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**Regional Trading Arrangements and Beyond**  
**Exploring Some Options for South Asia**  
*Theory, Empirics and Policy*

***T.N. Srinivasan***



The World Bank  
South Asia Region  
Office of the Chief Economist

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**REGIONAL TRADING ARRANGEMENTS AND BEYOND  
EXPLORING SOME OPTIONS FOR SOUTH ASIA  
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**T. N. Srinivasan**

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## FOREWORD

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South Asia's move toward freer markets and freer trade has a new momentum. As in other regions during the 1980s and before, each country in South Asia has, in its own way, recently begun to restructure the role of the state, liberalize and deregulate markets, and let the private sector take a larger, more active economic role. The pace may be slower than in other regions, for many important areas of each economy have yet to be reformed. But in the minds of most South Asians, the sustainability of reforms is no longer in doubt. Indeed most would deem the reforms irreversible. There nevertheless is a difference with other regions. Despite the recent conclusion of the Uruguay Round negotiations, regionalism -- regional trading arrangements and the other cooperation possibilities they open up--remains nascent in South Asia.

Economists are divided on regionalism. Some see it as improving the chances of freer trade worldwide over time and others, as an obstacle to multilateralism. But all agree that regionalism has a political momentum different from that in the past. And all agree that regionalism today has some reassuring aspects. It is a part of outward-oriented trade strategies. It tends to involve both developing and developed countries (South-North and not just South-South ties), and frequently to be open to potential new members. And in some cases it is much deeper, addressing not only trade in goods, but also liberalization of trade in services, movements of labor and capital, harmonization of regulatory regimes, and the coordination of domestic policies that influence international competitiveness.

This study begins the process of exploring the scope for beneficial regionalism in and involving South Asia. Intraregional trade and the choice of countries in regional arrangements are important dimensions of the trend towards regionalism. In other regions, the growth of trade was accompanied by even faster growth of intra regional trade, particularly for the European Community, East Asia, and most recently in Latin America. In South Asia, by contrast, intraregional trade has been (and remains) very modest. In other regions, the scope for South-South and South-North regionalism is being advanced (Mercosur and NAFTA respectively) or actively explored (Chile with NAFTA, increased efforts at cooperation among the 18 countries of the Asia Pacific Economic Cooperation (APEC)). In South Asia, the South Asian Association for Regional Cooperation (SAARC) is gradually becoming more active, and has recently agreed on a framework for promoting preferential regional trading arrangements (SAARC Preferential Trading Arrangement--SAPTA). But the momentum is considerably less than elsewhere. It is clear that the South Asian countries, now pursuing unilateral liberalization within GATT's framework of multilateralism, are on a respectable and defensible path. But the trends in regionalism elsewhere raise the question:

*Would there be any benefits to South Asia from a more active stance in the light of regionalism's spread?*

An unequivocal answer demands further analysis. Moreover, political economy considerations heavily influence the scope for regionalism and these differ considerably between South Asia and other regions. There is no obvious Northern economy in a South-North regional tie-up for South Asia. And the countries of South Asia, despite their strong shared historical heritage, are divided by many differences over borders, religion and other matters. As a first step, however, exploring the likely outcomes from economic cooperation in South Asia could contribute to the beginnings of a debate on whether a more active stance on regionalism would benefit South Asia.

This paper reports the findings of a research project by Professor T.N. Srinivasan (Yale University, Economic Growth Center) on behalf of the Office of the Vice-President, South Asia Region, World Bank and financed by the Bank's Research Committee (RPO# 678-22). The project uses the available empirical techniques to explore the scope for increased trade between South Asian countries, following tariff reductions, and also between them and the EC, the NAFTA countries and an East Asian group (including Japan). Despite the limits of the data and the available techniques for simulating trade growth as tariffs are reduced, the study's findings should stimulate further consideration of options for regionalism in South Asia. Skeptics will be quick to point to the futility of regionalism for countries that have many differences still under resolution. Optimists will see the possibilities for economic cooperation as a stepping stone to better political relations.

The five main conclusions:

- **Unilateral trade liberalization still promises substantial gains.** The continuation of the unilateral trade liberalization efforts by each of the South Asian countries would continue to yield substantial benefits. From a strategic perspective, however, it might be easier to increase its momentum if liberalization is part of a coordinated effort in all of South Asia, with liberalized access being extended to the rest of the world on a most favored nation principle.
- **Potential gains in intraregional South Asian trade are substantial.** The low transport costs between countries in the subcontinent come into play once tariffs begin to be reduced. The simulations suggest some orders of magnitude. If all tariffs on intra-South Asian trade are removed, total trade increases by between 3% of GDP (India) and 59% of GDP (Nepal) - and in between for the other countries. For more modest tariff reductions, say 50%, trade increases between 1% of GDP for India and 9% of GDP for Nepal. The increases are much larger, in proportional terms, for the smaller countries (Nepal, Sri Lanka, and Bangladesh, in declining order of gains) than for the larger countries (Pakistan and India, again in declining order of benefits).
- **Potential gains in trade for South Asia-- across the Big Three trading blocs -- are greatest with the EC but.....**

For the South Asia region as a whole, analysis based on historical data suggest that a tie-up with the European Community would be more beneficial than with either NAFTA or with an East Asian group,

- **-- a strategic tie-up with East Asia may be even more beneficial.**

Giving more weight to the recent growth of trade between South and East Asia and recognizing that East Asia is the fastest growing region of the world, preliminary analysis and qualitative judgments suggest that a strategic tie-up with an East Asian group is likely to be more beneficial. Such a tie-up might be more consistent with today's realpolitik, because the EC continues to seek ways to accommodate regionalism with Eastern Europe and the states of the former Soviet Union.

- **South Asia may do better by approaching (one or more) of the Big Three as a group.**

The relative gains to individual South Asian countries from linking up with the Big Three vary considerably.

For Sri Lanka, Nepal and Bangladesh the potential gains are similar across the Big Three, and indeed are dominated by those in an intra-South Asian grouping. But for India and Pakistan, the historical dominance of the EC and the prospective benefits of a link with an East Asian group are clearly more beneficial. This suggests that the subcontinent may do better if it approaches one (or more) of the Big Three as a group.

We still are far from drawing more than preliminary propositions on the benefits of regionalism in South Asia. Even so, the findings here suggest that a hesitant stance by South Asia may be ill-advised. There are likely to be important gains from reducing tariff and non tariff barriers within South Asia, as transport cost economies come into greater play. There also are likely to be gains from a tie-up with one of the Big Three, the most beneficial candidate probably being the East Asian group.

India's and Pakistan's expressions of interest in joining in APEC are useful steps. And building on the progress with SAPTA, it would be worthwhile for the countries of the region to expand the agenda of regionalism and to explore other options. Indeed, the gains from increased intra-regional trade may well include non economic benefits: increased economic linkages might well help in reducing political tensions.

The possibility of a tie-up with an East Asian group draws attention to the link between trade and foreign direct investment (FDI), as captured in the "flying geese" hypothesis. The origin of this hypothesis is the flow of FDI from Japan into other East Asian countries, and from the North-East Asian countries to the South-East Asian countries. It draws attention to an observed pattern in changes in the location of production across countries over time: "lead" country firms combine their technological and marketing advantages with lower production costs in "follower" countries, resulting in increasing FDI and trade among them over time. Under the right encouragement, this may very well be applicable to South Asia. By working together, the countries of South Asia might propel their ongoing trade reforms in a coordinated fashion. And using the lowest tariff among the agreeing countries as the basis for coordination, they could create more trade and systematically attract FDI to the region. It is often easier to lock in reforms when the efforts of countries are coordinated than when each country proceeds on its own.

A concluding observation: the size and fast growth of the South Asian region can be exploited to generate faster growth in trade and FDI. The world economy is becoming increasingly integrated economically and financially. It is also threatening polarization between fast-growing and lagging economies. And it is characterized by an increase in private capital flows to emerging economies and stagnating public concessional assistance. Growth of trade and international investments have an important role to play in South Asia's efforts to attain sustainable growth and reduce poverty, and open regionalism may create new opportunities. South Asia cannot afford to be hesitant.

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# REGIONAL TRADING ARRANGEMENTS AND BEYOND: EXPLORING SOME OPTIONS FOR SOUTH ASIA - THEORY, EMPIRICS AND POLICY

T. N. Srinivasan\*

## 1. INTRODUCTION

### 1.1 Recent Revival of Regionalism

Since the end of the Second World War there have been a number of regional integration (RIA) or preferential trading agreements (PTA)<sup>1</sup>, the most enduring of which have been the European Union (EU) and the European Free Trade Area. Until the collapse of the Soviet Union and socialist regimes in Eastern Europe, the Council of Mutual Economic Assistance represented a trading bloc of countries other than market economies. In the sixties there were several PTAs in Latin America and Africa, including the Latin American Free Trade Area of 1960 (later replaced by the Latin American Integration Association in 1980), the Central American Common Market (1960), and the East African Common Market of 1961. The Association of South East Asian Nations was formed in 1967, the Andean Pact in 1969 and the Caribbean Community and Common Market in 1973. Farouhan (1993) reports seven or eight regional groupings in Sub-Saharan Africa, of which the oldest, South African Customs Union, dates back to 1910, the rest having been formed in the seventies and early eighties. Not all of these were full-fledged customs unions or even free trade areas, and even those which were intended to become such arrangements did not in fact do so. Some, such as the East African Common Market, collapsed within a few years of their formation.

Interestingly, regionalism has become popular again in the late eighties, even as the Uruguay Round of multilateral negotiations under the auspices of the GATT were underway. The goals of these negotiations were further liberalization of global trade and extension of GATT disciplines into other areas such as trade in services

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<sup>1</sup>See Annex 1 for definitions of various terms describing economic associations among countries.

and trade-related investment measures and intellectual property. The most celebrated and recent of the regional agreements is the North American Free Trade Agreement (NAFTA) between Canada, Mexico and the United States (USA), signed in 1992 and approved by the legislatures of all three countries by the end of 1993. It superseded and was preceded by the Canada-U.S. Free Trade Agreement of 1989. Mercosur, an agreement between Argentina, Brazil, Paraguay and Uruguay to form a common market, was signed in 1991. APEC, the Asia Pacific Economic Cooperation, formed in 1989 held a summit of the leaders of its 15 members in November 1993 at Seattle, USA. It was formed as a consultative body dealing with such issues as harmonisation of customs data and exchange of information on marine pollution and so on. Although the report of an Eminent Persons Group appointed by APEC presented at the summit meeting called for APEC to become an Asian Pacific Economic Community and to take specific steps towards the establishment of an Asian Free Trade Area, the members appear to be deeply divided about the nature and degree of future cooperation. Yet there is a clamour to join APEC--Mexico, Chile and Papua New Guinea have already applied for membership and India, Pakistan, Macao, Sri Lanka, Russia, Ecuador and Peru have expressed an interest in applying (Financial Times, November 15, 1993, page 15).

