China's CBDC and its potential future implication to Global Currency, Payment System, and Foreign Exchange Reserves

By Lars Aspling, Board member of the Belt and Road Institute in Sweden*

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*) For more information, contact:

Email: info@brixsweden.org
Website: www.brixsweden.org

Digitalization of payments in China's retail market and China's launch of e-CNY

As planned, China launched its (CBDC) Central Bank Digital Currency e-CNY at the time of and as host of the Winter Olympics 2022. Visitors in China are encouraged to download a wallet app developed by the People's Bank of China (PBOC) to their mobile phones and exchange other currencies into the new digital e-CNY. The e-CNY has the three essential functions of money, unit of account, medium of exchange, and store of value, and the legal status of the e-CNY is the same as notes and coins issued by PBOC in physical forms. Notes and coins in physical forms have drastically diminished in use for payments in China over the last eight years and have been replaced by WeChat Pay and Alipay mobile apps.

Richard Turrin, author of the book *"Cashless,"* explains the background to the remarkable fast transformation to a cashless society based on mobile payments in China:
"China's bank, internet companies, and government all faced a unique set of challenges and saw digital finance as the solution. The government wanted to lift its poorer populace into the mainstream. Banks begrudgingly acknowledge that they needed a better way of reaching the rural poor, with service previously limited to the urban wealthy. Finally, internet companies wanted an easy way for people to buy things on the net. In the most basic sense, these are the conditions that gave birth to China's digital finance."

The Chinese government-licensed WeChat and Alibaba in the year 2014 to open digital banking operations that sparked China's digital finance to evolve into what it is today. WeChat is more than just an app; it is correct to view it as a Chinese version of the Internet itself. There is an ecosystem upon which over 3,2 million mini-programs from various developers and service providers can run, providing a vast range of services to more than 1 billion users. Similarly, Alibaba is the Chinese equivalent of Amazon, focusing on physical deliveries and related services and a platform that runs more than 120 000 apps servicing 953 million consumers in China and 285 million consumers overseas, according to Alibaba.

The e-CNY mainly serves retail and will be issued in a two-tier system that transfers e-CNY from the PBOC to commercial banks. Banks that meet compliance requirements (including anti-money laundering and countering terrorist financing requirements (AML/CFT)) will then distribute the e-CNY directly to consumers. Both WeChat Pay and Alipay are licensed as Payment Service Providers (PSP). The e-CNY will be fully operational for payments on the respective platform after the user has linked its e-CNY account into the PSP in question in a similar way that the user already has done with his/her bank account.

Most people do not think about any differences between money in a bank account and notes and coins in your wallet, except that the money in bank accounts is much more convenient to use as a means of payment, especially when shopping online. But money in your bank account is, in fact, a claim on the bank or IOU (I owe you) issued by the bank. Physical notes and coins issued by the central bank are receivables directly upon the state (the first layer of money) and is just a micro part of "money in use"; the majority is deposited in a bank account (the second layer of money).

Bank of England states in their Quarterly Bulletin 2014 Q1, "It then sets out what counts as money in a modern economy such as the United Kingdom, where 97% of the money held by the public is in the form of deposits with banks, rather than currency.
CBDC, as in this case e-CNY, is currency and the first layer of money in a digital form enabling it to be used by the holder in the same convenient way and instead of bank deposits. No interest is paid on e-CNY (for retail use) to avoid competition with commercial banks deposits.

The e-CNY is settled instantly upon payment. For the Chinese people, the e-CNY is just a natural step in the digitalization process. At the end of 2021, over 250 million Chinese have already used the digital form of RMB in initial trials over the last couple of years in Shenzhen, Suzhou, Xiong'an, and Chengdu. According to PBOC, the pilot program now spans the Yangtze River Delta, the Pearl River Delta, the Beijing-Tianjin-Hebei region, China's central, western, northeastern, and northwestern regions.

China and its people made a giant leap from a society that used notes and coins for daily life payments straight into a digital cashless society utilizing mobile phones and full utilization of QR-codes as a unique identifier of individuals and items being part of a transaction. The small business owner could quickly and cheaply sign up to be part of the PSP vast ecosystem and enable its customers to make digital payments for goods and services using a single, convenient tool, its mobile phone.

