



# ACU

## THE GLOBAL E-MONEY BOOSTER

### WHITEPAPER 2.2

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# I. Introduction

## I. Introduction

Since the inception of the concept, the ACU has assumed an important mission to build itself into a unified currency in Asia to propel the Asian economic and global economic integration.

The ACU is a monetary concept proposed by the renowned “Father of the Euro” Robert Mundell, the winner of the Nobel Prize in Economics. He predicted at the 2001 APEC forum in Shanghai, that “in the next 10 years, there will be three major monetary zones in the world, namely, the Eurozone, the USD Zone and the Asian Monetary Zone (the Asian Dollar Zone). It is a general trend for Asia or Asia Pacific to establish a unified currency in the absence of global currencies.”

Mundell’s speech brings hope to the establishment of an Asian Dollar Zone. However, the political and economic complexity as well as cultural and ethnic diversity in the Asian region make it difficult to realise the concept of Asian dollar and are full of headwinds. From the proposal of the Asian dollar concept up to 2019, Asian dollar has been fostered for a total of 18 years, the concept has nearly been abandoned multiple times before it becomes a reality.

However, with the creation of Bitcoin by Satoshi Nakamoto and the emergence of technology-oriented and free digital currency, digital currency has started a trend of decentralized technology and financial reform. Technology defence rights, a decentralized monetary system built with blockchain as the underlying technology of the digital currency, has started to challenge the traditional financial hegemony of nearly a hundred years, which also gives the Asian unified currency, Asian Dollar, a second chance and an opportunity for a breakthrough.

This time, Asian Dollar no longer followed the top-down political and economic integration reform route, but instead built a new bottom-up blockchain free currency path by relying on the underlying technology of Satoshi Nakamoto’s Bitcoin blockchain, the distributed free economy, and on Hong Kong’s global free financial harbour to establish Asia Currency Unit, the ACU.

With reference to the Hong Kong dollar issuance system, the ACU implements a linked exchange rate system and is pegged to the Hong Kong offshore RMB at an exchange rate of 1:1, restructuring the economic and financial order in Asia, establishing a unified monetary unit in Asia, fully propelling the integration of Asian economy and finance, and establishing an economic community in Asia.

In this transformation, the ACU will inventively use gold as the main reserve asset. On the basis of the digital currency underlying technology, it will implement the gold standard and anchor the value of ACU with gold to support the value of ACU with the value of gold. Joining hands with gold, the ACU can then become a hard currency for free circulation in the global capital financial market.

In a region where a single currency system is implemented, it often contains a central bank system with monetary power and a relatively unified national economy. In 1999, the European monetary system broke the traditional limit of a single currency system, exceeded the economic boundaries of nation states and established a regional central bank system, leading to the birth of Euro. The birth of Euro is comparable with the changing of the fixed exchange rate regime supported by Bretton Woods system before the 1970s to floating exchange rate regime. Europe has since embarked on the road of economic integration.

However, neither the collapse of the Bretton Woods system nor the establishment of the European Eurozone monetary system has changed the status of USD as the world's core currency since 1944. The constant reform and restructuring of the international monetary system mentioned above have led to the restructuring of interests of all parties.

During the process, the entire Asian economy has become the subject of exploitation and predatory actions. All Asian economies have not enjoyed the economic and monetary benefits brought by the integration of the world economy, but have instead been paying the seigniorage to the current leading world currency, the USD, and bear the inflation caused by the continuous issuance of the USD.

The USD relies on the military, economic and political power of the US and has established the USD currency domination to constantly collect high seigniorage from other economies in the world. Through continuous issuance of the USD, the entire world has to bear the inflation caused by the issuance. The current international monetary system lacks the most basic principles of fairness and justice in the distribution of seigniorage revenues, while the economies in Asia can only passively withstand such exploitation as a unified consensus cannot be formed.

Nowadays, with the emergence of blockchain technology and the rise of digital currency, blockchain is taking the power of technology to restructure the entire world economic and political order, and reshape the world monetary landscape. At present, all major currencies in the world are at the key historical point. Under this backdrop, it is urgent and necessary to study the restructuring of 21st century world monetary system and the establishment of Asian unified currency system, Asian Dollar.

The ACU, a currency unit in Asia, undertook the mission of establishing a unified currency in Asia at the node of this era. In the potential currency area of the ACU, each national economy should drop their disputes, set aside their prejudice and be united, so to get their well-deserved places in the future international monetary order through collaboration and unity in the restructuring of the world monetary system in the 21st century and the establishment of the unified currency system ACU.

In order to restructure the world monetary system in the 21st century and establish the Asian unified monetary system ACU, we must first understand the changing and developing trends of the international monetary and financial system.



## **II. The Changes over Time and Development Trends of the International Monetary and Financial System**



## **II. The Changes over Time and Development Trends of the International Monetary and Financial System**

The evolution of the international monetary and financial system has generally experienced the gold standard system, the Bretton Woods system and the current Jamaica system. However, following the outbreak of the global financial crisis caused by the US sub-loan crisis in 2008, the whole world was alarmed and the issuance of USD, a pure credit currency, has been challenged by various countries around the world.

The current international monetary system also showed signs of weakness. After the disintegration of Bretton Woods system, the USD was decoupled from gold without any physical asset backup and credit endorsement. Supported by the military and political power in the US, the current international monetary system has completely gone astray.

With the progress of the integration of world economy and trade, the restructuring of the new international monetary system is imminent. In 2008, Satoshi Nakamoto released the Bitcoin White Paper and created Bitcoin. Bitcoin has built a decentralized credit through the power of mathematics, cryptography and blockchain technology, opening a brand-new path for the restructuring of the international monetary financial system, which also represents the future development trend of the international monetary and financial system. The ACU is being resurrected under this backdrop.

### **2.1 History of the Gold Standard International Monetary System**

#### **2.1.1 Characteristics of the Gold Standard International Monetary System**

The gold standard is a monetary system with gold as its functional currency. It can also be said as the earliest international monetary system in history.

Under the gold standard system, the monetary value of each unit is equivalent to a certain weight of gold, that is, the monetary gold content. Where gold standard is used in different countries, the exchange rate between countries is determined by the gold parity of their respective currencies.

Gold standard has been popular since the mid-19th century. Historically, there have been three forms of gold standard system: gold coin standard, gold bullion standard and gold exchange standard, of which the gold coin standard is the most typical form, and in most cases, gold standard refers to gold coin standard.

The gold standard system mainly has the following features:

1) Gold is characterized by its stable nature, scarce quantity, easy to divide, easy to carry and easily identified colour, and has many advantages to serve as a universal equivalent.

Currency is formed when universal equivalent is pegged to gold and silver, which is the most fundamental reason for gold to be the “king of currency”.

2) In a social exchange economy, gold is used to regulate the value represented by currency. Each unit of currency has a statutory gold content, currency of every country has a certain price comparison based on the weight of gold contained therein, forming a comparison of exchange rate among each other, which is the basic logic of gold standard operation.

3) Gold coins can be freely cast, converted and circulated. Any person can give their bullion to a state-owned mint to cast gold coins based on the gold content of the functional currency. Therefore, during this gold standard period, private parties also have the right to cast coins.

4) Gold coin is an unlimited legal tender with unlimited payment rights, therefore gold is a real hard currency with legal tender of collective consensus support.

5) Gold is the reserve currency of each country during the gold standard period. Gold is also used for international settlement, it can be exported and imported freely. Gold becomes a truly super-sovereign currency that freely circulates in the global capital market.

6) As gold is freely transferable among countries, it can help to ensure the relative stability of foreign exchange markets and the unity of international financial markets. The balance of world economy is the most important function of international currencies.

As noted from the above, the gold standard system has three main features of free casting, free exchange, and free import and export. With the formation of the gold standard system, gold is the universal equivalent of commodity exchange, the medium in the commodity exchange process, and the real super-sovereign currency. The gold standard system is the epitome of the “king of currency” nature of gold.

### **2.1.2 Establishment and Collapse of the Gold Standard International Monetary System**

The gold standard system was first proposed by Newton, and the first country to implement the gold standard system was the United Kingdom (UK). In 1717, the well-known physiologist Isaac Newton fixed the price of gold at 17 shillings and 10.5 pence per ounce when he was the master of the Royal Mint. In 1797, the UK announced the coinage regulation, issued gold coins and stipulated the gold content; silver coins took the status of fractional currency.

In 1816, the UK passed the Gold Standard System Act, which legally recognized the position of gold as a currency’s standard to issue banknotes. In 1819, a regulation was issued requiring the Bank of England’s banknotes to be convertible into gold bullion in 1821, from which the UK implemented the real gold standard system.

As the UK was the largest industrialized country at that time, and that London had become the center of the global capital market and international gold market in the 1800s to 1900s, capital and trade flows between other countries and the UK had to path through the

UK, which greatly reduced the transaction costs. As gold was a precious metal and reserve currency, it was held by various countries, and their currency could be freely exchanged with gold. More countries have entered into the gold standard system, which had already possessed the international currency attributes.

Due to the prominent position of the UK in the world economy at that time, it was in reality a gold-based international gold standard system based on British pound sterling.

In the early 20th century, the UK continued to dominate the international monetary system due to its advantages. However, with the outbreak of World War I, some countries were facing relative difficulties in gold exchange due to the significant increase in fiscal expenditure in preparation for the war. In order to prevent gold outflow and prevent the global economic crunch caused by insufficient gold reserves, various countries decided to implement the gold exchange standard system at the 1922 International Financial Conference.

However, the economic crisis caused by the Great Depression of the US from 1929 to 1933 once again challenged the gold exchange standard system, with many countries adopting austerity measures to stop gold exchanges and avoid gold shortages.

Against this backdrop, countries in the mid-20th century successively abandoned their gold exchange standard system and started to move towards the Bretton Woods system.

## **2.2 Establishment and Collapse of the Bretton Woods International Monetary System**

### **2.2.1 Establishment of the Bretton Woods International Monetary System**

The Bretton Woods system refers to the international monetary system based on the USD after World War II.

In July 1944, representatives from major western countries at the United Nations International Monetary and Financial Conference held at the Bretton Woods in New Hampshire, the United States, established a new international monetary system. The General Agreement on Tariffs was a supplement to the 1944 Bretton Woods Conference, together with the various agreements passed during the Bretton Woods Conference, they were collectively referred to as the “Bretton Woods System”, which is a multilateral economic system characterized by foreign exchange liberalization, capital liberalization and trade liberalization.

In the latter part of World War II, the US and the UK governments conceived and designed the post-war international monetary system based on their own interests, and put forward the “White Plan” and the “Keynesian Plan” respectively, which are aimed at establishing international financial institutions, stabilising exchange rates, expanding international trade and promoting the development of the world economy.

However, since the US made great fortune during World War I and World War II and its territory did not suffer a lot of damage from war, together with the large amount of gold were transferred to the US during the World War II for hedging, the US took over the UK and ascended to the leading position of the capitalist world.

With three-quarters of the world's gold reserves and strong military power, the US became a great power nation after the war. The "White Plan" put forward by the former Assistant Secretary of the Treasury Harry Dexter White defeated the one proposed by the UK delegation leader and economist John Maynard Keynes, and became the finalized resolution adopted by the Bretton Woods Conference, which laid down the international monetary and financial order for the next 50 years.

## **2.2.2 Core Content of the Bretton Woods International Monetary System**

The Bretton Woods International Monetary System is a gold exchange standard based on USD and gold. In essence, it was to establish an international monetary system that is based on USD. The basic contents include pegging of USD to gold, maintaining a fixed exchange rate between the currencies of the member countries of the International Monetary Fund with the USD, as well as implementing fixed exchange rate regime. The core contents of the system mainly include the following:

1) The US dollar is pegged to gold. The official price of USD35 for one ounce of gold is determined, with a gold content of 0.888671g per USD, and governments or central banks may exchange gold with the USD at the official price. In order to protect the gold official price from the impact of the free market gold price, other countries need to cooperate with the US government to maintain this gold official price in the international financial market.

2) The currencies of other countries are pegged to the USD, and governments of other countries have to stipulate the gold content in their respective currencies, so to determine the exchange rate with the USD through comparing the gold content ratio.

3) The implementation of an adjustable fixed exchange rate. The exchange rate of each country's currency against the U.S. dollar can only fluctuate within a range of 1% of the statutory exchange rate. If the market exchange rate exceeds the 1% fluctuation range of the statutory exchange rate, the governments of various countries have the obligation to intervene in the foreign exchange market to maintain the stability of the exchange rate.

4) Currencies convertibility and the principles of international payment and settlement. The Agreement sets out the principles of free exchange of currencies in various countries and the principles of international payment and settlement: no member countries shall impose restrictions on the payment or settlement of current account items of international payments without the consent of the IMF.

5) Establishment of the international reserve assets. The provisions on currency parity in the Agreement place the USD in a gold-equivalent status, making the USD the most important international reserve currency among foreign exchange reserves of various

countries.

6) Adjustment of international revenues and expenditures. The International Monetary Fund stipulated that 25% of its member countries' quota subscriptions were to be paid in gold or currencies convertible into gold, and the rest were to be paid in domestic currencies. In the event of an external deficit in a member country, the domestic currency may purchase a certain amount of foreign currency from the IMF in accordance with the prescribed procedures and repay the loan by repurchasing the domestic currency within the prescribed time.

### **2.2.3 Active Role of the Bretton Woods International Monetary System**

The establishment of the Bretton Woods monetary system helped stabilise the international financial market and played a certain role in the post-war economic recovery. The USD had also moved closer to consolidate its dominance in world currency.

1) The formation of the Bretton Woods monetary system temporarily ended the chaos in the pre-war monetary financial sector and maintained the normal operation of the post-war world monetary system.

The fixed exchange rate system is one of the pillars of the Bretton Woods system. Under a typical gold standard, gold coin itself has a certain amount of gold content. Gold can be imported and exported freely, and the fluctuation of exchange rate is within a narrow range. The establishment of the Bretton Woods system based on USD has enabled the international monetary and financial relationship to have a relatively unified standard and foundation, and temporarily stabilized the chaotic situation.

2) The establishment of the Bretton Woods monetary system has facilitated the development of domestic economy in various countries. Under the gold standard system, countries pay attention to external balance, and the domestic economy tends to have an austerity tendency, while under the Bretton Woods system, countries tend to focus on internal balance, and the crisis and unemployment situation are alleviated compared to pre-war situation.

3) The formation of the Bretton Woods system has expanded the world trade under a relatively stable environment. The US has distributed a large amount of USD to the world through gift, credit, purchase of foreign goods and labour, which has objectively played a role in expanding the purchasing power of the world. The fixed exchange rate system largely eliminates the volatility caused by exchange rate fluctuations and stabilises the currency exchange rates of major countries to a certain extent, which is beneficial to the development of international trade.

4) After the establishment of the Bretton Woods system, the activities of the International Monetary Fund and the World Bank have played a positive role in the recovery and development of the world economy.

5) The formation of the Bretton Woods system is conducive to the internationalization of production and capital as well as the relatively stable exchange rate, and avoid the exchange rate risks caused by international capital flow. This benefits the incoming and outgoing of international capital and creates favourable conditions for international financing, and for the internationalization of production of multinational companies.

#### **2.2.4 Defects and Collapse of the Bretton Woods International Monetary System**

Due to the uneven development of capitalism, the economic strength of major capitalist countries had once again changed, while the intrinsic contradictions and flaws of the USD-based international monetary system are increasingly exposed, and the Bretton Woods monetary system gradually fell apart.

1) The inherent deficiency of the gold exchange standard system. The USD was pegged to gold, enjoyed special status and enhanced the impact of the US on the world economy. First, issuing banknotes instead of utilizing gold for external payment and capital output promoted the US in its foreign expansion and predatory actions; second, the U.S. had assumed the responsibility of maintaining gold exchange parity, which could be maintained when the USD was in relatively short demand and when people had confidence in the USD; the fixed parity of the USD and gold would be difficult to maintain when people had a crisis of confidence in the USD and demanded to exchange the USD in excess for gold.

2) The reserve system is unstable and such system could not provide a reserve currency that was sufficient in quantity, strong in monetary value and acceptable in all country, so that the growth of international reserves could adapt to the needs of international trade and global economic development

3) The deficiency of the international balance of payment adjustment mechanism. Such mechanism required the floating exchange rate to be kept within 1%, and the exchange rate lacked flexibility, which limited the adjustment effect of exchange rate on international balance of payment.

4) The difficulty in maintaining internal and external balance. Under the fixed exchange rate system, countries could not use exchange rate leverage to regulate the international balance of payments, and could only adopt economic policies or control measures that helped the realization of domestic economic goals, sacrificing internal balance for external balance.

