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Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants

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Executive Summary

All five South Asian countries (India, Pakistan, Bangladesh, Sri Lanka and Nepal) have been following consistent economic reform policy measures emphasizing the market economy and aimed at integrating their economies with the rest of the world. Consequently, all except Pakistan have experienced higher economic growth and an improvement in most macro economic indicators both in the domestic and external sector. Indeed, the South Asian region has been one of the fastest growing regions in the world in recent years.

Overall, the FDI environment has undergone a sea change in South Asian countries during the 1990s, and more so in recent years. With their liberalized approach to FDI and constant changes in improving the FDI policy framework, it is certain that South Asia has become an important destination for investment. Thus, one can conclude that there has been a positive change in policies with regard to FDI with efforts directed more towards bilateral trade agreements and providing investment incentives to foreign investors in all South Asian countries. However, there are still procedural delays, reserved industries where foreign investors are not allowed to invest and ceilings in many industries/sectors in each of these countries. Accelerating the economic reform process and making their economies politically stable and free from internal conflict would go a long way toward making South Asia an attractive destination for FDI.

The basic indicators, including infrastructure, show that all five south Asian countries lack adequate infrastructure facilities and governance. Thus, more effective public investment on economic and social infrastructure, along with stable economic policies to create an enabling environment, would attract more foreign direct investment. Analyses of FDI flows to south Asian countries reveal that there has been an increasing trend of FDI into South Asian countries. However, apart from India, the share as well as the absolute volume of FDI inflow to these countries is negligible. FDI in South Asia is mostly concentrated in manufacturing and services. An analysis of FDI inflows to different sectors shows that FDI is largely domestic market oriented in India and Pakistan, whereas it is concentrated in a few export-oriented industries in Sri Lanka and Bangladesh.

The results of FDI impact on growth show that FDI has a positive and significant impact on growth for four south Asian countries. Other significant factors that contribute to growth are exports, gross domestic capital formation and infrastructure. Therefore South Asian countries need to improve their domestic investment, exports and infrastructure facilities, along with more foreign investment, to achieve higher growth. Further, FDI has a positive impact on export growth through its positive spillovers for South Asian countries. Though FDI does not affect domestic investment in the current period, it has a positive and significant impact affect over time through dynamic effects.

The results of a panel cointegration estimation reveal that FDI and all its potential determinants have a long run equilibrium relationship. Major determinants of FDI in South Asia are market size, labor force growth, infrastructure index and trade openness. Overall, South Asian countries need to maintain growth momentum to improve the market size, frame policies for better use of the abundant labor force, improve infrastructure facilities and follow more open trade policies to attract increased FDI.

I. INTRODUCTION

One of the remarkable features of globalization in the 1990s was the flow of private capital in the form of foreign direct investment. FDI is an important source of development financing, and contributes to productivity gains by providing new investment, better technology, management expertise and export markets. Given resource constraints and lack of investment in developing countries, there has been increasing reliance on the market forces and private sector as the engine of economic growth. In the neoclassical growth model, FDI promotes economic growth by increasing the volume of investment and its efficiency. Therefore, all countries, particularly developing and least developed countries, seek to attract Foreign Direct Investment[1] (FDI) for the package of benefits it brings along with it into the host country economy. Foreign investment, especially FDI, not only supplements domestic investment resources but also acts as a source of foreign exchange and can relax balance of payment constraints on growth. Considering the economic benefits and importance of FDI for promoting economic growth, most of the countries have formulated wide-reaching changes in national policies to attract FDI.

The empirical literature suggests that FDI raises national welfare by increasing the volume and efficiency of investment through improved competitiveness, technological diffusion, accelerated spillover effects and the accumulation of human capital (Borensztein *et al.* 1998; Chakrabati, 2001; Asicdu, 2002; Durham, 2004). Overall, the flow of FDI to developing countries contributes to growth through two mechanisms, i.e., increasing total investment in the host country and increasing productivity through technology and management spillover (Mellow, 1999).

The People's Republic of China (PRC) and East/Southeast Asian countries have made rapid improvement in their macroeconomic situations, investment, exports and employment over the decade of 1980s and 1990s through the use of large amounts of Foreign Direct Investment. Similarly private capital, which was long seen with concern and suspicion, is now regarded as source of investment and economic growth in South Asia.[2] Like other developing countries, South Asian economies focus their investment incentives exclusively on foreign firms. Over the last two decades, market reforms, trade liberalization as well as more intense competition for FDI have led to reduced restrictions on foreign investment and expanded the scope for FDI in most sectors. However, the South Asian countries have been largely unsuccessful in attracting FDI. These countries, jointly and also individually, receive low FDI compared to PRC, Brazil, Singapore and other East/Southeast Asian countries. South Asia received the smallest FDI flows among developing Asian countries, accounting for around 3 percent of the total FDI inflows to developing countries in the region. All the countries in the South Asian region except India have received very little attention and negligible FDI inflows.

South Asian policymakers realize that credible efforts for economic reforms in South Asia must involve an upgrading of technology, scale of production and linkages to an increasingly integrated globalised production system chiefly through the participation of Multi National Corporations (MNCs). South Asian countries have many advantages to offer to potential investors, including high and steady economic growth, single-digit inflation, vast domestic markets, a growing number of skilled personnel, an increasing entrepreneurial class and constantly improving financial systems, including expanding capital markets. On top of

[1] Foreign Direct Investment refers to FDI inflow.
[2] In this study, South Asia is used to refer to only five countries: India, Bangladesh, Pakistan, Sri Lanka and Nepal.

these advantages, South Asian countries have been designing policies and giving incentives to foreign direct investment in several ways.

Recently, there has been lot of debate on the impact of FDI on economies. Critics of FDI argue that the MNCs bringing FDI generally monopolise resources, supplant domestic enterprises, introduce inappropriate technology and create balance of payments problems though large remittances. In this context, this study will examine the impact of FDI on economic growth, domestic investment and export in South Asian countries (India, Pakistan, Bangladesh, Sri Lanka and Nepal). The rest of the paper has been designed as follows: Section II explains macroeconomic reforms in South Asia; Section III analyses the FDI policy framework; Section IV includes an analysis of sources, trends, and patterns of FDI inflow to the South Asian region; and Section V empirically examines the impact and determinants of FDI in South Asia. Emphasis has been given on analysing the impact of infrastructure availability along with other potential factors on FDI inflow. This objective is important from the point of view of most South Asian countries, which lack infrastructure facilities.

II. MACRO ECONOMIC REFORMS/PERFORMANCE OF SOUTH ASIAN COUNTRIES

Till the late 1960s, most of the developing economies, including those of East Asia, adopted closed macroeconomic policies with import substitution industrialization policies, under which self-reliance and indigenous efforts were encouraged. At the same time, a dominant role was assigned to the state in the development process. These import substitution strategies, coupled with the large public sectors, resulted in rent seeking activities[3] and uncompetitive production processes (Bhagawati and Srinivasan, 1975). Therefore, export-led industrialization and liberalization was advocated to make the production process efficient and competitive. Following the export-oriented growth argument (Bhagawati and Srinivasan, 1975 and Kruger, 1975), and the success of East Asian countries with higher exports and economic growth[4] during the period from the early seventies to mid nineties, most of the South Asian countries started opening up their economies from the early eighties. The South Asian economies are currently enjoying the benefits of economic reforms, particularly reforms related to trade and investment. These countries undertook reform processes and opened up their economies after having experienced sluggish growth rates throughout the seventies and eighties. The following section briefly explains the economic reforms and macroeconomic performance in South Asian countries during last two decades.

II.1. Economic Reforms in South Asia

***India*:** Economic reforms started in the early eighties, but a comprehensive liberalisation and privatization process started in July 1991 in the backdrop of the balance of payment crisis and foreign exchange liquidity crisis faced by the economy. Since then, there have been attempts to integrate the Indian economy with the rest of the world in a variety of ways, i.e., the removal of quantitative restrictions,[5] reducing tariffs[6] and exchange rate flexibility.[7] India launched its second-generation reforms in 2002, with a focus on reducing the fiscal deficit, improving infrastructure, reforming labor laws[8] and energizing the states to participate actively in stepping up the pace of reforms. India raised its FDI limits in many important sectors including telecommunication, banking and insurance and civil aviation.

***Bangladesh**:* Major reforms were implemented as a part of structural adjustment policies under the auspices of the World Bank and the IMF in the 1980s and early 1990s. The efforts started with World Bank structural and sectoral adjustment loans (SALs and SECLs) in 1980. IMF introduced a three-year structural adjustment facility (SAF) in 1986 under which major reform initiatives were undertaken in areas such as agricultural policy, trade and industrial policy, along with privatization and public enterprise reforms, fiscal policy reform and financial sector reform. Moreover, the implementation of these reforms gained momentum during the 1990s.

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[3] See Kruger, 1975 for rent seeking activities in India.

[4] During 1981-91, the East Asian countries of Republic of Korea, Malaysia and Thailand experienced 9.1, 5.7 and 8.2 per cent GDP growth and 11.3, 11.8 and 15.5 per cent growth of exports of goods and services respectively. The growth of GDP and exports of these countries during the 1990s fell slightly below the average growth of the 1980s due to the economic crisis in 1997-98. During 1991-2001, the three countries registered 5.4, 6.1 and 3.2 per cent GDP growth and 15.9, 10.5 and 8.5 per cent export growth, respectively.

[5] Quantitative restrictions, which were in place for most consumer goods, were completely abolished in 2001.

[6] India has taken considerable steps toward the reduction of tariffs, which fell from 35.3% in 1997-98 to 20% in 2003-04.

[7] The exchange rate system was transformed in less than two years from a discretionary, basket pegged system to a largely market-determined unified exchange rate.

[8] Domestic labor laws no longer apply to special economic zones in India.

Pakistan: Though several reform measures were carried out prior to 2001, formally the economic reforms programme had its genesis in the year 2001 when Pakistan signed a three-year arrangement with IMF under the Poverty Reduction and Growth Facility (PRGF) programme. Since its approval, seven program reviews have been completed successfully and discussions for the eighth review have been scheduled for April 2006. The key to restoring growth has been the authorities' determined implementation of sound financial policies and structural reforms including tax reform, financial sector reform, investment policies including FDI policy, and enterprise reform. These policies have reduced distortions and increased efficiency, and also lifted uncertainty about the future course of economic policies.

Sri Lanka*:* In 1977, Sri Lanka became the first among all the South Asian economies to open up its economy to the outside world, and even to this day it remains one of the most outward oriented economies in the region.[9] The economic reforms, from their inception, marked a sharp shift from a relatively closed economy prioritizing import substitution policies to a liberalized market and an export-oriented economy.[10] Some of the major reforms were carried out in the areas of: (i) liberalization of trade policy and exchange rate system; (ii) export promotion and incentives to investment, and (iii) the rationalisation of public expenditure.

Nepal: In line with changes in the development aid strategy of donors, Nepal embarked upon a new economic policy regime in the mid 1980s. It has carried out various components of economic reform policies including fiscal, trade and FDI policies during the last decade. Quantitative restrictions on imports have been fully removed. Customs duties have been rationalized and substantially reduced. Reforms have also been executed on the foreign exchange front. However, political instability has stopped the reform process and the ambitions of the business community.

II.2. Macro Economic Performance of South Asia Countries

It is evident that all the five south Asian countries, i.e., India, Pakistan, Bangladesh, Sri Lanka and Nepal, have been consistently following economic reform policies emphasizing the market economy and integrating their economies with the rest of the world. Consequently, all the countries in the region except Pakistan have also experienced higher economic growth during the nineties, with more open macroeconomic policies with a focus on export promotion.

The average growth rate[11] of India increased to 5.92 percent during 1991-2002 from 5.6 percent during 1980-90 (see Table-1 in Appendix-B[12]). Bangladesh, Sri Lanka and Nepal also had higher GDP growth rates in the nineties than the eighties. While the higher growth in India during 1991-2002 was accompanied by substantial growth in the service sector and a marginal improvement of the agricultural sector, the growth in Bangladesh, Sri Lanka and Nepal was supported by both higher industrial and service sector growth. But, GDP growth rate in Pakistan slowed down substantially during the nineties compared to the eighties due to internal conflict, political instability, social insecurity, and the interrupted business climate. Per capita income growth also slowed down in Pakistan during the nineties, whereas it improved in India, Bangladesh, Sri Lanka and Nepal. Other important macro indicators like gross domestic savings and gross domestic capital formation improved in all these countries except Pakistan.

[9] Its trade as a percentage of GDP (more than 40%) is the highest in South Asia.
[10] Trade Policy Review Sri Lanka: 2004, www.wto.org
[11] The crisis year 1991 has been included while calculating the GDP growth rate for 1991-2002. The growth excluding the crisis period is 6.2 percent for the same period.
[12] All the tables mentioned in the Text are given in Appendix-B at the end.

Following economic reforms, particularly trade reforms in these countries during the nineties, export and import growth has substantially improved. Further, India, Bangladesh, Sri Lanka and Nepal have improved considerably on the external sector front such as the current account balance, capital account, foreign exchange reserves and overall improvement in balance of payments during the post-reform period.

There has also been an improvement in most of the macro indicators except the fiscal deficit, both on the domestic and external sector front. Indeed, the South Asian region has been one of the fastest growing regions in the world in recent years. The above analysis suggests that with the exception of Pakistan, the South Asian countries have registered higher export growth during the nineties than the eighties. Though Pakistan failed to accelerate its exports growth in the 1990s, it has managed to maintain a constant rise of exports in absolute value. All the countries except Pakistan have also experienced higher economic growth during the nineties, with more open macroeconomic policies emphasizing export promotion.

III. FDI POLICIES IN SOUTH ASIA

South Asian countries had a fairly restrictive regime in the early years after independence, and it is only in the last decade that they have opened up and made their FDI policy environments conducive to foreign investment. Initially, FDI was allowed in a restrictive manner and on mutually advantageous terms with the majority stake held by domestic firms. However, all five south Asian countries tried to encourage FDI more aggressively in the nineties, by making changes in their macroeconomic policies along with trade and FDI policies. A summary of FDI policy frameworks in South Asia is presented in Table 1 at the end of this section. In this section, an attempt is made to briefly review the FDI policies of the five South Asian countries by analyzing past policies and future prospects of FDI into South Asia.

III.1. FDI Policy in India

Evolution of the FDI policy in India: There has been a gradual change in the government's attitude to FDI since 1948. Being a resource-poor country, especially in capital resources, India was always receptive to foreign investment. The foreign exchange crisis of 1957-58 led to a further liberalization of the government's attitude towards FDI (See Kumar, 2003 for details). However, the government adopted a more restrictive attitude towards FDI in the late 1960s as local industries developed. In 1973, the new Foreign Exchange Regulation Act (FERA) came into force, requiring all foreign companies operating in India to register under Indian corporate legislation with up to 40 percent equity. In the 1980s, as a part of the industrial policy resolutions, the attitude towards FDI was liberalized. However, through the new economic policy and the new industrial policy of 1991, a series of policy measures were announced to liberalise the FDI environment in the country. As a result, India today has one of the most attractive FDI policies in the South Asian region.

FDI policy framework and incentives for FDI in India: The first and second-generation reforms created a conducive environment for foreign investment in India. The Foreign Direct Investment (FDI) policy is reviewed on a regular basis and changes in sectoral policy/sectoral equity caps are notified through Press Notes[13] by the Secretariat for Industrial Assistance (SIA), Department of Industrial Policy & Promotion. The FDI policy is also notified by the Reserve Bank of India (RBI) under the Foreign Exchange Management Act (FEMA).[14] Most of the sectors/activities are under the Automatic Approval Route, except for a few sectors where there are additional restrictions on FDI such as equity caps, divestment conditions, lock-in periods on investment, etc. These restrictions have been imposed in view of sectoral requirements, security and strategic concerns and in the interest of the domestic investments. There are only a few sectors where FDI is not permitted.

***Industrial Licensing*:** Industrial licensing policies and procedures have also been liberalized from time to time. All industrial undertakings are exempt from obtaining an industrial license to manufacture, except for: (i) industries retained under compulsory licensing,[15] (ii) items of manufacture reserved for the small-scale sector; and (iii) when the proposed location attracts locational restriction.[16]

[13] See www.dipp.gov.in
[14] For details, see www.rbi.org.in
[15] These industries are liquor, tobacco, defense equipment, industrial explosives and hazardous chemicals. Statutory environmental clearances are required.
[16] Restricted related to setting up business in urban area and designated "industrial areas."

III.1.2 FDI Related institutions

Foreign Investment Promotion Board (FIPB): The Foreign Investment Promotion Board (FIPB), Ministry of Finance, is the nodal, single window agency for all matters relating to FDI, whose objective is to promote FDI into India, [i] by undertaking investment promotion activities, [ii] facilitating foreign investment, [iii] purposeful negotiation/discussion with potential investors, [iv] early clearance of proposals, and [v] reviewing policy and putting in place appropriate institutional arrangements, transparent rules and procedures and guidelines for investment promotion and approvals.

Secretariat for Industrial Assistance (SIA): The Secretariat for Industrial Assistance (SIA), Ministry of Commerce & Industry, provides a single window service for entrepreneurial assistance, investor facilitation, receiving and processing all applications, assisting entrepreneurs and investors in setting up projects (including liaison with other organisations and state governments) and in monitoring the implementation of projects.[17]

Foreign Investment Implementation Authority (FIIA): FIIA provides a pro-active one stop after service care to foreign investors by helping them obtain necessary approvals, sort out operational problems and meet with various Government agencies to find solution to their problems.

III.1.3 Foreign Investment Policy

Foreign investment is permitted in virtually every sector, except those of strategic concern such as defense[18] and transport. Foreign companies are permitted to set up 100 percent subsidiaries in India. No prior approval from exchange control authorities (the Reserve Bank of India, or RBI) is required, except for certain specified activities. Under current policy, FDI can come into India in two ways.

Automatic route: FDI in sectors/activities, *to the extent permitted* under the automatic route does not require any prior approval either by the Government or RBI. The investors are only required to notify the proper regional office of the RBI within 30 days of the receipt of inward remittances and file the required documents with that office within 30 days of the issue of shares to foreign investors.

Prior Government Approval route (for both foreign investment and foreign technical collaboration): In the limited category of sectors requiring prior government approval, proposals are considered in a time-bound and transparent manner by the Foreign Investment Promotion Board (FIPB). For all activities that are not covered under the automatic route, government approval through the FIPB is necessary. The Foreign Direct Investments under Automatic Approval and Government Approval are regulated by the Foreign Exchange Management Act, 1999 (FEMA). There are also provisions for automatic approval for new and existing companies.

FDI in SEZs /EOUs/Industrial Parks/EHTP/STP: Special Economic Zones (SEZs) are specifically delineated duty free enclaves and are deemed to be foreign territory for the purposes of trade operations and duties and tariffs. FDI up to 100 percent is permitted under the automatic route for the establishment of SEZs. Proposals not covered under the automatic

[17] See http://dipp.gov.in for day-to-day updates on issues related to foreign investment.
[18] Opened up recently to a limited extent.

route require approval by FIPB. FDI up to 100 percent is permitted under the automatic route for setting up 100 percent Export Oriented Units (EOUs), subject to sectoral policies. FDI up to 100 percent is permitted under the automatic route for the establishment of Industrial Parks. Proposals for FDI/NRI (Non-Residents Indian) investment in EHTP Units are eligible for approval under the automatic route, subject to certain parameters listed by the government. Similarly, proposals for FDI/NRI investment in Software Technology Park (STP) units are eligible for approval under the automatic route, subject to parameters listed by the government.