By skipping credit cards and all related intermediaries that we are familiar with in the West, they cut the transaction cost to a minimum and enabled all people with a mobile phone to access financial services. While it costs between 2-3% to pay by credit card in the West, it costs the Chinese only 0.1% - 0.5% for mobile payments.

Outbound journeys of Chinese tourists have grown from about 50 million per year in 2009 to nearly 170 million in 2019. Besides Chinese tourists visiting other famous countries in Southeast Asia, a growing number have been taking vacations in countries in Africa and Central Asia. Like China, several African countries have also skipped Western solutions with credit cards and related intermediaries and made a giant leap to mobile phones and various payment apps. The demand for convenient and cost-efficient payment tools from the Chinese tourist has paved the way for WeChat Pay and Alipay to expand their business to local businesses in other countries following the path of the Chinese tourist.

POTENTIAL CROSS-BORDER INSTRUMENT

Even though the e-CNY was introduced for retail payments in digital form in China, the potential for e-CNY to be used in cross-border payment is already present. The Working Group on E-CNY Research and Development of the People's Bank of China states in its report from July 2021, "*Progress of Research & Development of E-CNY in China, "*:

"Therefore, though technically ready for cross-border use, e-CNY is still designed mainly for domestic retail payments at present. Looking ahead, the PBOC will actively respond to initiatives of the G20 and other international organizations on improving cross-border payments and explore the applicability of CBDC in cross-border scenarios. Based on experiences of domestic trials and international demand, and preconditioned on mutual respect for monetary sovereignty and compliance, the PBOC will explore pilot cross-border payment programs and will work with relevant central banks and monetary authorities to set up exchange arrangements and regulatory cooperation mechanisms on digital fiat currency in line with the principle of "no detriment," "compliance," and "interconnectivity."

Human's basic desire to travel has not vanished even if it temporarily has been suppressed by travel restrictions due to the Corona pandemic. Once the restrictions have been lifted, we can expect inbound and outbound tourism to pick up again. Subject to the utilization of e-CNY for retail payments in China being a success, we can expect it to spread to other countries via licensed Payment Service Providers for retail cross-border payments.

Given that the YUAN by many is seen as a more reliable store of value and less volatile than many other currencies, including the USD, the potential desire not only of the Chinese, but other peoples as well, to hold some portion of one's, savings in e-CNY should not be underestimated. This is clear especially among citizens in countries with extensive trade and cultural exchange with China, such as the 144 countries that have signed up to the Belt and Road Initiative (BRI) as well as people in developing countries, who are without access to banks.

An industry dominated by western financial institutions such as Western Union and MoneyGram that could expect stiff competition from mobile payment solutions and CBDC is the Remittance Industry. A remittance is a non-commercial transfer of money by a foreign worker or a citizen with familial ties abroad for household income in their home country or homeland. According to the World Bank report of June 2021, the global average cost to make a remittance of $200 was 6,3%. The e-CNY and its supporting mobile payment solutions are knocking on the door to Close the Gap on the costly charge of payment transactions.

The Bank for International Settlements (BIS) is presently working with a group of seven central banks (Bank of Canada, Bank of England, Bank of Japan, European Central Bank, Federal Reserve, Sveriges Riksbank, and Swiss National Bank) to explore central bank digital currencies (CBDCs) for the public or "retail" CBDC. China and its Payment Service Providers (PSP) will, with its recent launch of e-CNY, enjoy the first-mover advantage in the global arena. Still, we can assume that several other central banks will launch their counterparts in the coming years.

Monetary System and Foreign Exchanges Reserves

Precious metals such as gold and silver have functioned as money and a medium of exchange in trade for thousands of years. Gold and silver have also, throughout history, been used by people as a store of value and a way to escape the risk of loss of value in holdings of currencies being devaluated. Coins in the form of silver and gold have throughout history been forged by substituting some of its content of precious metal for some other less valuable content, a kind of hidden devaluation by the issuer until discovered.

