

# PAYMENT SYSTEMS TO FACILITATE SOUTH ASIAN INTRA- REGIONAL TRADE

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## Foreword

The Development Papers series of the ESCAP South and South-West Asia Office (ESCAP-SSWA) promotes and disseminates policy-relevant research on the development challenges facing South and South-West Asia. It features policy research conducted at ESCAP-SSWA as well as by outside experts from within the region and beyond. The objective is to foster an informed debate on development policy challenges facing the subregion and sharing of development experiences and best practices.

This paper has been prepared at the request of the SAARC Secretariat as an input to the policy discussion within the SAARC framework. It is a part of the ongoing cooperation between the Secretariats of UN-ESCAP and SAARC. Prepared by Professor Ashima Goyal of the Indira Gandhi Institute of Development Research, Mumbai for UN-ESCAP, this paper traces recent developments in international payment systems, compares progress achieved in the South Asian region on this front and sets out certain key policy proposals for an improved regional payment system. It rightly points out that the technology driven transformation of institutions and services for settlement of cross-border financial payments in the developed regions of the world can be adapted at the regional level in South Asia to the benefit of traders and investors at a minimal cost. The Asian Clearing Union (ACU) offers an excellent platform to modernize South Asia's payment systems. Gradual expansion of services offered by the ACU will add to its institutional credibility and operational viability.

By facilitating faster settlements, a regional payment system can reduce risks from volatility in the forex markets and encourage use of local currencies for intra-regional financial transactions, laying out the foundations for regional financial integration. As the paper argues, regulatory and security concerns related to regionalization of payment systems can be put to rest as monitoring and controlling can be easily and effectively addressed through modern electronic payment systems.

We hope that this paper will attract attention of South Asian policy makers and will push them to recognize the importance of modernizing the infrastructure and procedures for cross-border financial transactions in the region to foster regional trade and deepen regional economic linkages.

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## **Payment Systems to Facilitate South Asian Intra-regional Trade**

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### **Abstract**

Driven by innovation and technology, central electronic clearing and settlements are at the core of modern payment systems which help to avoid multiple transactions. The South Asia region, having seen more development in wholesale as compared to retail payment systems, has huge opportunities for convergence to a regional payment system by effectively utilizing technological advancements in this area. Though smaller countries still lag behind, the South Asian Association for Regional Cooperation (SAARC) Payment Council offers a forum for regular interaction to facilitate such a convergence. In this regard, strengthening the regional payment mechanism which exists in the form of the Asian Clearing Union (ACU) would also benefit South Asia. It offers a base, and a history of interaction, that could be built upon using recent developments in payment systems. Revitalization of the ACU can also lead to real time flow through the system leading to faster settlement, reduction in transaction costs and delays, expansion of facilities offered including credit, types of flows allowed, and number of participants. Real Time Gross Settlement (RTGS), along with more convergence in macroeconomic policies and financial systems would reduce the risks of exchange rate volatilities and encourage usage of local currencies. Invoicing in local currencies reduces pass through of changes in exchange rates, and hence lowers their inflationary impact. As countries in the region move toward greater capital account convertibility, the ACU should expand the types of permitted transactions. Concerns about security, sources and types of flows are not an issue because electronic systems can discriminate between types of flows and provide detailed information without procedural delays. In modern payment systems finer restrictions can be imposed, as required, without raising transaction costs.

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### Abbreviations

ACH	Automatic Clearing Houses
ACU	Asian Clearing Union
AEs	Advanced Economies
AMRO	ASEAN+3 Macroeconomic Research Office
AMU	Asian Monetary Unit
API	Arab Payment Initiative
ATMs	Automatic Teller Machines
BoK	Bank of Korea
BSAs	Bilateral Swap Agreements
CB	Central Bank
CBSL	Central Bank of Sri Lanka
CCAPS	Common Card and Payment Switch
CISPI	Commonwealth of Independent States Payments and Securities Settlement Initiative
CIT	Cheque Imaging and Truncation
CMA	Common Monetary Area
CMI	Chiang Mai Initiative
COMESA	Common Market for Eastern and Southern Africa
DGCIS	Directorate General of Commercial Intelligence and Statistics
ECC	Electronic Cheque Clearing
ECS	Electronic Clearing System
EFT	Electronic Fund Transfer
EFTCS	Electronic Funds Transfer and Clearing System
EMs	Emerging Markets
EPU	European Payments Union
FCL	Flexible Credit Line
FDI	Foreign Direct Investment
FEMA	Foreign Exchange Management Act
FERA	Foreign Exchange regulation Act
FI	Financial Institution
FPI	Foreign Portfolio Investment
GFA	Global Financial Architecture
GFC	Global Financial Crisis
IBAN	International Bank Account Number
IMPS	Inter-Bank Mobile Payment Service
KYC	Know Your Customer
MENA	Middle East and North African
MMA	Maldives Monetary Authority
NCHL	Nepal Clearing House Limited
NECS	National Electronic Clearing System
NEFT	National Electronic Fund Transfer
NFS	National Financial Switch
NPCI	National Payments Corporation of India

## Payment Systems to Facilitate South Asian Intra-regional Trade

NRB	National Rastra Bank
PKI	Public Key Infrastructure
POS	Point of Sale
PRISM	Pakistan Real Time Interbank Settlement Mechanism
PvP	Payment versus Payment
REC	Regional Economic Community
REPSS	Regional Payment and Settlement System
RMA	Royal Monetary Authority
RMB	Renminbi
RTGS	Real Time Gross Settlement
SAARC	South Asian Association for Regional Cooperation
SADC	Southern African Development Community
SEPA	Single Euro Payments Area
SIRESS	Integrated Regional Electronic Settlement System
SLIPS	Sri Lanka Interbank Payments System
SPC	SAARC Payment Council
SPI	SAARC Payment Initiative
STP	Straight Through Processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UN-ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
WHI	Western Hemisphere Payment and Securities Clearance and Settlement Initiative

## **Payment Systems to Facilitate South Asian Intra-regional Trade**

### **I. INTRODUCTION**

The paper examines payment systems in South Asia, and their role in intra-regional trade facilitation. This is an area that has seen rapid technological change and upgradation in many developing countries since 1990s. So it is useful to assess the uniformity and compatibility of current South Asian systems. Have new features been harnessed to ease trade between the countries? South Asia had the benefit of a special payments institution set-up to help regional trade—the Asian Clearing Union (ACU). The report also gives a brief analysis of the ACU, its usefulness and potential future contributions. All this is set in the context of regional and global macroeconomic trends.

The reasons for analyzing potential improvements in payment arrangements in South Asia, including the ACU, at this juncture are:

1. There is greater focus on increasing regional interactions as a route towards greater regional prosperity.
2. Post crisis dollar volatility and shortage during periods of risk-on capital outflows as in 2008, 2011-2013 have revived interest in regional trading arrangements that will give some independence from the dollar, and US regulatory regimes, while reducing the dollar financing required for current account deficits. These financing requirements were a major source of volatility in 2013.
3. Any currency used for trade or for reserves has responsibilities and enjoys privileges. A more even sharing of these will make for greater stability in the global financial system as exploitation of short-term bargaining power to create long-term stresses will reduce. A time of change is a good time to experiment with alternative regional payment systems, even as China tries for a bigger role for the renminbi in bilateral trade. It provides an opportunity for local financial services institutions to grow regionally and acquire scale that helps them grow globally.
4. There is considerable evolution in payment practices, and experience in designing and improving electronic markets, which can themselves facilitate trade. Regional clearing can reduce time delays and costs associated with using clearing banks based in the Western hemisphere. The recent South Asian Association for Regional Cooperation (SAARC) swap agreement can enhance liquidity and credit availability.
5. Better payment systems can aid in the gradual movement towards greater capital account convertibility in the region. At present only current account transactions are allowed through the ACU. But the Board can expand the types of permitted transactions,

whenever it deems necessary. Concerns about security, sources and types of flows are not an issue because electronic systems can discriminate between types of flows and provide detailed information without procedural delays. In modern payment systems finer restrictions can be imposed, as required, without raising transaction costs. Lifting of sanctions against Iran will allow the ACU to play a larger role.

The study will analyze these issues, in the context of facilitating intra-regional trade. The report is organized in the following sections: After the brief introductory section, Section II analyzes recent developments in payment systems, Section III evaluates the ACU, Section IV discusses the regional and global macroeconomic context, Section V draws out implications for policy, before Section VI concludes

## II. PAYMENT SYSTEMS

A payment system is the set of infrastructure, institutions, laws, standards, and operating procedures underlying the discharge of financial obligations between parties.<sup>2</sup> Since the seventies, payment systems have been changing around the world. The prime driver is technology, which has enabled innovations converting manual transactions to electronic, saving time, costs, and reducing errors. A second reason is liberalization and global market integration requiring more robust and standardized processes.

Changes have occurred in three main areas. First is the shift to electronic check clearing (ECC); second, systems such as automatic clearing houses (ACH) underlying small value or retail transfers such as point of sale (POS) for credit/ debit cards, and bank automatic teller machines (ATMs); third, Real Time Gross Settlement (RTGS) systems for wholesale or large value transfers. A key element of all three is central electronic clearing and settlement, removing the need for multiple transactions while facilitating the use of modern payment systems and delivery mechanisms. For example, bank customers no longer need to maintain multiple bank accounts matching those of utility companies to which they have to make payments, and the period they need to forego interest payments on funds transferred is reduced. Advanced technologies also enable clearing in multiple currencies.

RTGS settles large value inter-bank and other time-critical customer payments in gross terms. That is, the central bank (CB) account of the remitting bank is debited and that of the receiving bank is credited. A final and irrevocable settlement is made in real time, as it occurs, thus removing settlement and operating risk. RTGS provides other services

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<sup>2</sup> See Saqib, A. and A. Al-Jabri. (2011). 'Oman's National Payment Systems and their Compliance with International Standards and Practices'. *Journal of Internet Banking and Commerce*, 16(3). December; World Bank. (2010). Global Payment Systems Survey, 2010. Available at [http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/282044-1260476242691/Zanza\\_Chimienti\\_GlobalPayment\\_Systems\\_Survey.pdf](http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/282044-1260476242691/Zanza_Chimienti_GlobalPayment_Systems_Survey.pdf). Accessed on May 23, 2014; BIS (2001). 'Core Principles for Systemically Important Payment Systems'. Committee on Payment and Settlement Systems. January. Available at <http://www.bis.org/publ/cpss43.pdf>; Khiaonarog, T. (2000). 'Electronic Payment Systems Developed in Thailand'. *International Journal of Information Management*, 2000:59-72; Haldane, A. G., S. Millard and V. Saporta (2008). 'The Future of Payment Systems'. *Routledge International Studies in Money and Banking*, New York.

such as electronic payment messaging replacing the use of cheques. The central bank mediation also reduces systemic and credit risk. Real time settlement reduces market and liquidity risk since there is no change in market values between the transaction and the settlement time. But since banks need to settle continuously they require assured access to short-term liquidity. RTGS also enables end of the day net settlement of small value items. This type of net settlement used to be the norm earlier for all items.

By 1996 RTGS was already in use in the G-10 countries and even in some emerging markets like Hong Kong, Korea and Thailand, and it was adopted rapidly over the next decade. Payment system reforms had started in the mid-seventies. There was continuous improvement in messaging standards and other aspects, allowing late adopters such as emerging markets (EMs), to leapfrog to best market practices.

Reducing transaction costs confers an externality, which individual players do not internalize, so CBs have driven the change around the world. Moreover, their responsibility for financial stability, and as liquidity providers of the last resort, makes them natural developers and supervisors of payment systems. BIS (2001) core principles for payment systems underline these roles of central banks, as well as that of international cooperation, including open universal standards.

The core principles emphasize the legal basis, clarity of rules and procedures, their impact on participants' risks, responsibilities in management of risks, timely completion of daily settlement with ability to cover default in the largest single settlement, use of claims on central banks for settlement with minimal credit and liquidity risk, security, operational reliability, contingency arrangements, efficiency, transparency, fair and open access and accountable governance. Laws and regulations should cover responsibility, authenticity (digital signature), settlement finality, security, privacy, insolvency and contractual relations between transactors as well as rules, standards and procedures. Banks also have to change—their core banking solutions must be compatible with RTGS. A large number of complementary changes are therefore required. Legal systems for payment systems have to be strengthened and consumer protection and competition issues have to be covered.

ACH credit transfers include payroll, social security, and tax refunds. Utility bills are examples of ACH debit transfers from one account to many accounts. In an ideal payment system, ACH is expected to cover 90 per cent of the total volume and 10 per cent of the value while RTGS covers the rest. In 2012-13 small transfers in India were only 75 per cent of transactions in volume terms and 6.3 per cent in value. This shows the comparative under-development of retail payments. Moreover, in advanced economies (AEs) payment systems work with other currencies, and, as some parts are privatized, the private sector plays a role.

#### **A. Payments systems in South Asian countries**

India, Pakistan, Sri Lanka and Maldives have implemented RTGS systems in addition to retail payments systems, and ECC. Other countries of the group have ECC, retail

payments and end-day or points during the day net settlements system such as national electronic fund transfer (NEFT) for large value payments. Bangladesh has focused relatively more on retail systems. The World Bank (2010) Payments Survey characterized Pakistan, Sri Lanka and Nepal as RTGS plus cheque clearinghouse, compared to AEs with only RTGS. Retail development of payment systems is also limited in the South Asian region.

There are initiatives for regional convergence.<sup>3</sup> For those not having RTGS systems, the most economically viable solution is to implement one automated integrated system. All South Asian countries need to further develop their retail payment infrastructure, since the use of electronic payments instruments (such as payment cards and debit and credit transfers) is low compared to other emerging markets (EMs).

### *1. India*

In India<sup>4</sup> the Payment and Settlement Systems Act, 2007, defined a payment system and gave legal recognition to multilateral netting and to settlement finality. It made the RBI the regulator and supervisor of payment and settlement systems in the country, with the power to permit such systems, to call for information from and issue directions to payment systems providers. The RBI's vision is to ensure that all the country's payment and settlement systems are "safe, secure, sound, efficient, accessible and authorized (RBI, 2010)". RTGS was implemented in 2003-2004, and updated in 2013. The new version has many advanced capabilities, including multi-currency settlement, which are not yet implemented. Use of Electronic Clearing System (ECS), Electronic Fund Transfer (EFT), and of NEFT has grown rapidly. Banks are able to transfer funds across all deposit accounts in real time. International bank account number (IBAN) is being explored for better cross border standardization. Charges for all electronic payment products were waived initially to encourage their use, and they continue to be low. Electronic transfers were made mandatory for all payments above Rupees 1 crore. The National Payments

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<sup>3</sup> See <http://www.sbp.org.pk/Saarc/Publications/Matrix/PSMatrix.pdf> for a detailed item-wise comparison of 2013 payment systems in the Saarc countries. A regional network of Saarc Central Bank Governors and Finance Secretaries, Saarc finance, was established on 9 September 1998. It meets bi-annually at the time of IMF/WB meetings. It launched a Saarc Payment Council (SPC) in 2008 with the aim of bringing about convergence in regional payment systems. See <http://www.sbp.org.pk/Saarc/Roadmap.htm>

<sup>4</sup> Country details are sourced from RBI. (2007). The Payments and Settlement Systems Act; RBI. (2010). Monetary Policy Statement 2010-11, April 20; RBI. (2014). Report of the Group on Enabling PKI in Payment System Applications, January; "Sri Lanka real time payment backbone in the offing", 29th Nov, 2013. Lanka Business Online (<http://www.lankabusinessonline.com/news/sri-lanka-real-time-payment-backbone-in-the-offing/164001631>); "12th Saarc Payments Council Meeting, Dhaka, Bangladesh", Saarc Payments Bulletin, 29th July 2013, <http://sbp.org.pk/Saarc/Publications/Bulletin/10thBulletinSaarc-2013.pdf>; "PSS developments in Bhutan", Royal Monetary Authority of Bhutan (RMA), 13th Saarc Payments Council Meeting, Thimpu, Bhutan, July 29, 2013; "Latest Payment System Development / measures For SPC Objectives", Nepal Rastra Bank (NRB), 13th Saarc Payments Council Meeting, July 29 Thimpu, Bhutan; "Payments Systems Development Initiative - Maldives Monetary Authority", Saarc Payments Initiative. <http://sbp.org.pk/Saarc/Speeches-04.htm>; "How Afghanistan Is on the Leading Edge of a Tech Revolution", Time World, March 02, 2013; [http://www.cbsl.gov.lk/htm/english/10\\_pub/popup/Conference\\_Paper\\_Saarcfinance.pdf](http://www.cbsl.gov.lk/htm/english/10_pub/popup/Conference_Paper_Saarcfinance.pdf)

Corporation of India (NPCI), the umbrella organisation for retail payments in the country, began functioning in 2009, with the aim of setting nationwide standards and reducing costs in payment services. Even so, in 2012 only 13 per cent of Indians had a debit card and only 2 per cent a credit card. The cash/GDP ratio remained a high 12 per cent.

In addition to legal, technology and security issues that electronic payments raise, satisfying exchange controls is another constraint in the South Asian context. In the absence of full capital account convertibility, rules and regulations restrict certain types of capital flows. The requirements of the Foreign Exchange Management Act (FEMA) have to be satisfied. There are strict know your customer (KYC) guidelines to restrain terrorist funding and other illegal flows, although there are attempts to reduce transaction costs by implementing centralized KYC.

