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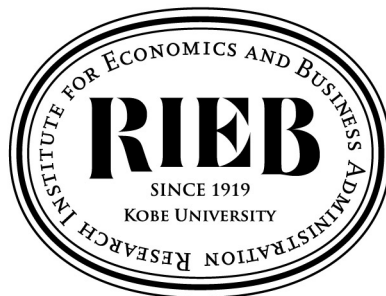
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**On Possible Measures and Processes to
Issue Digital Common Currency in
ASEAN + 3 Including Challenges and
Opportunities**

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On possible measures and processes to issue Digital Common Currency in ASEAN + 3¹ including challenges and opportunities²

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Abstract

Following the previous paper by Inui, Takahashi, and Ishida (2020), this paper discusses possible measures and processes of Asia (ASEAN+3) digital common currency (ADCC) issued by central banks in ASEAN+3 countries/economies backed by the ADCC denominated bonds issued by an international organization (such as AMRO⁶)⁷. This paper also tries to explain authors' views on some possible challenges which need to be solved from practical perspective such as anonymity, counterfeit, AML/CFT⁸, etc. as well as weight of local currencies for the basket currency ACU⁹ which could be used as a currency unit for ADCC (AMRO coin for example¹⁰). In recent years, central banks in many countries are interested in developing the individual digital currencies as their legal tenders. Also,

¹ The Association of Southeast Asian Nations plus Japan, China, and the Republic of Korea

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⁸ Anti-money laundering and combating the financing of terrorism

⁹ Asia Common Currency Unit or Asian Currency Unit which is a basket currency in Asia

¹⁰ In the previous paper, Asian digital common currency (ADCC) is nick named as AMRO coin for convenience, the abbreviation ADCC is also used here.

considering the trend of borderless economy, a borderless (cross-border) currency will naturally be focused on sooner or later to meet such an economic trend. Because of the development of digital technologies, it is getting easier to issue and circulate such a borderless currency in a digital form. This paper is trying to propose an idea to meet such a trend.

JEL classification : E42 F33 F36

Keywords: Digital Currency, Asia Common Currency, Anonymity, AML/CFT

1. Introduction

The authors published a paper titled “A study on digital common currency issued by an international organization (AMRO coin for example)” on the website of Research Institute for Economics and Business Administration, Kobe University¹¹ and received some comments including advices such as “better to explain more specific detailed measures and procedures to issue the AMRO coin”. Based on the comments, firstly “General overview of ADCC” is explained hereinafter followed by practical measures and procedures including (i) ASEAN+3 central banks/monetary authorities provide assets (local currency denominated government bond or in some cases their own local currencies) to an international organization (AMRO for example), (ii) the international organization issues ADCC denominated (possibly ACU) bonds based on the asset and provides the bonds to the central banks, and (iii) each central bank (and/or relevant authority) issues ADCC (AMRO coin for example) backed by the bonds. Some specific examples are also discussed. Then, challenges such as (i) basket currency, (ii) general acceptability, (iii) ensuring anonymity, (iv) counterfeit of digital currency, (v) AML/CFT, (vi) securing transferability, (vii) sharing and controlling information for cross-border usage, (viii) technological issues including network specifications, (ix) impact on monetary policy, (x) readiness of legal framework, and (xi) preventing infectious diseases, are discussed.

2. General overview of ADCC/AMRO coin

ADCC is a digital common currency co-existing with current local currencies in the region. ADCC will possibly be issued by central banks in ASEAN+3 countries/economies by cooperating with relevant government agencies. ADCC will be widely circulated in the region just like physical banknotes and metal coins having specification called “token-type” or “general-purpose”, stored in digital devices such as smart (IC) cards and/or mobile devices with contactless IC chips such as NFC¹² chips enabling retail payment and settlement between customers (people) easily transferring stored value just like electronic money which is already prevailing in many countries/economies in the region including Japan. ADCC adopts recent technologies such as blockchain keeping record of trade history by combining private keys and public keys utilizing PKI which will prevent unauthorized use (counterfeit) of the ADCC having higher security than conventional electronic money¹³.

