



The University of Bradford Institutional Repository

<http://bradscholars.brad.ac.uk>

This work is made available online in accordance with publisher policies. Please refer to the repository record for this item and our Policy Document available from the repository home page for further information.

To see the final version of this work please visit the publisher's website. Access to the published online version may require a subscription.

Link to publisher's version: http://www.nzasia.org.nz/journal/volume16_1.html

Citation: Arora RU and Ratnasiri S (2014) Financial integration of South Asia: an exploratory study. *New Zealand Journal of Asian Studies*. 16(1): 39-60.

Copyright statement: © 2014. *NZASIA - The New Zealand Asian Studies Society*. Reproduced in accordance with the publisher's self-archiving policy.

FINANCIAL INTEGRATION OF SOUTH ASIA: AN EXPLORATORY STUDY

Rashmi Umesh Arora*

Bradford Centre for International Development
University of Bradford
United Kingdom

Shyama Ratnasiri

Department of Accounting, Finance and Economics
Griffith Business School
Griffith University
Australia

Abstract

This study examines extent of financial cooperation in the South Asia region. This region although heterogeneous in terms of size, political ideologies and level of development yet shares similar historical and cultural closeness, poverty and low level of human development. Further, we also examined the likely factors influencing financial integration in the region. Overall, the results show that among the economic and political factors trade, income levels and political stability are the most important factors in influencing South Asian financial cooperation. The results also strongly support the view that countries more open and integrated through trade are more integrated financially.

Keywords: South Asia; financial cooperation; regional integration; trade

JEL Classification: F15; F21; F30; O11; O16

Acknowledgements

An earlier version of this paper was presented in the 2nd China-South Asia International Cultural Forum on India, China and Asia: Geo-Civilizational Perspectives held in India International Center, New Delhi. We gratefully acknowledge the comments and suggestions offered by the conference participants. Any errors are solely ours.

*Corresponding author's email address: r.arora6@bradford.ac.uk

FINANCIAL INTEGRATION OF SOUTH ASIA: AN EXPLORATORY STUDY

1. INTRODUCTION

Financial integration, which implies elimination of barriers between and across countries for foreign institutions, is advocated to access capital; low funding costs, increase investment; stable macroeconomic policies, greater regional stability and above all, for greater economic growth (Belaisch & Zanello 2006; De Gregorio 1996). Integration of financial markets also leads to efficient allocation of capital (De Nicolò & Ivaschenko 2008; Schularick & Steger 2006). At the regional level, financial integration “would (is expected to) pool resources available for investment and trade, promote the development of domestic financial systems, enhance risk sharing, and lead ultimately to faster-growing and more resilient economies” (Tahari et al. 2007, p.39). It also provides opportunities to expand scale of financial intermediation and makes available large amount of funds for infrastructure projects and also reduce poverty (Wakeman-Linn & Wagh 2008). Furthermore, it leads to the upgrading of financial infrastructure, increase in efficiency; and emergence of banks and non-bank financial intermediaries. The regional pooling of resources also provides a comfort cushion to fall back on in case of external shocks and speculative attacks. It also speeds up institutional development and leads to the adoption of international best practices.¹

In the literature and policy circles, financial integration in East Asia, Latin America, EU, Caribbean region, Nordic-Baltic region and Middle-East region has been much discussed and debated.² This, however, excludes South Asia, a unique and heterogeneous region encompassing countries large as well as small, and governed by different political ideologies. The countries within the region are economically diverse and at different stages of economic development.³ Yet these share similar cultural and historical closeness, high level of poverty and low level of human development. Despite a high share of world’s total population, the region’s countries account for only 3 per cent of global gross domestic product (GDP), 1.9

¹ Despite these benefits a number of studies have argued that financial integration may prove to be costly and its costs may exceed its benefits (Agénor 2003; Andersen & Moreno 2005; Capannelli 2009).

² See Aha, 2006; Baele et al. 2004; Baltzer et al. 2008; Brenner & IMF Staff Team, 2006; De Brouwer, 2003; Mayes 2009; Cowen et al., 2006; Wajid et al., 2007; Tahari et al. 2007.

³ A detailed discussion of the economic development of countries within the region can be found in ADB (2009a), Ghani and Ahmed (2009), Hossain, Islam and Kibria (2009) and RIS (2008).

per cent of world exports, and 1.7 per cent of world's foreign direct investment (ADB, 2009b).

Trade integration within South Asia has increased in recent years, although at less than 6 per cent it is still far below the levels in East Asia and Pacific (52 per cent); Latin America and Caribbean (17 per cent) and Sub-Saharan Africa (around 11 per cent) (ADB 2009b; Kumar & Singh 2009; RIS 2008). Reasons for low intra-regional trade are high tariffs levels; restrictive mobility of people; and exclusion of services and investment from intra-regional trade agreement, South Asia Free Trade Agreement (SAFTA)⁴ (ADB, 2009b). The average intra-regional trade share in South Asia's exports and imports appears in Table 1.

Table 1: Average intra-regional trade shares in South Asia

Country	Share of Exports to Region (%)		Country	Share of Imports from Region (%)	
	1999	2005		2001	2005
India	5.5	4.5	India	0.9	0.9
Pakistan	3.3	4.6	Pakistan	2.9	2.8
Bangladesh	2.2	1.6	Bangladesh	14.4	15.3
Sri Lanka	2.6	9.5	Sri Lanka	12.4	22.4
Nepal	27.7	54.3	Nepal	19.7	48.0
Maldives	16.6	17.2	Maldives	23.7	17.4
Bhutan	81.9	95.0	Bhutan	NA	NA

Source: Winters in Ghani and Ahmed ed. (2009).

The table shows different patterns of intra-regional trade within the region - while large globally integrated countries such as, India export only 4.5 per cent of their goods and commodities to countries within the region; shares of relatively closed Bhutan and Nepal is as high as 95 per cent and 54.3 per cent. Most of India's exports are to other Asian and OECD countries.⁵

⁴ South Asia Free Trade Agreement or SAFTA was established in 2004 with the objective of reducing tariffs for intraregional trade in goods among the SAARC member countries. The Agreement eventually came into existence on January 1, 2006 after the ratification of all signatories.

⁵ This formal intra-regional trade, however, does not take into account large amount of informal trade taking place across the countries such as India-Pakistan, Bangladesh-India or through third party countries such as Dubai or Singapore. Some studies estimate that informal trade could be twice the amount of formal trade in the region (Kumar & Singh, 2009; Taneja & Sawhney, 2007).

Stable and greater intra-regional trade requires a coordinated and cooperative financial environment. Recognition of this has led the South Asian countries (similar to EU in its formative stages) to increase monetary cooperation and exchange knowledge in a move towards achieving greater economic integration (Dasgupta & Maskay, 2003).

In the literature on South Asia, financial integration has not been much explored. A reason for this could be that discussions on financial integration at the current stage of development of these countries may be inappropriate, and perhaps, it may be more feasible to explore financial cooperation and mutual learning from each other's experiences. In this study we therefore, examine some of the efforts to promote financial cooperation in South Asia so far and the factors explaining likely financial integration in the region.

