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Creating an Association of Southeast Asian Nations Payment System: Policy and Regulatory Issues

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Abstract

The Association of Southeast Asian Nations (ASEAN) is expected to benefit from the significant growth in the Asia-Pacific payments market. Growth in economic activity would increase the size, scale, and scope of payment transactions. Enabling the scale and scope of payments would in turn increase economic activity. This would also require national payment systems to be regionalized and operate with cross-border and multi-currency capabilities. As existing regional payment arrangements have illustrated how they can be successfully established, ASEAN can itself leverage on its current cooperative forums in creating a more regionalized payment system. In doing so, it faces the following challenges. First, promoting the use of cashless payments would require increased private sector involvement in improving accessibility to basic payment infrastructure, increasing their interoperability, and creating a competitive cross-border retail payment scheme. Second, creating cross-border and multi-currency payment systems could possibly proceed with the interlinking of existing real-time gross settlement systems within the region, and later enlarged, but this would need to be supportive of the broader goals of sequencing financial services liberalization. Third, legal harmonization would need to keep pace with rapid technological and regulatory changes where the introduction of settlement finality legislation is seen as an important precondition to support cross-border payments. Fourth, managing foreign exchange settlement risk would need to be addressed with the growth in global foreign exchange market activities and this would involve the development of risk-reduction features in payment systems. And fifth, enhancing cooperation would involve the creation of regional oversight frameworks and cross-border collateral arrangements as systems become increasingly interconnected and interdependent in the long run.

JEL Classification: E42, E58, G28

Contents

1. INTRODUCTION

This paper examines the policy and regulatory issues involved in creating an Association of Southeast Asian Nations (ASEAN) payment system to support regional financial integration under the ASEAN Economic Community (AEC) 2015 blueprint. Payment systems play a core intermediating function in any modern economy providing the basis for moving money swiftly, safely, and seamlessly. They consist of a set of instruments, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money. They operate as the "plumbing system" for financial markets and help improve macroeconomic management, releasing funds from the clearing and settlement functions for more productive use, reducing float levels, and improving the control of monetary aggregates. The principles of payment systems involve the discharge of financial obligations between two or more payment participants, providing financial markets promptness and certainty in the payment and settlement of borrowed and invested funds. In addition, it provides consumers the convenience of time and location, the choice of payment options, and the privacy and low cost of making payments.

ASEAN member countries vary in their level of economic development and hence progress and readiness in sequencing reforms of their capital accounts, capital markets, financial services sectors, and payment and settlement systems to support regional financial integration (ASEAN Secretariat 2008). As the AEC blueprint envisions the free flow of goods, services, investment, skilled labor, and the freer flow of capital within the region, the expected increase in economic activity would require the creation of an efficient and safe ASEAN payment system. Although traditional correspondent banking networks provide an immediate channel for cross-border funds transfers in the region, it can be argued that a more modern and regionalized payment system can, and should, be developed as the region deepens financial integration in the long run. Such systems would need to support the growth of trade settlement, cross-border retail payments, international remittances, cross-border securities settlement systems (SSS), and foreign exchange settlement.

Table 1 illustrates industry growth projections for the future global payments market, where the Asia-Pacific region is expected to gain the largest share of transaction volumes (28%), transaction values (38%), and revenues (34%) by 2020 (Boston Consulting Group 2011). Transaction volumes and values are estimated to reach US$212 billion and US$301 trillion, respectively. Total payment-related revenues generated will reach US$533 billion.

Although the major source of this growth will be driven by the People's Republic of China (PRC) and India in particular, it can be argued that the ASEAN region as a whole would also benefit from this growth in the Asia-Pacific payments market, particularly as a result of an increase in intra-regional trade and from free trade agreements (FTA), where the ASEAN-PRC FTA, the ASEAN-Republic of Korea (henceforth, Korea) FTA, and ASEAN-Australia-New Zealand FTA have been signed, and the ASEAN-India FTA and ASEAN-Japan FTA are under negotiation as of 2011. This growth trend in Asia coincides with the outlook for remittance flows to developing countries for the East Asia and Pacific (EAP) (US$117 billion in 2013) and South Asia (US$100 billion in 2013) regions which form a larger share compared with other developing regions of the world which is forecast to reach US$404 billion in 2013 (World Bank 2011a).

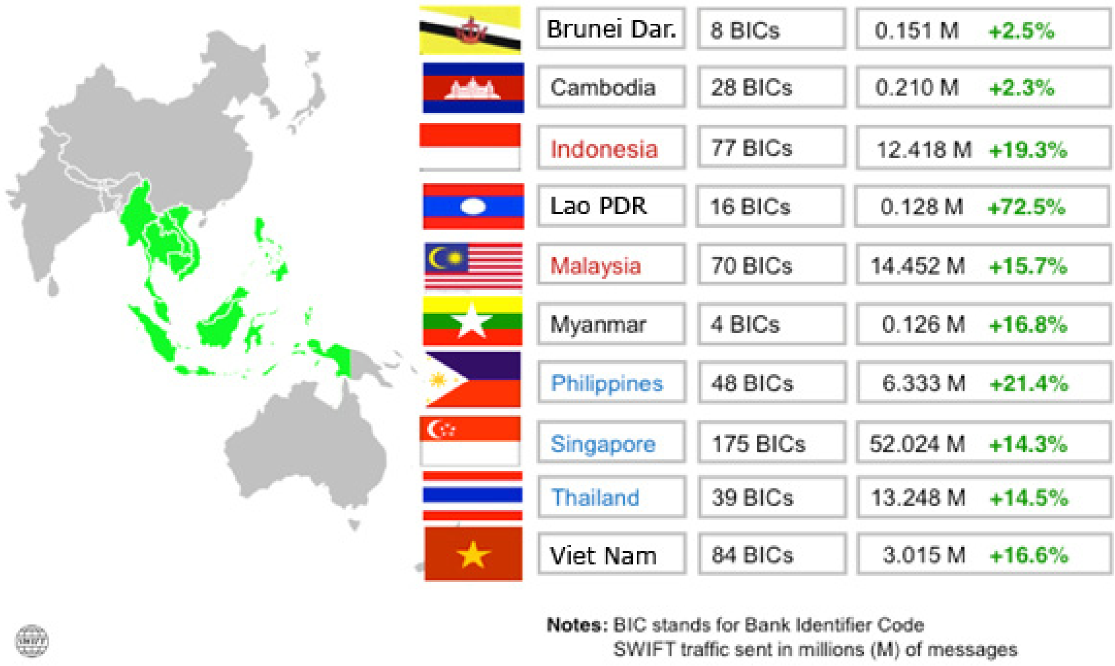
Table 1: Projected Share of the Asia-Pacific Region in the Worldwide Payments Market, 2010 and 2020

