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A Proposal for a New Regional Financial Arrangement: The Reserve Liquidity Line

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Abstract

This paper examines the limitations of the Chiang Mai Initiative Multilateralization (CMIM) as a regional financial safety net in East Asia, and proposes a new regional financial arrangement. To overcome the drawbacks of the CMIM, which has never been activated so far, a new regional financial arrangement suggests that ASEAN+3 members establish a regional reserve system based on a supranational regional reserve asset. The new regional financial arrangement, so-called 'Reserve Liquidity Line' (RLL), guarantees a degree of automaticity in liquidity facility, based on upfront funding instead of pledge funding. As a backdrop of the regional reserve system, some market movements have been manifested to reduce excessive U.S. dollar dependency in East Asia and to enhance the use of local currencies. Establishing the RLL mechanism could find a way of making up for the weak points of the CMIM and responding to the regional needs for effective regional financial arrangements. The proposed operational mechanism of RLL comprises (i) institution building of 'ASEAN+3 Reserves System' (ARS) to manage the 'Regional Reserves Asset' (RRA), (ii) an Operations Account and a Substitution Account, and (iii) a sort of basket exchange rate for RRA valuation.

***JEL Classification**: F33, F55*

***Keywords**: Regional financial arrangements, CMIM, ASEAN+3*

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Contents

1. Introduction

ASEAN+3[1] financial cooperation emerged with the regional need for the coordinated financial self-help measures after the Asian currency crisis in 1997-98. The crisis revealed that East Asian economies had been lagging behind in the development of their financial systems relative to that of real sectors. Underdevelopment of the financial sector was due to several reasons: such as heavy dependence on bank-intermediated financing and insufficient long-term credits, high degree of risk vulnerability to external shocks, thin regional bond markets, and premature capital markets. The regional financial cooperation facilitates more effective risk sharing through better allocation of financial resources and ultimately promoting regional economic growth.

Regional financial cooperation in East Asia has been induced by gradual financial liberalization with increasing cross-border capital flows, establishing regional financial arrangements, and developing local currency bond markets. The regional collective initiatives have been manifested in various aspects: the Chiang Mai Initiative Multilateralization (CMIM), ASEAN+3 Macroeconomic Research Office (AMRO), and the Asian Bond Market Initiative (ABMI) among others.

The need for regional financial safety nets led to creating currency swap arrangements of the Chiang Mai Initiative (CMI), which comprises a network of bilateral currency swap arrangements among ASEAN+3 member states. Its multilateralization was undertaken to enhance the efficacy of providing emergency liquidity support, and the CMIM finally came into effect on March 24, 2010. The CMIM is a commitment to provide U.S. dollar liquidity to the member countries in the form of currency swaps under a single contract, rather than bilateral currency swaps, in response to short-term liquidity shortages and balance-of-payment difficulties in times of crisis. However, the CMIM was initially an arrangement of the regional crisis resolution facility in the sense that it is an ex post remedy after a trigger event of a crisis that macroeconomic situation has already been deteriorated. This made ASEAN+3 financial cooperation extend the CMIM by introducing crisis prevention functions to serve as a regional firewall against financial risks. The structure of the crisis prevention function consists of two-track operations of the CMIM: the CMIM Stability Facility (CMIM-SF) as a crisis resolution mechanism and the CMIM Precautionary Line (CMIM-PL) for a crisis prevention

[1] The Association of Southeast Asian Nations (ASEAN), established in 1967, has ten member states: Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam. The "Plus Three" countries are the People's Republic of China (henceforth China), Japan, and the Republic of Korea (henceforth Korea).

function.[2] That is, the crisis prevention function is augmented to the existing crisis resolution function of the CMIM by emphasizing its precautionary motive.

As with regional macroeconomic surveillance, an innovative effort was made within the CMIM framework to establish the new surveillance unit, called AMRO. Its mandate includes monitoring potential macroeconomic risk vulnerabilities and keeping track of macroeconomic condition and key trends of financial market, as well as promoting regional policy dialogue. It is also important to ensure that potential recipient countries of the CMIM follow up proper conditions for their repayment. Established in Singapore in April 2011, AMRO performs regional macroeconomic surveillance activities, supplementing the global surveillance mission of the IMF Article IV consultations.

The Asian currency crisis was partly attributable to excessive region-wide dependence on bank-intermediated financing, which resulted in both currency and maturity mismatch. As a regional response to this double mismatch, the ABMI was endorsed in 2003 to develop liquid local currency bond markets. In order to foster local currency bond markets in East Asia, it is essential to guarantee adequate credit ratings for bond investments. Accordingly, an important point is the credit quality gap between the low credit ratings of issuers and the minimal credit requirements for investors. To fill this gap, a credit guarantee facility was established to clear obstacles in developing local currency bond markets and to enhance investor's confidence in local currency financing; the Credit Guarantee Investment Facility (CGIF) was mooted at the 2009 annual ADB meeting as part of the ABMI. The CGIF was established in November 2010, with commitments from ASEAN+3 finance ministers and the ADB, as a trust fund of the ADB with an initial capital of USD 700 million from its contributors.[3]

Despite the significant progress of regional financial safety nets, some fundamental issues about the CMIM operation and the role of AMRO have been raised to enhance their effectiveness. This paper reviews the challenges and limitations of the existing regional arrangement in East Asia, and proposes a new regional financial arrangement, so-called 'Reserve Liquidity Line' (RLL) which operates under a regional reserve system.

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[2] Source: The Joint Statement of the 15th AFMGM+3 (2012, http://english.mosf.go.kr/upload/mini/2012/05/FILE_6B0EE9_ 2012 0503182819_2.pdf, accessed April 17, 2014).

[3] The CGIF commenced its guarantee operations on May 1, 2012 and seeks to provide credit enhancements, mainly in local currencies, issued by credit worthy ASEAN+3-domiciled bond issuers. The CGIF announced its first guaranteed bond transaction in Indonesia. With the CGIF's guarantee, PT BCA Finance (BCAF) priced an 8.20% 300 billion Indonesia Rupiah, three-year Medium Term Note (MTN) issuance in Indonesian local currency bond market with the participation of an established Japanese investor, Dai-ichi Life Insurance Company, Limited. This landmark transaction closed on December 2, 2013. (Source: CGIF (2013, http:// asianbondsonline.adb.org/documents/cgif_1st_guarantee_indonesia.pdf, accessed April 17, 2014))

The remainder of the paper is organized as follows. Since we restrict our attention to the regional financial arrangements in East Asia, Section II reviews briefly recent development of East Asia's regional financial safety nets by highlighting the issues of the CMIM limitations. Section III proposes a new regional financial arrangement of the RLL and its operational mechanism. Section IV presents the policy implications with the RLL, and finally Section V concludes.