¹¹ Inui, Takahashi and Ishida (2020)

<https://www.rieb.kobe-u.ac.jp/academic/ra/dp/English/DP2020-19.pdf>

¹² Near Field Communication (contactless IC chip compliant with ISO/IEC 18092 and/or ISO/IEC 14443)

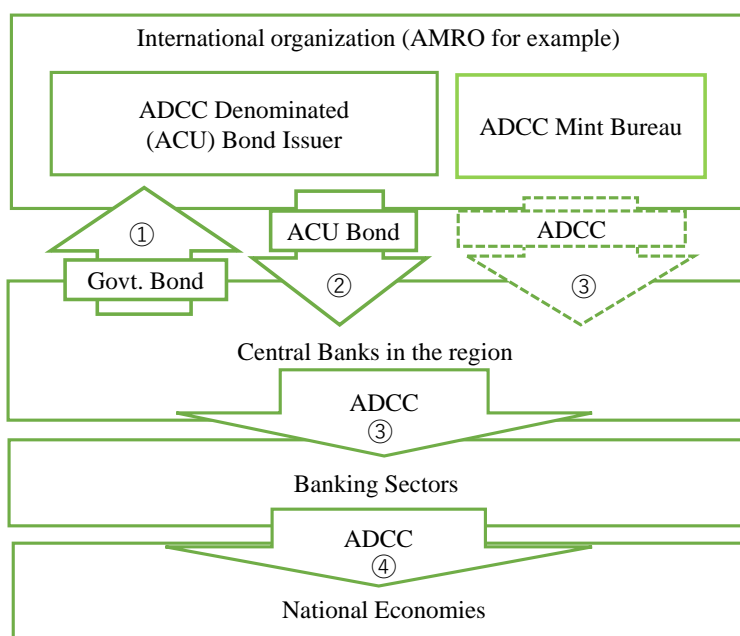
¹³ Electronic money issued by central bank or institute having equivalent function as legal tender:

3. Practical procedures to issue ADCC/AMRO coin

Firstly, ADCC denominated (ACU) bond is to be issued before issuing ADCC itself. More specifically, ASEAN+3 central banks provide their government bond (in some cases their own local currency) to an international organization (AMRO for example). The international organization issues the ADCC denominated (ACU) bonds backed by the government bonds and/or local currencies as assets. Each central bank (and/or relevant government authority) obtain the ACU bonds in return to the government bonds provided to the international organization and hold the ACU bonds recorded on the asset side of the balance sheet. The ACU bonds are used as the assets when each central bank issues ADCC¹⁴ recorded on its liability side of the balance sheet.

Chart 1 Asia Digital Common Currency (ADCC): Issuing Processes

The processes, firstly providing assets (government bonds) from Asia (ASEAN+3) central banks to an international organization (AMRO for example), secondly issuing ADCC denominated (ACU) bonds by the international organization backed by the government bonds, thirdly issuing ADCC by individual central banks backed by the ACU bonds, are illustrated in the Chart 1.



Practical procedures on (i) how ASEAN+3 countries/economies will provide assets to AMRO, and (ii) how AMRO will issue ACU bonds backed by the assets, then (iii) how each central bank will issue ADCC (AMRO coin) backed by the ACU bonds are discussed hereinafter.

4. Providing assets from ASEAN+3 central banks

<https://patents.google.com/patent/JP2009020848A/en>

¹⁴ Instead of ACU, US dollar pegged currency and/or SHC (synthetic hegemonic currency) proposed by Mr. Mark Carney (former Governor of the Bank of England) may be adopted as ADCC.

Firstly, possible example for an international organization (AMRO) to obtain assets such as government bond from ASEAN+3 central banks and/or government authorities are explained taking the case in Thailand as follows:

In case of Thailand, AMRO will open a securities account at the TSD¹⁵ which is the CSD¹⁶ of Thailand. Then, Thai government bonds will be provided from BOT¹⁷ (or Thai government) to AMRO. This means that AMRO needs to be a participant of the government bond CSD in each country/economy. In case the international organization (AMRO) receives the assets as the local currency from a central bank, AMRO needs to open a current account at the RTGS system of the central bank. Followings are the RTGS and CSD systems in ASEAN+3.

Table1: RTGS and government bond CSD systems in ASEAN+3

Country ¹⁸	LCY ¹⁹	Central bank	Name of RTGS	Gov. bond CSD (type of organization)	Name of CSD
BN	BND	AMBD	(TBC)	AMBD (CB&GA)	NPSS
CN	CNY	PBC	CIPS2	CCDC (CbR)	CBGS
HK	HKD	HKMA	CHATS	HKMA (CB& GA)	CMU
ID	IDR	BI	BI-RTGS	BI (CB)	BI-SSSS
JP	JPY	BOJ	BOJ-NET FTS	BOJ (CB)	BOJ-NET JGB Service
KH	KHR	NBC	n.a.	n.a.	n.a.
KR	KRW	BOK	BOK-Wire+	KSD (ExR)	SSS/e-SAFE
LA	LAK	BOL	n.a.	n.a.	n.a.
MM	MMK	CBM	CBM-NET FTS	CBM (CB)	CBM-NET CSD
MY	MYR	BNM	RENTAS IFTS	BNM (CB)	RENTAS SSDS
PH	PHP	BSP	PhilPaSS	BTr (GA)	BTr-nROSS
SG	SGD	MAS	MEPS+	MAS (CB&GA)	MEPS+ SGS
TH	THB	BOT	BAHTNET	TSD (ExR)	PTI
VN	VND	SBV	IBPS	VSD (ExR&GA)	VSD-BES