***Repatriation of investment capital and profits*:** All foreign investments are freely repatriable except for cases where NRIs choose to invest specifically under non-repatriable schemes. Non-residents can sell shares on the stock exchange and repatriate sale proceeds if they hold a tax clearance certificate issued by authorities in charge of income tax. Profits, dividends, etc. (which are remittances classified as current account transactions) can be freely repatriated.

Important Labor Rules/Regulations Applicable in India: Under the Constitution of India, labor is a subject in the "concurrent list," under which both the central and state governments are competent to enact legislation subject to certain matters being reserved for the centre. There are several important Labor Acts since 1952, which are highly protective of labor.

Policy regarding intellectual property rights: India is a signatory to the agreement concluding the Uruguay Round of GATT negotiations and establishing the World Trade Organization (WTO). This Agreement contains an Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), which lays down minimum standards for the protection and enforcement of intellectual property rights.

III.1.4 Taxation Policy in India and Tax Incentives

India is moving towards a reform of its tax policies and systems to facilitate the globalization of economic activities.[19] Tax holidays are available in Special Economic Zones set up to make industry globally competitive. Infrastructure Sector Projects enjoy special tax treatment and holidays. Since 31 March 2004, a user-friendly tax administration has been introduced with round-the-clock electronic filing of customs documents. Foreign nationals working in India are generally taxed only on their Indian income. Income received from sources outside India is not taxable unless it is received in India. Further, foreign nationals have the option of being taxed under the tax treaties that India may have signed with their country of residence. India has entered into Double Taxation Avoidance Agreements (DTAA) with 65 countries including the U.S., U.K., Japan, Germany, and Mauritius. Though the Indian government gives different kinds of investment incentives, major incentives are given in the form of tax exemptions on profit from the development and operation of infrastructure projects including power.

Overall, FDI in India is allowed in all sectors except the four mentioned below, where it is prohibited. They are: (i) Retail trading (except for single brand product retailing), (ii) atomic energy, (iii) lotteries, and (iv) gambling and betting. In all other sectors, it is allowed with different equity limits ranging from 26 percent to 100 percent. The FDI environment in India has undergone a sea change since the inception of economic reforms in 1991. India's

[19] The corporate tax rate for foreign companies is 40%. The net tax rate is far lower than this, however, on account of various deductions and exemptions available under the tax laws.

strengths as an investment destination rest on strong fundamentals, including a large and growing market; world-class scientific, technical and managerial manpower, cost-effective and highly skilled labor, an abundance of natural resources, a large English-speaking population and an independent judiciary.

III.2. Pakistan

***Evolution of FDI policy in Pakistan**:* The first step toward the liberalization of FDI by Pakistan was taken in 1984 with the announcement of the industrial policy statement giving an equal plank to the public and private sectors. Foreign private investment was encouraged in the form of joint equity participation with local investors and in areas where advanced technology, managerial and technical skills and marketing expertise were needed. An adequate legal framework for foreign investment was provided through the Foreign Private Investment Act (Promotion and Protection Act) 1976. The Act also guaranteed the remittance of profit and capital, and the appreciation of agreements on the avoidance of double taxation.

However, Pakistan began to actually open up its economy and liberalize its FDI policies towards the end of the 1980s. A new industrial policy package was introduced in 1989 recognizing the role and importance of the private sector, and a number of regulatory measures were taken to improve the business environment in general and attract FDI in particular. The Board of Investment (BOI) was set up, attached to the PM's secretariat, to help generate opportunities for FDI and provide investment services. BOI is a "one window facility" which helps the establishment of new industries. To facilitate foreign investment, Pakistan has signed bilateral agreements on the promotion and protection of investment with 46 countries.

***FDI policy framework in Pakistan*:** In November 1997, the government of Pakistan announced the New Investment Policy that included major policy initiatives to attract FDI, which had earlier been restricted to the manufacturing sector. It was now opened up to sectors like services and agriculture, which constitute three fourths of GNP. The main objective of the new policy is to enhance the level of foreign investment in the fields of industrial base expansion, infrastructure and software development, electronics, engineering, agri-food, value-added textile items, tourism and construction industries. Foreign investment on a repatriable basis is also allowed in agriculture, services, infrastructure and social sectors, subject to the following conditions: (a) the basis for joint venture is (60:40), (b) foreign equity will be at least $1 million, (c) foreign companies registered in Pakistan will be allowed to invest; and (iv) for social sector and infrastructure projects, the joint venture requirement is waived (100 percent foreign equity may be allowed).

***Investment in the manufacturing sector and non-manufacturing sector*:** Foreign investors are allowed to hold up to 100 percent equity of industrial projects without any permission from the government except in certain fields of activity such as: (a) arms and ammunition (b) high explosives (c) radioactive substances (d) security printing, currency and mint; and (e) alcoholic beverages and liquors.

Foreign investment at 100 percent equity on a repatriable basis is allowed in the service, infrastructure and social and agricultural sectors subject to certain conditions including registration of company with the Security and Exchange Commission of Pakistan (SECP) and also intimation to the State Bank of Pakistan. Foreign equity of 100 percent is allowed in the service sector, infrastructure projects and social sector projects on a repatriable basis. FDI is also actively encouraged in tourism, housing and construction, information technology, etc.

Incentives for FDI, tax incentives/tariffs, exchange control, and technical fees in Pakistan*:* Since 1997, attractive tariff and tax incentives have been given to foreign investors. Remittances of royalties, technical and franchise fees, capital, profits and dividends are allowed. Further, foreign investment is fully protected through the Foreign Investment (Promotion and Protection) Act 1976, Protection of Economic Reforms Act 1992 and Foreign Currency Accounts (Protection) Ordinance, 2001.

In the manufacturing sector, the customs duty on imported raw materials used in producing for exports is zero percent, while a customs duty of 5 percent is charged on imports of plants, machinery and equipment not manufactured locally. The import of raw materials, sub-components, components for the manufacture of plants for sugar, cement, power, chemical, fertilizers, oil and gas, etc., is free. In all these cases, the sales tax is zero. The corporate tax rate is around 35 percent. The government of Pakistan has signed agreements for the avoidance of double taxation with 52 countries including developed countries.

The full repatriation of capital, capital gains, dividends and profits is allowed. A facility for contracting foreign private loans (Which does not involve any guarantee by the government) is available to all foreign investors who make investments in sectors open to foreign investment, for the cost of plant and machinery required for setting up the project.

There are no restrictions on the payment of royalties or technical service fees for the manufacturing sector. The payment of royalties and technical service fees to foreign companies is taxed at 15 percent. However, concessions under different treaties with different countries apply.

Labor laws: One major drawback to FDI in Pakistan is its labor laws, which are overprotective and complicated, discouraging job creation, inhibiting business expansion and thereby discouraging much-needed productive investment. Labor disputes are common, creating problems for management, and productivity losses have acted as an impediment to foreign investment.

Based on its efforts to globalize, Pakistan has a decent foreign investment policy in place that encourages foreign investors in almost all economic sectors, based on a single window clearance. However, given its image as an extremely corrupt country, with overprotective labor laws and political and military strife and with no likelihood of democracy in the near future, Pakistan needs to ensure that all its FDI policies are implemented smoothly to facilitate the foreign investment it needs so much.

III.3. Sri Lanka

Evolution of FDI policy in Sri Lanka**:** There are basically two distinctive phases in Sri Lanka's FDI policy. The first phase was from 1948-1977, when the public sector was the dominant entity and controlled the country's resources. The second distinctive phase is of course the post 1977 period, when Sri Lanka launched its economic reform which favoured private-sector led, export-oriented development including a greater role for FDI. Many barriers were dismantled, including trade and payment barriers, the exchange rate was unified, agricultural and export taxes were restructured, administered prices were adjusted, and restrictions on pricing and investment by the private sector were reduced. The most important feature of FDI policy measure in Sri Lanka was the establishment in 1992 of the Board of Investment (BOI), with wide powers of tax relief and administrative discretion in all matters related to FDI.

Entry and establishment of FDI: FDI is permitted in most sectors but like most of its neighbouring South Asian economies such as India, Sri Lanka has a long negative list of sectors where FDI is barred completely or where foreign investors may only take a minority stake in an enterprise. However, a comparative study among Asian countries shows that Sri Lanka's list of restricted activities is relatively small. However, there are a few areas totally reserved for Sri Lankans, such as money lending, pawn broking, retail trade investment, providing personal services other than for the export of tourism sectors, coastal fishing, education of students and award of local educational degrees. However, there are regulated areas such as the growing and processing of primary commodities, mining, timber-based industries, education, etc., where foreign investment is restricted to 40 percent and approval by the BOI is required. In a few cases, FDI entry and incentives are subject to performance requirements.[20]

***Treatment and protection of FDI*[21]:** Sri Lanka does not set out principles of foreign investor treatment and protection in its national law. However, it has a network of Bilateral Investment Treaties with almost 24 countries. The repatriation of capital and profits is guaranteed. In practice, there is ready access to foreign exchange and the prospect of the nearly full abolition of exchange controls.

Labor laws and regulations: Labor policies in Sri Lanka are extremely restrictive, and pose impediments to foreign investors and investment in the country. Most of the laws favour the employee and in case of retrenchment, the decisions and the compensation package is largely in favour of the employee. Further, like other South Asian countries such as India, Sri Lanka has industrially active and politically influential trade unions. Another serious restrictive labor law in Sri Lanka is the Termination of Employment of Workmen (special provisions) Act (TEWA) of 1971, which restricts employers from dismissing employees except for serious disciplinary infractions.

Following the example of its counterparts such as India, Sri Lanka provides a range of tax incentives to foreign investors including breaks on taxes on corporate profits and dividends, value added tax and import and excise duties. Sri Lanka has also signed a wide net of double taxation treaties.[22] Some of the fiscal incentives include an initial tax holiday of five years followed by a long-term concessionary rate, varying from 15-20 percent depending on the industry, import duty exemptions on capital equipment in some industries and zero duties in raw materials in the export of manufactured goods.

Intellectual property law: Sri Lanka's intellectual property law is WTO compliant, under the trade related intellectual property rights agreement. Both process and product patents are recognized, and the patent period also complies with international standards. Copyright protection is available, and the period of protection conforms to international standards.

Overall, the Board of Investment (BOI) of Sri Lanka provides all services for foreign investors including approval of projects, grant of licenses and tax incentives, etc. Foreign investment is mainly encouraged in enterprises that make extensive use of foreign capital or

[20] The general condition is that the manufacturing enterprises have to export 80% of output while the service sector has to export 70% of its output.
[21] Investment Policy Review of Sri Lanka (UNCTAD 2003).
[22] By the end of 2001, there were 30 DTTs in force and another seven pending. They cover all the principal FDI home countries.

technology, in export-oriented industries and in infrastructure projects. In many sectors, automatic approval is given for equity participation up to 100 percent. For restricted sectors such as telecommunication, education, mass transportation, mining, etc., permits are required from other government agencies for more than 49 percent equity participation. There are no exchange controls on current account transactions and no barriers to the remittance of corporate profits and dividends for foreign enterprises.

III.4 Bangladesh

Evolution of the FDI policy in Bangladesh: In the late 1980s and the 1990s, Bangladesh announced a series of measures and liberalized its FDI policy framework. In recent years, Bangladesh has significantly improved its investment and regulatory environment, including the liberalization of the industrial policy, abolition of performance requirements and allowance of full foreign-owned joint ventures. Since 1996, new sectors have been opened up for foreign investment, including the telecommunications sector.

FDI policy framework: Foreign direct investment is encouraged in all industrial activities in Bangladesh excluding those on the list of reserved industries such as production of arms and ammunitions; forest plantation and mechanized extraction within the bounds of a reserved forest, production of nuclear energy and printing and minting fresh currency notes. Such investments may be undertaken either independently or through joint ventures, either with the local, private or public sector. The capital market also remains open for portfolio investment. The policy framework for foreign investment in Bangladesh is based on the Foreign Private Investment (Promotion and Protection) Act, 1980, which provides measures for the non-discriminatory treatment and protection of foreign investment.

Incentives to foreign investment: The government has liberalized its industrial and investment policies in recent years by reducing bureaucratic control over private investment and opening up many areas. Some of the major incentives are tax exemptions for power generation, import duty exemptions for export processing, an exemption of import duties for export oriented industries, and tax holidays for different industries. Double taxation can be avoided by foreign investors on the basis of bilateral agreements. Facilities for the full repatriation of invested capital, profit and dividend exist.

Concessionary duty on imported capital machinery: An import duty, at the rate of 5 percent ad valorem, is payable on capital machinery and spares imported for initial installation.[23] For 100 percent export oriented industries, no import duty is charged in the case of capital machinery and spares. Duties and taxes on the import of goods that are produced locally are higher than those applicable to imports of raw materials for the production of such goods.

Intellectual property rights and investment protection: The government recognizes the importance of intellectual property rights for attracting FDI and is making efforts to update its legislation and improve enforcement. The country has been a member of the World Intellectual Property Organisation (WIPO) since 1985 and signed the Paris Convention on Intellectual Property in 1991. The Foreign Private Investment (Promotion and Protection) Act of 1980 guarantees protection against expropriation. If a foreign investor becomes subject to a legal measure that has the effect of expropriation, adequate compensation will be paid to the investor and it will be freely repatriatable.

[23] The value of spare parts should not, however, exceed 10% of the total C&F value of the machinery.

Labor laws: Workers are entitled to elect collective bargaining agents (CBAs) to negotiate their demands with management. A trade union may be formed if 30 percent of employees support it. All trade unions need to be registered. There are 47 labor laws covering matters such as wages, industrial disputes, working conditions, etc. Foreign nationals can be employed as long as their number does not exceed 15 percent of the total number of employees.

On the whole, Bangladesh has taken considerable steps to reform and liberalize all its economic policies including FDI. With low labor costs and almost no restrictions on the entry and exit of foreign investors, Bangladesh on the track toward becoming an attractive destination for FDI in the South Asian region.

III.5. Nepal

Evolution of the FDI policy: A clear-cut policy towards foreign investment was introduced in Nepal in the 1980s, with the enactment of the Investment and Industrial Enterprise Act of 1987. In its pursuit of outward oriented policies, Nepal began to encourage private foreign investment in every industrial sector (medium and large-scale), with the exception of defense activities. Joint ventures were the preferred form of investment, and limitations were set on the level of foreign equity holdings. In the case of medium sized industries, foreign equity of 50 percent was allowed.[24]

In large industries exporting more than 90% of their total production, foreign equity was allowed up to 100 percent. In other large industries, the maximum was set at 80 percent foreign equity. New projects by foreign investors required the formal approval of the Foreign Investment Promotion Division of the Ministry of Industry. In a step to further liberalize its foreign investment policy, Nepal announced a new set of incentives through the 1987 Act, under which the full remittance of dividends for investments in convertible currency was allowed. The repatriation of capital was made possible and foreign workers were allowed to be brought in when nationals were not available. A five-year tax holiday on profits was allowed, and this was later extended to 10 years. Importers were allowed to import their inputs duty free, either through a duty drawback or bonded warehouse facility.

Framework and incentives for FDI: Most sectors have been opened up to foreign investors, allowing 100 percent equity or joint ventures with Nepalese investors.[25] The sectors that have been opened up to foreign investment are manufacturing, energy based industries, tourism, mineral resource based industries, and agro based industries and services. However, there are a few industries where investment is prohibited, including national security; cottage (i.e. craft) industries; personal services of a kind that would normally be performed by self-employed people; and real estate. FDI is also not permitted in the retail business; travel agencies; cigarette, tobacco and alcohol production other than for export; a range of small tourist related activities, including tourist lodging, etc.

[24] Fore details see, Chitrakar Ramesh and John Weiss (1995): "Foreign investment in Nepal in the 1980s: A cost benefit evaluation," The Journal of Development Studies, Vol.31, No. 3 February.

[25] Since Nepal is a small country with a unique ecosystem, the government is sensitive to the environmental impact of industries. Projects must go through environmental impact assessments and initial environmental examinations.

Investment incentives: The government of Nepal provides several incentives to industries that are set up for export purposes. They include an income tax exemption on export income, exemption on foreign investor's interest income earned abroad, and a relaxation of taxes on specific industries.

Foreign exchange regulation: Nepal maintains a formal foreign exchange control regime that requires the surrender of foreign currency export proceeds. The foreign investment law provisions cover convertibility only for capital[26] and dividend repatriation and foreign debt service.

Labor law: The labor law is highly restrictive from an investor standpoint. By modern commercial standards, it impedes business flexibility in many instances. There are protective labor laws relating to retrenchment, wages, promotion, etc.

Intellectual property protection*:* Nepal recently became a member of the WTO and therefore is still in the process of making its intellectual property rights TRIPS WTO compliant. Only process patents are protected and not product patents. Though all trademarks are registered with the department of industries, it is believed that infringements of trademarks are quite common, as is the case with copyrights.

It is said that Nepal has the maximum potential to attract foreign investment among the low-income countries in the region. It is considered to be a friendly country that offers market potential, flourishing local entrepreneurial culture in both small and large business, etc. The only drawback of late has been political instability. If Nepal can overcome that, it will be able to grow fast with the help of FDI.

III.6. Conclusion

Overall, we can conclude that there has been a positive change in policies with regard to FDI in all the South Asian Countries. These low-income economies have realised that FDI is not only good debt, but also has a major role in enhancing economic development. Stepping up the economic reform process and making their economies politically stable and free from internal conflict would go a long way toward making South Asia an attractive destination for FDI. Ongoing initiatives such as the further simplification of rules and regulations and improvements in infrastructure are expected to provide the necessary impetus to increase FDI inflows in the future. However, the image of South Asian countries as corrupt nations, with overprotective labor laws and internal law and order problems, will have to be mitigated to facilitate the entrance of much needed foreign investment.

[26] Although this appears to be contradicted by the central bank, which explicitly states that it does not guarantee convertibility on the capital account.

Table 1: Foreign Investment Policies of South Asia

	INDIA	PAKISTAN	NEPAL	SRILANKA	BANGLADESH
Restricted Sectors	i. Arms & ammunitions ii. Defence aircrafts & warships iii. Atomic energy iv. Railways	i. Arms & ammunitions ii. High explosives iii. Radioactive substances iv. Security printing, currency & mint v. New units of alcohol manufacturing except industrial alcohol is banned	i. Cottage industries ii. Personal business services iii. Arms & ammunitions iv. Consultative services	i. Non bank money lending ii. Pawn broking iii. Retail trade with a capital investment of less than $1 million	i. Arms & ammunitions ii. Production of nuclear energy iii. Security printing & minting iv. Forestry in reserved forest areas v. Railways
100% equity	For certain sectors, sectoral caps exist	Yes, for all sectors	Yes, except restricted sectors	Yes, except a few sectors such as telecom, education, mass transportation, mining, etc.	Yes
Incentives	Yes, central government gives for R&D measures. State govts. give a wide variety of incentives	Incentives are industry specific but has local content requirement	Yes, with export requirement and local content requirement	Yes, with export requirement and minimum investment	Yes. It varies depending upon the location of industries.
Restrictions in royalty or technology transfer payments	No, but certain minimum conditions to be met such as lump sum payments not exceeding US $2 million etc.	No	No	No	No. The condition is that it should not exceed 6% of previous year's sales.

