A	D
5	Orissa	3.13	A	A	A
6	Tamil Nadu	4.04	A	D	D
7	Maharashtra	4.63	A	A	A
8	AP	4.86	A	D	D
9	Kerala	4.97	D	A	A
10	Punjab	5.08	A	A	A
11	Gujarat	5.27	A	A	A
12	UP	5.28	A	D	D
13	Karnataka	5.47	A	A	D
14	MP	5.49	A	A	D
15	Haryana	7.46	A	D	D
16	All 15	4.07	A	A	D

Source: Based on Shand and Bhide (2000).

Notes: 1. The growth rates are averages for the indicated periods; A = acceleration in growth, D = deceleration in growth; NC = no change in average growth rates.

2. The states are arranged in ascending order of the growth rates in the period 1971-1972 to 1979-1980 (1970s).

Table 4. Pattern of growth in services NSDP (real) across states

		Growth rate (Per cent)	*Change in growth rate percentage points*		
Sl. No.	*State*	*1971-1972 to 1979-1980*	*1981-1982 to 1990-1991 over 1970s*	*1990-1991 to 1994-1995 over 1970s*	*1990-1991 to 1994-1995 over 1980s*
1	Tamil Nadu	2.18	A	A	A
2	Orissa	3.05	A	A	A
3	Kerala	3.12	A	A	A
4	UP	3.34	A	D	D
5	Rajasthan	3.92	A	A	D
6	West Bengal	4.10	A	A	A
7	MP	4.13	A	D	D
8	Maharashtra	4.22	A	A	A
9	Karnataka	4.33	A	A	D
10	AP	4.81	A	D	D
12	Bihar	4.95	A	D	D
13	Gujarat	4.95	A	A	D
14	Assam	5.50	D	D	D
15	Punjab	6.63	D	D	D
16	Haryana	8.20	A	D	D
17	All 15	4.04	A	A	D

Source: Based on Shand and Bhide (2000).

Notes: 1. The growth rates are averages for the indicated periods; A = acceleration in growth, D = deceleration in growth; NC = no change in average growth rates.

2. The states are arranged in ascending order of the growth rates in the period 1971-1972 to 1979-1980 (1970s).

Table 5. Testing for causality relationship across state economies: results from GCT tests

State	*Causality from a state to rest of the states*		*Causality from the rest of the states to a state*	
	F-Statistic	*Probability*	*F-Statistic*	*Probability*
AP	0.6991	0.57	0.1032	0.96
Assam	1.5601	0.24	0.1851	0.90
Bihar	0.3928	0.76	0.4160	0.74
Gujarat	5.3070	0.01***	1.1550	0.36
Haryana	1.5616	0.24	1.6157	0.23
Karnataka	0.1205	0.95	0.5844	0.63
Kerala	0.0471	0.99	3.3101	0.05**
MP	2.9318	0.07*	2.2512	0.12
Maharashtra	1.0128	0.41	2.1224	0.14
Orissa	0.4331	0.73	2.7154	0.08*
Punjab	0.1733	0.91	0.4372	0.73
Rajasthan	3.0616	0.06*	4.4024	0.02**
Tamil Nadu	0.3863	0.76	2.5084	0.10*
UP	0.6287	0.61	0.4636	0.71
WB	0.4012	0.75	0.9931	0.42

Note: The first difference of NSDP of the state and second difference of sum of NSDP of the remaining states are used for causality tests. The sign * represents statistical significance of the F-statistic at the 10 per cent level of probability, ** at 5 per cent and *** at 1 per cent.

The inability of the states to sustain higher growth rates may partly be attributed to this factor, the states dependent on agricultural growth were unable to maintain the higher rate of growth, or, non-agricultural growth was not enough to offset the slower growth in agriculture. Thus, although non-agricultural growth may have increased during the 1990s over the 1970s and 1980s, the increase was insufficient to raise the overall growth performance.

The pattern of agricultural growth across states shows that steady acceleration of growth was seen only in the case of Karnataka, Kerala and West Bengal. In the case of Maharashtra while acceleration was not observed, there was no deceleration either. Interestingly these are the states in which there was a steady acceleration of overall NSDP as well. The only other state with overall steady acceleration was Orissa where agricultural growth was slower in the 1980s than in the 1970s. Thus, growth in agriculture has been important for overall sustained growth.

The industrial sector saw sustained growth in Gujarat, Maharashtra, Orissa, Punjab and West Bengal. In the case of services the growth accelerated steadily in Kerala, Maharashtra, Orissa, Tamil Nadu and West Bengal.

Maharashtra and West Bengal are the only states where all three, agriculture, industry and service sectors witnessed steady or higher growth rates through the 1980s and the first half of 1990s. Karnataka and Kerala, the two other states where the overall NSDP growth accelerated in the 1980s and first half of 1990s, there were variations in the growth pattern of industry and services.

The overall pattern of growth across states shows that only six states witnessed steady or rising growth rate of output through the 25 years starting in 1970-1971. In the other states, the pattern is mixed. What explains this concentration of growth in only a few states? Could the six states have acted as source of growth for the other states? Or could some other states have induced growth in these six states initially? Alternatively, the sources of growth may be entirely internal to the states. It is to these issues that we turn now.

III. TESTING FOR CAUSALITY

Testing for causality in an economic model is required when one attempts to understand the interrelationships among its component subsystems. The objective of this section is to test whether or not growth in "one" state causes growth in "another" state through the 'spillover effects'. The *null-hypothesis* to be tested is that "growth in one state does not cause growth in another state". The causality may be *uni-directional* or *bi-directional*. In the case of growth in state "X" causing growth in state "Y" or the vice-versa, but not both together, the causality is said to be uni-directional. The causality would be bi-directional if the growth of states "X" and "Y" are mutually dependent.

In order to test for possible causation of growth across states, we have used the standard econometric tool of the Granger Causality Test (Granger, 1969), or GCT, using EViews software. Though one can use simple regression analysis for establishing dependence of one variable on the other variables, it does not necessarily imply causation. The idea of causation should be based on *a priori* theoretical considerations. The diverse economic linkages across states provide a theoretical basis for the prevalence of spillover effects.

Let us assume that there exists the possibility of causation between the NSDPs, **x** and **y,** of the two states. Our null-hypotheses are that "growth in **x** does not Granger cause growth in **y**" and "growth in **y** does not Granger cause growth in **x**". The tests imply statistical testing of precedence of occurrence of two events. Although Granger Causality Tests have been well described in the literature (Greene, 2000) for a fuller understanding of the methodology adopted here, we briefly spell out the exact procedure followed in this paper. We have run the Granger causality test using the bivariate regressions with the following formula:

$$\mathbf{y}_{t\,=}\,\alpha_0 + \alpha_1\,\mathbf{y}_{t-1} + \ldots.. + \alpha_n\,\mathbf{y}_{t-n} + \beta_1\,\mathbf{x}_{t-1} + \ldots.. + \beta_n\,\mathbf{x}_{t-n}$$

$$\mathbf{x}_{t\,=}\,\alpha_0 + \alpha_1\,\mathbf{x}_{t-1} + \ldots.. + \alpha_n\,\mathbf{x}_{t-n} + \beta_1\,\mathbf{y}_{t-1} + \ldots.. + \beta_n\,\mathbf{y}_{t-n}$$

for all possible pairs of (**x**,**y**) series. The reported F-statistics are the Wald statistics for the joint hypothesis: $\beta_1 = \beta_2 = \ldots\ldots. = \beta_n = 0$ for each equation. The null hypothesis is therefore that **x** does not Granger-cause **y** in the first equation and that **y** does not Granger-cause **x** in the second regression.[3]

The growth performance of fifteen major[4] states during 1970-1971 to 1997-1998 has been analysed on the basis of time series of Net State Domestic Product (NSDP) at factor cost at 1980-1981. Despite the fact that the SDP measurement across different states is not fully consistent with national level GDP

[3] See Greene (2000) for details of the Granger Causality test. Also see Eviews 3, User's Guide for details on executing this test. All estimated regression equations had R^2 higher than 0.70.