In the early 70s, while Japan and Western Europe were on the rise, the US's economic strength was relatively weakened. The US was unable to assume the responsibility of stabilising the USD exchange rate. Trade protectionism was on the rise and the USD was depreciated twice.

In July 1971, the seventh USD crisis broke out, and on 15 August, the Nixon government announced the implementation of a "new economic policy" to stop fulfilling its obligations that foreign governments or central banks could exchange USD for gold in the US. The

pegging of USD to gold system was then nominal. Subsequently, other western currencies successively implemented floating exchange rates against the USD, and the fixed exchange rate system completely collapsed.

The cessation of the exchange of USD into gold and the collapse of fixed exchange rate system marked the complete collapse of the USD-centric Bretton Woods monetary system.

### **2.2.5 The Root Cause of the Collapse of the Bretton Woods International Monetary System**

The root cause of the collapse of the USD-centric Bretton Woods monetary system is that the system itself contains irreconcilable contradictions.

Under the Bretton Woods system, the USD acts as means of international payment and international reserve, and functions as world currency.

On the one hand, as means of international payment and international reserve, when the value of the USD is stable, it will be accepted by other countries. The stability of the USD requires the US to have sufficient reserves of gold, and the US international balance of payments must remain at surplus, thereby increasing its reserves of gold as gold continues to flow into the US. Otherwise, people would not accept USD in international payments.

On the other hand, in order to obtain sufficient foreign exchange reserves in the world, the US's international balance of payments must remain at deficit, otherwise the world will face a shortage of foreign exchange reserves and international circulation channels will experience a shortage of international payment methods. As the US deficit increases, the gold guarantee of USD will continue to decrease, and the USD will continue to depreciate.

The shortage of USD after the World War II and the overflow of USD were the inevitable result of this contradictory development.

## **2.3 Establishment and Deficiency of the Jamaican International Monetary System**

### **2.3.1 Establishment and Main Features of the Jamaican International Monetary System**

The cessation of the exchange of the USD for gold and the collapse of the fixed exchange rate system marked the complete collapse of the USD-centric Bretton Woods system. The International Monetary Fund (IMF) established a special committee in July 1972 to specifically study the reform of the international monetary system

In June 1974, the committee proposed the "Outline of International Monetary", which put forward some recommendations on issues concerning gold, exchange rate, reserve assets and international balance of payment and adjustment, laying a foundation for future monetary reform



In January 1976, “Interim Committee for the International Monetary System” of the International Monetary Fund held a meeting in Kingston, the capital of Jamaica, to discuss the articles of agreement of the International Monetary Fund. After some heated discussion, the “Jamaican Accords” were signed, from which a new international monetary system was formed. The Jamaican monetary system is the current monetary system we are using

The Jamaican international monetary system has the following features:

1) Demonetisation of gold

The demonetization of gold means the complete de-pegging of gold from currency, eliminating the obligation to settle debts with gold between nations, reducing the monetary effect of gold. These reduce the status of gold in international reserves and facilitate the establishment of a diversified international reserve system.

2) Diversified exchange rate system arrangements

The fundamental objective of international economic collaboration is to maintain economic stability rather than exchange rate stability. The Jamaican system allows diversification of exchange rate system arrangements and attempts to gradually replace the fixed exchange rate system with a more flexible floating exchange rate system around the world.

IMF classifies the diversified exchange rate system arrangement into the following three types: hard pegged exchange rate, such as monetary authority system, currency union, etc.; soft pegged exchange rate, including conventional fixed peg, crawling peg, floating within band system, etc.; floating exchange rate system, including a fully floating exchange rate system and various types of floating exchange rate systems with varying degrees of control.

3) Diversified international reserve system led by USD

In the Jamaican system, international reserves available for countries are not only denominated in USD, but also in international currencies such as gold reserves, Euro, Japanese Yen, British Pound and Renminbi, the reserve position of the International Monetary Fund and the special drawing rights. However, the USD remains a major component of foreign exchange reserves in various countries, and the fundamental conflicts of the original currency system have not been fundamentally resolved.

4) Diversified international balance of payment and adjustment mechanism

IMF allows countries with imbalance of international balance of payments to introduce timely measures on the imbalance of international payments by various means of international balance of payment adjustments, such as exchange rate mechanism, interest rate mechanism and financing mechanism.



The diversified reserve structure of the Jamaican international monetary system has broken the deadlock among the currencies of various countries under the Bretton Woods system, providing various settlement currencies for the international economy, and solving the conflict of shortage of reserve currency to a large extent.

Similarly, the diversified exchange rate arrangements have adapted to the diverse development level of economies of different countries, which has provided flexibility and independence in maintaining the economic development and stability of various countries, and has helped to maintain the continuity and stability of domestic economic policies.

### **2.3.2 Deficiencies in the Jamaican International Monetary System**

Jamaica's international monetary system also has significant shortcomings. Under the diversified international reserve structure, reserve currency issuing countries still enjoy various benefits such as "seigniorage", and continue to export inflation abroad. At the same time, under the diversified international reserves, there is a lack of unified and stable currency standards, substantial fluctuation of exchange rates and extremely unstable exchange rate system, which greatly increases the foreign exchange risk and, to a certain extent, suppresses the international trade and international investment activities.

If the international financial crisis is coincidental and partial under the Bretton Woods system, then the international financial crisis will become frequent, comprehensive and far-reaching under the Jamaican system. Since the introduction of the 1973 floating exchange rate regime, fluctuations in the currencies of the western foreign exchange market and fluctuations in gold prices had occurred frequently, with constant small crisis and large crisis occurring from time to time.

In October 1978, the exchange rate of the USD against other western currencies fell to its historic low, causing turmoil in the financial markets across the western monetary and financial market. This is the famous 1977-1978 Western currency crisis.

The most important reason for this is that, due to the collapse of the gold standard and the gold exchange standard, the credit currency has increased significantly in terms of types and amount, and the credit currency accounts for more than 90% of the western currency circulation.

The growth of money supply and deposits is much higher than that of industrial production, and the development of the national economy is increasingly reliant on credit. The current international monetary system is generally perceived by the people to be a transitional and incompetent system that needs to be thoroughly reformed, and such deficiency was completely exposed during the global financial crisis caused by the US subprime mortgage crisis in 2008.

## **2.4 Serious Impact of the Global Financial Crisis on the International Monetary System**

### **2.4.1 The Course of the 2008 Global Financial Crisis**

The 2007-2008 global financial crisis, also known as the global financial crisis and credit crisis, has been the most severe financial crisis since World War II.

When the crisis swept across the globe, people were overwhelmed and had nowhere to escape. The financial crisis also triggered the global economic crisis. Stock prices plummeted, goods depreciated, banks went bankrupt, businesses closed down, factory orders reduced, and workers went out of work. The crisis led to a significant decline in the quality of life, which caused huge damage to the global financial order. The global economy that had recovered for nearly half a century after World War II once again suffered a severe damage.

As early as April 2007, the bankruptcy of New Century Finance Corporation, the second largest subprime mortgage company in the US, exposed the risks of subprime mortgage bonds, and investors began to lose confidence in the value of mortgage securities, which triggered a liquidity crisis. Even though the central banks of many countries had injected large amounts of money into the financial market multiple times, it still cannot prevent the outbreak of this financial crisis.

In August 2008, the two major US mortgage giants, namely Fannie Mae and Freddie Mac, experienced a sharp fall in their stock prices. The US Treasury and the US Federal Reserve were forced to take over both companies. After that, Lehman Brothers filed for bankruptcy, Merrill Lynch was acquired by the Bank of America and AIG was in a desperate situation. A series of sudden changes caused crisis and shocks to all countries around the world.

The abuse of financial derivatives by Wall Street eventually came back to bite them. In September 2008, the financial crisis began to get out of control and spread around the world, causing many sizable financial institutions to close down or to be taken over by the government.

### **2.4.2 Causes for the 2008 Global Financial Crisis**

There were three main reasons for the outbreak of the 2008 global financial crisis:

1) The improper real estate financial policies of the US government have laid the foundation for the outbreak of the crisis. Fannie Mae and Freddie Mac, both privately held companies in the US, enjoyed the privilege of implicit government guarantee, and thus their bonds are rated the same as the US government bonds. Under easing monetary policy, asset securitization and accelerated innovation of financial derivatives, the hidden guarantee scale of Fannie Mae and Freddie Mac expanded rapidly and the asset quality was ignored, which became the hotbed for the outbreak of the subprime mortgage crisis.

2) The abuse of financial derivatives had lengthened the financial transaction chain and had facilitated speculation. By purchasing loans with poor liquidity from commercial banks and mortgage companies, Fannie Mae and Freddie Mac converted them into bonds through asset securitization and offered them in the market, which attracted financial institutions such as investment banks to purchase. Investment banks then split, packaged, combined and sold them with sophisticated financial engineering technology, which greatly extended the financial transaction chain and fuelled the occurrence of short-term speculation, and led to the eventual collapse.

3) The US monetary policy had contributed to the outbreak. In response to the bursting of dot-com bubble around 2000, the Federal Reserve implemented low annual interest rates. Such policy prompted the US public to withdraw their savings to invest in assets and banks to issue loans excessively, which directly contributed to the continuous expansion of the real estate bubbles in the US.

### **2.4.3 The Root Cause of the 2008 Global Financial Crisis**

The outbreak of the global financial crisis was ostensibly caused by the subprime mortgage crisis due to the abuse of financial derivatives. However, the root cause was the deficiency of the global monetary system, as a result of the imbalance due to the increasing domination of pure credit currency of the Jamaican international monetary system.

With the increasing trend of economic globalization, modern economic crisis is basically caused by the imbalance in global economy. Driven by interests, global capital abuses the defects of the national monetary system, which leads to the outbreak of financial and economic crisis.

The global economic crisis seems to mean the global imbalance of payments on the surface, and the imbalance of real economy is the actual realization of the global imbalance of payments, which ultimately is caused by the imbalance of international monetary policies. The flow of global capital has led to the expansion and recession of the virtual economy, resulting in a shortage of liquidity, which has led to the outbreak of the global economy and financial crisis, and in turn has prompted the global re-allocation of financial capital.

The post-World War II international financial system was not on a level playing field. After World War II, the US had established the Bretton Woods system that pegged USD to gold leveraging its strong economic and military power and occupied three-quarters of the world's gold reserves. This system had been controlled by the US since its inception, and the USD had become the world's currency.

During this period, the USD had to be pegged to gold and relied on gold to support the value of the USD. However, after the collapse of the Bretton Woods system, the USD was unpegged from gold and became a pure credit currency relying solely on the credit of the US government, the USD was let loose and was not subject to any physical assets.

The Jamaican monetary system, which was established after the collapse of Bretton Woods system, was essentially a looser international monetary system. Although the effect of the Euro and the Japanese Yen on the global monetary system had increased, the “Triffin dilemma” could not be effectively resolved by the diversification of the reserve currency and only temporarily diverted the conflict.

Reserve currency is not only a national currency, but also carries the identity and characteristics of a global currency. The macro-economic policies formulated by the countries with reserve currency status will certainly be in conflicts with the global or regional economic requirements, resulting in instability of foreign exchange market and undermining the financial market, which will eventually lead to the economic financial crisis around the world.

The outbreak of the 2008 global financial crisis was inherently linked to the monetary policies of the USD:

1. Cause of the crisis — the monetary expansion of USD happened before the 2008 financial crisis.
2. Process of the crisis — the monetary tightening of USD intensified the 2008 financial crisis.
3. Consequence of the crisis — the 2008 financial crisis led to a fundamental change in the USD monetary policy.

## **2.5 The Birth of Bitcoin, Digital Gold, and the Collision of Sovereign Credit Currency and Free Digital Currency**

### **2.5.1 Background on the Birth of Bitcoin**

In September 2007, the subprime mortgage crisis broke out across the US. In a split-second, people defaulted, and the once greedy market sentiment was replaced by fear. A large number of homebuyers defaulted due to breach of contract, which broke the capital chain of mortgage companies and eventually caused assets such as gold to be affected as well, leading to a decline in capital liquidity of the whole financial industry. Cash was depleted, cash flow issues hit financial institutions hard, and the capital chain was broken at an instance.

Financial markets around the world were out of money. Their accounts might not look empty, but cash was nowhere to be found.

In order to improve this situation, the US came up with a less than ideal approach: “money printing”. Under the Jamaican international monetary system, USD was no longer pegged to gold and became a pure credit currency, meaning the Federal Reserve could keep printing money as much as they want.

The quantity of USD had increased rapidly in the following period. Due to the USD hegemony, the entire international system was settled in USD, and the economic bubble of USD has grown. As a result, the world has helped the US to repay its debts and everything has depreciated. The financial crisis has spread from the US to all over the world, which eventually led to the collapse of the real economy in 2008. The entire global economy had entered a vicious cycle, which eventually formed a world-class economic crisis.

In this context, people no longer trusted the authoritative organizations and the financial institutions, as they brought people to the brink of catastrophe.

Rules are always formulated by a few but are required to follow by many. As the most important carrier of monetary value in our life, fiat currency is a highly political issue as it will be subject to intervention by third parties. Any errors in their decision-making will affect everyone.

In this context, Bitcoin emerged as a non-political, decentralized alternative to the fiat currency system.

On 1 November 2008, a mysterious person known as Satoshi Nakamoto published the Bitcoin White Paper: A Peer-to-Peer Electronic Cash System. Afterwards, on 3 January 2009, Satoshi Nakamoto hand-built a small server located in Helsinki, Finland, and created the Bitcoin Genesis Block, the first block of Bitcoin ever mined, and received the first 50 Bitcoin automatically generated by the system. The first Bitcoin was then launched.

Bank closures, emergency rescue and political unrest are the driving forces for Bitcoin to be used. Your money is kept in the bank, but what can you count on if they are not to be trusted?

### **2.5.2 Positioning and Features of Bitcoin**

Bitcoin first appeared in 2008, and was designed to be a real “world currency” in response to the financial crisis.

1) The first thing Bitcoin wants to achieve is decentralisation – the separation of currency and power.

Satoshi Nakamoto hopes to replace the flawed and problematic financial system with Bitcoin to optimise the current global monetary system. The “peer-to-peer technology” means that the circulation of value in the world is no longer intervened by any traditional third-party credit institutions, such as central banks and governments, who often abuse their trust and intervene the economy at the expense of the public interest. For example, the common practice of rapid expansion of monetary base has continuously led to inflation.

Bitcoin is considered a solution to the collapse of the monetary system based on central credit.

2) Bitcoin is neutral and non-tamperable – it breaks the tradition of being fully owned by a third party.

During the 2008 financial crisis, financial institutions and government agencies played a role in promoting the entire incident and were the root cause of the crisis. From this perspective, centralized currency is more insecure and more vulnerable to manipulation.

Bitcoin is different because of its own distributed storage technology and decentralized management mechanism. No centralized institutions can control it, and it is completely free and co-maintained by everyone. In this system, the decision-making power is in the hands of everyone, and everyone is equal.

3) Bitcoin has the function of value storage.

The total amount of Bitcoin is constant and theoretically extremely stable with no inflation, while the fiat currency is much more vulnerable.

Bitcoin was born in the context of the financial crisis. It lets everyone see the importance of a completely independent monetary system and finally put it into action, which is the why Bitcoin is so extraordinary. Through the power of technology and mathematics, it opens up a new avenue for the reconstruction of the global monetary and financial system, which also marks the direction of the future evolution of the global monetary system.

### **2.5.3 Bitcoin, Digital Gold, the Anchor for the Future Global Economy**

The first Bitcoin was officially mined in 2009. It has been more than a decade, more and more believers of cryptocurrency regard Bitcoin as digital gold. Why is Bitcoin called digital gold?

There are two reasons for this. Firstly, the physical properties of Bitcoin are similar to gold. Secondly, Bitcoin will play a similar role as an anchor currency like gold.

First of all, Bitcoin and gold have many similarities. For example, the total amount of both is limited. They are both easily separable and easy-to-store, and can be used as a cash equivalent in exchanges and circulations. Like gold, Bitcoin is not issued by any individuals, institutions or countries, it is not subject to centralized control. In addition, mining of Bitcoin is just as difficult as mining gold.

As people have deeper and deeper understanding of Bitcoin, they are more likely to see that it has astonishing similarities as gold. Thus, calling Bitcoin “digital gold” is no exaggeration.

Secondly, Bitcoin is playing a similar role as an anchor currency like gold. In the future, Bitcoin may become the gold in “gold standard” and become the anchor of the global monetary system, and ultimately establishing a “Bitcoin standard system” based on Bitcoin.

One of the greatest aspects of Bitcoin is that without any centralized credit endorsement, it uses technology and algorithms to generate technical trust, and eventually establishes a distributed system to support the development of its payment business.