Some studies have questioned the need for financial cooperation in this region, considering the stage of development of the South Asian countries (Chandra & Kumar 2008; Maskay 2001; Maskay 2005; Nag 2007; Saxena & Baig 2004). Our study, however, does not deal with this issue, and focuses only on two major questions: what are the current efforts on financial cooperation in South Asia? What are the factors which are hindering financial integration in South Asia? In this context our study focuses on the current state of the financial sector in these countries and examines potential factors which can influence future financial integration. Developed financial sector is often taken as one of the prerequisites for regional financial integration (Vo & Daly, 2007; Von Furstenberg 1998). The state of financial sector development in these countries also throws light on how far these countries are from being integrated financially.

The countries selected in our study share geographical proximity and common borders and are same as those adopted by IMF and World Bank in their discussions on South Asia.⁶ This differs from the concept of neighbouring economies of Vamvakidis (1998) that clubs together Bangladesh, Myanmar, China, Hong Kong and India in the same region.

⁶For more details on countries in the region see http://siteresources.worldbank.org/INTWDR2009/Resources/4231006-1225840759068/WDR09_22_SWDIweb.pdf. The countries included in World Bank Reports are Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Of these, based on their per capita income of \$936-\$3705 Bhutan, India, Maldives, and Sri Lanka are classified as belonging to low middle income group and rest with a per capita income of \$935 or lower as low income countries. These are Afghanistan, Bangladesh, Nepal and Pakistan.

Overall, our results show that among the economic and political factors trade, income levels and political stability are the most important factors which can influence South Asian financial cooperation. Further, our results strongly support the view that countries more open and integrated through trade are also more integrated financially. Distance is considered by many studies as an important factor in promoting regional financial integration (Kalemli-Ozcan et al. 2008), yet our results show that economic and political factors are far more important in determining regional financial integration in South Asia. Our findings are in alignment with other studies which also found that trade openness and economic growth were important determinants of financial integration (Vo & Daly 2007; Wakemann-Linn & Wagh 2008). Our study is, however, unique as empirical studies on the likely factors explaining financial integration (cooperation) in the South Asian context are non-existent. This region, more known for its high poverty and low human development and also birthplace of microfinance, has largely remained unexplored in the regional financial integration literature. Our study, therefore, fills in this important gap and contributes in this respect and overall South Asia financial development literature in general.

Rest of the paper is structured as follows. Section 2 examines the current status of domestic financial development and financial cooperation in the region acknowledging its role as a potential driver of financial integration (Vo & Daly, 2007; Von Furstenberg 1998). Section 3 identifies and empirically examines the potential factors hindering (determining) regional financial cooperation in South Asia. Finally the study concludes.

2. FINANCIAL DEVELOPMENT AND FINANCIAL COOPERATION IN SOUTH ASIA

2.1 Level of Financial Development in South Asia

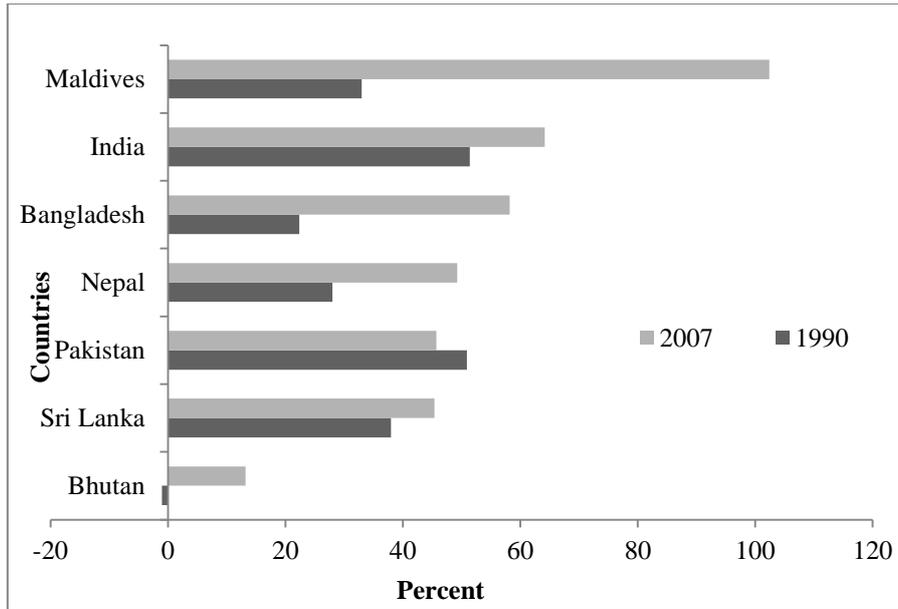
In most South Asian countries, financial sector reforms were initiated in the 1990s except Sri Lanka and Nepal. In Sri Lanka the reforms were introduced much earlier, while in Nepal a comprehensive financial sector reform strategy was introduced as late as in 2002. As latecomers to the reform process, the South Asian countries had the advantage of learning from the past experience of others (for example, consequences of big bang liberalisation measures adopted by the Latin American and transition countries). South Asia, therefore, followed a different twin approach to the reforms stressing on improving allocative efficiency requiring a gradual approach to the reforms (Metzger 2008).

The reforms led to significant changes in the financial sector in the region. As an example of the success of financial reforms, India the largest country in the region, has witnessed a period of marked stability (Indian banks are above minimum capital requirements and have less exposure to international assets) in the banking sector, even during the global economic crisis, in contrast to financial turmoil in other parts of the world (RBI 2010).

The banking sector is the predominant financial intermediary in the region with non-banks playing a minor role. For instance in India, commercial banks along with cooperative banks account for nearly 70 per cent of total assets of financial institutions. Also a unique feature of the South Asian banking system is the strong involvement of the public sector. Thus the state ownership of banks ranges from 20 per cent of total banking assets in Pakistan to 70 per cent in India. With the financial sector reforms state ownership has declined in almost all the countries in the region, although it is still very high.⁷

The depth of financial sector development in the region can be understood through two indicators: proportion of domestic bank credit to GDP, and M2/GDP ratio. Bank credit-output ratios ranges from 13.2 per cent (Bhutan) to 122.8 per cent (Maldives) in 2007 showing diversity in the financial sector development (Figure 1). As Figure 1 shows, it is only in Maldives, a small island country in the Indian Ocean, where bank credit/GDP has crossed over 100 per cent. Besides Maldives, only five other countries in Asia have bank credit ratios of over 100 per cent- China, Hong Kong, Korea, Malaysia and Thailand.

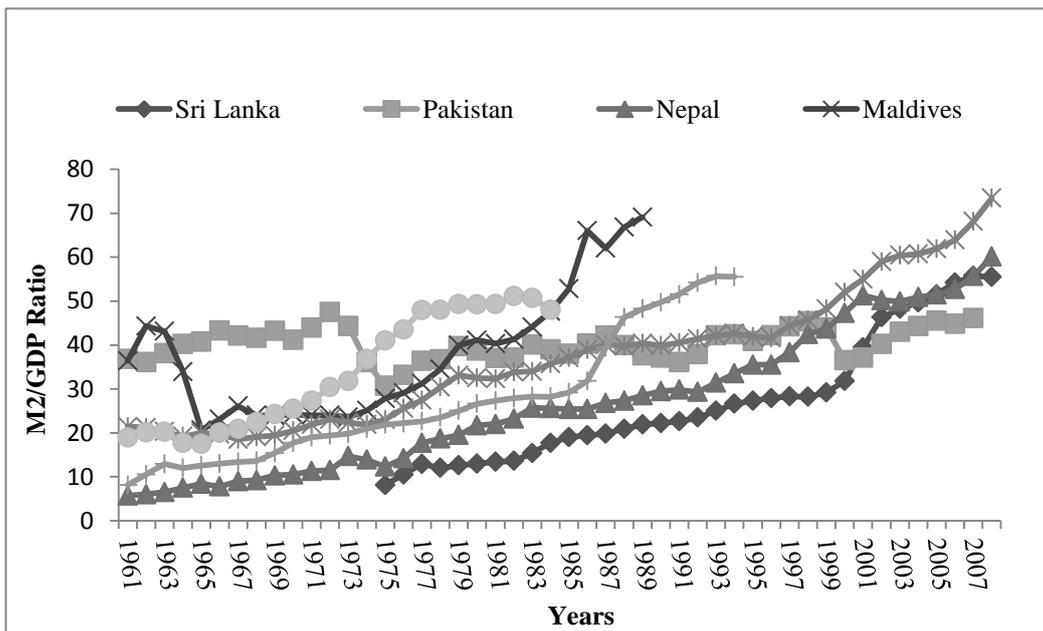
⁷ A different perspective on bank ownership has emerged since the global economies crisis, within which two models of bank ownership have appeared: the Anglo-Saxon model and Asian model. The countries following the Anglo-Saxon model have suffered more than the Asian model.