Sir Isaac Newton, Master of The Royal Mint, was tasked to establish how coin quality should be checked and refine weights and measures to standards. In 1717 the Royal Mint established a mint ratio between gold and silver that effectively put Britain on the gold standard. A significant important standard since The British Empire was the world's foremost power for over a century, and its currency was the most globally recognized currency.

A gold standard is a monetary system in which the standard economic unit of account is based on a fixed quantity of gold. The gold standard was the basis for the international monetary system from the 1870s to the early 1920s and from the late 1920s to 1932. Notes in paper form were issued with a guarantee to be redeemed in its equivalent in gold upon request. The pound sterling gave up a gold standard in 1931 and officially ended its reign as the world reserve currency.

The US Gold Reserve Act of 1934 forbade US citizens to own, hold or use gold as a medium of exchange in trade. The only exception was gold jewelry and collectors' coins. US citizens were forced to sell their holdings of gold in exchange for the dollar for $20.67 per troy ounce, well below market rates. Immediately after the "confiscation," the government set a new official rate of $35 for gold which devalued the dollar against gold.

After WWII, the American economy grew, and the center of global power shifted from the United Kingdom to the United States, which, at that time, also was the world's largest creditor nation. The Bretton Woods system established by 29 nations in 1944 was a monetary system with an obligation for each country to adopt a monetary policy that maintained its external exchange rates within +/-1 percent of the parity by tying its currency to gold. A variant of a fixed exchange rate system. The International Monetary Fund (IMF) was formed to monitor exchange rates and lend reserve currencies to nations with balance-of-payments deficits to bridge temporary payments imbalances.

The Bretton Woods system was drawn up and fixed the dollar to gold at the existing parity of US$35 per ounce, while all other currencies had fixed, but adjustable exchange rates to the dollar. The United States backed its dollar with gold, and several other countries pegged their currencies to the dollar and got a gold standard by association. The United States had the responsibility of keeping the price of gold fixed and had to adjust the supply of dollars to maintain confidence in future gold convertibility. The dollar was only redeemable to gold to foreign governments, and the US dollar became the new global reserve currency.

Between the creation of the system and its collapse in 1971, the US went from being a major creditor to the rest of the world to become a major debtor, partly because of the rampant costs of the Vietnam war. The United States began to see its gold reserves shrink as other countries started to doubt the backing of the dollar and therefore redeem dollars for gold instead of comfortably holding dollars.

The Bretton Woods Agreement and System created a collective international currency exchange regime that lasted from 1944 to 1971, when the President of the United States, Richard Nixon, ended the convertibility of dollars to gold. From that point, all currencies became *Fiat currency* meaning that they are not backed by any underlying asset. Instead, its value is solely based upon the trust of the government and its central bank issuing the currency.

During the Bretton Wood era, the dollar started to dominate international trade, and loans issued in dollars became preferred instead of loans in other currencies. Nik Bhatia, author of the book *"Layered Money"* explains the creation of *Eurodollars*:
"Demands for dollars outside of the United States skyrocketed, and banks in London, Paris, and Zurich were to service the demand. These European Banks were able to offer more attractive deposits rates than their US counterparts because of regulatory differences. This steered people into European-domiciled dollar deposits. … International banks had discovered a way, without asking anybody's permission, to create dollars away from the purview of the Federal Reserve. Dollars were needed outside of the United States to participate in an increasingly dollarized global economy. Somebody had to provide them where they were needed, even if the dollars provided only mimicked ones issued by the Federal Reserve and American banking system."

David Spiro author of the book *"The Hidden Hand of American Hegemony: Petrodollar Recycling and International Markets,"* revealed that a secret agreement was signed in 1974 between Saudi Arabia and the United States. In essence, all Oil deals were to be made in USD only, and the US would buy oil from Saudi Arabia and provide the Kingdom with military aid and equipment. In return, The Saudis would place billions of their petrodollar revenue back into US Treasuries and finance America's spending. Spiro argues that American policymakers took this action to prop up otherwise intolerable levels of US public debt. In effect, recycled OPEC wealth subsidized the debt-happy policies of the US government and the debt-happy consumption of its citizenry. The system came to be named the *Petrodollar System*.