When Bitcoin was launched, it had zero value and could not be used to buy any things. However, due to its own reliable performance and code of trust, it gradually allows the global community to recognise its value and uses it as a currency without any physical form and government support, which is absolutely one of the most important achievements in the history of currency. As Bitcoin continues to develop, it will not only be used as a currency, but also as an anchor currency like gold.

Throughout the long human history, the precious metal gold is seen as a symbol of wealth and supreme rights regardless of race or nationality in modern civilization. This global consensus is definitely not a coincidence. It is a gift from mother nature to human, as only gold can guarantee its scarcity in history while still being continuously produced. Physical gold was once the anchor of human real economy, which was the gold standard.

However, after the collapse of Bretton Woods system, the USD took the lead to unpeg from gold, from which currency had entered the era of pure credit. However, this was followed by a cyclical economic crisis. When crisis broke out, gold will always be a safe-haven asset purchased by everyone. In history, dynasty would alter, but gold, a decentralized reserve asset, will never lose value.

With the changes in times and technology, human ushered in Bitcoin, an internet-based native digital currency. The formation of Bitcoin is based on decentralized blockchain technology, and like gold, it acts as a form of wealth, which can be brought to any countries and converted into the fiat currency or in accordance with the goods and services transaction. Bitcoin will bit by bit become the anchor of the world currency and becomes the anchor of the decentralized world.

## **2.6 The Collisions of New and Old Economic and Financial Systems, and of Sovereign Credit Currency and Free Digital Currency**

After the creation of Bitcoin by Satoshi Nakamoto in 2009, human civilization has entered a new dimension. Distributed, decentralized and free digital currency has developed explosively at an increasing speed. In contrast, although the human society has not yet experienced another large-scale economic financial crisis, small-scale and regional financial crisis has occurred occasionally from time to time, which continuously affects the world monetary system built up by sovereign credit currency. There have been increasing interactions between sovereign credit currency and free digital currency, and human society has been researching more and more on digital currency.



The emergence of digital currency has promoted the evolution and innovation of currency. With the development of financial technologies such as blockchain, big data and cloud computing, digital currency innovation has quickly become the focus of attention in many countries around the world. The central banks of many countries are sorting out the technology, origin and development of digital currency, the evolution of theoretical model and the progress of practice, analysing the impacts of digital currency on sovereign countries and the global financial system, and actively studying the feasibility of issuing digital currency-related technologies, which greatly promoted the theory and practice of digital currency into a prosperous development stage.

During 2009 to 2019, with the application of blockchain technology, digital currency in different extents brought new challenges to the operation of sovereign currency and financial regulation. However, the emergence of digital currency is driven by technological advancement, and the issuance of sovereign digital currency by the central bank may also mark the direction of monetary development in the future digital era. However, this process does not happen all at once. Theory and practice are under constant exploration, and technical support and system construction are in a growing process.

In the future, there will be a new structure for the operation mechanism of currency, and the traditional conduction mechanism of monetary policy will become invalid. The reconstruction of monetary policy system, national policy system and policy coordination mechanism between nations are new issues that various sovereign countries have to deal with.

In the future construction of the international monetary system, the realization of super-sovereign digital currency is also dependent on the joint support of the theoretical innovation of digital currency and the implementation policies of digital currency in various countries, which require the active coordination and promotion of international organizations and the establishment of corresponding institutional framework. The RMB digital currency of the central bank of China is at the forefront of the era in terms of theory and practice, and has currently reached the final preparation stage and about to be launched.

## **2.7 Pending Announcement of Digital RMB by China's Central Bank, the Unstoppable Wave of Currency Digitalization**

Starting from 2014, China's central bank has started to study the issuance of digital currency for 5 years. In January 2017, the China's central bank officially established a digital currency research institute in Shenzhen; in September 2018, the research institute built a trade finance blockchain platform. As of 21 August 2019, the central bank's digital currency research institute applied for a total of 74 patents for the design of digital currency.



It is understood that after five years of focused research, the digital currency DC/EP of the China's central bank has currently reached the final preparation stage and about to be launched.

China's central bank adopts a two-tier operation system for DC/EP digital currency, with the central bank managing the upper and the commercial bank running the lower layer. A single-tier operating system means that the PBOC directly issues digital currency to the general public. A two-tier operating system means that the PBOC first converts the digital currency into banks or other operating institutions, which then converts the digital currency to the public. This two-tier release system can not only utilize existing resources to mobilise the enthusiasm of commercial banks, but also successfully enhance the acceptance of digital currency.

The two-tier operation system will not change the relationship of monetary assets and liabilities in circulation. In order to ensure that the central bank do not rapidly expand the monetary base of the digital currency, commercial institutions shall pay 100% of the reserve funds to the central bank. The central bank's digital currency is still the central bank's liability. It is an unlimited fiat currency and is credit guaranteed by the central bank. In addition, the two-tier operation system will not change the existing money supply system and dual account structure, and will not compete with commercial bank deposit currency.

The current digital currency design of the central bank focuses on the replacement of M0 instead of the replacement of M1 and M2. The existing M0 (banknotes and coins) are easily to be forged anonymously, and there are risks associated with money laundering and terrorist financing. Therefore, the DC/EP design maintains the attributes and main features of cash, and at the same time meets the needs of portability and anonymity, and is a good alternative to cash.



# **III. Theoretical Foundation and Development Path of Currency Internationalization**

### **III. Theoretical Foundation and Development Path of Currency Internationalization**

When Columbus discovered a new continent, upon the success of circumnavigation by Magellan, human civilisation entered a brand-new stage, and the economy and trade are no longer limited to one country or one region, and a global market is formed. The problem that follows is the global consensus on value, that is, the globalization of currency, or the currency internationalization. Whoever holds a significant position in the currency internationalization can have access to more abundant resources and higher status.

When we promote a currency as a regional unified currency, it is necessary for us to understand the fundamental knowledge and development path of the currency internationalization, and learn from the past in order to build the ACU into a regional unified currency in Asia.

With the development of technology, the spread of information technology, the growth of international trade and the deepening of international division of labour, the international monetary system is also constantly evolving. Countries around the world are competing for a more important role of their own currencies to further participate in the international monetary system, especially those Asian countries that have marginalized status in the international monetary system.

With the deepening of the world economic integration, the financial globalization and integration are also deepening. Currency, as the backbone of finance, will also be involved. Economic globalization has promoted the global reallocation of commodities, labour and capital. Regional currencies have emerged along with the emergence of regional economy and finance, and there has been an increasing wave of monetary cooperation.

With the establishment and disintegration of the Bretton Woods international monetary system after World War II, USD deservingly became a world currency. As the settlement currency and reserve entity of global trade, it enabled the US to continuously enjoy the huge seigniorage brought by the global market. As it took the initiative to unpeg from gold, the pressure of inflation was transmitted to the whole world through the continuous issuance of USD, forcing the world economy and the public to bear the consequences of such action.

On 1 January 1999, the European Union officially implemented a unified monetary policy, and the Euro was launched amidst considerable obstacles. On July 2002, the Euro became the only lawful currency of the Eurozone.

The emergence of the Euro is the most significant achievement of the European monetary reform since the Roman Empire, and the Euro not only enables the optimization of European single market, allowing more convenient free trade between Eurozone countries, but is also an important component of the integration process of the European Union.

Under the continuous exploitation of USD seigniorage and inflation after World War II, major European countries have realized that only by promoting the integration of European economy can they maintain their international status and achieve sustained peace. Under such circumstances, the European monetary integration is imperative, and the Euro was launched with such historical mission

At present, Asian countries are facing the same issue, the birth of the Asian Currency Unit ACU came under such background.

The birth of the Euro has brought unprecedented attention to the “Optimum Currency Area Theory” proposed by Mundell, the winner of the Nobel Prize in Economics. This is undoubtedly an encouragement for monetary cooperation in Asia, where the third world economy is dominating. It also provides an important reference for route selection and operation mechanism, which have enhanced the confidence and desire of Asian countries to seek monetary cooperation. Asian monetary integration becomes an imperative matter.

In the process of monetary integration in Asia, China, the world’s second largest economy, will undoubtedly play an important role, and China’s sovereign currency, “RMB”, is indispensable in the process of monetary integration in Asia.

As RMB cross-border circulation continues to be active, RMB is also moving towards a more regionalized and internationalized paths, especially with the burst of digital currency, digital RMB has reached the final preparation stage and about to be launched by China’s central bank, which provides a new path for international circulation of RMB.

### **3.1 Basic Concept of Currency Internationalization**

#### **3.1.1 Basic Definition of World Currency**

International currency, also known as world currency, is a currency that functions as a universal equivalent in international commodity circulation.

The world currency is formed and developed as a result of the development of commodity production and exchange. In addition to the scale of value, the world currency is also an international means of payment, international means of purchase and international means of wealth transfer.

#### **3.1.2 Function of World Currency**

World currency acts as a universal equivalent in international commodities, it has three main functions:

1) Means of payment, which is the most important function of the world currency, is primarily used to offset the balance of trade.

Foreign trade involves both parties, that is, each country exports goods and imports goods, and is mainly conducted by means of credit. Therefore, the relations of credit and debt between countries exist.

The settlement of these debt relations can be conducted by utilizing credit instruments such as bills of exchange and cheques, which can be offset against each other. The difference after offsetting is settled by using the actual currency as the final settlement method. Thus, the world currency performs the function of international payment.

2) Means of purchase.

When the currency is directly used to purchase goods from abroad, it functions as international means of purchase, which is different from the intermediary for exchange of goods in domestic circulation, and acts as commodity money to exchange with other commodities.

This situation mainly occurs due to unexpected events such as war and disasters, the normal exchange of goods between different countries is abruptly interrupted, normal balance is destroyed, causing countries to have no choice but to buy commodities from other countries in large quantities.

3) Means of transfer.

When wealth is transferred from one country to another, it cannot be or unsuitable to be realized in the form of commodities due to various reasons. In this case, the transfer has to be conducted in the form of currency, the currency acts as a realization of wealth in order to achieve international wealth transfer.

### **3.1.3 Conditions for Currency Internationalization**

In order to become an international means of payment and reserve currency, a country's credit currency must meet the following three basic conditions:

1) The country that issues such credit currency must have strong economy and have a significant or dominant position in the international economy. The credit currency of a country will only be widely used internationally and well accepted when it plays an important role in the world's commodity output and capital output, and has extensive trade and financial connections with other countries.

2) Such credit currency must have considerable stability. As any credit currency is worthless in itself, to maintain its stability, it must be associated with gold, meaning it can be converted into gold at a certain rate under certain conditions. Therefore, such countries must have sufficient gold reserves to ensure the stability of its credit currency.

3) The currency of a country may act as a means of payment between countries with close economic ties. However, to be qualified as a reserve currency around the world, it is subject to the recognition of all countries, which largely requires certain international agreements to realise.

## **3.2 The Necessity and Inevitability of Asian Monetary Integration**

With the support of the Bretton Woods system after World War II, the USD became the world's currency and assumed the role of international economic and trade settlement and reserve. However, when the USD was unpegged from gold, it became a pure credit currency and lost the support of real precious metal assets. The USD was let loose and has completely gone astray.

The circulation of the world economy and trade as a whole had lost its anchor. Consequently, various large and small cyclical financial crises arose, during which Asian countries were deeply affected. First it was the 1997 Asian financial crisis, which depleted the wealth accumulated after the war. It was followed by the 2008 global financial crisis, which again brought enormous damages to the Asian economies.

Under frequent financial crisis and turmoil, in order to maintain the stability of Asian currencies and financial markets and to ensure the normal development of the Asian economy, it is necessary to follow the trend of global financial integration, and to absorb the successful experience of the Eurozone and strengthen monetary cooperation, so as to establish a unified currency in Asia.

Although economic and political conditions in Asian countries are quite a distance from achieving monetary integration, the trend of achieving monetary integration is clear. With the strengthening development and integration of the Asian economy, the advantages from establishing a unified currency zone will increase.

Satoshi Nakamoto created Bitcoin, which experienced a wave of decentralisation layout of digital currency. The free digital currency system and the legal sovereign currency system continued to collide, and the birth of ACU came under such circumstances.

### **3.2.1 Analysis of the Inevitability of Asian Monetary Integration**

Around the 21st century, Asia experienced two major financial crises. Although Asian economies suffered heavy losses in both crises, its importance has gradually emerged and Asia is no longer a weaker subordinate to other economic powers.

Although many Asian countries are developing countries, with the increasingly close trade and investment relationship, the monetary cooperation in Asia has entered a critical stage. Mundell's theory of optimum currency areas provides theoretical support for Asian monetary integration. The successful emergence of the Euro provides experience and path selection for Asian monetary integration. The gradual expansion of the cooperation between Asian countries ensures a good internal and external environment for Asian monetary integration

1) Asian monetary integration is a general trend of international economic and financial integration, and financial globalization and integration determines the general trend of Asian monetary integration.

The trend of global financial integration has become increasingly apparent. Under the overall development trend, the emergence of regional monetary alliance is most likely in the face of financial turmoil and crisis. Regional monetary integration will become a new trend. This is the external pressure of monetary alliance that Asia is facing.

Human has historically been attributed to a single currency, which are physical currency and gold currency. However, the development of the credit system has quickly enabled countries to implement different credit currencies, which are currently in a period of absence of the world standard currency, or in a period of major country's currencies functioning as the world currency.

In the context of economic globalization, if Asian countries are unable to reach a systematic coordination mechanism in financial and monetary fields, then these isolated small open economies will be affected and exploited by external capital one by one.

In particular, since the outbreak of the 1997 Asian financial crisis, Asian countries, especially those in Southeast Asia, have formed closer economic ties to minimise the impact of international hot money. Also, Asian countries are more aware that they must strengthen regional financial coordination and cooperation to create a stable Asian unified currency, so as to stabilise the Asian financial market and promote the healthy development of the Asian economy.

2) The impact of the Asian financial crisis has accelerated the process of Asian monetary integration.

Financial globalization has led to large-scale capital movements around the world, which creates a large amount of international hot money and rampant speculative activities in international finance. The frequent outbreak of the currency crisis and bank credit crisis in various countries have increased the instability of the international financial market, which undoubtedly led to a more frequent and disruptive outbreak of financial crisis.

Although the Asian-originated 1997 Asian financial crisis eventually affected the whole world, Asia itself suffered the most trauma in the end.

The Asian financial crisis reflected a series of deep-seated problems in the economic and political system in Asia, including the non-performing debts of banks, especially in the crisis withstanding stage. There was a lack of fundamental systems, mechanisms and means of cooperation in the field of monetary finance among Asian countries, and a lack of fundamental trust and sincerity among themselves, as well as a lack of experience in cooperation.

In addition, the unreasonable economic structure, the defective financial regulations, systems and supervision as well as the fragile financial power made every Asian country almost helpless when crisis came, causing huge losses to the economy.

Through the Asian financial crisis, Asian countries realized that it is difficult for a single country to withstand the financial crisis on its own. Loose cooperation and reliance on external assistance are not sustainable long-term solutions. Only by strengthening mutual cooperation and enhancing mutual risks resistance capability can Asian countries gain a foothold in the world economy in the future.

The tragic Asian financial crisis has strengthened the cooperation between Asian countries and accelerated the process of Asian monetary integration, which is also the fundamental reason for the much-anticipated establishment of the Asian unified currency ACU.

### **3.2.2 Necessary Conditions for Asian Monetary Integration**

For Asian countries, Asian monetary integration is quite appealing. Moreover, there is certain level of trade dependence in the Asian region, which provides the possibility for Asian monetary integration.

However, as the proposal on Asian monetary integration has been raised for almost 20 years and there has been no substantial progress so far, we need to deeply understand the conditions and the existing obstacles and difficulties in Asian monetary integration, in order to make better progress.



In order to truly establish a unified currency in Asia, three basic conditions may be required: the convergence of fiscal calculation, the convergence of monetary policy and the reconciliation of cultural and ideological understanding, but this obviously requires a long adjustment time to achieve.

This can be borrowed from the success of Euro and adopts the approach of phased and batched approach to unify Asian currencies. Countries with more mature conditions and similar economic indicators will first adopt a single currency. Other countries will join in batches once they meet the requirements.

### **3.2.3 Obstacles and Difficulties in Asian Monetary Integration**

Asian monetary integration is an inevitable trend, and the establishment of ACU is imperative. However, due to the discreteness and imbalance of economic distribution in Asian countries, there are still some obstacles and difficulties in implementing a unified currency in practice. The economic and political cooperation in Asia is not fully mature, which affects the process of Asian monetary integration and requires the cooperation of Asian countries to promote the formation of a common currency.

#### **1) Recognition and acceptance of hard currency.**

The hard currency in Asian region includes Japanese Yen, Singapore Dollar and Hong Kong Dollar, which are all freely convertible currencies. In addition, Renminbi has remained stable, but has yet to become a freely convertible currency.