2. East Asia's Regional Financial Safety Nets

2.1. Development of CMIM

1) Chiang Mai Initiative

During the Asian currency crisis, a number of East Asian countries were disappointed with the IMF-driven economic structural reform. It resulted in initiating regional financial cooperation, and the early proposal of establishing an Asian Monetary Fund was shelved because of the anxiety about insufficient Asia's capacity to provide resources and surveillance activities.

ASEAN+3 countries pursued further regional cooperation toward establishing regional financial safety nets. Their intense efforts led to the establishment of the Chiang Mai Initiative (CMI) in May 2000 with the objective to address short-term liquidity difficulties of ASEAN+3 members by supplementing existing international financial arrangements. Its mechanism was basically a network of bilateral currency swap arrangements between the central banks of ASEAN+3 member states.

2) Chiang Mai Initiative Multilateralization

The ASEAN+3 Finance Ministers Meeting (AFMM+3) moved toward the CMI multilateralization in May 2009. ASEAN+3 members agreed to multilateralize the CMI in such a way that they could utilize emergency liquidity support from the total fund of USD 120 billion under a single agreement. Because the CMIM fund is financed in the form of pledge funding, there is no direct and immediate reduction in each member's foreign reserves. Members also agreed to two-tier contribution scheme: 20% of the total fund contributed by ASEAN countries and 80% by the Plus Three countries.

The CMIM agreement finally came into effect on March 24, 2010. Having initially started with the bilateral swap network of the CMI, the CMIM is in nature a multilateral currency swap arrangement across ASEAN+3 countries. The AFMM+3 in May 2010 agreed to the adjustment in the contributions of Indonesia, Malaysia, the Philippines, Singapore, and Thailand by contributing equally

Table 1. CMIM Contributions and Swap Amounts

	Contributions		Purchasing multiple	Max. swap amount (billion USD)
	Amount (billion USD)	Share (%)		
China (excl. HK)	76.80 (68.40)	32.00 (28.50)	0.5	34.20
(Hong Kong)	(8.40)	(3.50)	2.5	6.30
Japan	76.80	32.00	0.5	38.40
Korea	38.40	16.00	1.0	38.40
Plus Three	192.00	80.00	-	117.30
Indonesia	9.104	3.793	2.5	22.76
Thailand	9.104	3.793	2.5	22.76
Malaysia	9.104	3.793	2.5	22.76
Singapore	9.104	3.793	2.5	22.76
Philippines	9.104	3.793	2.5	22.76
Viet Nam	2.00	0.833	5.0	10.00
Cambodia	0.24	0.100	5.0	1.20
Myanmar	0.12	0.050	5.0	0.60
Brunei Dar.	0.06	0.025	5.0	0.30
Lao PDR	0.06	0.025	5.0	0.30
ASEAN	48.00	20.00	-	126.20
Total	240.0	100.0	-	243.50

Note: Hong Kong uses only the IMF delinked portion of the fund.

Source: CMIM Fact Sheet (2012, http://www.amro-asia.org/wp-content/uploads/2012/05/Fact-Sheet-at-AFMGM+3-in-Manila.pdf, accessed May 23, 2014).

to the CMIM. As for the borrowing multiples, 0.5 applies to China and Japan respectively, 2.5 to the bigger ASEAN economies, and 5.0 to the other economies of ASEAN, as summarized in Table 1. This implies that ASEAN countries can draw larger amounts than their contributions. That is, allowing the economies of higher vulnerability to economic crisis for larger borrowing multiples enhances the effectiveness of the CMIM as a regional lending facility. Despite its loose structure with relatively small size of the fund, the CMIM is evaluated as a significant move towards promoting East Asia's financial cooperation.

In 2012, the 15th AFMGM+3 in Manila has made significant progress of the CMIM. First, the Executive Level Decision Making Body (ELDMB) pledge to double the total size of the CMIM from USD 120 billion to USD 240 billion, without changing the purchasing multiples. As a result,

each of ASEAN big five countries[4] can access up to the maximum amount of USD 22.76 billion, compared to USD 11.38 billion previously. However, the CMIM fund is not paid-in funding but pledge funding, being managed by the member's central bank. Second, the IMF delinked portion of the CMIM fund increased to 30%. Third, they agreed to prolong the maturity and supporting period for the IMF linked portion from 90 days to 1 year and from 2 years to 3 years, respectively. Also the maturities for the IMF delinked portion are extended from 90 days to 6 months and from 1 year to 2 years, respectively. Fourth, the annual ASEAN+3 Finance Ministers and Central Bank Governors' Meeting (AFMGM+3) announced to introduce a crisis prevention mechanism, called the 'CMIM Precautionary Line' (CMIM-PL). The role of the existing CMIM is converted to the crisis resolution mechanism, named the 'CMIM Stability Facility' (CMIM-SF).[5] Fifth, the ASEAN+3 Finance Ministers and Central Bank Deputies Meeting was improved to the status of the ASEAN+3 Finance Ministers and Central Bank Governors' Meeting. The involvement of the central bank governors in the decision making process on the CMIM fundamental issues enables more comprehensive and in-depth discussions on reviewing current economic issues at both national and regional level.

3) ASEAN+3 Macroeconomic Research Office

As for regional economic surveillance, an innovative effort was made within the CMIM framework by building up the surveillance unit of ASEAN+3 Macroeconomic Research Office (AMRO). This was the first step toward regional institutionalization of ASEAN+3 financial cooperation. Established in Singapore in April 2011, AMRO monitors regional economy and contributes to early detection of potential risks, as well as helps effective decision making of the CMIM.[6]

AMRO's surveillance activity implements its mission by distinguishing peace time from crisis time. In peace time, AMRO prepares quarterly consolidated reports assessing the overall macroeconomic condition of both the region and individual ASEAN+3 countries. However, in times of crisis, AMRO provides an analysis report on macroeconomic and financial situation of the CMIM swap requesting country, monitors the use of the disbursed funds from the CMIM, and keeps a close watch on the swap requesting country's compliance with the CMIM Covenants.[7]