[4] Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu and West Bengal.

estimates, we use the NSDP series since these are the best available state-level data as of date.[5]

Before proceeding to the analysis of the relationship between individual state economies, it is useful to enquire if there exists significant linkages between any individual state and all the other states taken together. The analysis at this more general level would reveal the nature of integration of the state economies with the other states within the national economy. In the two equation system shown above, the variable ‘x’ relates to the NSDP of a selected state and the variable ‘y’ relates to the sum of NSDP of all other states. As a first step towards implementing GCT, each of the variables was tested for stationarity using Dicky-Fuller Unit Root tests. It was found that while the NSDP series for each state was integrated of order 1 or first difference stationary, the sum of NSDP for all the states excluding one state at a time was in general integrated of order 2 (second difference stationary). This may be a result of aggregating several states where growth acceleration has been significant over time. Given this result, we have carried out GCT using the first difference of logarithm of NSDP of each of the 15 major states and the second difference of the logarithm of sum of NSDP of all the states excluding one state at a time.

The results of GCT tests for growth of NSDP in I’th state vis-à-vis the acceleration in the growth of NSDP of all other 14 major states are summarized in table 6. When we consider the significance of growth impulses emanating from a state to the other states as a whole, only three states are found to have such an impact: Gujarat, Madhya Pradesh and Rajasthan. When we consider the impact of growth impulses from the larger group of economies on the economies of the individual states, only four significant cases of Kerala, Orissa, Rajasthan and Tamil Nadu emerge.

The results point to the fact that the linkages between state economies are not generally ‘growth transmitting’. Only three out of the 15 major states considered here influence the other states and only four states are influenced by the growth impulses emanating from the other 14 states. It is difficult to provide rigorous explanations for the specific patterns that have emerged. In other words, it is difficult to speculate why only Gujarat is found to have significant impact on the other economies while Maharashtra, an equally industrialized, large and fast growing state does not have similar significant impact. It is equally difficult to explain why only a relatively small number of states are influenced by the growth

[5] Ahluwalia (2000) has suggested the need for a greater effort by the Central Statistical Organisation (CSO) and the State Statistics Departments to make the SDP data across states more comparable than it has so far been.

Table 6. Results of causality tests: First difference of Ln (NSDP), lag order = 5

State	*KL*	*AP*	*HN*	*KT*	*RT*	*WB*	*AM*	*BH*	*GT*	*MP*	*PB*	*TN*	*MT*	*OR*	*UP*	*Total no. of States affected by*
RT	*	*						*		**						4
WB	*			*	*							**				4
OR	**		**		**											3
KL			**						**							2
PB						**	*									2
HN		**														1
MP				*												1
MT											*					1
UP						**										1
AP																0
AM																0
BH																0
GT																0
KT																0
TN																0
Total no. of states affecting	3	2	2	2	2	2	1	1	1	1	1	1	0	0	0	19

Note: The states are ordered so that the causality links are maximum at the upper and left hand side of the table. The abbreviations are: AM = Assam, AP = Andhra Pradesh, BH = Bihar, GT = Gujarat, HN = Haryana, KT = Karnataka, KL = Kerala, MP = Madhya Pradesh, MT = Maharashtra, OR = Orissa, PB = Punjab, RT = Rajasthan, TD = Tamil Nadu, UP = Uttar Pradesh and WB = West Bengal.

impulses emanating from the larger national economy. Interestingly the state of Rajasthan is seen in both the groups: it influences growth elsewhere and it is influenced by growth elsewhere. We note that except in the case of Madhya Pradesh the other ‘growth-linked’ states of Gujarat, Rajasthan, Orissa and Kerala were among the high growth states at some point in the three decades of growth described in the previous section of this paper. Therefore, high rates of economic growth appear to be one feature that enables growth linkage of one state economy with the other economies.

We now proceed with the analysis of linkages of the individual state economies with each other.

We have conducted the Granger causality tests over the time-series variables of first differences in logarithms of the NSDP data for 15 states during 1970-1971 to 1997-1998 because the first difference of logarithms closely represents the growth rate of NSDP. Based on Akaike's Final Prediction Criterion the optimal lag length has been selected as 5 in the analysis. As noted earlier, we have also tested for the stationarity of all the first differences of logarithm of NSDP for all the selected fifteen states. The series turned out to be stationary.[6]

The results of the causality tests are shown in table 6. The causing states are shown in the first column and the caused states in the top row. Thus the causality has been shown to run across rows, that is, from rows to columns. A single star indicates 10 per cent level of significance while a double star is indicative of 5 per cent level of significance.

It may be observed from table 6 that there does not appear to be a wide spread causation of growth across states. Reading the first row, it may be observed that growth in Rajasthan causes growth in Kerala, Andhra Pradesh, Madhya Pradesh and Tamil Nadu but these effects are uni-directional. It means that the growth in Rajasthan, in turn, is not caused by growth in any of the four states in which Rajasthan's growth matters (the column for Rajasthan has very few entries). On the other hand, growth in West Bengal and Orissa causes growth in Rajasthan, but again this is uni-directional. In fact, we do not observe any bi-directional growth causality among states. Apart from Rajasthan, West Bengal is another high growth-inducing state with its growth causing growth in four other states, namely Kerala, Karnataka, Rajathan and Tamil Nadu. Orissa's growth has influence over the growth of three states, namely Kerala, Haryana and Rajasthan. Kerala's growth, in turn, causes growth in Haryana and Gujarat. Punjab's growth influences growth in Assam and West Bengal. Growth in Haryana, Maharashtra, Madhya Pradesh and Uttar Pradesh leads to growth in one state each with Haryana causing growth in Andhra Pradesh, Maharashtra in Punjab, Madhya Pradesh in Karnataka and Uttar Pradesh in West Bengal. Interestingly, growth in Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka and Tamil Nadu does not cause growth in any other state.

[6] A stochastic process is said to be stationary if its mean and variance are constant over time and the value of covariance between two time periods depends only on the distance or lag between the two time periods and not on actual time at which the covariance is computed.

Among the affected states, Kerala appears to be the most ‘influenced’ state with its growth being influenced by growth in Rajasthan, West Bengal and Orissa. Growth in Andhra Pradesh, Haryana, Karnataka, Rajasthan and West Bengal, respectively, is caused by two other states in each case. Growth in Assam, Bihar, Gujarat, Madhya Pradesh, Punjab and Tamil Nadu, respectively is caused by growth in one other state. Growth in Maharashtra, Orissa and Uttar Pradesh is not caused by growth in any other state.

Are these results ‘logical’? Do these results point to input-output linkages or hinterland-markets linkages? Or do these results represent entirely statistical phenomena rather than any economic linkage? While some of the results appear related to the rate of growth, geographical proximity does not seem to be important. However, it is important to examine if we can identify the factors influencing observed growth linkages between state economies. We attempt to do this in the next section.