Currently, the Hong Kong Dollar and Singapore Dollar cannot be regarded as strong currencies, while the Japanese Yen is the only global strong currency in Asian region, but its impact has been diminishing, especially since the financial crisis in Southeast Asia. The instability of Japanese economy has led to the increased volatility in its currency value, and its reputation in the region has been significantly reduced.

#### **2) Nationality in Asia is deeply rooted**

There is a relatively fierce national conflict between Asian countries, most countries are still in the process of national construction, and nationalism is still the dominant ideological form. One important condition for the launch of Euro is the decline of nationalism, which has yet to appear in Asia and is still the goal to strive for.

There are many conflicts and problems within Asia, such as the Japanese invasion of China in World War II, the Korean Peninsula issue, and the “Cross-Strait Issue” have not been resolved yet, all of which have seriously affected the process of economic integration in Asia.

Therefore, in terms of the Asian region, its realization process is equivalent to the process of gradual establishment of national affinity and sense of trust, and in reality, it will be a prolonged process.

### 3) Mercantilism hinders Asian monetary integration.

Mercantilism is a policy adopted by many countries that have emerged in recent times, but it is a basic condition for economy to flourish, rather than a condition for a currency zone.

The reasons are simple. What mercantilism emphasizes is the competition of nation state to obtain scarce international hard currency to provide the necessary capital conditions for the growth of import economy, while the currency zone emphasizes the cooperation between countries based on the premise of mutual trade dependence and complementarity.

There is in fact a trade balance between mercantilism and currency hegemony between the US and this region. This balance, on one hand, protects the trade relationship of the former, and on the other hand, places reliance on the USD, which inevitably hinders the needs for a common currency in Asian countries.

## **3.3 The Necessity and Inevitability of RMB Cross-border Transactions and RMB Internationalization**

Asian monetary integration is an inevitable trend, but the process will not be smooth and will possibly go through numerous hardships and tribulations before its realization. During this process, China and RMB will definitely occupy an important position and perform an indispensable role.

Moreover, since the 1990s, especially after the financial crisis in Southeast Asia in 1997, the scale of RMB cross-border circulation has expanded, RMB has gradually made its grand entrance into the world economy.

The RMB cross-border circulation is essentially an internationalization of the RMB. With the continuous enhancement of the comprehensive national power of China and the relatively stable value of the RMB, the RMB has been increasingly and widely accepted in the course of foreign economic transactions, especially in the border trade with the peripheral countries.

The RMB cross-border circulation indicates that RMB has begun the process of internationalization, but it does not mean that RMB has become a world currency, and there is still a long way before the realization of RMB internationalization.

### **3.3.1 Reasons and Current Status of RMB Cross-border Circulation**

In recent years, with the continuous enhancement of China's economic strength and the rapid development of foreign trade and economic interaction, the use of RMB as a trading medium, means of storage and means of payment has become more and more widely used in neighbouring countries as well as regions such as Hong Kong and Macau. There is even a trend of RMB replacing local currencies in some countries and regions.

Why does the RMB cross-border circulation continue to expand? Fundamentally, this is the inevitable result of the continuous opening up of China, extensive participation in international exchanges and enhancement of the comprehensive national power. The following are the main reasons:

1) RMB cross-border circulation is an inevitable result of the stable RMB value, the rapid expansion of trade scale between China and its surrounding countries and regions.

2) The fact that RMB can circulate within a certain range of surrounding countries and regions reflects the growing economic strength and the increasing commodity supply capacity of China, as well as the objective demand for bilateral economic integration.

3) The RMB cross-border circulation is related to a certain extent to various illegal activities such as smuggling, drug trafficking and corruption.

4) The opening up of finance and the reform of foreign exchange management system in China have also created a relatively lax system and environment for the offshore circulation of RMB.

Following are the main channels for RMB flows out of China:

1. Border trading: mainly includes cross-border trading and import payment for border trade cooperation;

2. RMB involved in overseas investment, project contracting and other projects. It specifically refers to the RMB outflow due to the overseas production investment by domestic enterprises in the surrounding countries, as well as the RMB used by domestic residents to entrust overseas residents to invest in the capital market;

3. Overseas travel and consumption during family visit, currently some overseas countries and regions currently allow domestic consumers to pay in RMB for local consumption; and

4. Other channels include overseas gambling, smuggling, payment of drug purchases and overseas money laundering by domestic residents.

As the connection between China and external economies becomes increasingly closer, RMB will continue to accelerate the volume and speed of its cross-border circulation.

### **3.3.2 Measures to Promote RMB Internationalization**

Although the RMB has gradually accelerated the pace of internationalization, most of the time, it is pushed forward by voluntary non-governmental activities. In addition to these voluntary bottom-up activities, it is also necessary to launch a series of measures at the national level to promote the development of RMB internationalization.

### 1) Actively enter into RMB currency exchange agreements with target countries

Currency exchange refers to the exchange of equivalent values of currencies based on an agreed exchange rate between two parties in international trade, and the subsequent return of the currency they have originally held at an agreed date. The original purpose of the currency exchange agreements is to reduce funding costs and to prevent losses from exchange rate risk.

To China, however, entering into any exchange agreements between RMB and other currencies can be seen as a means for China to cautiously provide liquidity support to some countries and regions, facilitating bilateral trading and the development of using RMB for pricing and settlement of trade.

### 2) Simplified RMB cross-border settlement review process

With the rapid development of China's foreign trade, since the beginning of the 1990s, the RMB has been applied in small amount of pricing and settlement of international trade. However, the international status of RMB has not significantly increased as it has not commenced cross-border trade settlement.

However, the rapid development of RMB cross-border settlement has greatly promoted the internationalization of RMB, prompting the Chinese government to further simplify the procedures and review processes of RMB cross-border settlement, and to eliminate unnecessary policy control, so that banks and enterprises can more conveniently use RMB for cross-border settlement, which further promoted the internationalization of RMB.

### 3) Strive for the pricing rights of international bulk commodities in RMB

History has shown that for a currency to become an international currency or even a key currency, it is often linked to the pricing and settlement of international bulk commodities, especially of energy, as the starting point for the rise of currency. Examples include the "coal-sterling" system in the 19th century and the "petrol-dollar" system in the 20th century.

Use "petrol-dollar" as an example, the current dominance of USD in international monetary system does not only originate from the advanced and developed US economy itself, but more importantly, the USD is pegged to petrol instead of gold after the dismantling of the Bretton Woods system. Leveraging the global demand for oil, the demand for USD is continuously generated, which in turn created the global demand for USD.

In the path planning of RMB internationalization, it should include the promotion of international resources pricing in RMB. If RMB is linked and pegged to a certain bulk commodity in the future, the pricing and settlement function of RMB in international trade will definitely gain massive development, and its internationalisation process can be accelerated exponentially.

#### 4) Promote cross-border RMB loan business in due course

The cross-border RMB loan business theoretically includes two categories, namely domestic RMB loans granted by overseas financial institutions and overseas RMB loans granted by domestic financial institutions. The commencement of domestic RMB loan business by overseas financial institutions can open up a new channel for the reflux of offshore RMB funds. Similarly, the granting of overseas RMB loans by domestic financial institutions can open up a new path for the outflow of RMB.

#### 5) Plan the layout of Outward Foreign Direct Investment (OFDI) of RMB

As China's OFDI grows year by year and the area of China's OFDI continues to expand, China should consciously encourage Chinese enterprises to use RMB to conduct OFDI and M&A activities under the liberalization of capital account.

The geographical layout of cross-border direct investment should also be coordinated with the "three-step" approach of RMB internationalization: firstly, coordinate with the peripheral development of the RMB to vigorously and directly invest in neighbouring countries and regions; secondly, coordinate with the RMB Asianization and directly invest in Asian countries and regions; and thirdly, actively and directly invest in Africa, Europe, the Americas and Oceania in conjunction with the internationalization of RMB.

#### 6) Accelerate the RMB exchange rate forming mechanism and interest rate liberalization

Historical and international experience have shown that the interest rate liberalization, exchange rate liberalization and currency internationalization are inter-related, and have a coordinating and mutually reinforcing relations. In order to steadily promote the reform of exchange rate and interest rate liberalizations, firstly, the forming mechanism of RMB exchange rate liberalization has to be improved continuously. The floating range of RMB exchange rate has to be expanded in an orderly manner according to the development status of the foreign exchange market and also the economic and financial situation, enhancing the flexibility in two-way fluctuation of RMB exchange rate and maintaining the basic stability of RMB exchange rate at a reasonable and balanced level; secondly, accelerate the reform of interest rate liberalization, focus on improving the self-regulatory mechanism of market interest rate pricing, and improve the independent pricing ability of financial institutions.

#### 7) Gradual realization of free convertibility of capital account items

For the internationalization of the sovereign currency to be widely recognized by the international community, its pre-requisite is that the sovereign currency is freely convertible. That is, that currency is freely convertible not only in current account items, but also in capital account items. How to accelerate the realization of convertibility of RMB capital account items has become one of the major problems that need to be resolved in the RMB internationalization.



## **IV. The Past and Present of the ACU**

## IV. The Past and Present of the ACU

The Bretton Woods international monetary system established after World War II was actually a monetary system backed by gold with all other currencies pegged to the USD. After the disintegration of the Bretton Woods system in 1973, the Jamaica monetary system was created and a multiple currency reserve system was established. Despite the short-term devaluation, due to its nature, the USD remained the most important currency in the world. In particular, the decoupling of the USD from gold caused an excessive printing of USD sloshing around the world without gold as the anchor to maintain stability.

Asia, especially East Asia and Southeast Asia, is also in the USD zone, and is one of the main beneficiaries and important supporters of the USD mechanism. However, with the long-term economic imbalances between Asian countries and the US as well as the global financial crisis weakening the foundation of the USD-based system, the cost for Asia to maintain this system is increasing. This international monetary system based on the USD will eventually collapse.

With a substantially growing common interest in a common currency in Asia due to the increasingly closer economic and trade among Asian countries and regions, the increasing economic integration with multi-national enterprises and the continuous expansion of the Asian securities market, the creation of a common currency in Asia became inevitable. Since the Asian financial crisis in 1997, the initiative to create a common currency in Asia has gained widespread attention in Asia-Pacific countries. This is the earliest origin of the ACU, which dated back more than 20 years.

### 4.1 The Difficult Journey of the Birth of the Official ACU

The history of world economic development shows that the world economic center and the world financial center often overlap, that is, the world financial center will shift along with the center of world economic development.

In the 21st century, Asia, especially East Asia and Southeast Asia, has become the center of world economic growth, but the world financial center is still in the United States. The fact that the economic center is different from the financial center has led to the distribution of wealth in favor of the U.S. Asian countries, on the other hand, face an increased burden in maintaining the USD-based international monetary system. Therefore, the call for reform of such irrational international economic order has been echoed since the 1970s.

During this period, the Euro was first established. The birth of the Euro has stimulated the desire of Asian countries to create a common Asian currency. In particular, the outbreak of the US subprime mortgage crisis in 2007 and the growing trend of trade protectionism in the U.S. have once again given rise to the call for strengthening monetary and financial cooperation in Asia and reforming the existing international financial system. This also gave birth to people's expectations for a future common currency in Asia — “Asian currency”.



The Asian currency was first proposed by the Prime Minister of Malaysia Mahathir at the Association of Southeast Asian Nations (“ASEAN”) Summit in 1997. Based on the lessons learned by Southeast Asian countries, especially ASEAN members, from the Southeast Asian financial crisis, he put forward the idea of establishing an “Asian currency zone”.

During the 2001 Asia-Pacific Economic Cooperation (“APEC”) forum in Shanghai, the US economist Robert Mundell, who is hailed as the “father of the Euro”, expressed his views on the future changes in the world’s currency landscape: “In the next 10 years, there will be three major currency zones in the world, namely the Eurozone, the USD zone and the “Asian currency zone”. His vision has brought hope to the establishment of an “Asian currency zone”.

In 2003, Mundell also proposed to establish Asian currency, a common currency basket composed of several currencies in Asia for circulation in the region, while countries do not need to abandon their local currency. This proposal has been well received by all countries in Asia. Mundell even stated that China was at that time the most important economy in Asia, and therefore the Renminbi (“RMB”) was likely to be upgraded directly to become the “Asian currency”.

Mundell once proposed three options for the adoption of a common currency in Asia. The first option was using the Japanese yen (“JPY”). However, the Japanese banks had a lot of non-performing loans. Moreover, due to geopolitical and other factors, there would be too many obstacles to have the yen as a common currency. The second option was using the RMB. The RMB was a very promising currency, but the biggest problem was that it was not freely convertible. The third option was pegging the currencies of Asian countries to the USD to form a stable exchange rate mechanism, which was the basis to establish an Asian common currency.

At the 2005 Boao Forum for Asia, Donald Tsang, the then Chief Executive of the Hong Kong Special Administrative Region, once again raised the issue of the implementation of a unified Asian currency in Asia, the “Asian currency”. Donald Tsang clearly stated that the unified currency signified Asian unification and Asia needed a unified currency. The financial turmoil in 1997 fully exposed the problems of the financial system. The world economy is becoming increasingly globalized nowadays, since Asia is benefiting from globalization, a single unified currency could further propel trade growth in the region and stabilize the social economy.

On 25 October 2005, Kawai Masahiro, Director of the Regional Economic Integration Office of the Asian Development Bank (“ADB”), revealed to the Japanese media that ADB was working on the concept of the “Asian Currency”, which was estimated to be completed and officially announced in mid-2006.

On 20 March 2006, the Asian Development Bank revealed to the media that it would calculate the common foreign exchange indicator in the Asia-Pacific region, the “Asia Currency Unit (ACU)”, which would be announced before the end of June. Thus, ADB would be the first international financial institution to launch a common currency indicator for the Asian region. Subsequently, ADB officially released some information about the forthcoming



Asian currency, which was the earliest prototype of ACU.

The name of the forthcoming “Asian Currency” is “ACU”, its basic design concept is a basket of currencies, including RMB, JPY, Korean Won and the currencies of the 10 ASEAN countries. With the subsequent additions of the currencies of Hong Kong and Taiwan, China to the original basket of 13 currencies, the indicator is calculated on the basis of 15 currencies. In the future, the calculation of the Asia Currency Unit will eventually include over 40 currencies in the entire Asia-Pacific region.

The ACU will derive the weighted average based on a combination of key factors such as Gross National Product, trading, exchange rate and capital trading volume of the currencies in the region, which will be published on ADB’s homepage and updated on a daily basis.

The design of the ACU mainly draws on the successful experience before and after the birth of the Euro, which was the “European Computational Unit” announced by the European Union at that time. That unit was also a basket of currencies, which served as a bridge for the smooth transition to the Euro (i.e. the “European currency”) in its true sense.

However, the situation in Asia was different from that in Europe at the time. Economic developments were uneven across Asia with huge regional and economic gaps, the integration process was slow. The development of the ACU faced a series of setbacks. Since the Asian Development Bank put forward the overall plan of ACU in 2006, there has been no substantial progress and the construction of the unified Asian currency has basically stagnated. This was the past of the ACU.

However, despite the difficulties encountered in the pursuit of fostering an Asian currency, the establishment of a unified Asian currency is the general trend and an inevitable choice for Asian economic integration. The establishment of the ACU is imperative, and is in line with the interests and needs of all Asian countries and regions as a whole.

In this context, in 2019, 13 years after no news of the official ACU, we launched the Asia Currency Unit (“ACU”) in Hong Kong, China. By using freely traded digital currency as the vehicle, ACU can be traded with sovereign fiat currencies through the linked exchange rate system. We have taken up the torch of creating the ACU and strive for the establishment of a unified Asian currency. This is the present of the ACU.

The mission of ACU is to be the bridge for the monetary integration in Asia and the internationalization of the RMB, eventually becoming a common Asian currency that can be freely used, circulated and convertible by all Asian people.

## **4.2 Reasons Behind the Failure of the Establishment of the Official ACU**

As the pace of global economic integration continues to accelerate, the establishment of a unified Asian currency is inevitable. The creation of an official ACU has also been in

preparation for more than 10 years. So why was it not possible for ACU to proceed all along? What were the reasons behind?

#### **4.2.1 Significant Differences in the Level of Economic Development among Countries and Regions in Asia**

The current situation in Asia is different from that in Europe. The economic development in Asia is very uneven. The differences in the level of economic development have become a key obstacle to the establishment of the “Asian currency zone”.

In the “Asian currency zone”, there are both world economic powers and big countries, and countries with small economies which mainly engage in traditional farming. The overall economic level and the income level of residents vary considerably between countries, and even between different regions of a country. A generally balanced economic development is the fundamental condition for the establishment of a unified Asian currency, without which the “Asian currency” will be difficult to implement.