In that way, the USD became cemented as the preferred world currency in global trade since any country that wanted oil needed to get dollars to pay for it. Non-oil-producing countries, therefore, also began to sell many of their export products in dollars. Several countries stored their excess dollars as foreign-exchange reserves, mainly in US Treasuries. The *Eurodollar* and *Petrodollar* cemented the USD as the global currency in trade and finance and as the global reserve currency.

A FRAGILE SYSTEM

Persistent international demand for the dollar by the structure of the global monetary system has enabled the US to finance and run a persistent trade deficit with permanent imbalances. Most other countries that run huge trade deficits are forced to currency devaluation and to adjust its economy accordingly. It is a significant flaw in the current monetary system that it rests upon a single currency, the US dollar, and a country that only stand for 16% of the world GDP and 10% of the world trade and for central banks to have 60% of its foreign exchanges reserves in USD that no longer reflects the composition of the world economy and world trade of today.

The global financial crisis (GFC) 2007-2009 made everyone aware that the present monetary system is too much shaped by the dollar and consequently too fragile to shocks and needs to be restructured. The liquidity crisis in the Treasury Repo market in 2019 was another reminder forcing The Federal Reserve to take emergency actions to prevent the financial market from collapsing.

The breakout of the Corona pandemic in March 2020 forced governments worldwide to implement a range of measures, including travel restrictions, social distancing measures, partly or complete lockdowns of various lengths, and ordered the public to stay at home. These actions threatened the global economy with a severe recession, with companies going bankrupt and masses of people losing their jobs. The fiscal responses from governments included capital injection and stimulus in various forms to people, businesses, and other parts of the societies affected.

The macro-financial response taken by central banks have been massive and of a scale never seen before. Central banks slashed the interest rates to zero. They flushed the financial markets with liquidity via Quantitative Easing (QE) that expanded central banks' balance sheets to levels never seen before in history. The consolidated financial statement of the Euro system (19 countries within the Euro currency system) increased from 4,7 to 8,6 trillion euros from the end of 2019 to the end of 2021. The balance sheet of The Federal Reserve increased in the same period from 4,2 to 8,8 trillion USD.

Cheap and easily available credits to the market participants in search of the best rate of returns found their way to real estate, stock exchanges, and cryptocurrencies creating an asset price inflation that now is threatening to implode when central banks start tapering the liquidity and increase interest rates. The problems arise in that fragile and dollarized global financial market, and nobody knows for sure which path it will take and what will come instead.

CRYPTO CURRENCIES

Bitcoin (BTC) was created in 2008 as a response to those disbelieving in fiat currencies after actions taken by the central banks to deal with the global financial crisis (GFC) 2007-2009. By its believers, it was seen as a modern digital equivalent to gold that could replace gold as well as the USD as an anchor in a global monetary system. An anchor with its limited supply of 21 million BTC, cryptographic security, decentralized ledger-based upon blockchain techniques was designed to be out of reach to be manipulated in the way fiat currency always has been and will be. In 2021 several countries banned BTC from being mined or used, and its chances to be used as an anchor in a global monetary system are doomed to fail.

With a worldwide customer base of some 2 billion daily active users, Facebook initiated 2017 a project aiming to create a tokenized cryptocurrency based upon blockchain under the name of Libra, later renamed Diem. The idea was to issue a private global stablecoin based upon a basket of underlying fiat currency with a composition that could create a more stable value compared to a single currency. Unsurprisingly Facebook did meet rigid opposition from central banks as well as from representatives of several governments as private cryptocurrencies are a threat to the monetary sovereignty of nations. After five years of development, Facebook gave up its plans for Diem at the beginning of 2022.

The various private cryptocurrency projects that have been going on for the past 10 years have created new technical knowledge about the advantages and disadvantages of different designs of cryptocurrencies that central banks will benefit from when they now develop and launch their own CBDC. One example is the new e-CNY launched for retail in China, which is tokenized and uses cryptographic security but relies on a centralized ledger instead of a blockchain because it is designed to handle hundreds of thousands of transactions per second. Another is the UTXO (Unspent Transaction Output) concept, which supports high-speed transaction processing and even enables instant transactions between offline mobile phone wallets using NFC (Near Field Communication) updated to the centralized ledger once connected to the Internet.