IV. FACTORS INFLUENCING CAUSALITY BETWEEN STATES

The broad set of factors likely to cause the growth of the economy of one state to result in an impulse to the growth of another state’s economy noted previously include: input-output linkages, mobility of factors, exposure to the rest of the world and relative size of the economies. In the theoretical literature on regional development, the center-periphery models (Myrdal, 1959, and Hirschman, 1958), dependency model (Frank, 1978) cumulative causation model (Myrdal, 1959, and Renaud, 1979) and the neoclassical model of factor mobility (Harris-Todaro model) are used to explain patterns of development. The ‘new economic geography’ literature has introduced elements of increasing returns to scale and imperfect competition to explain a wider set of outcomes that emerge from inter-regional linkages (Krugman, 2000 and Mellinger, Sachs and Gallup, 2000). There are also policy related factors that encourage strengthening of impulses or that may blunt responses (Rabellotti and Schmitz, 1999). For example, erecting barriers to trade in the form of border taxes can be an effective means of reducing inter-regional linkages. Policies in a region may also be influenced by policies elsewhere: governments may imitate each other in supporting or discouraging sectors (for instance the IT sectors) that do not reflect linkages through trade or transfer of resources. In this context, Hayami’s (1997) institutional model of development process indicates that the quality of institutions is crucial in sustaining interregional linkages of growth.

Based on the above theoretical models, the factors that enable the exploitation of the potential linkages can be hypothesized as adequate infrastructure, suitable human capital resources, quality of state-specific institutions and access to markets, communication and transportation.

An attempt to assess the importance of the factors that lead to growth linkages can be formulated using the following regression model as,

$$C_{ij} = f \{ B_j, (B_j - A_i), G \} + u_{ij} \qquad (1)$$

Where,

C_{ij} = varaiable denoting the existence of a 'causal' relationship between states i and j, with value = 1 if the 'causality' prevails, and = 0 otherwise.

B_j = set of features of state j (caused state). The features may include initial levels of per capita income, growth rate of the economy during the specified period, size of the economy, whether it is 'coastal state' or otherwise, level of infrastructure, and level of human resources.

$(B_j - A_i)$ = differences in the features between the economies of states i and j. Of these, the difference in average annual growth rates of the states is taken as a proxy to represent the difference in the quality of institutions between the concerned states with the assumption that a state with high quality institutions would enjoy a higher growth rate.

G = set of factors common to both the states such as the 'shared borders' (value= 1 for shared borders and =0 otherwise).

U_{ij} = the conventional statistical error term.

The possible set of features can be expanded to include factors such as similarity of cultures, language, historic resource-processing linkages, ease of 'transportation-communication', political relationship or interaction among various features as the independent variables in the regression model above.

We have examined the relationship in equation (1) above in the framework of a logit model. The attempt is to examine if the pattern of 'causality' relationships estimated in the previous section can be explained in terms of any plausible hypotheses that link the different state economies. Results of the logit estimation are given in table 7. The state that is able to respond to the growth impulses elsewhere may be the one that supplies inputs for further processing. It may also be the one that is initially less developed and linkages with the more developed regions can stimulate growth in the former. The 'caused' state is also expected to have adequate infrastructure- social and physical – to benefit from the emerging linkages. The results of the regression analysis suggest some interesting

Table 7. Factors influencing causality

Independent Variables	*Dependent variable: based on the causality tests for ΔLn (NSDP)*		
	Coefficient	*Standard error*	*Probability of significance*
Constant	-17.7909	7.693	0.02
Coast_1	1.5652	0.871	0.07
Agrshr_1	17.8600	9.094	0.05
Indshr_1	24.9239	12.650	0.05
NSDPgr_1	- 2.4025	0.945	0.01
Percapy_1	0.0040	0.002	0.02
Agrshr_diff	8.9115	5.472	0.10
Indshr_diff	20.5281	8.739	0.02
NSDPgr_diff	-1.2349	0.612	0.05
Percapy_diff	0.0021	0.001	0.08
Border	1.7075	1.060	0.13
Likelihood ratio	19.00		0.04
McFadden R^2	0.45		
Total No. of Observations: 210, Observations with non-zero values for dependent variable: 18; Lag length = 5			

Notes: The difference between causing state and caused state (Causing-Caused) for the selected variables is denoted with '_diff'. All other variables are as explained below:

Agrshr = % share of NSDP from agriculture & allied activities, average for TE 1972-1973.

Indshr = % share of GSDP from industry, average for TE 1972-1973.

Coast = whether a state has a coast line or not.

NSDPgr = annual average growth rate (%) of real NSDP from 1971-1972 to 1997-1998.

Percapy= per capita NSDP, average for TE 1972-1973.

The 'caused state' is identified with ' _1'.

relationships between the features of the 'caused' state and the probability of a 'causal' relationship with another state.

In the final model that is selected, coastal access, initial share of agriculture as well as industry in a state's NSDP and growth rate of NSDP are found to be significant influences on causality. Initial levels of literacy and infrastructure, when tried earlier, did not appear as significant variables. It is possible that the variables such as structure of the economy and growth performance themselves capture the impact of literacy and infrastructure. Thus, it is the structure of the state economy and its growth performance that are relevant variables in leading to a significant growth spillover effect from one state to another. While coastal access increases the probability of growth spillover effects, higher shares of agriculture and industry, rather than services, in the initial stages also improve the probability of spillover effects of growth in another state. Further, industry is likely to have greater degree of linkages across regions than agriculture.

The negative relationship between causality (or the presence of the trickling down effects) and growth rate of NSDP of the state suggests that a state that has a relatively faster growing economy is less likely to be influenced by the growth of another state economy.

The variables relating to the differences in the structure of the economy and the growth rate appear to be relevant features of the causing state as well. If the causing state has larger agricultural share or larger industrial share in NSDP than in the 'caused' state, the probability of a 'causal' relationship increases. This reinforces the earlier finding that the structures of the economies are important factors influencing spillover effects. The coefficient of the difference between growth rates, which is a proxy for the difference in quality of institutions, is negative and significant. This means that the potential for significant growth spillover effects is reduced with the increase in the difference in quality of institutions between states. This result corroborates Hayami's arguments about the importance of nurturing appropriate institutions in promoting economic growth. In other words, differential between the caused and causing state is an important factor influencing growth spillover effects. This is an important finding that would seem to support the trends that may counteract to some extent the divergence in growth rates between states. The only factor to be considered as the 'common' factor is whether the 2 states considered share a common border or not. The variable did not turn out to be significant. This result may reflect that common borders alone do not lead to significant spillovers. Improved transportation and communication appear to overcome the disadvantage of not having physical proximity for transmission of growth impulses.

V. CONCLUDING REMARKS

This paper attempts to examine if there are significant trickling down effects or spillover effects of economic growth in one state over the growth in another state in India. The attempt has been mainly to look at statistically significant impulses. The pattern of state-wise growth suggests that growth patterns have been different across the major states except for the trend of relatively slower agricultural growth in all the states. Only six states out of the 15 major states showed consistent acceleration in growth from the 1970s into the 1980s and then into the 1990s. These states could have acted as a source of growth impulse to other states.

The first level analysis showed that the linkages of states in terms of economic growth are limited. Only three states were found to influence the performance of the other states and four states were found to be influenced by the performance of the other states put together. The latter category of the states included smaller states such as Kerala and Orissa whereas the first category included Gujarat, Rajasthan and Madhya Pradesh.

The relatively scarce evidence of strong inter-state linkages led us to examine the presence of linkages at the individual state level. Again, the findings showed that the linkages were relatively few.

These results suggest that the growth impulses have been limited. A more accurate interpretation of the results, however, would be that the spillover effect has been prominent in only a small proportion of the potential cases. Thus, the results appear to be supporting the views expressed by earlier researchers including Higgins (1983) and Hansen (1990) that the existence of spillover effects across regions may not be significant, particularly in developing countries and one of the reasons appears to be the existence of poor economic institutions.

As our attempt to discern causality or spillover effects has been based purely on statistical relationships, drawing on various theoretical models, we have also examined the importance of selected factors in leading to significant causality. The results suggest that it is the structure of the economy and the growth rate of a state and the differential in these features relative to another state that raise the potential for significant trickling down effects of growth. The 'coastline' of a state appears to improve its being receptive to growth impulses coming from another state. On the other hand, while a common border is not an advantage, access to markets appears to be important.