RBI (2014) was concerned to satisfy the core principles of Information Security which it listed as Confidentiality, Integrity, Availability, Authenticity and Non-repudiation. Public Key Infrastructure (PKI) technology such as digital signature ensures non-repudiation, but has yet to be fully legally defined. Large value transfers are PKI-enabled. This was considered adequate since these contributed 25.1 per cent of payment transactions in volume terms in 2012-13 but 93.7 per cent in value terms. Although non-PKI enabled payment systems accounted for 75 per cent in volume terms they constituted only 6.3 per cent of transaction value. Of these small value transfers cheque clearing will also be PKI enabled. Of the remaining, debit cards and credit cards transactions were 21 per cent and 18 per cent in volume terms but only 1 per cent and 2 per cent in value terms respectively. But even for small value transfers security is enhanced in Internet banking by dynamic two-factor authentication through the combination of user id/password and a confirmatory second channel procedure, like telephony, SMS, or email etc. especially for transactions above pre-set values, creation of new account linkages, registration of third party payee details, changing account details or revision to funds transfer limits.

## *2. Pakistan, Sri Lanka and Bangladesh*

Other ACU countries have also made progress in establishing modern payment systems. India is sharing its expertise in the region although other countries lead in some respects. The Pakistan Real Time Interbank Settlement Mechanism (PRISM) was introduced in 2008, after the Payment Systems and Electronic and Fund Transfers Act, 2007. IBAN for identification of bank accounts across all national as well as international borders was introduced in 2012 and implementation is in process across Pakistan's banking industry. Mobile banking is the fastest growing payments channel. The number of transactions grew by 70 per cent and value transacted by 236 per cent in 2013 compared to 2012, with around 1.4 million registered users. E-banking transactions increased 29 per cent in the same period. Plastic cards (debit, credit, and ATM only cards) reached 23.4 million with the share of debit cards at 89 per cent.

The Indian and Pakistani experience with mobile banking illustrates how simple reductions in transaction costs can induce inclusive innovation. The regulatory structure for mobile banking was set out in 2008 for both countries. Customer account relationship had to reside with some financial institution (FI) and each transaction had to be

undertaken through the customer account, with full data records maintained, and no actual monetary value stored on the mobile phone or server, in both countries. Regulators' did not want to allow non-banks, not covered by deposit insurance, the right to collect deposits.

Four years after the approval for mobile banking transactions, Indian volumes remained low, although there was some growth. Transactions doubled to 5.6 million in January 2013 compared to 2.8 million in the previous year. But this was tiny given the large mobile subscriber base. Out of more than 850 million subscribers in 2012, only 12.2 were registered for mobile banking services and a small fraction of those were active service users. Pakistan, with a much smaller population, already had double this number with 10.4 million transactions in September 2012.

What made a difference was higher initial levels and limits allowed for mobile banking transactions, regulations specified for more income categories, a wider universe of business correspondents, more flexibilities and functions for FIs, and reduction of transaction costs for users. Mobile banking services were not restricted to mobile service providers but could be offered through fuel distribution companies, Pakistan post and chain stores. Elements that had discouraged participation, such as biometric fingerprint scans requirement for account opening, were removed. Electronic account opening, with a digital image, was permitted, removing the necessity of physical presence. These features enabled closer links to customer needs and increased creativity in use. A strategy of focusing on customer needs and reducing their transaction costs would work well for India given its naturally larger markets.<sup>5</sup>

Sri Lanka aims to modernize the payment system infrastructure and the legal framework governing it to meet international standards. The Sri Lankan Payments and Settlements Systems Act No. 28 of 2005 provides for the regulation, supervision and monitoring of payments, electronic clearing and settlement systems, and regulation of providers of money services. LankaSettle, the integrated RTGS, is operated by the Central Bank of Sri Lanka (CBSL), while SLIPS (Sri Lanka Interbank Payments System), an offline automated multilateral net settlement system, CIT (Cheque Imaging and Truncation), a multilateral net settlement system for paper-based payments, are operated by LankaClear with the oversight of CBSL. In November 2013, LankaClear launched Lanka Pay, a switch that connected ATMs of different banks, as a precursor to the launch of the Common Card and Payment Switch (CCAPS), an integrated payment system of multiple domestic payment networks. A rapid expansion in electronic payment transactions has occurred, particularly through electronic payment cards. Credit and debit cards in use (end December, 2012) were 952,256 and 10,374,803 respectively against a population of 20 million.

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<sup>5</sup> Goyal, A. (2014b). 'Growth Drivers: ICT and Inclusive Innovations', chapter in *Reviving Growth in India*, Pradeep Agarwal (ed.). Cambridge University Press. Earlier version available as IGIDR working paper <http://www.igidr.ac.in/pdf/publication/WP-2013-018.pdf>. Goyal, A. (2014a). 'How innovations in telecom can promote inclusive growth'. Ideas for India, March 28. Available at [http://ideasforindia.in/article.aspx?article\\_id=268](http://ideasforindia.in/article.aspx?article_id=268)

Bangladesh also enacted payment and settlement systems regulations in 2009, although RTGS is still in the planning stage. The central bank of Bangladesh (Bangladesh Bank) launched National Payment Switch on 27th Dec, 2012, a common platform for the country's commercial banks for electronic payments. Once all banks in Bangladesh join the NPS, a customer using a credit or debit card of any bank will be able to draw cash from any ATM and point of sales (POS) in the country. Transactions through POS grew 30 per cent in 2013 from a year ago. Local private banks rapidly outgrew MNCs in providing these functions. Bangladesh Post Office launched trial run of a mobile banking service in three hubs in the capital on 16th Dec, 2012. The new Post e-Pay would provide a range of financial services, including money transfer, bill payments, cash deposits and withdrawals. The users would be able to check their transaction information and balance too.

### *3. Bhutan, Nepal, Maldives, Afghanistan*

Royal Monetary Authority (RMA) of Bhutan created a full-fledged department dealing with payments system development in April 2009. RMA Act was revised to provide a legal basis to operate EFTCS (Electronic Funds Transfer and Clearing System) using National Electronic Clearing System (NECS) Credit and Debit and NEFT. NECS Credit allows multiple payments from beneficiaries by raising a single debit to an account, such as payment of salary, dividend and pension. NEFT was implemented and ATMs were interoperable from December 2, 2011.

In Nepal, National Rastra Bank (NRB) has a strategic plan to introduce RTGS and e-payment system over 2012-2016. Nepal Clearing House Limited (NCHL) was established on March 2012 for Automated Clearing of Cheques under the responsibility of NRB. Central Depository System (CDS) partially started functioning from August 2011.

Four major initiatives undertaken by Maldives Monetary Authority (MMA) under Maldives Interoperable Payment Systems project included Mobile Payment System (2010), RTGS System (2011), Automated Clearing House (2012) and National Electronic Funds Transfer Switch.

M-Paisa — a joint venture between Afghanistan's biggest telecom provider Roshan and British multinational Vodafone — first introduced in the country in 2009 has more than 1.2 million subscribers and is growing at double-digit rates since 40 per cent of Afghans own mobile phones. Roshan's three main competitors, Afghan Wireless, Etisalat and MTN, launched their own mobile-money offerings in 2012. It received a boost from government use of mobile money to pay soldiers, which also cut out graft, giving them a 30 per cent pay rise.

## **B. Regional Payment Systems**

There is constant international innovation and improvement in payments and settlement systems that South Asia can draw upon. The SAARC Payment Initiative (SPI) and

SAARC Payment Council (SPC) offer fora for regular interaction and learning to improve and standardize payment systems in the region. These are on the lines of many such initiatives for developing countries,<sup>6</sup> aiming to strengthen and standardize payments and securities systems and build institutional capacity. The Western Hemisphere Payments and Securities Settlement Forum evolved into a permanent Forum, in June 2003, from the Western Hemisphere Payment and Securities Clearance and Settlement Initiative (WHI), started in January 1999 by the World Bank in partnership with the Centre for Latin America Monetary Studies. Following this successful Latin American and Caribbean region experience the World Bank initiated the Commonwealth of Independent States Payments and Securities Settlement Initiative (CISPI) in September 2004. There is also the Arab Payment Initiative (API), for the Middle East and North African (MENA) countries.

Of these initiatives, the Southern African Development Community (SADC) initiative, started in 1996 with the assistance of the IMF, World Bank and the BIS, took the first step to implementing a common electronic cross-border payment system across all member states of the SADC regional economic community (REC) on 22 July 2013 when the Integrated Regional Electronic Settlement System (SIRESS) became operational in the four countries of the Common Monetary Area (CMA): South Africa, Namibia, Lesotho and Swaziland. Differing sizes and levels of economic and political influence, and overlapping membership in different regional groupings of SADC members are challenges for integration. Despite delays in achieving monetary targets the CMA pilot was undertaken rather than indefinitely postpone the implementation of the SADC Payment Integration System. The South African Reserve Bank leads the process. The Directo a México service established between the U.S. Federal Reserve's FedACH service and Banco de México is another example of cross-border integration of payment systems.

The complex and many-staged process of monetary integration requires stable domestic financial systems in the region as a pre-requisite. Most of the trade benefits come from integrating payment and settlement systems even without reaching a full monetary union. Second, a settlement bank is required for the region, to enable faster transfer and receipt of funds at a lower price and with reduced risk. The Central Bank of Mauritius is the settlement bank of the Regional Payment and Settlement System (REPSS) of the Common Market for Eastern and Southern Africa (COMESA), which began operations in October 2012. In the REPSS business model, commercial banks play a reduced role compared to central banks. Regional cross-border payment requires co-ordination in trade, monetary and foreign-exchange control policy.

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<sup>6</sup> See <http://www.forodepagos.org/description.htm> , <http://www.forodepagos.org/english.htm>; [http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Armenia\\_Public\\_Report\\_English\\_Final\\_August\\_2008\\_.pdf](http://siteresources.worldbank.org/FINANCIALSECTOR/Resources/Armenia_Public_Report_English_Final_August_2008_.pdf); [http://siteresources.worldbank.org/INTMNAREGTOPPOVRED/Resources/MENAFflagshipPaymentsandSettlementsSystems12\\_20\\_10.pdf](http://siteresources.worldbank.org/INTMNAREGTOPPOVRED/Resources/MENAFflagshipPaymentsandSettlementsSystems12_20_10.pdf); [http://www.saiia.org.za/doc\\_download/447-perisa-case-study-2-private-sector-sadc-payment-integration-system](http://www.saiia.org.za/doc_download/447-perisa-case-study-2-private-sector-sadc-payment-integration-system)

Cross border payments involve settlement of FX transactions, which give rise credit risk, principal risk, liquidity risk and legal risk. Settlement is normally in the payment versus payment (PvP) mode. Each FX trade involves two payment delivery legs—first, in the domestic currency and second in foreign currency. Without payment of the domestic currency conditional on its final receipt of the foreign currency it bought, a bank can lose the full principal value of a transaction. Temporary delays in settlement expose a receiving bank to liquidity risk since unsettled funds may be needed to meet other obligations. Legal risks can arise since settlement involves more than one jurisdiction. Most banks need an intermediary institution to settle the foreign currency leg outside their country of incorporation. The CLS Bank provides the largest multi-currency cash settlement system for 17 currencies, eliminating settlement risk for over half the world's foreign exchange payment instructions. Set up by a number of AEs, it aims to be the industry standard solution for settlement related services to the FX market and multi-currency cash final settlement of traded financial products.

Cross-border integration of payment systems should improve settlement efficiency and safety of cross-border payments thus reducing costs and increasing the speed of transactions. But central banks have to take a leadership role, which they have ceded, especially in EMs, to private players. Some of the regional initiatives are reversing this. For example, a rising proportion of commercial banks (90 per cent in 2008 up from 78 per cent in 2006) use the Society for Worldwide Interbank Financial Telecommunication (SWIFT) network for cross-border funds transfers, but the share was 100 per cent in low income countries, including the South Asian region. SWIFT Service Bureaus were alternatives that smaller financial institutions used to access the SWIFT network, in many cases through the central bank. While use of these is falling everywhere the fall is especially sharp in low income countries, from 57% to only 22% in 2008 (World Bank 2010).

The World Bank survey showed that in 2008 59 countries had established links for cross-border settlement, while another 21 expected to establish such links within two years. All EU member countries have such links since a Single Euro Payments Area (SEPA) harmonizes the making and processing of euro payments, although this does not involve multiple currencies. Customers can make cashless euro payments, using a single payment account and a single set of payment instruments to anyone located anywhere in Europe although this is a single currency system. The ECB's powerful Target 2 RTGS covers all of the Eurozone, unifying government securities markets. Official bodies outsource services to private providers to improve efficiencies. For example, Acuity is the official provider of the European Payments Council SEPA adherence database. Its aims to use accurate data to help improve rates of payment, of Straight Through Processing (STP), and minimize delays from time-consuming manual processing, excessive exception handling or a lack of correct routing information.<sup>7</sup> There is considerable innovation in non-bank payment services, with Google and Apple stepping into the fray, although most of these payment innovations continue to be in partnership with banks. Real time services are reaching retail levels.

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<sup>7</sup> [www.AccuitySolutions.com](http://www.AccuitySolutions.com)

There is progress in EMs but they follow a moving target. Even so many EM banks have the potential late comer advantage in adopting cheaper new generation technologies compared to large Western banks locked into now less efficient systems they had often developed themselves.<sup>8</sup> The South Asian region also has the advantage of a regional payment mechanism functioning, although at a low level and only for trade transactions, since the 1970s. But it offers a base, and a history of interaction, that could be built upon using recent developments in payment systems. The integration of European payment systems also started with a European payment clearing union.

### III. ASIAN CLEARING UNION: STRUCTURE AND FUNCTIONING

The Asian Clearing Union (ACU) was established in December 1974 under the auspices of the United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP). Headquarters are at Tehran, Iran. In 2014 the other members of ACU were the central banks of Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka, and Myanmar. It was set-up to help countries deal with an acute shortage of foreign exchange by providing a system for clearing payments among the member countries on a multilateral basis. It also provided short-term credit during the period of the settlement cycle and was a forum for regular interactions among central banks in a region where such forums were lacking due to a history of conflicts. It was expected to contribute to more regional trade, cooperation, development, convergence in standards and in macroeconomic policies.

The European Payments Union (EPU) made a similar contribution in Europe in the post-World War II period. A clearing union saves foreign exchange since there is netting of transactions. In addition to using international reserve currencies, there is the option to make payments in local currencies. Netting saves transfer costs, and transaction charges can be reduced below commercial rates.

The ACU has a well-designed governance structure.<sup>9</sup> Incentives are combined with discipline, flexibility with clearly-laid out procedures. No member has ever defaulted on its obligations. There is provision for short-term credit through a currency swap arrangement, for the duration of the 2-month settlement period. Since participants are not barred from other general, regional or sub-regional international organizations or payment arrangements, competition is not ruled out.

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<sup>8</sup> The UK and European payment systems are much faster than those of the US, where banks still rely on cheques. The Fed does not have the power to force change, which banks resist since they fear loss of revenue on wire charges (see <http://www.ft.com/intl/cms/s/0/03a1f4b0-06d3-11e4-ba32-00144feab7de.html?siteedition=intl#axzz36l7fOQqu>).

<sup>9</sup> Some ACU related websites are: <http://www.asianclearingunion.org>; <http://www.rma.org.bt/EXTERNALWEB/admin/ACU%20awareness%20materials.pdf>; <http://www.rbi.org.in/scripts/FAQView.aspx?Id=50>; other data sources include ACU Annual Reports, various years; IMF, International Financial Statistics, various issues; relevant RBI circulars such as: RBI. (2010). *Memorandum of Procedure for Channeling Transactions Through Asian Clearing Union*. A.P. (DIR Series) Circular No.35 dated February 17, <http://rbidocs.rbi.org.in/rdocs/notification/PDFs/APIR35M170210.pdf>; Master circular on exports [http://rbi.org.in/scripts/BS\\_ViewMasCircularDetails.aspx?id=7354#b](http://rbi.org.in/scripts/BS_ViewMasCircularDetails.aspx?id=7354#b); Jalan, B. (2003). 'A Review of the ACU', welcome address at the 32<sup>nd</sup> ACU Board Meeting, Bangalore, 16 June, 2003.

Among the ACU's specific objectives were encouraging closer relations among local banking systems and promoting the use of participants' currencies. But the initial driving force was to economize on foreign exchange reserves, due to the shortages when the ACU was set up. As liberalizing reform reduced shortages, and a greater role was accepted for international banks, these objectives were neglected.

We will argue that promoting local payments integration needs to be re-emphasized, but for other reasons such as increasing trade integration, fragility in global markets and continuing dollar volatility. Less global dependence on the dollar will reduce US misuse of regulatory power and 'exorbitant privilege' that contributes to dollar volatility. Regional alternatives to the renminbi will reduce potential future misuse of growing Chinese power. The global financial system will become more stable. Examining the functioning of the ACU, in the next section, is the first step in building up the argument.