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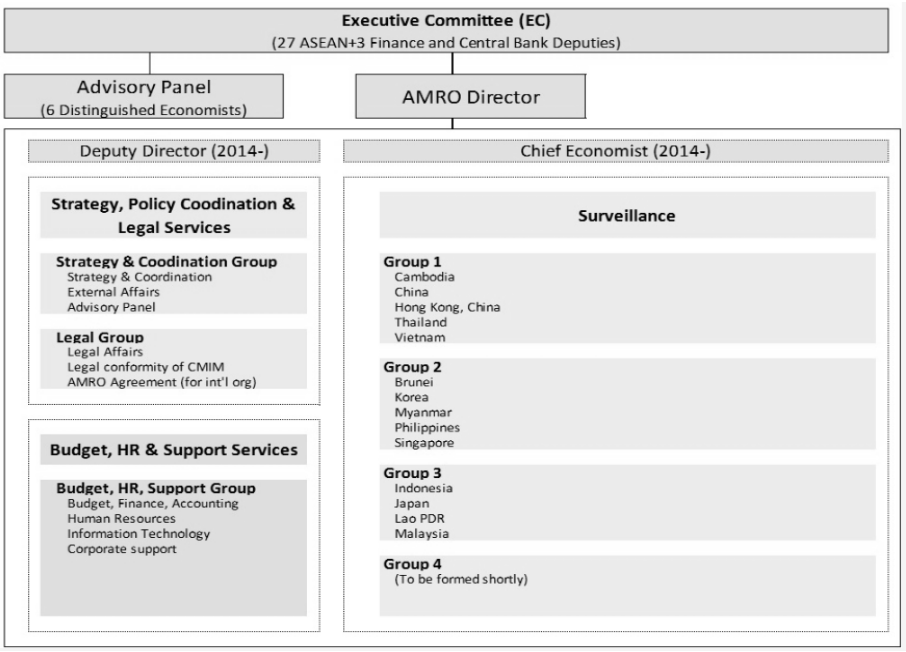
[4] Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

[5] The crisis prevention function applies five ex ante qualification criteria: (i) external positions and market access, (ii) fiscal policy, (iii) monetary policy, (iv) financial sector soundness and supervision, and (v) data adequacy. At the same time, the crisis prevention function can impose ex post conditionality after reviewing the economic reports by the requesting country and the relevant surveillance reports by AMRO/ADB/IMF. (Source: The Joint Statement of the 15th AFMGM+3 (2012, http://english.mosf.go.kr/upload/mini/2012/05/FILE_6B0EE9_20120503182819_2.pdf. (accessed April 17, 2014)

[6] The membership of AMRO comprises 27 finance ministries and central banks of 13 ASEAN+3 countries, including Hong Kong Monetary Authority.

[7] AMRO submitted its first surveillance reports in December 2011, which is a quarterly basis. The first part of individual country reports covers the bilateral surveillance reports over 14 ASEAN+3 economies (including Hong Kong). In addition, as a multilateral surveillance activity, the ASEAN+3 Regional Economic Monitoring (AREM) report is provided quarterly to monitor the global economic condition and its impact on ASEAN+3 regional economy.

Figure 1. AMRO Organizational Structure (as of August 20, 2014)



Source: AMRO (2012, http://www.amro-asia.org/organisation/organisational-structure, accessed August 20, 2014)

AMRO's organizational structure is illustrated in Figure 1. The Executive Committee comprises deputy finance ministers and deputy central bank governors of the ASEAN+3 countries. The Executive Committee maintains strategic oversight of AMRO, providing guidance and broad policy direction for its management. The Advisory Panel comprises six members[8] appointed by the Executive Committee. It is independent of the Director and staffs of AMRO and accountable to the Executive Committee for two years.

The AFMM+3 in 2011 endorsed a study on strengthening AMRO's legal status by constituting an organization with an international legal personality. To further consolidate its legal status, the AFMGM+3 agreed to transform AMRO to an international organization, and they reached consensus on the draft of AMRO Agreement. This would enable AMRO to conduct independent, credible, and objective surveillance, contributing further to full-fledged regional financial arrangements.

2.2. Limitations of CMIM

The international financial safety nets aim to stabilize the international monetary system and financial markets with the aid of international financial cooperation, which provides emergency liquidity on demand to the countries suffering from temporary liquidity shortage and the balance-of-payment difficulties. They refer to a set of crisis-prevention and crisis-resolution measures, such as foreign reserves as a self-insurance, bilateral currency swap arrangements between central banks, regional financial arrangements, and global financial safety nets of the IMF lending facilities.

[8] Three from ASEAN and each of three from the Plus Three countries.

McKay *et al*. (2010) present six criteria for an effective regional financing arrangement: (i) the size of the financing pool or resources accessible, (ii) timely access to relevant information, (iii) high quality analytical expertise, (iv) speed in decision-making, (v) impartiality in lending decisions, and (vi) mechanisms for monitoring and enforcing conditionality. In view of these criteria, the current operational guideline of the CMIM is not enough to satisfy them. In fact, the CMIM is not a full-fledged arrangement and has not tapped in times of the global financial crisis. This section examines weakness of the CMIM as a regional financial arrangement.

1) Adequacy of CMIM Fund Size

One of the important elements of the regional financial arrangements is the available funding amount that should be sufficient for crisis prevention and crisis resolution. The size of swap facilities available under the CMIM is insufficient to support preemptive and short-term liquidity, especially for the multiple crises in the region. Adequate amount of funding will reduce uncertainty of liquidity support, and activations are likely to occur in times of crisis.

The CMIM fund was doubled to USD 240 billion, effective since May 2012, but the available swap amount is still insufficient in times of crisis. Considering 70% of the CMIM's IMF-linked portion without the IMF conditionality, for instance, only about USD 11.5 billion is available for Korea. However, in October 2008 the size of Korea-U.S. currency swap arrangement was USD 30 billion. From a different point of view, the size of the CMI, a network of bilateral swap agreements, amounted to USD 78 billion in 2004 which was approximately 5% of ASEAN+3 international reserves at that time. However, the current amount of USD 240 billion does not reach 5% of ASEAN+3 international reserves as of 2012.

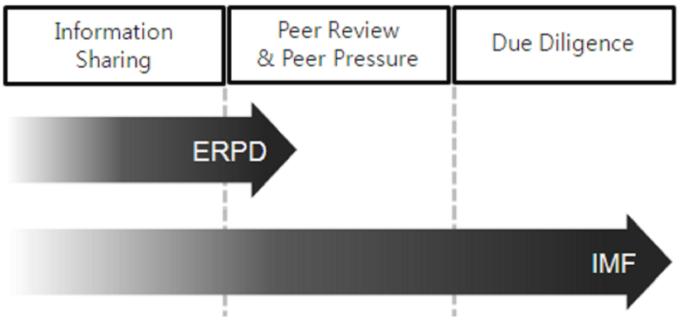
2) Regional Surveillance Mechanism

The existence of a regional surveillance unit is crucial for early detection of members' crisis symptom and proper assessment of their economic situation in accordance with regional economic conditions. The Economic Review and Policy Dialogue (ERPD) has performed low level of regional economic surveillance, but its effectiveness has been suspected and there existed a strong demand for an independent and effective surveillance unit in the region. The components of surveillance activities are (i) information sharing through discussions about regional economic trends, (ii) peer review and peer pressure among the member countries, and (iii) due diligence as higher-level surveillance. However, as shown in Figure 2, the ERPD conducts low-level peer review and peer pressure. More importantly, there is no responsibility for the fulfillment of policy advice and due diligence.