The exercise presented here is exploratory. The results suggest that transmission of growth impulses that could influence growth from one state to another is not common. However, these results also raise an important issue of nurturing appropriate economic institutions across states. This result of 'low' transmission could be more due to barriers to trade and other economic flows across states. Is this an opportunity lost in achieving more efficient allocation of resources which would be suggested by freer flow of factors of production and output across states? The results of the present study cannot claim to have settled the issue. A point that needs to be examined is whether the spillover effects are more evident at the sectoral level than at the overall NSDP level. We have also not examined if the 'causality' is positive or negative, that is to say whether the 'spread effects (positive)' are more prominent than the 'back wash effects (negative)'.

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ECONOMIC DEVELOPMENT IN INDIA: THE ROLE OF INDIVIDUAL ENTERPRISE (AND ENTREPRENEURIAL SPIRIT)

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The Indian economy provides a revealing contrast between how individuals react under a government-controlled environment and how they respond to a market-based environment. Evidence suggests that recent market reforms that encouraged individual enterprise have led to higher economic growth in that country.

India can generate additional economic growth by fostering entrepreneurial activity within its borders. To pursue further the entrepreneurial approach to economic growth, India must now provide opportunities for (1) education directed specifically at entrepreneurial skills, (2) financing of entrepreneurial efforts, and (3) networking among potential entrepreneurs and their experienced counterparts. Further, although the Indian government should establish policies supportive of entrepreneurial efforts, its role overall should be minimized so that the influence of the free market and individual self-interest can be fully realized.

Economic development, achieved largely through productivity growth, is very important to both developed and developing nations. However, even though we know that higher productivity leads to improved economic outcomes (for example, higher income, more choices to the consumers, better quality products, etc.), there has been no consensus among researchers about either the desired path of development or the role of state in economic development. Concerning the path of development, Lall (2001) says that the appropriate strategy for any country depends not only on its objective economic situation but also on its government policies and national views regarding the appropriate role of the state.

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Regarding the appropriate role of the state, it seems that for every argument in favour of a smaller government role one can find a counter argument in favour of a more active government role.

The role of the state in economic development began to change dramatically with the advent of the Industrial Revolution. In the West, the resulting industrialization and economic development were based on the establishment of individual property rights that encouraged the growth of private capital. Competition and individual enterprise thrive in this environment because individuals pursue their self-interest of survival and wealth accumulation. The instinct to survive under competitive pressures yields innovation and productivity increases, which eventually lead to both increased profits for business and lower prices to consumers.[1]

However, the rise and spread of capitalism led a number of thinkers to examine the consequences of the market-based approach to development. Socialists argued that capitalism (or private ownership of capital) can lead to greater inequalities of income and wealth, while developmental economists argued that private decisions may not always lead to socially desirable outcomes (particularly in the case of market imperfections). Indeed, many policymakers at the time saw market failures as quite common and therefore assumed that only appropriate government interventions could guide an economy to a path of sustained economic development (Krueger, 1993).

In the early 20th century, the former Soviet Union attempted a bold experiment of improving individual well-being without sacrificing the objective of greater equality of income and wealth through total ownership of capital by the government. Initially, the Soviet Government was able to raise productivity through directed industrialization and, within a span of 25 years (by the end of World War II), emerged as a superpower. It was around this time that a substantial number of colonized nations were gaining their independence (for example, India, Pakistan and Burma). Unfortunately, during their time as colonies to the Western nations, these countries, for the most part, had been deprived of the industrialization that had engulfed those same Western nations. Based on the successful experience of the former Soviet Union, many economists and policymakers concluded that, particularly in a poor country, planning was essential for the efficient allocation of an economy's resources (Panagariya, 1994, p. 194).

[1] The history of U.S. business has shown how the pursuit of self-interest by individual economic agents has led to benefits for the larger society. Consider the well-known example of Henry Ford's introduction of assembly line production. This technological advancement led to a significant increase in productivity at Ford Motor Company. Indeed, despite paying higher wages to his workers, Ford could still produce automobiles at a much lower cost and pass on part of that lower cost to consumers in terms of lower prices.

The governments in these newly independent nations assumed a significant role in economic development. They sought to quickly and substantially raise the standard of living through directed and controlled economic development. Apart from everything else, these developing countries invested heavily in education to promote literacy and to ensure an adequate supply of technical manpower to meet their growing needs. Further, these previously colonized nations did not want to subject their poor and weak economies to international economic fluctuations and thus sought to industrialize through import substituting industrialization, where imports were expected to be increasingly replaced by domestic production.

In this paper we examine economic development in India, a former British colony that became one of the most closed economies in the world, to contrast the roles of government intervention and individual enterprise in that country's economic growth. In particular, we demonstrate that, given recent economic reforms in India, along with the evidence for the role that individual enterprise can play in a country's economic growth, the Indian government should devise policies that rely more on individual enterprise, with its emphasis upon individual initiative and self-interest, to spur economic development. Further, we describe the special role that can be played in the economic development of India by a greater emphasis upon entrepreneurship.

The plan of the paper is as follows. Section I summarizes the strategy of economic development and the overall economic environment that has prevailed in India since its independence from the United Kingdom. Section II analyses the consequences of regulated economic development in India, with particular emphasis on the implications of the microeconomic aspects of India's approach to its economic environment. Section III assesses the results of India's economic reforms since the country's economic crisis of 1990, and highlights the role that individual enterprise has played and can continue to play in that country's economic fortunes. Section IV describes the special role that entrepreneurship can play in India's efforts at economic growth. Finally, section V summarizes the main findings and concludes the paper.

I. INDIA'S STRATEGY OF ECONOMIC DEVELOPMENT

India's economic development strategy immediately after Independence was based primarily on the Mahalanobis model, which gave preference to the investment goods industries sector, with secondary importance accorded to the services and household goods sector (Nayar, 2001). For example, the Mahalanobis model placed strong emphasis on mining and manufacturing (for the production of capital goods) and infrastructural development (including electricity generation and transportation). The model downplayed the role of the factory goods sector because it was more capital intensive and therefore would not address the problem of high unemployment in India. Any increase in planned investments in India required a higher level of savings than existed in the country. Because of the low average incomes in India, the needed higher levels of savings had to be generated mainly by restrictions on the growth of consumption expenditures. Therefore, the Indian government implemented a progressive tax system not only to generate the higher levels of savings[2] but also to restrict increases in income and wealth inequalities.[3]

Among other things, this strategy involved canalization of resources into their most productive uses.[4] Investments were carried out both by the government and the private sector, with the government investing in strategic sectors (such as national defense) and also those sectors in which private capital would not be forthcoming because of lags or the size of investment required (such as infrastructure). The private sector was required to contribute to India's economic growth in ways envisaged by the government planners. Not only did the government determine where businesses could invest in terms of location, but it also identified what businesses could produce, what they could sell, and what prices they could charge.

Thus the strategy of economic development in India meant (1) direct participation of the government in economic activities such as production and selling and (2) regulation of private sector economic activities through a complex system of controls. In addition, the Indian economy was sheltered from foreign competition through use of both the "infant industry argument" and a binding foreign exchange constraint. Imports were limited to goods considered essential either to the development of the economy (such as raw materials and machines) or to the maintenance of minimal living standards (such as crude oil and food items). It was further decided that exports should play a limited role in economic development, thereby minimizing the need to compete in the global market place. As a result, India became a relatively closed economy, permitting only limited economic transactions with other countries. Domestic producers were sheltered from foreign competition not only from abroad but also from within India itself.