	INDIA	PAKISTAN	NEPAL	SRILANKA	BANGLADESH
Performance requirements	Yes, specific rules for automobile sectors	No. (only for eligibility of incentives)	No. (only for eligibility of incentives)	No. (only for eligibility of incentives)	No
EPZ incentives	Yes	Yes, complete exemption of taxation from federal, provincial & municipal bodies	No	No. Industrial Processing Zones for better land allocation.	Yes
Automatic Approval	Yes, by RBI	Yes	No. Approval is given by Industrial Promotion Board (IBP)	Yes, by Board of Investment (BOI)	Yes, by BOI & BEPZ authority
National treatment	Yes	Yes	Contract terms are given precedence over Nepali law in investments valued at more than Nepali rupees 500 million	Yes	Yes
MIGA signatory	Yes	Yes	Yes	Yes	Yes
Tax holidays	Yes	No, only customs duty & sales tax exemption	Income earned from exports is free from Income tax	Yes	Yes

Source: Adopted from S.K.Das and Manoj Pant, "FDI in South Asia: Do Incentives Work?--- A Survey of the Literature" Report Submitted to CUTS, Jaipur.

IV. FDI IN SOUTH ASIA: TRENDS AND PROSPECTS

Net private capital flows to developing countries reached a record high of $491 billion in 2005, driven by privatizations, mergers and acquisitions, external debt refinancing, and strong investor interest in local-currency bond markets in Asia and Latin America (*Global Development Finance Report, 2006).* The surging flows, including record bank lending and bond issuance, among others, coincided with 6.4 percent economic growth in the developing world last year, more than double the 2.8 percent growth in developed countries. The sharp rise in private capital flows to developing countries came despite uncertainties caused by high oil prices, rising global interest rates and growing global payments imbalances. The rise in private capital flows to developing countries was basically driven by abundant global liquidity, steady improvements in the credit quality of developing countries, lower yields in rich countries, and the expansion of investor interest in emerging market assets. These gains reflect the estimated GDP growth of 6.4 percent in low- and middle-income countries in 2005, buoyed by PRC and India, whose output grew by 9.9 and 8 percent, respectively.

Private capital flows to South Asia reached a record $23.6 billion in 2005, up from $9.7 billion in 2000. This growth was largely driven by India, which received the majority of capital flows to the region. Foreign Direct Investment (FDI) in South Asia rose to $8.4 billion in 2005, an increase of $1.2 billion from 2004.

IV.1. Basic Indicators of South Asian Economies

It is not only the investment flows to South Asian countries which are increasing; overall macroeconomic growth is also promising, and a few macroeconomic and trade indicators are exhibiting robust growth as seen in Table 1 (in Appendix -B).[27] The global competitiveness index ranks countries on a broad range of indicators such as institutions, macroeconomics, infrastructure, business sophistication and innovations. In a set of 117 countries, it is evident from Table 2 that the South Asian countries except India are way at the bottom in the overall index. Low-income developing countries such as Bangladesh and Pakistan are ranked 98 and 94 respectively whereas Sri Lanka is ranked 80. However, India and PRC are quite close to each other in the overall index, obtaining ranks of 48 and 45 respectively, India is in fact ranked higher than PRC on the overall index, with a score of 4.32 out of 7. Even in matters related to infrastructure, India and PRC are neck and neck, though the other South Asian countries such as Sri Lanka have a long way to go in terms of improving infrastructure. PRC is ranked 65 in infrastructure and India 69, with PRC scoring better than India. By contrast, Sri Lanka is ranked 81. But there is apparently a huge gap when one compares the macro economy, business sophistication and innovation in South Asian countries vis-à-vis PRC and other East Asian counterparts. India and its neighbours rank poorly, which may be a reason for their relatively poor FDI performance compared to other developing economies in the region.

IV.2. Infrastructure Indicators in South, East and Southeast Asia

Infrastructure constitutes the backbone of economic development in most developing economies, and South Asia is no exception. The importance of infrastructure for overall economic development and the enhancement of trade and business activities in a country needs hardly be emphasized. Table 3 shows the major infrastructure indictors of South Asian countries in comparison with East and Southeast Asia in 2004.

[27] All the tables are given in Appendix-B.

With the exception of Singapore, no country in the region is performing well in the overall infrastructure quality index. Singapore has a score of 6.7 out of 7, indicating a high level of infrastructure, followed by Republic of Korea with a score of 5.2. PRC has a score of 3.2, which is higher than most of its counterparts in the region but is not as high as Singapore or Republic of Korea. India has managed to receive a score of 2.9, and Pakistan fares slightly better at 3.0. Bangladesh has a score of 2.7.

Further, if one compares the countries in the South Asian region, particularly in terms of the number of days required to start a business, there appear to be huge differences. In India, it takes about 80 days to start a business whereas in smaller economies such as Bangladesh and Pakistan it takes much less time. Moreover, as seen in Section III, labor reforms and the ability of employers to hire and fire workers has been a much-debated issue in most of the developing countries of South Asia. It is very evident from the scores in Table 3 that most countries have fairly rigid labor laws, which are greatly in need of reforms. Table 4 reports transport, telecommunication, information and energy infrastructure indicators for South Asian countries vis-à-vis other developing countries. All the South Asian countries lag behind other developing countries in almost all indicators. Overall, South Asia has a long way to go in improving infrastructure in the region. Active participation of the private sector along with the government would help infrastructure development, a crucial determinant of FDI in the region.

IV.3. FDI Performance and Potential Index

Table 5 and Table 6 present the Inward FDI Performance Index[28] and FDI Potential Index for South Asia and a few other countries in the region. Most South Asian countries, along with PRC and Thailand, have managed to increase their Inward FDI Performance and FDI Potential Index consistently over the years. In fact, countries like Pakistan and Bangladesh have faired better than large economies such as India in FDI performance, though the potential of larger economies is higher. However, India's FDI Performance Index has remained more or less constant and has taken a slight dip in the last two to three years, which may be due to delays in FDI reform measures as a result of stiff opposition from leftist political parties. India has not been able to liberalise its FDI policy framework to the extent that some of its neighbours like Bangladesh and Sri Lanka have accomplished in recent years. The sectoral caps on insurance and retail are still in place, with little possibility of deregulation. For instance, Bangladesh ranks 103 among a set of 140 countries in the FDI performance index in 1990 and in the same year, its FDI Potential Index was ranked slightly higher, at 102. In the year 2003, Bangladesh's FDI Performance Index is ranked at 132 though it has the potential to be ranked 115. Thus, most countries in the region have the potential to improve their FDI performance rankings. Tables 6 and 7 show the FDI inflows into major economies in the region and their share in the total world and developing countries inflows from 1996-2004.

IV.4 Global FDI Inflows and South Asia

FDI flows to developed countries have typically been much higher than flows to developing countries. As a result, until very recently, the global trend largely mirrored trends in the developed world. A major break from this pattern took place in 2004, when FDI flows to

[28] The UNCTAD FDI inward performance index is a measure of the extent to which a host country receives inward FDI relative to its economic size. It is calculated as the ratio of the country's share in global FDI inflows to its share in global GDP. See Annex 1 for details of the FDI potential index.

developed countries declined, whereas global flows increased, spurred by the surge in FDI to developing countries (see Table 7). It can be seen from Table 8 that FDI flows to developed countries gradually declined from $547 billion in 2002 to $442 billion in 2003 and further to $380 billion in 2004. In fact, this is in line with the overall decline in FDI flows to the world. On the contrary, along with the shift in trade to developing economies, there has been a consistent increase in FDI inflows to the developing world, with most of the growth being concentrated in Asia and Latin and Central America. Figures 1 and 2 show the global trends in FDI to developing countries.

Figure 1 looks at trends in global FDI flows since the 1980s. FDI flows were fairly stable in the first half of that decade, but started to rise steadily in the second half. This trend continued through the early 1990s, with the growth rate rising sharply in 1997. The years from 1997–2000 witnessed dramatic increases in FDI flows, which peaked in 2000 and declined sharply in the following three years, reflecting the global recession sparked by the dotcom crash in 2000, and the economic effects of 9/11 in the US. They recovered marginally in 2004 (by 2.46 percent), settling at close to their 1998 level (see Figures 4 and 5).

FDI Flows to developing countries were fairly stable in the 1980s. The 1990s witnessed a gradual rise in FDI, largely brought about by the dramatic changes in the policy structures of the “Asian Tigers,” which had begun to embark on programmes of structural liberalisation and open-market reform, aimed at ushering in a phase of export-led growth. Another contributing factor may have been the recovery of the Latin American economies, which had begun to emerge from the Debt Crisis of the 1980s. Inflows stagnated in 1998, departing from the trend growth rate – a result of the East Asian Financial Crisis – but then bounced back by the following year. There was negative growth in FDI inflows in 2000 and 2001, partially because of a global recession. However, both the quantum of FDI to developing countries, and the rate of growth in FDI have been rising steadily since 2002, with FDI growing by 7 percent in 2003 and 40 percent in 2004. This trend, combined with falling inflows to the developed world, has resulted in a new trend in the distribution of FDI between the developed and developing world (see Figure 3)

IV.5. FDI Inflows to South Asia

FDI inflows in absolute value to South Asia have continuously increased over the years and particularly since 2000 (see Table 7). They climbed for the fourth consecutive year in 2004. An improving economic situation and a more open FDI climate encouraged inflows to India, at record levels of $5 billion. Cross-border M&As in India rose in 2004 as the telecommunications, business process outsourcing and pharmaceutical industries saw an increase in large deals. The improved investment environment and the privatization of assets in Pakistan and Bangladesh contributed to increased FDI inflows to those countries. Overall, business confidence in South Asia improved.

It is evident from Table 8 that figures for South Asia are negligible. While the share of South Asia in the FDI inflows of developing countries is about 3 percent, its share in the global FDI inflows is almost negligible at 1.08 percent. One quarter of all FDI inflows are going to PRC, and the other countries in South Asia are getting less than one percent of the total FDI inflows to the developing countries. Even FDI inflows as a percentage of Gross Domestic Capital Formation in South Asian countries are quite low though they have increased gradually since 2000. The same trend is also seen in FDI stocks as a percentage of GDP (see table 9 and 10).

IV.6. Trends among the South Asian Countries

The South Asian countries have been making consistent efforts to attract more FDI by liberalizing their FDI policy frameworks to compete with other countries in the region (see Section III). However, given the wars and ethnic strife in most countries in South Asia, they are nowhere close to their counterparts in Southeast Asia. India has attracted the maximum FDI in South Asia. While India's share of FDI to developing countries has been, and still is, significantly lower than that of the major Latin American and East Asian economies, it receives the most FDI in South Asia. However, after controlling for the size of the economy (measured by gross domestic product), Pakistan and Sri Lanka both do better than India. Figures 6, 7, and 8 depict FDI inflows in South Asia, focusing on India, in comparison with those counterparts.

India's share of FDI inflows to developing countries rose to 1.9 percent in 1997, but declined sharply to 1 percent in 1999 and 2000. However, 2001 saw an increase in FDI inflows. This trend continued until 2003 when it reached a peak of 2.6 percent. In 2004, there was a slight fall to 2.3 percent. The sum of FDI inflows into India in 2003 and 2004 was $4.2 billion and $5.3 billion. Thus, in absolute amounts, 2004 also saw a rise in FDI inflows to India (see Table 7).

In 2002, PRC held the highest share of developing country FDI (33.9 percent) followed by Brazil (10.7 percent). The gap between the shares of these two countries narrowed during the nineties, with Brazil gradually catching up. However it has widened again in the last few years. Though the shares of FDI to Argentina, Republic of Korea, Singapore, Malaysia and Taipei,China were much lower than those to PRC and Brazil, until 2000 they were still two to five times that of India's measured inflow.[3] Subsequent years saw a sharp drop in FDI inflows into these countries. As a result, in 2004, (of these countries) only Singapore and Republic of Korea had a higher share (6.9 percent and 3.3 percent respectively) of developing country FDI than India (2.3 percent). The increase in India's share from 1.6 percent in 2001 to 2.3 percent in 2004 was largely a result of the decline in FDI inflows to developing countries as a whole. Republic of Korea liberalized its FDI policy in the late 1990s and the economy saw a stock adjustment and sharp temporary increase in FDI inflows in 1998-2000. Since 2001, the inflows have fallen to nearer their trend level, standing at US$2 billion in 2002, though it received $7.7 billion in 2004. Because of the Asian Financial Crisis in 1997-98 and the effect of sanctions on investor sentiments, India's share of developing country FDI fell at the end of the nineties. There has, however, been a significant improvement since 2001.

IV.7 Sources of FDI and Sectors Attracting Maximum FDI in South Asian Countries

Though the South Asian countries have lagged behind in attracting FDI compared to their counterparts in East and Southeast Asia, in recent years they have managed to consistently step up their FDI inflows mostly from the developed countries. The following section briefly presents the sources of FDI and sectors attracting the maximum FDI in a few of the South Asian countries.

FDI trends in India: Sector-wise Inflows: The sectors that received the highest cumulative inflows of FDI over the period August 1991 to September 2005 (see Table 11) are electrical equipment (13.71 percent), transport (8.59 percent), services (8.01 percent), telecommunication (7.96 percent) and fuels (6.99 percent). Similarly, in 2005 the sectors that received the most FDI were electrical equipment (23.8 percent), services (16.3 percent), cement and gypsum products (10.21 percent), miscellaneous industries (9.1 percent) and

transport (5.01 percent). Investment rose in industries such as cement, sugar, plastics and rubber, and hotels.

The Sectors in which FDI grew most dramatically between 2003 and 2005 were cement and gypsum products, metallurgical industry, ceramics, textiles and paper and paper products. The sectors in which FDI fell during the same period were glass, fuel, power and oil, food processing, transport (which includes the auto industry) and consultancy services. Table 12 shows the details of sector-wise FDI and the top five sectors receiving the maximum FDI, respectively. However, the only striking feature about the sectors receiving the most FDI in India is that most FDI is coming into transport, electrical equipment, infrastructure, etc., but very little is flowing into India's export sectors. Therefore, there appear to be problems with the synchronization of policies. India should make an effort to attract FDI in its export sectors such as gems and jewelry, pharmaceuticals, textiles, marine products and light engineering goods and this would be one way of stepping up FDI overall. Though further empirical investigation is required to arrive at any concrete inference, it can be inferred that FDI inflows to India are domestic market oriented.

Engineering, services, electronics and electrical equipment and computers are the main sectors receiving FDI in recent years (Table 12). Domestic appliances, finance, food and dairy products which were important sectors attracting FDI in the early nineties have now seen a downtrend. Services and computers have seen an increasing trend in the latter half of the nineties. On the whole, there have been significant changes in the pattern and composition of FDI inflows during the last decade.

The state-wise trends in FDI in the table show that the advanced states such as Delhi, Maharashtra, Karnataka, Tamil Nadu and Pondicherry have been the largest recipients of FDI during the last five years. This may be attributed to their better resources, infrastructure such as roads and power, and investor-friendly policies like single window clearances and investment promotion schemes including special economic zones, etc. However, competition among the states in attracting FDI has led to increasing trends in states like Gujarat, Punjab and also Andhra Pradesh (See Table 13).

Country-wise FDI inflows to India: Among the countries with high FDI inflows into India is Mauritius. This may be attributed to the double taxation treaty that India has signed with Mauritius and also to the fact that most investment into India from the United States is being routed through that country. However, the U.S. is the second largest investor in India, followed by Japan and the other developed countries such as the Netherlands, United Kingdom, Germany, Singapore, France, etc., which are India's major trading partners. Nearly one quarter of India's exports go the EU and the other quarter to North America; these two regions also happen to be the largest investors in India. Table 14 shows the share of top investing countries in India's FDI.

***Sources of FDI and sectors attracting the greatest FDI in Pakistan*:** Foreign investment flows into Pakistan have increased continuously since 1997-98, and the rate has increased since 2002-03. This can be primarily attributed to closer U.S.-Pakistan ties and the liberalised foreign investment environment since 2000. The FDI inflows reached a record US$1524 million in 2004-05 (see Table 15). In Pakistan, privatization and resource-related FDI led to a doubling of foreign investment from $1.1 billion in 2004 to $2.2 billion in 2005.

The major source of FDI in Pakistan in the year 2004 was the United Arab Emirates, which accounted for nearly 42.5 percent of the total FDI inflows to Pakistan. The United States

occupied the second position with a share of 13.9%, and other countries include Saudi Arabia, Switzerland, U.K, the Netherlands, etc. However, an examination of sources of FDI into Pakistan from 1997-98 to 2004-05 clearly shows that the U.S. has dominated investment, followed by the U.K. and UAE in third position. See Tables 16 and 17 for details. For instance, Table 17 shows that in 2004-05, nearly 42.5 percent of the total FDI inflows into Pakistan came from UAE, followed by the U.S., whose share of inflows stood at 13.9 percent. Similarly, Table 18 gives the list of the top 11 sectors attracting FDI from 1997-98 to 2004-05. Power, chemicals and pharmaceuticals, and mining and quarrying top the list. This can be attributed to the increasing needs and demand for energy in Pakistan and natural resource advantages in the case of pharmaceuticals and mining. Table 19 shows the list of sectors that attracted the maximum investment in 2004-05. Communications (IT&T) tops the list of sectors receiving FDI with a percentage of 46.5 percent of total FDI inflows, followed by power (10.3) and financial business, etc.

Sources of FDI and sectors attracting maximum investment in Bangladesh: Bangladesh has the most systematic investment regime in South Asia, with a Board of Investment that promotes and facilitates investment effectively. Table 20 shows FDI inflows into Bangladesh from 1991-92 to 2004-05. It is evident that the period from 1996-97 to 2001-02 constituted the golden years of the history of foreign investment in Bangladesh. However, since then FDI flows have declined due to political strife and natural calamities. Table 21 shows sector-wise FDI inflows into Bangladesh. The services sector has attracted the greatest investment, followed by IT and engineering and manufactured goods. It is also evident from the table that agro-based industries have attracted a fair bit of investment, as Bangladesh is a predominantly agrarian economy, and the second most important industry in the country is textiles. In fact, textiles form the backbone and are the greatest source of employment to the Bangladesh economy.