### **A. ACU Functioning**

The common unit in which ACU accounts are held and the instrument denominated for payment through the clearing facility is the "Asian Monetary Unit" (AMU). In 1996 this was switched over to the ACU dollar equivalent in value to one US\$. The ACU euro, equivalent in value to one Euro, was added from January 1, 2009. Traders could invoice their documents in hard currencies, make and receive payments in these, through member country commercial banks who could open nostro accounts in ACU dollars and ACU euros. Central banks would fund as well as absorb excess liquidity from these accounts. These changes were motivated by the post-liberalization capital inflow driven relaxation of foreign exchange constraints, and as the easiest way to take advantage of the technological progress markets had made. Using SWIFT and foreign correspondent banks, transactions could be settled faster at real time rates reflecting the market values of member country currencies. Participants could avail facilities like forward cover for transactions, and pre-shipment and post-shipment credit denominated in foreign currencies. But subject to the creditor's consent, payments could also be made in its currency.

Since exchange rates were not fully market determined, the suspicion of fixing in one's own favour, and arbitrary and volatile movements during the settlement period, also motivated the move away from local currencies. But this can be circumvented by using hard currencies as the unit of account but settling in local currency. Figure 1 shows the fluctuations in the share of hard currency transactions in the ACU. High initially, it fell in the middle years but rose again after adoption of the ACU dollar and as sanctions removed much of Iran trade after 2010. Without a large expansion of intra-regional trade, settlement in hard currencies offered greater freedoms and options with less forced tie-in of trade.

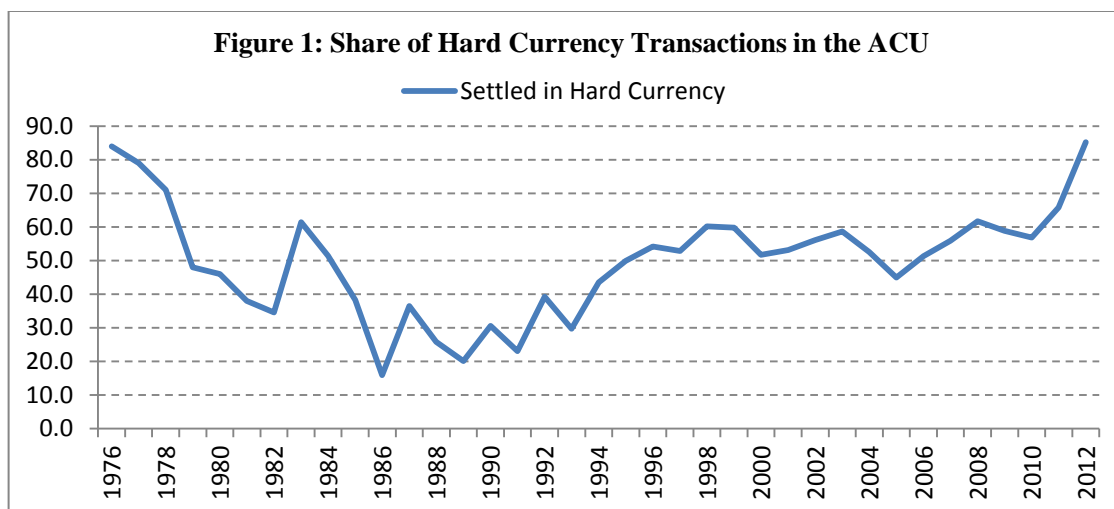
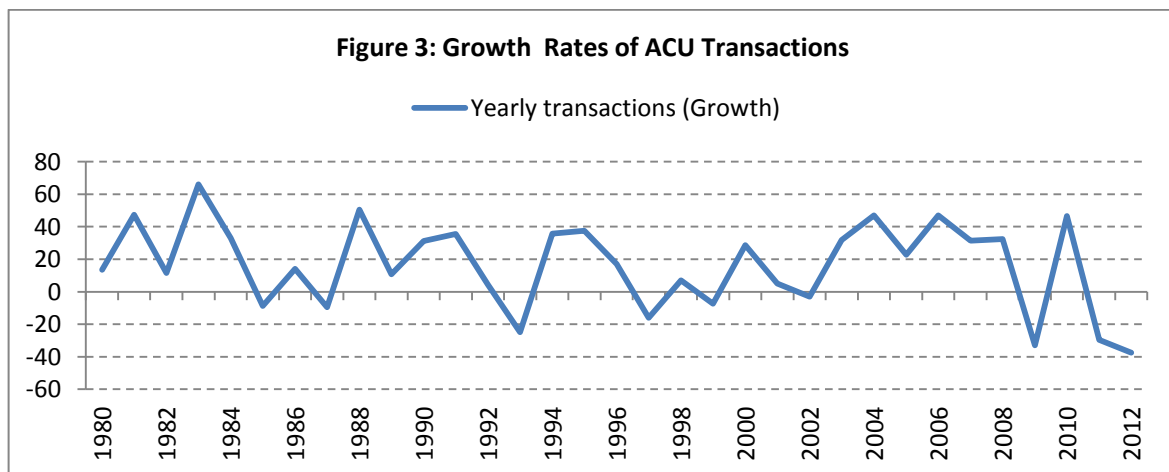
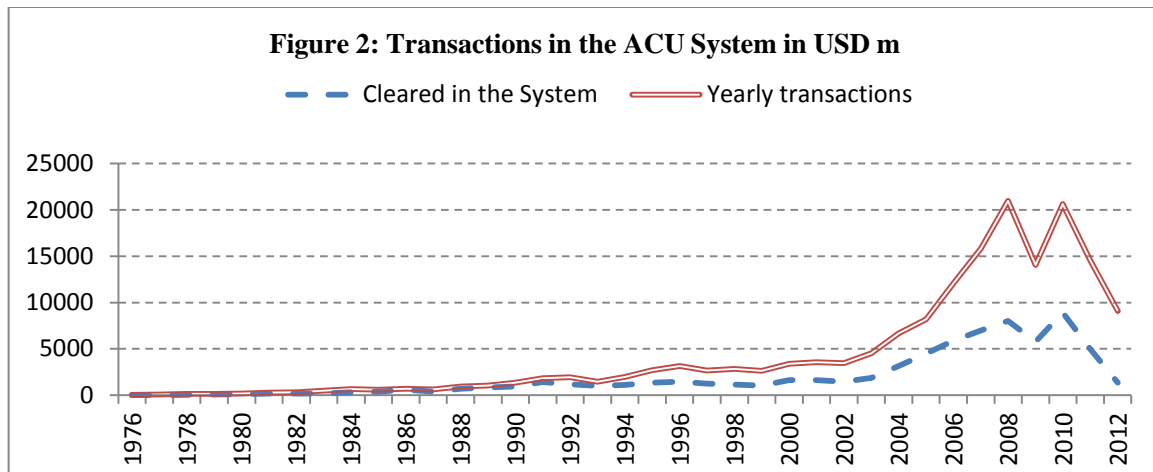


Figure 2 shows a steady and then a sharp rise in transactions channeled through the ACU mechanism over 2002-12. The region experienced higher growth after 2002. This, rather than the adoption of the ACU dollar, increased ACU transactions, since although the ACU dollar was adopted in 1996, ACU transactions really grew over 2002-2008. Total transactions, which were only US\$ 3000 million in 2002, shot up to 21 billion in 2008. Growth rates were also consistently positive over the high growth period of 1994-96. After fluctuating during the global financial crisis (GFC) 2008-09 which hit trade, total transactions fell sharply and growth rates became negative after 2010 as US sanctions affected Iran's role in the ACU (Figure 3).

The share of the transactions cleared in the system using netting fell from the peak of 84.1 per cent reached in 1986, to 14.8 per cent in 2011. The widening gap between the two lines in Figure 2 also indicates the fall in netting in the high growth period. The share settled in hard currency had risen after the relaxation of the foreign exchange constraint in the early nineties. The greater use of hard currency was correlated with a fall in netting—average netting share was 56 and 45.5 pre- and post-1992. The fall in netting share in the high growth period may also have reflected an asymmetric pattern of trade across countries in the region<sup>10</sup>.

<sup>10</sup> Bilateral arrangements also sometimes erode use of the ACU mechanism. For example, in 2014, trade transaction with Myanmar could be settled in any freely convertible currency, in addition to the ACU mechanism. Payments between Nepal and India and Bhutan and India, could be made out of the ACU. Goods imported from India by an importer resident in Nepal who had been permitted by the Nepal Rastra Bank to make payments in foreign exchange could be settled through ACU mechanism. Local currency settlement could bring more trade back to the ACU.



A major part of India's debt was to Iran; the latter overtook India as the highest creditor in 2005 as India became the largest debtor country. This changed after 2010 when Indian oil trade with Iran went out of the ACU. India was now the largest creditor. It was always a net creditor to Bangladesh, Pakistan, and Sri Lanka. It also paid the largest amount of interest. Bangladesh, Pakistan and Sri Lanka also paid interest, while the other countries, including India, received interest. India was the most active user of ACU netting, with the lowest share settled in hard currency.

Table 1 shows aspects of ACU performance over time. The share of one-way ACU transactions as a percentage of total regional exports rose steadily, reaching levels of 70 per cent and above over 1990-2008 (column 1), suggesting the ACU did offer conveniences for trade. One-way transactions are taken since the ratio is to exports and not to total two-way trade. Columns 2 and 3 in Table 1 show intraregional trade as a percentage of total exports and imports respectively from the region, was higher in the early 1980's, soon after the ACU was set up; had fallen by the early 1990's but had risen

again by the year 2008, when ACU transactions peaked. High growth, which raised ACU transactions steeply (Figure 2), also raised intraregional trade. The combination of GFC induced slowdown and sanctions had reduced the ratio of ACU transactions sharply by 2013, although intra-regional trade slowed less than global trade, sustaining the ratios in columns 2 and 3 (Table 1).

<b>Table 1: Aspects of ACU Performance (in percentages)</b>					
<b>Year</b>	<b>One way ACU transactions/intraregion exports</b>	<b>Intraregional exports/exports from region</b>	<b>Intraregional imports/imports of region</b>	<b>Exports from Iran/total intraregional exports</b>	<b>India's imports from Iran/India's oil imports</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
<b>1981</b>	9.7	15.7	6.7	64.1	24.9
<b>1990</b>	70.9	4	3.1	41	1.3
<b>2008</b>	70.4	8.5	6.8	48.8	8
<b>2013</b>	23.6	8.1	10.3	30.2	6.6

**Source:** Calculated from IFS trade statistics with one-way ACU transactions (column 1) from the ACU Annual report 2009 and India's oil imports (column 5) from Directorate General of Commercial Intelligence and Statistics (DGCIS).

US started imposing sanctions against Iran's nuclear program in 1987. These were successively tightened. The toughest sanctions passed in June 2010, included penalties for international banks doing business with Iran's Islamic Revolutionary Guard. UN Security Council sanctions against the Revolutionary Guard's military purchases, trade and financial transactions, also went into a 4<sup>th</sup> round in June 2010. China and Russia, however argued sanctions should not affect private trade, to prevent the public suffering for a non-elected government's policies. Japan, European Union, China and India are among the major buyers of Iranian exports.<sup>11</sup>

Iran first did not want to include oil trade in the ACU since it wanted hard currency payments for oil. Indian currency was considered high-risk. But later it found the ACU a convenient way to maintain trade. Oil was imported through the ACU since 1984. The inclusion of the ACU Euro helped escape US sanctions and may have been one reason for its adoption in 2008.

But sidestepping sanctions did not drive the rise in ACU transactions, although ACU exports are a sizeable part of Iran's exports and Iran is India's second largest crude oil supplier. Column 4 of Table 1 shows a fall in the share of exports from Iran in total regional exports. Although multiple sources drove the expansion in ACU business, transactions between India and Iran did account for a major share. Assuming that a large part of India's imports from Iran are petroleum goods (it also imports dry fruits), we calculate India's imports from Iran as a percentage of India's total oil imports. Again this has fallen from its value in the eighties although it rose from a low in the nineties, and to

<sup>11</sup> See <http://www.ustreas.gov/offices/enforcement/ofac/programs/ascii/iran.txt> and <http://www.guardian.co.uk/world/2010/jun/25/us-imposes-tough-sanctions-iran> for a discussion of US sanctions and [http://www.nytimes.com/2010/06/10/world/middleeast/10sanctions.html?\\_r=1](http://www.nytimes.com/2010/06/10/world/middleeast/10sanctions.html?_r=1) for UN sanctions

8 per cent at the 2008 peak, before falling marginally again (Column 5). So the ACU did not lead to over-dependence on Iranian oil imports. The trade with Iran was fully UN compliant since neither the UN nor the European Union banned oil imports from Iran.

India's oil trade went out of the ACU again in September 2010. In December the RBI announced that the ACU could not be used for oil imports. All eligible current account transactions with Iran had to be settled in any permitted currency outside the ACU mechanism for the present. As sanctions toughened, the ECB wanted the RBI to certify that money paid to Iran for oil would not be used for trade in any commodity under UN or European sanctions, which the RBI was not willing to do. In a multilateral trading system such a warranty would require the participation of all the countries in the ACU.<sup>12</sup> So an institutional mechanism that had sustained regional trade despite conflicts began to hurt it. But with 2013 elections in Iran throwing up a moderate leader US-Iran talks are reviving, so Iran trade can come back in the ACU.

Table 2: Trade Matrices for ACU Countries- 2013 (US\$ million)

Exports (X) from ↓	Imports of									Intra- regional exports/ total exports
	Bangladesh	Bhutan	India	Iran	Nepal	Maldives	Myanmar	Pakistan	Sri Lanka	
Bangladesh	0	2.4	475.7	74.4	37.0	0.7	86.0	501.3	21.3	4.4
Bhutan										
India	5603.7	264.1	0	4945.9	3192.7	109.9	669.5	2246.3	4190.0	6.8
Iran	6.5	n.a.	9093.8	0	1.0	0.0	0.0	1590.1	952.5	13.5
Nepal	33.7	3.22	426.1	0.1	--	0.0	0.0	1.2	0.2	58.5
Maldives	0.6	n.a.	3.8	0.0	0.0	--	0.0	0.0	18.9	10.1
Myanmar	78.2	n.a.	1246.7	0.1	0.0	0.0	--	141.4	3.7	14.1
Pakistan	455.7	0.0	336.6	525.8	1.1	5.6	8.8	--	316.2	6.2
Sri Lanka	41.1	n.a.	465.5	224.6	0.7	54.2	0.4	82.7	--	8.3
Intra- regional imports/total imports	30.1		2.6	6.8	46.6	12.1	3.8	8.5	25.7	

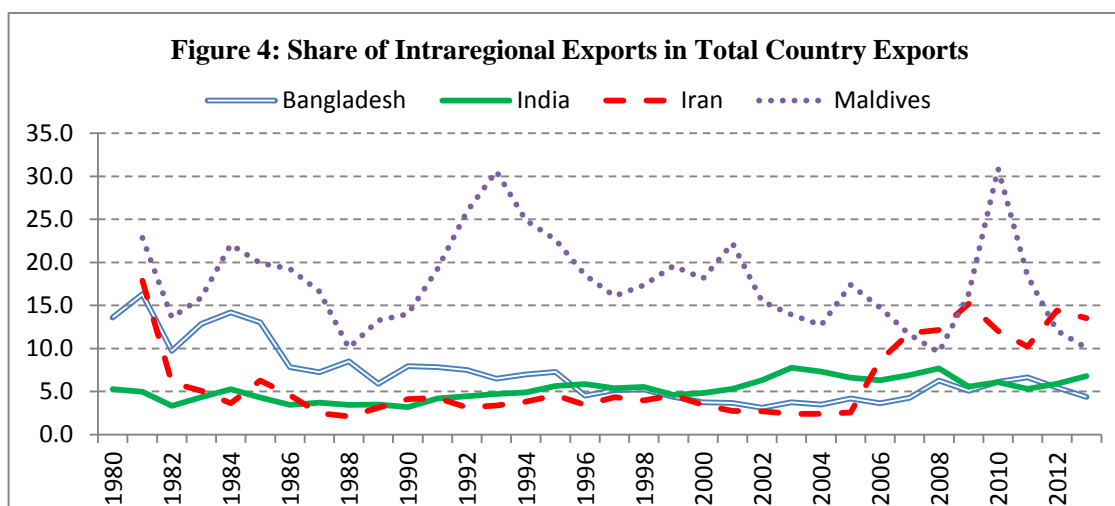
Detailed trade matrices underlying the ratios in Table 1 show the same picture at the disaggregated country level. Table 2 gives the matrix for 2013. It gives the imports and exports from each country to the others. The last row and column for the matrix gives total imports and exports respectively from each country in the ACU as a ratio of the total imports and exports respectively of that country from and to the rest of the world. Intraregional trade remained a large share of total trade for small countries of the region, although it did decrease sharply for many countries in 2013 compared to 2008 as ACU transactions fell. Table 3 shows the patterns of change across the countries in this period.