2010	North America	Latin America	Western Europe	Central and Eastern Europe	Asia-Pacific	Middle East and North Africa	Rest of World	Total
Volume (millions)	116,700	29,000	78,000	11,900	65,400	4,000	1,200	306,300
Value (US$ millions)	95,595,100	20,841,600	98,739,100	18,647,000	90,913,100	5,314,600	1,323,200	331,373,700
Total revenues (US $millions)	159,900	71,200	146,600	40,300	40,300	29,200	2,400	589,900
2020	**North America**	**Latin America**	**Western Europe**	**Central and Eastern Europe**	**Asia-Pacific**	**Middle East and North Africa**	**Rest of World**	**Total**
Volume (millions)	206,700	109,000	125,200	30,400	212,500	37,500	28,500	749,800
Value (US$ millions)	137,480,600	71,254,100	154,780,000	52,909,400	301,147,200	34,751,600	29,682,800	782,005,700
Total revenues (US$ millions)	284,500	195,200	276,200	97,400	533,800	132,300	60,000	1,579,400

Source: Boston Consulting Group (2011).

Figure 1 illustrates the ASEAN payment traffic sent by country in 2010 as compiled by the Society for Worldwide Interbank Financial Telecommunication (SWIFT). Payment traffic includes transactions related to payments, treasury, securities, and trade finance, and helps measure the level of activity and growth in each country. While Singapore, Malaysia, Thailand, and Indonesia have a larger concentration of payment traffic, there was a positive growth trend for all countries for 2009–2010. A sharp increase of payment traffic can be observed for Lao People's Democratic Republic (Lao PDR) due to an increase in the number of banks that joined SWIFT and heightened economic and financial activities.

Figure 1: ASEAN Payment Traffic Sent for 2010



Source: SWIFT.

The remaining parts of the paper are organized as follows. Section 2 examines the policy issues in creating an efficient payment system for the ASEAN region. Section 3 examines the regulatory issues relating to safeguarding stability. Section 4 concludes the paper.

2. POLICY ISSUES IN PROMOTING EFFICIENCY

2.1 Cash

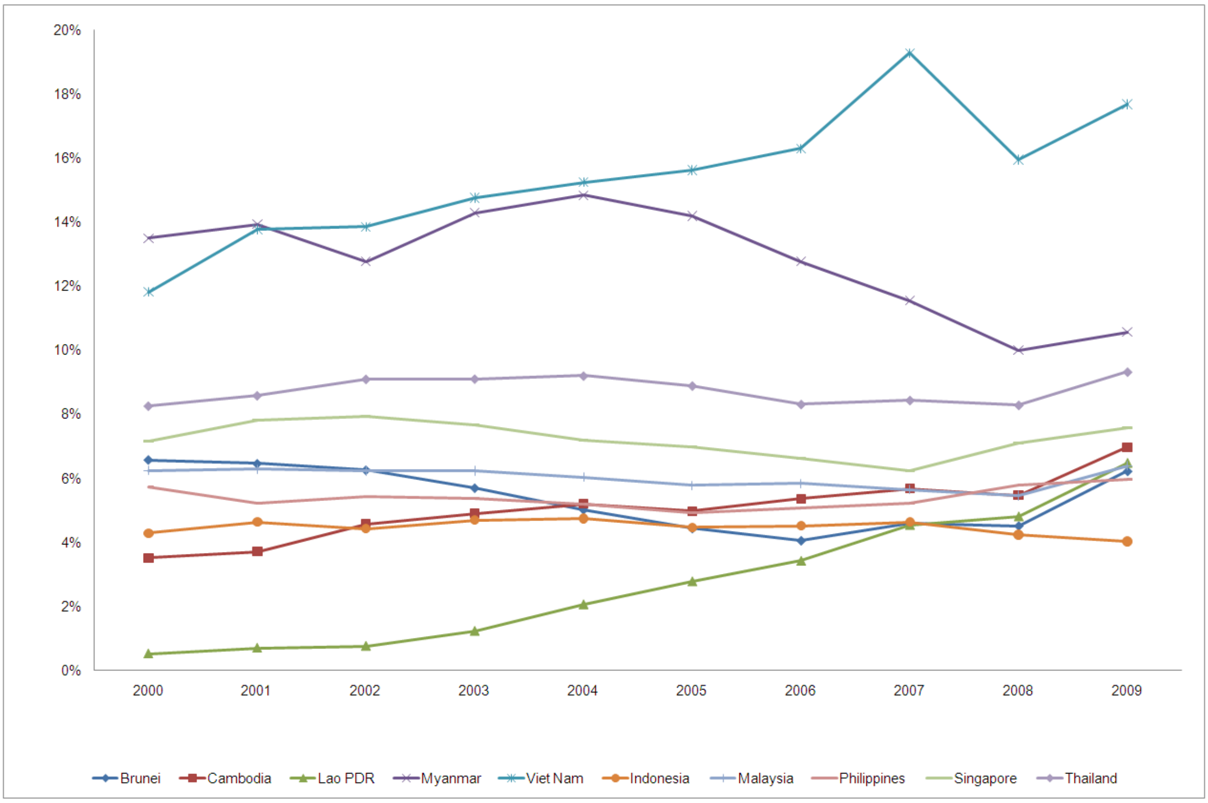
Achieving the vision statement "ASEAN Payments aim to foster integrated, safe, and efficient payment and settlement systems in the region that enable businesses and individuals to make or receive electronic payments with greater convenience" would require the development of a seamless payment system within the region, but one of the most challenging tasks will be promoting the use of more non-cash payment methods, which continues to serve a popular means of payment (WC-PSS 2011).