Table 22 shows FDI inflows into Bangladesh by source country. The U.K. is the top investor in Bangladesh, with investment to the tune of $2 billion, followed by Canada, Malaysia, and the U.S. The second tiers of investors are Singapore, India, Thailand, Hong Kong, China, PRC, Germany, and Republic of Korea. Prior to 1995, the stock of U.S. investment in Bangladesh was estimated to be approximately $25 million in book value, including five manufacturers in the Chittagong EPZ, one life insurance company, banking operations of two U.S. commercial banks, and about ten other U.S. service and marketing firms. Since 1995, 16 U.S. companies have invested in Bangladesh in the following sectors (in production & under implementation). In 2004-05, the engineering and manufacturing sector got the maximum investment (26.57 percent) of total FDI inflows. Textiles has been one of the leading sectors of Bangladesh for many years and nearly 10 percent of the total FDI inflows went into that sector, followed by agro-based industries which have attracted large amounts of investment in recent times due to Bangladesh being an agricultural economy.

Sources of FDI And sectors attracting maximum investment In Sri Lanka: The investment scenario is Sri Lanka is no different from those of its neighbours. It is the developed countries, again, which have made the largest investments, with Singapore having the maximum share of FDI inflows followed by the U.K. and Japan. Similarities in cultures and close ethnic ties may be one of the reasons for high Singaporean investment. Table 23 shows FDI as a percentage of GDP in Sri Lanka (1990-2005) and surprisingly compared to most of its South Asian countries, it is quite high at 26.5 percent in 2004-05.

As is the case in most other South Asian countries, the major sources of FDI in Sri Lanka are Singapore, the U.K, and Japan as mentioned above due to ethnic similarities. In addition,

countries like Australia and the British Virgin Islands have invested in Sri Lanka due to geographical proximity. See table 24 for details. Similarly, Tables 25 and 26 show that the maximum number of FDI projects has been in the area of manufacturing, followed by services and lastly agriculture.

Sources of FDI And sectors attracting maximum investment In Nepal: Nepal, being a least-developed country in the South Asian region, has attracted the least amount of foreign investment in the entire region. A close study of the economy indicates that it is largely dependent on its big brother neighbor, India. In fact, the major chunk of FDI in Nepal is from India. Moreover, the Maoist struggle and other ethnic conflicts have made investors weary of investing in Nepal. Table 27 shows FDI inflows into Nepal. In the initial years of its liberalisation, Nepal hardly attracted any investment. In fact, even to this day, its investment stands at only US$15 million, a negligible amount.

Table 28 shows FDI investments in different economic sectors. Tertiary sectors, hotels and restaurants and transport, etc., have attracted the maximum investment. It is basically the U.S., PRC, Japan and India that are the major investors in Nepal, as is evident from Table 29.

IV.8. Conclusion

FDI is certainly the key to economic prosperity in the region, and trends clearly reflect the increasing potential of South Asia to play an important role in the greater Asian dream of an Asian Economic Union.

FDI in services has focused in communications. A detailed look at the investment scenario of South Asian countries also reveals that they are making rapid strides in the service sectors, with services contributing more that 50 percent to the GDP of each economy. The investment policy reviews and the board of investment websites of most of these economies also reveal that they have signed a large number of bilateral investment treaties and double taxation treaties in recent years to step up investment. Therefore, considering their highly liberalized macroeconomic and investment environments, the trends of FDI in South Asia are likely to improve in the coming years.

V. IMPACT AND DETERMINANTS OF FDI IN SOUTH ASIA

As discussed in Sections III and IV of the study, South Asian countries in recent years have been designing policies to attract increased FDI. Though they have received less FDI than other developing countries, there has been renewed interest in these countries since 2000 Against this backdrop, this section explores the impact of FDI on growth, investment and exports.

V.1 FDI and Economic Growth

Economic growth in any country depends upon the sustained growth of productive capacity, supported by savings and investment. Low levels of savings and investment, particularly in developing countries and least developed countries, results in a low level of capital stock and economic growth. The earlier growth models by Harrod (1939) and Domar (1946) explain that capital formation raises the standard of living, which in turn results in higher growth. Criticising the growth models proposed by Harrod and Domar on the ground of the fixed proportion of factors of production and substitutability between labor and capital, Solow (1956) argues that capital formation increases labor productivity in a dynamic process of investment growth. Some of the recent growth theories such as Lucas (1988) and Rebelo (1991) broaden the definition of capital to include human capital and the accumulation of knowledge. Similarly, Romer (1986; 1990) and Helpman and Grossman (1991) incorporate knowledge capital gained through research and development to explain growth along with other variables. Overall theoretical growth literature demonstrates the role of capital or changes in definition in capital (knowledge capital or human capital) in enhancing economic growth.

The recognition of the role of knowledge capital in economic growth creates a basis for analysing the role of FDI, which brings new technology and knowledge along with capital. In recent years, the need for FDI inflows has increased as MNCs have assumed significant importance as a source of economic growth and development (Bajpai and Sachs, 2000). Since FDI may help developing or lower income countries in South Asia by providing new knowledge and complementing domestic investment, it is important to analyse the empirical relationship between FDI and economic growth in a growth accounting framework. The FDI-Growth nexus has been mainly examined through the following ways: looking at the determinants of growth, exploring the determinants of FDI and the role of multinational firms in host countries, etc. There are a large number of macro and micro studies examining the relationship between FDI and economic growth. However the results of both country specific studies and cross-sectional studies fail to clarify the relationship between FDI and growth.

Brief review of the literature: Earlier studies examining the relationship between FDI and growth postulated a negative association for developing countries (Singer, 1950; Griffin, 1970). The logic of these studies was that FDI was concentrated on low-priced primary exports to developed countries, and had a negative impact on overall growth. However studies by Rodan (1961) and Chenery and Strout (1966) showed that FDI had a favourable impact on productivity and growth in developing countries. Further, Barro and Sala-i-Martin, (1999) and Helpman and Grossman (1991) argue that FDI has long term positive impact by generating increasing returns through technology and knowledge transfers.

Investment policy reviews by UNCTAD provide evidence of benefits of FDI in terms of employment generation, wages, and linkages with local firms, increases in technology-intensive exports, range of new products and services, etc. Overall, UNCTAD investment

reviews suggest that FDI has a positive impact on growth but that it varies from country to country (UNCTAD, 2003). By and large, previous literature suggests that FDI contributes to growth through capital formation and technology transfer (Blomstrom *et al*. 1996 and Borensztein *et al.* 1995) along with accumulation of knowledge due to labor training and skill acquisition (Mello, 1999). Therefore, the most frequently cited common benefits of FDI are productivity spillovers for the host economy, resulting in higher growth. The logic is that FDI provides a stock of knowledge capital to less developed or developing economies and make factors of production, namely labor and capital, more productive. Thus, most of the previous studies show a positive impact of FDI on the host country economy (Mello, 1999; Bende-Nebende *et al*. 2000; Durham, 2004; Nair-Reichert and Weinhold, 2001; Xu, 2000). However, the impact varies from country to country {UNTAD, 1999; 2003; Borensztein *et al.*, 1998; Bende-Nabende *et al.* 2001}. Further, a positive impact effect of FDI on improving growth and per capita growth is found in studies such as Caves, 1974; Lipsey, 1999; Globerman, 1979 and Blomstrom and Persson, 1983.

At the macro level, by and large, the previous literature finds a positive impact of FDI, but the impact varies from country to country and depending on country conditions. Blomstrom *et al.* (1994) find that FDI has a positive impact on growth in rich countries. Further, Borensztein *et al.* (1998) argue that FDI inflows are positively related to per capita GDP growth provided the host country has a highly educated workforce. Alfaro *et al.* (2000) find that FDI positively affects growth in sufficiently developed markets. Similarly, Balsubramanyam *et al.* (1996) emphasize trade reforms to create a positive impact of FDI on growth. Based on a disaggregate analysis, Wang (2002) finds that FDI in manufacturing has a significant positive impact on growth. Bende-Nebende and Ford (1998) find that the output of less developed countries responds more positively to FDI. Borensztein *et al*. (1995) explain that because of the transfer of technology, FDI contributes more to growth than domestic investment. Bashir (1999) demonstrates that FDI improves growth in MENA countries, though the effect varies from country to country. Chowdhury and Mavrotas (2003) find unidirectional causality running from growth to FDI in the case of Chile but find bidirectional causality for Thailand and Malaysia.

Further, FDI boosts the demand for intermediate goods from domestic firms leading to more entry of new firms, an increase in competition, industrial growth and an increase in national welfare (Markusen and Venables, 1999; Haaland and Wooton, 1999). However, in theory, externalities associated with FDI may raise or reduce national welfare. This depends on whether the positive spillover created by FDI is more than the negative externalities (such as the crowding out domestic investment by reducing their profit margins). If the impact of multinationals on the profitability of domestic firms is sufficiently negative, FDI may lower host-country welfare. In some conditions, where the multinational demand for labor is weaker than that of existing domestic firms, it may also lower the national welfare. Moreover, the repatriation of profit may drain capital from the host country. Thus, the impact of FDI on national welfare and economic growth can be negative. Carkovic and Levine (2002) find that FDI inflows do not have an independent influence on economic growth. Similarly Ericsson and Irandoust (2001) fail to find any relationship between FDI and growth for Denmark and Finland but find causality from FDI to GDP growth for Norway. Germidis (1977), Haddad and Aitken (1993) and Mansfield and Romeo (1980) find that FDI does not accelerate growth. Further micro level studies by Aitken, Hanson and Harrison (1997), Mello (1997), and Harrison (1996) also fail to lend support for the hypothesis that FDI accelerates overall economic growth.

The potential benefits of FDI are realized only if the local firms have the ability to absorb the foreign technologies and skills (Blomstrom and Kokko, 2003). In fact, it has been

empirically proven that FDI is an important tool for development in host countries which have well-developed infrastructure and stable economic conditions (Balasubramanyam, 1998; Blomstrom *et al*, 1994). On the other hand, big multinational enterprises may drive out local firms because of their financial power and their technological and management superiority. Empirical evidence on the nature and extent of spillovers from FDI to domestic firms is mixed. The spillover effect depends on the technology gap between foreign and domestic firms. In the Indian context, earlier studies show that FDI has no such positive impact on growth (Dua and Rashid (1998); Chakrabarthy and Basu, 2003). Mello (1997) and Kokko (1996) find a negative relationship between FDI and total factor productivity. However, Sahoo and Maathai (2003) find a positive association between FDI and growth. There are studies finding a positive relationship between productivity growth, liberalization and foreign firms (Basant and Fikkert, 1996; Srivastava, 1991; Kathuria, 1998; 2000).

Overall, the impact of FDI on growth is far from clear and the impact varies across countries under different economic conditions. Since all these South Asian countries have labor surpluses, FDI can augment growth by providing additional employment. However, these countries are relatively closed economies with a low level of education and infrastructure facilities. Therefore, it is difficult to make inferences about the possible impact of FDI on growth without a proper empirical examination. The impact of FDI on economic growth has been estimated in a growth accounting framework as follows

$$Y = f(K, L,), \tag{1}$$

where *Y* is gross output produced in an economy using two important inputs such as capital *(K)* and labor *(L).* However, total capital consists of domestic capital (*Kd*) and foreign capital financed by foreign investment *(Kf).* Thus domestic capital and foreign capital have been taken separately. To determine the independent impact of FDI, FDI has been deducted from gross domestic capital formation *(GDCF),* which has been proxied for physical capital.[29] Looking at previous growth literature and empirical studies, the growth function has been augmented with human capital *(H),* Exports *(Ex),* infrastructure *(INF).*

$$Y = f(Kd, Kf, L, Ex, LIT, INF) \tag{2}$$

The proposed growth equation for the estimation is given below

$$LGDPt,_{it} = a_0 + a_0 FDIY_{it} + a_2 LGDCF_{it} + a_3 LFG_{it} + a_4 LEXP_{it} + a_5 INFINDEX_{it} + a_6 LIT + a_7 TRADEY + u_t, \tag{3}$$

where *LGDP* is the log of real gross domestic product, FDIY is foreign direct investment as a percentage of GDP; *LGDCF* is the log of gross domestic capital formation. *LFG* is labor force growth, *LEXP* is log of real exports, *LIT* is the literacy ratio, and *TRADEY* is total trade (export and import) as a percentage of GDP, proxied for openness. *INFINDEX* is the infrastructure index, which is constructed using different infrastructure indicators (see determinants section, V.4). The period of the study is 1970 to 2003. However, whenever infrastructure indicator is included, the period of the study is 1975 to 2003.

[29] Physical capital required two sets of information, i.e., the initial base year for the capital stock and the rate of depreciation, which are difficult to obtain.

***Data Sources*:** Annual data on gross domestic product, gross domestic capital formation, total exports, total trade, literacy ratio, and labor force are taken from World Development Indicators CD-ROM, World Bank, 2005. Since continuous data for Nepal on different variables such as FDI is not available, for example, the estimation is done only for four countries, India, Pakistan, Bangladesh and Sri Lanka.

Methodology: Panel data analysis has been employed to examine the relationship among variables. The reason for using this technique over time series and cross section techniques is mainly due to the higher power of the test as it combines both the cross section and time series unit. Secondly, the test takes into account the heterogeneity of variables across the industries. The general panel regression equation can be written as

$$Y_{it} = \alpha_{it} + \beta_{1it} X_{1it} + \beta_{2it} X_{2it} + \ldots + \beta_{nit} X_{nit} + u_{it} \quad (4)$$

For i = 1……N cross section units, and period t = 1…….T.

A number of panel regression equations have been estimated with all relevant potential determinants of growth. Since few explanatory variables are correlated, estimations with different specifications are carried out. Many growth functions have been estimated using panel ordinary least square, panel fixed effect model and also random effect models. However, the fixed effect results are reported here because of their robust output and because the Huasman test supports fixed effect.

Since the impact of FDI varies from country to country under different country conditions, even within south Asian countries, a causality analysis has also been done to show the relationship between FDI and GDP for each of these four South Asian countries.

Determining the direction of causality – The Granger causality test: We perform a vector autoregression (VAR) procedure (for I (0) variables). Following Granger (1969), an economic time series Y_t is said to be "Granger-caused" by another series X_t if the information in the past and present values of X_t helps to improve the forecasts of the Y_t variable, i.e. if, $MSE(Y_t \mid \Omega_t) < MSE(Y_t \mid \Omega_t')$,
where MSE is the conditional mean square error of the forecast of Y_t, Ω_t denotes the set of all (relevant) information up to time t, whilst Ω_t' excludes the information in the past and present X_t. The conventional Granger causality test involves specifying a bivariate of p^{th} order VAR as follows:

$$Y_t = \mu + \sum_{i=1}^{p} a_i Y_{t-i} + \sum_{j=1}^{p} b_j X_{t-j} + U_t \quad (5)$$

$$X_t = \mu^1 + \sum_{i=1}^{p-1} c_i Y_{t-i} + \sum_{j=1}^{p-1} d_j X_{t-j} + U'_t , \quad (6)$$

where μ and μ^1 are constant drifts, U_t and U_t' are error terms.

Table 2: Impact of FDI on Growth (Fixed Effect model)

Dependent variable: Log GDP

Variables	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6
Constant	5.61* (19.16)	6.04* (19.53)	7.13* (16.11)	8.35* (4.31)	6.63* (14.66)	8.31* (14.01)
FDI/Y	0.059* (4.24)	0.059* (4.42)	0.34* (2.91)	0.056* (3.63)	0.078* (3.95)	0.055* (3.48)
Log GDCF	0.119* (2.72)	0.137* (3.23)	-0.047 (-0.81)	0.19* (2.83)	0.47* (12.00)	0.19* (2.82)
Labor Force Growth	-0.029 (-1.24)	-0.04 (-1.92)	0.019 (0.95)	-	-0.066* (-2.13)	0.010 (0.41)
Log Exports	0.46* (12.49)	0.40* (10.03)	0.39* (8.18)	-	-	-
Literacy Ratio	-	0.001* (3.38)	0.0009* (2.11)	0.002* (4.83)	0.004* (6.62)	-
Infrastructure Index	-	-	0.362* (4.46)	0.60* (6.49)	-	0.61* (4.55)
Openness (Trade/GDP)	-	-	-	0.0002 (0.18)	0.0003 (0.23)	0.0001 (0.17)
R^2	0.66	0.53	0.42	0.35	0.50	0.36
No. of Observations	130	116	116	116	130	116
Prob>F	0.00	0.00	0.00	0.00	0.00	0.00

Note: * significant at 1%, ** significant at 5% and *** significant at 10% level.

***Results**:* The estimations results show the contribution to the growth of South Asian countries made by gross domestic capital formation, export growth, infrastructure availability, foreign direct investment and literacy ratio. The coefficient of FDI is small, ranging from 0.03 to 0.08 (see Equation 1 to Equation 6 in Column 1 to Column 6 in Table 2) indicating that a one percent increase in the FDI to GDP ratio leads to an increase in GDP by 0.03 to 0.08. Given the amount of FDI coming to into South Asian countries, it is expected to have a small coefficient. However, the coefficients are positive and significant.

Other major contributors to growth are exports and gross domestic capital formation. The inclusion of exports in the growth function improves the overall results. Therefore, the present study supports the finding in the previous literature that FDI is beneficial for countries following an export-led growth strategy. A one percent increase in exports contributes to an approximate 0.4 percent increase in GDP in these countries (see Equations 1 to 3). Gross domestic capital formation has a positive and significant impact on GDP, with a coefficient of 0.11 and 0.13 in Equation 1 and 2, respectively. The literacy ratio, proxied for human capital, turns out to be positive, but the coefficient is negligible. Since infrastructure facilitates growth, the infrastructure index has been included in the growth function (Equation 3), which is positive and significant. The coefficient is 0.36 revealing that increase in infrastructure facility by one percent increases the growth by 0.36 percent.

From Equations 3 to 6, the openness variable (trade as a percentage of GDP) has been added, while exports have been removed. Though there is no change in the sign and coefficient of FDI, the coefficient of trade is not significantly different from 0. However, the coefficient of gross domestic capital improves. Many other relevant variables have been tried into the growth function, but failed to show any improvement in the result. The coefficient of labor is insignificant and negative. Since all the South Asian countries have labor surpluses, the labor force growth is not significant in the growth function.

Overall, the panel data results highlight the fact that FDI has a positive and significant impact on growth for four South Asian countries. Other significant factors contributing to growth are exports, gross domestic capital formation and infrastructure. Labor force growth is not significant, indicating that these countries are labor abundant countries, and it does not have any significant impact on growth. However the results of the panel estimations need be analysed with caution, since the impact of FDI varies from country to country. To substantiate the relationship between GDP and FDI inflow, a causality analysis has been done for each country, using time series data. The results of the Granger causality are reported in Table 3.

Table 3: Granger Causality between FDI and GDP Growth (1970–2003)

Null Hypothesis	Country	lag	F-stat	Prob
FDI growth does not Granger cause GDP growth	India	3	0.88	0.46
GDP growth does not Granger cause FDI growth			7.70*	0.00
FDI growth does not Granger cause GDP growth	Bangla-	2	5.32*	0.01
GDP growth does not Granger cause FDI growth	desh		0.02	0.97
FDI growth does not Granger cause GDP growth	Sri	5	2.79**	0.05
GDP growth does not Granger cause FDI growth	Lanka		10.08*	0.00
FDI growth does not Granger cause GDP growth	Pakistan	2	12.23*	0.00
GDP growth does not Granger cause FDI growth			11.65*	0.00

Note: * significant at 1%, ** significant at 5% and *** significant at 10% level.