Due to the limited surveillance capacity of the ERPD, the CMIM maintains the IMF-linked portion of the fund to prevent moral hazard problem. Recently, establishment of AMRO reduced the IMF-linked portion of 80% to 70%, and its subsequent reduction is expected in the future along with AMRO's improved surveillance capacity. Another challenge is to establish the structure for objective assessment and to constitute the process of policy consensus within ASEAN+3 framework.

As with AMRO's legal status, it is a corporate body which is regulated by corporate law in Singapore, still lacking legal personality or incorporation as an international organization; for example, the privileges and immunities of AMRO and its staffs are not provided. Thus, AMRO's independent surveillance activities may be marred with its ambiguous legal entity.

Figure 2. Economic Surveillance: ERPD vs IMF



Source: Modified from Park and Kim (2010, p. 6).

3) Escape Clause and Pledge Funding

In principle, each of the CMIM members can escape from contributing to swap requests by obtaining an approval of the Executive Level Decision Making Body (ELDMB). That is, even though the member countries committed to provide their contributions to a swap drawing, they could opt out in case of force majeure. In exceptional cases such as an extraordinary event and domestic legal limitations, this escape option can be exercised without obtaining the ELDMB's approval.

In case that financial crisis hits the East Asian economies, as in the Asian currency crisis with its rapid contagion in the region, the existence of the escape clause restricts the effectiveness of the CMIM activations.

4) IMF-Linked Portion of CMIM Fund

Although the CMIM swap facility is purely financed by ASEAN+3 member states, 70% of the CMIM fund is linked to the IMF conditionality. The use of IMF-linked portion was initially introduced to prevent potential moral hazard problem. However, large IMF-linked portion may cause another side effect. For instance, setting up 70% of IMF-linked portion curtails the available size of liquidity support without the IMF conditionality, and the swap requesting party can use only 30% of the fund. Accordingly, 70% IMF-linked portion is still regarded as being large enough to restrict the member's access to the CMIM, and the portion should be reduced to enhance the CMIM effectiveness.

5) Decision-Making Speed of Fund Approval

Since the CMIM lending facility has never been activated, the reconsideration for speedy decision making is required based on the operational procedure. The requesting country makes contacts with the two countries appointed to coordinate the activation process,[9] then they will inform other members within two days of the request and call for the ELDMB meeting which should reach a decision within one to two weeks.

The speed of decision making depends basically on whether the IMF-linked portion is required or not. If the lending requires only the IMF-delinked portion, the activation process is completed once the borrowing country reaches an agreement with the CMIM. If the lending is granted, currency swaps should take place within two weeks after the ELDMB's approval. However, if the IMF-linked portion is included, the decision making is prolonged until the member country reaches an agreement with the IMF. Thus, having the regional financial arrangements be rapidly and automatically disbursed will enhance the approval speed and its effectiveness.

6) Stigma Effect

Last but not least, it is important to reduce the stigma effect for requesting emergency short-term liquidity. The stigma effect is commonly revealed with the emergency liquidity support programs, even in case of the IMF precautionary lending facilities. A requirement for a regional financial arrangement is minimizing the aftermath of the stigma effect. Otherwise, East Asian economies will still prefer alternative instruments, such as swap lines with the U.S. Fed., whenever they are able to do so.

After the global financial crisis, some East Asian countries suffered from a liquidity shortage; however, no country has activated the CMIM. South Korea and Singapore, for example, experienced a severe liquidity difficulty in financial markets in late 2008 but they made currency swap arrangements with the U.S. Fed. of USD 30 billion, instead of utilizing the regional lending facility of the CMIM, which immediately mitigated domestic financial market risks. Korea chose this channel because, among other reasons, the government might worry about stigma from borrowing emergency liquidity from the CMIM that could aggravate the market participants' confidence and their perception on the severity of economic conditions. Thus, the future phase of the regional financial arrangements in East Asia must be designed in such a way to minimize the stigma effect, even though it seems quite impossible to eliminate it completely.

[9] One from the ASEAN member countries and another from the Plus Three countries.

3. A Proposal of Reserve Liquidity Line

3.1. Basic Idea of Reserve Liquidity Line

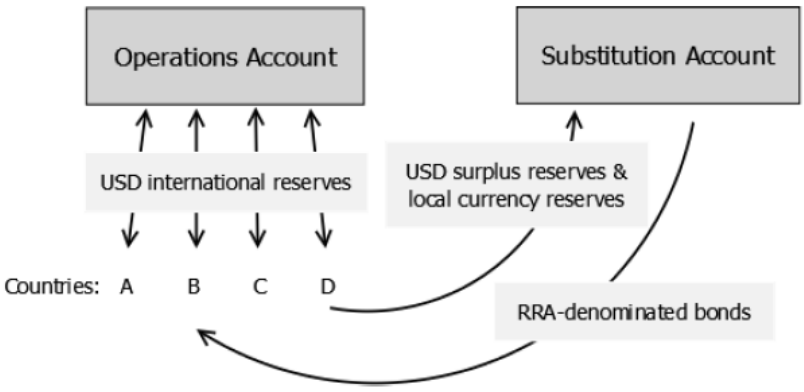
Member states with relatively small reserves can benefit further by participating in the centralized management scheme of a reserve pooling mechanism as their foreign reserve contributions might be more efficiently well-managed. This section proposes a new regional financial arrangement in East Asia, so-called 'Reserve Liquidity Line' (RLL) that is a reserve pooling arrangement based on paid-in capital. The RLL in the current context does not pursue a role of a regional common currency, because the conditions are not yet ripe for the optimum currency area in East Asia due to heterogeneous cross-country differences in economic development and financial market competitiveness. Instead, ASEAN+3 can establish a regional reserve system to provide the RLL to the member states of ASEAN+3 on demand, which is basically a upfront fund to cope with financial crises.

The RLL is basically a regional financial arrangement to supplement the existing CMIM fund in the ASEAN+3 region. The RLL has the feature of a claim on the freely usable regional reserve asset of ASEAN+3. It is a regional reserve pooling arrangement such that member countries contribute and pool part of their official reserves to the 'Operations Account' of the RLL and they can use it when they need emergency liquidity in times of crisis as front-line reserves. In addition, the stigma effect could be reduced if the ARS guarantees anonymity for withdrawing emergency liquidity from the Operations Account, provided the RLL's automaticity is warranted.