<sup>12</sup> The sudden announcement, without any warning, caused considerable inconvenience to the oil trade. After a period of uncertainty and attempts at alternative arrangements a rupee trading system was put in place, whereby Iran imported Indian commodities in exchange and India made 45 per cent of its payment to Iran in rupee terms through state-run UCO Bank. The balance was paid through the Ankara-based Halkbank in euros. Indian companies were, however, exposed to OFAC (Office of Foreign Assets Control of US) surveillance, and feared punitive actions on banks dealing with remittance to Iran. The US and the EU also denied insurance, particularly shipping insurance, to Iran-origin cargo. See <http://www.thehindubusinessline.com/opinion/rupee-pact-with-iran-on-the-rocks/article5376267.ece>. and <http://www.rbi.org.in/scripts/FAQView.aspx?Id=50>

Even in 2013, after declines from the peak year of 2008, the share of intraregional imports or exports were in double digits for many of the smaller countries in the ACU. This and the negative rates of growth for many countries in the period when sanctions hurt the ACU, suggests the ACU did contribute to the expansion of regional trade, and is a convenience especially for the smaller countries. Trade grew despite continuing security driven restrictions on the free movements of goods across countries in South Asia. For example, trucks cannot cross the Wagah border between India and Pakistan, and have to be unloaded, goods taken across the border manually and reloaded on the other side.

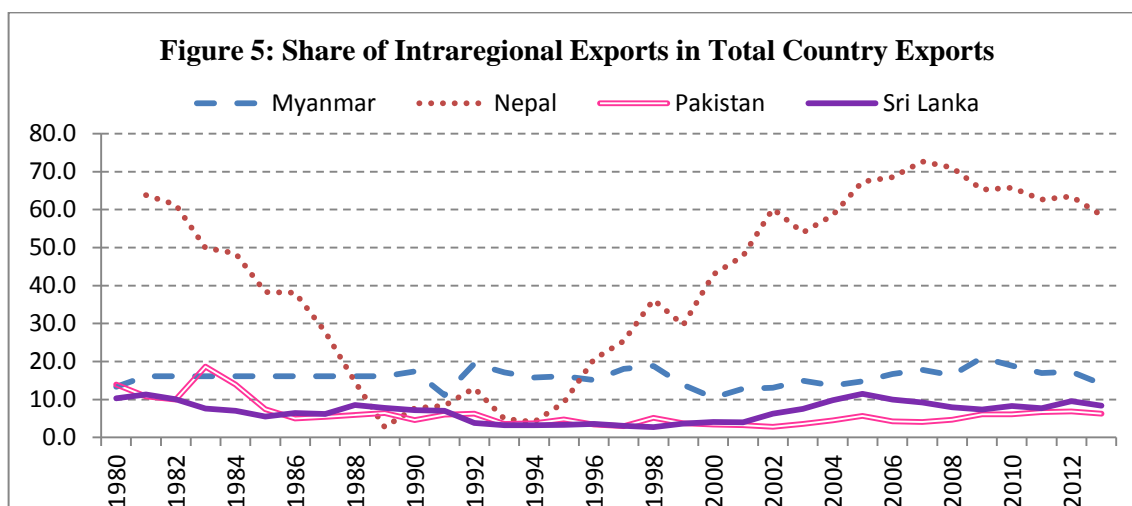
**Table 3: Percentage increase in Trade 2013/2008**

Exports from ↓	Imports of									Intra-regional exports/total exports
	Bangladesh	Bhutan	India	Iran	Nepal	Maldives	Myanmar	Pakistan	Sri Lanka	
Bangladesh	0.0	-25.3	49.2	40.5	-57.6	0.0	3.4	69.1	91.4	101.6
Bhutan										n.a.
India	117.6	152.3		108.8	106.9	-7.4	215.5	45.0	68.7	10.2
Iran	-80.1	0.0	-28.6		23.1	0.0	0.0	141.7	-12.7	11.4
Nepal	-49.4	34.2	-24.3	24.0		42.2		-0.8	-83.6	-17.7
Maldives			-12.8						47.5	5.4
Myanmar	3.3		50.3	-18.9				20.7	-39.2	-14.0
Pakistan	69.1	-100.0	-1.9	153.6	-59.1	23.9	72.4		81.3	33.9
Sri Lanka	78.3		11.3	45.4	295.7	13.6	96.0	15.9		4.3
Intra- regional imports/total imports	65.7		-72.0	42.0	-22.6	-1.2	-12.3	46.1	-6.0	



Figures 4-5 show intraregional exports as a per cent of each country's total exports. The ACU was especially important for small countries like Maldives and Nepal, and for countries such as Iran and Myanmar for whom it allowed some escape from sanctions. Sri Lanka's export share to the region also rose to about ten per cent in the high growth phase after 2002. For the others the share remained positive but small, at below ten per cent. There were some fluctuations. For most countries, except Iran, this share stagnated or fell

after 2008. Iran's international trade may have suffered even more than its trade with ACU countries did, so its intraregional trade share remained high.



Since poor data quality qualifies the analysis the matrices and figures have to be interpreted with caution. The data is sourced from the IFS of the IMF. There are differences between this and Indian data from the Directorate General of Commercial Intelligence and Statistics (DGCIS). This trade-based data in turn differs from RBI's payments based data<sup>13</sup>. There are other consistency and completeness problems with the data<sup>14</sup>. Informal trade is not measured so total trade maybe higher. Correcting for this will lower the share of trade through the ACU. But the informal trade also implies trade within the ACU can rise substantially if the ACU were able to attract it.

## B. A Multilateral Clearing Union in Theory

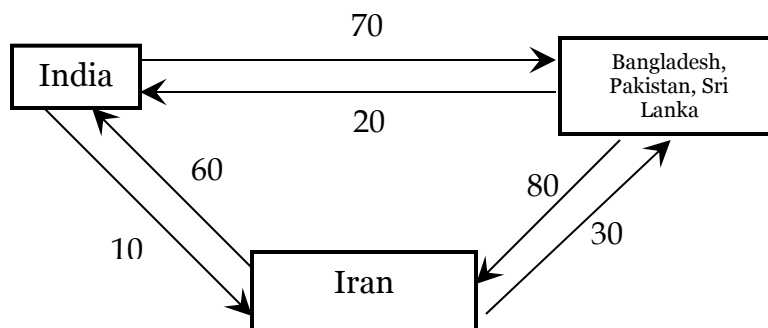
The ACU is a multilateral clearing union<sup>15</sup>. Exports generate a credit entry and imports generate a debit entry; these are summed up at end of each accounting period. The advantage of multilateral over bilateral clearing is that if country X is running a deficit with country Y, but a surplus with country Z, the latter can be used to pay the former. Without this possibility, country X would have to reduce its imports from country Y and aggregate trade would shrink. For example, Figure 6 illustrates how an Indian trade surplus of 50 with three South Asian countries can allow it to fund a deficit of 50 with Iran. If Iran has an equal deficit with the three countries it can pass on India's payment to them and accounts are squared. Table 2 shows India did indeed run a trade surplus with

<sup>13</sup> Comment by Mr. Shekhawat of the RBI.

<sup>14</sup> Shaheen Rafi Khan, Moeed Yusuf, Shahbaz Bokhari and Shoaib Aziz "Quantifying Informal Trade Between Pakistan and India" estimate informal trade between India and Pakistan to be USD 545 million. Ninety eight per cent of this consists of exports from India to Pakistan. The authors say guesstimates of informal trade between the two countries vary over 0.5 -10 billion USD. Downloaded from [http://www.sdpi.org/tkn/whats\\_new.htm](http://www.sdpi.org/tkn/whats_new.htm) on September 24th, 2010.

<sup>15</sup> Eichengreen, B. (1993). 'A Payments Mechanism for the Former Soviet Union: Is EPU a Relevant Precedent?' *Economic Policy*. 17: 309-53. The paper analyzes the EPU and its applicability elsewhere.

Pakistan, Bangladesh and Sri Lanka and a deficit with Iran in 2013. But highly asymmetric trade patterns reduce these benefits.



**Figure 6: Multilateral Clearing**

Current account convertibility, with trade denominated in a fully convertible currency, also achieves multilateral clearing. Country X is free to use the dollars it earned from country Z to pay country Y. Therefore a clearing union adds value when there is shortage of a hard currency, since netting of trade reduces hard currency payments required. Even inconvertible currencies can participate since countries agree on a common unit of account. Other ways in which a clearing union differs from convertibility is that it encourages trade among the members of a union, while under decentralized convertibility there is nothing to especially favour trade in the region. This role becomes important when markets and information are not perfect and various distortions exist that may discourage trade relations as in the SAARC region. In the presence of such distortions a centralized system can induce trade that may not occur in a decentralized system. Repeated interactions and regular monitoring under centralized clearing improve information and trust, even where there may be a history of conflict.

A history of conflict between countries of the region, and precautions against terrorism puts many impediments on trade. The availability of an official channel may have sustained trade despite these difficulties but it is difficult for the ACU alone to expand trade. The monetary cooperation it may have encouraged was implicit rather than explicit. South Asian countries tend to follow similar monetary and financial policies. Many have undertaken similar reforms. But convergence happened more by seeing what others were doing than by conscious coordination.

The ACU also demonstrated its utility by saving scarce hard currency in the early years. But this function was lost when it shifted to hard currency settlement. So it was when the India-Iran oil trade shifted to rupee settlement out of the ACU after 2010, that oil imported from Iran saved India approximately US\$ 9 billion. This was a period the balance of payments (BoP) was again under stress as the current account deficit had widened. But Iran wanted a quid-pro-quo for accepting higher rupee payments such as an early signing of the production sharing contract for Farzad-B gas fields. Against the 13.3 million tonnes crude oil India imported from Iran in 2012-13, Iran's imports from India

were a mere \$3.4 billion, so Iran had \$5 billion unused funds in UCO Bank.<sup>16</sup> Multilateral settling allows surpluses with one country to be neutralized to some extent against deficits with other countries. It reduces bilateral political pressures provided multiple countries are part of the network. The implication is local currency should be brought back to the ACU, along with attempts to expand membership.

As sanctions are eased<sup>17</sup> the strategy for winding down the rupee agreement so that it does not disrupt bilateral trade should include allowing rupee settlements in the ACU. A precondition for payments and settlements to be denominated in local currencies is that exchange and interest rates must not deviate too much across countries, otherwise countries holding a depreciating currency paying a low interest rate would lose. Moreover, conversion of currencies within the clearing facility should be at more favorable rates compared to dealings outside. This is feasible as better local payment systems lower transaction costs.

A recent literature makes the firm's choice of currency for invoicing endogenous. When exporting firms set prices in the foreign markets, they face the choice between invoicing in their own country's currency, importer's currency, or in the reserve currency. Invoice choice is a microeconomic decision but it has significant macroeconomic impacts due to the pass through of exchange rate changes. If South Asian exporting firms invoice in the importer's currency, zero pass through is expected while full pass through is expected if the invoicing is based on exporter's currency or in hard currencies. Local currency pricing is said to exist when domestic prices of imported goods and the domestic inflation do not respond to changes in the exchange rates while producer currency pricing is said to exist when imported goods and domestic inflation respond to exchange rate changes. If a firm desires low exchange rate passes through in the short run, it resorts to local currency pricing. The pass through is incomplete when both markups and prices adjust less proportionately to exchange rate changes. The degree to which the markups are adjusted to exchange rate changes is the degree to which the firms follow pricing to market mechanism. A firm faces stiff competition in international markets if its goods are close substitutes to those of its competitors. Then it is more likely to price the commodity in the importer's currency, thus raising both its profits and the consumer's welfare. If hard currency use becomes the norm through the ACU, this option becomes less likely, thus reducing welfare.

Since commodity imports such as oil tend to be priced in dollars, dollar volatility creates more pass through, which raises inflation. If once sanctions are lifted and Iran oil comes

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<sup>16</sup> See <http://www.firstbiz.com/economy/cad-woes-india-in-catch-22-over-moilys-iran-oil-import-plan-46737.html>, Sept 11, 2013.

<sup>17</sup> Other advantages of easing sanctions are international insurance and other services such as legal arbitration will be freely available instead of being limited to Iranian law; US surveillance will no longer pose a threat to Indian companies; the surplus in UCO bank may be used for a wider range of South Asian imports allowing it to be liquidated faster. See Narang, T. (2013). 'Rupee Pact with Iran on the Rocks'. *Hindu Business Line*. November 21. Available at <http://www.thehindubusinessline.com/opinion/rupee-pact-with-iran-on-the-rocks/article5376267.ece>. Accessed in 2013.

back in the ACU and sufficient rise in regional trade makes it attractive for Iran to continue rupee pricing, this effect would be reduced.

A clearing union that provides temporary credits offers an additional service. It allows a country to reap dynamic gains from trade since it can run a deficit in one period and a surplus in the next. But these gains are restricted to the short period of time for which credits are available.

The next step, a payments union with credits, allows countries to reap full dynamic gains from trade since credits are given to finance intra-union deficits. Normally incentives or penalties are built in to ensure future surpluses to repay the loans and to prevent a country from running persistent deficits. Deficits at a point of time must be followed by an expected surplus for credible repayments. If some countries tend to persistent deficits credit ceilings would be reached and additional credit would be difficult to get. A country could immediately exhaust its quota if there are persistent monetary overhangs, so macroeconomic stabilization is a precondition for such an arrangement to work. A payments union can also facilitate capital flows between countries.

In mature markets with full current account convertibility and a full float the rationale for a clearing union no longer exists, but good payment systems continue to be an asset. CBs have to initially play an active role, perhaps through institutions like the ACU, to overcome externalities that favour AE payment systems, in order to establish competitive regional payment systems. The latter help mitigate market distortions due to international pressures.

Regional payment systems can protect against global instability, contribute to maintaining and enhancing regional cooperation, and help develop local financial institutions. Reducing monopoly in global systems builds important countervailing power that can prevent one-sided dominance and enhance global cooperation and stability. This is especially important to insure against continuing US\$ volatility and reduce misuse of the US\$'s exorbitant privilege and China's potential regional power. The US\$ dominates international transactions as the reserve currency. The ability to print dollars to pay for them encourages the US to run deficits. Competitive payment arrangements would encourage it to follow more stable macroeconomic policies.

Since the majority of import-export transactions between any two countries are denominated in US dollars, they are usually settled through correspondent banks in the US. This is what gives US regulations authority over banks all over the world<sup>18</sup>. The infrastructure that supports trade includes foreign trade financing instruments, and correspondent banking relationships between countries in the region. Correspondent banks perform reciprocal financial services for each other, such as accepting deposits from or transferring funds for each other's customers. Through correspondent banking a bank can serve its clients without having to set up a branch in another country. One

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<sup>18</sup> In 2014 a French Bank, BNP Paribas, was fined a record 8.9 million US\$, for violating US regulatory sanctions by enabling transactions for Iran, Sudan and Cuba over 2004-12, although it was not in violation of French or UN law.

reason the ACU dollar was adopted as the unit of account was to enable use of these more efficient payment mechanisms. But as local payment mechanisms improve, similar equally efficient but cheaper services become possible through local area banks in regional currencies. This can compete with the continuing option to denominate trade in US\$. Real time settlement reduces currency and market risk, but easy access to liquidity is required for it. Expanded regional swap lines can contribute towards maintaining such liquidity.

### C. Multilateral and Bilateral Swaps

Participants in a currency union provide credit to each other through multilateral swaps. Such swap arrangement between central banks came into the limelight through the Chiang Mai Initiative (CMI), drawn up by ASEAN, Japan, South Korea and China, following the Asian financial crisis in 1997, to allow each party to the arrangement to draw upon the financial resources of other parties in case of BOP difficulties. A large number (16) of bilateral swap agreements (BSAs) of value US\$ 90 billion were agreed to under the CMI. The main ASEAN swap arrangement, which allows member banks to swap their local currencies with major international currencies, was US\$2 billion on April 2009. A crisis-affected member could immediately obtain liquidity support for the first 20 per cent of the BSA amount, but the remaining 80 per cent was linked to an IMF program and its conditionality. Potential creditors, including Japan and China were concerned to avoid creating moral hazard, since demands for assistance could be due to poor policy fundamentals that required structural adjustment.

In the course of the GFC, the concept was adopted by central banks in the US and different European countries. Bilateral dollar swap lines established to improve liquidity in dollar funding markets enabled foreign central banks to deliver U.S. dollar funding to institutions in their jurisdictions during times of market stress. Foreign-currency liquidity lines were also available.

Swap lines are a type of unsecured sovereign debt, which low-risk and highly globally or regionally integrated countries are more likely to get. Aizenman et. al. (2010)<sup>19</sup> argue factors that make this type of credit more likely include low macroeconomic volatility, higher trade openness, credibility due to low incidence of default and good growth prospects, quality of institutions, and so on. They show, during the GFC, export destinations were the ones that got swap lines from the US Fed and the Bank of China. The larger ones got more.<sup>20</sup>

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<sup>19</sup> Aizenman J., J. Yothin, and D. Park. (2010). 'International Reserves and Swap Lines: Substitutes or Complements?' *NBER Working Paper No. 15804*

<sup>20</sup> As pressures grew in bank funding markets, the FOMC authorized dollar liquidity swap lines with the European Central Bank and the Swiss National Bank in December 2007, and subsequently with the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Canada, Danmarks Nationalbank, the Bank of England, the European Central Bank, the Bank of Japan, the Bank of Korea, the Banco de Mexico, the Reserve Bank of New Zealand, Norges Bank, the Monetary Authority of Singapore, Sveriges Riksbank, and the Swiss National Bank. The arrangements terminated on February 1, 2010.