Since FDI inflow as a percentage of GDI is non-stationary at levels (see Table 32 in Appendix B), Granger causality is found between the GDP growth rate and FDI growth rate, which are stationary at levels. A one-way causality is found for India and Bangladesh. In the Indian case, growth causes FDI inflow whereas in Bangladesh, FDI growth leads to GDP growth. But there is bi-directional causality in the case of Sri Lanka and Pakistan. These results support our previous panel results that FDI has a positive impact on growth in South Asia. Though it has a positive and significant impact for all four South Asian countries in the panel, FDI Granger causes growth in three countries under causality analysis.

V.2. FDI and Investment

Since FDI establishes backward and forward linkages with local industries, FDI can either complement or displace domestic investment. FDI often crowds out domestic investment due to technological superiority, better management and more efficient production process. It can also encourage domestic investment, however, by creating an enabling investment environment by transferring technologies and management techniques. The relationship between FDI and domestic investment depends, among other things, on the quality of FDI, domestic regulatory environment etc.

So far, the results of empirical studies on the impact of FDI on domestic investment are mixed. Fry (1993) finds a negative impact in India after controlling for country specific effects.

Dhar and Roy (1996) confirm this finding of a negative relationship between FDI and domestic investment. A study by Bosworth and Collins (1999) examining the impact of capital inflows on domestic investment for 58 developing countries, finds that FDI has a positive and proportional impact on domestic investment. Xu (2000) finds that the technology diffusion of U.S.-affiliated MNEs is strong in developed countries but weak in less developed countries. Hanson (2001) argues that the evidence for the generation of positive spillovers for host countries by FDI is weak. In contrast, Lipsey (2002) supports the positive spillover effect of FDI from his micro studies literature review. Kokko *et al*. (2001) find that locally oriented FDI has a larger impact on local firms than on foreign oriented firms. In a recent study, Barrios *et al.* (2004) find that FDI affects the domestic firms initially but over all the positive externalities, is largely positive for the domestic industries for Ireland. Some recent studies finding a positive spillover impact of FDI are Keller and Yeaple (2003) and Haskel *et al* (2002). In the Indian case, Kathuria (1998, 2000) suggests that the indirect gains from FDI depend upon the local firm's ability to learn new technologies by investing in research and development. Spillover is most commonly observed in high-tech domestic industries. This study attempts to examine the impact of FDI on investment at the macro level for South Asian countries.

Analytically, FDI can improve domestic investment though positive spillovers and by creating complementary industries. However, it can also drive out domestic investment due to higher financial power, better technology and management and higher productivity. Thus, FDI has a dynamic effect on domestic investment. Considering this, OLS or panel estimates may not be appropriate. In this study, the dynamic impact of FDI on domestic investment is examined using dynamic panel data analysis developed by Arellano and Bond (1991). This method uses the first differences of the model to eliminate the individual impact and then provides estimates using two or higher period lagged dependent variables. Here, the impact of FDI on domestic investment is examined in the following way

$$GDCF_{,it} = a_0 + a_{1,}GDCF_{it-1} + a_{2,}GDCF_{it-2} + a_3FDI_{,it-1} + a_{4,}FDI_{,it-2} + a_{5,}GDPGR_{,it-1} + u_t \qquad (7)$$

Whereas GDCF is the gross domestic capital formation taken for domestic investment and FDI foreign direct investment, GDPGR is the growth rate of GDP.

Table 4: Impact of FDI on Investment

Dependent Variables: Gross domestic capital formation as percentage of GDP

	OLS Pooled Regression	GMM Panel Estimation	
Variables		Period (1970-2003)	1990-2003)
Constant	2.54* (3.30)	-0.003 (-0.10)	
$GDCF_{t-1}$	0.76* (8.32)	0.58* (5.98)	0.63* (3.43)
$GDCF_{t-2}$	0.11* (1.25)	0.10 (1.13)	0.06 (0.72)
FDINFY	0.27 (0.51)	0.47 (0.69)	-0.40 (-0.54)
$FDINFY_{t-1}$	1.13*** (1.78)	1.42* (2.04)	1.13*** (1.77)
$FDINFY_{t-2}$	-0.61 (-0.93)	-0.75 (-1.11)	1.23*** (1.81)
GDPGR	0.03 (0.61)	0.18* (2.62)	0.45* (2.80)
No. of Observations	124	124	40
Sargan Test		86.54 (0.52)	22.40 (0.55)
R2	0.83		
F (7, 116)	82.53*		
Autocorreleation order 1		-7.70 (0.00)	-2.92 (0.00)
Autocorreleation order 2		0.80 (0.42)	0.35 (0.72)

Note: * significant at 1%, ** significant at 5% and *** significant at 10% level.

Results analysis: The results of the investment functions by panel OLS and Arellano-Bond GMM estimation are reported in the Table. The estimation results are significant in terms of all diagnosis statistics. The estimation is done for two periods, 1970-2003 and 1990-2003. Since all these south Asian countries have improved their gross domestic capital formation and FDI inflow during the nineties, an attempt has been made to see the impact of FDI on domestic investment separately during post 1990.

The sign of FDI inflow is positive for the current period and the past one year for the whole period 1970-2003. However, it has a positive but insignificant coefficient for the current period, implying that it does not contribute significantly to domestic investment. The coefficient of FDI lagged one year is 1.42 and significant. This implies that a one percent increase in FDI to GDP in the last year leads to an increase of 1.42 percentage in domestic investment as a percentage of GDP in the current period. For the period 1990-2003, the coefficient of FDI is negative in the current period, but it is insignificant. However, the coefficient of the FDI lagged one year and FDI lagged two years is positive and significant. The coefficients are 1.13 and 1.23, respectively, implying that increasing the FDI ratio by one percent in the last year and the past two years increases the domestic investment ratio by 1.13 and 1.23 percentage points in

the current period. Thus, FDI in the current period does not affect the domestic investment ratio significantly, but affects it over time through a dynamic effect. The Sargan test from a two-step estimator does not reject the null hypothesis that over-identifying restrictions are valid. The second order autocorrelation is also not significant, implying that the obtained estimates are consistent.[30]

V.3. Impact of FDI on Exports

Along with the economic reforms and increased FDI inflows, South Asian countries have also experienced higher exports growth during the nineties (see Table 1). While India and Bangladesh achieved double-digit export growth in that decade, Sri Lanka improved its export performance during the nineties compared to the eighties. Though the Pakistan economy had lower export growth during the nineties due to the economic recession, it improved during recent years. The export-related success stories of PRC (UNCTAD, 2002) and East Asian countries suggest that FDI is a powerful tool for export promotion because the relative technological superiority of multinational firms helps domestic firms, directly and indirectly, in terms of technological advancement and provides market access to export markets. However, the success stories of these economies cannot be generalized to South Asian countries given the lower level of infrastructure, slow market reforms and structural rigidities (Srinivasan, 1998). The role of FDI in export promotion depends upon the motive of investment. If the motive is to capture domestic market because of high trade costs or tariffs, FDI may not improve the export growth. On the other hand, if the motive of FDI is to make use of cheap inputs or the country's comparative advantages to tap the export market, it may contribute to export growth.

Inward FDI contributes to productivity growth, which in turn helps increase trade. This means that most of the FDI firms are concentrated in trade-intensive sectors as their trading propensity in any sector is supposedly greater than the host country firms. These are necessary prerequisites for a successful export strategy. The literature on FDI and exports reveals a positive relationship (Aitken 1997 Blomstrom, Kokko and Zejan, 1994; De Mello, 1999; UNCTAD, 1999; Lall, 2000; Lipsey 1999). It has been also debated in the literature that export-oriented industries help domestic industries and therefore crowd-in domestic investment by creating demand for intermediate demands. Multinationals firms, who bring FDI into the host country, are larger that domestic firms, pay higher wages, have higher factor productivity, are highly capital intensive and are more likely to contribute to exports due to their international exposure and competitiveness (Haddad and Harrison, 1993, Aitken et al, 1997; Aitken and Harrison, 1999).

In the Indian case, Kumar (1994) finds that the export behaviour of foreign-controlled and domestic firms for 1980-91 did not differ significantly. However, the studies by Lall and Mohammad (1985) and Majumdar and Chhibar (1998) find a positive association between exports and foreign-owned firms. Sharma (2000) finds no effect of FDI on exports where as Agrawal (2001) finds weak support for the hypothesis that foreign firms perform better in exports compared to local firms. However, Kumar and Pradhan (2003) find that the export performance of foreign affiliates is better than local firms. Aitken *et al* (1997) show the FDI impact on exports using the example of Bangladesh, where the entry of a single Korean multinational in the garment industry led to the establishment of a number of domestic firms

[30] To substantiate further, Granger causality analysis is done for each country between domestic investment growth and FDI growth, as both are stationary variables at levels. The results reveal that FDI Granger causes domestic investment in Bangladesh and Sri Lanka.

exporting garments, creating a large export industry. Sharma (2000) empirically establishes that FDI does not affect export in the Indian context. PRC has succeeded in expanding manufacturing exports because MNEs and MNE affiliates account for over 80 percent of PRC's high technology exports (see UNCTAD, 2002). In the Indian context, Pailwar (2001) argues that MNEs are more interested in the domestic market than exports. However, FDI in Sri Lanka, Bangladesh and Pakistan are relatively concentrated in a few export-oriented industries and these sectors receive the most FDI.

Here, an attempt is made to estimate a export function to examine the impact of FDI on exports. Looking at the theoretical literature and previous studies on the export function (Joshi and Little, 1994 and Srinivasan, 1998), the export function for South Asia is designed as follows:

$$Ex_{it} = a_0 + a_0 WI_{it} + a_2 GC_{it} + a_3 FDI_{it} + a_4 INFINDEX_{it} + a_5 RER_{it} + a_6 GDPGR + u_t, \qquad (8)$$

where, *Ex* is exports and *WI* is world income. An increase or decrease in world income influences the exports of an economy accordingly; *GC* is government final consumption, which is proxied for domestic demand. The higher the domestic demand or consumption, the less resources or output for exports there is. *INFINDEX* is an infrastructure index, which facilitates exports; *RER* is the real exchange rate vs. the US dollar. The major trading of South Asian countries takes place in US dollars. Thus, any change in the value of domestic currencies in US dollars negatively affects exports and vice-versa. *GDPGR* is GDP growth rate. All variables are taken from World Development Indicators, CD-ROM, 2005. The period of the study is 1975-2003.

Table 5: Export Functions (Fixed Panel), 1975–2003

Panel Regression Fixed Effect Dependent variable- Export as percentage of GDP				
Variables	Equ- 1	Equa-2	Equa-3	Equ-4
Constant	8.07* (8.56)	8.45* (4.67)	8.22* (4.23)	7.34u* (3.69)
World income growth	-0.14 (-0.78)	-0.13 (-0.71)	-0.13 (-0.71)	-1.15 (-0.83)
FDIY	1.45** (2.09)	1.43** (2.02)	1.47** (2.07)	1.36** (1.92)
Infrastructure index	0.21* (8.57)	0.20* (7.99)	0.19* (6.75)	0.02* (6.85)
Domestic demand (total final government expenditure)	-	-0.06 (-0.30)	-0.06 (-0.27)	-0.08 (-0.37)
Real exchange rate	-	-	0.02 (0.45)	0.024 (0.66)
GDP growth	-	-	-	0.17 (1.75)
R^2 No. of observation	0.59 116	0.59 116	0.60 116	0.60 116

Note: * significant at 1%, ** significant at 5% and *** significant at 10% level.

The panel results are reported in Table 5, which shows that FDI has a significant positive impact on exports. The coefficient is around 1.4 across specifications, implying that a one percent increase in the ratio of FDI to GDP increases exports by more than 1.4 percent in exports to GDP. As the previous literature explains, FDI brings in better technology and managerial skills along with international marketing networking, which help the exports of the host country. This hypothesis seems to be working for South Asian countries. The other important factor that contributes to exports is the infrastructure index. The increased availability of infrastructure facilities like proper roads, rail, air, etc., certainly reduces trade costs and improves exports. Domestic demand has the expected negative sign, but it is insignificant. Though world income generally influences exports, it is insignificant for South Asian countries.

Conclusion

Overall, the study finds that FDI has a significantly positive impact on growth for four South Asian countries. Other significant factors contributing to growth are exports, gross domestic capital formation and infrastructure. These results support the hypothesis that FDI is more beneficial for the export-led growth economies of South Asia. Therefore, South Asian countries need to improve their domestic investment, exports and infrastructure facilities along with more foreign investment for higher growth. Further, FDI has a positive impact on export growth through its positive spillover effects for South Asian countries. Moreover, FDI influences exports along with infrastructure facility. Though FDI does not affect domestic investment in the current period, it has a positive and significant impact effect over time through dynamic effects.

V.4. Determinants of FDI

Foreign direct investment to developing countries has increased substantially in the nineties. However, the South Asian countries have lagged behind and received low FDI inflow compared to other developing countries (see Section IV). Therefore, the relevance of understanding foreign direct investment flows in the South Asian region is important. FDI flowing into any country depends upon the rate of return on investment and the certainties and uncertainties surrounding those returns. Therefore, private investors compare the potential return and risks of their investment in the context of different investment destinations. The literature on the determinants of FDI is very rich. The expectations of private investors in a host country are guided by a host of economic, institutional, and regulatory and infrastructure related factors.[31] Before making an investment, investors look at certain major economic policy issues particularly relating to trade, labor, governance and the regulatory framework, and the availability of physical and social infrastructure. Some of the fundamental determinants of FDI, such as geographical location, resource endowment and size of the market, are largely outside the control of the national policy (UNTAD, 2003). However, national economic policies to create a conducive investment environment, and particularly the investment framework, can help to make FDI inflows consistent with economic potential. Countries can also act on their economic determinants to maximize their economic potential. The East Asian FDI boom before 1997 showed that the accrual of the benefits of FDI depends largely on factors such as income, growth and appropriate infrastructure and labor policy. Sound macroeconomic

[31] These can be called as pull factors. However, there are push factors which are equally important for FDI inflow into developing countries such as recession in developed economies, low international interest rates etc. The emphasis of the present study is to examine the pull factors responsible for FDI inflows into south Asian countries.

fundamentals, along with other factors such as stable exchange rate policies, low inflation, and sustained growth, influence the decision of investors in a host country.

There are well-established theories explaining why foreign direct investment takes place and what the potential determining factors are, including the market imperfection hypothesis (Hymer, 1976), internalisation theory (Rugman 1986), and eclectic approach (Dunning, 1988). There can be vertical and horizontal FDI inflows. Vertical FDI take place when factor prices are not equalized across countries (Hanson, 2001; Helpman and Krugman, 1985). Higher trade costs and stronger firm level scale economies encourage FDI relative to exports (Barinard, 1997). Thus, horizontal FDI takes place because of trade costs (Markusen, 1984; Markusen and Venables, 1998).

According to Dunning (Dunning 1977, 1988; 1993), multinational firms enjoy three distinct types of advantages to producing abroad. They are: (i) ownership advantages; (ii) locational advantages; and (iii) internalization advantages. The ownership advantages are in the form of firm-specific intangible assets, such as technology, know-how in production, marketing or management, a patented process or design, or a registered framework or brand. Given these advantages, a firm may subsequently decide to internalize activities owing to a market failure associated with arm's length transactions in intangible assets. Thus, producing abroad enables the firm to minimize transaction costs and increase productive efficiency. Locational advantages, therefore, complete what is known as the eclectic ownership, location and internalization (OLI) paradigm, which is frequently used to explain investment abroad in the form of FDI.

In the context of the supply of capital to a particular location, such as the South Asian countries, locational advantages or the absence thereof play an important role. Locational advantages cover a multitude of factors that can influence the choice of location. However, they can be grouped into five main categories: (i) macroeconomic fundamentals (ii) infra-structural facilities, (iii) availability and costs of specific inputs, (iv) market size and growth prospect, and (v) FDI and trade regulatory policies.

By now, there is a substantial literature explaining the determinants of FDI (Dunning, 1993; Globerman and Shapiro, 1999; Shapiro and Globerman, 2001; Bevan and Estrin, 2004; Campos and Kinoshita, 2003). All the determinants of FDI can be grouped under two categories (i) economic conditions and (ii) host country policies. Economic conditions include market size, growth prospect, rate of return, urbanisation/industrialization, labor cost, human capital, physical infrastructure, and macroeconomic fundamentals like inflation, tax regime, external debt, etc. Host country policies include the promotion of private ownership, efficient financial market, trade policies/free trade policy/regional trade agreements, FDI policies, perception of country risk, legal framework, and quality of bureaucracy. Empirical research suggests that FDI is sensitive to the host country's overall economic policies, including its tax policy.

Potential Determinants of Foreign Direct Investment

Market size: The aim of FDI in emerging developing countries is to tap the domestic market, and thus market size does matter for domestic market oriented FDI. Market size is generally measured by GDP, per capita income or size of the middle class. The size of the market or per capita income are indicators of the sophistication and breath of the domestic market. Thus, an economy with a large market size (along with other factors) should attract more FDI. Market size is important for FDI as it provides potential for local sales, greater

profitability of local sales to export sales and relatively diverse resources, which make local sourcing more feasible (Pfefferman and Madarassy 1992). Thus, a large market size provides more opportunities for sales and also profits to foreign firms, and therefore attracts FDI (Wang and Swain, 1995: Moore, 1993; Schneider and Frey, 1985; Frey, 1984). FDI inflow in any period is a function of market size (Wang and Swain, 1995). However, studies by Edwards (1990) and Asidu (2002) show that there is no significant impact of growth or market size on FDI inflows. Further, Loree and Guisinger (1995) and Wei (2000) find that market size and growth impact differ under different conditions.

Growth prospects and positive country conditions: Along with market size, the prospect of growth (generally measured by growth rates) also has a positive influence on FDI inflows. Countries that have high and sustained growth rates receive more FDI flows than volatile economies. There are good number of studies showing the positive impact of per capita growth or growth prospect on FDI (Schneider and Frey, 1985; Lipsey,1999; Dasgupta and Rath, 2000; and Durham, 2002).

Labor cost and availability of skilled labor*:* Cheap labor is another important determinant of FDI inflow to developing countries. A high wage-adjusted productivity of labor attracts efficiency-seeking FDI both aiming to produce for the host economy as well as for export from host countries. Studies by Wheeler and Mody (1992), Scneider and Frey (1985), and Loree and Guisinger (1995) show a positive impact of labor cost on FDI inflow. Countries with a large supply of skilled human capital attract more FDI, particularly in sectors that are relatively intensive in the use of skilled labor.

Infrastructure facilities: The availability of quality infrastructure, particularly electricity, water, transportation and telecommunications, is an important determinant of FDI. When developing countries compete for FDI, the country that is best prepared to address infrastructure bottlenecks will secure a greater amount of FDI. The previous literature shows the positive impact of infrastructure facilities on FDI inflows (Wheeler and Mody (1992), Kumar (1994), Loree and Guisinger (1995), Asidu (2002)). In this study, the construction of an infrastructure index has been attempted taking different infrastructure indicators.