De-dollarization of trades, foreign exchanges reserves, and cross-border payments

De-dollarization is a process of substituting USD as currency in use in trading commodities, the composition of central banks foreign exchange reserve, and uses in cross-border payments.

Following the speech by Dr. Zhou Xiaochuan, Governor of the People's Bank of China, at the G-20 Summit in March 2009 headlined *"Reform the international monetary system,"* he suggested, "The desirable goal of reforming the international monetary system, therefore, is to create an international reserve currency that is disconnected from individual nations and is able to remain stable in the long run, thus removing the inherent deficiencies caused by using credit-based national currencies."

China has since then actively been pushing for a change in the international monetary system. The suggested solution by Dr. Zhou Xiaochuan was to establish IMF at the center and their SDR (Special Drawing Rights, a kind of stablecoin backed by a basket of underlying currencies and, since 2016, also including Yuan) as a super-sovereign reserve currency. The proposal never gained enough support from the other G-20 members at that time. It should be noted that the IMF, in the last two years, has discussed similar ideas of issuing a digital form of SDR for the same purposes. To gain support from all stakeholders and reach a global agreement on a new international monetary system seems far-fetched.

Countries with enough power and influence can make their own decisions and start a de-dollarization promoting their currency to be used in bilateral trade agreements with other nations, establishing rules and technical solutions for cross-border payments in the currencies in question as well, as changing the composition of its foreign exchange reserve.

Another way to reduce a country's vulnerability to the dollarized monetary system and The United States is to stop or reduce buying of US Treasury securities. Despite China's continued trade surplus with the United States and its excess of US dollars, its holdings of US Treasury securities have dropped from 1.270 billion USD in December 2013 to 1.080 billion in November 2021. (Source FED). Instead, China has channelled parts of its excess USD into foreign direct investments (FDI) and via its banks, issuing loans as part of financing infrastructure projects being part of the Belt and Road Initiative (BRI).

BEYOND THE POLITICAL REACH OF SWIFT

In the SWIFT messaging network system, widely used by financial institutions to securely transmit payment instructions and confirmations, all such information goes through US financial institutions and is ultimately subject to US laws even though the transactions are in no way related to the US. This reality has several times been used (misused) by US Governments as a weapon by blocking countries from using SWIFT and, accordingly, cutting off payment rails to and from the country in question.

Affected countries, such as Russia, have speeded up their de-dollarization process and increased their trades in Rubel, Euro, Yuan, and other national currencies with their trading partners. The composition of the Russian foreign exchange reserve has been changed accordingly, and Russia has increased its reserve in gold. Besides this, Russia has created its own financial messaging system- SPFS (The System for Transfer of Financial Messages) and has promoted members of the Shanghai Cooperation Organization (SCO) to use national currencies in cross-border trades.

Members of the European Union affected by the Trump administration's sanctions on Iran, threatened by the US should they make payments to Iran via SWIFT, ignited EU determination to develop an alternative payment solution called INSTEX and promote the Euro to be used as the preferred currency in international trade.

China has signed several bilateral trade agreements with other nations to use national currencies in trades and promote Yuan to be used in such trades. China has developed and established a Cross-border Interbank Payment System (CIPS) that provides clearing and payment services for financial institutions in the cross-border RMB and offshore RMB business. According to the company CIPS Co Ltd announcement as of May 2021:
"CIPS has 1189 participants with 47 as Direct Participants and 1142 as Indirect Participants. Among Indirect Participants, 881 participants are from Asia (including 528 from the Chinese Mainland), 153 from Europe, 42 from Africa, 26 from North America, 23 from Oceania, and 17 from South America, covering 101 countries and regions around the world."

The People's Bank of China (PBOC) issued in March 2021 notice providing information on Financial Gateway Information Services Co Ltd. A joint venture with international payments organization the Society for Worldwide Interbank Financial Telecommunication (SWIFT).

