STABLECOINS & CENTRAL BANK DIGITAL CURRENCIES: THE FUTURE OF CRYPTOCURRENCIES

16 September 2021

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1. INTRODUCTION

Stablecoins are a new class of cryptocurrencies that are backed by a reserve asset to maintain price stability ("**Stablecoins**"). Stablecoins have been gaining traction as they attempt to offer the best of both worlds – the instant processing and security or privacy of payments of cryptocurrencies, and the volatility-free stable valuations of fiat currencies. Central Bank Digital Currencies ("**CBDCs**") are introduced by state governments and their central banks in attempt to limit the market dominance of Stablecoins and retain monetary control.

This article provides: (i) an introduction to Stablecoins and CBDCs, including information on their main features, types and most well-known examples; (ii) an overview of the main benefits, risks and other considerations associated with Stablecoins and CBDCs; and (iii) a summary of the most recent policy announcements made by various Governments around the world in respect of Stablecoins and CBDCs.

2. NEW CLASSES OF CRYPTOCURRENCIES

2.1 STABLECOINS

Stablecoins are a digital form of privately produced money on blockchains or other distributed ledger technology ("**DLT**") systems that are pegged based on a one-for-one ratio to fiat currencies or other assets with a view to maintaining stability of their value. "Depositors" buy Stablecoins and, for each dollar or other fiat currency deposited with the issuer, they receive that number of stablecoins in exchange.

Purportedly, depositors can redeem coins at par and at will for cash, just like demand deposits and money market funds. To date, market adoption of Stablecoins as money has been limited, but it is growing at an incredible pace. For example, the market capitalization of Tether has increased by more than a multiple of 13 since February 2020. Moreover, Stablecoin initiatives backed by large technology companies and financial institutions have the potential for even greater adoption.

2.1.1 General Features

Stability of value is an integral feature of a Stablecoin. Developers of Stablecoins have sought to achieve this in different ways. A Stablecoin can be issued in return for consideration equal to the coin's trading value. The consideration received is then held or invested in low volatility, and ideally liquid, assets such as certain fiat currencies, commodities, and government bonds, in order to form a reserve or other form of collateral. This collateral has the objective of maintaining the value of the coin, for example, by being available to meet redemption requests from coinholders.

Another reason for stability of value is the possibility of timely market actions by controlling authorities like central banks. Even in certain extreme cases when a fiat currency's valuations may move drastically, the controlling authorities jump in and manage the demand and supply of currency to maintain price stability. The bulk of cryptocurrencies lack these key features as they do not have a reserve backing their valuation nor a central authority to control prices when required.

A variable feature of Stablecoins is the distinction between Stablecoins that are hosted on a public blockchain, such as the Ethereum blockchain, which are designed to be widely available, and those that are hosted on a private blockchain, such as R3, which are available only to permitted participants.

2.1.2 Types of Stablecoins

The main types of Stablecoins are "Fiat-Collateralized" Stablecoins, "Crypto-Collateralized" Stablecoins and "Non-Collateralized" (Algorithmic) Stablecoins.

Fiat-Collateralized Stablecoins maintain a fiat currency reserve, like the US dollar, as collateral to issue a suitable number of Stablecoins. Other forms of collateral can include precious metals like gold or silver, as well as commodities like oil, but most of the present-day fiat-collateralized Stablecoins use dollar reserves. Usually, these type of Stablecoins are backed 1-to-1 by an underlying government

currency (like USD or EUR) stored in a traditional financial institution. Tether is a good example of a Stablecoin that has value equivalent to that of a single US dollar and is backed by dollar deposits.

Fiat-collateralized Stablecoins are generally managed by a central operator, who tracks their circulation and allows users to mint and redeem tokens in their custody. In some cases, these reserves are even regularly audited to ensure that the number of tokens traded is equal to the reserves held by the firm.

Crypto-Collateralized Stablecoins are collateralized by one or more cryptocurrencies. Since the reserve cryptocurrency may also be prone to high volatility, such Stablecoins are "over-collateralized" meaning that a larger number of cryptocurrency tokens is maintained as reserve for issuing a lower number of Stablecoins.

For example, $2,000 worth of Etherium cryptocurrency may be held as reserve for issuing $1,000 worth of cryptocurrency backed Stablecoins which accommodates for up to 50% of swings in the reserve currency (Etherium cryptocurrency). More frequent audits and monitoring add to price stability. Backed by Ethereum, MakerDAO's DAI is pegged against the US dollar and allows for using a basket of crypto assets as a reserve.

These assets generally lack a central administrator, and instead rely on an open software to enable holders to lock crypto assets thus collateralizing them and generate new Stablecoins. If holders wish to redeem their locked cryptocurrencies, they have to return the Stablecoins to the protocol and pay a fee. Due to their design, the Stablecoins supply cannot be altered by anyone in the network. Instead, contracts are programmed to respond to changes in the market price of the locked assets. Examples of crypto-collateralized Stablecoins include DAI, Havven, and BitUSD.

Non-Collateralized (Algorithmic) Stablecoins are digital assets that rely on smart contracts to regulate their stability. Rather than using deposits of cryptocurrencies or issuing and redeeming debt, the software behind algorithmic Stablecoins programmatically adjusts the supply of the cryptocurrency as the demand for it fluctuates.

If demand is high, the price of each Stablecoins will exceed the intended peg, and the software will increase the supply. Alternatively, if demand is low, the supply will decrease. Examples of algorithmic Stablecoins include Ampleforth and Yam.

Non-collateralized stablecoins don't use any reserve but include a working mechanism, like that of a central bank, to retain a stable price. For instance, the dollar-pegged Basecoin uses a consensus mechanism to increase or decrease the supply of tokens on need basis.

Such actions are similar to a central bank printing banknotes to maintain valuations of the fiat currency. It can be achieved by implementing a smart contract on a decentralized platform that can run in an autonomous manner.

2.1.3 Examples of Stablecoins

(i) Tether

Tether (symbol "**USDT**") was launched in 2014 by the start-up Tether Limited, a dollar-backed cryptocurrency designed to trade 24/7 on the global crypto market. As of 2021, Tether remains the most widely used Stablecoin around the world.

Tether, for instance, describes its backing assets this way: "every Tether token is always 100% backed by our reserves, which include traditional currency and cash equivalents and, from time to time, may include other assets and receivables from loans made by Tether to third parties, which may include affiliated entities. Every Tether token is also 1-to-1 pegged to the dollar, so 1 USDT is always valued by Tether at 1 USD."

However, there have been suggestions that the operation of Tether has not been as simple as it seems. New York Attorney General Letitia James sued Tether alongside Bitfinex, both owned by Hong Kong-based iFinex, asserting that "Tether's claims that its virtual currency was fully backed by U.S. dollars at