[2] The huge savings-investments gap could not be filled by the amount of foreign aid that was both sought and available. Further, additional foreign investments (both direct and portfolio) were never seriously considered as a way to close this savings-investment gap.

[3] Higher levels of income and wealth were taxed at much higher rates relative to lower income and wealth. Further, as Rao (2000) notes, the marginal rate of taxation including a tax surcharge was 93.5 per cent in early 1970s.

[4] In India, this meant transfer of savings from the private to the public sector.

Over time, India created a large number of government institutions to meet the objective of growth with equity. The size of the government grew substantially as it played an increasingly larger role in the economy in such areas as investment, production, retailing, and regulation of the private sector. For example, in the late 1950s and 1960s, the government established public sector enterprises in such areas as production and distribution of electricity, petroleum products, steel, coal, and engineering goods. In the late 1960s, it nationalized the banking and insurance sectors. To alleviate the shortages of food and other agricultural outputs, it provided modern agricultural inputs (for example farm machinery, irrigation, high yielding varieties of seeds, chemical fertilizers) to farmers at highly subsidized prices (World Economic Indicators, 2001). In 1970, to increase foreign exchange earnings, it designated exports as a priority sector for active government help and established, among other things, a duty drawback system, programmes of assistance for market development, and 100 per cent export-oriented entities to help producers export (Government of India, 1984). Finally, from the late 1970s through the mid-1980s, India liberalized imports such that those not subject to licensing as a proportion to total imports grew from five per cent in 1980-1981 to about 30 per cent in 1987-1988 (Pursell, 1992). However, this partial removal of quantitative restrictions was accompanied by a steep rise in tariff rates.

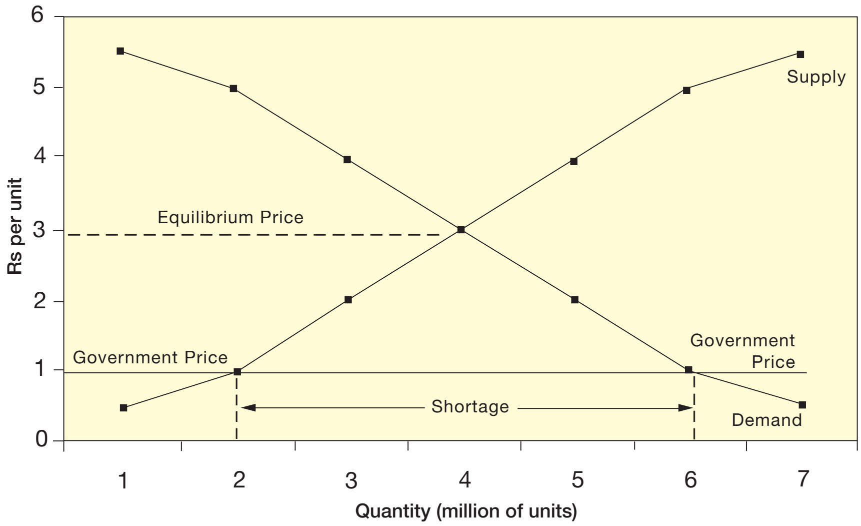
This active and dominant participation by the government in economic activities resulted in the creation of a protected, highly-regulated, public sector-dominated economic environment. Along with this government domination of the economy, India soon faced not only some major problems in its overall approach to development, particularly in the area of industrialization (Ahluwalia, 1985), but also a dramatic increase in corruption in its economy. Finally, like any other growing economy, the Indian economy faced a number of serious sectoral imbalances, with shortages in some sectors and surpluses in others. These consequences of India's government-controlled economy are discussed in depth in the next section.

II. THE CONSEQUENCES OF INDIA'S REGULATED ECONOMIC DEVELOPMENT

India's environment of regulated economic development led to the formulation of policies that were concerned with both macroeconomic and microeconomic aspects. Whereas much attention in the literature has been devoted to the macroeconomic issues, we focus primarily on the microeconomic aspects of Indian economic policies. In particular, we examine how individuals guided by their self-interests of survival and wealth accumulation will act in a regulated environment, which in fact discourages the pursuit of those self-interests. To do so, we describe the consequences of India's use of price ceilings, in which prices are set below their equilibrium level to make products and services affordable to relatively poorer sections of the society.

Figure 1 illustrates how price ceilings can influence a nation's economy. Specifically, when prices are kept artificially low, demand outstrips supply. To alleviate the resulting shortage of products and services, the government can either help to increase the supply or help to decrease demand for those products and services. Considering the supply side options first, the government had the following choices: (1) increase the price of the product; (2) subsidize production of existing suppliers so they will produce and sell more; (3) encourage new businesses to enter the line of production and selling; or (4) permit imports to reduce or eliminate the shortage. In India, none of these options was seen as satisfactory. First, the government certainly did not wish to increase prices, because price ceilings appealed to a majority of the vote bank. Second, although the government did subsidize production in several sectors considered essential, the resulting increased production was not sufficient to eliminate the large shortages. Third, the government decided to restrict rather than increase the entry of new producers under the pretext of directing scarce resources into their efficient uses. Finally, it allowed only limited recourse to imports, in order to protect Indian producers, unless the shortage reached a stage of crisis. The overall result was that inadequate amounts of products and services were supplied to the market.

Figure 1. Price ceiling



In contrast to the supply side options just considered, if the government had decided instead to limit demand, it could have done so by increasing taxes or by regulating the level of demand itself, usually by restricting how much an individual or a family could consume. To ensure the availability of the scarce products and services to Indian consumers, albeit at less than desired levels, the Indian government in fact resorted to large-scale rationing. This rationing was undertaken by government agencies themselves or by licensed private retailers. As might be expected, the rationing regulations required those licensed private retailers to follow government stipulations in their sale of the scarce products and services.

The policy of price ceilings, along with the quantitative restrictions on production and consumption, led to an economic environment ripe for corruption. Specifically, because of the general scarcity of products and services, individuals competed to receive the privilege of economic rights to produce or consume. The implementing authority responsible for allocating these economic rights – politicians, government officials and businesses – enjoyed monopoly power in this situation and, as might be expected, were susceptible to bribes and other illegal favours. The result was an informal and illegal market in which the desired economic rights could be traded. Also, the lure of higher profits led producers and sellers (1) to have little concern for quality such that many deliberately produced and sold inferior quality products, and (2) to resort to the creation of artificial shortages by not releasing to the market all of the products that were available for selling.

Bardhan (1997) defines corruption as the use of public office for private gain, in which an official entrusted with the responsibility for certain public duties engages in malfeasance for personal enrichment that is not easy to monitor. He says that corruption has multiple effects on economic development. For example, it diminishes the efficiency of economic transactions, because corrupt officials will delay or otherwise obstruct those transactions until they receive their expected favours. Also, the payment of a bribe to receive an investment license tends to reduce the incentive to in vest. Honest investors will see the futility of competing with dishonest investors who are guaranteed, through their bribes, to receive the privilege of investment rights.

To fully understand the widespread nature of the corruption that existed in India at this time, it is necessary to consider the roles played by the many participants. For example, business people bribed government officials not only for the right to enter a particular line of business, but also to prevent others from entering that same line of business. Government officials made payoffs to politicians to receive the premium government positions that would allow them to easily contact businesses to seek illegal income and wealth. Indeed, as Wade (1985) indicates, those officials could earn far more through bribes and other corrupt behaviour than they could earn in salary. Consumers bribed government officials, politicians, and business people to receive a particular amount of a scarce good or a higher quality version of the good. Even individuals and organizations outside India took part in the corruption. Some bribed both officials and politicians, particularly those connected with the revenue and police departments, to smuggle scarce goods into India at a high profit.