While a country's payment costs can be substantial at 3% of gross domestic product (GDP), cost-savings of 1% of GDP can also be realized if there is a shift from a fully paper-based to a fully electronic-based payment system (Humphrey, Lindblom, and Bergendahl 2003). In Europe, for example, the gradual move towards the use of electronic payments and substitution of ATMs for traditional banking offices has helped reduce bank operating cost by some US$32 billion, saving 0.38% of 12 nations' GDP over the period 1987–1999 (Humphrey, Bergendahl, and Lindblom 2005).

Payment cost studies conducted in the Netherlands estimate the overall social cost of point-of-sales payments at EUR2.9 billion per year, or 0.65% of GDP, while the share of the cost of cash is 73% of the total social cost or at 0.48% of GDP (Van Hove 2008). Comparatively, in Belgium, the social cost estimate was at 0.74% of GDP, while the share of cost of cash is 75% of the total social cost, or at 0.58% of GDP. In Finland, estimates of the social cost of payments is at 0.3% of GDP, where the share of the cost of cash at 0.1% of GDP (Takala and Viren 2008). These studies further argue that the marginal social cost of cash is much higher than the use of non-cash payment methods, particularly debit cards and electronic purses, so with proper incentives, such cost-savings would lead to the adoption of more efficient payment methods.

This empirical evidence is relevant for ASEAN countries as they move towards introducing more efficient payment systems at the national and regional levels with the wider expansion of the Asian payments market. But ASEAN countries also vary in their payment patterns where electronic payments are widely used in some and emerging in others. Figure 2 measures the stock of cash in ASEAN countries as a percentage of GDP for the period 1988–2009. In most countries the stock of cash ranges from 4% to 10% of GDP (for Brunei Darussalam, Cambodia, Lao PDR, Indonesia, Malaysia, Philippines, Singapore, and Thailand). The ratios for Myanmar and Viet Nam are comparatively higher at above 10% of GDP. In terms of stock, there was a clear downward trend for cash in two of the 10 ASEAN countries (for Malaysia and Singapore). Comparatively, a clear rising trend can be observed for Cambodia, Lao PDR, Thailand, and Viet Nam and a more stable pattern can be seen for Indonesia and the Philippines. It is also helps to note that some ASEAN countries, such as Cambodia, Lao PDR, and Myanmar, are highly dollarized, i.e., there is widespread use of hard currency in daily economic activity.

Figure 2: Cash in Circulation as a Percentage of GDP



Brunei = Brunei Darussalam.

Source: IMF (2011), ADB (2010b).

The rate of cash substitution with non-cash payment alternatives is one of several factors that has helped reduce the stock of cash. Some of these alternatives include the use of checks, direct credits, direct debits, debit cards, credit cards, and electronic money for financial transactions. But the use of such alternatives relies on the retail payments infrastructure such as the availability of automated teller machines (ATM) and point of sale (POS) terminals and the circulation, and use, of payment cards to substitute for cash payments. As the stock of cash also reflects cash as a “store of value”, financial authorities can also play an influential role in establishing whether they want the stores of value represented by cash to migrate to banks, post offices, telephone, companies or to some other “non-cash” storage point. And as retail and business customers do not use the central bank for accounts, this linkage requires close collaboration with the institutions that are used for stores of value.

2.2 Cashless Payments

Promoting retail electronic payments as cash substitute and encouraging the establishment of a cross-border retail payments scheme are among some of the key challenges in achieving an efficient payment system. Recent studies in the European context argue that electronic retail payment instruments help stimulate economic growth and, moreover, show that initiatives to integrate and harmonize retail payment markets foster trade and consumption and have a beneficial effect on the economy (Hasan, De Renzis, and Schmiedel 2012).

Comparatively, cashless retail payment in the EAP region remains relatively low with an average of 13 transactions per person a year (World Bank 2011b). This compares with 100 or more for the European Union (EU), 20 for Europe and Central Asia (ECA), and about 19 for the Latin America and Caribbean (LAC) regions. Cashless transactions include payment transactions made with checks, direct credit transfers, direct debits, payments with debit cards and credit cards, and, where available, payments with e-money and prepaid and stored-value cards.

The variation can be explained by the following: the slow development of delivery channels for cashless payments (ATMs and POS), lack of interoperability across systems, limited access for the rural population to modern payment instruments, limited competition, and the needs of the public sector and large commercial firms not being adequately addressed by authorities in charge of reforming the national payment system. Other factors such as anonymity, tax evasion, and its use for precautionary and speculative purposes are also commonly associated with the preference for using cash.

ATM and POS terminal availability is an important factor in promoting cashless payments as they provide the basic payments infrastructure for gaining access to financial services to the wider population. While ATM penetration rates per one million inhabitants are relatively high for some countries (Singapore, Thailand, Malaysia), they remain comparatively limited in others (Cambodia). However, such figures remain lower than developed economies (Japan). Similarly, POS terminal penetration rates per one million inhabitants are comparatively higher in a few countries (Singapore, Malaysia) than other ASEAN countries. Apart from availability, ATM and POS terminal interoperability is also important where all payment and cash withdrawal cards can be used seamlessly in all ATMs and payment cards can be used seamlessly in any POS terminal in a given country, respectively. Such interoperability guides the achievement of Single Euro Payments Area (SEPA) payments in Europe, for example (EACHA 2009). Full ATM interoperability only exists in Indonesia, the Philippines, and Thailand (World Bank 2011c). It remains absent for POS terminals.

Payment cards in circulation also influences the use of cashless payments per one thousand inhabitants in selected countries. Although this is high in a few countries (Singapore, Malaysia), they remain comparatively lower in others. And as expected, such ratios are comparatively lower than in developed Asian economies (Japan). Payment cards are a necessary means to access financial services through ATM and POS terminals, reducing the need to visit a physical bank branch.