The increasing popularity of regionalism, in spite of failures of many such attempts in the past, is attributed by Anderson and Blackhurst (1993) to two events, one on either side of the Atlantic Ocean. The first was the admission of Greece, Portugal and Spain into the European Community and the agreement to remove all internal barriers on the movement for goods, services, capital and labour by 1992. The second was the conclusion of the Canada-U.S. Free Trade Agreement of 1989. Although the two events were largely independent of each other and had little to do with the failure to conclude the Uruguay Round by December 1990 as originally envisaged, Anderson and Blackhurst suggest, plausibly, that the rest of the world saw the two events and the difficulties of concluding the Uruguay Round negotiations, as indicating that the future of the multilateral and liberal framework of GATT was uncertain. This led them to seek membership in the existing or newly established PTAs.

John Whalley (1993, p. 352) also attributes a key role, among factors explaining the enthusiasm for PTAs, to the "search for safe-haven trade agreements by smaller countries who now, more than ever before, wish to secure markets of large neighbouring trading partners because of the fear of higher trade barriers in the future." Besides this fear on the part of small countries, Whalley sees also a strategic motive on the part of some large countries

which, by threatening to negotiate, or actually negotiating, regional arrangements may be able to force other reluctant large powers to make concessions multilaterally which they are apparently unwilling to make in the Uruguay Round negotiations. Since in recent times growth of trade between neighbouring countries has exceeded that of global trade, Whalley suggests that regional PTAs are now being viewed more positively as accelerating further the already dynamic portion of world trade. Perroni and Whalley (1993) confirm with numerical simulations from their general equilibrium trade model of tariff retaliation that recent regional trade agreements are indeed safe-haven or insurance arrangements sought by smaller countries who have paid premia in the form of non-trade concessions to large countries (e.g. side agreements signed by Mexico with respect to labour and environment as part of NAFTA mainly to mollify opponents of NAFTA in the U.S.). They find that the value of such agreements to large countries rises as the risk of global trade conflict rises since the enhanced risk will naturally lead to larger premia extractable from smaller countries. Viewed in this light, the recent proliferation of PTAs is a serious threat to the global trading system.

Baldwin (1993) notes a *prima facie* puzzling aspect of the recent enthusiasm for regional trade liberalization, namely the willingness of European countries outside of the EC to open their agriculture, services and goods markets to EC firms while they were reluctant to do so in the context of multilateral liberalization under the Uruguay Round. He offers a rationale for this behaviour using a political economy model in which an idiosyncratic shock, such as closer integration of the members of the EC under "Europe-1992," threatens the fortunes of exporters in non-member countries who then lobby for membership in the EC. If the governments in some non-member countries were on the margin of indifference between joining EC and staying outside prior to the "shock" of Europe 92, they might be pushed by domestic export lobby towards joining after the shock. Once some non-members join, those still outside come under pressure on two counts--from loss of exports to domestic producers in a better integrated EC and also their markets in erstwhile non-members. This sets off a "domino" effect inducing more and more non-members to apply for membership and, in doing so, they become willing to offer concessions to EC, which they were reluctant to offer in a multi-led context.

Hallet and Braga (1994) suggest an additional inducement for joining a PTA with one's major trading partners: it is a device for pre-commitment for ensuring proper behaviour of such partners. They view adhering

to GATT disciplines as "commitment to a cooperative regime in which there is limited advantage in unilateral liberalization--but the advantages of multilateral liberalization accrue to all only so long as all "play the game"... But, like any cooperative regime, there is often little sanction against individuals who revert to their best non-cooperative policies--and quite possible none at all against those who form a coalition with market power" (p. 10)

...

"Moreover, GATT's effectiveness is further complicated by the fact that many trade restrictions which are now commonly used do not properly fall under the disciplines of the GATT treaty. This allows many governments to maintain a reasonably GATT-consistent face to the world while operating policy instruments which have a protectionist impact in practice.

Against this background, it seems clear that countries with their own interests in bloc-wise noncooperative behavior could easily find ways of doing so without apparently violating GATT disciplines (e.g., through anti-dumping actions that discriminate against firms of non-member countries). Once countries realize that is the case, the most powerful reason for wanting to form free trade blocks within the GATT system becomes apparent. It is a defensive move, since there is no other way that countries can credibly commit to behave in a properly cooperative manner within GATT. It is therefore better to withdraw into a smaller coalition of your immediate partners where an explicit agreement (and the implicit threat of expulsion and loss of market access in general, rather of access to particular markets) can "lock in" liberal trading policies and market access where it matters." (p. 11)

They then ask "Is there anything intrinsic to Regional Integration Agreements (RIAs) that make them work better on pre-commitment devices than a global regime such as the GATT system" and answer affirmatively by adducing several reasons mainly to do with raising the costs and reducing the benefits from deviation from cooperation.

Bhagwati, a committed warrior in the cause of a multilateral process of trade liberalization, in his critical overview of regionalism and multilateralism, raises a number of searching questions as to the compatibility of the liberal-multilateral-non-discriminatory framework for the world trading system with discriminatory PTAs

"is the immediate impact of preferential trading blocs...to reduce rather than increase world welfare?

Regardless of the immediate effect, will regionalism lead to non-discriminatory free trade for all, through continued expansion of regional blocs until universal free trade is reached, or will it fragment the world economy? And will, in any event, such a dynamic time-path show that regionalism will get us closer to the goal of multilateral free trade for all than multilateralism as the process of trade negotiation will?" (Bhagwati (1993), pp. 31-32, emphasis in the original).

To ensure a negative response to his first question, Bhagwati would minimize the potential world-welfare reducing immediate effects of trading blocs by replacing the existing Article XXIV of the GATT on PTAs by ruling out all PTAs other than customs unions (CUs) and insisting that the common external tariff of any CU on any item

be the lowest tariff of any union member on that item prior to the union. While recognizing the practical problems of its implementation, Bhagwati also endorses a simple aggregative test proposed by John McMillan (1991), for the admissibility of a CU or a PTA viz. 'does the bloc result in less trade between member countries and outsider countries'? This test is based on balancing the classic Vinerian benefits of trade creation against the costs of trade diversion.

On Bhagwati's second question, there is very little<sup>2</sup> by way of analytical and empirical results in the literature other than the well-known proposition of Kemp and Wan that a common external tariff could be found that makes at least some residents of a CU better off while not hurting any citizen of non-members, as compared to the pre-union situation. Thus, the Kemp-Wan proposition shows the existence of a dynamic path towards multilateral free trade for all through CUs that is monotonically increasing in world welfare. But there is no reason to believe that such a path would in fact be followed. Bhagwati finds unpersuasive the argument that regionalism is a quicker, more efficient and more certain process towards multilateral free trade for all. While judging the recent revival of regionalism to be unfortunate, he nonetheless recognizes that only time will tell whether regionalism has been a sanguine or a malign force.

The Uruguay Round has been completed with the signing of the Final Act in Marrakesh in April 1994. The only uncertainties remaining are about the process of its ratification by the relevant authorities in the signatory countries, leaving aside any ambiguities and problems a careful analysis of the Act might reveal. To the extent that

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<sup>2</sup>In his recently completed doctoral dissertation at Stanford, Philip Levy examines whether incentives for multilateral trade liberalization are blunted by the possibility of concluding regional trade agreements in a political economy model of trade policy determination. More precisely, he considers two periods during the second of which an opportunity for multilateral liberalization arises and asks whether two countries concluding bilateral trade agreement in the first period will retain any interest in multilateral liberalization in the second period. In a standard Heckscher-Ohlin-Samuelson model with median voter politics, the answer is in the affirmative since the only effect of trade liberalization, bilateral or multilateral, is the Stolper-Samuelson effect on factor prices induced by terms of trade changes. However, if the model is of the differentiated-product-monopolistic competition type, there is an additional effect to consider, namely, the expansion of the varieties of the product available for consumption with trade liberalization. In such a model, concluding a bilateral agreement in the first period might result in the two countries losing interest in multilateral liberalization in the second period. For example, consider two countries identical in factor endowments to each other but differing from those in the rest of the world. Opening up of trade between them clearly has only a variety expansion effect and would be beneficial. But opening up of their trade with the rest of the world has both effects which could go in opposite directions. If the negative Stolper-Samuelson effect more than offsets the variety expansion effect, clearly the two countries could not be interested in expanding their trade bloc multilaterally.

the enthusiasm for regionalism reflected uncertainty about the conclusion of the Uruguay Round, since this uncertainty is no longer there, is it time to pronounce "Regionalism is dead and long live the new World Trade Organisation!?" A recent paper of the World Bank (1994a) suggests that it is premature to pronounce the death of regionalism. The reason is that

the "new regionalism" is qualitatively different from earlier cycles of regional integration. Most new RIAs go beyond conventional trade arrangements, addressing not only trade in goods, but also the liberalization of trade in services, movements of labor and capital, the harmonization of regulatory regimes, and the coordination of domestic policies that influence international competitiveness. In this context, they can be characterized as experiments in "deep integration."

The concern with economic integration rather than trade preferences per se is not new. What is new is the attention given to regulatory barriers as obstacles to "deep integration" and the focus on market incentives rather than on centralized planning as the driving force behind the integration process. The advent of North-South arrangements based on reciprocity and of South-South RIAs designed as a complement to outward-looking trade strategies are other hallmarks of the new regionalism. (p. i)

## 1.2 Regional Integration and South Asia

A number of studies have appeared since the recent revival of regionalism including the two volumes of papers presented at two conferences, one organized by the GATT (Anderson and Blackhurst (1993) and the other by the World Bank (deMelo and Panagariya (1993)). A number of researchers inside and outside the World Bank have also written on various aspects of regionalism and PTAs: Bagwell and Staiger (1993a, 1993b), Erzan and Yeats (1992), Frankel et al. (1993), Frankel and Wei (1993), Krugman (1991), Levy (1993), Ludema (1992), Panagariya (1993), Perroni and Whalley (1993), Safadi and Yeats (1993) and Whalley (1992, 1993). These studies either address general issues (e.g. welfare consequences of regional integration, the political economy of the pursuit of regional integration and its consequences for the process of multinational liberalization, implications of the formation of PTAs for multilateral cooperation and so on) or experiences of specific regional trading arrangements (e.g. Latin American Free Trade Area, ASEAN and so on).