The complex system of government controls, including price ceilings, along with the resultant corruption, meant that decision making was arbitrary and the transactions non-transparent. The result was an increase in transaction costs. For example, businesses had to spend more to “stay connected’ with appropriate government officials and politicians. And consumers, in addition to waiting in line to purchase needed products and services, also made illegal payments for what they should have received at a reasonable price in the first place. It has already been explained how India’s government grew in size as it played an increasing role in controlling the economy. It grew even further in trying to be appropriately vigilant in dealing with the increased corruption among government officials, businesses, and other participants.

Price controls were only one example of the regulated economic environment. Another example of a harmful policy was the control of ownership of private capital (both income and wealth) by Indian nationals in India and also by foreign nationals doing business in India. Such policies, coupled with high individual and corporate income tax rates and high customs and excise duties, led to outcomes similar to those resulting from price ceilings namely, increased corruption and higher transaction costs.

In conclusion, this section has shown how individuals guided by their self-interests, will act in a regulated environment. Government controls based on arbitrary and ad hoc administrative decisions lead not only to greater concealed income and wealth but also to diminished productivity, particularly due to the resulting higher transaction costs.

III. ECONOMIC REFORMS: THE MIXED RESULTS FOR INDIA

Due to government intervention, particularly the high levels of government subsidies, it was clear by 1990 that India was living beyond its means. The result was a severe payments crisis in which, for the first time, the government physically transported gold overseas to prevent defaulting on foreign commitments. To meet its immediate balance of payments crisis, India also entered into a structural loan adjustment agreement with the International Monetary Fund (IMF). However, one condition of this loan required India to undertake economic reforms to move from a centrally-planned development strategy to one based on market-based resource allocations. As a result, the government of India undertook a package of economic reforms between 1991 and 1993, with the intent of placing the market in place of government controls as the prime mover in the economic development process.

As one might expect, macroeconomic policy played a major role in India's economic progress in the 1990s. For example, Acharya (2001) concludes that India's devaluation of the rupee and its decision to increase the level of allowable foreign investment helped it to make considerable economic progress. Joshi (2001) and Karunaratne (2001) both say that India's policy of selective capital account liberalization helped it to achieve important economic objectives (and still avoided the crises faced by the East Asian countries). Gupta (1999) highlights the important role played by India's prudent management of exchange rate policy and its tight monetary policy. Bhalla (2000) notes both the privatization of the public sector enterprises and the gradual dismantling of the government planning process in favour of market forces.

Overall, there can be no doubt that the reforms implemented since 1991 have led to considerable economic progress in India. For example, from 1992-1993 through 2000-2001, economic growth averaged an unprecedented 6.3 per cent per year (Acharya, 2001). Further, as Bhalla (2000) indicates, the rate of inflation and the fiscal deficit have both decreased substantially. He also says that India's improved exchange rate management has restored the confidence of foreign investors, which in turn has led to improved financing of the current account deficit and higher levels of foreign exchange reserves.

However, even though India has made substantial economic progress in recent years, it still has several areas in need of major market-based reforms.[5] Below, we identify three examples from India's economy that reveal a restriction of the pursuit of individual self-interest and a diversion of resources away from their most efficient use. The first example concerns the obstacle still presented by the Indian tax system, the second highlights the inefficiencies of the Indian civil service, and the third describes the need for further land reform in India.

[5] A study undertaken by McKinsey Global Institute found that the Indian product markets are still over-regulated; government still owns about 43 per cent of total capital stock; and the real estate market is still substantially distorted. This study concluded that this over-regulation is still the major barrier to economic growth in India (see Lewis (2001).

1. In spite of recent tax reforms in India, the present tax system still works against the individual self-interest to survive and accumulate wealth and, as a result, still leads to the hiding of income, wealth and expenditures. Indeed, whereas in the United States and the Republic of Korea, the highest tax rate applies to an income level of $250,000 and $66,000, respectively, in India that same tax rate applies to an income of only $3,400. Simply reforming its tax system to bring it in line with comparable nations should yield several substantial benefits to the Indian economy.[6]

2. The Indian civil service provides attractive career choices for young job seekers due mainly to the excellent job security, non-monetary compensation, and opportunities for influence available in those careers. For example, despite minimal salaries for individuals holding top-tier positions in such areas as administration, police, revenue and railways,[7] these civil servants are entitled to high job security and heavily subsidized housing, transport, medical services, telephone privileges, and at times domestic help. We believe that the policies underlying compensation to government employees should be reformed such that they are based primarily on market principles. The advantages of doing so include eliminating departments known for corrupt practices, making explicit the true cost of a government employee's performance, and giving government employees a good sense of their market worth.

3. Finally, considerable reform is needed in the Indian real estate sector. A large proportion of the land is owned by the government, and any land made available for private use is governed by archaic ownership, zoning, tenancy, and rent laws. Further, this government control of land has reduced the amount of land available for trading purposes. The result is that Indian land prices are the highest among all Asian nations relative to average income (Lewis, 2001).

[6] Most of the illegal income is concealed by people at higher income brackets trying to avoid paying higher taxes. Consider the following illustration: suppose the extent of unreported income is 100 per cent of reported income. Since the tax on income, profits, and capital gains was about three per cent of GDP, we can assume that unreported income, once reported, should yield at least three per cent of GDP (or around $13.42 billion in 1999). This total should be enough to cover more than 67 per cent of the overall budget deficit of the Indian Central Government (*World Economic Indicators*, 2001).

[7] The starting salaries for these positions are in the range of $1,800 to $2,200 per year, with the highest salary at about $10,000 per year.

> Further, the officially assessed values of real estate are low, while the true market price is very high.[8] This situation leads, among other things, to higher levels of corruption as individuals use real estate as a major hiding place for investments of illegally acquired income (DiLodovico, Lewis, Palmade and Sankhe, 2001).

Examples such as these indicate that there are still a large number of areas where the individual self-interests of survival and wealth accumulation are not respected. In the next section, we examine how one fairly new approach to microeconomic policy – the encouragement of entrepreneurship – can help India to continue its recent economic growth.

IV. THE ROLE OF ENTREPRENEURSHIP IN INDIA'S FUTURE ECONOMIC DEVELOPMENT

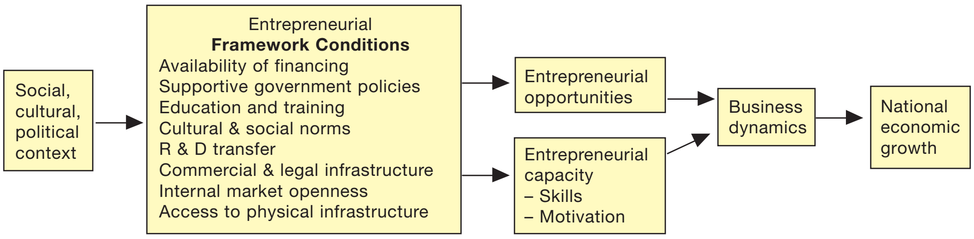
The progress of Indian economic development from 1947 to the present provides further evidence that individuals do respond to incentives in their pursuit of self-survival and accumulation of wealth. Further, the nature of this response depends on the economic climate, particularly the role of the government. India's economy struggled as long as it was based in a system of government regulation with little interaction with economic forces outside the country. The economic reforms of the early 1990s set the stage for substantial improvements in the Indian economy. As was stated earlier, India's economy grew at an average of 6.3 per cent from 1992-1993 to 2000-2001 (Acharya, 2001). Further, its rate of inflation and fiscal deficit both decreased substantially (Bhalla, 2000). Improved exchange rate management led to improved financing of the current account deficit and higher foreign exchange reserves. Finally, India's GDP and per capita income both increased substantially from 1990-1991 to 1998-1999.