The strategic shift towards the use of cashless payments would require a coordinated response by both the public and private sectors (CPSS 2003b). For example, the financial community has established and operated a variety of card schemes (VISA, MasterCard, China Union Pay, American Express, JCB) to provide capability. Global standard players, such as SWIFT, have also connected financial institutions, market infrastructures, and even corporations across borders with secure and standard financial messaging. At the national level, this may be complemented with developing the necessary payment infrastructure to increase the availability of ATM and POS terminals, and hence, expand financial access. Mobile payments have also emerged as a feasible financial services delivery channel that could achieve high penetration rates, particularly in economies where there is a large proportion of the population that lack access to a basic bank account.

At the regional level, the Asian Payment Network (APN) Forum would need to achieve greater scale and scope economies by enlarging the network of ATM service providers and broadening its range of services to support cross-border funds transfers and electronic POS, in addition to its current cross-border ATM cash withdrawal service offering. As this would involve the conversion of foreign currencies for settlement, exchange control regulations would also need to be considered by the concerned authorities. And to guide development, this may evolve under the ASEAN Pay framework established by the region's central banks and monetary authorities. As cashless payments are gradually adopted amongst ASEAN countries, this would also support the growth of cross-border cashless payments.

2.3 Regionalization

Modern payment systems underpin financial integration and have become more regionalized as illustrated by the European Monetary Union with its creation of a common central bank, single currency, and integration of financial market infrastructures (FMI). Prior to the introduction of the euro, the European Currency Unit served as the early means of settlement amongst participating central banks in the European Monetary System (Scheller 2006). As financial integration deepened, the need to link and harmonize payment and securities settlement systems, and related cross-border collateral arrangements, to support monetary-policy operations and strengthen regional financial stability gradually evolved (ECB 2010a; ECB 2009a).

Furthermore, the need to enhance efficiency in cross-border retail payments has led to the creation of the Single European Payment Area (SEPA) where all euro payments, whether national or cross-border, are treated as domestic and will operate under the guiding principles of one currency, one set of instruments (includes credit transfers, direct debits, and payment cards), one legal framework, and greater competition (ECB 2009b; ECB 2006). In the long-term, European banks are expected to benefit from improved cost efficiency and economies of scale and scope (Schmiedel 2007).

The Asian Clearing Union (ACU), established in 1974 and comprising eight members (Bangladesh, Bhutan, India, Iran, Myanmar, Nepal, Pakistan, and Sri Lanka), provides another example of regional payment arrangements established to promote trade and financial integration. ACU's objectives are to facilitate settlement on a multilateral basis, promote the use of participants' currencies, improve monetary and banking co-operation, and expand trade and economic activity among the countries in the Asia Pacific region (ACU 2009). At the heart of the multi-currency settlement system is the use of Asian Monetary Units as a unit of account, comprising of the ACU dollar and ACU euro. This allows participants to settle transactions in US dollar or euro within the ACU mechanism. In addition, a currency swap arrangement also serves as a facility for participants in settling imbalances in their clearing positions for a given settlement period.

Table 2 illustrates initiatives to regionalize payment systems in different parts of the world that can be grouped into two categories—interlink model and single shared platform model.

Table 2: List of Initiatives to Regionalize Payment Systems

Regional Initiative	Interlink Model	SSP Model	Status
ASEAN (Association of South East Asian Nations)			Discussion
BCEAO (Central Bank of West African States)		Y	Live
BEAC (Bank of Central African States)		Y	Live
ECCB (Easter Caribbean Central Bank)		Y	Live
CIS (Commonwealth of Independent States)			Discussion
CMCA (Credit Mutuel de Centrafrique)	Y		Live
COMESA (Common Market for Eastern and Southern Africa)	Y		Implementation
EURO ZONE (European Union)		Y	Live
GCC (Gulf Cooperation Council)			Discussion
SADC (Southern African Development Community)			Discussion
WAMZ (West African Monetary Zone)	Y		Discussion

SSP model = single shared platform model.

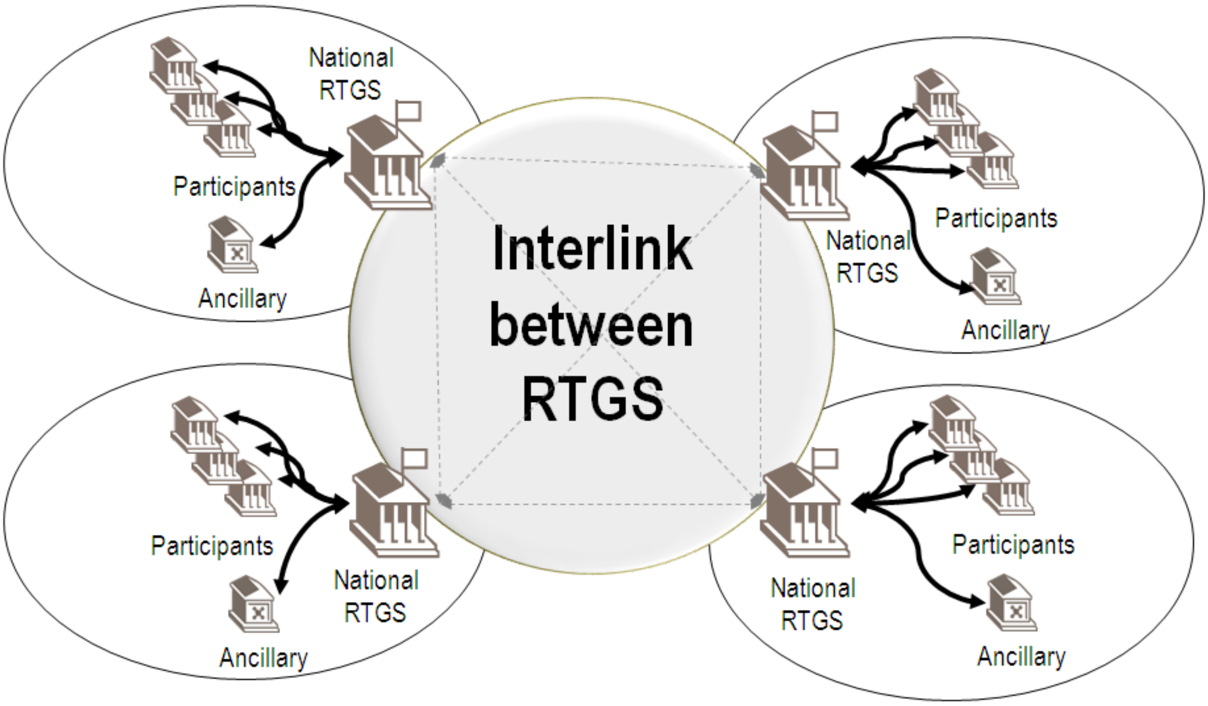
Note: Status as of 18 May 2012.