While the general issues and specific experiences are indeed relevant to our research on South Asia, their significance is very much tempered by several facts, one of the most important being the Asian context. Although the trade and growth performance of South Asia in the eighties is superior compared to most Sub-Saharan African and Latin American economies, it pales in comparison to that of East and Southeast Asian economies. It has been noted widely that the latter are currently the most dynamic economies in the entire world. South Asian economies could conceivably benefit more from closer integration with East and Southeast Asia in comparison to a narrow South Asian integration (Section 3 below offers some suggestive simulations to this effect) or even closer integration with industrialized regional blocs such as the EC or NAFTA. Yet, political support for such a purely Asian bloc is not strong. Besides, as long as East Asia continues to be as dynamic as it has been without such a bloc, it may have little interest in joining an Asian bloc (E. Mortimer, Financial Times, January 21, 1992, p. 13). In any case, since historically South Asian economies have far more trade with industrialized countries (including Japan) than with other Asian countries (Tables 1 and 2), empirical analysis based on past trade flows is not of much help in assessing the potential effects of closer integration of South Asian economies with those of East and Southeast Asia.

The economies of South Asia are in many ways quite different from other developing economies (except possibly ASEAN economies) that have formed in the past or are presently contemplating preferential trading blocs. Unlike most of them, prior to the 1947 partition of the sub-continent, Bangladesh, India and Pakistan, being parts of the same country, constituted a large common market. Indeed, they were integrated monetarily as well. These facts might be potentially relevant since the trade and financial flows that existed prior to 1947 could be revived in a possible South Asian Free Trade Area.

The South Asian countries formed the South Asian Association for Regional Cooperation (SAARC) nearly a decade ago to strengthen regional relations and promote greater cooperation in all spheres. Yet historical tensions among major member countries (e.g. India and Pakistan) have neither dissipated nor become less intense. It is conceivable that promoting freer movement of goods, services, people and capital in the region might also facilitate the resolution of political and territorial disputes. The 'peace dividend', i.e. the resources that could be saved from a reduction of military expenditures in the region following the settlement of regional disputes, is likely to be substantial. But, as with all potential peace dividends, whether the potential will be translated into reality is not easy

to predict.

The literature also does not adequately address at least three important features of economic integration among a geographically (and otherwise) large economy and its neighbours, as India and the other South Asian economies happen to be. *First*, the large economy of India could be viewed as a common market of its many States. This in turn means that in the formation of the market, potential international trade with neighbours could have been diverted to internal trade among States since transport costs (as a proportion of price) on internal trade could be significantly less than the tariff rates applicable to international trade. Clearly, regional integration could then replace internal trade in the large country with international trade. For example, with integration, trade flows between the southern states (Tamilnadu and Kerala, for example) of India and Sri Lanka, the eastern states (Assam, Bihar and West Bengal) and Bangladesh, northwestern states (Haryana, Punjab and Rajasthan) and Pakistan and so on could exceed significantly the pre-integration trade-flows between the relevant pairs of countries. *Second*, trade among neighbours could easily include (new or expanded) trade in goods and services (e.g. electricity) that are usually treated as non-traded. For example, among Bangladesh, India and Nepal such trade could be potentially significant. *Third*, in the pre-integration situation with significant trade barriers of differing intensity, illegal trade between neighbours usually flourishes. And if the internal barriers of the neighbours differ substantially, then it is also possible that goods from the rest of the world enter the low barrier country legally and then are smuggled into the high barrier neighbour. Clearly regional integration by eliminating trade barriers among neighbours would substantially reduce the incentives for illegal trade flows. These three reasons alone suggest that an extension of the existing analytical literature on regional integration is desirable in considering such integration of South Asia. Srinivasan and Canonero (1993a) formulate a bare-bones analytical model intended to capture the first two effects. Section 2 summarizes their findings from numerical simulations using the model.

Even in the absence of regional integration, if neighbouring economies within a region liberalize their foreign trade as a whole, and in different sectors, at different speeds, such differences could have significant impacts on trade flows (legal and illegal). *First*, for the same reasons emphasized in the traditional literature on economic integration, namely scale and scope economies, spill-over externalities and so on, liberalization among neighbours even without integration could expand markets and thus induce better utilization of existing capacities as well as

create incentives for new investment. Put another way, if transport and transaction costs associated with trade with the rest of the world are substantial, expansion of the regional market following liberalization could be more important for exploitation of scale economies than integration with the global economy.

Second, if a high barrier country liberalizes faster (resp. more slowly) than her low barrier neighbour, so that the difference in the heights of the two barriers comes down (resp. goes up), clearly the incentives to smuggle imports from the rest of the world into the high barrier country through its neighbour would be reduced (resp. increased).

Third, relative speeds (particularly if they vary among sectors) of liberalization could also affect relative sizes of potential flows of foreign direct investment (FDI). If, for example, a country with a large domestic market such as India maintains a relatively high barrier by going slowly in its liberalization, compared to Pakistan, a tariff-jumping type of foreign investment flow could be enhanced. The reason is that foreign investors could not only hope to supply the large domestic market of India but also export to Pakistan, since by assumption the Pakistani barriers are lower and going down faster as compared to India's. The welfare consequences of such FDI could be negative for India and positive for Pakistan, if the trade barriers in both countries protect capital-intensive industries. Besides the FDI from the rest of the world into the region, intra-regional FDI (i.e. investment from one of the countries of the region in another) could also be induced by liberalization per se (regardless of relative speeds). Because such flows are a response to reductions in barriers rather than induced by the need to "jump" high barriers to reach a protected domestic market, they are likely to be welfare-enhancing for the hosting as well as investing nations.

An analysis of the effects of unilateral liberalization possibly at different speeds and of regional integration on FDI flows would involve the identification of sectors with a potential to attract FDI from the rest of the world as well as from within the region and an analysis of the direct as well as indirect (through, for example, technological spill-over) growth effects of such investment. As is well known, FDI flows to South Asia have not been substantial historically and are as yet to increase in a major way in response to liberalization. FDI flows to South Asia are much lower compared to such flows to Malaysia and Thailand, let alone China. As such, an analysis based on history and recent past is unlikely to prove illuminating in assessing future flows. While recognizing their

importance, no attempt at such an analysis is made here and is left for a future occasion.

It is important to quantify also the impacts of the formation of other trading blocs and their possible expansion on South Asian countries, whether or not they form a bloc of their own (or join with other Asian blocs such as ASEAN). For example, Raed Safadi and Alexander Yeats (1993) analysed the likely loss to South Asia of possible trade-diversion resulting from NAFTA and concluded that it would be marginal and concentrated on a narrow range of products including textiles and clothing. Anderson and Snape (1994), note that even though the share of intra-regional trade in world trade has been increasing, so has been the share of extra-regional trade, the reason being the increasing share of GDP being traded. They ask whether an enlargement of NAFTA and EU would slow or reverse this trend. They conclude that on balance the fears of trade and investment diversions are probably exaggerated. But they also see cause for concern that such expansion might erode the GATT-rules based multilateral trading system.

The more difficult task is to anticipate the impact on a potential South Asian Bloc (whose structure could range all the way from some loose preferential trading arrangement to full economic integration) of other actual and potential blocs with yet to be decided structures. An attempt has been made (Srinivasan and Canonero (1993b)) to assess such impacts, however imprecise they might be, using a gravity-type quantitative model explaining bilateral trade flows among South Asian countries and the rest of the world, grouped into relevant countries and regions. Section 3 summarizes the results of this exercise.

Since the research for this paper was completed early in the fall of 1993, the Final Act embodying the results of the Uruguay Round has been signed. If it is ratified by the signatories by mid-1995 as expected, a new organisation called the World Trade Organisation will come into operation replacing the GATT and the various parts of the Act will be implemented over a ten period from then. The Final Act is 550 pages long and the text, particularly the passages in legal terms, is not exactly a transparent document. The parts that are of primary interest from the perspective of some or all of South Asian countries are those that relate to textiles and clothing, agriculture, services, trade-related intellectual property rights and investment measures, of which textiles and clothing is the most significant in a quantitative sense in South Asia's trade.

The quotas on textiles and clothing imports, currently negotiated bilaterally under the Multifibre

Arrangement (MFA), will be eliminated in three stages over a period of ten years from January 1, 1995. During each stage, annual growth in the import quotas on those products that are still under restraint will be increased by no less than 16% over MFA 1994 in Stage 1, by no less than 25% over Stage 1 in Stage 2, and finally by no less than 27% over Stage 2 in Stage 3. Although a faster phase-out of MFA would have been better, still substantial opportunities for increasing textile and clothing exports from South Asia emerge. However, since the competition from other exporters will be intense, unless South Asian exporters are competitive in quality and cost, they might not be able to maintain, let alone increase, their share in the growing export markets.

With respect to agriculture, the two major decisions are tariffication, i.e. conversion of existing restrictions into tariffs and reduction of such tariffs by 36% (resp. 24%) in the case of developed (resp. developing) countries, the reduction being achieved over a period of six (resp. ten) years in the case of developed (resp. developing) countries. Also, domestic support measures (other than those which have a minimal impact on foreign trade) and export subsidies are to be reduced as well. In principle, the existing quantitative restrictions in some South Asian countries (e.g. India) on agricultural trade and domestic support measures (e.g. subsidies on fertilisers, irrigation, credit etc.) could attract these provisions. Yet given the "special treatment" clause that allows, under certain conditions, a country to maintain import restrictions up to the end of the ten year implementation period and the "special and differential" treatment applicable to developing countries, the Final Act does not appear to call for many changes in existing agricultural trade and subsidy policies in South Asia, though it does not rule out such changes being brought by the countries themselves in their own interest. The reduction of export subsidies in industrialized countries could conceivably raise the cost of agricultural imports, particularly food, into South Asia, but available studies suggest that these are unlikely to be quantitatively significant.

It is likely that implementing the Final Act's provisions regarding intellectual property rights might have some adverse consequences in the short run, for example by raising the price of some essential drugs. Also, extending patent protection to seeds and plant varieties could also have similar adverse effects. But existing knowledge precludes any firm estimation of the possible rise in prices, and indeed establishing that long-term benefits, if any, would outweigh short-run costs.

The completion of the Uruguay Round does not mean that the existing preferential trading arrangements

are not important or that the trading world will not end up in four likely blocs, viz the enlarged EC, an extended NAFTA including South American countries, an East-South-East Asian bloc and the rest. But it certainly means that for the time being the threat of trade wars breaking out has diminished significantly. Nevertheless it is essential that South Asia does not become part of a fourth group of marginalized countries. From a political economy perspective one has to analyze the prospect of South Asian countries: (i) becoming associates of the EC (as some of the African countries are at present); (ii) negotiating a free trade agreement with NAFTA or alternatively with USA alone; (iii) joining an East-South-East Asian group or even the Asian Pacific Nations for Economic Cooperation group that is forming. The model discussed in Section 3 sheds some light on the quantitative impact of some of the choices.