BN = Brunei Darussalam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic (Lao PDR); MM = Republic of Union of Myanmar; MY = Malaysia; PH = Philippines; SG = Republic of Singapore; TH =Thailand; VN = Socialist Republic of Vietnam

¹⁵ Thailand Securities Depository

¹⁶ Central securities depository

¹⁷ Bank of Thailand

¹⁸ Country or economy code: ISO 3166

¹⁹ Local currency in each country/economy, Currency code: ISO 4217

CB = central bank, GA = government agency, CbR = central bank related organization, ExR = exchange related organization

It may be one of the possible challenges to be discussed and decided that the amount and exchange rate of assets (government bonds) to be provided from ASEAN+3 central banks to the international organization (AMRO) including the support for the countries/economies which may not be able to provide government bonds as assets such as Cambodia and Lao P.D.R.

5. Issuance of ADCC denominated (ACU) bonds

Since the investors for the ADCC denominated (ACU) bonds are limited to central banks and/or government authorities in the region, new technologies such as Distributed ledger technology (DLT) may be applied to issue the bonds. Several measures can be considered when the international organization (AMRO) issues ACU bonds utilizing DLT. Following two cases are considered here: (i) utilizing CSDs for corporate bonds which already exist in ASEAN+3 countries/economies; and (ii) issuing blockchain ACU bonds by the organization (AMRO).

(1) Utilizing CSDs for corporate bonds already existing in ASEAN+3

ACU bonds can be issued by utilizing CSDs for corporate bond in ASEAN+3 countries/economies (for example, Thai Securities Depository or TSD in Thailand. CSDs for corporate bonds in the region are shown as follows:

Table 2 Corporate bond CSDs in ASEAN+3

Country code	NNA	Corporate bond CSD (type of organization)	Name of CSD
BN	AMBD	n.a.	n.a.
CN	CISC	CCDC (CbR)	CBGS
		CSDC (ExR)	MNS
		SHCH (ExR)	SHCH-SSS
HK	HKEEx	HKMA (CB& GA)	CMU
ID	KSEI	KSEI (ExR)	C-BEST
JP	JPX	JASDEC (ExR)	BETS
KH	n.a.	CSX (Ex)	Power Screen
KR	KRX	KSD (ExR)	SSS/SAFE+
LA	n.a.	n.a.	n.a.
MM	n.a.	n.a.	n.a.
MY	BMB	BNM (CB)	RENTAS SSDS
PH	SEC	PDTC (ExR)	PDTC
SG	SGX	CDP (ExR)	DCSS
TH	TSD	TSD (ExR)	PTI
VN	VSD	VSD (ExR&GA)	VSD-BES

BN = Brunei Darussalam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic (Lao PDR); MM = Republic of Union of Myanmar; MY = Malaysia; PH = Philippines; SG = Republic of Singapore; TH = Thailand; VN = Socialist Republic of Vietnam; AMBD = Autoriti Monetari Brunei Darussalam; CSISC = China Securities Industry Standardization Technical Committee; HKEEx = Hong Kong Exchanges and Clearing Ltd.; KSEI = Indonesian Central Securities Depository; JPX = Tokyo Stock Exchange; KRX = Korea Exchange; BMB = Bursa Malaysia Berhad; SEC = Securities and Exchange Commission; SGX = Singapore Exchange Limited; TSD = Thailand Securities Depository Co., Ltd.; VSD = Vietnam Securities Depository

CB = central bank, GA = government agency, CbR = central bank related organization, ExR = exchange related organization

In case AMRO issues ACU bonds in Thailand and use TSD as CSD, each central bank in ASEAN+3 may open securities account at TSD and obtains (or buys) the bond from AMRO (if necessary paying by BHT for the bonds using BAHTNET in a form of DVP²⁰). When issuing the ACU bonds, ISIN²¹ needs to be allocated by NNA²² in each country/economy. In order to issue ACU bonds and to effect subsequent settlement by the central banks in ASEAN+3, the way of “DLT Scripless Bond” may be applied. For more detail, refer to the Attachment.