Source: SWIFT.

An interlink model operates with a connectivity mechanism across different RTGS systems or automated clearing houses (ACH) and support a multiple currency environment. Such arrangements operate in the CMCA region, and have been under consideration in the COMESA and WAMZ regions. The single shared platform model, where a central infrastructure is used under a single currency environment, has been operational in the BCEAO, BEAC, ECCB, CMCA and eurozone regions. In other parts of the world, including ASEAN, regionalization of payment systems have also been under discussion in various policy forums.

Figure 3 illustrates a stylized payment system for ASEAN. Under this arrangement, national RTGS systems operated by the central bank are inter-linked via an inter-linking mechanism to enable cross-border and multi-currency capabilities. Participants such as financial institutions and ancillary systems, where payments or securities are exchanged and/or cleared, have access to the national RTGS systems where monetary obligations are settled real-time in central bank money to help minimize any potential risks. Achieving such connectivity would require harmonizing the legal framework, message standards, and operational hours of each RTGS system among others. As of September 2012, RTGS systems have been operational in seven countries (Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, and Viet Nam) and under consideration in three others (Brunei Darussalam, Cambodia, and Myanmar) in ASEAN.

Figure 3: Stylized Model of a Regionalized RTGS System



RTGS = Real time gross settlement systems.

Source: Adapted from SWIFT.

Bilateral payment arrangements are another alternative where payment systems can play a part in facilitating funds transfers and trade settlements. Basic services include the use of local currencies for trade settlement between exporter and importers intermediated through commercial banks and the central bank, for example. Such arrangements help trading partners reduce their transaction costs. Malaysia's use of bilateral payment arrangements with her trading partners provide such an illustration and are often established in circumstances where the level of development of financial and payment systems of a particular trading partner remains rudimentary (Vichyanond, Sabhasri, and Vajragupta 2002).

Another recent example of a successful bilateral payment arrangement is the Brazil-Argentina Local Currency Payment System (*Sistema de Pagamentos em Moedas Locais-SML*). This is a voluntary bilateral agreement between both countries' central banks under the Mercosur framework that allows exporters and importers in both countries to set prices and pay for goods in their local currencies, respectively (WTO 2009). Key features of the SML includes the SML rate that is published daily and determined by the cross-rate between the Brazilian and Argentinean reference rates and the involvement of both countries' central banks acting as clearing houses. As such, the arrangement seeks to promote trade amongst small-sized entrepreneurs between both countries, reduce their transaction costs, and promote financial integration.

2.4 Financial Services Liberalization

Financial services liberalization, with the gradual removal of market access and national treatment restrictions in the banking, securities, and insurance markets, will also lead to greater competition between domestic financial institutions against foreign financial services providers. This would also impact the supply of alternative payment services, particularly when financial services are provided on a cross-border basis. Technological progress, through the reduction of computing and telecommunication costs, would help expand financial access as illustrated through the promotion of online, mobile, and prepaid card payments (McKinsey 2011). For example, mobile payments have improved financial access and enabled international remittance services in many emerging market economies (CGAP and World Bank 2010; CPSS 2007).

In ASEAN, many countries have further committed to the Protocol to Implement the Fifth Package of Commitments on Financial Services under the ASEAN Framework Agreement on Services Schedule of Specific Commitments. This would see the gradual opening up of clearing and settlement services for financial assets and payment and money transmission services in countries that have made such commitments, which would help modernize the national and regional financial market infrastructures.

Although ASEAN may emulate the success of well-established regional and bilateral payment arrangements as earlier discussed, it also faces unique challenges such as differences in the level of development across member economies, co-existence of both rudimentary and state-of-the-art payment systems, the absence of a common monetary policy and a single currency, and hence, the use of a common settlement currency, and the lack of a common central bank to serve as the main governing structure and settlement institution. Such challenges, although long-term in nature, are not insurmountable and would require the deepening of regional monetary cooperation.

2.5 Cross-Border and Multi-Currency Systems

Although traditional correspondent banking networks exist to provide cross-border payment services, cross-border and multi-currency payment systems in ASEAN would need to be gradually developed to support the growth in scale and scope of large-value payments and securities transactions that would originate from increasingly integrated capital and financial markets. While a majority of countries have modernized their payment systems by adopting deferred net settlement systems such as ACHs and check clearing systems to more state-of-the-art RTGS systems that handle large-value financial market transactions, for example, such systems would require further enhancement to include cross-border and multi-currency capabilities (CPSS 1993).

Foreign exchange settlement systems with payment versus payment (PvP) capabilities, for example, have been introduced in a number of countries to help reduce potential foreign exchange settlement risks. While the issue of safeguarding stability is a major concern and discussed in the following section, the issue of developing foreign exchange settlement systems that meets international standards would help increase foreign investor confidence and support the straight through processing of payments.

Cross-border securities settlement is another area the region would need to consider as part of its strategy to create an efficient and safe post-trading infrastructure as the cross-border bond transaction cost in the ASEAN+3 region (including the PRC, Japan, and Korea) are generally higher than those of the(US) or the European Union (EU) (ADB 2010a). As an expansion in investment and the freer flow of capital can be expected from financial integration, the need to introduce delivery versus payment and cross-border features in domestic SSSs, as well as their regulatory oversight, would become increasingly important (CPSS 1995; CPSS 1992; CPSS-IOSCO 2001).