Source: Based on World Development Indicators Online.

Figure 1: Bank Credit as Proportion of GDP in South Asia

In the literature, the level of financial development has also been measured by the ratio of liquid liabilities to GDP (M_2/GDP) (Von Furstenberg & Fratianni 1996). The M_2/GDP ratio varies across the South Asian countries showing different level of financial development in the region (Figure 2). In 1984 (earliest year for which data is available for all the countries) M_2/GDP ratio ranged from 17.7 per cent in Bangladesh to 39 per cent in Pakistan. In 2007 due to economic reforms in many countries within the region, the ratios ranged from 36.5 per cent in Sri Lanka to 68.8 per cent in India, though this is still lower than some of the high income countries such as, 85.3 per cent in Australia and 79.2 per cent in United States.



Source: Based on World Development Indicators Online.

Figure 2: M2/GDP in South Asia

Among indicators of financial soundness non-performing loans of the banks as percentage of their gross loans in the region were 34.9 per cent in Bangladesh in 2000 declining to 11.2 per cent in 2008. During the similar period in India these fell from 12.8 percent to 2.3 per cent in 2008 (Table 2).

Table 2: Non-performing loans as percentage of gross loans

Years	Bangladesh	India	Pakistan	Sri Lanka
2000	34.9	12.8	19.5	-
2001	31.5	11.4	23.4	15.3
2002	28.1	10.4	21.8	15.3
2003	22.1	8.8	17.0	-
2004	17.5	7.2	11.6	-
2005	13.2	5.2	8.3	-
2006	12.8	3.3	6.9	-
2007	14.5	2.5	7.2	-
2008	11.2	2.3	9.1	-

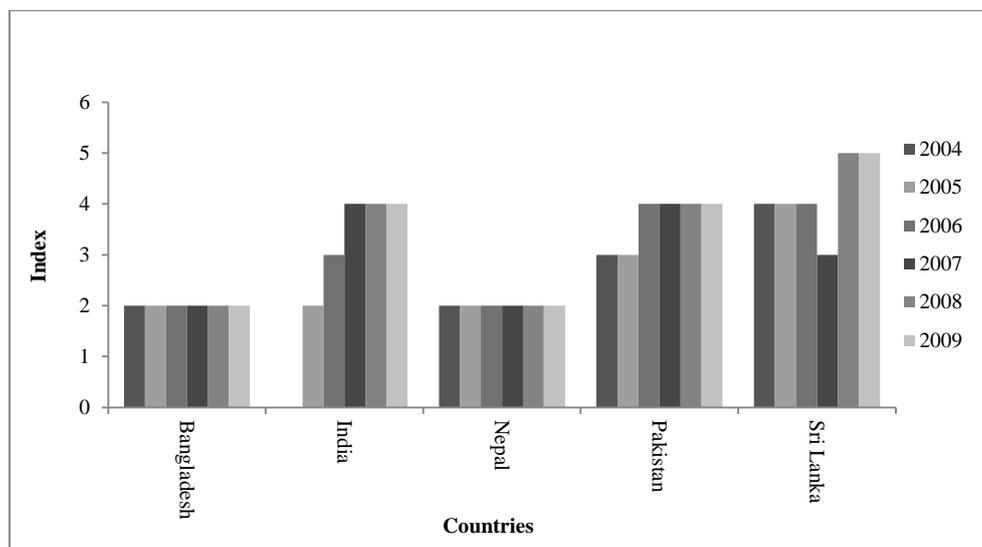
Note: Data on Afghanistan, Nepal and Maldives is not available.

Source: World Bank Online database.

The South Asian countries have also maintained higher capital adequacy ratios than those required by the Basel norms. For instance in India, the overall capital adequacy ratio of the banks at 13.2 per cent as at end March 2009 was well above the Basel norm and even higher than many advanced and emerging economies. On an average during the period 2001-2009, this was highest for foreign banks at 13.7 per cent followed by 12.6 per cent and 12.3 per cent for the private and public sector banks respectively. The return on equity, an indicator of the efficiency with which capital is used by the banking institutions, increased to 13.2 per cent during 2008-09 from 12.5 per cent in 2007-08 in India.

Theoretically, presence of information asymmetry is one of the characteristics of underdeveloped financial markets and is a major reason for the lack of credit to small borrowers. Availability of information can therefore, be considered as another indicator of the financial sector development in South Asia. Credit depth of information index constructed by the World Bank for 2004 - 2009 was highest at 5 in Sri Lanka and 0 in Maldives and

Afghanistan.⁸ In India, the index has improved steadily from 0 in 2004 to 4 in 2009 reflecting the establishment of credit information companies in the country (Figure 3).



Source: Based on World Bank Online database.

Figure 3: Credit Depth of Information Index

Well-developed legal rights also impart stability and develop confidence in the financial system. The legal rights index, as developed by World Bank, measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders.⁹ In 2009 the legal rights index ranged from 2 in Bhutan to 8 in India and the coefficient of variation within the region narrowed to 36.6 per cent from 53.4 per cent in 2004.

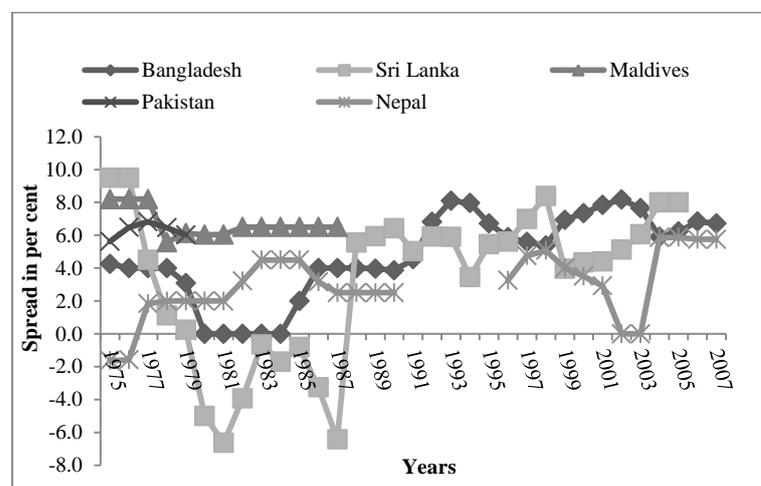
The payment and settlement system in the region, vital for financial sector's development and also effective transmission of monetary policy, has been evolving over the years. India's central bank has played an important role in developing payments and settlements system in the country. A major achievement was the enactment of Payment and Settlement Systems Act, 2007 and the two regulations: (i) Board for Regulation and Supervision of Payment and Settlement Systems Regulations 2008 and (ii) Payment and Settlement Systems Regulations, 2008. These legally empowered the central bank to regulate and supervise the payments and settlements system.