Briefly stated, the model suggests that a narrow South Asian PTA, while it benefits the smaller countries of the region to a modest extent, is unlikely to yield substantial benefits to the larger countries. A larger Asian PTA is likely to benefit all. In any case, even without joining a narrow or wider PTA, if each of the countries continue and extend their unilateral liberalization currently underway, they are likely to gain significantly more. However, from a political economy perspective, coordinated liberalization by all countries of the region together (with the liberalized access to each market being extended to extra-regional trading partners on a MFN basis) is likely to find greater political support in each country. Such coordination serves to blunt the fear among producers in a country that unilaterally liberalizes faster than its neighbours that they will lose in their home market to producers in neighbouring countries without at the same time gaining greater access to markets of those countries.

Even if one ignored the political benefits and focused only on economic ones, coordinated liberalization extended to all trading partners on a MFN basis is likely to be the best policy. In fact, the World Bank (1994b) reports on a comparison (using a general equilibrium model) of four policy options of trade liberalization in East Asia. The four options were: the formation of a small group that is open (i.e. a modest extension of unilateral liberalization), the formation of a large group that is open (the analogue of coordinated liberalization extended on a MFN basis to all others), a small group that is discriminatory (the analogue of a narrow South Asian PTA), a large group that is discriminatory (the analogue of an Asian PTA). In the East Asian context, the second of the above options was found to be by far the best. The results of Section 3 suggests that this conclusion is likely to

be valid in the South Asian context as well.

Section 4 concludes the paper by pulling together the results of Sections 2 and 3 and attempts to answer three basic questions: (i) Whether, and if so, what kind of regional trading arrangement is appropriate for South Asia; (ii) Does the fact that one of the liberalizing economies, viz. India, is much larger and more diversified than others in the region have any further implications with respect to the desirability of regional preferential trading arrangement that included India and to the pace of their liberalization relative to India's in the absence of such an arrangement, and (iii) are there any regional trade policy implications flowing from the answers to the first two questions?

## 2. PREFERENTIAL TRADING AND TRADE LIBERALIZATION AMONG NEIGHBOURS: A MODEL AND ILLUSTRATIVE SIMULATIONS

It was pointed out earlier that in the context of trade liberalization among neighbours the interaction between policy determined barriers (e.g. tariffs, quotas and other non-tariff barriers) and natural barriers (e.g. transport costs, linguistic and institutional differences) to trade could be important. In particular, liberalization by a large country of its external trade with its neighbours on all sides, could mean substitution of internal trade among distant regions within the country by external trade of each region with a foreign neighbour closer to it than another region. Also, goods and services not traded among neighbours prior to liberalization could be traded after significant liberalization. In South Asia, these considerations could be of some importance since it includes a geographically large and diversified country, viz. India, which already trades (or could potentially trade) with neighbours in East (Bangladesh), North West (Pakistan) and South (Sri Lanka).

Srinivasan and Canonero (1993a) illustrate the interaction between transport costs and tariffs in the context of trade liberalization among neighbours using two simple (bare-bones) models, one focusing on transport cost within a large country and the other on non-traded goods. In the first model, there are three countries and a rest of the world (ROW). One of the countries has two regions, each of the regions being a neighbor of one of the other two countries and distant from the other region and country. Transportation costs between neighbors are assumed

to be zero and those between distant points are of the Samuelsonian 'melting iceberg' type. Thus, only a fraction of a unit of a commodity leaving an origin arrives at a distant destination. Each country or region is endowed with an exogenously specified amount of 'its' commodity, but it consumes an aggregate made up of its commodity and the commodities of all other countries and regions, including the ROW. Thus there is no production in this model and as such, trade policy affects only consumption and welfare. The amount used of each commodity in making up a unit of the aggregate is determined by minimizing costs. In the initial situation, each country has a tariff on its external trade. Preferential trade liberalization consists of the removal of tariffs on trade among the three countries while leaving the tariffs on the rest of the world intact. Of course, unilateral but non-preferential trade liberalization could be viewed as reducing the external tariff of each country, possibly in different proportions.

Under the assumption that each country and region is a price taker in markets of the ROW, the model is first solved numerically for a base case competitive trading equilibrium. Each region of the large country is specified to be larger than its neighbors and the distance between each regional country and the ROW is twice as much as the distance between one country in the region and another. Preference parameter values and tariff rates are chosen such that the initial trade among regional countries is small. Besides, a unique ad-valorem tariff rate is set for each country, with tariff rates being equal for all regional countries, while ROW is assumed completely open to international trade. Then the changes in welfare and trade structure experienced by initially protected economies after joining a preferential trade arrangement are simulated and the sensitivity of the results to exogenously imposed parameters are tested.

The second model, borrows the Ricardian technology with a continuum of goods from Dornbusch et al. (1977) and extends it to have three countries and two differentiated sets of goods. Two of the countries are from the same geographical region and therefore transport costs (again, of the Samuelsonian 'melting iceberg' type) between them are lower than with respect to the third country. The regional countries do not produce the same set of goods while the third country is able to produce any good from both sets. Given labor endowments, one solves for a competitive trading equilibrium, and the associated relative wages, total expenditure for each country, as well as the pattern of production, in particular the traded and non-traded ranges of goods. The numerical exercises done with the first model are repeated for the second, thus simulating the effects on welfare, patterns of production, and

shares in production of traded and non-traded goods, once a preferential trade arrangement is introduced.

The simulations (see Srinivasan and Canonero (1993a) for details) with the first model show that, first, a unilateral move to free trade with all partners leads to much larger welfare gains compared to free trade only with regional partners. Thus, for countries which are price takers in world markets PTAs with some partners is inferior to free trade with all partners. Second, any country's choice of the extent of its unilateral and uniform reduction in tariff does not harm the other member's situations. This kind of independence is a generic characteristic of the model. It comes from the assumption, appropriate in this context, that the regional economies are price-takers in international markets. Third, the welfare improving effect of substituting internal trade that is subject to real and unremovable transport costs by international trade with neighbors, once the policy-created barrier of tariffs is removed, is evident. Thus, the interaction between tariffs and transport costs is important. Fourth, when transport costs within the region are much lower than those between the region and ROW, significant gains from preferential trade liberalization occur. Fifth and finally, there are no gains to non-reciprocity in regional trade liberalization, i.e. there is no gain from not matching the reduction in tariffs on one's exports offered by one's neighbors. Thus, there is no advantage to having a slower rate of liberalization compared to one's neighbours.

The simulation results from Model 2 can be summarized as follows: first as in the case of model 1, the trade effects from PTA are quantitatively more significant than welfare effects, again for the same reason, namely the feasibility of substitution in consumption among goods whose prices are affected by the arrangement. Second, in contrast with the first model in which all goods are internationally traded, in the second, the trade effects also include the change in status of some goods from being non-traded to being traded, not only between countries of the region, but also between them and the rest of the world, once the arrangement comes into force. And these effects are found to be significant. Third, as in the first model, the welfare effects of unilateral liberalization of all trade are higher than those of preferential liberalization of trade within the region. Fourth, initial tariff levels and the distance of the countries of the region from the rest of the world matter, again as in the first model: high tariffs and a large distance preclude significant effects on regional trade with the introduction of PTA. Fifth, even in this simple model, a small country is more open than a large one, and the reduction in non-traded goods following the PTA is higher the smaller the country. As is to be expected, when two of the regional countries increase in size

relative to the third, the range of goods not traded with the rest of the world increases.

The simulations from the two models, while adequate to demonstrate the trade and welfare effects of preferential trade liberalization, have to be viewed with caution for several reasons. *First* and most obvious, the results naturally are specific to the particular models. However, given the models, the sensitivity of the results to variations in the numerical values of its parameters have been analyzed. *Second*, the models are static: as mentioned in the introduction, there could be important and interesting dynamic effects arising from changes in the returns to domestic and foreign investment as well as technological transfers consequent to liberalization, preferential or otherwise. *Third*, in the first model there is no production and in the second there are no scale economies or diseconomies in production and pure competition rules in both. To the extent there are significant scale economies that get exploited and market power of firms get reduced with trade liberalization, such effects are not captured in the models. However, it is arguable that except possibly in internationally non-traded infrastructure scale economies are unlikely to be important in most other goods.

Used with appropriate caution and awareness of their above-mentioned limitations, the two models do have a few policy implications for South Asian countries. Given the substantial transport costs associated with internal trade within the large countries of the region, and also with trade between each of the countries of the region and their major trading partners outside the region, preferential liberalization of trade within the region could lead to a significant increase in intra-regional trade that is beneficial to all partners. However, even larger gains could be achieved by liberalizing trade with all partners. The second model also suggests that removal of trade barriers within the region (preferentially or on most favored nation basis) could generate trade in goods and services, the demand for which is currently being entirely met by domestic supply in each country. Since some of these would be infra-structural services (e.g. power) whose production involves scale economies (not modeled) and whose limited and erratic supply inhibits efficient production of other goods, a more rational investment, production and trade pattern could lead not only to a once-and-for-all improvement in efficiency of production of all goods and services but also a more rapid growth. The growth enhancing effect could be significant: the prospect of supplying to a larger market following trade liberalization attracts direct foreign investment into infrastructural sectors.

3. SOUTH ASIA'S INTERNATIONAL TRADE: AN ECONOMETRIC MODEL AND COUNTERFACTUAL SIMULATIONS OF THE EFFECTS OF TRADE BLOCS

Srinivasan and Canonero (1993b) broaden the line of research initiated by Safadi and Yeats (1993) who analyzed the likely impact of the formation of the North American Free Trade Area on South Asia by considering other potential preferential trading arrangements. In particular, they evaluate the effects of South Asia Regional Integration (among Bangladesh, India, Nepal, Pakistan and Sri Lanka), as well as preferential trade arrangements (PTAs) of individual South Asian countries with some non-regional partners like USA, NAFTA as a whole, EEC or an Asian Group.