The Bank of Korea's (BoK) use, from 2007 to 2008, of part of a \$30-billion US Fed swap line during the GFC was more effective than using its own foreign reserves, or the recently established CMI, in injecting dollar liquidity and calming markets. One reason could be they added to Korea's foreign reserves, while providing dollar liquidity from the official reserves would have reduced the reserve coverage. The linking of higher withdrawals to IMF conditionality was not politically acceptable in Korea, given the suspicion with which the IMF was regarded in the region after its mistakes and delays during the East Asian crisis. Bilateral swap lines were free of conditionality, but their size was too small: US\$3 billion equivalent with the BOJ and US\$4 billion equivalent with the PBOC in non-convertible Yuan. The solution adopted to make the CMI more useful was multilateralization of the CMI to the CMIM, a multilateral currency swap arrangement with the total size of US \$240 billion, governed by a single contractual agreement, in 2010.

The CMIM is a self-managed reserve pooling among the finance ministries and central banks of the ASEAN+3 member countries and the Hong Kong Monetary Authority, for providing financial support in US\$ through currency swap transactions. It offers a crisis prevention facility and a crisis resolution facility, with 30 per cent categorized as quick disbursing while the remaining portion is linked to an IMF program. The maturity period varies from 6 months to 3 years. The ten ASEAN member states collectively contribute US\$48 billion, while China, Japan, Korea and Hong Kong contribute the remaining US\$192 billion, in a 20:80 proportion. Member countries, however, are not precluded from entering into separate supplementary BSAs. The ASEAN swaps also remain in effect.

The CMIM has a more institutionalized structure, with an independent surveillance unit under the guidance of an advisory panel of experts. The ASEAN+3 Macroeconomic Research Office (AMRO), based in Singapore, is to monitor and analyze regional economies and support CMIM decision-making, aiding in the early detection of risks, and swift implementation of remedial actions. It is to prepare quarterly consolidated reports on the macroeconomic assessment of the ASEAN+3 region and individual member countries, after annual consultations with the individual members. If it grows in reputation, experience and expertise, it may be able to equal IMF assessments in rigor, while retaining more regional sensitivity. An active AMRO will enable an increased quantum of support to be made available in a more flexible manner, comparable to the IMF's FCL (Flexible Credit Line).

The CMIM includes all the low-income ASEAN members, which were excluded from the CMI BSAs. This more inclusive arrangement opens up possibilities of more countries participating. Dialogue is also taking place on medium- to long-term currency coordination to avoid competitive devaluations. Once the CMIM weights have been agreed to they can form the basis for individual currency weights in a proposed regional monetary unit, which could act as a benchmark for individual currencies, limiting their relative movements.

The process of hammering out member contributions and borrowing limits in the CMIM is illustrative of the political negotiations required. Since Japan, China and Korea each wanted a large share of the CMIM contributions the sum exceeded 100 per cent. Japan was the largest economy in Asia; China the largest holder of foreign exchange reserves, while Korea had the deepest capital markets. The compromise made illustrates how bringing in other factors can resolve a stalemate. China agreed to a reduced share of 28.5 per cent provided Hong Kong was brought in as a new CMIM member. Then China's overall share including Hong Kong would be 32 per cent, the same as Japan's, even while Japan's status as the largest single contributor was maintained. Korea's share of 16 per cent was lower, but exceeded its relative economic and financial weight of about 11-12 per cent in ASEAN+3. ASEAN's contribution of 20 per cent had been agreed to first putting pressure on the + three countries to complete their negotiations.<sup>21</sup>

Lessons for the design of South Asian swaps from the CMI experience are governance structure and implementation details need to be better specified and reformed. Some own funds are required for quick disbursement, or else reliable fast procedures put in place. A larger share can be delinked from IMF conditionality as local surveillance establishes its reputation, and the loan size increased (at higher rates) for short-term liquidity related disbursements.<sup>22</sup> The CMI (maximum US\$ 23.5 billion) was small in relation to GFC linked outflows and the IMF link for borrowing above 20 per cent of the CMI BSA reduced its acceptability.

In comparison to the above swaps, credit available through the ACU is very short-term, and linked only to an over-extended settlement cycle. It is adequate for short-term trade facilitation, for the smaller countries, but not for a liquidity crisis or for dynamic gains from trade. Any eligible participant in net deficit at the end of a settlement period is entitled to apply for the facility from every other participant up to 20 per cent of the average gross payments made by it through the ACU during the three previous calendar years. India had the largest entitlement to the swap facility each year over 2005-2010, overtaking Bangladesh. Table 4 shows the debits over 2010-12. India's earned debits fell steeply as its Iran oil imports went out of the ACU.

A participant cannot draw more than its net deficit at the end of a settlement period. The drawal has to be in the same proportion as its net deficit bears to its maximum entitlement. A participant may draw under the swap arrangement for a period of 2 months at a time. Consecutive withdrawals over two settlement periods are not allowed. The rate of interest chargeable is derived from the British Bankers' Association's two months LIBOR. Settlement of net positions and accrued interest is made at the end of two monthly settlement periods. On notification by the Secretary General, payment is to be made within four working days. The facility gives participants' access to international reserves of other participants in times of shortage such as the global short-term credit

<sup>21</sup> Kawai, M. (2009). 'Reform of the International Financial Architecture: An Asian Perspective'. *ADB Working Paper Series No. 167*. November.

<sup>22</sup> See <http://www.bsp.gov.ph/downloads/Publications/FAQs/CMIM.pdf> and Hill, H. and J. Menon. (2012). 'Asia's New Financial Safety Net: Is the Chiang Mai Initiative Designed Not to be Used?' 25 July, <http://www.voxeu.org/article/chiang-mai-initiative-designed-not-be-used>

market squeeze after the GFC, leading to a sharp decline in export credits available to developing countries. Such credits account for about 10 per cent of short-term external debts. The swaps available with the ACU are naturally trade enhancing, and can help sustain regional trade even in difficult global circumstances.

**Table 4: Transactions Debited to the Member Central Banks during 2010-2012**  
(In millions of US\$)

	2010	2011	2012
Bangladesh	4389.5	5401.7	4450.7
India	11089.8	3213.8	134.7
Iran	762.7	375.8	137.8
Pakistan	1809.8	1432.5	1246.2
Sri Lanka	2552.5	4065.0	3082.7

Note: Figures included ACU dollar and ACU euro transactions

Source: Extracted from ACU annual report 2012, Table 8:

<http://www.asianclearingunion.org/LinkClick.aspx?fileticket=dY8vAag925M%3d&tabid=213>

**Table 5: Swap Entitlement and Use in Relation to Total ACU Transactions**  
(in US\$ millions)

	Bangladesh	India	Iran	Myanmar	Nepal	Pakistan	Sri Lanka
Entitlement of the ACU Member Central Banks to Swap Facility							
2010	622.9	1846.9	74.3	0.1	2.4	340.6	499.5
2012	843.2	1358.5	96.0	0.5	4.5	327.2	542.5
Net Swap Receipt (+) / Payment (-) by the ACU Member Central Banks*							
1989-1998	7.6	104.5	-210.3	-18.0	0.0	155.8	-39.7
2000	-3.2	-11.2	-11.0	0.0	0.0	28.9	-3.5
2001	145.4	-151.0	-16.4	0.0	-1.5	30.1	-6.6
2008	-1.6	-315.8	-124.0	0.0	0.0	-9.6	451.0
Total Transactions Routed Cumulatively through the ACU							
<i>Credit</i>							
2011	329.9	8578.0	4558.3	0.6	30.5	676.9	347.0
2012	176.3	7140.5	862.1	1.7	37.3	623.6	232.6
<i>Debit</i>							
2011	5401.7	3213.8	375.8	3.8	39.4	1432.5	4065.0
2012	4450.7	134.7	137.8	2.1	38.6	1246.2	3082.7

Note: Swap use was zero in the periods 1999, 2002-07, and 2009-12. Bhutan and Maldives never used the facility.

Source: Extracted from ACU annual report 2012, Tables 16, 17, and 19,

<http://www.asianclearingunion.org/LinkClick.aspx?fileticket=dY8vAag925M%3d&tabid=213>

But Table 5 shows the ACU swaps were rarely used. Amounts taken were much lower than debits incurred, and the smaller countries that perhaps needed credit barely qualified for swaps. Therefore, India's 2012 offer of a swap arrangement of US\$ 2 billion in US\$, Euro or Indian Rupee to all SAARC member countries against domestic currency or domestic currency denominated government securities of the requesting country, is timely. Although this is not a part of the ACU, it expands and lengthens credit beyond what is available in the ACU.

The Indian offer is not linked to ACU transactions but broadly based on two months import cover subject to a floor of US\$ 100 million and a maximum of US\$ 400 million per country. It aims to provide a line of funding to prevent drying up of credit due to market turbulence, till longer term arrangements are made. Withdrawals can be of three months tenor in multiple tranches, and can be rolled over twice. For availing of the facility, the central banks of requesting countries need to enter BSAs, which need final approval from the Government of India. The first BSA was signed with the RMA of Bhutan in 2013, for US\$ 100 million valid for 3 years from the date of signing<sup>23</sup>. Bangladesh's BOP was also in stress, but the country's central bank found the swap funds offered by India expensive at 3 per cent compared to the return on their reserves of not more than 2 per cent.

The Bangladesh criticism misunderstands the utility of a swap. It is a type of insurance against a freeze in trade credits that could harm trade. The existence of a liquidity backstop reassures markets even if it is not used. It complements reserves while saving the cost of holding reserves. If it is not used the interest cost is not incurred, while utility is derived just from the existence of the swap. The credit may contribute more to facilitating trade even in the absence of a crisis, if it is cheaper. Institutions for multilateral monitoring can lower the cost of credit. So attaching the new facility, with suitable precautionary mechanisms and extensions, as part of the ACU may reduce its cost. But this would require a change in the ACU constitution. A multilateral monitoring institution, which is sufficiently context sensitive, can improve policies without imposing harsh arbitrary measures.

India is exploring bilateral swaps in Asia also. A BSA between Japan and India<sup>24</sup> enabled both countries to swap their local currencies against the US dollar for an amount up to US\$ 3 billion, over June 29, 2008 to June 2011. This was extended from December 4, 2012 to 2015 and was expanded to US\$ 15 billion and a further US\$ 50 billion over January 10, 2014-2015. Although it is to be activated when an IMF-support program already exists or is expected to be established shortly, up to 20 per cent of the maximum amount can be disbursed without an IMF-support program. Biannual consultations on

<sup>23</sup> See: RBI [http://www.rbi.org.in/scripts/BS\\_PressReleaseDisplay.aspx?prid=26475](http://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=26475) , <http://defence.pk/threads/bangladesh-central-bank-not-interested-in-india%C2%92s-swap-funds.181399/> . RBI [http://www.rbi.org.in/scripts/BS\\_PressReleaseDisplay.aspx?prid=28277](http://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=28277)

<sup>24</sup> Sources: [http://www.boj.or.jp/en/announcements/release\\_2008/ind0806a.htm/](http://www.boj.or.jp/en/announcements/release_2008/ind0806a.htm/)  
The Indian Express <http://archive.indianexpress.com/news/india-japan-ink--15-billion-currency-swap-arrangement/1040334/>  
[http://rbi.org.in/scripts/BS\\_PressReleaseDisplay.aspx?prid=30377](http://rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=30377)

mutual economic and financial conditions are to be held while the BSA is in effect. Bilateral pressures and multiple repetitive consultations could be reduced if India joins multilateral initiatives like the CMI. As discussed above, improvement in the AMRO, could reduce the link to IMF conditionality, and offer competition to the IMF.

Current South Asian swap lines, while useful to maintain short-term trade, are inadequate for a liquidity crisis, short term liquidity provision, or longer-term trade financing, despite India's offer of a more general purpose swap line. They need to be formalized and institutionalized, with appropriate safeguards, so that they offer first, anti-crisis support divided into (a) liquidity and (b) trade support, and second longer-term trade credit. This may reduce the need for the precautionary reserve hoarding observed in the Asian region.

ACU swap lines are at present limited only to the settlement cycle. As modern payment structures are integrated with the ACU, pre-funding of individual transactions will raise liquidity requirements. Such liquidity can be provided for regional currency settlements, while ACU swap lines are also redesigned to fulfill crisis-time liquidity and short-term trade credit. Real time netting can support increasing use of local currencies in trade, while settlement at the inter-CB can continue at the two-month period in order to allow maximum netting and saving of reserves.

### **D. Administrative Procedures and Costs**

The majority of ACU transactions are settled directly through ACU Dollar and ACU Euro Accounts maintained by authorized commercial banks with correspondent banks in other participating countries and vice versa. CBs settle spillovers in either direction through the ACU, thus reducing multiple transactions. Funding or absorption of AMU's by the CBs requires the commercial banks to make available the equivalent amount of US\$ or Euro to the CB. The CB has the option to make the payment in local currency. The reference exchange rate is the SDR cross-rate quoted by the International Monetary Fund on a daily basis.

The procedures that implement these general ACU rules reflect country specific features.<sup>25</sup> For example, in India<sup>26</sup> only Authorized Dealer Category-I banks are permitted to open ACU dollar and ACU Euro accounts. These have to be kept distinct from other US\$ and Euro accounts, but the settlement process through correspondent banks is the same as for normal foreign exchange transactions. Banks have to be complaint with Foreign

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<sup>25</sup> This section and the analysis of performance gained from conversations with Shyamala Gopinath, Deputy Governor, and the Officer in charge of the ACU, Vijay Singh Shekhawat, Deputy General Manager, Back Office and Accounts, Department of External Investments and Operations.

<sup>26</sup> Reserve Bank of India (2010) gives the latest detailed processes in *Memorandum of Procedure for Channeling Transactions through Asian Clearing Union*. A.P. (DIR Series) Circular No.35 dated February 17. Available at <http://rbidocs.rbi.org.in/rdocs/notification/PDFs/APIR35M170210.pdf>

Exchange Management Act (FEMA) regulations and procedures in opening letters of credit, negotiations of documents etc. for trades in convertible currencies.

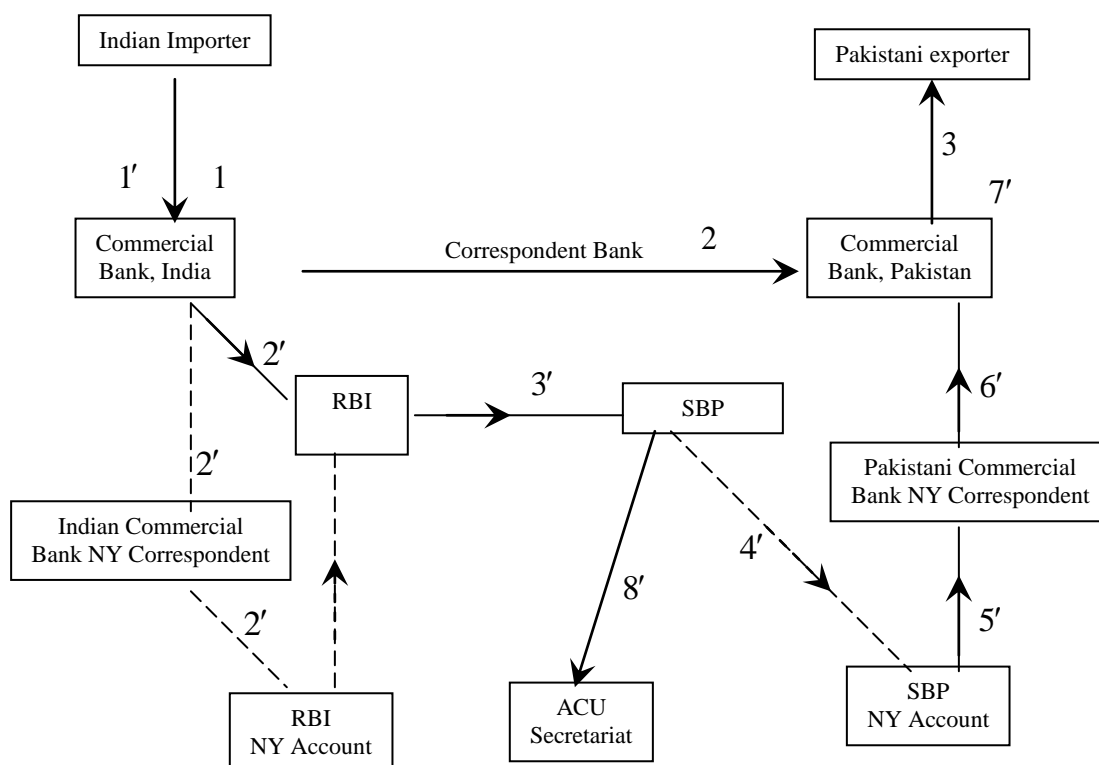
The RBI receives and pays US\$ and Euros for funding or repatriating excess liquidity from ACU accounts maintained by authorized banks in correspondent banks abroad, or for funding or absorbing liquidity from accounts maintained by Indian banks for their overseas correspondents. The transactions occur through the RBI's accounts with the Federal Reserve Bank of New York, New York, and the Deutsche Bundesbank, Frankfurt. For example, the RBI funds an Indian Bank's ACU account abroad after the Indian bank transfers equivalent US\$ or Euros to the RBI's foreign accounts. Since 1st January 1996 a policy decision was taken not to announce any exchange rate for these ACU transactions, since there was no payment or receipt of Indian rupees.