#### **4.2.2 Lack of Common Political Will among Asian Countries**

Due to differences in history, culture and political systems, there is a general lack of necessary cohesion among Asian countries. Compared to the situation in Europe, Asian countries do not have the political synergy of European countries and lack a common political will.

1) Asian countries have great differences in their understanding of the history, current situation and future of Asia.

2) Some Asian countries have sovereignty disputes over territories and territorial waters, which might even have the risk of war.

3) The political systems and economic systems of Asian countries vary considerably.

4) The religious beliefs of Asian countries vary greatly.

The establishment of the official “Asian Currency” actually means the partial transfer of sovereignty of the countries joining the “Asian currency zone”. The establishment of a single common currency in Asia indicates a high degree of political integration, which is difficult for Asian countries to accept when there is a lack a common political will.

#### **4.2.3 Absence of an Anchor Currency Agreed by All Asian Countries**

At present, it is difficult to solve the “Nth currency problem” encountered in establishing a monetary union in Asia. The original intention of the establishment of a monetary union among member states is to obtain the maximum fair return with the minimal transfer of rights.

If a currency union is to be established among economies with  $N$  independent currencies, the “ $N$ th currency problem” will occur. The “ $N$ th currency problem” arises in deciding which currency is to be used as the anchor currency. At this stage, compared with the European Community, it is arduous to determine an anchor currency in Asia. It is also difficult for the two major currencies in the region, JPY and RMB, to serve as the anchor currency.

Among Asian countries, only Japan can compete with Germany in terms of economic strength when the Euro was established. However, unlike the Deutsche Mark back then, Japan is not a strong international currency in the true sense. Coupled with the potential debt crises in Japan and ethnic issues in Asia, it is difficult for JPY to become the anchor currency of the Asian currency.

China has grown into the world's second largest economy. As the economy continues to grow and expand, RMB has gradually become a strong currency in Asia. However, the reform of the RMB exchange rate formation mechanism has just started. In view of the strict capital control, weak financial industry and the fact that the RMB is still not freely convertible, it is impossible for the RMB to become the anchor currency of the unified Asian currency.

The above three points are the obstacles which lead to the failure of the establishment of an official ACU. Nevertheless, the ACU solution provides a good opportunity for the realization of monetary integration in the Asia-Pacific region.

The integration of the Asian economy will eventually be achieved through realization of currency integration in the region. However, the sovereign fiat currencies issued by the countries and regions in the Asia-Pacific region are subject to various restrictions, such as not being able to circulate freely in different countries and regions. On the other hand, digital currency can flow freely across national borders by nature. With its freely circulated, convertible and usable features, the digital currency can facilitate the flow of capital throughout the Asia-Pacific region. This is the strategic plan of the ACU.

All of the above are the constraints that exist in the process of establishing and developing a common Asian currency. However, we can now break through the limitations of economic and monetary integration in Asia with the implementation of the Asia Currency Unit (“ACU”).

In particular, the growing power of China and the rapid internationalization of RMB have made a strong impact on the status of the USD as the world currency. If RMB can be used as a digital currency, the process of RMB internationalization as well as economic and monetary integration in Asia will certainly be expedited. We look forward to the next steps of the ACU and see how it will affect the economic situation in the Asia-Pacific region.

## **4.3 Basis Introduction of the ACU**

### **4.3.1 Positioning and Mission of the ACU**

The ACU, the Asia Currency Unit, was issued by ACU Limited in Hong Kong in 2019. The total amount of ACU issued was 1 billion, and the specific amount in circulation is automatically adjusted according to the amount of the reserve.

The ACU can be settled in real time and it can greatly reduce transaction costs. With the participation of the auditing firm, the ACU implements a linked exchange rate system with reference to the Hong Kong dollar issuance system. It is linked to the exchange rate of offshore RMB and may be converted into the offshore RMB at a rate of 1:1.

The ACU was established with the purpose of acting as a bridge for promoting monetary integration in Asia and the internationalization of the RMB, gradually becoming a unified currency in Asia.

### **4.3.2 Currency Reserve of the ACU**

The biggest difference between the ACU and other digital currencies is the creative use of “gold” as the main reserve asset. The ACU will be re-pegged to the value of gold and backed by the value of gold instead of simple credit endorsement.

The ACU adopts the gold standard exchange system. Each ACU can be exchanged for an amount of gold equivalent to the same amount in offshore RMB. Gold is the well-deserved “king of money”. With gold as its anchor, the ACU becomes a real hard currency which can be freely converted and circulated in the global capital market. This will also be the most attractive feature of the ACU.

The ACU not only uses the value of gold as the anchor, but is also characterized by the high liquidity of digital currency. At the same time, it implements the linked exchange rate system and pegs its value to the exchange rate of offshore RMB, which can effectively maintain and increase its value. The combination of the above factors has laid a good foundation for creating a real unified Asian currency.

In addition to using gold as the main reserve asset, sovereign currencies such as RMB, the USD and the Euro will also be added to the reserve assets. Also, a certain amount of Bitcoin may also be used as reserve assets according to the actual situation, so as to achieve reserve asset diversification.

### **4.3.3 Technology Network of the ACU**

The Asia Currency Unit (“ACU”) was initially issued on the public blockchain of ACU. The token standard is based on the issuance standard of verifiable assets on the ACU public chain. As an encrypted digital certificate, ACU can be freely circulated and converted throughout the blockchain world through the ACU public chain system. The ACU public chain is a verifiable

public blockchain for commercial applications which defines the semantics and intrinsic properties of the currency, and uses an external trigger mechanism to ensure the security of circulation.

Upon the initial establishment of the ACU network, ACU will build its own independent public blockchain network to create a free circulation and conversion network for all Asian currencies.

#### **4.3.4 Impact and Significance of the Creation of the ACU**

In the digital currency market, there have been a variety of stable currencies that are anchored to fiat currencies. However, they have varying degrees of significant design flaws, and there is a lack of mechanisms to combine the core elements of compliance regulation, transparency, auditing and decentralization.

Stable currencies in the market generally have the characteristics of opacity, high volatility, high handling fee, low security and slow transaction confirmation. The market needs a more sophisticated and stable digital currency system. The ACU was issued in Hong Kong to address these issues.

Through a currency operating system based on a multi-level, multi-system and multi-currency three-dimensional currency model, the ACU is creatively built upon a three-dimensional, relatively decentralized currency issuance system to overcome the impossible trinity of currencies in a one-dimensional currency model. Therefore, the ACU can sustain a stable exchange rate and achieve free circulation while maintaining sufficient monetary policy independence to avoid the problems that exist in other stable currencies in the market.

As one of the most important international financial markets in the world, Hong Kong is at the forefront of the world in terms of both financial innovation and openness. The ACU launched by ACU Limited is dedicated to becoming a unified Asian Currency with a far-reaching impact and significance.

##### **1) Significant impact on the currency account system**

Instead of by traditional banking financial institutions, the ACU is established and issued based on blockchain technology. The ACU is a distributed account book where circulation and transfer of all transaction information are transparent and non-tamperable, thus greatly enhancing the credibility of the currency.

There are significant structural differences between the account system of the ACU and the existing system that individual deposits must correspond to the bank accounts, which are bound to have a significant impact on the bank account system.

##### **2) Improving efficiency of international settlement and reducing settlement costs**

The traditional payment and settlement method is more subject to time and space constraints with more complicated procedures and higher handling fees. Also, international settlement often takes more than one day.

Nonetheless, financial transaction conducted through the ACU can achieve point-to-point real-time settlement and be completed in one go from registration, transaction, payment, settlement to clearing. This greatly improves the efficiency of payment and reduces the transaction fee. Especially in the case of cross-border payment, the ACU helps eliminate the complicated clearing process of traditional agency account opening and reducing the risk of loss of funds in transit.

The ACU supports real-time full settlement on a case-by-case basis and its payment network operates 24/7, which can greatly reduce the settlement time and transaction costs.

### 3) Building a more open environment for payments

In the previous banking system, each bank would pay for a dedicated network for its payment system. These networks operate independently and are not connected to each other. Interbank transactions are to be conducted through a dedicated line created by the central bank.

The ACU built by blockchain technology is based on a unified internet and blockchain protocol for basic network clearing, which breaks the technical barriers of traditional interbank transactions. It helps realize the comprehensive interconnection of payment systems, making the entire payment network more open and greatly reducing the costs of system expansion.

### 4) Providing strong measures for payment regulation

With the rise of internet payment, payment regulation is facing significant challenges, and many payment practices are not effectively regulated. The non-tamperability and traceability of blockchain technology provide strong support for risk monitoring and control. The ACU will strive to create a transparent payment system in compliance with global regulation that can identify abnormal transactions in a timely manner and improve the transparency and traceability of payment activities.

### 5) Changing the traditional credit mechanisms

Traditional payment systems rely on centralized intermediaries to build trust mechanisms, while blockchain technology implements a programmable smart contract that can automatically trigger a payment when conditions are met. The development of smart contracts will result in the elimination of processes related to intermediaries such as payment guarantee and payment via agents. In view of this, the ACU will strive to provide more smart payment options for applications.

### 6) Strengthening the currency reputation

Traditional sovereign credit currency generally has an increase in the issuance limit, resulting in constant inflation which leads to currency depreciation. However, blockchain technology can ensure that the digital currency will not be issued in excessive quantities. The issuance is limited to a certain amount to keep the currency scarce, which helps strengthen

the “currency reputation” to a certain extent and contribute to the long-term high price of digital currency. In particular, the ACU uses gold as the main anchor, which guarantees its hard currency reputation to a greater extent.

#### 7) Restructuring the global crypto economy

The formation of the global financial settlement system with ACU as the settlement currency will not only impact the traditional currency settlement system, but also pose significant challenges to cryptocurrencies such as Ripple and Stellar whose main function is international settlement.

#### 8) Greatly promoting economic integration in Asia

As Asia pursues economic integration, the most fundamental task is to gradually achieve monetary integration. However, the sovereign currencies issued by various countries and regions have different restrictions and are difficult to circulate freely among different countries and regions. The internationalization of RMB is also facing a series of challenges. On the other hand, cryptocurrencies can flow freely across national borders with mobility by nature. Therefore, the ACU can accelerate the pace of economic integration in Asia more rapidly.

## 4.4 Asia Currency Unit ‘ACU’ and RMB Differences and Connections

ACU is a blockchain digital currency anchored with gold as major asset. ACU currency rate is pegged to the offshore RMB, which is closely linked to China's RMB. This chapter explores the differences and links between ACU and RMB.

### 4.4.1 ACU is implementing a linked Exchange Rate anchoring by RMB

ACU currency strives to boost common circulation of the electronic currency. At the inception of every currency, an exchange rate conversion anchorage is required to determine the initial value of that currency. At the beginning of ACU, as Mundell previously stated “there were three ways to pursue a common currency in Asia;

First choice was the Japanese Yen. However, Japanese banking industry has a lot of non-performing loans and there are too many obstacles facing the yen as a common currency due to geopolitical factor among other factors.

In second place comes RMB as a potential currency. However, its biggest concern is that it is not yet freely convertible.

A third choice are currencies of other Asian countries that are linked to the U.S. dollar to form a stable exchange rate mechanism, which could form a base for the establishment of an Asian common currency.



All the above three options have their own advantages and disadvantages. With regards to the third option, the huge economic differentiations among those Asian countries stands as an obstacle for the reconciliation of interests among the different sovereign countries, and the establishment of an exchange rate mechanism that satisfies multiple aspirations. As for the Japanese Yen, it faces many obstacles being a common currency due to economic imbalances and geopolitical reasons. Therefore, the best choice remaining is RMB.

Due to the lack of a fully formed market-oriented exchange rate mechanism and the inability to be completely and freely convertible, RMB cannot become a common currency in Asia. Thus, Digital currencies, with its characteristics of natural cross-border liquidity of emerges as a remedy to this problem, and solves the flaws of RMB circulation.

Because of China's political and economic diversity and complexity, RMB could not become a common currency in Asia for a short period of time, but with the growing strength of China's economy, RMB has gradually grown recognition in international circulation. furthermore, RMB exchange rate has become increasingly stable and strong. Therefore, RMB exchange rate is the best choice for ACU currency to be begged to.

Hong Kong, as the largest offshore RMB settlement center, provides a natural exchange platform for the settlement and circulation of ACU, which better promotes the global liquidity of the digital currency. This was the fundamental reason for ACU to finally choose the offshore RMB as its exchange rate anchor.

#### **4.4.2 ACU is anchored to RMB, but it is not RMB**

ACU rate is anchored to the offshore RMB, however, ACU is not RMB, there are fundamental differences.

RMB is a sovereign credit currency issued by the People's Republic of China, endorsed by the credit of China's central bank, and is unlimitedly liable for joint and several repayments.

ACU is pegged to the Hong Kong offshore RMB at an exchange rate of 1:1. ACU is issued by ACU Limited through the blockchain network. ACU is a blockchain stable digital currency, freely circulated and exchanged through the blockchain network. ACU implements a linked exchange rate system following the Hong Kong dollar issuance system. The reason of being begged to the offshore RMB exchange rate is that RMB has great development potential and stable exchange rates.

#### **4.4.3 ACU can help to boost cross-border circulation and free convertibility of RMB.**

Although ACU is not issued by the central bank of China, it can greatly facilitate the cross-border circulation and free convertibility of RMB.

The value contained in each ACU is equivalent to that of an offshore RMB. The cross-border circulation and exchange of the ACU can also be equated to the circulation of RMB in terms of value. The bigger amount of ACU in circulation, the wider distribution channels and



stronger influence it will have. As a result, the corresponding impact of RMB in international financial capital circulation will increase.

ACU is a pioneer and touchstone for the cross-border circulation and free exchange of RMB, and it is constantly accumulating value for both the internationalization of RMB and the free flow of blockchain networks.

#### **4.4.4 The relationship and connection between ACU and People's Bank of China legal digital currency (E-CNY)**

The People's Bank of China has been studying a legal digital currency since 2014, and it has been 5 years since then. What are the relationship and connection between ACU and the upcoming digital currency from People's Bank of China?

There are two main relationships and connections;

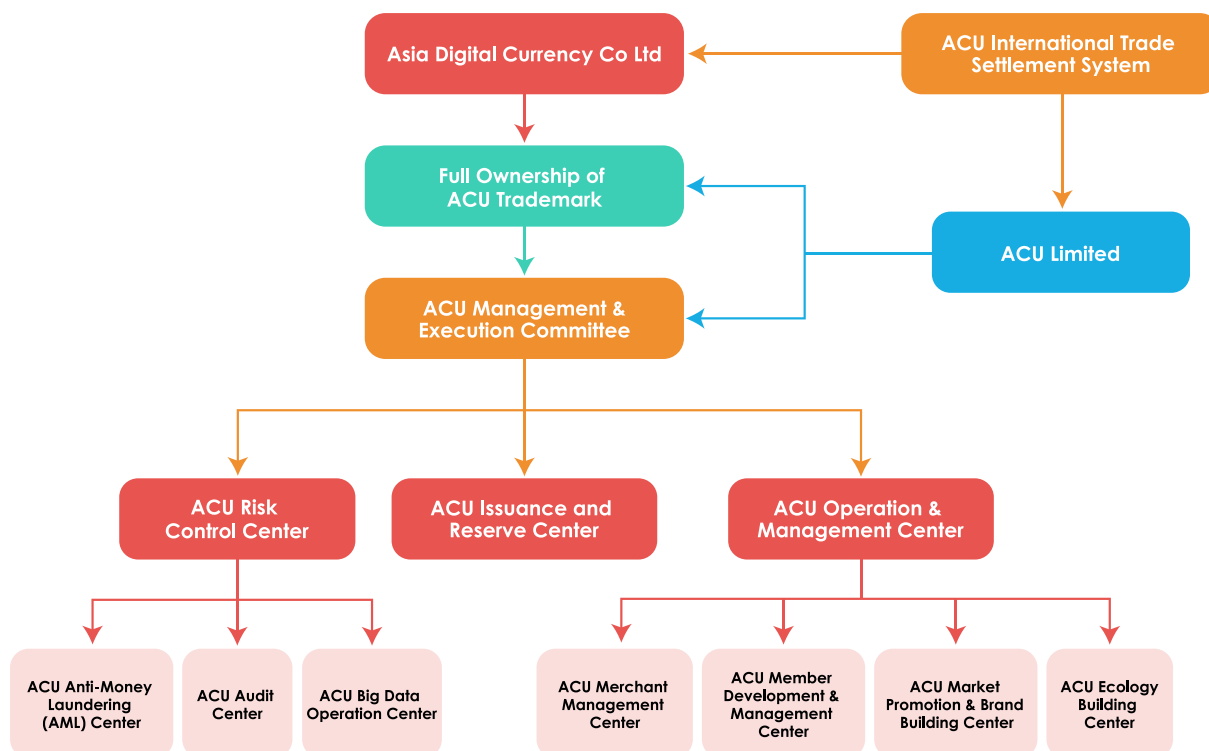
The legal digital currency issued by the People's Bank of China only converts RMB into digital currency as a carrier, so it still belongs to RMB in essence. The central bank digital currency is adopted M0 replacement, not involving M1, M2 replacements. The existing M0 (banknotes and coins) are easy to be anonymous and counterfeited, and there is a risk of being used for money laundering, terrorist financing and etc. The design of DC/EP maintains the attributes and main features of cash, and also meets the needs of portability and anonymity, which is a better tool to replace cash.

