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ARTICLE SERIES

THE CHANGING FACE OF FINANCE - THE EMERGENCE OF DECENTRALISED FINANCE AS AN ALTERNATIVE FINANCIAL SYSTEM

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INTRODUCTION

There are currently over 4000 (four thousand) cryptocurrencies in circulation [1] and about 51,200,000 (fifty-one million, two hundred thousand) active traders of cryptocurrency around the world [2]. With the proliferation of cryptocurrency and the associated technology that backs it, disruptors and innovators have begun to take advantage of the multifunctional nature of cryptocurrency [3] and have created products that could change or disrupt traditional banking and finance. Enter Decentralised Finance or 'DeFi' for short.

DeFi refers to an emerging area of finance where financial products are offered to customers using blockchain technology such as smart contracts, limiting reliance on the traditional institutional nature of finance where financial products and services are offered by banks and other financial institutions.

When compared to the traditional or centralised financial industry, DeFi is still a small drop in a big pond. However, DeFi products or protocols have started growing rapidly and are attaining monumental gains. In 2019, only USD$275,000,000 (Two Hundred and Seventy-Five Million Dollars) worth of cryptocurrency was locked in the DeFi economy [4]. By February 2020, that number grew to USD$1,000,000,000 (One Billion Dollars) and by January 2021, over USD$40,000,000,000 (Forty Billion Dollars) worth of cryptocurrency has been used on decentralised financial products [5]

So, with this rapid growth of decentralised financial products, it is important to consider whether DeFi as an alternative financial infrastructure is complementary or an adversarial to traditional financial and banking systems.

In this article, we will attempt to answer this question by breaking down what DeFi is, highlighting some DeFi products, examine the advantages and disadvantages of DeFi, and conclude with our opinion on the future of DeFi.

UNDERSTANDING DECENTRALISED FINANCE

Dr. Usman W. Chohan, an international economist-academic, describes decentralised finance as

"...an experimental form of financial praxis that is removed from dependence on centralized financial intermediaries, which in this context might include banks, exchanges and brokerages. As such, DeFi purports to disintermediate financial activity from the traditional mechanisms of finance, and it does so through the use of a blockchain substitutive architecture. [6]"

[1] "The 10 Most Important Cryptocurrencies Other Than Bitcoin" by Luke Conway, reviewed by Julius Mansa for Investopedia, accessed 2 June 2021. https://www.investopedia.com/tech/most-important-cryptocurrencies-other-than-bitcoin/.
[2] Patrick Bucquet, Marie Lermite and Ally Jo in partnership with Coqonut, 2019, How many active crypto traders are there across the globe? Chappuish Halder and Co.
[3] To understand the types of cryptocurrency and their various functionalities, you can read our article on Cryptocurrency and Initial Coin Offerings which can be accessed here.
[4] "What is Decentralized Finance (DeFi)?" by On Yavin for City A.M, accessed 2 June 2021. https://www.cityam.com/what-is-decentralized-finance-defi/.
[5] "What is Decentralized Finance (DeFi)?" by On Yavin for City A.M, accessed 2 June 2021. https://www.cityam.com/what-is-decentralized-finance-defi/.
"What Happens When Cryptocurrencies Earn Interest?" by Marco Di Maggio, Nicholas Platias, Wenyao Sha, and Nicolas Andreoulis for Harvard Business Review, accessed 2 June 2021. https://hbr.org/2021/02/what-happens-when-cryptocurrencies-earn-interest.
[6] Usman W. Chohan, MBA, PhD, 2021, Decentralized finance (DeFi): an emergent alternative financial architecture, Discussion Paper Series: Notes on the 21st Century, Critical Blockchain Research Initiative.

In a nutshell, DeFi is a movement that aims to create an open-source and transparent financial service ecosystem that is available to everyone and operates without any central authority such as banks or brokers. The users maintain full control over their assets and interact with this ecosystem through peer-to-peer (P2P) applications that are decentralised "Dapps" [7].

Dapps are used by DeFi protocols or products customers to interact which each other and are powered by 'Smart Contracts', programs which run like contracts when predetermined conditions are met and are stored on a blockchain. Smart Contracts are self-executing contracts with the terms of the agreement being directly written into lines of code, such that when the pre-agreed conditions are met, the smart contract enforces performance of the relevant terms of the agreement. The code and the agreements contained therein exist on a blockchain network. The code controls the execution, and the transactions are trackable and irreversible [8].

Ethereum.org defines a Dapp as an application built on a decentralized network (blockchain) that combines a smart contract and a frontend user interface [9]. Therefore, the layers of a DeFi product are made up of the backend (Smart Contract) which contains the terms and conditions embedded in the line of code and the frontend (Dapp) which the users interact with.

The Dapp can be programmed to carry out various functions to enhance the user experience like tools to compare and rate services, allow users to perform otherwise complex tasks by connecting to several protocols simultaneously, and combine relevant information in a clear and concise manner [10].