The tool used for empirical analysis is an extended version of the simple and well-known Gravity Model of Bilateral Trade, such as the one used by Frankel et al. (1993). The model estimated is specified in equation (1)

$$\begin{aligned} \text{Log } BT_{i,j,t}^c = & \alpha_0^c + \alpha_1^c \text{Log } (GNP_{i,t} * GNP_{j,t}) + \alpha_2^c \text{Log } (GNPPC_{i,t} * GNPPC_{j,t}) \\ & + \alpha_3^c D_{i,j} + \alpha_4^c \text{Log } T_{i,j}^c + \alpha_5^c \text{Log } T_{j,i}^c + \alpha_6^c \text{Log } REXR_{i,j,t} + u_{i,j,t}^c \end{aligned} \quad (1)$$

where  $BT_{i,j,t}$  is bilateral trade between countries—or group of countries— $i$  and  $j$  in the year  $t$  and the superscript  $c$  indicates the commodity group.  $GNP$  and  $GNPPC$  are the respective Gross National Product and per capita National Product of both partners in year  $t$ ,  $D_{i,j}$  is the distance in kilometers between the relevant cities,  $T_{i,j}^c$  is (one plus) the tariff imposed by country  $i$  in its trade on commodity  $c$  with  $j$  and  $REXR$  is an index of real exchange rate between the two trading partners.  $BT$ ,  $GNP$ ,  $GNPPC$  are measured in units of thousand 1987 US dollars, using the GDP deflator for the US to deflate nominal values.

The utilization of the panel features of the data set required special treatment of the error term in (1). A general expression for  $u_{i,j,t}^c$  could be the following:

$$u_{i,j,t}^c = \epsilon_i^c + \theta_j^c + \mu_t^c + \eta_{i,j,t}^c \quad (2)$$

here,  $\epsilon$  and  $\theta$  represent the individual country effects,  $\mu$  a temporal effect and  $\eta$  a purely random effect. If  $\epsilon$  and

$\theta$  were fixed effects, then by using country dummies the problem is easily solved. On the other hand, if these effects were random, the best way to estimate equation (1) would be by using Generalized Least Squares, taking into account the contribution of the variance of country effects to the variance of  $u_{ij}^c$ . In this case, a common problem that arises is the possible correlation between the individual country effects and the explanatory variables. A preliminary estimation of (1) using country dummies demonstrated that the assumption of fixed effects is inappropriate: the residuals from this estimation still showed the presence of individual effects. Therefore equation (1) was reestimated assuming random effects, using the lags of GNP and GNPPC as instruments and tested for their exogeneity.

The raw data on trade are from the United Nations' COMTRADE database (at the International Computing Center in Geneva), where imports and exports are reported in current USA dollars for each country and all its trading partners. The data are available annually and by commodity using SITC classification (Revisions 1 and 2).

With this basic information the bilateral trade (BT = imports + exports) on 10 commodities for 21 trading partners was calculated. The ten composite commodities are: Coffee and Tea, Textile Fibres, Leather and Dressed Fur., Textile Yarn and Clothing, where South Asia concentrates its exports, and other aggregates such as Non-Fuel Primaries, Fuels, Machinery and Transport Equipment, Other Manufactures and Total Trade. On the other hand, 13 individual countries were selected (the five from South Asia and their major partners: USA, Canada, Mexico, Japan, Hong Kong, Korea, Singapore and China) and 8 groups (EEC 6, EFTA, Africa, Asia, Middle East, Latin America, OECD and European countries not considered elsewhere). Both commodity and country aggregation were meant to enhance the most important features of the actual trade pattern of South Asia Countries.

In general the variable  $D_{ij}$  was calculated as the distance between the major city (usually, but not always, the capital) of country  $i$  and that of  $j$ . When  $i$  (or  $j$ ) represented a group of countries,  $D_{ij}$  represented the average of the distances of two major cities (or the city at the geographic centre) of  $i$  to the major city in  $j$ . In the case of India, the distance of the closest among its three major ports (Bombay, Calcutta and Madras) to the major city of its trading partner was used as the relevant distance. This was done to capture the trade-off between internal trade and external trade with her neighbours.

Turning to the tariff variable  $T_{ij}$ , the figures for South Asian countries are the implicit effective tariffs calculated from tariff revenues. These are average tariffs and include import and export duties. The data on tariffs imposed by developed countries and Mexico come from the UNCTAD-World Bank Software for Market Analysis and Restrictions on Trade (SMART), where they are available disaggregated by commodity. The tariff structure is the reported one for Japan and Mexico (again effective tariff) but not for Canada, EEC and USA. Although the actual tariffs imposed by the latter are not completely similar, there probably are compensating differences in their NTB coverage. It was therefore decided to assign the same tariff structure as represented by the average of their reported tariffs.

One final remark should be made about the tariffs. Although tariffs are considered to affect all traders uniformly, nevertheless trade not involving South Asian countries is treated as unaffected by tariffs. In other words,  $T_i$  and  $T_j$  are set at unity whenever neither  $i$  nor  $j$  are Bangladesh, India, Nepal, Pakistan or Sri Lanka. Basically this procedure implies that the magnitudes of such tariffs, as compared to those associated with South Asia countries, to be small enough to be negligible.

Finally the variable REXR aims to account for significant changes in real exchange rate in the South Asian countries. REXR is an index with base 1965=1 for the real exchange rate of the domestic currencies to the USA dollar. REXR is calculated using the nominal exchange rate and GDP deflators from IMF's International Financial Statistics (exchange rate is market value, period average -series rf-). It is the source also for the GNP and Population figures. Thus, REXR is set at 1 if both  $i$  and  $j$  are non South Asian. If either  $i$  or  $j$  are from South Asia and not both,  $REXR_{ij}$  is that REXR of the South Asian country. In those observations where both  $i$  and  $j$  are from South Asia,  $REXR_{ij}$  is an average of the two REXRs.

The technicalities of estimation and detailed results are presented in Srinivasan and Canonero (1993b). Briefly, annual data from 1968-1991 were used, generating 5175 observation bilateral-trade flows among 218 pairs (13 countries and 8 groups) of trading partners. The estimated equation for total trade is given in Table 3. It shows the remarkable explanatory power of the gravity model despite its weak grounding in economic theory. All variables have the expected signs and are significant at 5% level. The bigger the trade partners, the more significant is the bilateral trade, the greater the distance between the trading countries and the higher the tariff barriers the

smaller is the value of bilateral trade. Only the coefficients of GNPC, the product of GNP per capita of the two partners, have ambiguous signs (i.e. positive in some and negative in other equations. See Srinivasan and Canonero (1993b) for details). They are statistically significant in some but not all cases.

These findings are not inconsistent with received theory under which a higher GNP per capita indicates a higher degree of development, and therefore more specialization, which in turn is more important for manufactured goods. That both significant negative coefficients relate to trade in primary goods is consistent with this hypothesis.

Because the dependent variable is the sum of imports and exports, the effect of the real exchange rate on it is ambiguous in theory because its effect is expected to be positive on exports and negative on imports (actually these are the expected signs in the long run, while on an annual basis trade-exchange rate relationship for some commodities may not always follow the long-run direction, principally because of contractual rigidities). However, the real exchange rate in fact showed positive correlation with bilateral trade in every commodity, although this statistical relation is not significant for the primary goods. Obviously, the explanations for the signs and sizes of the estimated coefficients have to be found in the likely influence of the real exchange rate on the demand and production of the relevant commodities. Be that as it may, the significance of real exchange rate on total trade for non-primary goods indicates that empirically this effect is positive.

Equipped with this set of results the effect of preferential arrangements involving South Asian countries was simulated. An upper bound for this effect is to consider the total elimination of tariff barriers between those countries or group of countries for which such an arrangement is contemplated. Intermediate values of the effect could be obtained by partially reducing the barriers without completely eliminating them.

In interpreting the simulation results, it is important to keep in mind that the simulations are driven by the estimated coefficients  $\alpha_4$  and  $\alpha_5$  for the tariff variables  $T_1$  and  $T_2$  respectively. Basically the impact of preferential trade arrangements (PTA) is measured by the proportionate change in the USA dollar value of trade they create. The higher the initial tariff level on trade between partners, the greater the final effect of such arrangements since, by definition, they eliminate the tariffs. One should, therefore, expect the impact to be increasing in the estimated values of  $\alpha_4$  and  $\alpha_5$ . However, the tariff is only one among many elements that determine the impact of PTA on trade. In assessing the impact of preferential tariff reductions, two other features of the model have to be kept in

mind.

First, the series  $T_1$  mainly represent tariffs imposed by Canada, EEC, Japan, Mexico and USA on imports from South Asian countries, while series  $T_2$  are tariffs imposed by the latter on trade with the former group. Since tariffs  $T_2$  are initially higher than  $T_1$ , the higher the coefficient of  $T_2$ , in absolute values, the greater the impact of preferential arrangement.

Second, since  $\alpha_4$  and  $\alpha_5$  in equation (1) are elasticities indicating the proportionate response of bilateral trade to changes in tariffs, the initial tariff level as well as the initial trade level are relevant for determining the absolute changes in trade following a PTA.

Once the forces driving the simulations are understood, their limitations also become apparent. First, possible terms of trade effects associated with the creation of trade are not taken into account. As such, the simulated results almost certainly overestimate the true impact. On the other hand, the static framework of the exercise does not consider many important dynamic aspects of trade liberalization and these could reinforce the short-run trade creation thus underestimating the true long-run impact. The long-run effect is very difficult to forecast without a more general dynamic setup that generates terms of trade effects and allows for scale economies, investment, and spillovers of technology etc. The basic information to quantify all these is not available: for example, some price elasticities could be approximated but information on scale economies simply does not exist. However, experience with the few studies that tried to estimate dynamic effects in trade, indicate that short-run effects are likely to overestimate the true long-run effects. Second, the measure of trade barriers, viz. an indicator for average tariffs, does not fully capture the effect of many non-tariff barriers to trade. Third, even if the simulations correctly measure the impact on trade creation, it should be realized that this impact is not the only factor to take into account in evaluating PTAs. For instance, the negative effect on bilateral trade with countries not entering the arrangement is not assessed at all in the simulations. Moreover, none of the indicators from the simulations could be viewed as a welfare measure, thus making the comparison of different scenarios rather incomplete. In other words, the results serve only the limited purpose providing an estimate of the potential effects on bilateral trade between each South Asian country and its partner in the simulated PTA.

A summary indicator of all the simulations with respect to complete elimination of tariffs on all

commodities by partner countries are presented in Table 4 relating to total trade. Table 5 presents the results of a 50% reduction in tariffs along the same lines. Table 6 corresponds to the simulated effect of the estimated 25% reduction of tariffs of all commodities by all countries. Tables 5 and 6 also include East Asia (Hong Kong, Japan, Korea and Singapore) as a region.

The numerical values in Table 4 of the expected increase in trade with complete liberalization on a preferential basis are very large, in fact too large, to be totally credible. However, these should not be viewed as forecasts but only as indicating the broad orders of magnitude of potential increases.<sup>3</sup> It is clear that the greatest proportional increase expected in bilateral trade would come from regional integration. The countries in the region have all higher tariffs than other countries and therefore a larger impact from reduction in their tariff should be expected. For example the trade between Bangladesh and the other South Asian countries is expected to increase by 9.5 times and almost the same is the case of Pakistan (8.9). For Sri Lanka the expected proportional increase is about 10.3 times, for India 12.8 times, while for Nepal this increase is even higher, at 17.2 times. However, given the initial trade pattern of these countries, regional integration leads to a greater increase in trade for Bangladesh and Nepal than for the other South Asian countries.