⁸ It measures rules affecting the scope, accessibility and quality of credit information available through public or private credit registries to assist in lending decisions. The index ranges from 0 to 6 where 0 is low and higher values indicate better information.

⁹ Its strength is measured on a scale of 0 to 10 with higher values indicating better legal rights than others.

The annual turnover under various payments and settlement systems in terms of value as percentage of GDP in India rose from 8.6 per cent in 2005-06 to 12.9 per cent in 2008-09. In other countries such as Bhutan, Pakistan and Nepal the payments and settlement system are in developing stages. Pakistan’s central bank launched Pakistan Real Time Interbank Settlement mechanism, a real time gross settlement system for wholesale payment transactions in 2008 and is working towards modernization of the retail payments and settlements system. In Sri Lanka payments and settlements Act was passed in 2005 and provides for regulation, supervision and monitoring of payments, clearing and settlement system, regulation of providers of money services and electronic presentation of cheques.

The cost of intermediation is however, high in the South Asian countries. The interest rate spread or the difference between interest rate charged on loans to prime customers and that paid by the commercial banks on their deposits, are high in the region despite the financial sector reforms. In 1978, the interest spread was 2.0 per cent in Nepal, 4.0 per cent in Bangladesh, and 9.5 per cent in Sri Lanka. In 2008 this rose to 5.8 per cent and 6.7 per cent in Nepal and Bangladesh respectively and declined slightly to 8.0 per cent in Sri Lanka (Figure 4).



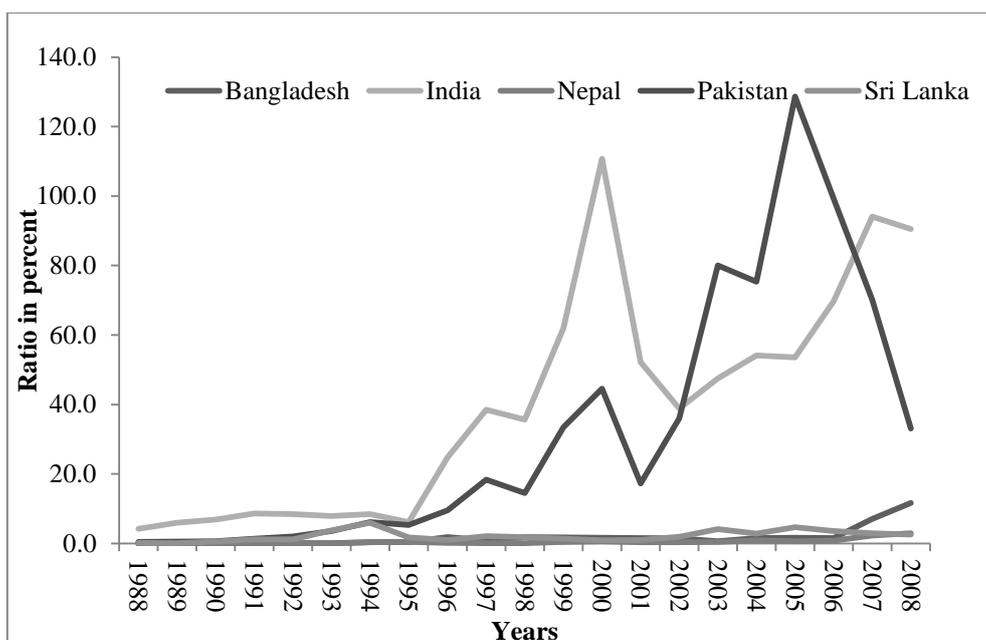
Source: Based on World Bank Online database.

Figure 4: Interest Rate Spreads in South Asia

Among the reasons for high interest spreads are lack of competition; and high ratios of non-performing loans in some of the South Asian countries. Other reasons could be perception of higher risks and weak financial intermediation as the rates cover credit risk and cost of funding (Metzger 2008). Metzger (2008) further argues that a precautionary approach

adopted by some banks as they introduced new financial products for example, credit cards for a significantly large range of population also could be one of the factors leading to high interest rate spreads. Shah (2009) in case of Bangladesh identified high default culture; high interest rates on government savings bonds and government borrowings and poor pricing strategies of the banks. Among the different banks, interest spreads of foreign banks has been particularly high at 9.02 per cent in 2008 compared to 5.85 per cent of state owned banks and 5.36 per cent of private banks. This is also reflected in high profitability ratios for the foreign banks as their return on assets was 3.1 per cent and return on equity was 20.4 per cent in 2007. Further, average lending rates across the region ranged within 12-16 per cent in 2007. The coefficient of variation during the period 1995-2007 was higher at 22 and 26 per cent in Sri Lanka and Nepal respectively compared to 5.5 per cent in Bhutan and 6.3 per cent in Bangladesh.

In recent years, stock markets have also been developing in South Asia mainly due to banking sector turmoil in East Asia; comprehensive financial sector reforms covering all the segments of financial sector; and need for financing infrastructure projects (Metzger 2008). The total number of listed companies, however, varies sharply across the region ranging from 5 in Maldives to 4,946 in India. Excluding India, the secondary markets too are underdeveloped and not liquid mainly due to non-availability of adequate information to the investors. The major investors are financial institutions including central banks, credit institutions, mutual and pension funds, and insurance companies. Figure 5 shows the heterogeneity in the secondary markets in the region as traded stocks as percentage of GDP varied sharply across the countries.



Source: Based on World Bank Online database.

Figure 5: Traded Stocks as percentage of GDP

Despite substantial financial sector reforms undertaken by the South Asian countries, a number of challenges still remain. A major issue facing the region is low access to finance in almost all the South Asian countries. Low access not only limits the opportunities to poor but also excludes them from taking alleviative measures to come out of the poverty trap. Another concern is pro-cyclicality of South Asian systems - an issue facing other regions including developed world as well, as seen in the current global crisis (RBI 2010). This requires stronger regulatory procedures than hitherto. The development of other financial products such as securitization and hedging are also limited in the region. The development of innovative products needs to take into account overall financial stability as the spillover from financial sector to the real sector can cause huge distress to the poor population and economy as a whole. Thus prudent regulation needs to be increased which is “incentive-compatible, across institutions and over time, while balancing possible adverse impacts on innovation and efficiency” (RBI 2010, p.30).

2.2 Efforts to promote Financial Cooperation in South Asia

Although the East Asian financial crisis of 1997 did not have significant direct impact on the South Asian countries, it did drive home the vulnerability and fragility of the financial system

and its impact on the real sector. Acknowledging the need to strengthen South Asian countries financial system through institutional development and surveillance mechanisms, it was decided at the tenth summit of the South Asian Association for Regional Cooperation (SAARC) in Colombo, Sri Lanka to discuss and coordinate on key macroeconomic policy issues and finance among the Central Banks of the region.¹⁰ The SAARCFINANCE, a regional network of SAARC Central Bank Governors and Finance Secretaries with Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, and Afghanistan as members was set up in September 1998 with the objective of sharing experiences on macroeconomic policy issues among the member countries.