A basic difference from the CMIM is the nature of paid-in funding, instead of pledge funding. This feature of the RLL would enhance the effectiveness of the crisis-resolution and crisis-prevention functions of the regional financial safety nets. This is because that the use of the upfront fund can improve predictability of liquidity support in crisis through its automaticity and reducing policy conditionality.

Since the RLL manages the upfront capital of the member's reserve contribution, it requires an independent institution to manage the fund. We call this institution an 'ASEAN+3 Reserve System' (ARS) in this paper. The ARS secretariat manages a common regional asset, so-called 'Regional Reserve Asset' (RRA) by the use of both an Operations Account and a Substitution Account as illustrated in Figure 3. In operating the paid-in reserves, the ARS could offer minimal required return for the reserve deposits to compensate the member central bank's opportunity cost of managing reserves and profitability. For smooth functioning of the RLL, it also requires a coordinated 'RRA exchange rate' for appropriate valuation of the RRA.

Figure 3. Operational Mechanism of the RLL



3.2. Institution Building of ASEAN+3 Reserve System

As for a centralized reserve pooling mechanism, it is imperative that a proper institution be in place to manage the capital effectively and to monitor the member countries' economic conditions and compliance with policy conditionality to minimize the moral hazard problem. Furthermore, the stronger ASEAN+3 surveillance mechanism will need to equip the function of due diligence in all likelihood, as pointed out in earlier section, it necessitates the establishment of a secretariat of technically capable surveillance institution. It coordinates the member's needs and actions and to promote regional policy dialogue. Indeed, an arrangement with low degree of conditionality and weak enforcement will lose market confidence and is therefore unsustainable. Thus, the establishment of the ARS secretariat has to be preceded to operate the RLL effectively.

We can consider two ways of institution building: (i) establishment of a brand-new institution and (ii) extension and reorganization of AMRO. The former is expected to take much cost and time, while the latter is advantageous in that it inherits the accomplishments of the existing ASEAN+3 financial cooperation. The latter also maintains the continuity of ASEAN+3 cooperation, and takes less cost and time, as well as can be properly equipped by regional surveillance capacity. Sussangkarn (2011) points out that the key to the success of a surveillance mechanism is to have its secretariat be strong and professional to conduct independent and credible surveillance. Accordingly, it is reasonable that AMRO evolves towards such a secretariat, rather than simply functioning as a current research office. To this end, AMRO should be developed to become a legally-official international organization in the near future.

3.3. Structure of Reserve Liquidity Line

1) Operations Account

Since the RLL is based on a Regional Reserve Asset (RRA), it plays a role (i) to complement the existing CMIM in the short run and (ii) to develop into a prospective East Asia's regional financial

arrangement in the long run. The RLL is in nature a claim to the paid-in capital that the members already deposited their own committed contributions of international reserves. Thus, as drawn in Figure 3, the member countries deposit committed amount of their USD international reserves to the Operations Account of the RLL, and they can withdraw the USD capital in times of crisis as front-line reserves.

The RLL is different from the CMIM in that it is operated based on the paid-in capital, rather than the CMIM's pledge funding. This feature does not require promissory-note financing and even the escape clause of breaking away from the multilateralized swap agreement. In this case, the member countries can freely withdraw their paid-in international reserves from the Operations Account whenever they need, which does not result in a reduction of a country's international reserves de facto. Moreover, the withdrawal from the Operations Account does not entail the conditionality, and thus the use of the RLL's emergency liquidity lessens the concern about the imposition of harsh policy conditionality and the associated stigma effect backed by its guaranteed anonymity and automaticity.

2) Substitution Account

Even though the Operations Account is a main building block of the RLL, there exists a possibility that the committed contribution of reserves in that account is not sufficient to provide emergency liquidity during times of distress. In this case, the Substitution Account can be utilized to supplement the Operations Account by providing additional liquidity support when the demand for liquidity exceeds the Operations Account's capacity.

The Substitution Account offers the member countries an opportunity to invest their spare international reserves that are non-committed for the Operations Account. Central banks are allowed to deposit surplus U.S. dollar reserves and local currency reserves in excess of the committed amount of reserves as working balances of the Operations Account, and the Substitution Account replaces them with the same value of a regional common asset, so-called a 'Regional Reserve Asset' (RRA).

Member countries then could convert their holdings of international reserves denominated in local currencies into the claims denominated in the RRA. Thus, the account is to enable countries to alter the composition of their reserves by allowing the ARS to issue the RRA-denominated bonds in

exchange for reserves in local currencies.[10] That is, member's additional provision of reserves takes a way of a note purchase agreement, rather than a credit arrangement.

The Substitution Account should facilitate the central bank's diversification of the reserves composition and provide an investment vehicle for its local currency holdings. The account issues the RRA-denominated bonds in return for receiving extra reserves and takes interest fees for additional lending from the account. As with the RRA-denominated bonds, ASEAN+3 may want to consult previous ASEAN+3 background research on Asia Bond Standards and Asian currency basket bonds.

3.4. U.S. Dollar Convertibility

As with the Substitution Account, it is necessary to provide U.S. dollar convertibility for the local currency reserves deposit. Once economic crisis hits a member economy, it needs U.S. dollar liquidity, rather than local currencies. For example, in 2008 the Bank of Korea and the Monetary Authority of Singapore made currency swap agreements with the U.S. Federal Reserve for USD 30 billion each, instead of tapping the CMI. Therefore, the ARS wants to seek to find out the direction of progressing in cooperation with the IMF and the U.S. Fed. Even though they are reluctant to make swap agreements with individual countries in the region, the swap lines between the ARS and the U.S. Fed. can be possible provided that the ARS concludes repurchase agreements or possibly provides the corresponding warranted collateral.

Most of individual countries in East Asia will have difficulties in making bilateral swap agreements with the U.S. Fed., while the RLL-backed swap lines with the Fed. might be viable with the support of the ARS. Although Korea and Singapore have made bilateral currency swaps with the Fed. in 2008, these will not be guaranteed in next time of crisis. Reminding the case of Eurozone during the European debt crisis, credit ratings of some Eurozone countries were overrated comparing their economic fundamentals because in part they are backed by Eurozone itself and its strong economies such as Germany and France. For a similar reason, many ASEAN+3 members will benefit from this opportunity.

3.5. Size of Committed Reserves Contribution to Operations Account

The size of the CMIM, USD 240 billion, might be insufficient in times of crisis. Considering 70% of IMF-linked portion of the fund, only USD 11.52 billion are available for Korea without IMF conditionality, for instance. However, amid the global financial crisis, the amount of Korea-U.S. currency swap agreement was USD 30 billion which is much more than USD 11.52 billion.