For the two small economies of Bangladesh and Nepal, regional integration seems to be the most powerful preferential arrangement for trade creation. The values of expected increases in trade are incredible. Bangladesh's new trade with the region would account for US \$ 4.6 billion, exceeding its actual total trade of \$ 3.8 billion by 17%, and accounting for a whopping 21.1% of its GNP!

In the case of Nepal the trade expected to be created in the region is around US \$ 1.7 billion. Though this is smaller than that for Bangladesh, it is not less impressive considering the (economic) size of Nepal. The new trade would be almost three times the actual total trade of Nepal and 58.5% of its GNP!

The effects of regional integration on the large economies in the region, viz. India or Pakistan, are naturally very different from those of Bangladesh and Nepal. For India and Pakistan regional integration is important, but

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<sup>3</sup>Using a partial equilibrium model (i.e. assuming that terms of trade and incomes do not change as liberalization takes place) and values of trade elasticities found in the literature, Canonero (1994) estimated the expected net trade expansion following the formation of a South Asian and other PTAs. These estimates, as is to be expected, are considerably smaller than those in Table 2.

their much larger trade with the European Communities and USA, makes integration with the latter more attractive. Both countries would achieve the greatest impact on their trade by integrating their economies with EEC, for India bilateral trade would increase by 2 times its actual total trade, while for Pakistan the corresponding figure is around 0.95. Translating these effects into US dollars, new bilateral trade between India and EEC would amount to US \$ 85 billion, representing 30% of India's GNP! For Pakistan these figures would be US \$ 13 billion and 30%.

The simulations in Table 5 for a 50% reduction of initial tariffs, again on a preferential basis as compared to the corresponding figures in Table 4, indicate the expansion of trade is considerably less than half that from complete, i.e. 100%, reduction. This is, of course, to be expected since in the gravity model bilateral trade flow is a convex function of the tariff rate so that the marginal expansion from a reduction in tariffs is an increasing function of the reduction. Also, reducing tariffs by 50% on trade with South Asian partners expands trade to a lesser (resp. greater) extent than the same reduction of tariffs on trade with East Asia in the case of India, Pakistan and Sri Lanka (resp. Bangladesh (marginally) and Nepal). Thus the advantages of South Asian regional integration for smaller economies of the region are seen once again. In the case of Bangladesh, Pakistan and Sri Lanka, the expected expansion of trade with East Asia exceeds that from a reduction in 50% of tariffs on trade with USA. Given that East Asian economies are the most dynamic in the world, these results are informative.

Turning now to Table 6, the results represent trade expansion following a non-preferential 25% reduction in tariffs on all commodities by all countries. The figure of 25% was chosen to represent in an aggregate sense the expected reduction in various tariff and non-tariff barriers once the Uruguay Round agreement is fully enforced. Since the reduction covers the entire trading world, a Rest-of-the World group is added to the groups of Tables 2 and 3. It is clear that even a modest reduction by 25% in tariffs, given that it is universal, results in a significant expansion of trade. For example, for India, total trade with USA and Canada increases by 9.4% of its 1990-91 value, with East Asia by 8.2% and the rest of the world by 20.5%. On the other hand, for the land-locked and smallest economy, viz. Nepal, the gain in trade volume is largest (14.3%) with the Rest of the World, trade with its neighbours in South Asia being a close second at 12.9%--trade with EEC and East Asia expands by approximate equal percentages of 10.5% and 10.7 respectively.

#### 4. CONCLUSIONS AND POLICY IMPLICATIONS

Research on the prospects of regional integration in South Asia was initiated by the South Asian Region of the World Bank (World Bank, 1993). After reviewing the received theory and empirical evidence, this study identified the following four pre-conditions that significantly enhance the probability of successful preferential trade arrangements in the form of a free trade area (FTA) among a group of countries.

"First, the pre-FTA tariffs should be high. Second, the members of the FTA should be important trading partners before entering into an arrangement. Third, there should be complementarity in demand. For the South Asian countries this by and large means entering an arrangement with countries that have different economic structures. Fourth, the differences in economic structure should be based on the 'true' competitiveness of the countries involved. This means that arrangements with countries that have substantially different factor endowments are superior to those with similar endowments" (World Bank (1993), p. 16, emphasis in original).

The study concluded that only the first condition was met in the case of a possible South Asian Free Trade Area.

Clearly, even after recent liberalization, tariff and non-tariff barriers to external trade continue to be very high in South Asia relative to the average rates of protection in the rest of the developing world. Tables 5 and 6, reproduced from World Bank (1993) show that, except Nepal which exports to (resp. imports from) India a large but declining share of its exports (resp. imports), South Asian countries trade little with each other but with industrialized countries particularly in North America and Europe. Their export composition is similar, with an overwhelming and increasing share accounted for by labour intensive manufactures. Although the composition of imports differed somewhat, still it is largely the case that trade between South Asian countries is competitive than complementary, although given the extent of distortions in all markets in these economies, it is hard to infer 'true' competitiveness from the observed trade patterns. While viewing the prospects of a South Asian Free Trade Area as dim, World Bank (1993) suggested that "it may be worthwhile to explore the possibility of expanding trade with the rest of Asia...If South Asia could secure access to EC by forming an FTA, it would clearly benefit them" (p. 20 emphasis in original). While offering no direct evidence in terms of data on factor endowments (human capital, physical capital, land and natural resources) the report nevertheless concluded that

"In fact, the South Asian countries have very similar factor endowments and their greatest resource is undoubtedly their large labor forces. The scope for trade based on 'true' competitiveness within South Asia is therefore not large. But while the differences between South

Asia and the industrial countries is clearly the largest, there is much scope for trade with the other Asian developing countries based on differences in factor endowments." (ibid, p. 24, emphasis in original)

The present paper and the two companion papers (Srinivasan and Canonero (1993a, 1993b) confirm in some important respects and modify in others the conclusions reached in World Bank (1993). Given their existing trade patterns (Tables 5 and 6), for large economies such as India and Pakistan, while regional integration yields some gains, the principal gains seem to come from PTAs with the EC and USA. On the other hand, regional integration leads to greater gains in the value of their trade for the small economies of Bangladesh and Nepal. There are significant differences in the impact of PTAs on trade in different commodity groups. For all South Asian countries regional integration would clearly create more trade on textile fibres than any other preferential trade arrangement. In this commodity the tariff reductions would be significant and the actual trade within the region is strong enough to foster likely future trade. On the other hand, the actual trade pattern indicates that trade in clothing could receive an extraordinary impulse if South Asian countries integrate with EEC or USA, with the increased trade being similar for the large and small economies in the region.

It would appear that a substantial part of the trade gains in a PTA with EC and USA arise from the elimination of their barriers to imports of textiles and apparel from South Asia. This is in consonance with the findings of Safadi and Yates (1993) that the potential for a NAFTA-induced diversion of exports is mainly concentrated in textiles and clothing, since NAFTA keeps the barriers against imports from South Asia while eliminating them with respect to trade among members. As they correctly note whether Mexico's accession to NAFTA will induce a major displacement of South Asia's exports to the US will depend to a great extent on how competitive Mexico could be and to what extent the 'rules of origin' restriction of NAFTA will affect Mexican exports of clothing. Be that as it may, as MFA is phased out as part of a successful Uruguay Round agreement, whether South Asia is able to expand its exports will depend on its competitiveness relative to other supplies in East Asia. Safadi and Yates estimate substantial gains to South Asia from a successful Uruguay Round.

World Bank (1993), Safadi and Yates (1993) and Srinivasan and Canonero (1993b) all address only the trade impacts of liberalization and not welfare impacts. As is well known (Bhagwati (1971, 1973), Kirman (1973)), joining a customs union, even it is trade-diverting, could be welfare improving for a country. As such, welfare

effects should be distinguished from effects on trade flows. While Srinivasan and Canonero (1993a) do address welfare effects, they do so with simulations from an illustrative model and not with an econometric model of South Asian trade. Yet their conclusions that unilateral liberalization of all trade are higher than those of preferential trade liberalization within the region is suggestive. If it is, as is very likely, supported by an empirical welfare analysis of South Asian liberalization alternatively, not only would it be important to support and extend on-going unilateral trade liberalization in each of the South Asian countries but also to create a favourable global environment for liberal trade by successfully concluding the Uruguay Round.

Turning now to some policy issues, the conclusions reached in World Bank (1993) are by and large confirmed by the present study where the two studies overlap. These are: first, the gains from a narrowly conceived South Asian PTA are unlikely to be substantial for the larger countries of the region while the smaller economies could gain from greater integration with their neighbours. Second, the gains from a larger Asian PTA could be significant for South Asia. Third, while unilateral liberalization by each of the South Asian countries, at whatever speed and sectoral composition, would yield substantial benefits to each, from a political perspective it might be easier to sell such liberalization as a part of a coordinated liberalization in all of South Asia, with the liberalized access then being extended to the rest of the world on a most favoured nation principle. This idea, proposed by Panagariya (1993), is worth pursuing. Results presented in Table 4 could be interpreted as an approximation to the effects of such a liberalization, because it envisages liberalization by all countries rather than just by South Asian countries. Yet this modest liberalization expands trade within South Asia by as high as 12.9% and 8.3% respectively for Nepal and Bangladesh. For the others it is much more modest. It is likely that if only South Asian countries liberalized in a coordinated and multilateral way and to a greater extent, then intra regional trade will expand even more. Fourth, the gains from liberalized access to industrialized countries through arrangements ranging from association along the lines of LOME convention between EC and some African countries to joining NAFTA and other free trade areas as members should be pursued.

In this connection the following recommendation made in the report of Bhagwati and Srinivasan (1993) on India's Economic Reforms are appropriate for other South Asian countries as well.

"Finally, if we are to move to an outward-oriented strategy, seeking to exploit trade and

investment opportunities provided by the world economy, then we must take appropriate action to ensure that these opportunities are available to us maximally. Otherwise, we would be operating with one blade of the scissors and ignoring the other.

Towards this end, we recommend that India play a constructive role in making the Uruguay Round successful since the alternative is the strong asserting their might as with the Super 301 and Special 301 actions of the United States against other nations (including us) and the breakdown of the multilateral trade discipline that, despite its weakness, provides something like a rule of law benefiting us.

More important, we recommend that India now actively start exploring the options of joining in the free-trade blocs that are in place (EC and NAFTA) and which might emerge (in Asia). Else, it stands in danger of losing out to other countries, members of such blocs, in trade access and in attracting investment." (Bhagwati and Srinivasan (1993), p. vi.)