The broad objectives of the SAARCFINANCE network were to promote cooperation among central banks and finance ministries through staff visits and regular exchange of information; consider and propose harmonization of banking legislations and practices; work towards a more efficient payment system mechanism within the SAARC region and strive for higher monetary and exchange cooperation; forge closer cooperation on macroeconomic policies of SAARC member states and share experiences and ideas; study global financial developments and their impact on the region including discussions relating to emerging issues in the financial architecture, IMF and World Bank and other international lending agencies.

Other objectives include developing joint strategies, plan common approaches in the international forum for mutual benefit particularly in the context of liberalization of financial services; undertake training of staff of the Ministries of Finance, Central Banks and other financial institutions of the SAARC member countries in subjects relating to economics and finance; explore networking of the training institutions within the SAARC region specializing in various aspects of monetary policy, exchange rate reforms, bank supervision and capital market issues; promote research on economic and financial issues for the mutual benefit of SAARC member countries and finally consider any other matter on the direction/request of the SAARCFINANCE, Finance Ministers, Council of Ministers or other SAARC bodies (SAARC, 2002).

¹⁰ The South Asian Association for Regional Cooperation or SAARC was established in 1985 by seven countries- India, Bangladesh, Pakistan, Sri Lanka, Bhutan, Maldives and Nepal. Afghanistan joined the association as a member in 2007.

As a move towards monetary integration, knowledge sharing among the countries through seminars, conferences, and research projects on regional importance was a significant move. In the 17th meeting of SAARCFINANCE Central Bank Governors', the idea of a regional payment system in-principle was agreed and it was decided to develop a framework on Regional Cooperation on Payments and Settlement System. The SAARC payment initiative was launched in 2007 with the objective of implementing region wide payments system for cross-border flows by 2015. Also a status paper was prepared on the formation of South Asia Credit Bureau Associations for SAARC Region.

Common development issues in the South Asia region require regional cooperation, coordination and mutual learning from each other's experience. Global crisis and turmoil in the financial sector globally has further reinforced the necessity of strengthening regional financial cooperation. The initiative of the South Asian countries to cooperate and learn from each other's experience is thus encouraging in this context.

3. A DISCUSSION ON FACTORS INFLUENCING REGIONAL FINANCIAL COOPERATION

In contrast to a number of studies seeking to explain determinants of international financial integration, studies on the determinants of regional financial integration are limited. Some studies have suggested that limited inter-regional trade; lack of political will; underdeveloped infrastructure (both economic and financial); and limited supervision and regulatory prowess hinders regional integration (Wakeman-Linn & Wagh 2008). Garcia and Woolridge (2007) suggest three major driving forces behind regional integration (and even global financial integration) are advances in communications and technology which make possible financial transactions and investment beyond the domestic borders; liberalization of financial sector; and standardization and harmonization of procedures with the international practices.

Vo and Daly (2007) considered following factors influencing financial integration: capital controls policy; level of economic development; depth of financial market and capital market development; economic growth; country's political and investment climate; and trade openness. As in Vo and Daly (2007), we examine South Asian regional financial cooperation in terms of the characteristics of the countries concerned. The factors we consider are capital controls policy; level of economic development; financial market development; economic growth; country's political and investment climate and trade openness.

3.1 Capital controls

Capital controls (administrative and market based) are defined as measures meant to affect the cross-border movement of capital (IMF 2010). Presence of legal restrictions on cross border capital flows is often considered an indicator of extent of capital mobility across the countries reflecting financial integration. The removal or lessening of controls is expected to lead to increase in integration and vice versa.¹¹ There is however, no well-defined measure of the extent or intensity of capital controls.¹² Many studies have used IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) as an indicator of capital controls. Index of economic freedom including investment freedom built by the Heritage Foundation is another such indicator which measures extent of economic freedom an individual is allowed to work, produce, consume and invest unconstrained by the government.¹³

In 2010 investment freedom ranged from a score of 5 (minimum) in Venezuela to 95 (maximum) in Ireland and Luxembourg. Our study uses this measure to estimate the extent of investment freedom and capital controls in the South Asia region. In recent years the South Asian economies have substantially liberalized their foreign direct investment (FDI) policy regimes resulting in the rise in FDI to the region from \$2.9 billion in 1995 to over \$29 billion in 2007. The FDI inflows as percentage of GDP in the South Asia region and selected developed countries in the Asia-Pacific region appear in Table 3.

Table 3: Foreign Direct Investment Net Flows in South Asia (as per cent of GDP)

Region	1995	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bangladesh	0.0	0.4	0.6	0.2	0.1	0.5	0.8	1.3	1.1	1.0	-
Bhutan	0.0	-	0.0	0.1	0.1	0.2	0.5	1.1	0.6	7.1	-
India	0.6	0.6	0.8	1.1	1.1	0.7	0.8	0.8	1.9	2.2	3.1
Maldives	1.8	2.1	2.1	1.9	1.9	2.0	1.9	1.3	1.5	1.4	-
Nepal	-	0.2	0.0	0.3	-0.1	0.2	0.0	0.0	-0.1	0.1	-
Pakistan	1.2	0.8	0.4	0.5	1.1	0.6	1.1	2.0	3.4	3.7	3.8
Sri Lanka	1.2	0.8	0.4	0.5	1.1	0.6	1.1	2.0	3.4	3.7	3.8
China	4.9	4.3	3.2	3.3	3.4	2.9	2.8	3.5	2.9	4.3	3.4
Hong Kong		8.8	36.6	14.3	5.9	8.6	20.5	18.9	23.7	26.2	29.3
Korea	0.3	1.6	1.8	0.7	0.4	0.6	1.4	0.8	0.4	0.2	0.2

¹¹ Garcia and Wooldridge (2007) however, point out that this indicator has several shortcomings as the restrictions placed may not be actually binding; there could be national discrimination against foreign participants which may not be due to any national rules; and measures may be imposed only temporarily.

¹² This could be also because capital control measures are endogenous as they get entangled with other macroeconomic measures and it is difficult to point out the exclusive impact of the controls (IMF 2010).

¹³ The index score ranges from 0 -100 wherein 100 is the maximum freedom and 0 the least. The index is built on the 10 sub-components of freedom i.e., business freedom; trade freedom; fiscal freedom; government spending; monetary freedom; investment freedom; financial freedom; property rights; freedom from corruption; and labour freedom.

Australia	3.3	1.5	3.4	2.2	4.4	1.8	6.2	-5.3	3.6	4.6	4.5
New Zealand	5.3	2.4	7.7	-0.1	2.6	2.9	2.5	1.4	7.4	2.0	-

Notes: - indicates data not available. Source: ADB (2009c).

The liberalization measures in FDI are related to foreign equity participation, favourable fiscal incentives such as tax holidays, tax exemptions, 100 per cent repatriation of capital, profits and dividend. In Sri Lanka expatriates income is taxed at a concessional rate of 15 per cent for 5 years. Other incentives provided by the governments in the region are provision of infrastructure and protection of foreign investment. The countries have also signed bilateral agreements with a number of countries.

3.2 Level of development

Saxena and Baig (2004) considered similar level of development among aspiring countries to integrate as an important criterion in promoting regional financial integration. In our study we consider GNI per capita and level of education as indicators of development. In a comprehensive study, Edison, Levine et al. (2002) considered secondary school enrolment as one of the indicators influencing financial integration. Schularick and Steger (2006) also consider average years of schooling besides initial income, average consumer price inflation, and budget deficit in their regression model.