²⁰ Delivery versus payment

²¹ International Securities Identification Number based on ISO 6166

²² National Numbering Agency

(2) Issuing ACU bonds using DLT

AMRO issues ACU bonds as a private placement using DLT since investors of ACU bonds are limited to ASEAN+3 central banks and/or government authorities. With respect to the DLT bonds, some actual issuances are already reported such as blockchain World Bank bond. Also, the ACU bonds will not be traded at the open public secondary market. As such, the ACU bonds fit to be issued as private placement DLT (blockchain) bonds.

6. Issuing ADCC (AMRO coins) backed by ACU bonds

Issuing ADCC (AMRO coin) is to be done by central banks (or relevant government authorities) in ASEAN+3. AMRO may work as a kind of mint or printing works²³ for ASEAN+3 countries/economies in this case. Having said that, it is not denied that AMRO issues AMRO coin by itself in the future²⁴.

In case central banks in ASEAN+3 issue ADCC (AMRO coin), AMRO coin is recorded on the liability side of the balance sheet of the central banks. When the AMRO coin is debited by a commercial bank, the same amount is debited from the current account of the commercial bank. In this case, outstanding balance of AMRO coin may need to be backed by ACU bonds²⁵ because the central bank is not the last resort of ACU as a currency. Foreign exchange rate of ACU may be decided by adopting AMU calculated by RIETI as mentioned before or better way which may be one of the most important challenges for AMRO coin to be studied.

Essential information to be saved in contactless IC chips which are to be installed in digital devices (mobile wallet and electronic purse etc.) is to be provided by AMRO to ASEAN+3 government agencies. Specifications of the IC (NFC) chips are to be standardized.

²³ In case AMRO plays a role of a mint or printing works in ASEAN+3, AMRO coin is delivered as data from AMRO to central banks (electronic vaults) in ASEAN+3 through the dedicated network which connects AMRO with the central banks. The data for AMRO coin don't have value as the coin until the coin is issued by the central banks.

²⁴ In case AMRO issues AMRO coin by itself, the AMRO coin is recorded on the liability side of the balance sheet of AMRO.

²⁵ Outstanding amount of AMRO coin may not necessarily covered by ACU bonds for 100% but may be covered up to a certain percent by the assets depending on the agreed rule.

As such, AMRO coins are issued by each central bank and digital devices are provided by a government agency in each country/economy in the region.

By the way, in this connection, issuers of banknote and coin in ASEAN+3 (and EU, UK and US) are shown in Table 3 for reference purpose.

Table 3: Issuers of banknote and coin in ASEAN + 3 and major countries

Country/ economy	Issuer		Country/ economy	Issuer	
	Banknote	Coin		Banknote	Coin
BN	Central bank	Central bank	MY	Central bank	Central bank
CN	Central bank	Central bank	PH	Central bank	Central bank
HK	Commercial bank	Government	SG	Central bank	Central bank**
ID	Central bank	Central bank	TH	Central bank	Government
JP	Central bank	Government	VN	Central bank	Central bank**
KH	Central bank	n.a.*	-	-	-
KR	Central bank	Central bank	EU	Central bank	Government
LA	Central bank	Central bank	UK	Central bank	Government
MM	Central bank	n.a.*	US	Central bank	Government

BN = Brunei Darussalam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Republic of Korea; LA = Lao People's Democratic Republic (Lao PDR); MM = Republic of Union of Myanmar; MY = Malaysia; PH = Philippines; SG = Republic of Singapore; TH = Thailand; VN = Socialist Republic of Vietnam

Note: AMBD is the central bank as well as government in BN. Government includes government agency. "Blank" means "needs to be surveyed". Coin is not circulated practically in MM.

*= practically coin is not issues. **= central bank is a part of government

7. Future challenges and possible countermeasures including opportunities

The authors received significant number of comments for the previous paper such as "How to determine the currency value of ACU is one of the most difficult challenges" and "Since AML/CFT causes huge cost and workload to financial institutions, how AMRO coin actually contribute to it is the most important issue for me". Based on the comments and advices of the readers, the authors summarized our future challenges and opportunities for AMRO coin as (i) adoption of currency basket, (ii) general acceptability, (iii) ensuring anonymity, (iv) countermeasure for illegal activities (counterfeit), (v) AML/CFT, (vi) securing transferability, (vii) sharing and controlling information for

cross-border usage, (viii) technological issues including network specifications, (ix) impact on monetary policy, (x) readiness of legal framework, (xi) preventing infectious diseases.

(1) Adoption of currency basket

Valuation of currency basket may be a very difficult issue considering the number of currencies to be included in ASEAN+3. As such, there may be some opinion that “adopting vehicle currency USD or some other unit such as SDR and SHC may be more appropriate”. Having said that considering the importance of economic integration in ASEAN+3 to mitigate currency mismatching, the composition and size of the currency basket should be based on the sovereign currencies in ASEAN+3. It is generally said that ACU denominated assets are highly profitable having high possibility to have better return. Most important point could be composition and size of sovereign currencies. In case ACU is adopted, AMU (Asian Monetary Unit) by RIETI (Research Institute of Economy, Trade, and Industry) may be adopted²⁶. Anyway, though currency basket and its composition may be “the issue which can’t be fixed easily”, this is extremely important issue to implement AMRO coin.