Alternatively, slow progress in the development of the region's bond market also raises issues about the immediate need for building and improving the supporting infrastructure, although there may be a need to explore the development of a regional central clearinghouse for the possible growth in over-the-counter derivatives (Felman et al. 2011; Gray et al. 2011). Some immediate key challenges include assessing the costs and benefits of joining ongoing regional initiatives such as the Asian Bond Market Initiative (ABMI), Regional Settlement Intermediary (RSI) proposal, or the Pan-Asian CSD Alliance where a common platform and pilot project is being implemented (ADB 2010a; Euroclear 2010).

Trade settlement using local currencies has also emerged as an important initiative in ASEAN. As an increase in trade in goods can be expected under the AEC, promoting the use of ASEAN local currencies for trade settlement can help reduce transaction costs (ASEAN Secretariat 2010). This can be achieved by reducing the reliance on hard currencies, and the need for converting currencies twice during settlement. Some key challenges, however, would be promoting their use to commercial banks and exporters/importers that mainly use hard currencies to hedge against possible foreign exchange risks (Vichyanond, Sabhasri, and Vajragupta 2002).

2.6 Regional Cooperation

ASEAN central banks and monetary authorities have long been involved in various regional cooperation forums and initiatives in modernizing payment systems. Regional forums have included the ASEAN Working Committee on Payment and Settlement Systems (WC-PSS), ASEAN Pay, the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP), and the South East Asian Central Banks (SEACEN) Research and Training Centre. Table 3 summarizes selected regional forums and initiatives related to ASEAN payment systems.

Table 3: Selected Forums and Initiatives Related to ASEAN Payment Systems

Regional forums		**Country involvement**									
		BN	**ID**	**KH**	**LA**	**MM**	**MY**	**PH**	**SG**	**TH**	**VN**
ASEAN WC–PSS		■	■	■	■	■	■	■	■	■	■
ASEAN Pay			■				■	■	■	■	
EMEAP			■				■	■	■	■	
SEACEN		■	■	■	■	■	■	■	■	■	■
Regional initiatives	**Focus**										
APN Forum	Retail payments		■				■	■	■	■	
ACE	Securities	■	■	■	■	■	■	■	■	■	■
ABMI RSI	Securities		■		■		■	■	■	■	■
Pan-Asian CSD	Securities		■				■			■	

Note: Data as of 30 August 2011. Involvement in regional forums and initiatives is through membership or as observer.

Source: Author's compilation.

The ASEAN WC-PSS was established in 2010 and comprised of the region's central banks. This aimed to fulfill the need for efficient, secured, and reliable payment and settlement systems to support regional financial integration and increased economic activities under the AEC blueprint, which seeks to guide the region towards the free flow of goods, services, investment, skilled labor, and freer flow of capital. The scope of work involves studying the current conditions of payment and settlement systems in member countries and to draft a common vision and strategic framework to help guide current and future domestic development plans (WC-PSS 2011).

ASEAN Pay was conceptualized at the ASEAN Finance and Central Bank Deputies Meeting in October 2002. It started as an initiative to create cross-border payment linkages in the ASEAN region and to facilitate a more efficient, secure, risk-contained, and timely settlement of international payments among the ASEAN countries. Five ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) are represented in this forum where a steering committee helps to oversee and supervise the overall project, and determines policy and project direction. ASEAN Pay's most notable achievement is the development of a standards framework which has three main objectives: set forth a common set of standards on cross-border retail payments, clarify rules and regulations on cross-border transactions, and reinforce the steering committee's guidance to network service providers.

EMEAP is a cooperative organization of central banks and monetary authorities in the East Asia and Pacific region that was established in 1991. It comprises the central banks of eleven economies and has as its main objective to strengthen the cooperative relationship amongst them. Five ASEAN central banks are represented in this forum (Indonesia, Malaysia, Philippines, Singapore, and Thailand). Its Working Group on Payment and Settlement Systems serve as a policy discussion forum for the payment systems directors from member economies. One of the group's achievements has been the compilation and publication of *Payment Systems in EMEAP Economies* and *Foreign Exchange Settlement Risk in the East Asia-Pacific Region*, which reflects the group's collaborative efforts in response to initiatives led by the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements (BIS) (EMEAP 2002; EMEAP 2001). In other areas, the group has worked to examine the technical aspects of national RTGS systems that operate within the region and the feasibility of establishing a regional payment-versus-payment system to help reduce foreign exchange settlement risk.

SEACEN has served as the major platform for training and research for many Asian central banks in addition to those of ASEAN. The centre, in collaboration with international partners such as the CPSS, has helped build capacity and networking opportunities for central bank officials at both the intermediate and advanced levels on the important role of payment and settlement systems in emerging economies. All ASEAN countries are represented in SEACEN.

ASEAN countries have also been involved in regional initiatives as follows: the APN Forum, the ASEAN Common Exchange Gateway (ACE), the ABMI RSI, and the Pan-Asian CSD Alliance. The APN Forum, organized since 2006 and represented by eight network service providers in six member countries (Indonesia, Malaysia, Philippines, Singapore, Korea, and Thailand), was a follow-up development to the ASEAN Pay objective, as earlier discussed, which aims to enhance and expand services for cross-border ATM linkages with the establishment of common standards and business operations framework. ACE aims to provide a gateway for establishing electronic trading links among ASEAN stock exchanges to support the development of regional capital markets (ACMF 2009). ABMI RSI envisions the establishment of a post-trading settlement infrastructure for cross-border securities (ADB 2010a). And similarly, the Pan-Asian CSD Alliance proposes the development of a common platform for processing cross-border securities transactions in Asia (Euroclear 2010).