Their remarks regarding an Asian trading arrangement are pertinent as well:

"The possibility that we should explore with the greatest energy, however, is with Asia. At the moment, there is no Asian bloc, and many in the West think that one may not materialise. On the other hand, it is hard to imagine anyone taking seriously the formation of the US-Canada free trade area over a decade ago, and its extension to Mexico would have been regarded as altogether utopian. The speed with which old assumptions are shifted by new possibilities and realities is truly dazzling.

As it happens, the sense that the world trading system is being already 'carved up' into blocs by the EC and the United States is already leading Malaysia to sponsor such an Asian bloc. The anti-American rhetoric in which such a proposal tends to emanate from Malaysia handicaps the acceptance of the idea by Japan. For, Japan has naturally no desire to make the Asian bloc an offensive rather than a defensive move: Japan cannot afford to, and sensibly will not wish to, alienate the United States.

But the sentiment for an Asian bloc is now stronger and growing. India must become an active proponent of the idea, seeking membership as and when the idea materialises. This will need patient diplomacy since the current position is that India is not perceived as a "natural" member of such an Asian bloc and our membership even of the APEC, which is only a looser body of Asian and Pacific nations for economic cooperation, is still pending.

We will need to woo the ASEAN nations and we will also need to work actively on Japan itself, using both economic and political carrots to do so. Essential to our success will be commitment to an Asian identity (which need not exclude multiple affiliations and identities). Without this commitment, our membership may run into difficulty just as Britain's less-than-total enthusiasm for entry into the EC contributed to repeated French vetoes on the British application for membership.

Only by getting ready diplomatically for exploring these policy options, and pursuing them urgently, can we expect to safeguard our economic interests in the evolving economy. Our thinking and policies have to be reshaped to suit the rapidly changing world economic world economic scene.

The exploration of these trading possibilities and choices would also make more credible our commitment to the reforms initiated since 1991, both at home and abroad. In turn, that would benefit the reform process itself, creating a virtuous circle where reforms lead to intimate engagement into the evolving trade regimes and that engagement in turn encourages foreign

investment and interest in India's economic and reinforces the success of the reforms in providing benefits." (Bhagwati and Srinivasan (1993), p. 69.)

It is absolutely clear from the debates in the U.S. Congress on NAFTA, it will not be easy to dispel misperceptions about the nature of such arrangements and the fear that US and other industrialized countries will be hurt in terms of manufacturing employment, wages, labour and environmental standards by entering into such arrangements. These fears, unfounded they might be in fact, have been exploited by protectionist interests to demand a linkage between market access and adherence to their conception of labour and environmental standards. Hence while it might be in the interest of South Asia to seek membership of or association with NAFTA and EC, such an expansion of membership might not be politically saleable in the legislatures of the member countries of the latter. The most rational strategy for South Asian countries would be to move on all fronts in order: first unilaterally liberalize trade, preferably coordinating such a step with each other, second, vigorously push for the ratification and implementation of the Final Act of Uruguay Round while firmly resisting attempts to link market access to adherence to labour and environmental standards and, third and finally, explore possibilities of membership in APEC, EC and NAFTA.

Coordinated liberalization within South Asia together with a preferential trade arrangement (PTA) with an industrialized country group such as the EC or NAFTA could be politically useful in two ways: first it makes it easier to "lock-in" the liberalization in each of the countries in that any reversal will jeopardize the PTA. Second, as noted earlier, not only regional trade will expand in response to coordinated liberalization but, by the same token, in the absence of coordination in a country liberalizing its economy faster than its neighbours, political opposition to liberalization could arise, if its imports from neighbours rise faster than its exports to them. For example, the study of World Institute for Development Economics Research (WIDER (1993)) on Indo-Sri Lanka Economic Cooperation draws attention to the prevailing perceptions in Sri Lanka that "there is a lack of a 'level playing field' in trade between the two countries, that India was enjoying a 'free ride' in the liberalized Sri Lankan market, and that mutual trade relations could not be built up when one side was obtaining all the benefits... Currently, Sri Lanka is a relatively open market for Indian goods but the reverse does not apply..." (p. 16). While recognizing that unilateral liberalization on an MFN basis by both countries would be in the best interests of both countries, the

report expresses some scepticism about India reducing her import barriers on an MFN basis as rapidly and extensively as Sri Lanka has done, primarily because of domestic pressure from import competing industries. Given these perceptions, the report advocates a policy of reciprocal trade preferences between India and Sri Lanka. However, it is more plausible to argue that the domestic constraints in India are better countered by the prospect of profitable opportunities opening up with coordinated liberalization among all her South Asian neighbours than by a liberal arrangement with Sri Lanka.

To conclude, the analysis in this paper suggests that the most preferred option for South Asia is to liberalize their external trade in a coordinated manner and extending the liberalized market access to the rest of the trading world on a MFN basis. Such a move will not only take advantage of lower transport costs on intra-regional as compared to inter-regional trade, but also rationalize regional investment in infrastructure. As is well-known, in South Asia the inadequacy and inefficient functioning of publicly owned and operated infrastructural activities have in the past constrained growth and, unless vastly improved, will in the future constrain the response to economic reforms in other sectors including foreign trade. As such, improvement in their availability and functioning as a consequence of coordinated liberalization would have significant efficiency enhancing effects on the whole economy in each of the countries.

The suggested coordinated liberalization should be viewed as an integral part of extending and deepening the ongoing economic reform process in South Asia. As a part of this process several sectors of the economy, including those such as infrastructure that were previously closed to private investment and operation, have been opened up to domestic and foreign private investment. Indeed in some countries of the region (e.g. India) this has resulted in a boom in foreign portfolio investment in the domestic market for equities and in domestic firms borrowing foreign capital markets. Contractual agreements for some foreign direct investment (FDI) into power generation and other infrastructure have also been recently concluded. Yet, in contrast to flows of portfolio investment, FDI flows, while much larger in volume compared to the pre-reform period, are still relatively small compared to what other economies in East and South East Asia have been able to attract. Portfolio investments by foreign investors are a mixed blessing: on the one hand they augment domestic resources, but on the other they tend to cause an undesirable appreciation of the exchange rate if imports do not go up rapidly enough and/or if

complementary policy reforms are not accelerated. FDI flows are less volatile and in part create their own demand for imports. Although the analysis in this paper has been confined to the effect of alternative forms of trade liberalization including PTAs, on trade flows, it is clear that from the perspective of accelerating growth, and hence of achieving the overarching objective of alleviation of massive poverty in the region, increasing investment, private and public, domestic and foreign, in physical and human capital is vital. The World Bank's (1994b) proposal in the context of East Asia for "a concerted program for liberalization of FDI policies ... and for mobilization of FDI from other parts of the region and the world" (p. 51, emphasis added) is relevant for South Asia as well. Designing such a programme for FDI would be facilitated by cooperation in designing and implementing a programme of coordinated trade liberalization.

The importance of maintaining an open and liberal global trading system for the success of economic reforms and trade liberalization in South Asia can hardly be overemphasized. The successful conclusion of the Uruguay Round is certainly a major step in that direction. In this context, cooperation among South Asia countries, first in matters of trade liberalization, and then with respect to FDI, could pave the way for a much broader and equally, if not more, important political agreement to reduce tensions and hostilities in the region, thereby releasing significant resources for development and poverty alleviation. Indeed, one could go further: expanded trade and financial flows among countries would create a constituency in each country having a vital interest in maintaining tension-free political relationships in the region. Thus, close economic relations and cooperation will help to "lock-in" peaceful political relations.

**ANNEX 1**

Definition of terms commonly used in describing economic association among countries (from the loosest to the closest).

**Economic Cooperation Agreements (ECA)**: Agreements between two or more countries to cooperate in specific areas of common economic interest, e.g. agreements to avoid double taxation of individuals and enterprises that engage in economic activities in more than one country that subscribe to the agreement.

**Preferential Trading Agreement (PTA)**: An agreement to extend preferential access to each other's market in specified goods and non-factor services, the preferential terms, by definition not being extended to non-members.

**Free Trade Area (FTA)**: An agreement to remove all barriers to trade in all goods and non-factor services among members, with each member being free to set its own tariffs on trade with non-members.

**Customs Union**: Same as FTA but with members levying common rates of tariffs on trade with non-members.

**Common Market (CM)**: Same as CU but with free movement of factors among members.

**Economic Union (EU)**: Same as CM but with all economic policies being harmonized among members.

**Regional Integration Agreement**: Any one of the above but with members coming from a well-defined geographical region.

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**TABLE 1 DIRECTION OF IMPORTS BY SOUTH ASIAN COUNTRIES. 1980 AND 1990.**  
(Percentage share of total merchandise imports)

	INDIA		PAKISTAN		BANGLADESH		SRI LANKA		NEPAL	
	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990
India	-	-	0	1	5	6	4	4	46	31
Pakistan	0	0	-	-	3	3	1	2	0	0
Bangladesh	0	0	1	1	-	-	0	0	0	1
Sri Lanka	0	0	1	1	0	0	-	-	0	0
Nepal	0	0	0	0	0	0	0	0	-	-
South Asia	0	0	2	2	8	8	5	7	46	33
ASEAN - 4	3	3	4	5	4	8	3	9	2	2
Asian NIEs	2	6	6	8	9	25	15	19	15	18
Japan	5	8	14	12	13	14	14	12	22	13
USA	11	11	10	13	13	10	7	8	4	1
Canada	2	1	2	1	4	4	1	1	0	0
EC12	18	28	24	22	18	19	16	15	8	14
CPE	9	6	1	7	9	6	3	6	1	8
Other	49	37	37	30	22	7	34	23	2	11
World	100	100	100	100	100	100	100	100	100	100

Note: Data after 1990 is not available yet for many of the countries.  
Source: UN COMTRADE Data Base.