Requests for funding of ACU Dollar and ACU Euro accounts have to be made in duplicate in form ACU-1 or ACU-2 to RBI's Department of External Investments and Operations (DEIO), Mumbai, along with confirmation that equivalent amount of US\$ or Euro is being credited to the RBI's foreign account on the value date. These forms can be faxed to save time and transactions. The RBI then advises the participating country CB to deliver the contracted amount on the value date to the correspondent bank indicated by the AD Category-I bank. These requests can be made on 'Tom' basis also, in addition to 'Spot' basis, but then applications have to be submitted a day prior to the value date.

Figure 3 shows the transactions involved. The non-dashed loop 123 shows transactions when only correspondent banks remit payments from an Indian importer to a Pakistani exporter. But if the importer's bank needs to purchase ACU dollars from the RBI the dashed loops come into play with the importer's bank having to remit dollars to the RBI's New York account through its correspondent bank in NY, before the RBI will inform its counterpart the State Bank of Pakistan (SBP) for the equivalent transactions on its side.

The registering of the debit and credit with the ACU is the final loop 8'. Even if the Indian and Pakistani banks in loop 123 transfer dollars through their NY correspondent banks, the later loops come into play and transactions across time zones cause delay.

Reducing administrative procedures and costs can make the ACU more attractive. Advances in payment systems can be used for this.



**Figure 3: Transactions in the ACU**

### E. Potential Improvements

As discussed above, these include faster settlement, better credit availability and use of local currency. Moreover, path dependence on a regime of controls implies that transaction costs are higher than necessary, not only in payment systems but also other export-import related procedures, and especially for smaller firms, where banks are less cooperative. For example for export by road an exporter has to submit one of five different 'Bills of Export', depending on the type of duty applicable on his goods. A large number of details such as names of the exporter and consignee, invoice number, details of packing, description of goods, quantity, FOB value, and so on are required. Other supporting documents such as copy of packing list, invoices, export contract, and letter of credit also have to be submitted and certified by officials such as custom officers and dock appraisers.<sup>27</sup>

Basing KYC norms on electronic identification would reduce paperwork, as the move to GST simplifies duties. There are other initiatives to simplify procedures, for example, by using more self-certification. Use of local currency and real time facilitation between local banks and the RBI would cut the bottom two loops in Figure 3, reduce pass through

<sup>27</sup> The bills are available at <http://business.gov.in/importexport/procedureexport.php>.

time, and settlement period interest.<sup>28</sup> Delays would reduce sharply since it would no longer be necessary to cut across time zones.<sup>29</sup> Saving the corresponding bank charges would also reduce costs. The settlement systems to be set-up could be outsourced to private providers who offer the best price quality pair.<sup>30</sup> Local banks could serve as correspondent banks across ACU countries. Alternative modes of financing could be explored. Multilateral funding could give the impetus to get the changes started while shared member country contributions create ownership.

There are also complaints of administrative delays specific to the ACU. Banks understand the normal vostro process, whereby foreign exchange is transferred between correspondent banks, but the ACU process is not so familiar. Awareness of its advantages has to be raised even as these are increased. Also some CBs may not have hard currency and may take time to arrange it. Again, use of local currency and liquidity would reduce this problem.

As local payment mechanisms improve, local area banks can provide efficient and cheap services in regional currencies. This can compete with the continuing option to denominate trade in US\$. But if modern payment structures are integrated with the ACU, pre-funding of individual transactions will raise liquidity requirements. Such liquidity can be provided for regional currency settlements, as part of domestic liquidity provision. While the 2-month cycle may continue across CBs in order to allow maximum netting and saving of reserves, RTGS could be implemented across banks and between a bank and its CB, with NEFT or RTGS as applicable between a bank and its retail customer, for the regional currency option. It would save excessive cross border transactions and bank charges that currently apply in the ACU, thus reducing transaction costs, and encouraging use of local currencies. Although CBs will have to play a more active role they will not be intervening in individual transactions.

The evolution in payment systems has strong implications for the scope of the ACU and the efficiency of its procedures. There are opportunities in adopting new technologies and organization, including modern payment systems. This would aid convergence in local standards and financial systems with eventual participation in larger Asian initiatives for Asian regional financial integration. It may be helpful for the process if a formal MOU is signed between the SPC and the ACU.<sup>31</sup>

One of the objectives of the SPI is to assess the volume of cross border remittance payments in SAARC member countries. Remittances are quite large in the region and are classified in the current account, but the ACU is restricted to genuine trade transactions, that satisfy KYC and other procedures. Payments that are not on account of export/import

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<sup>28</sup>In 2011 Mr. Shekhawat mentioned the RBI was working on a project to explore this option. The settlement cycle could be decreased to 7 days from 2 months. But this is regarded as decreasing netting advantage.

<sup>29</sup>The RBI can also route its ACU hard currency transactions through correspondent banks in Hong Kong rather than New York. Mr. K.C. Chakrabarty, then RBI Deputy Governor, made this point.

<sup>30</sup>Some Asian commercial banks outsourced to get the best core banking solutions. Compared to these, systems of MNC banks, which are a patchwork of older systems built in-house, are very slow.

<sup>31</sup>I thank an anonymous referee for this point.

transactions between ACU member countries cannot currently take place through the ACU except to the extent mutually agreed upon between the participating central banks. Only payments declared to be eligible by the Board and defined as current international transactions in the Articles of Agreement of the IMF can be made through the clearing facilities by residents of the participant countries. But the ACU Board, or participants in consultation with the Board, can change current permissions at any time, if concerns about security, sources and types of funds are met. With improved payment systems and electronic trails it is possible to certify and classify different types of transactions with minimal procedural delays. In EMs commercial banks dominate remittance markets although many AEs are opening them to non-bank remittance service providers (RSPs) to increase competition. Examples of this approach include the EU Payment Services Directive and Japan's Payment Services Act. Disproportionately high capital requirements are also a potential barrier to market entry. The ACU could offer some competition. Although intraregional foreign direct (FDI) and portfolio flows (FPI) may not at present be large, they will increase over time. As the region grows, markets deepen, institutions strengthen, and there is movement towards fuller convertibility on the capital account other types of payments could be allowed through the ACU, increasing its functionality.

The Agreement and Procedure Rules have periodically been revised to bring about improvements. Membership is open to the central bank, treasury or monetary authority of each regional and associate member of ESCAP. Application of information technology has made it possible for participants to access their ACU accounts daily through the Internet.

There is a possibility of the ACU declining as trade with the rest of the world reduces the importance of regional trade. Although ACU transactions form a substantial part of intraregional trade, the latter has been shrinking as part of total trade of the region. US sanctions against two member countries of the ACU contributed to the decline of the ACU and reduced the possibilities of new members joining. But sanctions softened since 2013.

Although a regional trade bloc can have a trade distorting effect, in South Asia it probably results more in trade creation than trade diversion. Since trade through the ACU is small in relation to the total trade of the region with the rest of the world, even if producers have market power, trade with the rest of the world will reduce price distortions. And regional trade tends to rise with inter-national trade especially if local irritants are removed and conflicts moderated.

The use of local currencies in intraregional trade has shrunk over time, but can be reversed. Competition in currencies of settlement and invoicing offers better options to users. Some economizing on reserves the ACU leads to continues to be important especially for the smaller countries. It frees their hard currency resources for trade with the rest of the world, thus tending to increase trade.

Technology is also improving communication in currency transfers. In the initial stages telex was used in ACU. This has been phased out and most countries now use SWIFT, which provides proprietary communications platforms, products and services in 209 countries. The automation and standardization of financial transactions it enables, lowers costs, reduces operational risk and eliminates inefficiencies during the exchange of huge numbers of standardized financial messages,<sup>32</sup> but EMs have become over dependent on it, so there is a case for making some settlement available at the CB level. In 2012 the ACU adopted a message management module to enhance communication between participants. As local solutions reach the frontier of technology they can reduce costs without reducing quality.

The ACU has been functioning at a low level, without much importance being given to it by the participant countries and central banks so that its potential is underutilized.<sup>33</sup> More systematic explicit dialogue can be designed for strengthening partnerships in the non-political technical interaction between CBs. CB interactions can create pressures for more openness and convergence to better macroeconomic policies.

#### **IV. MACROECONOMIC BACKGROUND**

The macroeconomic issues relevant for the functioning of payment systems include domestic, regional and international aspects. These are examined in this section.

##### **A. Domestic: ACU Countries**

Macroeconomic heterogeneity, divergence and volatility in rates of inflation and in exchange rates, raises the cost of local currencies and providing credit. India is the largest country and its relative size has risen over the years. Iran is the only country whose GDP actually contracted. Both Iran and Myanmar were outliers in their sustained high inflation rates. India also had the largest inflows and reserve accumulation, but tended to be the most conservative in that it had the smallest trade and current account (CA) deficits. The smaller countries had perforce to be more open, with large export to GDP ratios. But reserves rose in all the countries in the later period.

Except for Iran and Myanmar whose governments controlled, closed, and distorted the economy, the others had similar inflation, exchange and interest rates. Even in Myanmar, democracy was slowly reinstated following the 2010 elections and sanctions were lifted. Policies improved and inflation rates came down. Civilian strife in Sri Lanka pushed up its inflation rates, but in the other countries inflation only rarely reached double digits. Exchange rates also varied compensating for the inflation; most countries had some sort of flexible exchange rate regimes in the later years. Interest rates tended to move downwards in the post nineties reform period. But since foreign exchange (FX) markets were thin, and currencies not fully convertible, the exchange rates were not fully market

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<sup>32</sup> <http://www.swift.com>

<sup>33</sup> As Dr. Gokarn then RBI deputy governor put it before the Iran crisis, "It is not on anyone's radar". Removing Iranian oil from the ACU further decreased its significance. Mr. Padmanabhan pointed out in 2014 since oil has not been in it for a long time the ACU is not import.

determined; intervention remained considerable. But better managing of the exchange rate helped Sri Lanka keep its inflation in single digits after the GFC while sharp depreciation in the more market determined Indian exchange rate contributed to double digit inflation.

Modern thinking on exchange rate regimes for EMs has shifted away from extremes of a tight fix or full float towards some flexibility.<sup>34</sup> A fix creates too much risk and a float too much volatility. A full float has to await fully developed markets and reforms in the global financial architecture (GFA) to mitigate excessive volatility of capital flows. Even in mature economies, a full float was adopted only after crossing a threshold of development. EMs have to follow a similar path. South Asian CBs largely do not interfere in the determination of the exchange rate, but operate monetary policy to minimize extreme swings that could have adverse repercussions, although the degree of intervention varies across countries and over time. In the FX market, banks are free to buy and sell foreign currency in the spot and also in the forward markets. South Asia shows some flexibility of exchange rates develops markets, and is feasible even without full currency convertibility. When the RBI stopped intervention in FX markets over 2009-11 too much exchange rate volatility resulted. It hurt exports, raised import prices and steeply widened the current account deficit of the BOP.

Some stylized facts<sup>35</sup> help understand the region. Frequent shocks and less ability to smooth shocks imply output, consumption, investment and growth rates are more volatile. Less financial sector development, lower per capita incomes and low wealth imply consumption of a large proportion of the population is limited by income. In addition since the frequent supply shocks are largely temporary, savings adjust rather than consumption. Therefore correlation of consumption (C) and investment (I) with output is higher, making ratios of C, I to output stable. C, I vary in response to output variation, but do not drive income volatility.

Net exports or the trade surplus is procyclical, that is, output rises with net exports. This could be due to export driven growth or a deflationary rise in oil prices. The latter raises the import bill and reduces output and net exports together. The current account then is a source of shocks. This contrasts with standard behaviour in EMs where rising consumption and imports in good times make the current account countercyclical—the deficit rises in good times, so consumption is procyclical and more volatile than in developed countries. In Asia, income shocks affect savings rather than consumption.

Supply side or terms of trade shocks are to be expected in economies that are still agriculture dependent, have severe infrastructure bottlenecks, and are dependent on oil

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<sup>34</sup> Calvo, G. A. and C. M. Reinhart. (2002). 'Fear Of Floating'. *The Quarterly Journal of Economics*. MIT Press, 117(2). pp. 379-408. May. This and the next section draw upon Goyal 2013 'Assessing Changes in the Global Financial Architecture from an Emerging Market Perspective'. *Foreign Trade Review*. 48 (4). 2013 and Goyal, A. (2010). 'The Future of Financial Liberalization in South Asia'. *Asia-Pacific Development Journal*, Vol. 19(1), pp. 63-96. June, 2012. Available at <http://www.unescap.org/pdd/publications/apdj-19-1/chap-3-AshimaGoyal.pdf>

<sup>35</sup> Goyal, A. (2011). 'Exchange Rate Regimes and Macroeconomic Performance in South Asia'. *Routledge Handbook on South Asian Economies*, (ed.) Raghendra Jha, pp. 143-155, Oxon and NY: Routledge.

imports. Prior to liberalizing reforms, administered price and quantitative interventions repressed markets and kept volatility low, in a fragile equilibrium that broke down under large shocks such as the external crisis in 1991. In the first reform decade, as controls were gradually lifted and markets freed, volatility increased. Although openness was itself a source of shocks it increased diversity, which together with the deepening of markets reduced volatility. In good times volatility is generally low—there are less external shocks; in deep markets also volatility is low. The smaller South Asian countries tend to be more open and were more strongly affected by external shocks. They had less market and capital account controls, and more government and international debt.

Liberalizing, deepening markets and improving institutions and policy form a package. One alone is dangerous without the others. Research and empirical estimation has found that only countries with strong domestic institutions, markets and government finances benefit from capital account convertibility. The Indian strategy followed a well thought out sequence whereby full capital account liberalization was to come after deepening domestic markets, and improving government finances. Liberalization of the capital account distinguished between types and direction of flows and was much greater for equity compared to debt flows including bank loans, and for foreign compared to domestic residents. Among debt flows long-term debt was to be liberalized before short-term. The rationale was equity, in contrast to debt, shares risk. Therefore potential liabilities in a crisis reduce. Partial capital convertibility gives flexibility along the line of control, making selective tightening feasible if necessary. For example, India imposed stricter end use criteria for firms bringing funds in during periods of excessive inflows. Inflows have to be allowed to go out if they are to come in, but continuing restrictions on domestic capital outflows can reduce the reserve cover required. Reversible volatile inflows were largely accumulated as reserves—a costly form of self-insurance. Although the reforms established current account convertibility, with the foreign exchange regulation act (FERA) being evolved into foreign exchange management (FEMA), convertibility of the capital account was more gradual.

South Asian countries largely proceeded on the same liberalization path as India, with some lags although Pakistan started the process earlier. Both Bangladesh and Pakistan declared full current account convertibility in 1994, a few years after India did. While convertibility remained partial on the capital account for both, Bangladesh retained more controls compared to Pakistan. Pakistan, which has the most open capital account, suffered more instability and often needed help from the IMF.

Some restrictions on the capital account give additional instruments to restrain the impact of capital flows on the exchange rate. Mechanisms like the ACU can contribute to navigating international volatility in managed exchange rate regimes and protect the small countries from shocks to their current accounts. They can mitigate the effect on trade of exchange rate fluctuations.

The similar timing and path of reforms suggests considerable de facto monetary coordination in South Asia, to which regular meetings through institutions like the ACU, and SAARC finance contribute. Countries in the region largely have flexible exchange

rates but more explicit coordination and transparency in exchange rate regimes will help increase the use of local currencies in the ACU.

The post reform period beginning in the early nineties in India and a little later in other South Asian countries has seen considerable institutional and market development. More interest rates became market determined. Many private and foreign banks and mutual funds entered. Restructuring, computerization and competition improved banking services and parameters such as non-performing assets. New technology was effectively used to create electronic markets reaching and sometimes exceeding international benchmarks in disclosure norms, trading volume, settlement cycle, and low transaction costs. Dematerialization of securities reduced bad paper risk. Stock exchanges were corporatised and demutualized. Controls gave way to market based regulation. Rule-based system largely relying on self-certification replaced cumbersome administrative procedures that required multiple discretionary approvals. Along with traditional oversight, advanced risk management systems promoted transparency, efficiency, safety, and market integrity. There were rapid developments also in FX and money markets after 2000, although debt and corporate bond markets remain underdeveloped. In other South Asian countries also reform freed the domestic financial sector from controls. Although Bangladesh's financial sector has strengthened, government interventions in the form of ceilings, moral suasion, and directed credit still exist. Accounting and reporting is non-transparent.

There is still a large domestic reform agenda including improving financial inclusion, financing infrastructure and helping lay off the risk associated with greater volatility. Deepening the debt market is required for infrastructure financing. Similarities in the path of reform across the region imply considerable implicit coordination and convergence, which has yet to be changed to more explicit coordination, to further reduce costs of using local currencies.

Macroeconomic stabilization preceded the EPU, helping contribute to its success. It is difficult to make credit available or use local currencies, if rates of inflation and depreciation are very different. Similar rates of inflation, depreciation and interest rates made the use of local currencies in the ACU feasible. It is not possible to trade in bilateral currency pairs whose value is subject to large changes during the transaction. But the fact of intervention, the fear that local currencies could be manipulated to the advantage of a country, their easier availability and greater possibilities of use, made hard convertible currencies preferable. The accounting ACU units used are denominated in hard currencies and any actual currency exchange between Central Banks is also normally in these currencies. So hard currencies were saved only to the extent that there was netting prior to payments.