Dapps are the means by which customers access DeFi products. For example, Luffy may be looking to get a loan and instead of going to a bank, he could decide to log on to a Dapp which compares and rates the different services on offer. Upon selecting one of the offers, Luffy enters into a Smart Contract and accordingly, the Dapp stipulates the conditions required of Luffy for disbursement of funds. Once Luffy fulfils these conditions, the disbursement term of the Smart Contract is executed and the loan amount is disbursed to Luffy (usually in cryptocurrency) instantly and parties are bound by the Smart Contract.

The DeFi product ,a loan in the example above, may also be secured by collateral. Subject to the terms of the Smart Contract, collateral may be deposited in an escrow account (off-chain collateral) or the collateral is deposited on the native blockchain the Dapp is built on usually in the form of the cryptocurrency native to the blockchain (on-chain collateral). In some cases, there may be no collateral requirement at all. [11]

The hypothetical loan transaction is just one of the many financial services/products available via DeFi. In the next section, we will explore a few DeFi products.

[7] "The Complete Beginner's Guide to Decentralized Finance (DeFi)" by Binance Academy, accessed 2 June 2021. https://academy.binance.com/en/articles/the-complete-beginners-guide-to-decentralized-finance-defi.
[8] "Smart Contracts" by Jake Frankenfield, reviewed by Erika Rasure for Investopedia, accessed 2 June 2021. https://www.investopedia.com/terms/s/smart-contracts.asp.
[9] "INTRODUCTION TO DAPPS" by Ethereum, accessed 2 June 2021. https://ethereum.org/en/developers/docs/dapps/.
[10] Federal Reserve Bank of St. Louis Review, Second Quarter 2021, 103(2), pp. 153-74. https://doi.org/10.20955/r.103.153-74.
[11] Federal Reserve Bank of St. Louis Review, Second Quarter 2021, 103(2), pp. 153-74. https://doi.org/10.20955/r.103.153-74.

DECENTRALISED FINANCE – FINANCIAL SERVICES AND PRODUCTS

Though there are several ways DeFi protocols are being used today, we will highlight the most prominent use cases.

Stablecoins

Stablecoins are the most popular use cases of DeFi protocols around the world because crypto holders, traders and even Whales (individuals who own a large amount of a particular cryptocurrency) can hedge against the volatility of the prices of cryptocurrency by buying digital assets that are pegged against fiat currency (money issued by a government and declared as legal tender) or commodities.
Stablecoins are digital assets tied to a stable asset such as fiat currency or a commodity like gold. They tend to stay stable for longer periods of time than those that are non-asset backed e.g., Bitcoin ("BTC") or Ethereum ("ETH"). The entity issuing the stablecoin usually sets up a "reserve" where it securely stores the asset backing the stablecoin [12] and theoretically, the holder of the stablecoin can redeem one unit of the stable coin for one unit of the asset that backs it i.e., 1USD Coin ("USDC") for $1.

There are also some complex forms of stablecoins backed by other stablecoins. For example, the NGN Token ("NGNT") is a collateral-backed digital currency issued by Token Mint that is pegged to the value of the Naira and is not volatile. In addition to being pegged to the value of the Naira, NGNT is also backed by USDC. USDC is issued by regulated financial institutions in the United States, and backed by fully reserved assets, and redeemable on a 1:1 basis for US Dollars [13]. Therefore, a holder of NGNT, can redeem the USDC equivalent of NGNT he holds and trade it in for US Dollars.

However, criticism of stablecoin as a DeFi product remain. Critics argue that stablecoins are only as stable as the asset backing them; thus, they are still affected by the volatility of the underlying asset [14]. They also believe that there is a counterparty risk investors need to note as most stablecoin issuers do not specify where they store their 'reserves' and how much value is actually stored. In instances where the value of the reserves of the issuer is less than the value of the stable coin issued, this impacts the ability of investors to redeem their stablecoin for the underlying asset [15].

[12] "What Are Stablecoins?" by Alyssa Hertig for Coindesk, accessed 3 June 2021. https://www.coindesk.com/what-are-stablecoins.
[13] "NGNT by Token Mint" by Zino for Buycoins Africa, accessed 3 June 2021. http://help.buycoins.africa/article/us2z1f3p68-ngnt-by-token-mint.
[14] "Why Some Stablecoins Are Dangerous" by Market Mad House on ALTCOIN MAGAZINE, accessed 3 June 2021. https://medium.com/the-capital/why-stablecoins-are-dangerous-and-are-swiss-franc-stablecoins-safe-d2b971eba8e4.
[15] "Stablecoins: Understanding Counterparty Risk" by Team Gemini, accessed 3 June 2021. https://www.gemini.com/blog/stablecoins-understanding-counterparty-risk.

Despite these criticisms, stablecoins remain one of the more popular DeFi products and are even being used in countries where their fiat-based currencies are losing value, e.g. in Brazil where hyperinflation, poor economic factors and a host of other issues, has caused a crash in the value of the Brazilian Real [16]. Now, most of its citizens are using Tether Coin, a stablecoin pegged to the Dollar, to carry out transactions and have more stable savings [17].