3. REGULATORY ISSUES IN SAFEGUARDING STABILITY

3.1 Financial Market Infrastructures

ASEAN countries would also need to safeguard the stability of the key FMIs that operate within, and in the foreseeable future beyond, their jurisdictions. This has received much attention following the recent financial crisis in the US and Europe (CPSS 2010; CPSS 2001; CPSS 2000; ECB 2010b). The principles for FMIs cover Systemically Important Payment Systems (SIPS), Central Securities Depositories (CSDs), Securities Settlement Systems (SSSs), Central Counterparties (CCPs), and provides guidance for over-the-counter (OTC) derivatives and trade repositories (CPSS-IOSCO 2012). It also addresses the key risks relating to systemic, legal, credit, liquidity, general business, custody, and investment, and operational issues, and outlines the responsibilities of central banks, market regulators, and other relevant authorities for FMIs. Furthermore, recovery plans and resolution regimes for FMIs would also need to be put in place in the event of their disorderly failure that could lead to severe systemic disruption (CPSS-IOSCO 2012).

US and EU regulatory responses to the recent financial crisis help provide illustrations where authorities have introduced the Dodd–Frank Wall Street Reform and Consumer Protection Act and the Markets in Financial Instruments Directive (MiFID), respectively, to help manage and reduce systemic risks. Recommendations for the clearing of credit derivatives by a CCP to prevent any potential default are amongst one of the recent developments. Proposals have also included ring-fencing basic bank utility services such as deposits, loans, and payment services from the riskier and speculative activities of banks to protect retail customers (ICB 2011). As global financial regulations evolve, ASEAN countries would need to assess their possible impact on their respective financial market infrastructures to prevent the possibility of any regulatory arbitrage or competitive disadvantage.

3.2 Legal Framework

As cross-border and multi-currency systems cut across multiple jurisdictions, the need to develop a harmonized legal framework to provide greater legal certainty becomes more apparent (Legal Certainty Group 2008; CPSS 2006a). Challenges include ensuring that the legal concepts of finality, netting, collateral, zero hour rules, and conflicts of law are addressed in relevant legislation. This would include making amendments to related insolvency or bankruptcy laws or the drafting of explicit legislation that provides legal certainty for settlement finality to mainly prevent the possible unwinding of payments should a participant default against its financial obligations in a payment system, which could further create systemic risk and compromise financial stability. Apart from the role of the central bank and other related financial authorities, governments are uniquely positioned to provide enabling legislation to support finality in the payments chain and create certainty in insolvency situations. Finality protection has also been a precondition for joining some multi-currency payment systems such as the Continuous Linked Settlement (CLS) system to ensure full observance with international standards and to prevent any possible systemic risks to participants in the system (CLS Bank International 2011).

According to the IMF/World Bank Financial Sector Assessment Program (FSAP) results and recent surveys, the legal framework for many developing countries and countries in the EAP region in particular, suggests considerable improvement is needed to address the above payment and securities settlement concepts (World Bank 2011b; IMF and World Bank 2002). For example, there is a lack of settlement finality rules in half of the countries surveyed, suggesting that there may be some legal uncertainty remaining in certain jurisdictions in the event of insolvency. Furthermore, although the results for securities settlement where the issue of finality of securities ownership transfers is comparatively better, this is lacking behind other regions of the world. Singapore and Malaysia help illustrate how the region's authorities have introduced explicit legislation that addresses such concerns, namely the Payment and Settlement Systems (Finality and Netting) Act of 2002 and the Payment Systems Act of 2003, respectively.

The EU and many other EU accession countries in the European and Central Asian regions illustrate a high degree of harmonization of legal frameworks as suggested by the survey. This is largely attributed to the adoption of the Settlement Finality Directive back in 1998. Other relevant Directives include the Financial Collateral Directive that governs the provision of financial collateral in the EU, MiFID that governs investment services and the pursuit of investment activities, and the Directive on the Reorganization and Winding Up of Credit Institutions. On 15 September 2010, the EU also published proposals for a European Market Infrastructure Regulation (EMIR) to help increase stability in the OTC derivative markets.

One possible approach that ASEAN countries can adopt in harmonizing their legal frameworks with respect to settlement finality is to introduce a Model Law on Payment and Securities Settlement Systems as a guideline for member countries to follow before interlinking their RTGS system. Such an approach has been adopted in Central America and the Dominican Republic (Dubon and Heinrich 2011).

3.3 Foreign Exchange Settlement Risk

In a recent survey of global foreign exchange market activity, the turnover and cross-border dimension of transactions were found to have increased over a three-year period (BIS 2010). Average daily turnover increased to US$4.0 trillion in April 2010 from US$3.3 trillion in April 2007, mainly due to a 48% growth in turnover of foreign exchange spot transactions. Cross-border transactions were found to represent 65% of trading activity, while local transactions accounted for 35%, the lowest share ever since the survey was conducted. The average daily turnover in the foreign exchange market that involved ASEAN currencies, measured by their percentage shares, increased for the Singapore dollar, the Malaysian ringgit, the Philippine peso, and the Indonesian rupiah during 2007–2010.

A major issue associated with the growth in foreign exchange market activity is the possibility of foreign exchange settlement risk. Since the failure of financial institutions arising from their risky and speculative trading on the foreign exchange markets have prompted the need to monitor, manage and reduce the associated foreign exchange settlement risk, central banks and monetary authorities have responded with the issuance of international principles and best practices (CPSS 2008b; CPSS 1998; CPSS 1996; CPSS 1993).

In the Asia-Pacific region, authorities have responded with a major study into foreign exchange settlement risk which found that financial institutions in some countries faced considerable intraday, or even inter-day, exposures due to the wide time zone differences involved in the settlement of a foreign exchange transaction (EMEAP 2001). This has prompted many countries to create awareness of such risks to the banking industry and to introduce PvP capabilities in their RTGS systems to help reduce foreign exchange settlement risks.

As the AEC may lead to an expansion in investment and freer flow of capital in the region, the need to manage foreign exchange settlement risk arising from an increase in foreign exchange trading activity would become increasingly important. In order to gauge the significance of such risk, it helps to conduct surveys or supervisory reviews into the foreign exchange trading activity of financial institutions and measure its size against bank capital (BCBS 2012; CPSS-BCBS 2000).