### **B. International**

Asian intraregional trade accounts for about 50 per cent of total trade, but its intraregional financial integration is limited. In 2004 intraregional cross-border portfolio liabilities were 2.25 per cent of Asian GDP, but its liabilities to either North America or the

European Union were more than three times as much. A well-functioning Asian bond market would make the Asian financial system more balanced by encouraging markets as well as banks. It would provide alternative avenues for savings and sources for infrastructure investment, recycling the region's large savings for regional long-term investment, and reducing maturity and currency mismatches. Global imbalances would fall with dependence on US capital markets.

The experience of the 1990s East Asian crisis did activate regional financial forums. There was a perception that aid was arranged much faster for Mexico in 1995 than it was for Asia in 1997. Asian countries were willing to reform their financial systems, but reform ideas for the GFA, which could have prevented the global crisis, were not implemented since lender countries and interests dominated international financial institutions. For example, some forms of bailing-in the private sector could have mitigated risk-taking, yet multinational financial institutions were successful in employing their superior bargaining clout to prevent any restrictions from being placed on them<sup>36</sup>. The GFC gave a further push to efforts to promote regional financial stability.

Post GFC financial rescue packages have resulted in large deficits in Western AEs. Aging populations and unresolved financial sector issues make growth prospects dim. The Iraq War and low domestic savings had earlier steeply increased twin deficits in the US. Since the US\$ is the reserve currency, US\$ weakness raises concerns about the international financial system. Whenever the US has been subject to macroeconomic shocks, the world has been forced to share the costs of adjustment. For example, large US deficits during the Vietnam War led to dollars held abroad exceeding gold stocks. Fear of an attack on the dollar led to Nixon's unilateral abrogation of gold standard. The world's willingness to hold dollars has encouraged the US to live beyond its means, stoking future crises. Benefits to the US from the US\$ as the medium of international exchange have been labeled the 'exorbitant privilege'.<sup>37</sup>

A solution could be to develop another international reserve currency, or to encourage the use of alternative currencies. A change in the reserve currency is possible only in the very long term after supporting market and payment institutions are developed. Since markets are currently locked into the dollar, which has a first mover advantage, it will require sustained effort and be a long time before rival depth is created. But use of multiple currencies for different purposes is possible. An ACU is an example of a mechanism, which can encourage the use of local currencies in trade. Given expected future volatility in the dollar, this aspect should be promoted further.

China is seeking to increase the use of the renminbi (RMB). Despite the absence of developed and open foreign exchange markets it has the advantage of large trade share, and the push from high dollar volatility. High trade share, along with deep open markets,

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<sup>36</sup> Goyal, A. (2010). 'Global Financial Architecture: Past and Present Arguments, Advice, Action'. *Margin-The Journal of Applied Economic Research*. 4(2). pp. 233-247. Sage publications: New Delhi.

<sup>37</sup> P. Gourinchas, and H. Rey. (2007). 'From World Banker to World Venture Capitalist: US External Adjustment and the Exorbitant Privilege'. In R. Clarida, ed. *G7 Current Account Imbalances: Sustainability and Adjustment*. pp. 11-55. Chicago: The University of Chicago Press.

and stable currency value, are the factors that lead to the adoption of a currency as the reserve currency.

Reserve currency demand for transactions and for foreign exchange reserves from relatively faster growing EMs will continue to expand. Therefore alternative sources of supply are necessary for stability. High switching costs tend to lock countries into the existing reserve currency, as does greater depth and liquidity of capital markets and capital account openness. But the currency of the largest trading country has the advantage of lower transaction costs. China has become the largest trading nation, and is especially dominant in Asia, where its trade share is over 50 per cent. Large US\$ volatility also decreases its attractiveness. However, to increase use of the RMB, China has to adopt more transparent rule bound policies and allow freer capital movements and markets. As the medium of exchange function grows large enough, and markets deepen, tipping over from one currency to the other becomes a possibility. Or use of multiple reserve currencies is also possible. With competition, the US would have to increase growth, and reduce its twin deficits to lower dollar volatility and sustain its bargaining power. Such competition will improve global stability since it will restrain the excesses of either party.<sup>38</sup>

RMB's use as a medium of exchange grew 15 per cent between November and December 2013, helped by its appreciation against the US dollar, while other currencies grew seven per cent. Although 74 per cent of RMB payments were concentrated in Hong Kong, RMB settlement grew strongly also in the UK, Singapore and Taiwan, helped also by firms' growing demand for cross-border RMB services. But still in absolute terms it accounted for only 1.1 per cent payment transactions in December compared to 39.5 per cent and 33.2 per cent for the US dollar and the euro. That only offshore RMB assets are available is also a problem. Deep US markets continue to make it the preferred choice as a store of value for continued accumulation of rising FX reserves<sup>39</sup>. While participating in RMB settlement, the South Asian region should also work for use of own local currencies in trade, starting from the base of the ACU, to preserve and develop regional alternatives.

The continued dominance of the West in international financial institutions and global fora leads to a relative neglect of EM and Asian concerns.<sup>40</sup> A new institution, the G-20, was created to coordinate post GFC reforms, due to the recognition that better coordination was required in a more interconnected globe with more spillovers. Although it lacked the comprehensive legal charter required for a formal international institution, it gave a voice to major EMs in global dialogue, and greater representation in some of the international institutions that comprise the GFA. But institutions—International Monetary Fund (IMF) and WB (World Bank)—that monitor the policies decided on in the G-20, have not changed as much as necessary to credibly reflect the wider dispersion of

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<sup>38</sup> Gupta, S. K. and A. Goyal. (2014). 'Reserve Currencies: Can Multiplicity Work?'. *IGIDR working paper no. WP-2014-010*. Available at <http://www.igidr.ac.in/pdf/publication/WP-2014-010.pdf>. Accessed in March 2014.

<sup>39</sup> Prasad, E. (2014). *The Dollar Trap*, Princeton University Press, NY, USA.

<sup>40</sup> Goyal A. (2013). Assessing Changes in the Global Financial Architecture from an Emerging Market Perspective. *Foreign Trade Review*. 48 (4).

economic power. Insufficient diversity encourages the “groupthink” that the Independent Evaluation Office of the IMF indicted as a cause of the lack of action on many pre-crisis financial risks.

Post GFC attempts to tighten financial regulations may be in the right direction, but they are too small, too slow, too narrow and too dependent on individual country and regulatory discretion. The Dodd-Frank Act can force more transparency, information sharing, reporting and auditing, in OTC markets, especially since suitable technology is available, only provided exemptions are not given. For example, exemptions for FX swaps could be used to structure swap transactions to avoid regulation to expand shadow banking activity and create systemic risks. While teeth have been provided against SIFIs and the shadow banking system, there is no warrantee they will be used. Large areas of discretion in addressing systemic failures and cross border arbitrage imply a question mark over implementation. Basel III focus on banks will encourage arbitrage to shadow banks, even as AE banks successfully lobby to dilute implementation of Basel III norms. Non-discretionary direct rules such as prompt corrective action against a troubled financial firm, or leverage caps, or removal of all exemptions on transparent trading of complex financial derivatives can be more effective. Simple uniform types of financial regulation or taxes can moderate spillovers from AE policies in the shape of risky capital flows and commodity price bubbles.

The use of quantitative easing (QE) and deficits are regarded as a valid response to domestic conditions in AEs, and their effect on commodity price inflation and capital surges hitting EMs is not acknowledged. The premises in the currency wars debate that all intervention is manipulation and all controls market distorting, tend to force EMs to follow exchange rate regimes appropriate to AEs although EMs may not yet be ready for them. Market determined exchange rates often show sustained deviation from fundamentals necessitating intervention. Since narrow markets can be excessively volatile under a full float and capital surges, EMs in particular, need to manage their exchange rates. In the 2012 G-20 meeting finance ministers agreed not to manipulate exchange rates for competitive advantage, but interest rate or liquidity boosting policy in response to domestic needs, which AEs typically use, was not to be regarded as manipulation. It follows measures such as intervention and controls, that EMs with less developed markets are forced to use, should also not be regarded as manipulation.

The AEs tend to take a view that whatever is good for AEs growth will eventually be good for EMs. That is true, but even so action should be taken to moderate costs imposed on EMs, since slower EM growth in turn will reduce recovery in AEs. What is good for EMs can also be good for AEs. It will be a major step towards symmetry if the onus for capital flow volatility is put on source countries also instead of the current system where the entire burden of adjustment is borne by recipient countries. But it is not clear that actual adjustment will be symmetric. After the East Asian crisis EMs reformed, but developed countries did not. Nor was the GFA modified. AEs take the position that asset bubbles are not due to QE but to EM demand, again putting the onus on EMs. While EMs allowed currency appreciation and stimulated domestic demand to correct global imbalances, deficit reduction in AEs was indefinitely postponed.

In the 2010 Toronto G-20 meet AEs committed to “at least halve deficits by 2013 and stabilize or reduce government debt-to-GDP ratios by 2016”. But at the 2012 summit in Mexico City, it was admitted this target would not be achieved. Moreover, it was said to be not advisable to reduce deficits given continued global uncertainties. Instead AEs reduced their commitment only to “ensure that the pace of fiscal consolidation is appropriate to support the recovery.”<sup>41</sup> The argument that in a balance sheet recession when the private sector is deleveraging, and there is a possibility of a debt deflation trap, the government must spend has some validity. Reducing debt and deficits is easier when growth is higher. But if feasible future growth is overestimated, the stimulus given today can be excessive and recreate conditions that led to the GFC. In a 2014 exchange with Raghuram Rajan, the RBI governor, Ben Bernanke defended QE and deficits as demand enhancing and therefore benefitting all, while EM FX intervention was aimed at switching demand towards EMs. Rajan’s response was expansion of AE CBs balance sheet through QE, also tends to depreciate their currencies.<sup>42</sup> Reserve accumulation also expands EM CB balance sheets and is necessitated by surges in capital flows following AE QE. He urged all CBs to think through the international spillover of their policies, and the response of other countries, which is likely to hurt them. The Fed’s intervention also distorted markets.

In the absence of meaningful reform in the GFA, and given dangers from volatile and poorly regulated capital flows, EMs are forced to continue with costly self-insurance. Regional initiatives may help ensure a better balance of power and more symmetric adjustment. Then the financial reforms necessary to reduce spillovers of QE policy and strengthen the GFA may be implemented, and EMs gain more freedom to follow context specific macroeconomic policies that would benefit AEs also.

Although there was little history of coordination in Asia but it was pushed to adopt self-insurance and cooperation measures. These helped it survive the global crisis and improved its bargaining position. Regionalism is not incompatible with globalization. It can even raise the probability of optimal globalization by reducing uneven power. A consensus may more easily be hammered out at the regional level and then taken to the international forums. Regional initiatives can reduce the negative effects of the continuing dollar weakness, resistance to and slow pace of reform in the GFA, large quantitative easing induced risk-on risk-off capital flow surges that have hurt EMs.

Growing intraregional Asian trade could benefit from financing within the region. Credit markets freeze due to problems in Western banks partly caused a crash in Asian exports in 2008. Better regional clearing and settlement systems are an example of a project

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<sup>41</sup> Thomson, A. (2012). G20 eases push for deficit cutting. Financial Times. November. Accessed in January 2013 from <http://www.ft.com/intl/cms/s/0/c68ff436-279b-11e2-abcb-00144feabdc0.html#ixzz2NE3OIMeL>

<sup>42</sup> Rajan, R.G.(2014) Remarks in the Policy Panel Discussion, at the ‘2014 BOJ-IMES Conference on Monetary Policy in a Post-Financial Crisis Era’, Institute of Monetary and Economic Studies, Bank of Japan ,Tokyo, May 28.

consistent with and essential for realizing the ultimate goal of regional monetary and financial cooperation, and must be strengthened.

## V. FUTURE DIRECTIONS

The above analysis of payments systems including the ACU, in domestic and international macroeconomic context, offers clear directions for the way forward.

Creating deeper economic links would shift the region away from passions towards interests,<sup>43</sup> leaving wars and conflicts behind and moving to a future of shared prosperity. Even if larger cooperation takes time to achieve, concrete projects, such as payment systems, in which the countries can interact, can help them adjust conflicts of interest and move beyond such conflicts. Fora set up can be used for systematic dialogue to strengthen partnerships. In time this could lead to more explicit coordination in macroeconomic policy, helping build capacity, and allow faster convergence in systems and institutions.<sup>44</sup> If as a consequence of better coordination macroeconomic policies converge and fears on manipulation of local currencies recede, their use in the ACU could rise.

The leadership of the bigger and wealthier countries in the region will be required for such evolution. Both institutions and leadership are required for successful change. Germany and France played leading roles in the European Union's long economic integration process while Marshall Plan funds from the US financed the expansion of the EPU's functions. Faster growth in Asia, as well as oil exporters' revenue, should make funds available in South Asia. Given the current low-level equilibrium, multilateral financing may be useful to kick start the process. But country contributions build ownership, and demonstrate commitment, which would encourage investment in facilities for regional trade.

Investing more funds signals a commitment to trade, since it is a costly investment undertaken specifically for trade. It is as if governments post a bond such that there is a loss if they do not in future support trade and turn protectionist. With such a bond, private parties will be encouraged to undertake the sunk costs necessary to build trade networks. The binding agreement by the first mover allows the second mover also to pre-commit to trade. This would create a public good contributing to Asian integration. Growing regional ties need not be at the expense of other ties. Multiple friendships, alignment and engagements, based on growing domestic strengths, will make for healthier overall relationships.

Specific directions for payment systems, credits, macroeconomic context, and procedural aspects are discussed in the sections below.

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<sup>43</sup> The passions and the interests was the title of a book by Albert Hirschman, in which he showed some historical evidence that more interlocking economic interests reduced conflict.

<sup>44</sup> In neighbouring countries sharp differences in policies can have untoward effects. For example, Pakistan passed on the 2007-08 spike in world wheat prices to its farmers—India moderated the spike. The result was more smuggling of wheat across the border.

### **A. Payments Systems**

As payment systems become more sophisticated and their capabilities converge in South Asian countries, they can more actively facilitate trade. The SPC offers a forum for regular interaction and learning to aid such convergence, and the ACU could be more formally associated with it. Development in wholesale systems has overtaken that in retail. Most countries now have real time gross settlement with capabilities for settlement in multiple currencies although these are still unused and smaller countries still lag.

The South Asian region also has the advantage of a regional payment mechanism functioning, although at a low level and restricted to trade, since the 1970s. The ACU has encouraged regional trade, especially for the smaller countries. The evolution of payment systems has implications for the future of the ACU. Given possibilities of real time settlement its two month settlement cycle is archaic, but gives benefits of netting that save reserves. While the 2-month cycle may continue at the cross CB level thus aiding aggregate balance of payment funding, faster RTGS-based settlement or ACH-based netting can be provided across regional banks and their customers, if the regional currency option is selected. Other administrative and compliance costs can also be sharply reduced. Apart from improvement in general payment systems, the ACU can also be re-vitalized, as sanctions soften, to meet changing needs and aid movement to a well-integrated developed region of the future. Considering the changes in technology and concerns about global financial stability, the potential utility of the ACU is considerable.

Improvements include real time flow through the system, expansion of facilities offered, types of flows allowed, and number of participants. As countries liberalize different kinds of capital flows on a gradual path to capital account convertibility, a payments union can also facilitate such flows. At present only current international transactions, as defined in the Articles of Agreement of the IMF, are allowed through the ACU. It is not utilized for remittances, even though they do take place across the region and are classified in the current account. But the Board can change these permissions whenever it deems necessary. Concerns about security, sources and types of flows are not an issue because electronic systems can discriminate between types of flows and provide detailed information without procedural delays. In modern payment systems, with centralized KYC, finer restrictions can be imposed, as required, without raising transaction costs.

Outsourcing the system development or even selected services to private providers could improve efficiencies, and take advantage of being a late starter to leap frog to the latest technologies, although leadership and participation would continue to be required from CBs. Revamping and redesign could remove complaints about delays. Flows through the system could be redesigned to reduce time, along with technological upgrades drawing upon modern developments in payment systems. Lower transaction costs could attract some of the large illegal trade in the region, since this goes through circuitous routes that raise costs even while they escape tariffs.

Moreover, the use of local currencies in netting and settlement fell as convertible currencies, considered more reliable and allowing more options, were no longer scarce. The ACU, therefore, saved hard currencies only to the extent that there was netting prior to payments. Use of local currencies needs to be encouraged, however, not to conserve reserves as was the initial motive, but to build regional payments systems, promote Asian financial integration, and provide alternatives to the volatile dollar. When firms set prices in the foreign markets, they face the choice between invoicing in their own country's currency, importer's currency, or in reserve currency. Invoicing in local currency reduces pass through of changes in exchange rates, and hence lowers its inflationary impact. This option, and its macroeconomic benefits, is less likely if hard currency trade settlement is imposed through the ACU.