3.3 Size of the country

A factor contradictory in nature as it performs a promotional and binding role as well as could be a cause of lesser regional integration, particularly in an atmosphere of mutual distrust and hostility is the country's size. Large countries help in increasing market size, and are beneficial for the small countries as they can diversify their exports, and manufacturing in general, and lead to other advantages such as knowledge and technology spillover, and increased foreign direct investment. Vamvakidis (1998) has shown that being close to a large neighbouring country with higher GDP per capita and more open economy leads to positive spillovers to the other less developed countries in the region. However, a faster growing country on the other hand, may not necessarily produce the same result for the neighbours (Vamvakidis 1998).

A country's large size, however, can also lead to suspicions of increased hegemony and increased interference in the region and can further aggravate mutual distrust and hostility and even stall the process of integration (Dash 1996). Such instances have taken place in South Asia such as, between India-Pakistan and India-Bangladesh. Ranjan et al. (2007, p.105) observed: "There are causes of concern as at times India is criticized for having a big brotherly attitude by other members." We consider total population as an indicator of country's size.

3.4 Financial market development

The level of domestic financial development is often considered as an indicator of financial development. We take bank credit as proportion of GDP as an indicator of banking development. We also consider size, efficiency and liquidity of stock market as indicator of financial development. However, in the South Asian context banks are the predominant financial intermediary (Sophastienphong & Kulathunga 2008), we therefore, restrict to banks only in our factorial analysis.

3.5 Economic growth

Following Vo and Daly (2007), we take GDP growth rate as a determinant of regional financial integration. The relationship between global financial integration and economic growth is, however, inconclusive.¹⁴ While Vo and Daly (2004) argue that it is economic growth which leads to financial integration than vice versa, a number of other studies have found that international financial integration does not necessarily lead to economic growth (Agenor 2003; Edison et al. 2002; Schularick & Steger 2006; Vo 2005). At the regional level Vamvakidis (1998) argued that if the neighbouring countries trade with each other, regional integration influences economic growth. His concept of neighbouring countries, as pointed out earlier, included countries located not necessarily within the same geographic region. Taking a group of 15 EU countries, Borota and Kutan (2008) examined the impact of FDI

¹⁴ Shularick and Steger (2007) developing a large historical dataset for the years 1880-1914 covering 24 countries show that there was a positive statistically significant relationship between international financial integration and economic growth during the period. They further showed that the similar methodology as used for historical dataset produces negative results for the period 1980-2002. They argue that a major factor leading to positive linkage between financial integration and growth in the period prior to 1914 was investment.

inflows and capital formation. Their results found that while capital formation did not have any impact on growth, FDI inflows had a technology induced growth effect on the economy.

3.6 Political and investment climate

Mutual confidence and trust building are the crucial requirements in international or even regional financial integration. Lack of trust and hostility with the neighbouring countries characterises South Asia as the major countries particularly India and Pakistan have had mistrust and hostility for decades over Kashmir (Dash 1996).¹⁵ An evidence of neighbourly hostility is the high military expenditure as proportion of GDP in India and Pakistan and internal hostility in case of Sri Lanka, though it has declined significantly in the recent years. Resolution of political conflict between India and Pakistan has been advanced as a necessary condition for promoting intra-regional trade integration (Bandara & Yu 2003). Brada and Mendez (1993) in an *ex ante* approach found that among economic and political factors influencing regional integration good bilateral political relations, proximity, common border, openness to trade and small sized countries were the significant ones. Besides conflict, other factors impeding financial integration could be institutional environment, enforcement of law and property rights. In order to represent this variable we consider political stability, rule of law, government effectiveness, and ease of doing business in our analysis.

3.7 Trade Openness

Intra-regional trade has often been indicated as a significant factor in explaining the path of financial integration (Shin & Yang 2006). The direction of relationship however, remains inconclusive. Rose and Spiegel (2002) argued that higher cross-border borrowings are to countries with higher bilateral trade. In a cross-country study of trade and financial linkages Forbes and Chinn (2004) also found that trade is linked closely to stock market. Other studies as well have shown that FDI plays a major role in promoting trade (Fukao et al. 2003; Zhang et al. 2005; Ronci 2004).

As discussed earlier, trade openness in the South Asia region is low. An example of significant block of tariff barriers in the region is the list of sensitive commodities imports. In

¹⁵ Presence of high trust deficit between India and Pakistan is often reported in the media on the relations between India and Pakistan.

2008, Bangladesh's list included 1249 items from least developed countries and 1254 for non-least developed countries. Similarly, India had 763 items on its sensitive list from least developed countries. Pakistan has 1183 products which are on the sensitive list, Nepal 1210 products, Sri Lanka 1065 items, Bhutan 157 items and Maldives includes 671 items (Kumar & Singh 2009). However, despite low formal intra-regional trade, informal trade across the borders and through third party countries such as Dubai in case of India-Pakistan is high. If informal trade among the SAARC countries- Bangladesh, Bhutan, Nepal, India and India is considered, the intra-SAARC trade as a proportion of SAARC's world trade was 6.48 per cent in 1999 compared to 4.46 per cent official trade (Saxena & Baig 2003). In our study we consider trade openness ratio and also trade freedom index developed by the Heritage Foundation.¹⁶

3.8 Other Factors

Other crucial factors in influencing regional integration are geographical proximity and language barriers. Geographical proximity has been considered as an important factor in determining regional economic and financial integration (Brada & Mendez, 1993; Portes & Rey, 2005; Garcia-Herrero & Woolridge, 2007). Kalemli-Ozcan et al. (2008) also noted negative correlation between distance and financial integration. Garcia-Herrero et al. (2008) maintained that geographical distance in contrast to geographical proximity lowers cross-country financial investment due to asymmetric information. The regional financial integration should increase among the South Asian countries as the countries are close to each other and share common borders particularly India, Pakistan, Nepal and Bangladesh. The sharing of common language also could be an important networking factor in financial integration, particularly in the regional context (Rauch 2001; Garcia-Herrero, Yang et al. 2008). However, in South Asia there is considerable diversity in the languages spoken, therefore, language may not be an important factor influencing integration in this case.

3.9 Empirical Analysis

Following the suggestion of Cavoli, Rajan and Siregar (2004), we use a simple multivariate methodology, that is, Principal Component Analysis (PCA) to reduce multidimensionality of factors determining regional financial integration. This is one of the oldest statistical

¹⁶ Trade freedom is a composite measure of tariff and non-tariff barriers and includes restrictions relating to quantity, price, regulatory, investment, customs and direct government interventions.

techniques that aims at extracting important information from the data and group them into a new set called principal component (Abdi and Williams 2010).

As our study focuses on financial integration in South Asia only, there are several data constraints. We exclude Afghanistan from our factorial analysis due to non-availability of data and its peculiar nature of being conflict prone, and retain Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. On capital restrictions, we have used investment freedom as developed by Heritage Foundation. For level of development, similar to Vo and Daly (2007), we consider GNI per capita and gross secondary school enrollment ratio. Other indicators considered are GDP growth rate, population, bank credit/GDP, political stability, ease of doing business, trade openness, trade freedom, rule of law, and government effectiveness (Appendix).