From a different perspective, we compare the size of the CMI with total amount of ASEAN+3 reserves. The total size of the CMI was USD 78 billion in 2004, which amounted approximately to 5%

[10] Most of regional financial arrangements maintain an option to issue bonds, including Arab Monetary Fund in Middle East and Latin American Reserve Fund as well as European Stability Mechanism in euro area, except CMIM in East Asia and EURASEC Anti-Crisis Fund in Central Asia.

of ASEAN+3 international reserves at that time. However, the current size of the CMIM does not reach 5% of ASEAN+3 reserves as of 2013.

This subsection presents the hypothetical size of a regional financial arrangement. One of the lessons from the Asian currency crisis is that countries' vulnerability to the risk of sudden stops could have been reduced by managing international reserves efficiently. It is increasingly recognized that we should take into account the importance of capital flows especially for emerging market economies, and thus the adequate size of international reserves should cover a country's external debt. The Guidotti-Greenspan rule specifies that international reserves should reflect short-term external debt. Its rationale states that countries' reserves should prepare the ground against a massive withdrawal of short term foreign capital.[11]

Accordingly, the reserve adequacy measures in our context should include both measures of liquidity-at-risk and trade-related measures. The minimally required size of international reserves is calculated as the sum of these measures: a country's international reserves add up (i) three-month imports to consider abrupt trade imbalances, (ii) short-term external debt with the maturity of 1 year or less, and (iii) foreign portfolio investment outflows in times of crisis. Three-month imports data are taken from International Financial Statistics, short-term external debt is from World Development Indicators, portfolio investment of equity securities (excluding exceptional financing) is from Balance of Payments Statistics, and international reserve data are from World Development Indicators.

During the recent global financial crisis, portfolio investment of equity securities has decreased by 29.5% on average in ASEAN big five economies and the Plus three countries.[12] Thus, in calculating the hypothetical size of international reserves, 30% of portfolio investment outflows in equity securities is assumed.

The hypothetical reserve size is defined by the amount of reserves that a country would have to hold to maintain the coverage of aforementioned (i), (ii), and (iii). To determine the adequate balance of the Operations Account, 5% of hypothetical ASEAN+3 reserves is used as a rule-of-thumb reference level. The calculation presents that the hypothetical size of ASEAN+3 international reserves amounts to USD 6,345.46 billion in 2007. As a rule of thumb, 5% of the amount is about USD 320 billion, and thus it implies that the current CMIM size of USD 240 billion is not sufficient to meet the regional needs of emergency liquidity provision.

Taking 5% of the hypothetical ASEAN+3 international reserves during the global financial crisis as a hypothetical amount of the regional financial arrangements, at least USD 320 billion is required to meet the adequate level of a regional reserve pooling mechanism.[13] Table 2 presents member country's committed reserve contribution to the Operations Account by using the same contribution

[11] Durdu *et al.* (2007) emphasize potential sudden stops as a motive for reserve demand. De Beaufort Wijnholds and Kapteyn (2001) point out that the Guidotti-Greenspan rule deals with an external drain on a country's reserves, disregarding the possibility of an internal drain such as capital flight by residents.

[12] Indonesia, Thailand, Malaysia, Singapore, the Philippines, Korea, China, and Japan.

[13] Since this calculation includes solely short-term external debt, following the Guidotti-Greenspan rule, this amount might stand a chance of being underestimated.

shares as the CMIM. We can also apply the same drawing multiples of the RLL as the purchasing multiples of the CMIM in practice.

Table 2. Proposed Committed Reserves Contribution into Operations Account

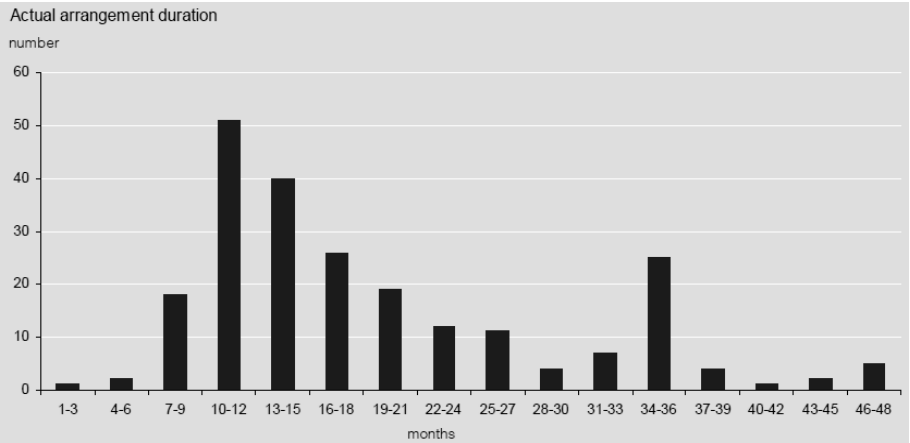
	Paid-in reserves contribution		Drawing multiple
	billion USD	Share (%)	
China (excl. HK)	102.4 (91.2)	32.0 (28.5)	0.5
(Hong Kong)	(11.2)	(3.5)	2.5
Japan	102.4	32.0	0.5
Korea	51.2	16.0	1
Plus Three	256.0	80.0	-
Indonesia	12.1376	3.793	2.5
Thailand	12.1376	3.793	2.5
Malaysia	12.1376	3.793	2.5
Singapore	12.1376	3.793	2.5
Philippines	12.1376	3.793	2.5
Viet Nam	2.6656	0.833	5.0
Cambodia	0.3200	0.100	5.0
Myanmar	0.1600	0.050	5.0
Brunei	0.0800	0.025	5.0
Lao PDR	0.0800	0.025	5.0
ASEAN	64.0	20.0	-
Total	320.0	100.0	-

Source: Author's calculation.

3.6. Arrangement Period of RLL Lending

Figure 4 shows the arrangement period of IMF lending between 1990 and 2006. The demand for IMF lending with the actual duration of six months or less was merely three cases out of 290 programs in the period. In this regard, the six to nine months arrangement period of the RLL seems to be reasonable because the RLL is able to meet the potential demand for short-term emergency lending. If the crisis-hit country's economic situation did not get better after utilizing the RLL support, the country should tap the IMF lending facilities of global financial safety nets.

Figure 4. Arrangement Period of IMF Lending



Source: De Las Casas and Serra (2008, p. 19).

This short arrangement period of the RLL corresponds to the European counterparts: the European 'very short-term financing facility' (VSTF) against speculative attacks (loans of 45-90 days) and the 'short-term monetary support' (STMS) against temporary balance-of-payment difficulties (loans of three to nine months).