Real time settlement, or faster settlement cycles utilizing modern payment systems, reduce currency and market risk, but require easy access to liquidity, which is easier to provide for local currency payments. Further expansion of regional swap lines can provide a source of cross-border liquidity. As the ACU evolves from a multilateral clearing union with temporary credits into a payments union with credits, it allows countries to reap full dynamic gains from trade with longer-term credits to finance intra-union deficits. Even as more funds support ACU activities, suitable mechanisms can prevent any country from turning into a persistent debtor. Incentives or penalties can induce ensure repayment of loans. These could include fixed quotas and penalties as are currently there in the ACU, and faster escalation of hard currency payments for creditors than for debtors, to ensure that creditors are not left with unusable inconvertible currencies of persistent debtors. A country would immediately exhaust its quota if permissive policies created a monetary overhang. Countries with persistent deficits would hit credit ceilings and additional credit would not be available or be dependent on stringent conditions set by the Board. Since credit is a transfer from creditors to debtors or to those furthest from stabilization, creditors may need to be compensated. Extensive soft credits would increase the temptation to inflate. So the ACU would have to have strong procedures for monitoring compliance and imposing sanctions.

Delays occur partly because of time differences as ACU transactions go over the three dashed loops in Figure 2: first agent and commercial banks, then banks and CBs and their foreign bank accounts. It is possible to redesign procedures to cut out some of the loops. RTGS could be implemented across banks and between a bank and its CB, with NEFT or RTGS as applicable, between a bank and its retail customer, while advantages of netting may be retained between CBs. It would save excessive cross border transactions and bank charges that currently apply in the ACU, thus reducing transaction costs. Since the loops cut across time zones this adds to delays. These could be eliminated. Reducing the number of days and cutting float would reduce costs.

Procedures would have to be suitably changed, to combine maximum flexibility and speed at the level of individual transactions with netting across central banks. Local correspondent banks can be developed and domestic liquidity used even as ACU accounts are maintained separately. Enhanced data management abilities will facilitate this. The South Asian region at present is totally dependent on foreign correspondent

banks and has zero CB settlement accounts, unlike AEs. Cross border settlement delays are also high in this region, exceeding 24 hours. This should be reversed somewhat. Diversity and competition are beneficial.

More than the absence of capital account convertibility itself, it is the paperwork and procedures required to implement KYC norms that place impediments in smooth cross border flows. These, in turn are required to prevent illegal activities such as money laundering and terrorist finance.

But technology is providing solutions. As payment systems move away from paper transactions to electronic payments clear electronic trails become available. They are suited to and can easily handle large numbers of transactions, and are more secure.

Once the use of electronic UID numbers becomes widespread, KYC will not require physical presence, reducing the delays it causes and facilitating person-to-person transactions and the use of payment gateways not linked to banks. Since the Indian Payments Act gives the CB jurisdiction over these gateways, there is no difficulty in calling for whatever information is required from them, for random small and large transaction checks. They are required to report any unusual transactions. There is also regulatory ownership of these new institutions, along with banks, as part of the overall mandate of financial stability. The inability to insure deposits with non-banking deposit taking institutions may require their accounts to be linked to some bank account, but this is not difficult as credit cards are automatically linked to banks. It will be possible to create competition for banks, and provide alternatives and improve value for customers.

Restrictions and information requirements on certain types of payment flows or customers will not materially affect the efficiency of payment systems. In modern systems, these restrictions can be maintained without cumbersome controls. Norms mandated by membership of the Financial Action Task Force (on June 25<sup>th</sup>, 2010, India became the 34<sup>th</sup> country to join this global standard-setting body), for information and control of capital movements, terrorism and money laundering, are met by countries with full capital account convertibility also. Controls on capital will no longer be a prerequisite to get information on capital flows and to regulate them. Thus modern payment systems by meeting concerns on security and sources of funds will allow the ACU to expand the types of permitted transactions. Most countries in the region have developed modern payment systems, although some smaller countries still have to implement and update RTGS. More regular interactions as part of the SPI and SPC will help spread best practices. Association of the ACU with these should be formalized.

### **B. Regional Financial Integration and Trade Credits**

The large intraregional Asian trade could benefit from financing within the region. Trade integration in the region is much higher than financial integration. Steps are being taken towards the latter since the East Asian currency crises of the late nineties. The reaction to US taper-on in 2013 showing Asia continued to be vulnerable to shifts in investor sentiment, gave a further fillip to these efforts. More Asian financial integration could improve resilience to volatile capital flows.

Asia's large foreign exchange reserves are invested in AE bonds and savings surpluses in real estate or the stock market. A well-developed bond market would help these funds flow to infrastructure investments. The ADB is working to establish an infrastructure bond fund to mobilize regional savings through local currency bonds to promote more stable funding from within the region. The International Finance Corporation arm of the World Bank offers market-based local currency financing through credit enhancement products. Many local banks with strong balance sheets look for cross-border opportunities and would be willing to step out of their own market to invest in bonds. But information on bond prices in other countries requires one-on-one contact, sometimes by phone. A recently established Bloomberg Asean Bond Portal allows banks to see an indicative price and then communicate via chat with other banks and negotiate trade.

A next step would be to offer bond trading. The infrastructure is available to do so when sufficient liquidity develops and country-by-country regulatory issues are addressed. The "Asean trading link" has already established an electronic order routing system between some Asean country stock exchanges so brokers can connect their clients to trade on other exchanges. Hurdles such as differing regulations and tax policies across Asean markets, have to be overcome but some regulators have signed a memorandum of understanding to establish a framework for an Asean Collective Investment Scheme. South Asia should work towards joining these initiatives.

One of the Working Groups of the Asian Bond Market Initiative has the explicit aim to reduce regional foreign exchange settlement risks and improve regional payment/settlement systems. These facilities, along with higher growth in the region, and expansion of physical infrastructure, could reinvigorate trade along the historical old silk route.

Since the dollar is likely to be unstable in the future, payment mechanisms enabling use of other currencies would contribute to global stability, and gradual crisis free adjustment of the international financial system away from dollar hegemony. If such mechanisms had been available in 2008, the 15 per cent collapse in trade could have been avoided. Use of local currency in the ACU may increase as currencies become more convertible and countries follow transparent exchange rate regimes. The rationale for promoting future such use is not to conserve hard currency, but to increase the stability of the GFA. ACU swap lines are designed to support an extended settlement cycle. These can be redesigned to also fulfill potential needs for short-term liquidity and longer-term trade credit. Banks and retail parties can be given real time netting, if the regional currency payment option is selected, as local payment systems improve and converge. Lower transaction costs can then support increasing use of local currencies in trade.

South Asia has very little integration with Asian swap initiatives, and very limited own initiatives. India has offered a swap line for temporary trade credit, even as it has initiated a bilateral swap arrangement with Japan. Current South Asian swap lines, while useful to maintain short-term trade, are inadequate for a liquidity crisis, or longer-term trade financing, despite India's offer of a more general purpose swap line. They need to be formalized and institutionalized, with appropriate safeguards, so that they offer first, anti-

crisis support divided into (a) liquidity and (b) trade support, and second longer-term trade credit. This would both support trade and reduce the need for the precautionary reserve hoarding.

One reason for the lack of effectiveness of the CMI was the dominance of politics and low involvement of CBs. Objective research and technical discussions, more feasible in meetings of CBs, can advance the discussions, while governments negotiate political agreements.

### **C. Macroeconomic Issues**

The region tends to suffer from exogenous shocks to terms of trade and the current account. The ACU tends to reduce these, by imparting some stability to regional trade. The contribution is limited, however, by its current small share in the region's total trade.

The countries have largely similar trends in macroeconomic variables; there are no wide variations in macroeconomic stabilization. No country suffers from hyperinflation. Such similarity is a precondition for a payments union with credits since stability reduces transaction costs and credit risks. So such an evolution of regional payment systems is possible. Macroeconomic heterogeneity, divergence and volatility in rates of inflation and in exchange rates, makes both use of local currencies and provision of credit problematic. Credit conditional upon improved policies may motivate outlier countries to follow better policies.

A well-functioning payment union that encourages trade can also reduce pressures for competitive devaluations to increase exports, and allow some kind of alignment of exchange rates. This is an advantage since a rapid move to a float without appropriate institutions could imply sharp fluctuations or real exchange rate undervaluation that lowers living standards. Ways of moderating capital flow surges that create trade-harming excess volatility and real appreciation in domestic currencies should be explored in fora such as G-20.

Avoiding competitive devaluation can facilitate real appreciation that increases wages and domestic consumption. But currencies have to be competitive enough to support exports, given the large current account deficits, in most countries of the region. Post crisis growth in Asia will have to be driven more by domestic consumption, but expansion of intra-regional trade can ensure healthy balance of payments at the same time. But for this to really work the region has to be expanded to include more Asian countries. The Chinese exchange rate regime is an important benchmark for the region, and long-term appreciation of South Asian exchange rates is limited by the Yuan's appreciation. If the latter was used as a benchmark for individual currencies, it would limit their relative movements.

Considerable financial reforms, institution building, market deepening and convergence to international norms have taken place, and are ongoing. The process is calibrated and gradual so as to maintain financial stability. Modern regulatory institutions spanning the

financial sector have been set up. An Indian financial sector legislative reforms commission submitted its report in 2013 parts of which, especially the focus on consumer protection, will be implemented.

While there is implicit convergence, more explicit coordination across South Asian countries would allow faster convergence, and expand the integration of payment systems.

#### **D. Regional and International: Issues and Institutions**

Although the G-20 gives EMs greater say, institutions—International Monetary Fund (IMF) and WB (World Bank)—that monitor the policies decided on in the G-20, have not changed as much as necessary to credibly reflect the wider dispersion of economic power. EMs have to continue to ask for such a change, and make the case for simple uniform types of financial regulation that can moderate spillovers from AE policies in the shape of risky capital flows and commodity price bubbles. And for symmetry such that the onus for capital-flow volatility is put on source countries also instead of recipient countries having to bear the entire adjustment. All countries should have to internalize spillovers from domestic policies.

Pending meaningful reform in the GFA, and given dangers from volatile and poorly regulated capital flows, EMs have to continue with costly self-insurance. Regional initiatives provide alternatives and may help ensure more symmetric adjustment. With a better balance of power the financial reforms necessary to reduce spillovers of QE policy and strengthen the GFA may be implemented, and EMs gain more freedom to follow context specific macroeconomic policies.

Institutions have an important role in locking in regional cooperation and allowing the Asian growth dividend to be realized. Regional institutions built, starting with the EPU were important in the long movement to the European Union. The East Asian and then the global crisis gave a fillip to the creation of such associations in Asia, but South Asia is under represented in these.

SAARC finance, the SAARC payments initiative and the ACU in South Asia encourage regular interactions of CBs. The ACU could contribute to larger issues if it could be expanded to include more CBs in the region.

Although as economic maturity arrives and full current account convertibility and a full float become feasible, a clearing union is no longer required, good regional payment systems will always be an asset. South Asia has the advantage of the ACU and long experience in running a regional clearing union, which is a base from which to expand towards creating more integrated payment systems. There is lock-in into advanced systems and developed market currencies so institutional mechanisms are required to kick start viable alternatives. US payment systems lag behind those in Europe. This suggests public initiatives have a major role in upgrading such systems. Reducing monopoly and building countervailing power can enhance global stability and contribute to the evolution

of a stable international monetary system. ACU also contributes to maintaining and enhancing regional cooperation towards the ultimate goal of regional monetary and financial cooperation.

### **VI. CONCLUSION**

High transaction costs constrain South Asian intra-regional trade. Good payment systems are one way of facilitating such trade. Institutions such as the ACU and fora such as SAARCFinance have the additional advantage of keeping dialogue going, helping overcome historical conflicts, and achieve convergence in important dimensions.

The prime driver for improvement in payment systems is technology, which has enabled innovations converting manual transactions to electronic, saving time, costs, and reducing errors. A second is liberalization and global market intergration requiring more robust and standardized processes. Changes have occurred in three main areas. First is the shift to electronic cheque clearing; second systems such as automatic clearing house underlying small value or retail transfers such as point of sale for credit/ debit cards and bank automatic teller machines; third Real Time Gross Settlement (RTGS) systems for wholesale or large value transfers. A key element of all three is central electronic clearing and settlement, removing the need for multiple transactions while facilitating the use of modern payment systems, delivery mechanisms and multiple currencies. The report sets out the core principles underlying payment systems and benchmarks and compares their development in South Asian countries. The region has seen more development in wholesale as compared to retail systems. Smaller countries still lag although the SAARC Payment Council offers a forum for regular interaction and learning for convergence of regional payment systems.

The South Asian region also has the advantage of a regional payment mechanism functioning, although at a low level, since the 1970s. But it offers a base, and a history of interaction, that could be built upon using recent developments in payment systems. It was a forum for regular interactions among central banks in a region where there are few others such forums, and may have contributed to some of the observed convergence in macroeconomic policies. Its governance mechanisms worked smoothly, ensuring no country ever defaulted.

The share of ACU transactions as a percentage of total intraregional trade rose steadily, before falling steeply after US sanctions removed a large part of Iranian trade from the ACU. That its use did not collapse, despite the severe setback, indicates its resilience and usefulness. Even while encouraging intraregional trade, the ACU did not prevent a healthy expansion of international trade in the region. The use of local currencies, however, fell as convertible currencies were no longer scarce, and there was a fear of local currency manipulation.

There are arguments made against a clearing union, especially by those who believe markets are efficient. It is regarded as an artificial construct that impedes free markets, which naturally achieve multilateral clearing. But repeated financial crises have reminded

us that markets do not always work well. Moreover, especially in underdeveloped regions, markets may fail to exist. In any case, a range of institutions is necessary to support markets. A clearing union can function as one such or help in the process of setting up such institutions. It allows trade to take place where otherwise it would have collapsed. Since regional trade is not a large part of total trade from the region, its trade distorting effects are small, if any. It can also aid regional financial integration which tends to be even lower than trade integration because of lock-in to dominant western institutions and currencies.

While the ACU had positive spinoffs, it functioned much below its potential. Its main contribution was in providing an alternative channel that has helped overcome distortions whether of the market (shortage of reserves), internal (conflicts and wars) in the region, or external (sanctions). Distortions can be expected to continue, although their nature may change. Therefore the ACU will continue to have a role. As a forum for regular interactions among the CBs of the area, it may have contributed to other kinds of cooperation.

RTGS that allow real time settlements reduce risks from volatile currencies, and more convergence in macroeconomic policies and financial systems reduce volatilities. The alternative of registering the value at the date of the transaction, even if aggregate settlement is delayed, becomes available. The use of local currencies need to be encouraged, not to conserve reserves as was the initial motive, but to build regional payments systems, promote Asian financial integration, and provide alternatives to the volatile dollar. When firms set prices in the foreign markets, they face the choice between invoicing in their own country's currency, importer's currency, or in reserve currency. Invoicing in local currency reduces pass through of changes in exchange rates, and hence lowers its inflationary impact. This option, and its macroeconomic benefits, is less likely if hard currency trade settlement is imposed through the ACU.

Real time settlement reduces currency and market risk, but easy access to liquidity is required for it. Selecting the option of using local currencies in trade can be supported with domestic liquidity and faster RTGS or netting, thus lowering transaction costs. Further expansion in regional swap lines can contribute to maintaining liquidity in crisis times, as well as to trade credits. This will reduce vulnerability to US\$ volatility and regulatory regimes while impose more competitive discipline on the US\$. Credible alternatives to dollar payment systems would reduce asymmetry in bargaining power and contribute to the evolution of a stable global monetary system. It would also reduce risks given expected continued stresses on the dollar.

The prospects for regional cooperation are excellent with leadership understands the importance of better Asian integration, and of good relations with multiple growth zones. A makeover can help the ACU ride the technology wave and fulfill new emerging needs, even while better meeting the old ones. These new needs include morphing into a good regional payment system, as part of larger Asian initiatives to provide such systems to improve regional financial integration, and contribute to revitalizing historic trade routes, even as other types of trade costs are reduced. As countries in the region move towards

## Payment Systems to Facilitate South Asian Intra-regional Trade

greater capital account convertibility, the ACU should enable some types of capital flows. Concerns about security, and discrimination between types of flows and sources are not an issue because electronic systems can provide this information without procedural delays.

Regional payment systems can evolve further and contribute to more regional trade. Specific additional objectives could be:

- (1) To provide a payments union for permitted international transactions among the territories of participants, with real time settlement for traders in local currency;
- (2) To promote the use of participants' currencies in transactions between their respective territories in order to develop a regional payment system and contribute to global financial stability;
- (3) To promote monetary cooperation among the participants and closer relations among the banking systems in their territories and thereby contribute to the expansion of trade, economic activity and financial integration among the countries of the ESCAP region; and
- (4) To design currency swap and credit arrangements among the participants so as to provide for short-term liquidity and longer-term trade needs subject to suitable safeguards.

Changes could start with an improved real time flow through the system, streamlining of procedures, expansion of facilities offered, types of flows allowed, and number of participants. The larger scope may encourage more explicit cooperation among the countries in the region. More explicit monetary coordination, more transparent exchange rate regimes, and more explicit peer macroeconomic review, would increase confidence enabling the use of local currencies.

Questions requiring further research include the relationship of South Asia exchange rates, and what kinds of exchange rate regimes would enable the use of local currencies.

How can lacunae in retail facilities in South Asian payment systems be removed, and developments be harnessed for trade and other regional cross border flows?

The ACU is used largely for trade transactions. How can it be made more attractive for remittances and other permitted types of capital flows?

How can technological advances be used to reduce delays in the ACU and implement and optimal design of payments?

How can economic mechanisms and research be used to overcome political blocks to Asian associations, and the latter expanded to become part of larger Asian initiatives?