The aim is to establish and operate local network concentration points for financial messaging services, to provide SWIFT's backbone network with stable, resilient, and secure connections, and operate local databases within China to be used for data storage in relation to cross-border transaction messaging and subsequent monitoring and analysis. In other words, utilization of the Swift system within China under Chinese laws is out of reach of the US and its policies to use SWIFT as a weapon based on routing messages through US financial institutions.

A NEW ERA FOR CURRENCIES

In the IMF Guidelines for Foreign Exchange Reserve Management of September 2001, they state:
" Reserve management is a process that ensures that adequate official public sector foreign assets are readily available to and controlled by the authorities for meeting a defined range of objectives for a country or union. In this context, a reserve management entity is normally made responsible for the management of reserves and associated risks.

Typically, official foreign exchange reserves are held in support of a range of objectives, including to:

- support and maintain confidence in the policies for monetary and exchange rate management, including the capacity to intervene in support of the national or union currency;
- limit external vulnerability by maintaining foreign currency liquidity to absorb shocks during times of crisis or when access to borrowing is curtailed, and in doing so;
- provide a level of confidence to markets that a country can meet its external obligations;
- demonstrate the backing of domestic currency by external assets;
- assist the government in meeting its foreign exchange needs and external debt obligations; and
- maintain a reserve for national disasters or emergencies.

As previously explained, the events in 1960 leading up to the breakup of the Bretton Wood system was that The United States began to see its gold reserves shrink, as other countries started to doubt the backing of the dollar and therefore redeem dollars for gold instead of comfortably holding dollars. Central Banks' foreign exchange reserves are today US dollar-dominated, and as a fiat currency, its value is solely based upon the trust of the US government and its central bank issuing the currency. The ongoing and accelerating trend of de-dollarization will, in the long run, reduce the global demand for the dollar and, in accordance with laws of economics, will decrease the value of the US dollar.

Instead of moving in the direction of a new single global currency to replace the dollar hegemony, we are witnessing a trend leading up to regional currency blocks where each block is predominated by the major currency in the center of the respective block.

The composition of Gross Domestic Product (GDP in Purchasing Power Parity (PPP)) in trillion USD of 2020 of the three largest economies, including the European Union as an economic block of its member was:
United States 20,9 (15,8%), European Union 20,0 (15,1%), China 24,3 (18,3%). In the same year, China was the largest merchandise exporter and stood for 14,7% of the world export, well above the United States' 8,1%. (Source World Bank and Statista)

The figures from IMF presenting the composition of central banks foreign exchange reserves by currency at the end of 2020 were: USD 58,9%, Euro 21,3%, Yuan 2,3%, Yen 6,0%, Pound 4,7%, beside holdings in other minor currencies. The figures clearly indicate that the present composition does not reflect the composition of global trade by the origin of the country nor the composition of the world's largest economies of today.

What we most likely will be seeing in the years to come is a world divided into three major currency blocks US dollar, Euro, and Yuan. The timeframe of such transition is unclear, but rest assured that China, step by step, is laying the grounds for its Yuan to become not just more acceptable but desired to be used as one of the major currencies in global trade. And accordingly, more accurate to become mirror the composition of central bank's foreign exchange reserves, given Chinas economic position in the world.

The digital currency e-CNY and the new infrastructure that has been built to enable the e-CNY to be used in cross-border trade, not just in retail markets but in the wholesale and capital markets, is an important part of a jigsaw puzzle aiming for the Yuan to become one of the major world currencies.

Central Bank Digital Currency (CBDC) for wholesale market

During the Saudi Arabian Presidency, the G-20 decided to enhance cross-border payment priority to become faster, cheaper, and more secure. Since then, several working groups have been formed to analyze the problem and shortcomings in cross-border payments of today based on corresponding banking. Bank for International Settlements (BIS) published in July 2021 a report to G-20 headlined: *"Central bank digital currencies for cross-border payments"* that gave an overview of today shortcomings in cross-border payments and outlined 19 building blocks of issues that needs to be addressed in a coordinated way to achieve the goals. The introduction of CBDC for cross-border payments with international standards in mind was seen as a "clean-slate" way to overcome the problems.