India can do more, however, to further advance its economic development. Indeed, one of the more recent microeconomic approaches to economic growth is the promotion of entrepreneurial activities. Entrepreneurial efforts have been found to generate a wide range of economic benefits, including new businesses, new jobs, innovative products and services, and increased wealth for future community investment (Kayne, 1999). The following narrative explains in considerable depth how entrepreneurial activities have succeeded in several countries and how it can now be used to further India's economic development.

[8] It is entirely possible that the officially assessed value may be 5 to 10 per cent of the actual market price of the dwelling of the plot of land.

Following an extensive study of entrepreneurship in 21 countries, Reynolds, Hay, Bygrave, Camp and Autio (2000) concluded that successful entrepreneurial activity is strongly associated with economic growth. Their research was subsumed under the "Global Entrepreneurship Monitor" (GEM), a joint research initiative conducted by Babson College and London Business School and supported by the Kauffman Center for Entrepreneurial Leadership. Their findings, based on surveys of the adult population of each country, in-depth interviews of experts on entrepreneurship in each country, and the use of standardized national data, supported their conceptual model depicting the role of the entrepreneurial process in a country's economic development (see figure 2).

Figure 2. The GEM Conceptual Model


Social, cultural, political context
Entrepreneurial
Framework Conditions
Availability of financing
Supportive government policies
Education and training
Cultural & social norms
R & D transfer
Commercial & legal infrastructure
Internal market openness
Access to physical infrastructure
Entrepreneurial opportunities
Entrepreneurial capacity
– Skills
– Motivation
Business dynamics
National economic growth

Source: Reynolds, Paul D., Michael Hay, William D. Bygrave, S. Michael Camp, and Erkko Autio, 2000. *Global Entrepreneurship Monitor: 2000 Executive Report* (Kansas City, Kauffman Center for Entrepreneurial Leadership), p. 6.

The GEM Conceptual Model suggests that the social-cultural-political context within a country must foster certain "General National Framework Conditions," which can generate not only the opportunities for entrepreneurship but also the capacity for entrepreneurship – in particular, the skills and motivation necessary to succeed. Together, the entrepreneurship opportunities, on the one hand, and the skills and motivation, on the other, lead to business dynamics that yield creative destruction, a process in which new firms are created and older, less efficient firms are destroyed. The overall result for a country is economic growth.

Of the eight "General National Framework Conditions" listed in figure 2, the three that Reynolds, et al. (2000) highlighted as especially important are the availability of financing for new entrepreneurs, the need for government policies which are supportive of entrepreneurial efforts, and the opportunities for education and training in entrepreneurship.

Given India's economic progress in recent years, the country may now be ready for the implementation of microeconomic policies that will foster entrepreneurial activities. Fortunately, in addition to the macroeconomic reforms mentioned earlier, India has taken other steps to lay the foundation for the type of economic growth that can be fostered only by entrepreneurial activities and appropriate economic policies that reflect individual rights and responsibilities. For example, in recent years India has made several important structural changes, including the construction of telecommunications networks and the implementation of a nationwide road-construction programme (Solomon, 2003). Further, several thousand "new economy" businesses – the types of businesses especially suited for entrepreneurship efforts-were started in 2000 alone.

However, more than just opportunities should lead India to consider entrepreneurial activities as a way to economic growth. At least one major threat, a growing population, also should motivate it to consider entrepreneurial effort as an economic policy. Specifically, the country's population is expected to increase by 110 to 130 million people over the next 10 years, with approximately 80 to 100 million of those new citizens seeking jobs that do not currently exist (Gupta, 2001). Entrepreneurial efforts can help to provide those jobs.

Recent research on entrepreneurship around the world indicates that the cultural characteristics that can foster successful entrepreneurial activities and its related economic benefits are a strong education base, the necessary financial support, opportunities for networking among entrepreneurs, and a well-defined, minimal role for the government. In the case of India specifically, an emphasis upon entrepreneurial activities in the information technology sector also seems relevant.

Consider first the need for a strong education base. The study of 21 nations by Reynolds, et al. (2000) found that providing opportunities for education in entrepreneurship was critical to success in new entrepreneurship efforts. For example, experts interviewed in the 21 nations felt strongly that new entrepreneurs needed training in the skills needed to convert a market opportunity into a commercial enterprise. Gupta (2001) says that India now has an extraordinary talent pool suited to entrepreneurship. However, he also says that the government must ensure that new entrepreneurs have access to both the functional and entrepreneurial skills needed for success in business startups. He sees both sets of skills as still somewhat lacking in India. The functional skills include abilities in such areas as marketing, finance and product development. The entrepreneurial skills include managing risk, building an effective team and raising funds. Gupta says that India's educational institutions can play a major role in the development of these skills. For example, the Indian School of Business (ISB) at Hyderabad has already produced a curriculum suited to the development of entrepreneurial leaders. It will soon have a new Entrepreneurship Centre that will be founded, led and managed by several leading Silicon Valley entrepreneurs.

Lall (2001) says that the structure of a country's exports affects its prospects for economic growth. He claims that a technology-intensive structure is desirable for a country that has a substantial industrial base. Although India has such an industrial base, its export structure is still dominated by low-technology products. Lall says that a low-technology export structure is based in such products as textiles, garments, simple metal and plastics products, and furniture. However, these types of products are produced by low-skilled labour and are undifferentiated, so they do not yield the competitive advantages necessary for broad economic growth. A high-technology export structure, on the other hand, relies upon such products as complex electronic machinery, precision instruments and fine chemicals. This type of structure, based in complex skills and fast-changing technologies, generally does yield competitive advantages and export-based economic development. Given India's extraordinary talent pool (Gupta, 2001), it would seem that the country is poised to take advantage of a high-technology export structure.

Consider next the financial support required to produce successful entrepreneurial efforts. On the one hand, as Solomon (2003) indicates, foreign capital has been pouring into India recently, with one of its aims being to tap the country's emergence as a center for software development and information technology services. However, much remains to be done, and the government can play a major role in this area. Among other things, India must ensure that its new entrepreneurs will have access to venture capital. Gupta (2001) suggests the establishment of a global support network of venture capitalists and other funding sources (also known as "angels") who would be willing to support the new entrepreneurs. He also says that India must create "areas of excellence" breeding grounds where ideas grow into new businesses similar to those created in Silicon Valley in the United States. They can attract the ideas, the venture capital, and the management talent often found to succeed in other entrepreneurial efforts around the world. India can begin to create these areas of excellence by drawing upon the resources of its universities and other educational institutions, including the Indian Institutes of Technology.

Providing opportunities for networking among entrepreneurs themselves also can help new businesses get started on the right foot. In particular, Gupta (2001) says that India needs to foster networking and exchange among both new and established entrepreneurs. The obvious reason is that entrepreneurs can learn not only through their own experience but also through that of others. An effective approach to encouraging this type of networking might be to follow the academic model and begin to schedule conferences throughout India at which these individuals could interact. At these conferences, experienced entrepreneurs could present their ideas on what has worked for them (and what has not). Entrepreneurs just getting started could describe what they hope to achieve in their new businesses and get feedback on their plans from other entrepreneurs present. Obviously, newer entrepreneurs will want to be careful not to divulge important company secrets. The Indian government might have to provide small grants to subsidize the travel and lodging expenses of individuals lacking the resources to attend such conferences. However, just as in the academic setting, those grants could be awarded based on the merits of an individual's ideas for a startup business.

The role that the government can play in the encouragement of entrepreneurial efforts has already been noted in the above narrative. Clearly, the government can develop policies concerning educational and financial support. Government policies on taxing and regulation of business also are relevant here, given that such policies can either promote or hamper entrepreneurial efforts. And the government can certainly help to provide networking opportunities among new and experienced entrepreneurs.