3.7. RRA Exchange Rate

In order for the RLL to function well, an appropriate regional exchange rate arrangement is necessary. The valuation of the RRA should be based on a basket of key regional currencies that are relatively important in the regional trading and financial system, and the value of the RRA should be regularly released by the ARS. The choice of key regional currencies helps well-function the RLL resources.

In valuation of the RRA, the following principles must be held. (i) The value of the RRA should maintain its stability for the regional major currencies. (ii) The RRA basket currencies should be freely usable currency which is widely used to make payments for international transactions with their representativeness in intra-regional trade and regional financial systems: for example, as in Table 3, yen and renminbi in addition to U.S. dollar, euro, and pound. Considering economic significance in East Asia, Korean won and Hong Kong dollar could be included as basket currencies after the member's consultation although they are not freely usable in the region. (iii) The weights of the RRA basket currencies should reflect their importance in international trade and financial systems. (iv) For maintaining the stable RRA-basket composition and continuity of RRA valuation, it should be reviewed periodically, e.g. every five years, but not frequent reviews.

Table 3. Use of National Currencies In Trade Settlement [1)]

Unit: %

	Korea–China [2)]	Korea–Japan [2)]	China–Japan [3)]
US dollar	97.3	58.9	52.4
Renminbi	1.4	0.0	0.4
Euro	0.8	0.3	0.4
Yen	0.5	40.2	43.9
Won	0.1	0.6	-
Hong Kong dollar	0.002	0.0001	1.6

Notes: 1) Trade settlement refers to the sum of exports and imports.
2) Average, January-May.
3) May 2012.
Source: Lee and Park (2014, p. 19).

We may refer to some proposals regarding regional currency arrangements for East Asia, including Asian Currency Unit (ACU) proposed earlier by the ADB. Its launch was postponed because no consensus was reached on its technical issues among the member countries. Nevertheless, the idea of ACU might be applied to the details of the RRA exchange rate arrangement if necessary.

4. Policy Implications

4.1. Expected Effectiveness of Reserve Liquidity Line

The establishment of the RLL, based on the RRA, can provide short-term liquidity as a regional financial safety net. The expected strengths of the RLL are enumerated as follows. First, the RLL equipped with lending automaticity can enhance the speed of approval decision making compared to the CMIM with IMF-linked portion. Second, since the RLL is a claim on the freely usable paid-in reserve asset of ASEAN+3, the liquidity requesting country is not constrained by the IMF conditionality and benefits from reduced stigma. Third, in case that a country demands additional drawing from the Substitution Account, moral hazard problem can be reduced by applying appropriate interest rate fee for the RLL lending. Fourth, the operation of the RLL is necessarily based on institutionalization of the regional financial arrangements; for example, AMRO can manage the RLL with the aid of its surveillance activities. This institutionalized operation will ultimately get rid of the IMF conditionality.

Lastly, there are still bilateral currency swap arrangements within ASEAN+3 process, but most of them provide local currencies instead of U.S. dollars: for instance, won-yuan swap arrangement. In this case, the requesting country, e.g. Korea, of local currency swap agreement can utilize the Substitution Account. In case of won-yuan swap for example, Korea first swaps Korean won for Chinese yuan, and the RLL converts yuan to U.S. dollars. This link gets the bilateral and multilateral swap arrangements be complement each other. Expansion of bilateral currency swap agreement in the region could be a way to support additional funds.

4.2. Wider Use of Local Currencies

Recent market volatility over U.S. monetary tightening has made Asia keenly aware of its reliance on U.S. dollar, boosting efforts to use local currencies for trade and other transactions. For instance, China and Japan recently decided to bypass U.S. dollar altogether and exchange their currencies directly, and China and Singapore also announced in 2013 to introduce direct trading between their currencies.

If renminbi is increasingly used in regional trade and financial transactions and its exchange rate flexibility rises over time, variations in the exchange rate of renminbi against other major currencies such as the U.S. dollar will have an increasing impact on the region. This is a challenge for the regional economies. This calls for increased cooperation by the governments and monetary authorities in the region to promote financial integration and strengthen the regional arrangements to increase our collective capacity to deal with external shocks and risk sharing. In this regard, a new scheme of the RLL, especially the function of the Substitution Account, could slash U.S. dollar dependency and would provide a good intermediate goal and effective instrument.

4.3. Costs of Stockpiling Reserves

International reserves are basically regarded as a buffer stock of self-insurance measures against the short-term liquidity shortage and balance-of-payment difficulties. After the Asian currency crisis, the East Asian economies have accumulated international reserve holdings. For example, China and Korea are magnified, and Asian economies' reserve holding reached around 50% of the global share in 2010.

However, stockpiling excessive international reserves necessarily accompanies considerable fiscal costs, including its opportunity costs. One way to reduce the costs for individual countries would be for the countries to pool their international reserves and to benefit from economies of scale through a concentric reserve pooling system.

Accumulating a large amount of international reserves accompanies high costs in the following respects: assets held by international reserves tend to yield low returns; countries holding a large amount of international reserves are exposed to risk of making accounting losses arising from appreciation of domestic currencies against reserve currencies; and international reserve accumulation through running current account surpluses may cause global imbalances.

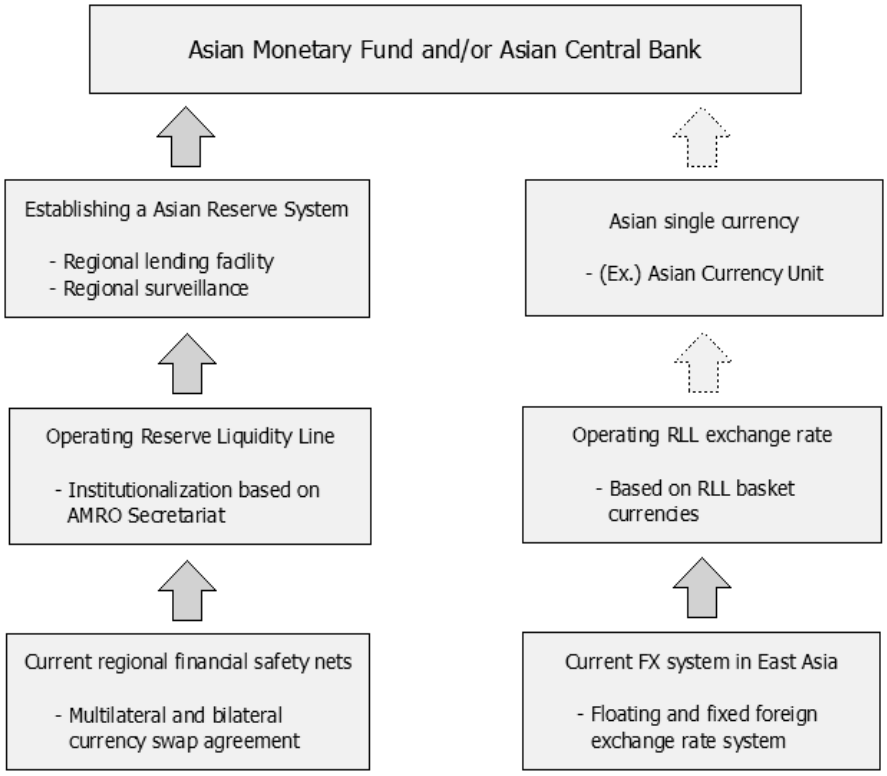
In terms of profitability of holding international reserves, diversification of the reserves composition with the RRA is advantageous. Return and risk of holding international reserves crucially depend on the variation of exchange rates, and it will even be enlarged when the reserves composition concentrates on a specific currency. However, since the RRA exchange rate is determined by the weighted average of the RRA-basket currencies, the RLL will contribute to stable management of international reserves and diversification of reserves portfolio.