As stated earlier, we conducted PCA on 13 variables with varimax rotation. Low Kaiser-Meyer Olkin measure, however, forced us to drop some variables. We subsequently retained six variables. The Kaiser-Meyer-Olkin measure of sampling adequacy worked out to 0.504. Bartlett’s test of sphericity $\chi^2(15) = 45.181, p < .001$ indicated that correlations were adequate enough for conducting PCA (Field, 2009). An initial analysis was run to obtain eigenvalues for each component in the data. Two components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 70.3 per cent of the total variance. However, the scree plot lists four factors and shows inflexion after the fourth factor. Given Kaiser’s criterion on eigenvalues of 1 we finally retained only two components in the analysis. Table 4 shows the rotated component matrix using the extraction method of PCA.

Table 4: Rotated Component Matrix

Variables	Components	
	1	2
Trade Openness	0.932	
per capita Income	0.872	
Political Stability	0.841	
Rule of Law	0.476	
Investment freedom		0.809
Bank credit/GDP		0.807

Source: Authors’ calculations.

The items that cluster in the components show that trade openness, higher per capita income, political stability, and rule of law were the major factors determining regional financial cooperation in South Asia. Hostility and political instability were the major deterrents in

increasing regional integration. Investment freedom and domestic financial development represented by ratio of bank credit to GDP were the second set of factors which determine the region's financial integration.

4. CONCLUSION

The South Asia region consists of heterogeneous group of countries, large and small and is tied together by similar historical, cultural, and economic development issues. Yet it also faces high hostilities and mistrust with each other. In recent years, leaders of the region have realised the advantages of enhancing regional cooperation and understanding to the mutual advantage of raising economic growth and reducing poverty. This has led to a number of initiatives such as setting up of SAARC for economic cooperation in 1985 and SAARCFINANCE in 1998, a network of Central Bank Governors and Government to share experiences on macroeconomic policy issues for the long term objective of achieving monetary integration and currency union.

Despite above initiatives and increased intra-regional trade in recent years, monetary and financial cooperation is still at its infancy level in the region. In this study we examined the current status of financial development and financial cooperation in the region and also looked at the likely factors influencing regional financial integration. Although a number of factors have been mentioned in the literature on the determinants of regional integration, our study based on limited data availability found that in the context of South Asia the major determinants of regional financial integration are trade levels, income and political stability. In consistent to other studies, political stability and friendly relations was found to be an important factor and improvement in this perspective would enhance regional cooperation. Our findings are, however, subject to data limitations and firmer and robust results for the region can be obtained if data on large number of observations is available.

REFERENCES

- Abdi, H. and Williams, L. J. (2010), Principal component analysis. *WIREs Comp Stat*, 2: 433–459.
- ADB (2009a). *Countries in Transition: A Brief Review of the Emerging Political Economy of Bangladesh, Bhutan, the Maldives, and Nepal* (South Asia, Occasional Paper Series No.3): Asian Development Bank.
- ADB. (2009b). *Development Partnership Program for South Asia: Study on Intraregional Trade and Investment in South Asia*. Manila: Australian Government AusAID, Asian Development Bank.
- ADB (2009c). *Key Indicators for Asia and the Pacific*, Manila, Philippines: Asian Development Bank.
- Agenor, P. R. (2003). "Benefits and costs of international financial integration: Theory and facts." *World Economy* 26(8): 1089-1118.
- Aha, C. Y. (2006). Prospect and Challenges of East Asian Economic Integration: A South Korean Perspective. *Journal of Economic Development*, 31(2), 187-215.
- Andersen, P., & Moreno, R. (2005). Financial Integration: an overview. In BIS (Ed.), *Globalisation and monetary policy in emerging markets* (pp. 1-8). Geneva, Switzerland: Monetary and Economic Department, Bank for International Settlements.
- Baele, L., Ferrando, A., Hördahl, P., Krylova, E., & Monnet, C. (2004). *Measuring Financial Integration in the Euro Area* (No. 14). Frankfurt, Germany: European Central Bank.
- Baltzer, M., Cappiello, L., De Santis, R. A., & Manganelli, S. (2008). *Measuring Financial Integration in New EU Member States* (Occasional Paper Series No. 81). Frankfurt, Germany: European Central Bank.
- Bandara, J. S. and W. Yu (2003). "How desirable is the South Asian Free Trade Area? A Quantitative Economic Assessment." *World Economy* 26(9): 1293-1323.
- Belaisch, A., & Zanello, A. (2006). Deepening Financial Ties. *Finance and Development*, 43(2), 16-19.
- Borota, T. and A. M. Kutan (2008). "Regional Integration and Economic Growth: The Case of the European Union." *The Journal of International Trade and Diplomacy* 2(1): 93-113.
- Brada, J. C. and J. A. Mendez (1993). "Political and Economic Factors in Regional Economic Integration." *Kyklos* 46(2): 183-201.
- Brenner, P., & IMF Staff Team. (2006). *Central America: Structural Foundations for Regional Financial Integration*. Washington, DC: International Monetary Fund.
- Capannelli, G. (2009). *Financial integration and cooperation in Asia and the global crisis*. Retrieved October 26, 2009, from www.aeaweb.org/annual_mtg_papers/2009/retrieve.php?pdfid...
- Cavoli, T., R. S. Rajan, et al. (2004). *A Survey of Financial Integration in East Asia: How far? How much further to go?* Adelaide, International Macroeconomics and Finance Program, Centre for International Economic Studies, University of Adelaide, Australia.
- Chandra, Ramesh, and Kumar, Rajiv (2008). *South Asian Integration Prospects and Lessons from Asia*. ICRIER Working Paper No. 202. New Delhi.
- Cowen, D., Salgado, R., Shah, H., Teo, L., & Zanello, A. (2006). *Financial Integration in Asia: Recent Developments and Next Steps* (Working Paper No. WP/06/196). Washington DC: International Monetary Fund.
- Dash, K. C. (1996). "The political economy of regional cooperation in South Asia." *Pacific Affairs* 69(2): 185-209.