Openness and export promotion: The key hypothesis from various theories is that gains from FDI are far higher in the export promotion (EP) regime than the import promotion regime. The theory proposes that import substitution (IS) regimes encourage FDI to enter in cases where the host country does not have advantages leading to extra profit and rent-seeking activities. However in an EP regime, FDI uses low labor costs and available raw materials for export promotion, leading to overall output growth. Trade openness generally positively influences the export-oriented FDI inflow into an economy (Edwards (1990), Gastanaga *et al*. (1998), Housmann and Fernandez-arias (2000), Asidu (2001)). Overall, the empirical literature reveals that one of the important factors for attracting FDI is trade policy reform in the host country. The theoretical literature has explored the trade openness or restrictiveness of trade policies (Bhagwati, 1973; 1994; Brecher and Diaz-Alejandro, 1977; Brecher and Findley; 1983). Investors generally want big markets and like to investm in countries which have regional trade integration, and also in countries where there are greater investment provisions in their trade agreements.

Government finance: Government finance is an important issue that affects capital flows. A high fiscal deficit leads to more government liabilities and therefore more taxes and defaults on international debt. Therefore, fiscal stability is generally considered to be one of

the indicators of macroeconomic stability. We consider the fiscal deficit for government finance.

Rate of return on investment: The profitability of investment is one of the major determinants of investment. Thus the rate of return on investment in a host economy influences the investment decision. Following previous studies (see Asiedu, 2002), the log of inverse per capita has been used as proxy for the rate of return on investment as capital-scarce countries generally have a higher rate of return, implying low per capita GDP. This implies that the lower the GDP per capita, the higher the rate of return and thus FDI inflow.

Human capital: The availability of a cheap workforce, particularly an educated one, influences investment decisions and thus is one of the determinants of FDI inflow. In the present study, we use both labor force growth and literacy rate.[32]

Policy measures: The previous literature shows the impact of government policies including investment incentives on FDI inflows into a host country (Dunning, 2002, Blomsrom and Kokko, 2002, Schneider and Frey, 1985, Grubert and Mutti, 1991, Loree and Guisuinger, 1995, Taylor, 2000, Kumar, 2002. Though investment incentives are considered another determinant for FDI, the recent paper by Blomstrom and Kokko (2003) suggests that investment incentives alone are generally not an efficient way to increase national welfare.

Policies to promote FDI take a variety of forms, but the most common are partial or complete exemptions from corporate taxes and import duties. Standard policies to attract FDI include tax holidays, import duty exemptions, and different kinds of direct subsidies. FDI inflows are also affected by corporate tax rate differentiation. Subsidizing FDI helps multinational firms reduce production costs, improves incentives to create patents, trademarks, and enhances the relative attractiveness of locating production facilities in the country offering incentives and raises the economic benefits of FDI relative to exporting.

Earlier country-specific studies on the South Asian region find that FDI inflow to South Asian countries has been affected by structural factors such as market size, low level of incomes, extent of urbanization, availability of quality infrastructure, investment incentives and performance requirements. Thus, most of the relevant variables considered are based on the theories and the previous empirical literature for examining the determinants of FDI in South Asia. After reviewing all the potential determinants of FDI, we adopt the final FDI function below:

$$FDIY_{t,\,it} = a_0 + a_1 GDP_{it} + a_2 GDPGR_{it} + a_3 INFINDEX_{it} + a_4 IRR_{it} + a_5 INFL_{it} + a_6 LIT_{it} + a_7 TRADEY_{it} + a_8 LEXP_{it} + + a_9 LFTGR_{it} + a_{10} RESM_{it} + a_{11} DBCY_{it} + u_t \quad (9)$$

Data Considerations: The data source for the dependent variable log of FDI in UD dollars (L*FDIUSD*), total nominal gross domestic product in US dollars (L*GDPUSD*), growth rate (*GDPGR*), trade openness (*TRADEY*) which is proxied by export plus import as percentage of GDP, export (*EXY*), inflation rate (*INFLA*), Labor force growth (*LFTGR*), literacy ratio (*LIT*), inverse rate of return (*IRR*), total reserves sufficient for number of months of imports (*RESM*), domestic bank credit as percentage of GDP (*DBCY*), and real interest rate (RIR) is World Development Indicators (WDI) CD-ROM 2005. The estimation period is 1975 to 2003.

[32] Though most previous studies used secondary enrollment of human capital for large number of cross country studies, the same data is not available for South Asian countries for sufficient numbers of years for a meaningful econometrics exercise.

Infrastructure Index: To examine the impact of infrastructure facilities on FDI inflow, one infrastructure index has been constructed. Given the availability of infrastructure indicators for the whole period of the study, only infrastructure indicators such as transport, telecommunication and energy infrastructure are considered for principal component analysis for making the infrastructure index. The following variables are taken for constructing infrastructure indicators.

- Air freight transport per 1000 km. has been proxied for air transport and taken from the Center for Monitoring Indian Economy (CMIE).
- Electricity use per capita is taken from World Development Indicators CD-ROM 2005.
- Energy use per capita (kg. oil equivalent per capita) is taken from World Development Indicators CD-ROM 2005.
- Total telephone lines per 1000 population (both main lines and hand phones) is taken from World Development Indicators CD-ROM 2005.

The eigenvalues, respective variance and cumulative variance are reported in Table 30, Appendix B. The first two components have values higher than one, explaining the large variance. The factor loadings for the original variables are reported in Table 31, Appendix B.

Order of integration of the variables: The Augmented Dickey Fuller (ADF) test (see Dickey and Fuller 1981, see Appendix A.1) has been used for testing the time series properties of the variables (see Appendix for Dickey-Fuller Unit Root Tests). The results of the unit root tests are reported in the Table in the appendix. It can be seen that we have a mixture of stationary (I(0)) and I(1) variables. Most of the relevant variables are I(1), but the growth variables are I(0). Given the importance of the growth variables, they are considered in the analysis since they are normalized variables. Though growth variables are conventional, the unit root tests examine the unit-root null based on the single equation method. Levin and Lin (1993) argue that applying a unit root test on a pooled cross-section data set, rather than performing separate unit-root tests for each individual series, can increase statistical power (see Appendix A.2). The results of the panel unit root tests are the same as the time series ADF unit root tests (see Table 33, Appendix B).

Panel Cointegration Test: There are different methods for testing panel cointegration. The Engle and Granger (1987) test presumes the null hypothesis of no-cointegration and uses residuals derived from the panel regression. The Pedroni (1995, 1997) and McCoskey and Kao (1998) panel cointegration tests are based on this method. All these panel cointegration tests allow for heterogeneity in the cointegrating coefficients. Initially, the Engle Granger two-step methodology was followed for panel cointegration tests, where unit root tests directly applied to the residuals. However, test statistics using this approach would be biased towards being found to be stationary (Pedroni 1995). Pedroni argues that applying panel unit root tests directly to regression residuals is inappropriate for several reasons, such as the lack of exogeneity of the regressors and the dependency of the residuals on the distribution of the estimated coefficients (see Pedroni 1995,1997 for details). For these reasons it is important to have a test procedure for cointegration which is robust to the presence of heterogeneity in the alternative. We prefer to use the cointegration test[33] proposed by Pedroni, as it allows for considerable heterogeneity. The panel cointegration test of Pedroni is as follows:

[33] Generally, the panel cointegration tests developed by Kao and Chiang (1999) and Pedroni (1995, 1997) are also widely used.

$$y_{it} = \alpha_i + \beta_{1i} x_{1i,t} + \beta_{2i} x_{2i,t} + ... + \beta_{mi,t} x_{mi,t} + e_{i,t} \quad (10)$$

i = 1, 2, …,N, t = 1, 2, ……,T, m = 1, 2, …M,

where T is the number of observations over time, N is the total number of individual units in the panel and M is the number of regression variables. In equation (8), α_i implies a member specific intercept. Among the seven Pedroni tests, four are based on within dimensions (panel cointegration tests) and three on between dimensions (group mean panel cointegration tests). Both categories of tests are based on the null hypothesis of no cointegration: ρi = $1\forall_i$, ρi being the autoregressive coefficient on estimated residuals under the alternative hypothesis (*i.e*. ρi is such that $\hat{e}_{it} = \rho_i \hat{e}_{it-1} + u_{it}$) (see Pedroni, 1995 for detailed methodology).

Tabel 6: Panel Cointegration Test

Test Statistics	Eqn (1) With Time Dummy	Eqn (1) Without Time Dummy	Eqn (2) With Time Dummy	Eqn (2) Without Time Dummy
Panel v-statistics	-0.94	-0.25	-0.79	0.20
Panel rho-statistics	1.58	1.03	1.12	0.50
Panel pp-statistics	-1.69*	-1.76*	-1.24	-1.68*
Panel Adf-statistics	-3.30*	-3.38*	-2.08*	-1.74*
Group rho-statistics	2.24	1.76	1.74	1.19
Group pp-statistics	-1.19	-1.29#	-1.08	-1.65*
Group Adf-statistics	-3.25*	-3.82*	-2.82*	-2.42*

Notes: the critical values for the panel unit root test at the 1%, 5% and 10% levels of significance are -2.326, -1.645 and -1.282 respectively. * denotes significance at the 5% level and # significance at the 10% level.

Table 7: Determinants of FDI: Panel Cointegration Results

	Panel Cointegration Results		OLS Pooled Regression	
Variables	Equation 1	Equation 2	Equation 1	Equation 2
Constant	1.91 (1.01)	0.88 (0.44)	6.71* (13.78)	1.71 (1.14)
Log GDP	0.517* (3.12)	0.59* (3.57)	0.13** (2.10)	0.52* (4.03)
GDP growth	0.012 (1.02)	0.002 (0.20)	0.003 (0.74)	0.002 (0.22)
Infrastructure index	0.001* (2.97)	0.006*** (1.84)	0.001* (10.27)	0.007* (2.50)
Inflation	0.004 (1.27)	0.003 (1.21)	-	0.004 (0.16)
Trade	0.009* (2.85)	0.010* (3.12)	-	0.009* (3.47)
Labor growth	0.191** (2.02)	0.220** (2.25)	-	0.21* (2.65)
Commercial bank	-0.008** (-2.33)		-	-
R^2 No. of observations	0.72 116	0.69 116	0.68 116	0.71 116

Note: * significant at 1%, ** significant at 5% and *** significant at 10%.

Discussion of Results: Integrating the variables in the same order, i.e., I (I), facilitates examining their long run equilibrium relationships using Pedroni's panel cointegration tests. The results of the cointegration analysis tests based on Equation 9 are presented in Table 6. The null hypothesis of non-cointegration against the alternative of cointegration is rejected in the case of the equation as both the *panel-adf* and *group-adf* statistics are significant at the 5 percent levels. Besides *adf-statistics*, the results also reaveal that the *panel-PP* statistics are significant. Overall, cointegration results of the two equations indicate that FDI and potential determinants are cointegrated in the long run. Table 7 reports the results of individual determinant variables. The results show that total GDP is the most significant factor positively affecting FDI inflow into the South Asian countries. Given the huge population and emerging developing markets in the region, FDI is flowing to tap the domestic markets, which are huge and growing. The coefficient of the total GDP, which is basically the market size, is more than 0.5 percent for both Equation 1 and Equation 2, implying that a one-percent increase in total market size increases the FDI by 0.5 percent.

GDP growth, which is the indicator of the market's prospects, is positive across specifications and both panel cointegration and panel OLS. However, the coeffcient is insignificant. The infrastructure index, which is one of the major determinants of FDI in developing countries, is statistically significant across all specifications. This reveals that improvements in infrastructure facility attract FDI inflows to South Asian countries. Another major factor that determines FDI inflow into South Asian countries is labor force growth. The region is known for the availability of a cheap and abundant labor force, which attracts FDI. The openness variable, trade as a percentage of GDP, is significant in all equations, implying that more outward oriented South Asian economies attract more FDI. The rate of return, proxied by inverse per capita, has also been incorporated but dropped later as it is strongly correlated with growth. Similarly, the literacy ratio and other macro stability factors such as total debt as a percentage of GDP and total reserves sufficient for number of months of imports, have been dropped from estimation as they turned out be insignificant.

Conclusion

The results from the panel cointegration estimation reveal that FDI and all its potential determinants have a long-run equilibrium relationship. The major determinants of FDI in South Asia are market size, labor force growth, infrastructure index and trade openness. However the most significant and influential factors are market size and labor force growth. Overall, South Asian countries need to maintain growth momentum to improve market size, frame policies to make better use of their abundant labor forces, improve infrastructure facilities and follow more open trade policies for attracting more FDI.

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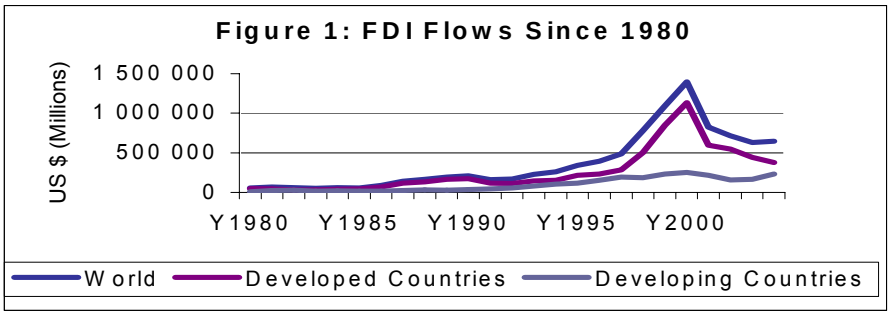
Figure 1: FDI Flows Since 1980
US $ (Millions)
1 500 000
1 000 000
500 000
0
Y1980
Y1985
Y1990
Y1995
Y2000
World
Developed Countries
Developing Countries

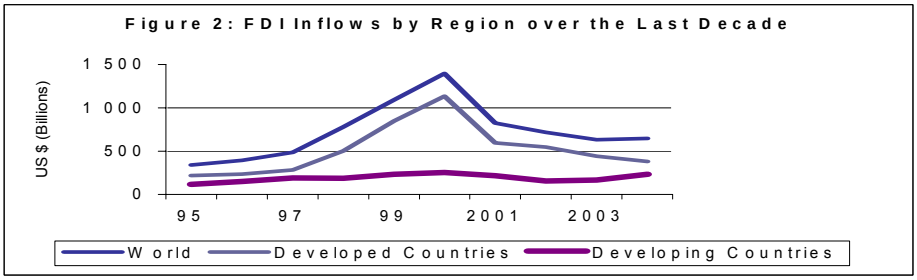
Figure 2: FDI Inflows by Region over the Last Decade
US $ (Billions)
1 500
1 000
500
0
95
97
99
2001
2003
World
Developed Countries
Developing Countries

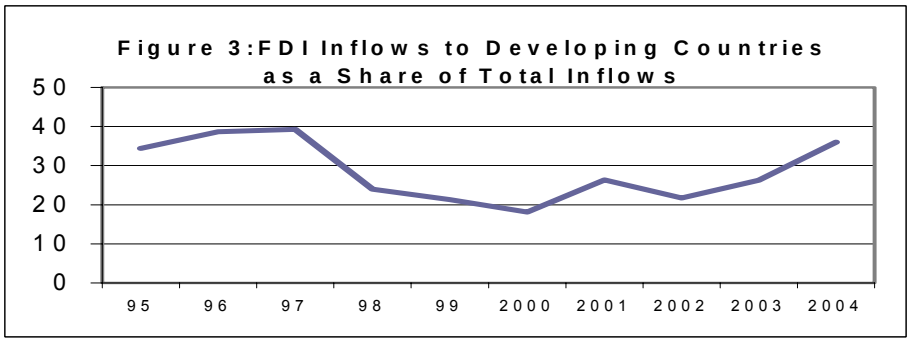
Figure 3:FDI Inflows to Developing Countries as a Share of Total Inflows
50
40
30
20
10
0
95
96
97
98
99
2000
2001
2002
2003
2004

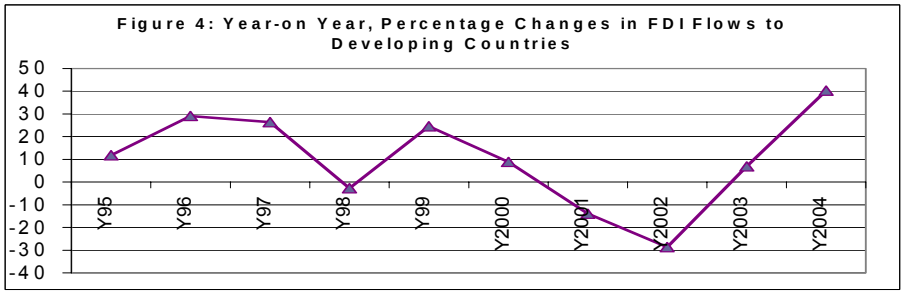
Figure 4: Year-on Year, Percentage Changes in FDI Flows to Developing Countries
50
40
30
20
10
0
-10
-20
-30
-40
Y95
Y96
Y97
Y98
Y99
Y2000
Y2001
Y2002
Y2003
Y2004

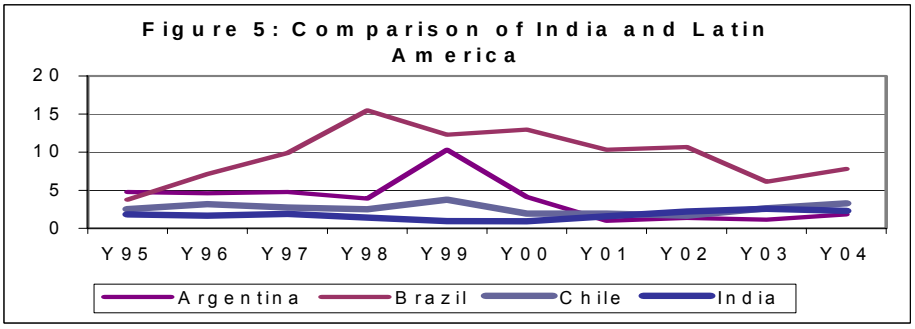
Figure 5: Comparison of India and Latin America
20
15
10
5
0
Y95 Y96 Y97 Y98 Y99 Y00 Y01 Y02 Y03 Y04
Argentina
Brazil
Chile
India

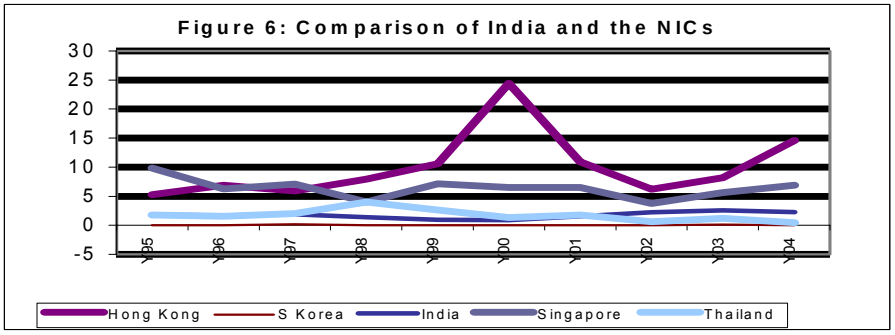
Figure 6: Comparison of India and the NICs
30
25
20
15
10
5
0
-5
Y95 Y96 Y97 Y98 Y99 Y00 Y01 Y02 Y03 Y04
Hong Kong
S Korea
India
Singapore
Thailand