Furthermore, it might help to introduce PvP capabilities into existing RTGS systems where this is applicable. Such PvP capabilities seek to ensure the finality of settlement for foreign exchange transactions, thereby eliminating any settlement risk. The CLS system, as adopted by Singapore, provides an illustration whereby some of the basic entry criteria include eligibility of currency, settlement bank membership, adoption of settlement finality rules, and provision of liquidity providers (CLS Bank International 2011). Other existing PvP arrangements include the cross-border linkage of the Malaysian and Indonesian RTGS systems with the Hong Kong, China US dollar (USD) Clearing House Automated Transfer System (CHATS) (HKMA 2012).

3.4 Cooperative Oversight

As financial integration would create greater interdependencies in ASEAN payment systems, there would be a need for financial authorities to improve in the area of cross-border cooperation. This may take the form of exchanging information in various regional forums to a more formal memorandum of understanding whose scope can range from information sharing, home-host supervisory cooperation, and cross-border crisis management.

Cooperative oversight arrangements currently exist for systems such as CLS and SWIFT, for example, where the US and Belgian central banks have lead oversight authority, respectively, and where other central banks may also be involved in oversight (CPSS 2005). In the European context, existing memoranda of understanding have addressed cooperation between payment systems overseers and banking supervisors, cooperation between EU banking supervisors and central banks in crisis management situations, cooperation between EU banking supervisors, central banks, and finance ministries in financial crisis situations, and cooperation between EU financial supervisory authorities, central banks and finance ministries on cross-border financial stability (ECB 2010a).

3.5 Cross-Border Collateral Arrangements

Creating cross-border collateral arrangements (CBCA), in addition to information exchange and swap arrangements, also provides a possible area for cooperation in creating a reliable systemic liquidity infrastructure to support the smooth operation of payment systems and to help safeguard financial stability (CPSS 2006b; World Bank and IMF 2005). In the Asia-Pacific context, CBCAs have been discussed as a way of maintaining regional financial stability especially after the recent global financial crisis and the role of using central bank money in payment systems (EMEAP 2010). Such arrangements may help broaden the types of eligible collateral that may be accepted to meet the routine or emergency needs for extra liquidity by financial institutions, thereby alleviating the liquidity pressures they may face during their daily operations. It also concerns the role of using central bank money in payment systems (CPSS 2003a). As CBCAs are established, there are improvement opportunities to automate the arrangements through further RTGS interlinkages.

4. CONCLUSION

Achieving an ASEAN payment system would help support the smooth and safe flow of funds transfers as the region deepens financial integration. While current cross-border payment arrangements in other regions of the world help illustrate how they can facilitate cross-border funds transfers, promote bilateral trade and capital markets, and safeguard financial stability, ASEAN faces its own unique challenges on two fronts.

On the efficiency front, the region faces two challenges. First, promoting more efficient cashless payments would require basic payment infrastructure to be developed. ATM and POS terminals availability, which serve as more efficient financial services delivery channels than bank branches, would need to expand. Moreover, enabling interoperability and technical standards harmonization across systems would also help reduce investment cost, create greater scale economies, and support the straight through processing of payments. Among some of the important standards includes the ISO 20022, which supports the end-to-end straight through processing of payments, and the adoption of the international bank account number (IBAN) standard. Apart from increasing this supply of financial services, demand management would also involve promoting the use of cashless payments through an innovative and competitive cross-border retail payments scheme, for example, where alternative payment methods like credit transfers, card payments, and electronic money are developed by ASEAN financial services suppliers. While this would largely be market-led and evolve through private sector initiatives in response to likely business case scenarios, it may also benefit from the broader guidance from the financial authorities where the issue of sequencing financial services liberalization, such as in permitting cross-border financial services, may be involved. Such developments may be addressed in national financial sector development plans where appropriate.

Second, creating cross-border and multi-currency payment systems would need to support the broader goals of sequencing financial services liberalization. As ASEAN develops its FMI in line with international best practices in its move towards financial integration, it will help strengthen the competitiveness and resiliency of the region’s financial system vis-à-vis other regions of the world. But in doing so, ASEAN countries would need to assess whether or not increased interdependencies of systems would compromise financial stability or undermine the competitiveness of domestic financial institutions. Developing foreign exchange settlement systems and establishing a regional settlement intermediary for cross-border securities are among some of the immediate issues faced by ASEAN countries as they move closer to financial integration. Another key issue relates to the initiative to promote the use of ASEAN local currencies for trade settlement to help reduce the associated high transaction costs. Apart from convincing exporters and importers of the benefits of using local currency, this may also require considerable central bank involvement and support in terms of setting reference rates or interlinking RTGS systems.

On the stability front, the region faces three challenges. First, legal harmonization would need to keep pace with rapid technological and regulatory changes. This would require, for example, the adoption of settlement finality rules in relevant legislation such as in insolvency laws or in an explicit payment and settlement systems law. This seeks to provide legal certainty to mainly prevent the possible unwinding of payments should a participant default against its financial obligations in a payment system, which could further create systemic risk and compromise financial stability. As such, adopting and harmonizing settlement finality rules would be a precondition for creating cross-border and multi-currency payment systems.

Second, managing foreign exchange settlement risk would need to be addressed with the likely expansion of related currency trading. As a possible first step, this may involve creating awareness amongst financial institutions on how foreign exchange settlement risk arises and how they may be measured and managed. Furthermore, adoption of PvP capabilities in RTGS systems may be considered, where applicable, to ensure settlement finality in foreign exchange transactions.

And third, enhancing cross-border cooperation would involve the creation of cooperative oversight frameworks and CBCAs. As payment systems become increasingly interconnected and interdependent, there would be a need for financial authorities to consider cooperative oversight issues of such systems. This may take the form of exchanging information in various regional forums to a more formal memorandum of understanding whose scope can range from information sharing, home-host supervisory cooperation, and cross-border crisis management. While CBCAs serve as a supporting measure for maintaining regional financial stability, their use in routine or emergency situations would also need to be considered by financial authorities.

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