- Dasgupta, A. and N. M. Maskay (2003). "Note: Financial Policy Cooperation in SAARC: A First Step towards Greater Monetary Integration in South Asia." South Asia Economic Journal 4(1): 133-143.
- De Brouwer, G. (2003). Financial Markets, Institutions and Integration in East Asia. *Asian Economic Papers*, 2, 53-80.
- De Gregorio, J. (1996). *Financial Integration, Financial Development and Economic Growth*. Santiago, Chile: Ministry of Finance, Teatinos 120, Santiago, Chile, Center for Applied Economics, Dept. of Industrial Engineering, Universidad de Chile.
- De Nicolò, G., & Ivaschenko, I. (2008). *Financial Integration and Risk-Adjusted Growth Opportunities* (IMF Working Paper No. WP/08/126). Washington: International Monetary Fund.
- Edison, H. J., R. Levine, et al. (2002). "International Financial Integration and Economic Growth." Journal of International Money & Finance 21(6): 749-776.
- Field, A. (2009). Discovering statistics using SPSS : (and sex, drugs and rock'n'roll). London, Sage Publications.
- Forbes, K. and M. Chinn (2004). A Decomposition of Global Linkages in Financial Markets Over Time, *Review of Economics and Statistics*, 86 (3): 705-722.
- Fukao, K., H. Ishido, et al. (2003). "Vertical Intra-industry trade and Foreign Direct Investment in East Asia." Journal of Japanese and International Economies 17: 468-506.
- García-Herrero, A. and P. Wooldridge (2007). "Global and regional financial integration: progress in emerging markets." BIS Quarterly Review: 57-70.
- García-Herrero, A., D. Yang, et al. (2008). Why there is so little regional financial integration in Asia? Regional financial integration in Asia: present and future, BIS Papers BIS, Monetary and Economic Department, Bank for International Settlements 42: 38-61.
- Ghani, E., & Ahmed, S. (2009). *Accelerating Growth and Job Creation in South Asia*. Washington DC: World Bank, Oxford University Press.
- Hossain, M., Islam, I., & Kibria, R. (2009). *South Asian Economic Development* (Second ed.). London, New York: Routledge.
- IMF (2010). Chapter 4: Global Liquidity Expansion: Effects on "Receiving" Economies and Policy Response Options. Global Financial Stability Report. Washington DC, International Monetary Fund.
- Kalemli-Ozcan, S., Manganelli, S., Papaioannou, E., & Peydro, J. L. (2008). *Financial Integration and Risk Sharing: The Role of the Monetary Union*.
- Kumar, R., & Singh, M. (2009). *India's Role in South Asia Trade and Investment Integration* (ADB Working Paper Series on Regional Economic Integration No. 32). Manila, Philippines: Asian Development Bank.
- Maskay (2001). "South Asian Monetary Integration in Light of the Optimum Currency Area Criterion of Patterns of Shocks", *South Asia Economic Journal*, V-2 (2), July-Dec, pp. 203-19.
- Maskay, N. M. (2005). Common Currency Area: Prospects for South Asia. Economic Integration in South Asia. N. R. Bank. Kathmandu, Nepal, Nepal Rastra Bank: 51-58.
- Mayes, D. G. (2009). *Financial Integration in Asia*. Retrieved September 2, 2009, from http://www.unc.edu/euce/eusa2009/papers/mayes_06E.pdf
- Metzger, M. (2008). Trends in Financial Market Development in South Asia. New Delhi. 2010.
- Nag, Rajat (2007). Regional Cooperation and Integration Prospects in Asia. RIS Discussion Papers No. 131. New Delhi.
- Portes, R. and H. Rey (2005). "The Determinants of Cross-Border Equity Flows." Journal of International Economics 65(2): 269-296.

- Rauch, J. E. (2001). "Business and social networks in international trade." Journal of Economic Literature **39**(4): 269-296.
- RBI (2010). Report on Currency and Finance 2008-09. Mumbai, India, Reserve Bank of India.
- Ranjan, R., R. Jain, et al. (2007). "Regional Cooperation in Asia: Status and Issues." RBI Occasional Papers **28**(2).
- Ronci, M. (2004). Trade Finance and Trade Flows: Panel Data Evidence from 10 Crises. IMF Working Paper. Washington DC, International Monetary Fund.
- Rose, A. K. and Spiegel M. (2002). "A Gravity Model of International Lending: Trade, Default and Credit," CEPR Discussion Paper No. 3539 (London: Centre for Economic Policy Research). Available on the Web at <http://www.cepr.org/pubs/dps/DP3539.asp>
- RIS. (2008). *South Asia Development and Cooperation Report 2008*. New Delh: Research and Information System for Developing Countries (RIS), Oxford University Press.
- SAARC. (2002). *Terms of Reference of SAARCFINANCE*. Retrieved October 25, 2009, from <http://www.saarc-sec.org/main.php?id=63&t=2.1>
- Saxena, S. C., & Baig, M. A. (2004). *Monetary Cooperation in South Asia: Potentials and Prospects* (RIS Discussion Papers No. RIS-DP # 71/2004). New Delhi: Research and Information System for the Non-Aligned and Other Developing Countries.
- Schularick, M., & Steger, T. M. (2006). *Does Financial Integration spur Economic Growth? New Evidence from the First Era of Financial Globalization* (CESIFO Working Paper No. 1691).
- Shah, S. A. H. (2009). Bangladesh Financial Sector: An Agenda for Further Reforms. Manila, Philippines, Asian Development Bank.
- Shin, K. and D. Y. Yang (2006). Complementarity between Bilateral Trade and Financial Integration, Munich Personal RePEc Archive.
- Sophastienphong, K., & Kulathunga, A. (2008). *Getting finance in South Asia 2009 : indicators and analysis of the commercial banking sector*. Washington DC: World Bank.
- Tahari, A., Brenner, P., De Vrijer, E., Moretti, M., Senhadji, A. S., Sensenbrenner, G., et al. (2007). *Financial Sector Reforms and Prospects for Financial Integration in Maghreb Countries* (IMF Working Paper No. WP/07/125). Washington: International Monetary Fund.
- Taneja, N. and A. Sawhney (2007). Revitalising SAARC Trade: India's Role at 2007 Summit. *Economic and Political Weekly*. XLII (13). pp. 1081-1084
- Vamvakidis, A. (1998). "Regional integration and economic growth." World Bank Economic Review **12**(2): 251-70.
- Vo, X. V., & Daly, K. J. (2004). The relationships between net private capital flows and economic growth in emerging Asian economies. In M. Hoque (Ed.), International business research conference—World Business Institute. Melbourne Victoria University of Technology.
- Vo, X. V. (2005). International financial integration and economic growth- A panel analysis. The 12th Annual Global Finance Conference. Dublin Trinity College.
- Vo, X. V. and K. V. Daly (2007). "The determinants of international financial integration." Global Finance Journal **18**: 228-250.
- Von Furstenberg, G. M. and M. Fratianni (1996). "Indicators of Financial Development." North American Journal of Economics & Finance **7**(1): 19-29.
- Von Furstenberg, G. M. (1998). From worldwide capital mobility to international financial integration: A review essay. Open Economies Review, **9**, 53–89.

- Wakeman-Linn, J. and S. Wagh (2008). Regional Financial Integration: Its Potential Contribution to Financial Sector Growth and Development in Sub-Saharan Africa African Finance for the 21st Century, High Level Seminar organized by the IMF Institute in collaboration with the Joint Africa Institute Tunis, Tunisia.
- Wajid, S. K., Tieman, A., Khamis, M., Hass, F., Schoenmaker, D., Iossifov, P., et al. (2007). *Financial Integration in the Nordic-Baltic Region: Challenges for Financial Policies*. Washington DC: Monetary and Capital Markets Development, International Monetary Fund.
- Zhang, J., A. van Witteloostuijn, et al. (2005). "Chinese Bilateral Intra-Industry Trade: A Panel Data Study for 50 countries in the 1992-2001 period." Review of World Economics **141**(3).

Appendix A: Description of Variables used in Principal Components Analysis

<i>Variables</i>	<i>Indicators</i>	<i>Source</i>
Capital Controls	Investment Freedom	Heritage Foundation
Level of Development	GNI per capita	World Bank's World Development Indicators Online
	Secondary School Enrolment Ratio	
Country's Size	Total Population	World Bank's World Development Indicators Online
Financial Market Development	Ratio of domestic bank credit to GDP	World Bank's World Development Indicators Online
Economic Growth	GNI per capita	World Bank's World Development Indicators Online
	GDP growth rate	
Political and Investment Climate	Political Stability	World Governance Indicators dataset (World Bank)
	Rule of Law	
	Government Effectiveness	
	Ease of doing business	Doing Business Indicators (World Bank)
Trade Openness	Ratio of exports and imports to GDP	Asian Development Bank
	Trade Freedom	Heritage Foundation