The legal digital currency issued by the People's Bank of China, which also uses blockchain technology, can be better exchanged and settled on the blockchain network with ACU and its value is equivalent to ACU. This can greatly increase the synergy between RMB and ACU in the global financial capital market and boost the globalization of electronic money.



## **V. The Value Cycle of the ACU**

## V. The Value Cycle of the ACU



### 5.1 The Global Architecture of the ACU

#### 5.1.1 ACU Limited

The ACU, the Asia Currency Unit, was issued by ACU Limited in Hong Kong in 2019 with a total amount of 1 billion. The ACU implements a linked exchange rate system and is pegged to the Hong Kong offshore RMB at an exchange rate of 1:1.

Asia Currency Unit (ACU) Group, established on August 30, 2018, registered headquarter in Hong Kong, China, with branch offices extending influences in Australia, United States, Canada, Thailand, Malaysia and other places.

The main business of the Group is blockchain project landing, based in Hong Kong, rooted in Asia Pacific and expanding globally. The Group lays out the upstream, midstream and downstream industrial chains of blockchain, and has four main businesses: First, Asia's regional generic digital currency - Asian Yuan ACU issuance and operation; second, the experiment and application of digital currency in the direction of finance, payment, application and trade; third, blockchain-related technology research and development, including blockchain public chain development, livelihood application; Fourth, communication, education and training of core talents in the blockchain field.

At the same time, the group has registered ACU trademark over 52 regions/countries all over the world.

ACU Group owns the legal trademark registration rights of "Asian dollar ACU" in Asia, Europe, and the Middle East and more than 52 regions/countries all over the world, also is the sole owner of the "Asian dollar ACU" trademark.

Up to now, the "Asian dollar ACU" trademark has been registered in more than 52 countries (regions) including China, Singapore, South Korea, Vietnam, Thailand, Japan, the Philippines, Cambodia, Malaysia, UAE, Saudi Arabia, Hong Kong Special Administrative Region, and the European Union, etc.

In the field of global financial currency, any group or individual who intends to use the "ACU" trademark is required to be legally authorized by ACU Limited.

### **5.1.2 The Asia Currency Unit Digital Currency Foundation**

As the legal owner and operating parent of the "ACU" trademark, ACU Limited has authorized the establishment of the "Asia Currency Unit Digital Currency Foundation" as the legal operating entity of the ACU.

The Asia Currency Unit Digital Currency Foundation (ACU Foundation) is an international consortium which operates the ACU. All businesses related to the ACU are under the jurisdiction of the foundation and are coordinated and managed by the foundation.

### **5.1.3 The Asia Currency Unit Digital Currency Management Executive Committee**

The Asia Currency Unit Digital Currency Management Executive Committee (Executive Committee) is the highest standing management body of the ACU Foundation. The Executive Committee has an executive chairman who is solely responsible for the day-to-day management of the foundation.

The Asia Currency Unit Digital Currency Management Executive Committee consists of three operational centers, namely the ACU Risk Control Center, the ACU Operation Management Center and the ACU Issuance and Reserve Center.

The ACU Risk Control Center has three sub-centers, namely the ACU Anti-Money Laundering Center, the ACU Audit Center and the ACU Big Data Operation and Maintenance Center, which focus on the risk control of the ACU.

The ACU Operation Management Center has four sub-centers, namely the ACU Merchant Management Center, the ACU User Development and Management Center, the ACU Marketing and Brand Maintenance Center and the ACU Ecological Construction Management Center, which mainly focus on the daily operation management and brand promotion of the ACU.

The ACU Issuance and Reserve Center is the core of the ACU. It consists of three sub-centers, namely the ACU Asset Reserve Center, the ACU Currency Issuance Center and the ACU Authorized Circulation Dealer Management Center, which focus on the asset reserve and currency issuance of the ACU.

## **5.2 The Asset Reserve and Currency Issuance of the ACU**

The ACU Issuance and Reserve Center is the core department of the ACU Foundation and is responsible for the issuance and reserve of the ACU. It has three operation sub-centers, namely the ACU Asset Reserve Center, the ACU Currency Issuance Center and the ACU Authorized Circulation Dealer Management Center, which implement a two-tier circular settlement operation mechanism.

### **5.2.1 The ACU Asset Reserve Center**

The ACU Asset Reserve Center implements a two-tier reserve asset management mechanism. Currently, there are two main types of reserve assets. The first type is precious metals such as gold and silver, and the second is fiat currencies such as the USD and Euro. In the future, to a certain extent Bitcoin may also be chosen as reserve assets, so as to achieve a multi-asset reserve operation mechanism.

The first level of the ACU's reserve asset management mechanism is the management of the own reserve assets of the ACU Foundation, which are the parent reserve assets of the ACU. Asian Digital Currency Limited provides gold as the primary anchor for the issuance of the ACU. As a super-sovereign circulation currency, gold is a hard currency with real value. Through the gold asset reserve, the ACU endows itself with the value of a hard currency, paving the way for the free circulation and exchange of the ACU around the world.

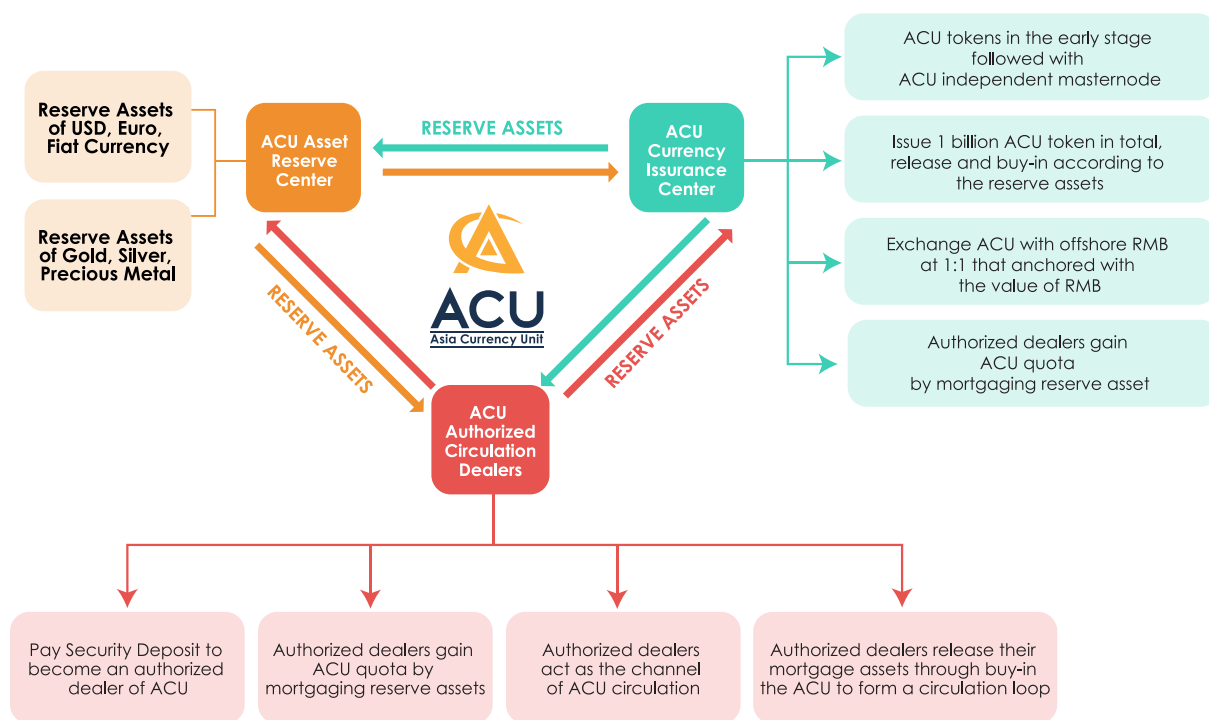
The second level of the ACU's reserve asset management mechanism is the management of the reserve assets of authorized circulation dealers. The reserve assets of authorized circulation dealers of the ACU are managed by the ACU Asset Reserve Center, which is also responsible for exchange and settlement with the ACU.

### **5.2.2 The ACU Currency Issuance Center**

The ACU Currency Issuance Center is mainly responsible for the global issuance of the ACU.

In the early stage, the ACU was established on the Ethereum blockchain network and mainly issued as ERC2.0 tokens. An independent circulation public blockchain of ACU will be built later.

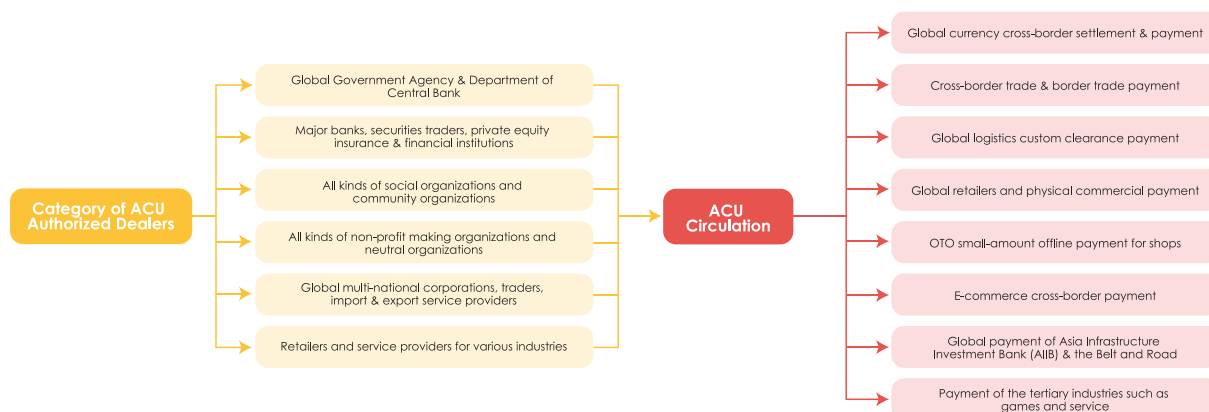
The ACU with a total amount of 1 billion are released and returned in batches in accordance with the amount of the reserve assets. The authorized circulation dealers obtain the ACU's issuance quotas by pledging reserve assets.



### 5.2.3 The ACU Authorized Circulation Dealer Management Center

Issuance of the ACU currency follows a two-tier operation management mechanism. The ACU Foundation itself does not contact the first-line currency users directly, but facilitates the global circulation of the currency through authorized circulation dealers.

Social institutions and organizations become authorized circulation dealers of the ACU by paying a certain amount of margin. Authorized circulation dealers obtain the ACU's issuance quotas by pledging reserve assets and, as the main external circulation channel of the ACU, release their pledged assets through returning the ACU, forming a closed loop of circulation.



## 5.3 Circulation Channels of the ACU



### 5.3.1 Categories of Authorized Circulation Dealers

The ACU is mainly engaged in the free exchange and circulation of the ACU in the global capital market through the authorized circulation dealers. The authorized circulation dealers of the ACU are mainly divided into the following eight categories:

1) Government institutions and central bank departments in Asian countries. The ACU is positioned as a unified currency in Asia, which mainly aims to propel the barrier-free exchange and circulation of capital within Asian countries and regions. Therefore, the central bank departments of Asian countries will certainly be the core issuance entities of the ACU in the future. Central banks of the countries will realize the free flow of offshore RMB in their domestic economy and trade through the reserve and exchange of the ACU, so as to jointly create economic integration in Asia.

2) Financial institutions such as major banks, brokerage firms and private insurance companies. Such financial institutions are mainly engaged in currency exchange and settlement. The issuance and circulation of the ACU can greatly improve their settlement and circulation efficiency, reduce settlement costs and expand their currency exchange channels.

3) Social non-profit organizations and neutral organizations. The ACU seeks to achieve free flow and circulation of capital throughout Asia. Non-profit organizations and neutral organizations can also act as the authorized circulation dealers of the ACU to achieve cross-border circulation of offshore RMB.

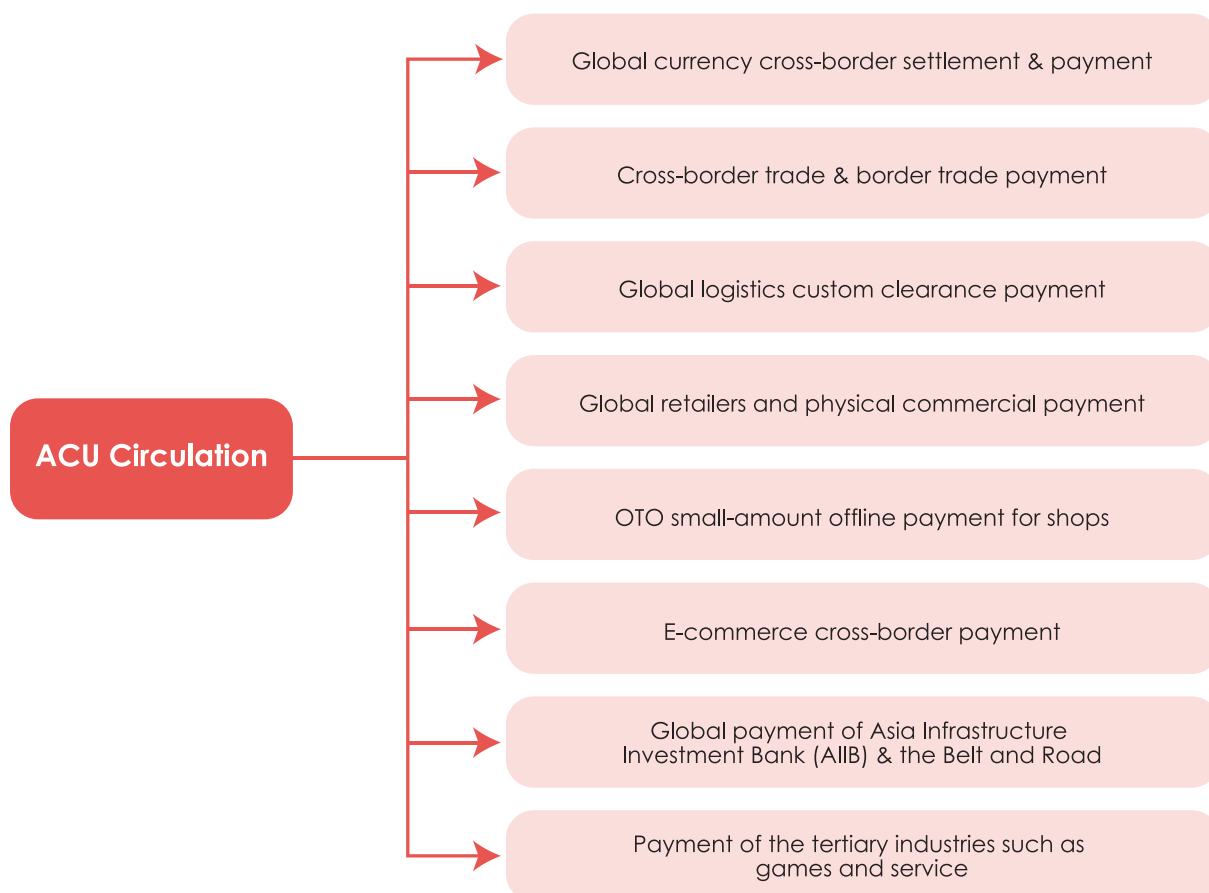
4) Social and community organizations. Social and community organizations are highly influential and active in all walks of life. With the large number of members, the demand for currency exchange and circulation is huge. The ACU enables social and community organizations to conduct barrier-free cross-border exchange and circulation.

5) Global multinational companies, traders, and import and export service providers. Global multinational companies, traders, and import and export service providers operate cross-border business which involves cross-border payment and settlement. The launch of the ACU will greatly facilitate these companies in conducting cross-border business, reducing currency payment costs, improving the efficiency of currency usage and strengthening their economic business systems.

6) Retailers and service providers in all sectors in the world. As economic integration in Asia continues to deepen, cross-border tourism is increasingly becoming an important part of the economy. With the cross-border consumption of tourists, retailers and service providers in all sectors, there are strong demand for cross-border consumer settlement. The ACU provides an excellent tool for making payment and settlement freely.