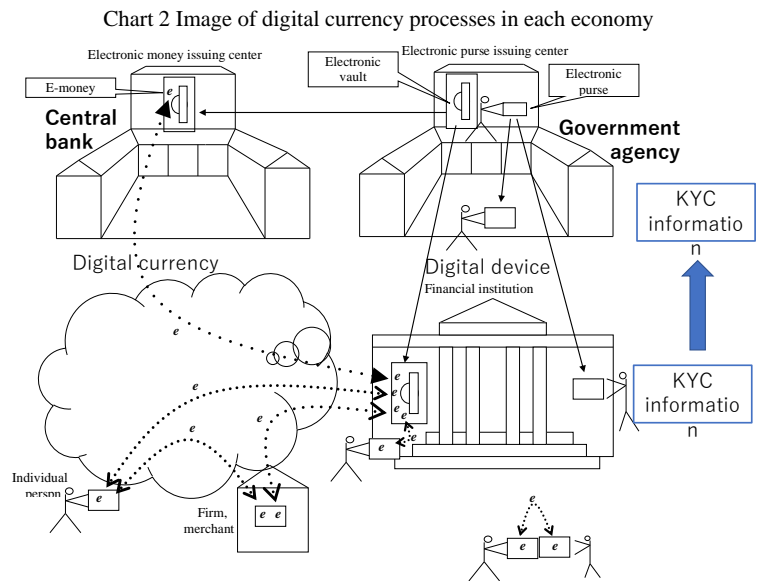
(2) General acceptability of AMRO coin

It is particularly important that all the people living in the region can enjoy the benefit of using the AMRO coin anytime anywhere (securing usability). Also, it is not too much to say that whether AMRO coin is really used or not depends on its usability. In order to secure the usability, the government in each country/economy is expected to make efforts to provide national cards having electronic wallet and/or mobile wallet functions for AMRO coin. The national card may save useful information such as national ID (or social security number) as well as AMRO coins. In some countries/economies, AMRO coin may be used as the legal tender having mandatory power to be accepted for payment.

²⁶ More official organization may be established under ASEAN+3 Finance Ministers and Central Bank Governors’ Meeting.

(3) Ensuring anonymity

A digital device such as mobile wallet and electronic purse which store AMRO coins safely with sufficient (strong) physical tamper resistance such as contactless IC chip like NFC. Each digital device stores a private key of PKI²⁷ as an identification of the card (digital device) and the card holder as well. A digital currency AMRO coin also has a private key of PKI.



In order to secure anonymity, the responsibility and role of the organization (central bank) which issues ADCC (AMRO coin) and the organization (government agency) which manages digital device (KYC²⁸) such as mobile wallet need to be separated. In other words, AMRO coins are managed by the central bank and digital devices are managed by the govern agency of each country/economy. Anonymity can be secured either the central bank or government agency cannot follow individual persons' trade history without exchanging information each other.

(4) Countermeasure for illegal activities (counterfeit)

When the ADCC (AMRO coin) is returned to the issuer (central bank and AMRO), trade history ("blockchain record") is checked whether illegal activities (counterfeit) were made such as duplication of the coin. When such illegal activities are found, the digital device (digital device ID) where counterfeit happened is to be identified. Then, the owner of the digital device may be identified by enquiring it to the government agency which manages the digital devices. When the central bank enquires the owner information to the government agency, approval of court may be required to secure anonymity more strictly depending on the country/economy and situation.

²⁷ Public Key Infrastructure

²⁸ Know your customer

The AMRO coin carries trade history (blockchain in a narrow meaning). The length of the history increases trade by trade, which could cause deterioration of system performance. To reduce such risks, merchants generally return the AMRO coins to its (main) commercial bank. Then, the commercial bank returns the AMRO coins to AMRO through central banks. This kind of market practice could enable to find the illegal duplication of AMRO coins with short period of time as well as work for transferring the AMRO coins smoothly.