Presently about 90 countries are investigating CBDC, most in various research levels and some in a pilot testing phase, and nine have launched retail CBDC for domestic use (the Bahamas, Caribbean countries which jointly operate the Eastern Caribbean Central Bank, Nigeria, and China.) China has technically designed its e-CNY to enable and has a clear ambition to expand its present retail e-CNY to wholesale markets and actively respond to the G-20 initiative to explore cross-border payments. Given the size of its retail base, they will gain extensive experience from it might well be that e-CNY will influence the global standards of GBDC.

Unlike currency notes, a CBDC in wallets enables new programmed flexibilities to be deployed. The e-CNY launched for retail use comes in four types of wallets, each with different balance and payment caps based on sign-up requirements. Signing up for a wallet visiting a local bank providing all required documents for identity checks gives access to wallets with the highest caps. Just to be clear, each wallet and its content of e-CNY, as well as all transactions being made, will be monitored. Anonymous uses of e-CNY are not an option.

China will expand the uses of the e-CNY nationwide, and one potential way to increase the utilization among Chinese could be to encourage SOE and state agencies to start paying salaries in e-CNY. China will gain experience and important knowledge from retail uses of e-CNY in 2022 and will carefully investigate the best design and solutions to meet demands other than retail, such as wholesale market and cross-border settlement. The latter is based upon mutual agreements with other central banks and involves fostering KYC (Know Your Customer) and sharing information on identity, just as an example. Given the programmable nature of wallets and CBDC, we can expect that wallets with e-CNY for other uses will come with a lot more features making e-CNY attractive to be used both nationally and internationally. However, details in this respect have not yet been published.

According to the BIS report with respect to alternative solutions for cross-border payments:

"Of particular promise are multi-CBDC (mCBDC) arrangements that join up CBDCs to interoperate across borders. These arrangements focus on coordinating national CBDC designs with consistent access frameworks and interlinkages to make cross-currency and cross-border payments more efficient. In this way, they represent an alternative to private sector global stablecoin projects. mCBDC arrangements would allow central banks to mitigate many of today's frictions by starting from a "clean slate," unburdened by legacy arrangements. There are three potential models:
First, they could *enhance compatibility* for CBDCs via similar regulatory frameworks, market practices, and messaging formats,
Second, they could *interlink* CBDC systems, for example, via technical interfaces that process end user-to-end user transactions across currency areas without going through any middlemen.

The greatest potential for improvement is offered by the third model, a *single mCBDC system* that features a jointly operated payment system hosting multiple CBDCs. FX settlements would be payment-versus-payment (PvP) by default, rather than requiring routing or settlement instructions through a specific entity acting as an interface. Facilitating access and compatibility through such a system could benefit users through improved efficiency, lower costs, and wider use of cross-border payments."

A press release from The Hong Kong Monetary Authority (HKMA) as of the 26 of January 2022, reveals what's going on in the region with respect to mCBDC, HKMA stating:

"The HKMA is studying both wholesale level CBDC (wCBDC) and retail level CBDC (rCBDC) in depth. On wCBDC, the HKMA, together with three central banks, namely the Digital Currency Institute of the People's Bank of China, the Bank of Thailand, and the Central Bank of the United Arab Emirates, as well as the Bank for International Settlements Innovation Hub Hong Kong Centre, are conducting a project named Multiple CBDC Bridge (mBridge)." …… We expect the function of international trade settlement under mBridge will enter the pilot stage this year, with the aim to develop a system that could support the full process of international trade settlement."

In the IMF report issued on the 9 of February 2022 headlined "*Behind the Scenes of Central Bank Digital Currency"* PBOC states its principal on cross-border payments for CBDC:

"The PBOC states three principles for their ongoing work on cross-border payments for CBDC. The first is the principle of "no disruption," which in practice means to avoid negative spillovers on the Chinese economy and that of other nations, such as significant currency substitution. The second rule is that any CBDC cross-border payments system must be compliant with the rules and regulations of all connected countries, including capital flow management measures. In addition, according to the PBOC, information flows between countries should be improved to help authorities counter illicit use of money, including tax evasion. According to the third rule, cross-border payments should involve interoperability across domestic CBDCs or between domestic CBCDs and incumbent payment systems rather than a single CBDC used for transactions on both sides of the border. The PBOC thus prefers a system where domestic CBDCs are converted to other currencies as payments cross borders."