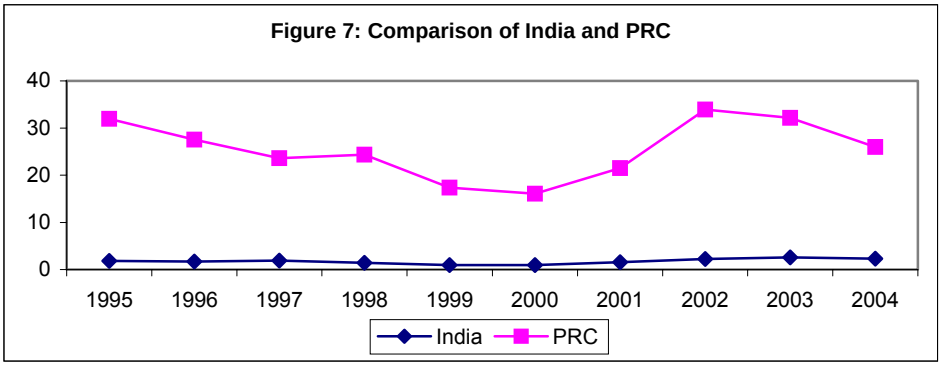
Figure 7: Comparison of India and PRC
40
30
20
10
0
1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
India
PRC

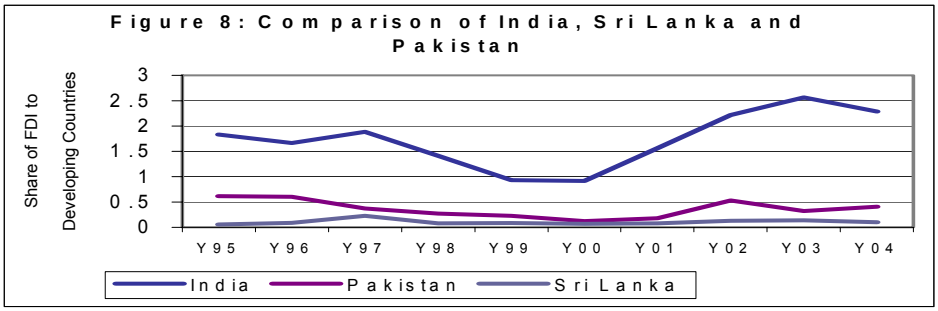
Figure 8: Comparison of India, Sri Lanka and Pakistan
Share of FDI to Developing Countries
3
2.5
2
1.5
1
0.5
0
Y95 Y96 Y97 Y98 Y99 Y00 Y01 Y02 Y03 Y04
India
Pakistan
Sri Lanka

APPENDIX A

A.1 Dickey Fuller Unit Root Test

The Augmented Dickey Fuller (ADF) test is used (Dickey and Fuller, 1981). This test is based on the following regression:

$$\Delta X_t = \alpha_0 + \alpha_1 t + \beta X_{t-1} + \sum_{j-1}^{k} \gamma_j \Delta X_{t-j} + \varepsilon_t$$

where Δ is the difference operator and ε_t is the stationary random error. The null hypothesis is that X_t is a nonstationary series and it is rejected when β is significantly negative. The constant and trend terms are retained only if they are significantly different from zero. The optimal number of lags, *k*, is determined by minimising the Akaike information criterion.

A.2 Panel Unit Root Test

The Levin and Lin (LL) panel unit root test is based on the following regression:

$$\Delta y_{i,t} = \alpha_0 + \rho y_{i,t-1} + \delta t + \phi_i + \gamma_t + \varepsilon_{i,t}$$
$$i = 1, 2, \ldots..., N, \; t = 1, 2, \ldots\ldots, T$$

where α_0 is constant, δt implies the time trend, ϕ_i is the individual specific effect across the origin and γ_t indicates the individual specific effect over the time. The LL test considered for six sub-cases of the above model considering the specification of the regression equation[34] (i.e. the inclusion of individual specific intercepts and time trends). In contrast to the LL test, the Im, Pesaran and Shin (IPS) panel unit root test contains heterogenous adjustment processes and pools the t-statistics from univariate independent ADF regressions. IPS relaxes the restricted assumption first-order autoregressive coefficient across the region (which is constant in the LL test) and suggests it varies across the regions.

[34] For details of the estimation procedures, see Levin and Lin (1993).

APPENDIX B

Table 1: Growth Rate of Major Macro Variables in South Asian Countries

	India			Bangladesh			Sri Lanka			Pakistan			Nepal		
	1980-1990	1991-2002	2003	1980-1990	1991-2002	2003	1980-1990	1991-2002	2003	1980-1990	1991-2002	2003	1980-1990	1991-2002	2003
GDP growth	5.60	5.92	8.61	3.63	4.88	5.26	4.03	4.98	5.90	6.50	3.77	5.15	4.56	4.95	3.09
Per capita GDP	3.38	4.06	6.48	1.02	3.06	3.44	2.93	3.64	4.67	3.67	1.25	2.64	2.30	2.47	0.85
Exports	4.16	12.58	6.99	4.67	12.98	6.87	4.43	7.10	4.79	8.64	2.94	28.38			
Imports	6.34	13.73	11.13	2.32	9.53	7.40	3.69	8.02	10.41	2.20	2.17	11.22			
Agriculture	2.95	2.99	7.33	1.94	3.10	3.08	2.21	1.63	1.51	3.82	4.15	4.07	3.84	2.64	2.50
Industry	6.67	6.14	6.97	6.01	7.21	7.26	4.44	6.53	5.52	7.97	4.20	5.80	9.25	6.94	2.26
Services	6.86	7.98	9.85	3.84	4.56	5.38	4.93	5.48	7.73	7.38	4.39	5.30	3.81	6.09	3.20
Manufacturing	7.34	6.74	7.21	5.19	7.02	6.75	6.15	7.51	4.39	8.69	4.06	6.89	10.06	8.42	1.98
	As Percentage Of GDP														
	1980	1991	2003	1980	1991	2003	1980	1991	2003	1980	1991	2003	1980	1991	2003
FDI	0.04	0.03	0.71	0.05	0.00	0.20	1.07	0.54	1.25	0.27	0.57	0.65	0.02	0.00	0.25
Gross domestic Capital formation	15.51	21.94	22.30	2.05	11.33	17.58	11.12	13.86	15.74	6.87	17.47	15.56	11.10	8.56	13.71
Gross domestic savings	18.69	21.93	23.81	14.44	16.90	23.41	33.70	22.87	22.32	18.48	19.03	15.45	18.29	20.25	25.83
Exports	6.28	8.61	14.48	5.49	6.66	14.21	32.22	28.16	35.77	12.49	17.00	20.48	11.54	11.49	16.65
Imports	9.46	8.61	15.99	17.88	12.23	20.04	54.80	37.16	42.35	24.10	18.56	20.36	18.73	23.18	28.78
Trade	15.74	17.23	30.47	23.38	18.89	34.25	87.02	65.32	78.12	36.59	35.55	40.84	30.27	34.68	45.43
Current Account Balance	-0.98	-1.61	1.36	-3.88	0.21	0.35	-16.29	-6.61	-0.72	-3.66	-2.79	4.34	-2.00	-7.76	2.92
Reserve sufficient for months of imports	8.26	2.92	11.76	1.37	3.99	2.78	1.49	2.29	3.38	2.81	1.19	8.02	7.80	5.65	7.66

Source: WDI Indicators, 2005.

Table 2: Indicators of Business and Macro Economy (2004)

	Overall Index		Institution		Infrastructure		Macro economy		Business sophistication		Innovation	
	Rank#	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
India	45	4.32	41	4.25	69	3.21	88	4.06	27	5.02	27	3.94
Bangladesh	98	3.45	108	2.9	101	2.38	68	4.35	86	3.59	98	2.68
Sri Lanka	80	3.97	88	3.22	81	2.87	103	3.7	64	3.99	69	3.04
Pakistan	94	3.51	75	3.41	76	3.07	69	4.32	57	4.12	71	3.02
Nepal												
PRC	48	4.26	60	3.72	65	3.44	13	5.33	58	4.11	35	3.56
Republic of Korea	19	5.28	38	4.39	20	5.39	5	5.65	19	5.31	15	4.81
Singapore	5	5.67	1	5.92	5	6.19	9	5.48	20	5.3	9	5.18
Indonesia	69	3.96	65	3.62	75	3.12	63	4.39	70	3.93	47	3.32
Malaysia	25	5.03	15	5.22	22	5.24	31	4.93	28	4.98	21	4.37
Thailand	33	4.59	40	4.35	37	4.22	11	5.45	39	4.52	38	3.49
Philippines	73	3.93	89	3.21	90	2.62	58	4.46	43	4.36	86	2.85

Note: # Rank refers to the ranking of the individual country out of 117 countries.

Source: World Economic Forum, Geneva: Global Competitiveness Report 2005-06.

Table 3: Infrastructure and Business Indictors in South, East and Southeast Asia (2004)

	Overall Infrastructure Quality	Rail Road Infrastructure Development	Port Infrastructure Development	Air Transport Infrastructure Development	Time Required To Start a Business*	Hiring and Firing Practices
India	2.9	4.2	3.1	4.5	89	2.6
Bangladesh	2.7	2.6	2.6	3.1	35	4
Sri Lanka		2.2	3.4	3.7	50	2.7
Pakistan	3	2.7	3.3	4.7	24	4.5
Nepal						
PRC	3.2	3.6	3.6	4	41	4.5
Republic of Korea	5.2	5.4	5.3	5.5	22	4.1
Singapore	6.7	5.8	6.8	6.9	8	5.9
Malaysia	6	5.4	5.9	6	30	4
Thailand	4.8	3.5	4.4	5.4	33	4.2
Philippines	2.6	1.3	2.8	4	50	2.6

Note: Overall Infrastructure Quality is (1= poorly developed and inefficient and 7= among the best in the world). The same applies to rail, port and air transport infrastructure.
Hiring and Firing Practices (1= impeded by regulations, 7= flexibility determined by employers)

* No of days required to register a business

Source: Global Competitiveness Report 2005-06

Table 4: Infrastructure Indicators for South Asia and Other Developing Countries

	Electric power consum. (kwh per capita)	Energy use (kg of oil equi. per capita)	Paved roads (% of Total Roads)	Total rail route 1000 sq. k.m.)	Air freight trans.(Milli. for k.m.)	Air pass. transport (1000 pop.)	Internet users (1000 pop)	Televisio n sets (1000 pop)	Total telephones (Per 1000 persons)
Countries	2002	2002	2002	2002	2003	2003	2003	88	2003
India	379.78	513.34	61.12	19.21	580	18.28	17	59	71.03
Bangladesh	100.28	154.80	10.51	19.09	179	11.44	2	123	15.59
Sri Lanka	296.63	430.32	75.87	21.83	238	101.79	12	168	121.71
Pakistan	363.39	454.14	61.00	9.79	351	30.16		9	44.18
Nepal	63.59	352.96	30.80	----	19	25.36		350	17.83
PRC	987.09	959.52	----	6.20	5651	66.78	63	363	423.80
Republic of Korea	6171.14	4271.58	77.50	31.52	8312	695.74	610	303	1239.26
Singapore	7038.66	6077.57	100.00	----	6683	3467.51	509	156	1302.75
Indonesia	411.01	736.89	58.00	2.99	424	56.93	38	210	126.82
Malaysia	2831.81	2129.35	78.66	4.96	2176	614.12	344	315	623.58
Thailand	1625.85	1352.62	99.17	7.89	1764	268.04	111		499.07
Philippines	458.81	525.47	9.50	1.75	274	79.34		785	310.73
Japan	7718.45	4057.54	77.90	53.18	5069	617.01	483		1150.87

Both mobiles and mail line telephone subscribers.

Source: World Development Indicators (WDI) CD-ROM and Centre for Monitoring Indian Economy (CMIE)

Table 5: Inward FDI Performance Index for South Asia and Select Developing Countries

Economy	1990	1995	2000	2001	2002	2003	2004
India	98	110	120	121	121	118	112
Bangladesh	103	128	125	127	127	132	122
Sri Lanka	108	114	62	58	41	24	18
Pakistan	71	89	117	120	118	113	102
Nepal	97	123	131	130	135	135	135
PRC	46	14	52	57	50	42	45
Singapore	1	2	6	4	6	6	8
Thailand	17	75	44	60	83	88	106

Source: UNCTAD, World Investment Report (2005)

Table 6: Inward FDI Potential Index for South Asia and Select Developing Countries

Economy	1990	1995	2000	2001	2002	2003	2004
India	41	61	44	44	41	38	-
Bangladesh	102	118	107	117	113	115	-
Sri Lanka	116	138	125	121	118	116	-
Pakistan	92	113	130	131	127	125	-
Nepal	135	109	133	131	132	132	-
PRC	41	61	44	44	41	38	-
Singapore	15	3	2	4	4	5	
Thailand	40	42	52	55	53	55	

Note: FDI potential and performance indices refer to the three-year moving averages using data for the three previous years including the year in question. The ranking includes 140 countries. Change of potential and performance: “minus” denotes improving ranking.
Source: UNCTAD, World Investment Report (2005)

Table 7: FDI Inflows into Selected Countries (1995–2004)
(Billions of US$)

Host Region/ Economy	1990-1995 (annual avg.)	1996	1997	1998	1999	2000	2001	2002	2003	2004
World	225.32	386.14	478.08	694.45	1088.26	1491.93	735.15	716.19	632.59	648.15
Developed economies	145.01	219.90	267.947	484.23	837.76	1227.47	503.14	547.78	442.16	380.22
Developing Counts.	59.6	152.5	187.4	188.4	222.0	240.2	225.0	155.5	166.3	233.2
Asia	47.32	93.33	105.82	96.10	102.77	133.70	102.066	92.0	101.28	147.54
Southeast Asia	34.57	66.5	72.2	63.55	66	57.3	59.45	65.68	71.39	90.8
South Asia	1.79	17.54	6.04	5.2	4.53	5.57	4.65	4.5	5.3	7.0
India	0.7	2.5	3.6	2.6	2.1	2.3	3.4	3.4	4.2	5.3
Bangladesh	0.6	14	1.3	1.9	1.7	2.8	0.7	.52	.26	.46
Sri Lanka	0.11	.13	.43	.20	.20	.17	.17	.19	.22	.23
Pakistan	0.38	0.91	0.71	0.50	0.53	0.30	0.38	.82	.53	.95
Nepal	6	19	23	12	4	-	19	6	15	10
PRC	19.3	40.1	44.2	43.7	40.3	40.7	46.8	52.7	53.5	60.6
Republic of Korea	.97	2.3	2.8	5.4	9.3	9.2	3.1	2.9	3.7	7.6
Malaysia	4.6	7.2	6.3	2.7	3.8	3.7	.55	3.2	2.4	4.6
Singapore	5.7	8.6	10.7	6.3	11.8	5.4	8.6	5.8	9.3	16.0
Indonesia	2.1	6.1	4.6	.35	-2.7	-4.5	-3.3	.14	.59	1.0
Thailand	1.9	2.2	3.6	5.1	3.5	2.8	3.7	.94	1.9	1.0
Argentina	3.5	6.9	9.1	6.8	24.1	11.1	3.1	2.1	1.8	4.2
Brazil	20.0	10.7	18.9	28.8	28.5	32.7	22.4	16.5	10.1	18.1

Source: World Investment Reports, Various Issues

Table 8: Share of Developing Economies in Total FDI Inflows (1996–2004)
(Percent)

Host Region/ Economy	1990-95 (ann. Avg.)	1996	1997	1998	1999	2000	2001	2002	2003	2004
Developing Cs (in billion$)	59.6	152.5	187.4	188.4	222.0	240.2	225.0	155.5	166.3	233.2
Share of Southeast Asia in developing economies	58.00	43.61	38.53	33.73	29.73	23.86	26.42	42.24	42.93	38.94
Share of South Asia in developing economies	3.09	40.22	15.68	15.42	15.24	23.35	17.60	2.89	3.19	3.00
Share of South Asia in the world	0.79	4.54	1.26	0.75	0.42	0.37	0.63	0.63	0.84	1.08
India	1.17	1.64	1.92	1.38	0.95	0.96	1.51	2.19	2.53	2.27
Bangladesh	1.01	9.18	0.69	1.01	0.77	1.17	0.31	0.33	0.16	0.20
Sri Lanka	0.18	0.09	0.23	0.11	0.09	0.07	0.08	0.12	0.13	0.10
Pakistan	0.64	0.60	0.38	0.27	0.24	0.12	0.17	0.53	0.32	0.41
Nepal	-	-	-	-	-	-	-	--	-	-
PRC	32.38	26.30	23.59	23.20	18.15	16.94	20.80	33.89	32.17	25.99
Republic of Korea	1.63	1.51	1.49	2.87	4.19	3.83	1.38	1.86	2.22	3.26
Singapore	9.56	5.64	5.71	3.34	5.32	2.25	3.82	3.73	5.59	6.86
Indonesia	3.52	4.00	2.45	0.19	-1.22	-1.87	-1.47	0.09	0.35	0.43
Malaysia	7.72	4.72	3.36	1.43	1.71	1.54	0.24	2.06	1.44	1.97
Thailand	3.19	1.44	1.92	2.71	1.58	1.17	1.64	0.60	1.14	0.43
Argentina	5.8	4.5	4.8	3.61	10.8	4.62	1.38	1.35	1.08	1.8
Brazil	33.55	7.02	10.09	15.29	12.84	13.61	9.96	10.61	6.07	7.76

Source: Calculated from various issues of WIRs UNCTAD

Table 9: FDI as a Percentage of GDCF in Selected Economies

Economy	2000	2001	2002	2003	2004
India	2.3	3.2	3.0	3.2	3.4
Bangladesh	2.7	0.8	0.5	2.2	3.5
Sri Lanka	3.8	2.4	5.6	5.6	5.1
Pakistan	3.7	4.9	7.2	4.3	6.2
Nepal	-	-	0.6	1.3	0.8
PRC	10.3	10.5	10.4	8.6	8.2
Singapore	45.6	43.5	25.6	41.7	62.7
Thailand	12.4	14.4	3.3	5.7	2.5

Source: WIR, 2005

Table 10: FDI Stocks as a Percentage of GDP

Economy	1990	2000	2004
India	.5	3.7	5.9
Bangladesh	1.1	5.0	6.1
Sri Lanka	8.5	9.8	10.8
Pakistan	4.7	10.9	9.2
Nepal	0.3	1.8	2.1
PRC	5.8	17.9	4.9
Singapore	83.1	123.1	150.2
Thailand	9.7	24.4	29.7

Source: WIR, 2005

Table 11: Sector-Wise Breakdown of FDI Inflows, India (Aug 1991 to Dec 2005)

