



## Global Insights

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### **Cryptocurrencies: A threat to the Central Bank system?**

Cryptocurrencies have been an area of technology that for long was reserved for financial technologists and speculators pushing libertarian philosophies. However, their increasing significance in the global economy has attracted the attention of Central Banks globally. In a September 2017 report, the Bank of International Settlements warned that it is important for Central Banks to introduce their own cryptocurrencies to counter the risks from the explosive growth in bitcoin and other virtual currencies. Some have argued that cryptocurrencies will be transformative while others believe they spell disaster. The debate is ongoing. In this week's issue of BNR Global Insights, we seek to provide a snapshot into this topic.

### **Cryptocurrency; what is it anyway?**

A cryptocurrency is a digital or virtual currency/money that uses cryptography, a process of changing legible information into a code, making it impossible to track any transfers or purchases. Cryptocurrencies use blockchain technology or distributed ledger technology (DLT) which allows users to make secure payments and store money without the need to use their name or go to a bank. Usually, electronic representations of money, such as bank deposits, are exchanged via centralized infrastructures, where a trusted intermediary clears and settles transactions, but no such centralized infrastructures or intermediaries exist in cryptocurrencies. They differ from normal currency in three ways: cryptocurrencies are electronic not physical; are not the liability of anyone, they are issued and usually controlled by its developers not the usual Central Banks; and feature peer-to-peer exchange, exchanged between payer and payee.

The first cryptocurrency to garner public attention was Bitcoin, launched in 2009 by an anonymous group or individual using the pseudonym Satoshi Nakamoto. In September 2015, there were over 14.6 million bitcoins in circulation commanding a total market value of \$3.4 billion. Currently, the dollar value of 20 biggest cryptocurrencies is around \$150 billion according to Bloomberg, and there are more than 900 cryptocurrencies available.

## Who makes them and how?

Units of cryptocurrency can be created by anyone through a process called mining. This involves using computer power to solve complicated maths problems that generate coins. Users can also buy the currencies from brokers online, then store and spend them using cryptographic wallets. The most common cryptocurrencies are:

**Bitcoin:** Introduced in 2009 and has a market capitalization of \$45 billion as of July 2017.

**Ethereum:** Developed in 2015, the second most popular and valuable cryptocurrency, has market capitalisation of around \$18bn as of July 2017.

**Ripple:** Founded in 2012, has been used by banks including Santander and UBS and has a market capitalisation of around \$6.3 billion.

**Litecoin:** This currency is most similar in form to bitcoin, has total value of around \$2.1 billion.

## Implications to the global economy

Cryptocurrencies although still on a small-scale matter for the global economy. In April 2017, Japan passed a law accepting Bitcoin as a legal payment method for retail markets. Russia also hopes to recognize bitcoin and other cryptocurrencies as a legal financial instrument in 2018, in efforts to tackle money laundering. In the US as well as other advanced countries, cryptocurrencies are increasingly accepted as both a method of payment and store of value. The blockchain technology or DLT on which they are centered is evolving and will also likely change how the financial services operate. Among the benefits of virtual currencies are greater speed and efficiency in making payments and transfers. According to the IMF, the distributed ledger technology underlying most virtual currency schemes - an innovative decentralized means of keeping track of transactions in a large network - offers potential benefits that go far beyond virtual currencies themselves. Ventures capitalists and financial institutions are taking interest and heavily investing in DLT projects.

Despite the benefits however, the risks posed by cryptocurrencies seem to be greater. First, this area is less understood around the world and this makes it alien to regulators. Given that cryptocurrencies are growing in popularity as the new technologies become widely used, the lack of regulatory oversight may exacerbate the risks cryptocurrencies pose to financial stability. The anonymous form of cryptocurrencies make them immune to any government or Central Bank interference which may make them safe havens for money laundering, terrorist financing, tax evasion and fraud.

## A Crypto trend in the region

Although Cryptocurrencies have mostly been a phenomenon of advanced economies, they are spreading and evolving in developing countries including in Africa. In East Africa Bitpesa, a Kenyan based blockchain payments platform is operating across Uganda, Kenya and Tanzania. The company launched in November 2013 and continues to expand across the region. Cryptocurrencies are also becoming popular in South Africa, Nigeria and Zimbabwe. This trend will likely continue.

## The Central Bank system under threat?

Traditionally, Central Banks have long been the guardians of official money. Money depends on the authority of the state for credibility, with Central Banks managing its price and/or quantity. In Rwanda for example, BNR under monetary targeting framework have been using money supply to control inflation. Cryptocurrencies however, are circumventing the established money system. If they continue gaining popularity and be widely used, they may render this system obsolete, and so complicate the conduct of monetary policy. This calls for action from Central Banks.

Some Central Banks around the world are waking up to the call by experimenting with their own cryptocurrencies. According to a Bloomberg report, The People's Bank of China has conducted trials of its prototype crypto currency, the Bank of Japan, the Bank of England and the European Central Bank are considering the possible use of DLT while the Dutch Central Bank has created its own cryptocurrency-for internal circulation. In Russia, the Central Bank has introduced a blockchain pilot program and in the US, although Fed officials have voiced reservations about cryptocurrencies, banks and regulators are studying DLT.

Although Cryptocurrencies are not yet an issue for Rwanda, the pace at which they are growing shows that this trend will start to emerge. In Kenya, the Central Bank has been struggling with how to well, regulate BitPesa given the complexity of the platform and its implication to policy. As Rwanda's tech sector continues to grow, we will likely see the evolution of cryptocurrencies.

Given that monetary authorities possess the authority to regulate the financial sector in most countries across the world and that cryptocurrencies remain on a small scale, we believe that risks to the conduct of monetary policy are less likely to arise at this stage and therefore any threat is minimal. However, as this alternative currency evolves and DLT grows, Central Banks will need to up their game.

Cryptocurrencies may come as an alien terminology to most Rwandans, but we believe that this wave is about to hit, not long from today. BNR should therefore brace for when it hits.

*Does it mean our own internal cryptocurrency is on the way? You bet!*