It seems clear that some automatic conversions from e-CNY to the digital currency of the other nation affected will accrue when e-CNY is used out of China, as in the case of Hong Kong. Such a solution will, in a very convenient way, enable mainland Chinese visiting Hong Kong to pay for goods and services in Hong Kong with its e-CNY that instantly will be converted to e-HKD that the merchandise in Hong Kong will receive. Behind the scenes to support such cross-border trade are the new m-CBDC and its network of payment rails.

Besides taking the global lead in retail CBDC with e-CNY, rest assured that China is on the front to create an mCBDC system with other central banks and prepare to launch a wholesale version of e-CNY.

Given that China is the largest exporter of goods in the world and number 1 in the world when it comes to logistics systems, it is not difficult to imagine what comprehensive types of financial services China will be able to provide to its trading partners when deciding to integrate e-CNY with their logistics systems for trade. Major trading partners in Asia as well as countries being part of the Belt and Road Initiative (BRI), will be the first to be offered the new kinds of services and benefit from Chinas leapfrog into a world with digital currencies.

A challenge that China will face going forward is how to loosen the present strict capital control of its currency, a capital control that has served China well in maintaining financial stability despite times of stress in the global financial system. China has taken steps in that direction by making the Yuan being part of the IMF basket of currencies supporting it's SDR (Special Drawing Rights), and foreign investors have gained controlled access to the Chines bond market. Further steps in loosening the capital control are needed to assure the Yuan gains grounds to become a global currency in trade and widen its use as foreign exchange reserves.

The digital and programmable e-CNY might offer completely new features, never known before, to prevent it from being used in devasting market speculations against the currency regime. Capital controls that could be built into the e-CNY support it to be used in trade and other legitimate uses but prevent the e-CNY from being used as a speculative weapon to undermine the stable value of its currency that Chinas monetary policies are aiming to achieve.

Several countries in Asia and other parts of the world have linked their currency to a fixed exchange rate to the US dollar instead of letting its currency values flow with market conditions. Increased trade in the Yuan and the acceptance of the Yuan to become one of the global currencies could inspire countries to change their current peg from the US dollar to Yuan, given that China can offer a more stable value on its currency than what the United States manages to do with respect to the value of its USD.

CHINA´S BELT AND ROAD INITIATIVE

China´s success in transforming China from a poverty-stricken nation in the 1960s to the world's second-largest economy in the world, lifting 770 million people out of poverty by the end of 2020, deserves great respect. It is simultaneously an important message to all developing nations declaring that moving from poverty to prosperity and reasonable abundance is a fully graspable goal. With its Belt and Road Initiative, China has invited other countries to take steps on a new road leading to developing a better future.

The principles governing the BRI were elaborated by the Chinese National Development and Reform Commission (NDRC) in a document published in March 2015 titled "Vision and Action on Jointly Building Silk Road Economic Belt and a 21st Century Maritime Silk Road". These principles, in summary, are Policy Coordination, Connectivity, Unimpeded trade, Financial integration, People-to-people connections

In this article, we have described:

- developments leading up to the present fragile global monetary system
- the ongoing change into a new area of digital currencies that is on its way
- its potential future implication for Global Currency, Payment Systems, and Foreign Exchange Reserves.

Financial integration, one of 5 pillars of the BRI, may be better served by CBDC and new cross-border payments solutions than what we can imagine today. Only the future will tell, but significant changes are underway.

The importance of global financial and monetary starting points that China has initiated through the CBDC is relevant for addressing and correcting the ongoing abuse of power within the current global monetary system. The current dollar system no longer works effectively to promote fair trade and stop corruption and speculative investment worldwide.

However, the Belt and Road initiative has an even deeper purpose. It has a clear and fundamental goal of eliminating global poverty through infrastructure investment in modern technologies. It must be reiterated and emphasized that although financial and monetary solutions and reforms can and should play an essential role in achieving this goal, the underlying power and essence of BRI, as seen and supported by BRIX, is to achieve these goals as the Chinese President Xi Jinping put forward in his 2013 speech, "A Community for a shared future for mankind."