	SECTOR	INFLOWS								
		2003	2004	2005	Cumulative Inflows (August 1991 to Sept. 2005)	% of Total Inflows	Exports (2003-04)	% share in total exports	Exports (2004-05)	% share in total exports
1	Fuels, power, oil	7418.51	7160	2765	107106	6.99	NA	NA	NA	NA
2	Telecommunication	7272.59	6088	9639	121994	7.96	NA	NA	NA	NA
3	Electrical equipment (including computer software)	13550.09	39667	45938	210064	13.71	NA	NA	NA	NA
4	Transport industry	15133.84	8064	9659	131620	8.59	1932	3.06	2715.74	3.4
5	Chemicals	2849.05	8677	9045	74564	4.87	3207.77	5.09	4037.04	5.06
6	Services	13903.59	11456	31445	122743	8.01	NA	NA	NA	NA
7	Metallurgical industry	1454.52	8584	6322	26951	1.76	NA	NA	NA	NA
8	Food processing	3076.28	3690	1783	46778	3.05	NA	NA	NA	NA
9	Hotels and tourism	2594.21	1527	2800	13198	0.86	NA	NA	NA	NA
10	Textiles	838.18	1785	3462	16864	1.1	NA	NA	NA	NA
11	Paper and products	337.69	175.6	1229	14047	0.92	360.92	0.57	434.62	0.54
12	Industrial machinery	476.71	430.8	1475	8253.3	0.54	NA	NA	NA	NA
13	Drugs and pharmaceuticals	2793.28	15711	5107	40506	2.64	1600.07	2.54	1951.81	2.44
14	Consultancy services	2480.26	11844	1627	20306	1.33	NA	NA	NA	NA
15	Glass	250.95	384.7	32.72	10302	0.67	207.43	0.33	206.47	0.26
16	Cement and gypsum products	440.4	7.3	19698	32313	2.11	616.63	0.98	793.74	0.99
17	Misc. mechanical and engineering	1910.24	717.3	2225	19278	1.26	NA	NA	NA	NA
18	Commercial, office and household equipment	495.47	108.2	1557	8390.8	0.55	NA	NA	NA	NA
20	Ceramics	65.98	1208	276.4	3495.3	0.23	105.48	0.17	93.18	0.12
21	Misc. industries	14568.58	13400	17568	175547	11.46				
	Total of 21	91910.42	1E+05	2E+05	1E+06					
	Total of all sectors	116172.6	2E+05	2E+05	2E+06					

Source: SIA Newsletter January 2005

Table 12: Top 5 Sectors for 2003 and 2004
(Amounts in Millions)

2003			2004		
Sector	Rupees (US$)	%age share*	Sector	Rupees (US$)	%age share*
Transportation industry	15,133.8 (329.0)	15.82	Electrical equipment's (including computer software & electronics)	39,666.6 (862.3)	26.84
Services Sector (financial & non-financial)	13,903.6 (302.3)	14.54	Drugs and pharmaceuticals	15,711.1 (341.6)	10.63
Electrical equipment's (including computer software & electronics)	13,550.1 (294.6)	14.17	Consultancy services	11,843.5 (257.5)	8.01
Telecommunications	7,272.6 (158.1)	7.60	Services sector (financial & non-financial)	11,455.8 (249.0)	7.75
Fuels (oil refinery)	5,511.14 (119.8)	5.76	Chemicals (other than fertilizers)	8,677.1 (188.6)	5.87

Source: SIA Newsletter – January 2005

Table 13: Statement on RBI's Regionwise Breakdown of FDI Inflows (Jan 2000 to Sep 2005)

	RBI Regional Office	States Covered	Amount of Inflows *(In US$ Millions)*	% of Total
1	New Delhi	Delhi, Parts of UP and Haryana	4815.2	27.6
2	Mumbai	Maharashtra	3857.4	22.25
3	Bangalore	Karnataka	1354	7.78
4	Chennai	Tamil Nadu, Pondicherry	1057.5	6.12
5	Ahmedabad	Gujarat	563.5	3.27
6	Hyderabad	Andhra Pradesh	535.5	3.08
7	Chandigarh	Chandigarh, Punjab, Haryana, Himachal Pradesh	287.3	1.69
8	Kolkata	West Bengal, Sikkim, Andaman and Nicobar	239	1.38

Source: "FDI Fact Sheet August 1991 to September 2005," Secretariat of Industrial Assistance

Table 14: Share of Top Investing Countries
(US$ million)

	Country	August 1991 to March 2002	Share of Total (%)	August 1991 to September 2005	Share of Total (%)
1	Mauritius	6632	27.83	10096	28.42
2	U.S.	3188	13.38	4856	13.67
3	Japan	1299	5.45	1993	5.61
4	Netherlands	986	4.14	1954	5.50
5	U.K	1106	4.64	1905	5.36
6	Germany	908	3.81	1317	3.71
7	Singapore	515	2.16	893	2.51
8	France	492	2.06	768	2.16
9	Republic of Korea	594	2.49	698	1.96
10	Switzerland	325	1.36	579	1.63
	TOTAL	23829		35522	

Source: SIA FDI Fact Sheet – December 2005

Table 15: Foreign Investment Inflows into Pakistan (1997–98 to 2004–05)

(US$ Million)

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Total Foreign Investment	822.6	403.3	543.4	182	474.6	820.1	921.7	1676.6
Portfolio Investment	221.3	27.3	73.5	-140.4	-10.1	22.1	-27.7	152.6
Foreign Direct Investment	601.3	376	469.9	322.4	484.7	798	949.4	1524

Source: Board of Investment, Pakistan.

Table 16: Source of FDI Inflows to Pakistan (2004-05)

Country	Million $	% age
U.A.E	1284.6	42.5
U.S.	419.1	13.9
Saudi Arabia	273.7	9.1
Switzerland	161.5	5.3
U.K.	151.4	5.0
Netherlands	87.1	2.9
Others	642.8	21.3
Total	3020.2	100.0

Source: Board of Investment, Government of Pakistan.

Table 17: FDI Shares by Country (1997–98 to 2004–05), Top 10 Countries

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
U.S.	42.70	45.40	35.50	28.80	67.30	26.50	25.11	21.4
U.K.	22.50	18.90	36.00	28.10	6.30	27.50	6.84	11.9
U.A.E.	3.20	1.50	1.20	1.60	4.40	15.00	14.08	24.1
Germany	4.00	4.20	20.20	4.80	2.30	0.50	0.74	0.9
France	0.80	2.10	0.30	0.20	-1.40	0.30	-0.59	-0.2
Hong Kong, China	0.30	0.60	0.20	1	0.60	0.70	0.66	2.1
Italy	0.10	0.00	0.10	0.40	0.00	0.00	0.20	0.0
Japan	3.00	12.50	3.80	3	1.30	1.80	1.59	3.0
Saudi Arabia	0.20	4.80	6.10	17.60	0.30	5.50	0.76	1.2
Canada	0.10	0.10	0.00	0.00	0.70	0.10	0.05	0.1
Netherlands	4.50	1.20	2.30	1.50	-1.10	0.40	1.48	2.4
Republic of Korea	1.00	1.00	2.00	1.10	0.10	0.00	0.10	0.1
Others	17.60	7.60	10.30	12.00	19.10	21.80	48.88	33.0

Source: Board of Investment, Government of Pakistan.

Table 18: (FDI Shares by Sectors), Top 11 Sectors in Pakistan

	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	Exports (2003-04)	% share in total exports	Exports (2004-05)	% share in total exports
Power	39.8	27.8	14.3	12.5	7.5	4.1	-1.49	4.8				
Chemicals, pharmaceuticals and fertiliser	12	11.5	25.5	8.2	3.7	11.6	3	6.1	27.34	0.22	38.95	0.29
Construction	3.6	2.9	4.5	3.9	2.6	2.2	3.37	2.8	NA	NA	NA	NA
Mining and quarrying and oil exploration	16.5	23.9	17	26.3	56.7	23.6	21.43	12.8	NA	NA	NA	NA
Food, beverages and tobacco	3.2	1.6	10.6	14	-1.1	0.9	0.47	1.5	45.31	0.36	41.93	0.31
textiles	4.5	0.4	0.9	1.4	3.8	3.3	3.73	2.6	NA	NA	NA	NA
Transport, storage and communication	1.7	7.1	6.6	25.3	7.3	14.3	24.29	34.9	NA	NA	NA	NA
Machinery other than electrical	0	0.2	0.7	0.1	0	0.1	0.07	0.2	NA	NA	NA	NA
Electronics	0.4	0.3	0.5	0.9	3.3	0.8	0.79	0.7	NA	NA	NA	NA
Electrical machinery	1.4	0.4	0.3	0.7	2.2	1.3	0.92	0.2	44.88	0.35	65.73	0.49
Financial business	3.4	5.2	6.3	-10.8	0.7	26	25.5	17.7				
Total exports									12695.1		13379.01	

Source: Board of Investment, Government of Pakistan.

Table 19: Sectors Receiving the Maximum FDI in Pakistan (2004–05)

Sector	Million $	% age
Communication (IT&T)	1702.7	56.4
Power	309.6	10.3
Financial business	289.7	9.6
Oil & gas exploration	243.3	8.1
Trade	108.3	3.6
Construction	58.7	1.9
Others	307.9	10.2
Total	3020.2	100.0

Note: FDI Inflow during July-April 2006 $3,020.2 million compared to $ 891.5 million during the corresponding period in the previous year (239%)

Table 20: Foreign Investment Inflows into Bangladesh (1991–92 to 2004–05)

(US$ Million)

Year	Inflows
1991-96	961
1996-97	1516
1997-98	1054
1998-99	3440
1999-00	1926
2000-01	2119
2001-02	1271
2002-03	302
03-04	359
04-05	509

Table 21: Sector-wise Foreign Investment Proposals Registered with BOI

(Bangladesh) July–June 2003–04

(US$ Million)

Sector	FY 03-04	FY 04-06	% of total	Exports (2003-04)	% share in total exports	Exports (2004-05)	Exports share (04-05)
Agro based	3.69	12.19	3.30	NA	NA	NA	NA
Chemical	4.83	26.01	0.95	NA	NA	NA	NA
Eng./manufacture	135.47	4.16	26.57	4.03	0.07	0.31	0.01
Food and allied	1.78	13.52	0.35	NA	NA	NA	NA
Glass & ceramics	1.87	0.53	0.37	9.63	0.17	18.33	0.32
IT	13.44	0.21	2.64	NA	NA	NA	NA
Printing & packaging	3.08	13.89	0.6	NA	NA	NA	NA
Services	288.21	232.33	56.54	NA	NA	NA	NA
Tannery and rubber	5.24	10.03	1.03	0.15	0.003	0.27	0.005
Textiles	50.71	55.41	9.95	NA	NA	NA	NA
Misc.	1.47	1.01	0.29	NA	NA	NA	NA
Total	509.79	369.29	100	NA	NA	NA	NA

Source: BOI (Board Of Investment), Bangladesh

Table 22: FDI Inflows in Bangladesh by Top 10 Countries

(US$ Million)

	2004-05	2003-04	% of Total
U.K.	211.13	15.35	41.42
Canada	76.22	12.96	14.95
Malaysia	62.61	0.43	12.28
Saudi Arabia	45.08	3.48	8.84
Taipei,China	30.28	1.66	5.94
PRC	17.95	68.31	-50.36
Pakistan	12.95	0.36	12.59
Philippines	10	0	10
India	8.52	10.14	-1.62
U.S.	5.41	17.24	1.06

Table 23: FDI as a Percentage of GDP in Sri Lanka (1990–2005)

1990	22.2
2001	22.0
2002	21.3
2003	22.1
2004	25.0
2005	26.5

Source: Board of Investment, Sri Lanka.

Table 24: Home Country Distribution of FDI in Sri Lanka, Cumulative

1979–2000 (Percentages)		
Home country[a]	Share in the number of projects	Share in total FDI
Singapore	3.9	16.5
U.K.	5.4	13.9
Japan	6	12.1
Republic of Korea	10.6	11.5
Hong Kong, China	6.6	10
British Virgin Islands	0.6	8
Australia	2.4	7.5

Source: BOI 2001 [a] Ranked by share in total FDI.

Table 25: Distribution of FDI in Operation by District, Cumulative as of End 2000

(Percentages)		
District[a]	Share in the number of projects	Share in FDI
Colombo	33.2	46.1
Gampaha	35.7	33.8
Galle	3.2	6.7
Kalutara	5.9	4
Kurunagala	3.2	2.7
Kandy	3.5	2.2
Puttalam	4.1	1.9

Source: BOI 2001, Table 3.9. [a] Ranked by share in FDI.

Table 26: Sectoral Distribution of Cumulative FDI Projects and GDP, End 2000
(%)

Sector	Number of FDI Projects	Amount of FDI	GDP
Manufacturing	60.7	41.7	17.4
Agriculture	8.3	2.7	20.4
Services	31	55.6	53.3

Sources: BOI 2001, Table 3.6; Institute of Policy Studies 2003.

Table 27: FDI Inflows into Nepal (1989–2002)
(US$ Million)

1989-94	4
1995	8
1996	19
1997	23
1998	12
1999	4
2000	0
2001	21
2002	10

Source: Investment Policy Review of Nepal.

Table 28: Nepal's Inward FDI — Industrial Breakdown
(US$ Million)

Sector	1998	2001
Total	22.2	116.2
Primary	5.4	5.7
Agriculture	5.4	5.7
Secondary	1.7	
Tertiary	20.5	110.5
Construction	2.8	8.3
Hotels and restaurants	14.8	54.1
Transport, storage and communications	13.9	18.7
Business activities	0.9	-
Other services	1.9	29.3

Source: Nepal Government Website

Table 29: FDI in Nepal by Source Country (1998–2001), Cumulative
(US$ Million)

Country	Inflow
Developed countries	425.9
U.S.	174.1
PRC	113.6
Japan	40.6
India	419.7
British Virgin Islands	51.3
Total	1153.6

Source: Nepal Government Website

Table 30: Eigenvalues and Variance Explained by Principal Components

Component	Eigenvalues	Proportion	Cumulative
1	3.46835	69.37	69.3
2	1.04287	20.08	90.22
3	0.25684	5.14	95.36
4	0.19584	3.92	99.28
5	0.03609	0.07	1000

Table 31: Factor Loadings for Original Variables

Variable	Factor Loadings
Air freight transport	0.38815
Television sets	0.43238
ELCPC	0.52236
EUPC	0.48423
TOTELP	0.39376

Table 32: ADF Unit Root Tests

	India			Bangladesh			Sri Lanka			Pakistan		
Variable	Order of integration	Lag	ADF Stat	Order of integration	Lag	ADF Stat	Order of integration	Lag	ADF Stat	Order of integration	Lag	ADF Stat
DBCY	I (1)	3	-3.82*	I (1)	1	-4.84*	I (1)	1	-3.68*	I (1)	1	-5.32*
EXCLC	I (1)	3	-3.06*	I (1)	1	-4.58*	I (1)	1	-3.74*	I (2)	1	-4.97*
EXGR	I (0)	1	-4.00*	I (0)	1	-6.91*	I (0)	1	-4.92*	I (0)	1	-3.57*
EXPY	I (1)	1	-2.68**	I (1)	1	-4.76*	I (1)	1	-3.95*	I (1)	1	-4.65*
FDICUSD	I (1)	2	-3.72*	I (1)	1	-4.54*	I (1)	1	-7.03*	I (1)	1	-5.51*
FDINFY	I (1)	1	-3.90*	I (1)	1	-4.46*	I (1)	1	-6.14*	I (1)	1	-5.21*
GDPCLC	I (1)	1	-3.85*	I (1)	1	-3.74*	I (1)	1	-4.51*	I (1)	1	-3.01*
GDPGR	I (0)	1	-3.83*	I (0)	1	-4.58*	I (0)	2	-3.99*	I (0)	1	-3.15
INFLA	I (0)	1	-3.76*	I (0)	2	-3.26*	I (0)	1	-3.89*	I (0)	1	-3.03*
IRR	I (1)	1	-3.95*	I (1)	1	-8.54*	I (1)	1	-5.00	I (1)	1	-3.68*
LFT	I (1)	1	-4.30*	I (2)	1	-3.00*	I (1)	1	-4.01*	I (1)	1	-3.30*
LFTGR	I (1)	1	-4.24*	I (1)	1	-4.15*	I (0)	1	-3.03*	I (0)	1	-5.68*
LIT	I (1)	1	-5.33*	I (1)	1	-2.37*(N)	I (0)	0	-12.76*	I (2)	1	-5.21*
RERUD	I (1)	1	-3.34*	I (1)	1	-4.62*(T)	I (0)	4	-3.59*	I (1)	1	-8.23*
TRADEY	I (1)	1	-3.04*	I (1)	1	-5.06*	I (1)	1	-3.70*	I (0)	1	-3.97*
WORKP	I (2)	1	-5.29*	I (2)	1	-3.78*	I (2)	1	-3.66*	I (2)	1	-3.72
GC	I(1)	1	-5.17*	I(0)	2	-3.13*	I(1)	1	-4.29*	I(1)	2	-3.85*
LEXP	I(1)	1	-4.01*	I(1)	1	-10.18*	I(1)	1	-5.30*	I(1)	1	-3.72*
INFINDEX	I(1)	1	-4.64*	I(1)	1	-5.35*	I(1)	1	-3.94*	I(1)	1	-3.02*
LGDPCLC	I(1)	2	-4.26*	I(1)	1	-9.53*	I(1)	2	-4.73*	I(1)	1	-3.36*
LGDCFCLC	I(1)	1	-6.73*	I(0)	2	-5.60*	I(1)	1	-3.23*	I(1)	2	-3.10*
LINFINDEX	I(1)	1	-4.69*	I(0)	4	-4.32*(T)	I(1)	1	-4.91*	I(1)	1	-3.69*(T)
WI	I(0)	1	-4.27*	I(0)	1	-4.56*	I(0)	1	-3.98*	I(0)	1	-3.50*
LFDIUSD	I(1)	2	-4.68*	I(1)	1	-5.45*	I(1)	3	-4.12*	I(1)	1	-3.45*
LGDPUSD	I(1)	1	-5.23*	I(0)	1	-5.99*	I(1)	2	-4.28*	I(1)	1	-4.55*

N refers to no trend and intercept, T refers to trend and intercept. L refers to log.

Table 33: Panel Unit Root Test

Variable	With Time Dummy	Without Time Dummy	Order Integration
FDINFY	-6.10*	-1.82	I(1)
GDPCLC	-5.50*	-3.23*	I(1)
GDPGR	-5.87*	-5.41*	I(0)
DBCY	-5.35*	-5.40*	I(1)
TRADEY	-6.19*	-6.14*	I(1)
INFINDEX	-4.45*	-6.45*	I(1)
INFLA	-4.28*	-3.87*	I(0)
IRR	-5.46*	-5.01*	I(1)
LIT	-1.91*	-2.50*	I(0)
LFTGR	-6.17	-8.21*	I(1)
WORKP	-5.35*	-4.76*	I(2)
GC	-5.34*	-4.68*	I(1)
LEXP	-6.65*	-6.44*	I(1)
INFINDEX	-5.54*	-5.14*	I(1)
LGDPCLC	-5.67*	-3.24*	I(1)
LGDCF	-7.23*	-6.76*	I(1)
LINFINDEX	-5.35*	-5.10*	I(1)
WIGR	-4.19*	-4.01*	I(0)
LFDIUSD	-5.76*	-5.81	I(1)
LGDPUSD	-5.99*	-5.35*	I(1)