4.4. Future of ASEAN+3 Financial Cooperation

Another expected effect of establishing the RLL is that ASEAN+3 can pursue a long-term roadmap toward an Asian Monetary Fund and/or Asian Central Bank by utilizing the RLL and RRA exchange rate coordination. Viewing it from a long-term perspective, the creation and operation of the RLL will lay groundwork for the East Asian financial and monetary cooperation.

As depicted in Figure 5, East Asia's financial cooperation is expected to develop into an Asian Monetary Fund and/or Asian Central Bank through the regional financial arrangement of the RLL and regional exchange rate cooperation, like bicycle wheels.[14] For example, the committed reserves contribution to the Operations Account can be turned over to General Resources Account of an Asian Monetary Fund in the future. However, we note that this RLL proposal should complement to the existing CMIM over the long horizon.

Figure 5. Roadmap for ASEAN+3 Financial Cooperation



Furthermore, regional exchange rate cooperation via coordinating RRA exchange rates is imperative for the well-functioning RLL operation. If this effort carries over to the regional common currency, then we would ultimately expect the establishment of an Asian Central Bank.

[14] In Figure 5, the solid-line arrows indicate the expected direction of its development in all likelihood and the dotted-line arrows represent the probable direction of the flow.

To attain this end, a significant degree of regional collective efforts and the member's political will are required to create favorable circumstances to ensure effective functioning of such a facility. An important precondition for an effective regional financial arrangement is to strengthen the regional surveillance mechanism and to equip it with well-fulfilled policy suggestions and conditionality. In particular, ASEAN+3 clearly demonstrates 'Asian Value' in many aspects, including surveillance activities and noninterference principle in East Asia.

As with AMRO, its Executive Committee should consist of both permanent and non-permanent members, which would enhance the impartiality and independence of surveillance activity and break 'Asian Value' in its operation. In addition, AMRO's staff resources are still quite small. More full-time professional economists should be recruited to conduct full-fledged surveillance activities. The recruiting process should be transparent by assuring the open-door recruitment policy and objective evaluation process, e.g. academic job seminar or testing the applicant's job qualification. Moreover, AMRO staff should be employed on favorable terms, including salary comparable to private sector. It is also expected that AMRO grows over time in terms of staff number and should become an international organization.

5. Conclusion

This paper examines the current issues and limitations of the CMIM as regional financial safety net in East Asia, and presents a new framework of the regional financial arrangements. Limitations of the CMIM are summarized as follows.

First, the size of swap facilities, USD 240 billion, available under the CMIM is not sufficient to support emergency short-term liabilities, especially for the multiple crises in the region. It should maintain adequate fund resources to cope with multiple crises, being capable of making a rapid and preemptive response.

Second, current ASEAN+3 ERPD performs low-level peer review and peer pressure, which weakens the effectiveness of regional surveillance activity. The newly-established surveillance unit, AMRO, still lacks legal personality or incorporation as an international organization.

Third, member countries can opt out by using the escape clause, even though they committed to provide their contributions to a swap drawing in times of crisis. In addition, the CMIM finances its capital through pledge funding, rather than paid-in funding.

Fourth, the existence of IMF-linked portion of the CMIM can reduce the potential moral hazard problem, but currently 70% of the fund is linked to IMF conditionality. It should be reduced more for the CMIM to operate effectively as a regional financial safety net.

Fifth, the CMIM activation process is completed within one to two weeks. However, when the requesting party uses the IMF-linked portion of the fund, the decision making period is prolonged

until the country reaches an agreement with the IMF. This implies that streamlining its lending procedures and introducing automaticity of liquidity support will settle the issue of approval speed.

Finally, the stigma effect is commonly revealed with the emergency liquidity support programs, but the regional financial arrangements should be designed to minimize it as small as possible although its sigma cannot be removed completely.

As envisaged earlier, both from a regional and individual country perspective, it might be desirable to have a concentric paid-in liquidity support system as a front-line facility in East Asia. This paper suggests that ASEAN+3 members establish a regional reserves system by the use of a supranational regional reserve asset. The new financial arrangement, so-called a Reserve Liquidity Line (RLL), guarantees a degree of automaticity in liquidity facility, based on upfront funding instead of pledge funding. The proposed operational mechanism of the RLL comprises (i) institution building of ASEAN+3 Reserves System (ARS) to manage the Regional Reserves Asset (RRA), (ii) an Operations Account and a Substitution Account, and (iii) a kind of basket exchange rate for RRA valuation.

The RLL is in nature a claim to the paid-in capital that the members already deposited their own committed contributions of international reserves. Thus, the member countries deposit committed portion of their international reserves to the Operations Account, and they can withdraw their balance in times of crisis as front-line reserves.

Even though the Operations Account is a main building block of the RLL, there exists a possibility that the committed deposit of reserves in the Operations Account may be insufficient to provide emergency liquidity during times of distress. In this case, the Substitution Account can be utilized to complement the Operations Account by providing additional liquidity support when the demand for liquidity exceeds the capacity of the Operations Account.

The Substitution Account offers an opportunity that the member central banks invest their non-committed foreign reserves into the ARS. Thus the Substitution Account is to enable countries to alter the composition of their reserves by allowing the ARS to issue the RRA-denominated bonds in exchange for reserves in local currencies.

The operation of the ARS and the RLL should contribute to the development of East Asia's financial cooperation in the long run. The goal would be establishing so-called Asian Monetary Fund and/or Asian Central Bank through both the regional financial arrangements and regional exchange rate coordination. To this end, a significant degree of regional collective efforts and the member's political will are required to create favorable circumstances to ensure effective functioning of such a facility.

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