Kayne (1999) identifies additional actions that the Indian government can take to provide a solid foundation for entrepreneurial efforts. He says that, in any country, the advocates of an entrepreneurial economy must promote and communicate policies that will provide a clear link between entrepreneurial efforts and overall economic prosperity. That is, voters and taxpayers must understand the reasons why their government is investing in anything as new as entrepreneurship. Rodrik (1996) also addressed this issue by concluding that reforms will be resisted if they are seen as being primarily redistributive (i.e., zero-sum) in nature. He further says that, while most economists prefer speedy economic reforms administered from above (i.e. the state), the best approach might be a gradual approach that considers the political economy of the situation (and involves relevant powerful groups). Panagariya (1994) further addressed this issue when he said that, especially in a democratic society like India, the government must mobilize public opinion in favour of new economic policies. He says that one reason for the relative success of the economic reforms beginning in 1991 was that the Rao government moved quickly to announce major economic reforms. Finally, Reynolds, et al. (2000) also found that the perceived social legitimacy of entrepreneurship can be a critical factor in its success. Specifically, they found that respect for individuals starting new firms was an important cultural factor for countries with high levels of entrepreneurial activities. In short, uncertainty within the culture can lead to resistance.

However, as Reynolds et al. (2000) concluded, the role of government beyond laying the foundation for entrepreneurship through tax and regulatory policies, support for education in entrepreneurship, and so forth should be minimized. Specifically, they found that a reduced government role in the economy including a low tax burden on both firms and individuals could yield substantially higher levels of entrepreneurial activity. They also found that, in India, excessive government regulations and related bureaucratic complexities did indeed handicap entrepreneurs. As was reported extensively earlier in this paper, India has for decades been saddled with a government that is far too involved in its economy.

V. CONCLUSION

The Indian economy provides a revealing contrast between how individuals react under a government-controlled environment and how they respond to a market-based environment. The evidence presented here suggests that recent market reforms encouraging individual enterprise have led to higher economic growth in that country. The reasoning here is not new, although it is refreshing to discover that this “tried-and-true” reasoning applies to developing as well as to developed nations. Specifically, reliance upon a free market, with its emphasis upon individual self-interest in survival and wealth accumulation, can yield a wide range of economic benefits. In India those benefits have included, among other things, increased economic growth, reduced inflation, a smaller fiscal deficit, and higher inflows of the foreign capital needed for investment.

We further conclude that India can generate additional economic growth by fostering entrepreneurial activities within its borders, particularly within its burgeoning middle class. Not only has entrepreneurship been found to yield significant economic benefits in a wide variety of nations, but India specifically has reached a point in its development where it can achieve similar results through entrepreneurial efforts. Among other things, India is poised to generate new business startups in the high technology area that can help it become a major competitor in the world economy. For example, it has a strong education base suited to entrepreneurial activities, increased inflows of foreign capital aimed at its growing information technology services sector, and a host of successful new business startups. To pursue further the entrepreneurial approach to economic growth, India must now provide opportunities for (1) education directed specifically at developing entrepreneurial skills, (2) financing of entrepreneurial efforts, and (3) networking among potential entrepreneurs and their experienced counterparts. Obviously, the government can play a substantial role in helping to provide these types of opportunities. It can also provide the appropriate tax and regulatory policies and help the citizens of India to understand the link between entrepreneurial efforts and economic prosperity. However, its role overall must be minimized so that the influence of the free market and individual self-interest can be fully realized.

Only time will tell if increased entrepreneurial activities in India will actually yield the economic benefits found in so many other nations of the world. Should India decide to pursue that avenue of economic development, then future research needs to examine the results of India's entrepreneurial programme. Perhaps more important, that research also needs to determine how India's success in entrepreneurial efforts might differ from those pursued in developed nations.

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A FUTURE WITHIN REACH: RESHAPING INSTITUTIONS IN A REGION OF DISPARITIES TO MEET THE MILLENNIUM DEVELOPMENT GOALS IN ASIA AND THE PACIFIC

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In September 2000, at the Millennium Summit in New York, leaders of the world's Governments signed the Millennium Declaration and committed themselves to a series of targets that came to be known as the Millennium Development Goals (MDGs), most of which are to be achieved by 2015. Five years later, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Development Programme (UNDP), and the Asian Development Bank (ADB) have published a report that examines the progress so far in achieving the MDGs. Though much progress has been made, the first chapter realistically highlights areas where improvement can still be made. Service delivery is emphasized in chapter two, where barriers to public services are identified as a key deterrent to realizing MDGs. In the final chapter, the report encourages international cooperation, especially to assist the poorest countries in the region.

The MDGs consist of 8 aspirations: (1) eradicating extreme poverty and hunger; (2) achieving universal primary education; (3) promoting gender equality and empowering women; (4) reducing child mortality; (5) improving maternal health; (6) combating HIV/AIDS, malaria, and other diseases; (7) ensuring environmental sustainability; and (8) developing a global partnership for development. While there has been a massive and unprecedented reduction in poverty worldwide since 1990, led by Asia in particular, the first chapter provides facts which require urgent action if the region wants to achieve the MDGs by 2015. Over half the children in South Asia and 38 per cent of children in South-East Asia are underweight. More than one third of all child deaths occur in South Asia, and this subregion has the lowest level of professional care at birth in the world. Southern and Eastern Asia have the largest number of urban slum dwellers in the world. The number of hungry people increased by tens of millions in South Asia-caused mostly by growing populations and poor agricultural productivity. Southern and Western Asia have the world's lowest girls' secondary school enrolment ratios in relation to boys. HIV/AIDS is still spreading fast in several parts of Asia.

The report is of the view that one of the most direct ways in which Governments can address poverty – and meet the MDGs – is by ensuring the availability of services, either providing them directly or adopting a framework for provision through the private sector and/or civil society. This chapter identifies the following barriers to service delivery: (1) financial barriers; (2) legal barriers; (3) sociocultural barriers; and (4) political barriers. To overcome these barriers the report suggests the countries in the region broaden the range of service providers, establish standards, plan linkages and upgrades, devise relevant regulations, decentralize and relegate tasks to local governments, and empower users.

In the last chapter the report proposes that regional cooperation is key to building or making changes to institutions that will ultimately promote the MDGs. Greater regional cooperation enables the pooling of resources to address the lack of finances currently pushing many countries off track on several MDG indicators. An eight-point action plan has been proposed to provide a framework for enhancing regional cooperation among members of the Asia-Pacific community. It consists of increasing interregional trade; encouraging Asian monetary cooperation; regularizing labour migration; creating an Asia-Pacific grain security system; tackling diseases, especially the HIV/AIDS pandemic; promoting environmentally sustainable "green" growth; improving governance; and building upon the existing regional cooperation frameworks. This action plan includes some existing initiatives and also some new ones that would promote the provision of international public goods.

A Future Within Reach looks at the realities of where the Asia and Pacific region stands along the path towards the MDGs. The report identifies key institutional barriers to achieving MDGs and proposes a comprehensive plan of action to revitalize service delivery at the national level and provide international public goods through regional cooperation. If put into action, the report concludes, the MDGs will be within reach for the countries in Asia and the Pacific.

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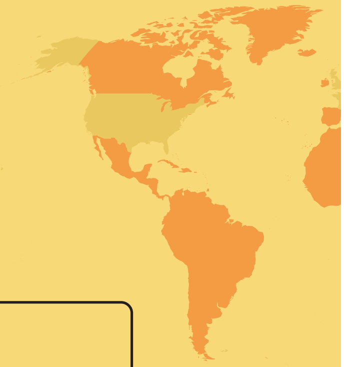

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