7) Major digital currency asset exchanges. All major digital currency asset exchanges need stablecoins to anchor their transactions. In particular, especially in the absence of a stable digital currency with high credibility in the market. By applying to become an authorized circulation dealer, the major digital currency asset exchanges can have a stable currency unit to back their currency trading.

8) Digital currency OTC service providers. OTC service providers are the core of digital currency and fiat currency exchange. They can apply for the authorized circulation dealers of the ACU to facilitate the free circulation and exchange of the ACU digital currency and fiat currency, and receive settlement income.





### 5.3.2 Circulation Channels of the ACU

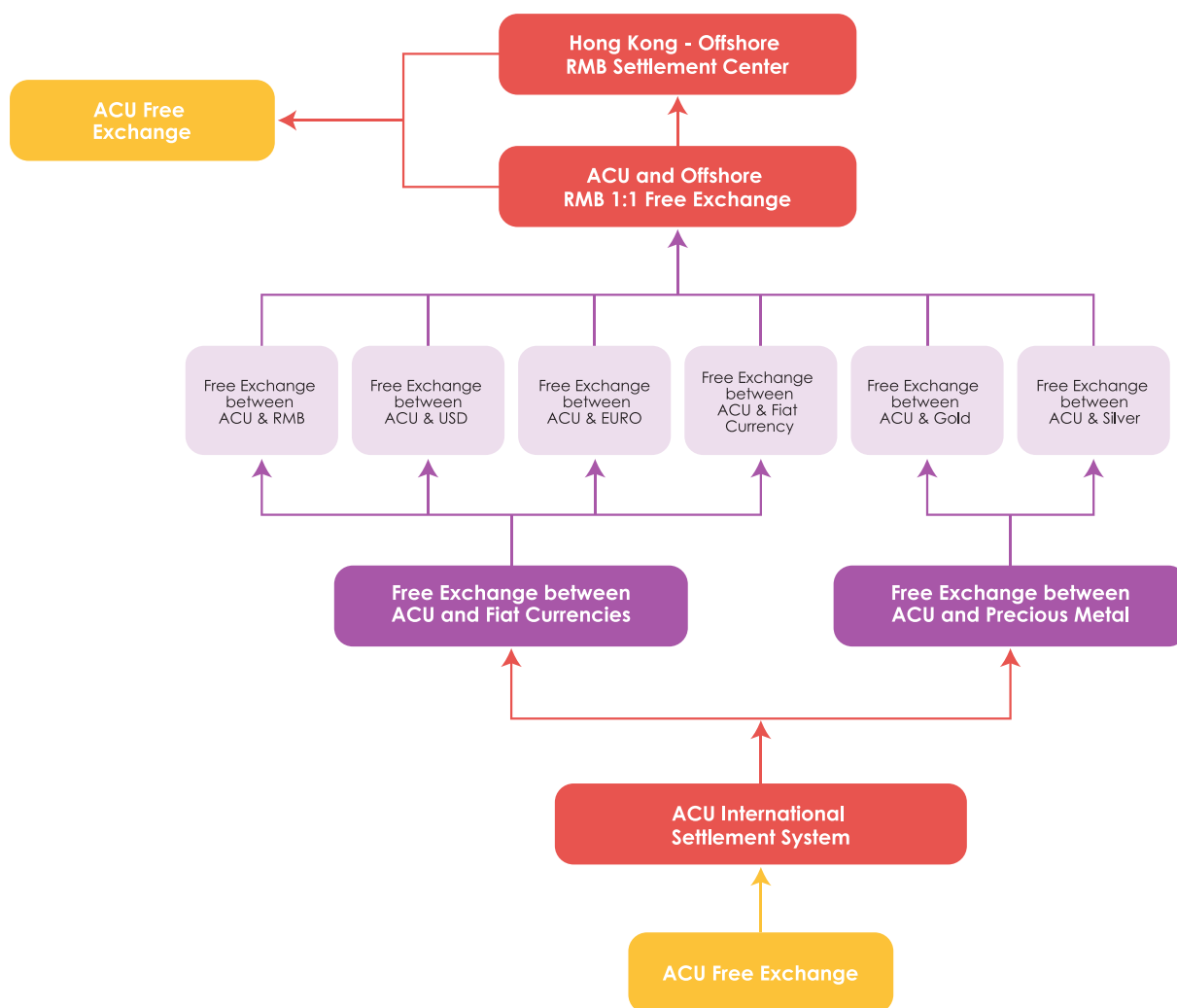
The ACU mainly circulates through authorized dealers, then freely circulates and flows around the world. The distribution channel of the ACU mainly consists of two parts. The first part is the currency trading circulation channel, which mainly refers to the digital currency blockchain. The second part is the payment channel circulation, which mainly refers to the traditional currency economy.

The currency exchange circulation channel is mainly divided into five parts, including currency trading through the ACU token exchange, currency trading through other mainstream exchanges, currency trading through second and third-tier exchanges, currency exchange through the mainstream centralized wallets and currency exchange through the mainstream decentralized wallets. This circulation channel mainly focuses on digital currency exchanges and wallets.

The payment channel circulation of the ACU is divided into eight parts, including global currency cross-border settlement payment, cross-border trade and border trade payment, global logistics customs clearance payment, global retailer and brick-and-mortar business payment, small-amount offline payment through OTO stores, e-commerce cross-border payment, global payment under the "One Belt, One Road" initiative supported by the Asian Infrastructure Investment Bank and payment of the tertiary sector such as the gaming industry.

This channel mainly focuses on payment to physical business and mainly addresses payment circulation. The ACU can solve the difficulties in the exchange between fiat currencies of different countries in the event of small-and-large amount cross-border payments of currency in the Asian region.

## 5.4 Exchange Channels of the ACU



In addition to global cross-border barrier-free payment, the most important mission of the ACU is to achieve cross-border barrier-free exchange of the ACU in order to truly flow and circulate around the world.

The ACU realizes the global free exchange mainly through the global settlement system of the World Digital Currency Bank. There are two main channels for exchange. The first is the ACU blockchain wallet free exchange system, and the second is free exchange through OTC transactions.

Through the global settlement system of the World Digital Currency Bank, the ACU is freely convertible into two types of currencies, including the free exchange between the ACU and fiat currencies such as the USD, Euro and RMB, as well as the free exchange between the ACU and precious metals such as gold and silver. This exchange channel enables the ACU to truly become a free global currency without borders, paving the way for truly becoming a unified Asian currency.

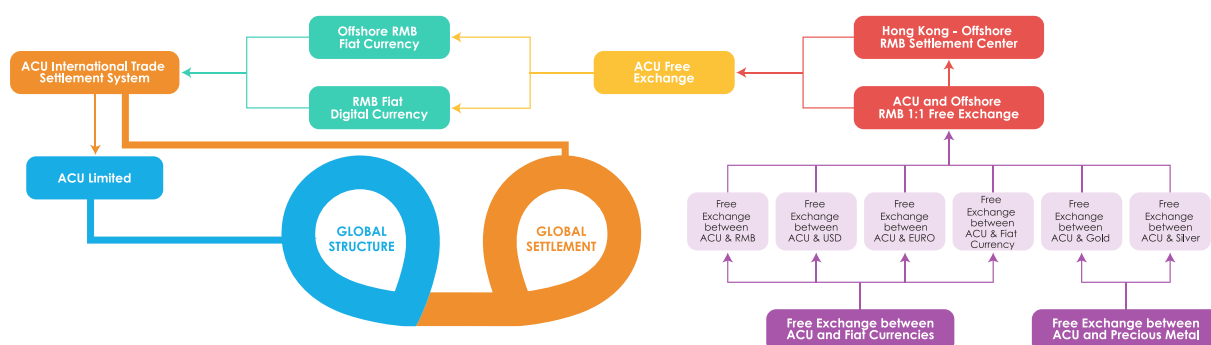
## 5.5 The setup of ACU PAY as payment channel

ACU PAY is a wallet application that links e-money to the physical finance world. It is one-stop App for issuance, circulation, exchange and settlement of ACU money. It provides solutions for issues like; inconvenience of managing multiple e-currencies, currency conversions problems, disruptions of data value transmission, common incapacities of blockchain among other application concerns.

In December 2022, ACU PAY has gone one step further by adding a Mall function to its original wallet design and, soon, it will allow users to make online purchases using ACU money directly.

ACU is currently pushing forward for payment channel set-up in Thailand and Malaysia, and will soon provide ACU payment services in popular tourist spots, convenience stores, hospitals and other daily life contact points, so as to bring greater conveniences to the locals.

## 5.6 Global Settlement of the ACU



In addition to the free currency exchange of the ACU through the global settlement system of the World Digital Currency Bank, the ACU can also achieve free global settlement.

The global settlement system of the ACU is mainly used for free global settlement with offshore RMB. Based on the global settlement center for offshore RMB in Hong Kong, the ACU can conduct seamless settlement in offshore RMB. At the same time, through the global settlement system of the World Digital Currency Bank, the ACU can truly form a complete closed loop of the ACU currency circulation, facilitating the free flow and circulation of funds and capital around the world and truly becoming a unified currency unit in Asia.



## **VI. Digital Currency Wallet of the ACU**

## VI. Digital Currency Wallet of the ACU



In order to adapt to the needs of economic integration and economic globalization in Asia, the ACU strives to create a unified currency in Asia, allowing free flow and circulation of capital and value in Asia, and even the whole world, while the ACU wallet is the carrier of the ACU core functions.

The ACU digital currency wallet is a wallet application that connects the digital currency field with the real financial world. On the one hand, with the ACU as the carrier, it creates a platform for the ACU issuance, circulation, exchange and settlement. On the other hand, it mainly solves the inconvenience of general users in managing various digital currencies, and the problems of complicated exchange process, poor value transmission, insufficient blockchain performance and insufficient application scenarios.

## **6.1 Core Positioning of the ACU Wallet**

### **6.1.1 Introduction of the Basic Functions of the ACU Wallet**

The ACU is positioned to become a unified currency in Asia, freely flowing and circulating in Asia regardless of countries, race and skin colour. The ACU has the following core functions: ACU asset reserve, ACU currency issuance, ACU circulation management, ACU free exchange, ACU global settlement, which is a whole set of value circulation system for free exchange and circulation of capital.

In order to better operate this system and serve the ACU users worldwide, that is, serving B-end users on one hand and C-end users on the other, we have specially developed and built the ACU wallet to meet the needs of all kinds of customers for free storage and free exchange of currency.

The ACU wallet strategically cooperates with the world's digital currency bank, connecting its global settlement system and with hundreds of bank gateway clearing channels around the world. On one hand, the ACU wallet links with the mainstream digital currencies such as BTC, ETH and USDT, and on the other hand, connects the sovereign fiat currencies such as the USD, RMB, Japanese Yen, Euro and British Pound, allowing the free exchange between digital currencies and fiat currencies and truly creating the demand for free storage and free exchange of currency.

### **6.1.2 Cornerstone Effect of the ACU Wallet**

The ACU wallet plays a crucial role in the entire ecosystem of ACU and is the hub where the entire ACU can be freely transferred and exchanged. The ACU wallet possesses unique cross-chain and cross-chain contract technology and combines its own high-performance public blockchain to provide strong infrastructure in the field of digital currency and promote the application and development of digital currency.

On the one hand, through the support of various types of blockchain assets, the ACU wallet provides a safe, convenient and decentralized one-stop management solution. Users can use the wallet to carry out unified storage, management and exchange of mainstream digital currencies such as BTC, ETH and ACU. Users not only can fully control their own digital assets, but also greatly reduce the users' threshold and management burden of digital currencies, effectively promoting the flexible application of digital assets.

On the other hand, the ACU wallet ensures the safe operation of the wallet through more than 30 security technologies such as mobile phone ROOT testing, DNS service security testing, network security testing, and anti-adjustment reverse analysis, and protects users' private key security around the world through multiple security verification, cold and heat separation storage and multi-signature.

## **6.2 How the ACU Wallet Addresses the Pain Points**

### **6.2.1 Difficulty in Digital Currency Management**

Although the digital currency market is developing rapidly, there is still no good solution for the storage and management of digital currency. How to securely backup the wallet secret key or address private key of digital currency has become a major entry barrier to users. The ACU wallet is well positioned to solve this user's pain point, enabling users to store and manage their own digital monetary assets safely and reasonably.

### **6.2.2 High Trading and Conversion Threshold**

Currently, transactions and exchanges of digital currency are mainly conducted through exchanges, while exchanges of digital assets and fiat currencies are conducted through OTC service providers, which sets a very high barrier for non-professional users and contains a very high risk of capital freeze. This pain point is well solved by the ACU wallet, which allows the free exchange of digital currency and fiat currency.

## **6.3 Key Functions and Advantages of the ACU Wallet**

### **6.3.1 Multiple Digital Asset Management**

In addition to supporting the ACU, the ACU wallet also supports more than 10 types of digital currencies. The supported digital assets include: BTC, LTC, ETC, ETH, ERC20, the WDC series, the Bitcoin series (BCH, BTN, BTG, BCD), USDT-Omni, etc., which can maximize the convenience of users in managing digital assets.

### **6.3.2 Real-time Transfer**

Based on the rapid lightning network, each transaction can be completed within 1 second and is irreversible, which can maximise the efficiency of transfer and improve user experience.

### **6.3.3 Anonymous Online Payment**

The ACU wallet makes use of the blockchain network to conduct anonymous transfer, and each transaction information can be verified on the blockchain browser, but the details of the transaction can only be known to the originating party and the recipient, which can maximise the protection of user privacy.

### **6.3.4 Extremely Low Costs and Fees**

The fees for the ACU wallet transactions, transfers and payments are very inexpensive, which can minimize the costs of financial use of users.

### **6.3.5 Simple Operation**

The ACU wallet is divided into two forms, namely HD wallet and cloud wallet, which can be freely selected by users based on their own actual conditions. Each wallet can be operated to the maximum convenience of users, and the processes of transaction, transfer, payment, are very convenient, and the fool-proof operation is easy for users to quickly master.

### **6.3.6 Multiple Security Protection**

The ACU wallet ensures the safe operation of the wallet through more than 30 security technologies such as mobile phone ROOT testing, DNS service security testing, network security testing, and anti-adjustment reverse analysis, and protects users' private key security around the world through multiple security verification, hot and cold separation storage, multiple signatures, 24-hour automatic monitoring and biometric identification.

### **6.3.7 Abundant Functions in Asset Management**

With the built-in asset management function of the ACU wallet, users can directly select to conduct asset management in the ecosystem. On the premise of safeguarding asset security, users can also obtain corresponding wealth management income and maximise the appreciation of their digital assets.

### **6.3.8 Free Exchange, Free Circulation**

The ACU wallet bridges the gap between the digital currency and the fiat currency. Digital currency can be freely exchanged with fiat currency through the ACU and maximising the digital asset exchange needs of users.

### **6.3.9 Digital Asset Mall**

The ACU wallet will have a built-in e-commerce mall system to support the payment of all digital assets of the wallet on one hand and the payment of fiat assets such as USD, HKD and RMB on the other hand.

### **6.3.10 Quick Payment Function**

The ACU wallet will feature a built-in fast payment function to facilitate users to quickly conduct transactions at merchants that support the ACU, truly building the ACU into a blockchain asset storage and payment tool with practical application scenarios.