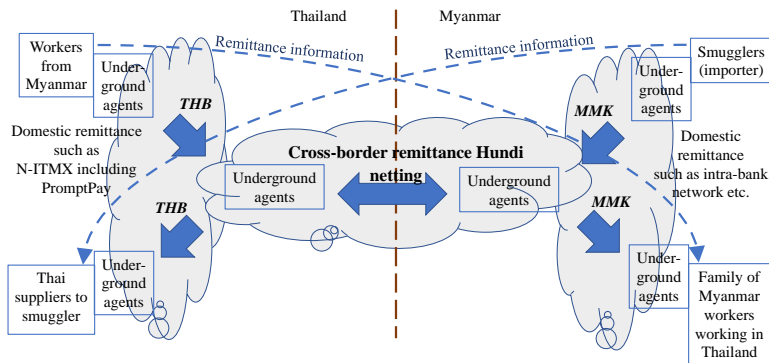
(5) AML/CFT

When distributing digital devices such as contactless smart cards to customers and nationals, it is important for AML/CFT perspective to identify the owners of the devices by linking essential information such as device ID and public key with the owner (KYC).

Blacklist of digital devices owned by crime organizations and/or terrorists may be distributed to the central banks, banks, and merchants to identify illegal activities such as AML/CFT easily without enquiring to the government agencies. It may also be necessary to report such incidents to the related government agencies in the relevant countries/economies. It is also important that not only banks but also PSP²⁹ which provide digital devices to consumers observe KYC³⁰ requirements securely and report the correct information to the relevant government agency in each country/economy.

Regarding cross-border remittance, ASEAN+3 countries/economies seem to be using informal remittance services for a variety of purposes legally (for workers' remittance) and illegally (payment for money laundering, financing terrorism, drug trade, smuggling, and even human trafficking). The networks for AMRO coins will provide better cross border payment networks and hopefully eradicate such informal

Chart 3 Cross-border remittance Hundi (typical example)



²⁹ Payment Service Provider

³⁰ Know your customer

remittance services. AML/CFT information for cross-border transactions may need to be shared through AMRO.

(6) Securing transferability

As mentioned above, AMRO coins are stored safely and securely in digital devices with physical tamper resistance such as mobile wallets, electronic purses, and electronic vaults using technologies such as NFC and HSM³¹. AMRO coins can be transferred between such digital devices by connecting them with networks and/or physically touching each other. As such, AMRO coins can be transferred between the digital devices freely. Transferability between digital devices even located remotely is secured.

(7) Sharing and controlling information for cross-border usage

Central banks and relevant government agencies in ASEAN+3 issue AMRO coins and digital devices, respectively. Interoperability between central banks and relevant government agencies need to be secured domestically and regionally (globally). Information to control outstanding amount of AMRO coins issued by each central bank, protection for illegal usages of AMRO coins etc. needs to be shared by central banks and relevant government agencies in the region. AMRO needs to play a role and provide functions to be smoothly operated. Such information (data) may need to be stored by AMRO for a variety of purposes including dispute resolution.

(8) Technological issues including network specifications

Networks for AMRO coins are logically closed VPN³² protected by PKI technology. With respect to physical networks, it is not necessary to stretch new ones for AMRO coins but to utilize existing networks such as ATM and POS networks.

The networks for AMRO coins are regional networks necessary to be interoperable each other adopting international standards such as ISO 20022. Having said that there are still many networks

³¹ Hardware secure module such as digital vault

³² Virtual private network

being operated using conventional message standard ISO 8583. Policy for technical standards need to be discussed.

(9) Impact on monetary policy

The impact of digital common currency issuance on monetary policy implementation may not be simple and cannot be explained same way for all countries/economies.

Even if AMRO coin is used for all cross-border remittance and partly for the domestically, the impact to monetary policy implementations for the countries having large monetary base such as China and Japan are limited.

If AMRO coin (ACU) is adopted as the legal tender for countries fully or even partly dollarized countries, AMRO coin will provide stable monetary policy conditions.

With respect to the impact of AMRO coin to middle size countries, it may have some impact on the monetary policy implication. Having said that, if interest rate of its local currency increase/decrease, then, exchange rate will rise/decline, which could have some impact on AMRO coin denominated with ACU. Therefore, effects of monetary policy operation may have some influence on AMRO coin (ACU), too. This will be an important and interesting research topic.

(10) Readiness of legal framework

With respect to legal framework, there are some differences country by country (economy by economy) such as based on Continental law or Anglo-American law, etc. In order to issue ADCC, some countries/economies may need to amend law(s). For example, Bank of Japan may need to modify the Bank of Japan Law to issue digital currency. Therefore, to issue AMRO coin, it may be essential for public sector stakeholders in particular central banks in the region to cooperate with each other.

In Europe, such differences were absorbed by enacting EU law as hybrid of Continental law and Anglo-American law. Also, when agreeing monetary union, issue on violating the high-level sovereign power of each country (that each country can issue each local currency and enjoy seigniorage) was solved (compromised) by signing Treaties of European Union.