**TABLE 2 DIRECTION OF EXPORTS FROM THE SOUTH ASIAN COUNTRIES. 1980 AND 1990.**  
(Percentage share of total merchandise exports)

	INDIA		PAKISTAN		BANGLADESH		SRI LANKA		NEPAL	
	1980	1990	1980	1990	1980	1990	1980	1990	1980	1990
India	-	-	1	1	1	1	3	1	53	25
Pakistan	0	0	-	-	10	4	3	2	3	0
Bangladesh	1	2	3	2	-	-	0	1	4	0
Sri Lanka	1	1	1	1	1	0	-	-	0	0
Nepal	1	0	0	0	0	1	0	0	-	-
South Asia	3	3	5	4	11	5	7	3	60	25
ASEAN - 4	2	3	2	3	1	0	1	1	1	0
Asian NIEs	0	0	9	13	2	6	4	4	4	1
Japan	10	9	11	8	3	6	3	5	3	1
USA	11	15	9	12	12	36	11	26	3	29
Canada	1	1	1	2	1	2	1	2	0	1
EC12	23	28	27	32	16	28	21	26	24	33
CPE	22	18	0	4	13	4	9	4	0	1
Other	28	23	35	22	40	13	42	29	6	10
World	100	100	100	100	100	100	100	100	100	100

Source: UN COMTRADE Data Base

Table 3. TOTAL TRADE

Panel of Annual Data 1968-1991				N.Obs. 5175	
<b>INSTRUMENTAL VARIABLES - NO PANEL FEATURES</b>					
Variable	Coeff	Std Error	T-Stat	Signif	
GNP	0.72735026	0.01715866	42.38968	0.00000000	
GNPPC	0.33445465	0.02252389	14.84888	0.00000000	
D	-0.80508512	0.04660275	-17.27549	0.00000000	
T1	-5.74306686	0.41535882	-13.82676	0.00000000	
T2	-5.45346591	0.37926731	-14.37895	0.00000000	
REXR	0.78663776	0.09355628	8.40818	0.00000000	
Constant	-21.99658331	0.82354954	-26.70948	0.00000000	
R**2= 0.54                      R**2 Adj.= 0.54                      DW=0.74					
<b>ANALYSIS OF VARIANCE:</b>					
Source	Sum of Squares	Degrees	Mean Square	F-Statistic	Sig.Level
INDIV	15259.147996383	217	70.318654361	24.399	0.00000000
ERROR	14286.355410242	4957	2.882056770		
TOTAL	29545.503406625	5174			
<b>INSTRUMENTAL VARIABLES - RANDOM EFFECTS</b>					
Variable	Coeff	Std Error	T-Stat	Signif	
GNP	0.82954569	0.05252544	15.79322	0.00000000	
GNPPC	0.01079169	0.09054588	0.11918	0.90513363	
D	-1.08263825	0.16999122	-6.36879	0.00000000	
T1	-3.90443785	1.55071295	-2.51783	0.01183788	
T2	-4.65837217	1.19281557	-3.90536	0.00009529	
REXR	0.87676670	0.07449218	11.76992	0.00000000	
Constant	-19.15797828	2.49129123	-7.68998	0.00000000	
R**2= 0.007                      R**2 Adj.= 0.007                      DW=1.23					
<b>WALD TEST</b>					
F(7)= 2159    Significance Level 0.000					

Table 4. SIMULATED EFFECTS OF PTA - Expected Values - Total Trade

POTENTIAL PARTNERS	Bangladesh	India	Nepal	Pakistan	Sri Lanka
USA	3.3	8.2	6.1	4.4	3.8
	2,496.8	46,140.9	436.2	7,619.3	2,855.6
	65.4%	116.8%	69.3%	54.8%	51.9%
	11.4%	16.4%	15.0%	17.8%	34.2%
Canada	3.3	8.2	6.1	4.4	3.8
	352.4	3,803.6	20.1	714.8	194.6
	9.2%	9.6%	3.2%	5.1%	3.5%
	1.6%	1.3%	0.7%	1.7%	2.3%
Mexico	3.3	8.2	6.1	4.4	3.8
	6.1	569.5	1.5	26.2	79.1
	0.2%	1.4%	0.2%	0.2%	1.4%
	0.0%	0.2%	0.1%	0.1%	0.9%
EEC	3.3	8.2	6.1	4.4	3.8
	2,973.8	85,682.5	755.4	13,109.1	3,532.7
	77.9%	216.8%	120.1%	94.2%	64.2%
	13.5%	30.4%	26.0%	30.7%	42.3%
Japan	1.8	5.0	3.7	2.6	2.2
	682.1	18,869.1	293.9	4,548.5	943.8
	17.9%	47.7%	46.7%	32.7%	17.1%
	3.1%	6.7%	10.1%	10.6%	11.3%
SAS	9.5	12.8	17.2	8.9	10.3
	4,642.0	8,528.9	1,696.6	3,002.8	2,998.1
	121.7%	21.6%	269.7%	21.6%	54.5%
	21.1%	3.0%	58.5%	7.0%	35.9%

NOTE: The information on each cell is the following:

row 1: Proportional Increase of Bilateral Trade.  
row 2: Value of Such Increase in Millions USA \$.  
row 3: Ratio of Row 2 over Total Trade.  
row 4: Ratio of Row 2 over GNP.

\*Bilateral Trade, Total Trade and GNP are average of 1990-91 values, except for Nepal where 1989-90 values were used.

Table 5 SIMULATED EFFECTS OF PTA (50% tariff reduction)  
- Expected Values - Total Trade

POTENTIAL PARTNERS	Bangladesh	India	Nepal	Pakistan	Sri Lanka
USA	1.0	1.7	1.5	1.2	1.1
	745.4	9,623.4	103.4	2,047.6	809.1
	19.5%	24.4%	16.4%	14.7%	14.7%
	3.4%	3.4%	3.6%	4.8%	9.7%
Canada	1.0	1.7	1.5	1.2	1.1
	105.2	793.3	4.8	192.1	55.2
	2.8%	2.0%	0.8%	1.4%	1.0%
	0.5%	0.3%	0.2%	0.4%	0.7%
Mexico	1.0	1.7	1.5	1.2	1.1
	1.8	118.8	0.4	7.0	22.4
	0.0%	0.3%	0.1%	0.1%	0.4%
	0.0%	0.0%	0.0%	0.0%	0.3%
EEC	1.0	1.7	1.5	1.2	1.1
	887.8	17,870.3	179.0	3,522.9	1,001.0
	23.3%	45.2%	28.5%	25.3%	18.2%
	4.0%	6.3%	6.2%	8.2%	12.0%
Japan	0.6	1.2	1.0	0.8	0.7
	235.5	4,604.4	81.1	1,418.0	309.7
	6.2%	11.7%	12.9%	10.2%	5.6%
	1.1%	1.6%	2.8%	3.3%	3.7%
Korea	1.2	2.0	1.7	1.5	1.3
	348.6	1,711.3	22.2	736.4	276.8
	9.1%	4.3%	3.5%	5.3%	5.0%
	1.6%	0.6%	0.8%	1.7%	3.3%
Hong Kong	0.6	1.1	0.9	0.7	0.6
	67.2	806.8	7.4	277.8	69.6
	1.8%	2.0%	1.2%	2.0%	1.3%
	0.3%	0.3%	0.3%	0.7%	0.8%
Singapore	0.6	1.1	0.9	0.7	0.6
	241.1	1,631.2	62.4	267.6	171.6
	6.3%	4.1%	9.9%	1.9%	3.1%
	1.1%	0.6%	2.1%	0.6%	2.1%
East Asia	892.5	8,753.7	173.0	2,699.8	827.7
	23.4%	22.2%	27.5%	19.4%	15.0%
	4.1%	3.1%	6.0%	6.3%	9.9%
SAS	1.8	2.2	2.6	1.8	1.9
	903.7	1,456.1	253.4	599.9	564.0
	23.7%	3.7%	40.3%	4.3%	10.2%
	4.1%	0.5%	8.7%	1.4%	6.8%

NOTE: The information on each cell is the following:

- row 1: Proportional Increase of Bilateral Trade.
- row 2: Value of Such Increase in Millions USA \$.
- row 3: Ratio of Row 2 over Total Trade.
- row 4: Ratio of Row 2 over GNP.

\*Bilateral Trade, Total Trade and GNP are average of 1990-91 values, except for Nepal where 1989-90 values were used.

Table 6 URUGUAY ROUND'S TARIFF REDUCTION: SIMULATED EFFECTS  
- Expected Values - Total Trade

POTENTIAL PARTNERS	Bangladesh	India	Nepal	Pakistan	Sri Lanka
USA	0.4 299.0 7.8% 1.4%	0.6 3,421.3 8.7% 1.2%	0.5 38.3 6.1% 1.3%	0.5 791.1 5.7% 1.9%	0.4 318.5 5.8% 3.8%
Canada	0.4 42.2 1.1% 0.2%	0.6 282.0 0.7% 0.1%	0.5 1.8 0.3% 0.1%	0.5 74.2 0.5% 0.2%	0.4 21.7 0.4% 0.3%
Mexico	0.4 0.7 0.0% 0.0%	0.6 42.2 0.1% 0.0%	0.5 0.1 0.0% 0.0%	0.5 2.7 0.0% 0.0%	0.4 8.8 0.2% 0.1%
EEC	0.4 356.2 9.3% 1.6%	0.6 6,353.3 16.1% 2.3%	0.5 66.3 10.5% 2.3%	0.5 1,361.1 9.8% 3.2%	0.4 394.0 7.2% 4.7%
Japan	0.3 100.2 2.6% 0.5%	0.5 1,736.5 4.4% 0.6%	0.4 31.9 5.1% 1.1%	0.3 580.9 4.2% 1.4%	0.3 129.3 2.3% 1.5%
Korea	0.5 134.3 3.5% 0.6%	0.7 584.7 1.5% 0.2%	0.6 7.9 1.3% 0.3%	0.5 273.4 2.0% 0.6%	0.5 104.7 1.9% 1.3%
Hong Kong	0.2 28.9 0.8% 0.1%	0.4 307.2 0.8% 0.1%	0.4 2.9 0.5% 0.1%	0.3 114.8 0.8% 0.3%	0.3 29.3 0.5% 0.4%
Singapore	0.2 103.5 2.7% 0.5%	0.4 621.1 1.6% 0.2%	0.4 24.7 3.9% 0.9%	0.3 110.6 0.8% 0.3%	0.3 72.3 1.3% 0.9%
East Asia	367.0 9.6% 1.7%	3,249.5 8.2% 1.2%	67.4 10.7% 2.3%	1,079.8 7.8% 2.5%	335.6 6.1% 4.0%
SAS	0.6 314.8 8.3% 1.4%	0.7 485.9 1.2% 0.2%	0.8 81.1 12.9% 2.8%	0.6 211.0 1.5% 0.5%	0.7 194.2 3.5% 2.3%
Rest of World	0.2 282.0 7.4% 1.3%	0.4 8,087.8 20.5% 2.9%	0.4 89.9 14.3% 3.1%	0.3 2,100.3 15.1% 4.9%	0.3 826.0 15.0% 9.9%

NOTE: The information on each cell is the following:

- row 1: Proportional Increase of Bilateral Trade.
- row 2: Value of Such Increase in Millions USA \$.
- row 3: Ratio of Row 2 over Total Trade.
- row 4: Ratio of Row 2 over GNP.

\*Bilateral Trade, Total Trade and GNP are average of 1990-91 values, except for Nepal where 1989-90 values were used.