### **6.3.11 Fast and Efficient Offline Payment**

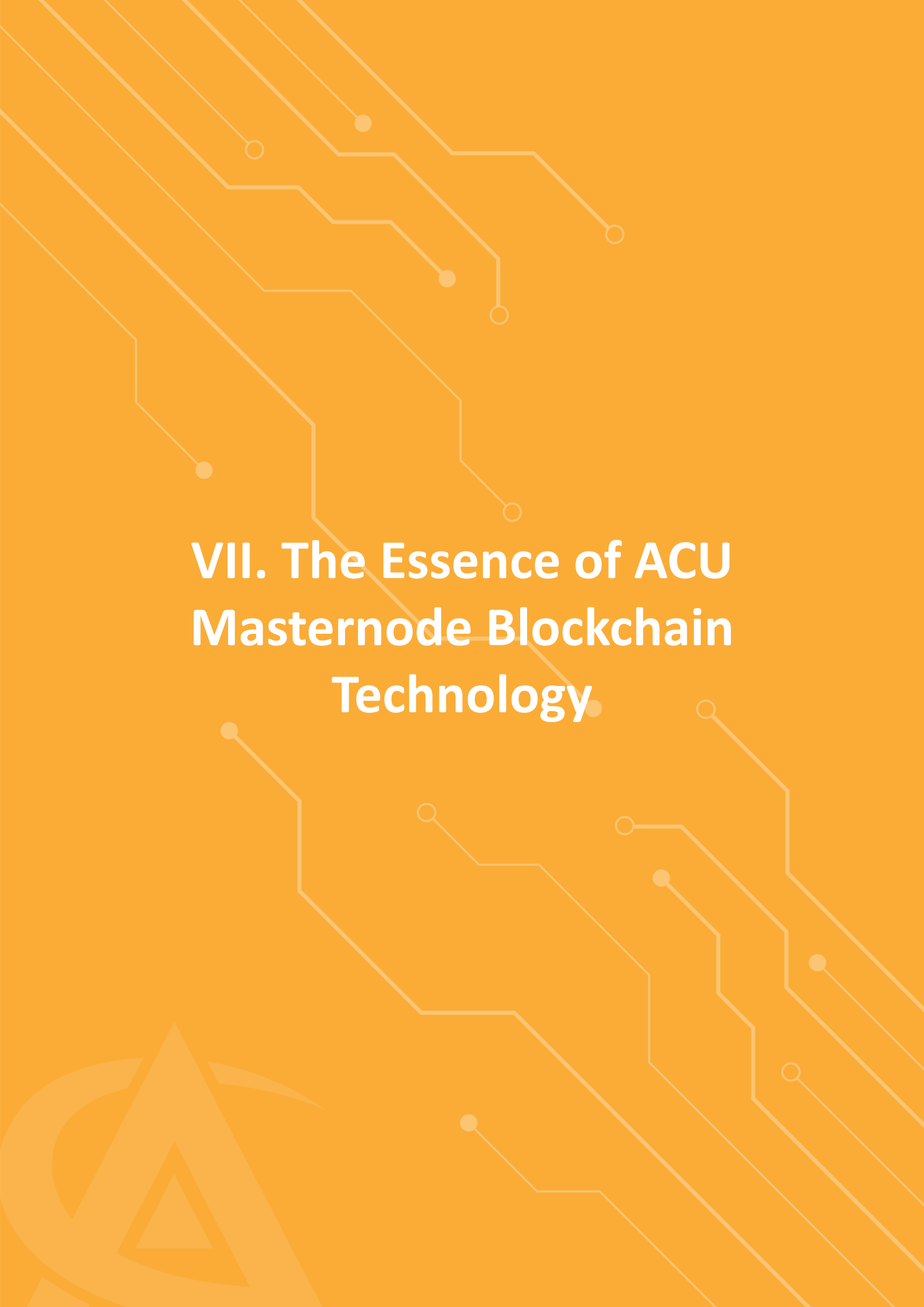
The ACU wallet will provide support for dual-offline payment. For offline devices that meet specific conditions, they can conduct transactions and exchanges through NFC, Bluetooth, QR code and record them in local book. Transaction contents include information such as wallet address, transfer amount, random number, time stamp and last synchronized



block, which are encrypted and signed through the private key of both parties to record transfer information. When the network is reachable, information can be synchronized with the node, transaction can be verified, and finally updated balance can be synchronized.

The activation of the offline wallet first requires the pledge of assets, and the assets that can be mobilized for the offline wallet are half of the pledged assets. When the network is resumed, after synchronization with the node information, any wallet address that attempts to double-spend or scam will be recorded as a blacklisted wallet, and the pledged assets and funds will be confiscated.

The offline wallet needs to synchronise the block within 24 hours and update the balance. In the event that the wallet is offline for an extended period of time, it will not be able to pass the transaction verification. Meanwhile, wallet can select the acceptable interval of the last synchronized block to reduce the risk of receiving double-spend payment.



## **VII. The Essence of ACU Masternode Blockchain Technology**

## VII. The Essence of ACU Masternode Blockchain Technology

### 7.1 Basic Definition

Asia Currency Unit (ACU), is a decentralized, open-source, fair-launch blockchain and digital asset project managed, developed, governed, and stewarded by ACU organisation. It is a Proof-of-Stake (PoS) protocol using its custom developed PoS consensus engine with a native digital asset, denominated as “ACU”. ACU integrates other features including a 2nd layer of functionality through a Masternode network that provides a decentralized governance mechanism of voting; and is currently developing new features for this layer such as the Deterministic Masternode Lists, Long Living Masternode Quorums (LLMQs) and more, as well as including the addition of the anonymity protocol zk-SNARKs Sapling to all transactions and staking all of these heavily customised.

The monetary policy of ACU is designed to enable a sustainable infrastructure service capable of supporting scalable, decentralized, and resilient node infrastructure, allowing for instant, private transactions globally, without astronomical Quantitative Easing (QE) and the corresponding resulting devaluation of the native token, as experienced in other digital asset endeavours, especially experienced in many Proof-of-Stake experiments.

### 7.2 Masternode Blockchain Technology

To accurately understand the nature of a masternode, comparison with the previous system, the consensus mechanism, is useful for contextual purposes.

If the consensus mechanism of digital asset mining is considered to be the first tier of the network that processes all incoming and outgoing transactions, prevents double spending and operates as the overall maintenance manager of the network's security, a masternode can be considered to be a second-tier network with its own server that supervises the first tier.

So, in addition to also achieving distributed consensus on the blockchain, as masternode has the added power of veto to reject or abandon certain blocks that are either outdated or have been malevolently manipulated. Moreover, the two-tiered system ensures that certain services can be enabled for miners that Proof of Work is not able to facilitate.

#### DIFFERENCES BETWEEN MASTERNODES AND MINERS

Another speciality that masternode possesses is the fact that other than merely maintaining the security of the blockchain, masternodes also carry out certain unique services. These services include: super- instant transactions, increased privacy of the transactions, and the governance of the network through voting power. An important distinguishing factor is that masternodes do not mine; and, logically, the contra is also true — that mining computers cannot become masternodes.

Rather, masternodes give powers to miners who want to do more than mine the network. Users with masternodes will be compensated for both transaction and services charges, giving a much bigger slice of the pie to the holders of the masternodes.

## MASTERNODE REWARD PROGRAM - COST AND PAYMENTS

Much of the reason for the decrease of full nodes on the Bitcoin network is the lack of incentive to run one. Over time, the cost of running a full node increase as the network gets used more, creating more bandwidth and costing the operator more money. As the cost rises, operators consolidate their services to be cheaper to run, or run a light client which does not help the network at all.

Masternodes are full nodes, just like in the Bitcoin network, except they must provide a level of service to the network and have a bond of collateral to participate. The collateral is never forfeit and is safe while the masternode is operating. This permits masternode operators to provide a service to the network, earn payment for their services and reduce the volatility of the currency.

Due to the fact that the masternode rewards program is a fixed percentage and the masternode network nodes are fluctuating, expected masternode rewards will vary according to the current total count of active masternodes. Payments for a standard day for running a masternode can be calculated by using the following formula:

$$(n/t)*r*b*a$$

Where:

n is the number of masternodes an operator control.

t is the total number of masternodes.

r is the current block reward (presently averaging about 5.5 XXX COIN).

b is blocks in an average day. For the XXX COIN network this usually is 295.

a is the average masternode payment (45% of the average block reward).

## 7.3 Benefits of Masternode

### SUPER-INSTANT DIGITAL ASSET TRANSACTIONS

One of the services carried out specifically by a masternode is expediting the transaction speed in the blockchain network. The speed can be multiple times faster because masternode has the dedicated capacity to perform this particular task, as compared to hundreds of miners simultaneously solving multiple complex problems in order to contribute to the blockchain.

Super-Instant transactions also contribute to the overall efficiency of the ACU network. This is because incoming and outgoing payments can be completed faster, reducing delays and long waiting times. This is attractive to both types of users — those who are new and those who are existing, and has the added benefit of the familiarity of online banking transaction speeds, to which many people worldwide are accustomed.

Another factor that influences the efficiency of ACU network is the ability for its users to access their assets from any location on the planet. The decentralization element removes the need for a limited branch of physical banks, and presents a convenient and game-changing realm of further financial enfranchisement for the unbanked and rurally located, than compared to traditional money institutions and banks.

## ABSOLUTE SECURITY OF NETWORK

A noteworthy special feature of masternode is the certainty of security that it guarantees within a network. Privacy is a defining cornerstone of the ACU network, as masternode masks incoming or outgoing transactions by imposing tougher encryption than regular mining processes, safeguarding users to a more advanced level than before.

The decentralization characteristic of masternode (that will be explained in the next section) also makes consensus with all parties within a network an obligation, ensuring that only data agreed upon by all parties in the network is continued in the pages of the blockchain.

## GUARANTEED STABILITY OF NETWORK

As mentioned previously, balance is important to achieve a truly stable system in the network. As the process of incorporating masternodes requires a considerable initial investment, not all users in the network have the ability to invest the same amount, ensuring that traditional miners' efforts continue to contribute to the blockchain's growth.

Additionally, the number of users with masternode will not see a drastic increase or decrease because of several reasons. First, the high initial cost of investment to obtain masternodes reserves them as a premium option for a limited volume of users.

Second, the higher dividends contributed by masternodes also translates into network loyalty and ensures that users do not leave the network and forego a lucrative method to increase income. Therefore, this network loyalty is also crucial to the stability of a network.

Third, the masternode users act as supervisors over the activities of the miners in the network, eliminating any unwanted conduct, elements or mistakes in order to achieve a perfect blockchain in the network.

## ULTIMATE DECENTRALIZATION

Due to masternode's unique capability of shaping the way the network operates with its voting power, it also helps to operate as a check and balance, bringing impartiality and objectivity to the network. Masternode safeguards the true decentralization of the network by making it impossible for one single party to dominate.

At the same time, because of the high amount of ACU needed to be staked in a digital wallet in order to qualify the usage of a masternode, not all users in the network can afford to utilize it. This offers a further balance to the whole network, as miners who are custodians of the security consensus of the network balance out the number of users who possess their own masternodes.

## 7.4 Technical Features

### LONG-LIVING MASTERNODE QUORUMS (LLMQS)

ACU's long-living masternode quorums (LLMQs) are used to facilitate the operation of masternode-provided features in a decentralized, deterministic way. These LLMQs are deterministic subsets of the overall masternode list that are formed via a distributed key generation protocol and remain active for long periods of time (e.g., hours to days). The main

task of LLMQs is to perform threshold signing of consensus-related messages for features like InstantSend.

### INSTANTSEND

InstantSend provides a way to lock transaction inputs and enable secure, instantaneous transactions. Long-living masternode quorums check whether or not a submitted transaction is valid. If it is valid, the masternodes “lock” the inputs to that specific transaction and broadcast this information to the network, effectively promising that the transaction will be included in subsequently mined blocks and not allowing any other transaction to spend any of the locked inputs.

### PROOF-OF-STAKE (POS)

The Masternodes network functions on a Proof of Stake consensus algorithm. The robustness and innovation of ACU’s Proof-of-Stake was further enhanced in an updated of the protocol, then with the novel implementation of Zerocoin Proof of Stake (zPoS) by ACU, has undergone further improvements and security updates, for example the new Time Protocol. In this way, ACU has pioneered forward the original concepts of Proof of Stake, with its continual development providing superior security as well as the novelty of a corresponding masternode layer and privacy features.

### PROOF-OF-SERVICE (POSE)

The Proof of Service (PoSe) scoring system helps incentivize masternodes to provide network services. Masternodes that fail to participate in quorums that provide core services are penalized, which eventually results in them being excluded from masternode payment eligibility.

## 7.5 Consensus Mechanism

ACU developed with its own algorithm which enhanced from x11 algorithm to increase productivity and its security. The mathematical algorithms are shown below:

$$\begin{aligned}
 \sum_{j=1}^n \tau_{k,j}^{(l)}(y_{1,k}^j, y_{2,k}^j; \Sigma^{(l)}) & \left[ -s + \frac{\Sigma_{22,k} y_{1,k}^j}{\Sigma_{1,2,k}} - \frac{y_{2,k}^j}{\Sigma_{22,k}} + \right. \\
 & \left. \frac{\Sigma_{11,k} y_{2,k}^j}{\Sigma_{1,2,k}} - 2y_{1,k}^j y_{2,k}^j \frac{\Sigma_{22,k} \Sigma_{12,k}^2}{\Sigma_{1,2,k}^2} \frac{f_{s+1}(\delta_k y_{1,k}^j y_{2,k}^j)}{f_s(\delta_k y_{1,k}^j y_{2,k}^j)} \right] = 0, \\
 \sum_{j=1}^n \tau_{k,j}^{(l)}(y_{1,k}^j, y_{2,k}^j; \Sigma^{(l)}) & \left[ -s + \frac{\Sigma_{11,k} y_{2,k}^j}{\Sigma_{1,2,k}} - \frac{y_{1,k}^j}{\Sigma_{11,k}} + \right. \\
 & \left. \frac{\Sigma_{22,k} y_{1,k}^j}{\Sigma_{1,2,k}} - 2y_{1,k}^j y_{2,k}^j \frac{\Sigma_{11,k} \Sigma_{12,k}^2}{\Sigma_{1,2,k}^2} \frac{f_{s+1}(\delta_k y_{1,k}^j y_{2,k}^j)}{f_s(\delta_k y_{1,k}^j y_{2,k}^j)} \right] = 0, \\
 \sum_{j=1}^n \tau_{k,j}^{(l)}(y_{1,k}^j, y_{2,k}^j; \Sigma^{(l)}) & \left[ s - \frac{\Sigma_{22,k} y_{1,k}^j + \Sigma_{11,k} y_{2,k}^j}{\Sigma_{1,2,k}} + \right. \\
 & \left. y_{1,k}^j y_{2,k}^j \times \frac{\Sigma_{12,k}^2 + \Sigma_{11,k} \Sigma_{22,k}}{\Sigma_{1,2,k}^2} \frac{f_{s+1}(\delta_k y_{1,k}^j y_{2,k}^j)}{f_s(\delta_k y_{1,k}^j y_{2,k}^j)} \right] = 0,
 \end{aligned}$$

## 7.6 Deterministic Ordering

A special deterministic algorithm is used to create a pseudo-random ordering of the masternodes. By using the hash from the proof-of-work for each block, security of this functionality will be provided by the mining network.

Pseudocode, for selecting a masternode:

```
For(masternode in masternodes){
    current_score = masternode.CalculateScore();

    if(current_score > best_score){
        best_score = current_score;
        winning_node = masternode;
    }
}

CMasterNode::CalculateScore() {
    pow_hash = GetProofOfWorkHash(nBlockHeight); // get the hash of
this block
    pow_hash_hash = Hash(pow_hash); //hash the POW hash to increase
the entropy
    difference = abs (pow_hash_hash - masternode_vin);
    return difference;
}
```

## 7.7 Conclusion

This paper introduces various concepts to technical design of ACU resulting in improved privacy and fungibility for the average user, less price volatility and quicker message propagation throughout the network. This is all accomplished by utilizing an incentivized two-tier model, rather than the existing single-tier model in other cryptocurrencies such as Bitcoin. By utilizing this alternative network design, it becomes possible to add many types of services such as decentralized mixing of coins, instant transactions and decentralized oracles using masternode quorums.

The background is a solid orange color with a network of thin, white, angular lines that resemble circuit traces or a stylized map. These lines are scattered across the page, with some ending in small white circles and others in solid orange dots. In the bottom-left corner, there is a faint, large, stylized logo that appears to be a combination of a 'G' and a triangle.

## VIII. Epilogue



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The world today has never been fair or just. Power and rules are often controlled by a minority oligarchy. Circulation and operation of currencies are the core of these global rules. Neither the disintegration of Bretton Woods System nor the establishment of the Euro was able to change the global hegemony of the US dollar, which has been set up since 1944. Following the de-linking of the US dollar from gold, the most important pegged value of currencies has gone astray and followed a path to a world of continuous disasters and conflicts.

Under the global hegemony of the US dollar, the economic systems throughout Asia have become the subject of bullying and exploitation due to the lack of a unified monetary consensus. Not only do they have to pay large amounts of money as seigniorage, but also bear the consequence of inflation caused by the continuous issuance of US dollars.

With the emergence of blockchain technology and the rise of digital currency, the entire world economic and political order is being reshaped by the power of technology, which is now building a new monetary landscape for the world. Meanwhile, ACU, the Asia Currency Unit, is being reintroduced after 20 years of hardship and exploration.

ACU, the Asia Currency Unit, has assumed a historical mission of establishing a unified currency in Asia. Within the potential regions of ACU, this common currency, all nationalities and economic systems should put aside disputes and prejudice, join hands and work together to reconstruct an international monetary system of the 21st Century. It is critical that all the countries come to shoulder their respective responsibilities of this historical mission, and cooperate to implement the monumental plan of a unified Asian monetary system, with a view to painting a bright future for economic globalization and leading the world economy toward a new era of greater prosperity!



## **THE GLOBAL E-MONEY BOOSTER**