(11) Preventing infectious diseases

When banknotes or coins are used as a payment method, they are generally handed over from a person to another person. Therefore, it can be said that there is a risk that viruses and bacteria could also be transferred physically and directly with the currency. On the other hand, when using digital currencies such as AMRO coin, payment can be done by (i) bring a card or mobile device with a built-in NFC (contactless IC chip) closer to a POS terminal or touch to it, (ii) a mobile device or a scanner of a POS terminal reads QR code, and (iii) electronic transfer between mobile devices remotely, without physical human contact. As such, digital currency may reduce the possibility of infection of viruses etc.

8. Conclusions

Currently, it is a global trend that central banks are tackling with the central bank digital currency (CBDC) surveying and developing it. Some central banks already started proof of concept (POC) testing CBDC considering implementation. Central banks in ASEAN+3 are no exception. People's Bank of China (PBC) which is the central bank in China, already conducting trial services of its Digital Currency and Electronic Payment (DCEP) at the fore front of the world in this field. Some CBDC initiatives are going on in Cambodia and South Korea, too. Bank of Japan (BOJ) has also been making joint researches with other central banks mainly in Europe. BOJ recently set up "Digital Currency Group" dedicated for CBDC and digitalization of payment systems in Payment and Settlement Systems Department upon request from Japanese government. This kind of initiatives by individual countries/economies will contribute to developing and implementing digital currency. Having said that, considering the global trend of economy and progress of digitalization in the world, efforts to implement digital regional common currency and/or digital global common currency may be expected beyond the interest and vision of single country/economy. In particular, ASEAN+3 countries/economies have been integrated for many years in terms of trade and industry, even though temporarily retarding because of Covid-19 recently. On the other hand, taking a look at financial sector, regional cross-border financial services are not fully developed yet compared to the economic integration in the region. Considering the development of digital technologies, Asia common currency issued in a digital form would reduce transaction cost drastically. Also, if the common currency is fully utilized for a variety of purposes, it will provide higher level of financial services which could promote further financial integration in the region. From discussions the above, regional digital common currency would be one of the most important issues in the region. Therefore, it is desirable

that “a relevant organization and/or institutional framework to discuss this kind of issues may better be established at the regional forum such as AMRO, ADB, AIIB³³, EMEAP³⁴, and ASEAN Secretariat. As such, it may be desirable for international organizations such as AMRO, ADB, and AIIB in the region to establish “some organizational framework to discuss AMRO coin”,

³³ Asian Infrastructure Investment Bank

³⁴ Executives’ Meeting of East Asia-Pacific Central Banks

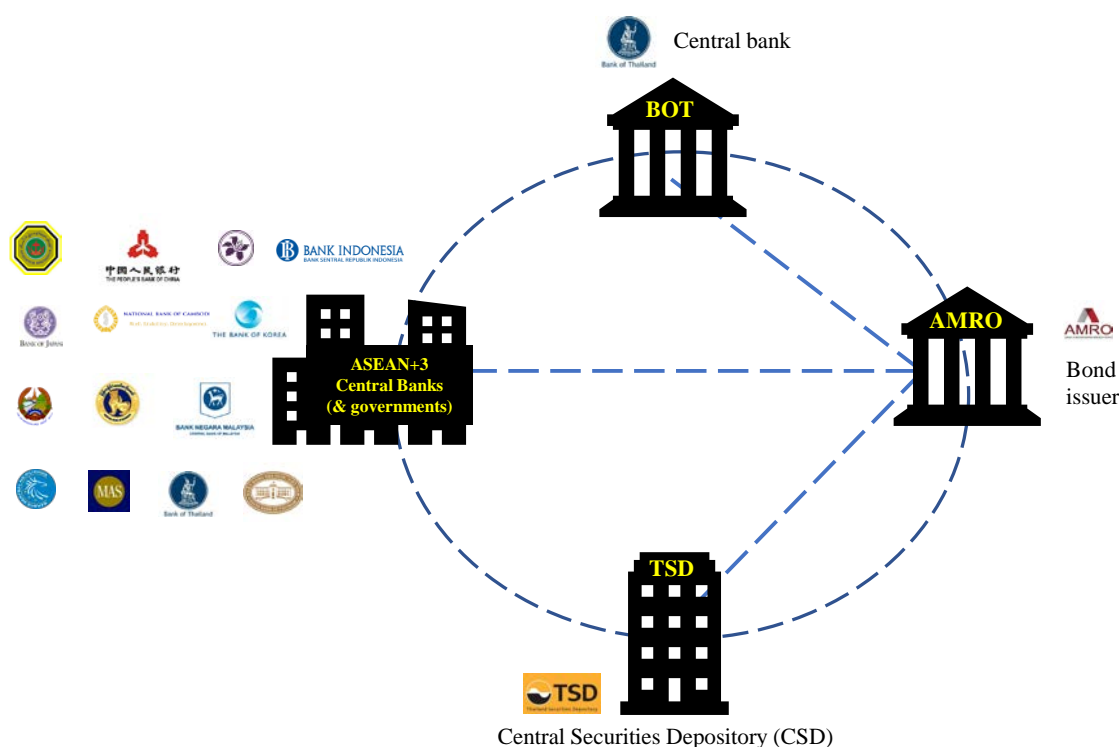
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(Attachment)

Issuance of ACU bonds utilizing distributed ledger technology (DLT) by AMRO

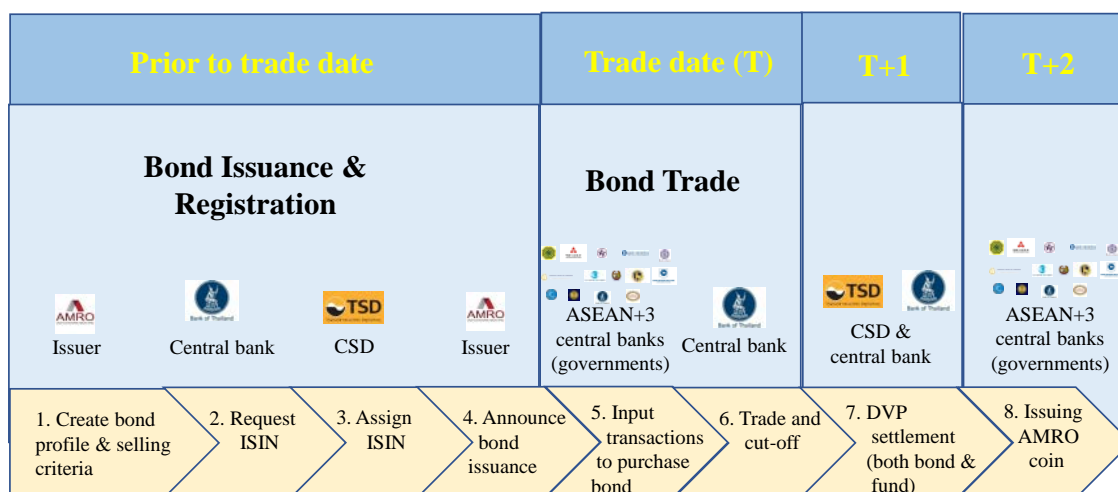
In case AMRO issues ACU bonds in Thailand, TSD (Thailand Securities Depository) is the CSD (central securities depository) and BOT (Bank of Thailand) conducts fund (cash) settlement for ACU bonds³⁵. Also, the issued ACU bonds are provided (or purchased) by ASEAN+3 central banks. Then, the central banks issue digital common currency AMRO coins backed by the ACU bonds. Stakeholders related to ACU bonds are as follows:



As described the above, AMRO can issue ACU bonds supported by the central banks and CSDs in ASEAN+3.

General procedures of issuing ACU bonds are similar to that of corporate bonds. In case of Thailand, ACU bonds may be issued in accordance with the following procedures.

³⁵ With respect to the registration of ACU bonds, it may be different country by country or economy by economy. For example, ACU bonds do not necessary to be registered in Japan. When ACU bonds are electronically recorded (stored) at securities account opened at JASDEC (Japan Securities Depository Center Inc.) as the balances of the accounts, it is legally regarded entitlement (ownership) of the bonds are guaranteed.



- (1) AMRO discloses necessary information to issue ACU bonds as an issuer.
- (2) BOT asks TSD which is NNA (National Numbering Agency) in Thailand to allocate ISIN.
- (3) TSD allocates ISIN for the ACU bonds.
- (4) AMRO announces the issuance of ACU bonds.
- (5) ASEAN+3 central banks (or relevant government agencies) go through the procedures (such as data entry) for buying the ACU bonds.
- (6) AMRO completes settling ACU bonds.
- (7) CSD and RTGS systems effect DVP settlement for ACU bonds.
- (8) Central banks (or relevant government agencies) in ASEAN+3 issue AMRO coins backed by the ACU bonds. The maximum amount of AMRO coins to be issued may be limited up to a certain level³⁶ of the ACU bonds purchased.

The business processes and flows of ACU bond issuance shown the above may be almost same among the ASEAN+3 countries/economies though some differences on registration of bonds etc. may exist.

Following is an example of typical procedures of issuing ACU bonds by utilizing DLT.

³⁶ This level or rate may be discussed by AMRO Executive Committee etc. for example.