Borrowing & Lending

Another popular use of DeFi is borrowing and lending of assets or money. There are two variations of the loan products, either **'Peer-to-Peer'**, meaning a situation where a borrower borrows directly from a specific lender, or 'Pool-Based', where lenders provide funds to a pool managed by the Dapp that borrowers can borrow from (this is the most common variant) [18]. One of the perks on the borrower's side when considering a DeFi loan is that there is little to no due diligence or credit checks like you would have when accessing a loan from a traditional financial institution like a bank.

The Decentralised lending works without either party having to identify themselves and there are typically no credit checks or investigations into whether the debt profile of a borrower will deter the lender from giving out the loan [19]. So how do the loans work? As mentioned above, Pool-Based loans are the most common variant of DeFi loans because of the incentive it offers to its users.

Simply, a typical Pool-Based loan works by users pooling their assets or cryptocurrency and distributing to borrowers according to the terms of the loan written into the Smart Contract. Typical loan terms written into the Smart Contract include:

- ***Principal repayments and Interest payments*** - the underlying Smart Contracts of these loan pools are programmed to distribute the principal deposited plus the interest to each investor [20]. After the agreed term of the loan, the DeFi lending platform is instructed by the Smart Contract to deduct the principal sum and interest from the borrower's cryptocurrency wallets that have been linked to the Dapp (typically one of the conditions precedent to disbursement). The principal repayment and interest payment will then be shared to the lenders by the Dapp pro-rata their contribution to the pool [21].

- ***Security*** – the Smart Contract will require a collateral deposit by the borrower and this collateral may either be required to have more value than the cryptocurrency being granted as a loan from the pool or may be equal to the value of the assets they intend to borrow [22]. Collateral may take the form of cryptocurrency or fiat currency, subject to the terms of the Smart Contract. In the event of default by the borrower, the collateral will be available for use to remedy the default [23].

[16] "Exchange rate imbalance between the Brazilian real and the dollar will persist in 2021, say analysts" by Latin America Business Stories, accessed 3 June 2021. https://labsnews.com/en/articles/economy/exchange-rate-imbalance-between-the-brazilian-real-and-the-dollar-will-persist-in-2021-say-analysts/.
[17] "Brazil's Ailing Economy Is Helping Dollar-Pegged Stablecoins Find Traction" by Leigh Cuen for Coindesk, accessed 3 June 2021. https://www.coindesk.com/brazil-real-usd-stablecoin-growth-usdt-dai-busd.
[18] "Decentralized finance (DeFi)"by Ethereum.org, accessed 2 June 2021. https://ethereum.org/en/defi/#what-is-defi.
[19] "Decentralized finance (DeFi)"by Ethereum.org, accessed 2 June 2021. https://ethereum.org/en/defi/#what-is-defi.
[20] "What are Defi Loans?" by Matt Hussey for Decrypt, accessed 2 June 2021. https://decrypt.co/resources/what-are-defi-loans-ethereum-maker-aave-explained-learn.
[21] "DeFi Loans" by DeFi Rate, accessed 23 June 2021. https://defirate.com/loan/.
"HOW DOES DEFI LENDING WORK?" by Akash Takyar for LeewayHertz, accessed 23 Jun 2021. https://www.leewayhertz.com/how-defi-lending-works/.
[22] ibid.
[23] Ibid.

Borrowers can access DeFi loan platforms by simply visiting any DeFi platform that offers loans. Potential borrowers are advised to read through the Terms and Conditions and the collateral requirements before applying for the loan.

In addition, where the collateral is a cryptocurrency, one of the terms set include that where the market value of the cryptocurrency drops below a certain price point set by the pool, it will be liquidated and shared among the individuals that deposited into the pool and the borrower may keep the borrowed asset as a result.

So for example, if you want to take a loan of 1 BTC from a pool, you have to deposit the cash equivalent of 1BTC or another cryptocurrency or asset as collateral into a cryptocurrency wallet and link it to the DeFi platform built on the same blockchain technology as the Smart Contract [24]. Once the collateral is deposited, the borrower receives 1 BTC and after a few months in accordance with the terms of the Smart Contract, the borrower returns the 1BTC with interest and then the Smart Contract releases the collateral to the borrower. The interest is shared among the investors and the loan transaction has ended. On the other end, where the borrower defaults on its payment obligations, the collateral deposited in the vault – the equivalent of 1 BTC – is released and used to remedy the default – also executed automatically by the Smart Contract.

One distinct attraction of DeFi is limited obligations imposed on the borrower, as may be gleaned from the above. For example, there are no obligations limiting the borrower from accessing further loans as you would find in traditional loans with banks, there are no required financial covenants to be maintained by corporate borrowers nor are their clauses limiting its business such as material change and change of control clauses.

DeFi loans are also experimenting with a concept called **'Flash Loans'**. Flash loans work on the basis that the loan is taken out and paid back in the same transaction [25]. Creators of flash loans highlight how the cryptocurrency borrowed may be sold on an exchange or platform that has attached a higher price to it so that the borrower of the flash loan makes an instant profit. If the loan cannot be paid back within minutes, the funds revert to the lender or pool.

[24] "DeFi Loans" by DeFi Rate, accessed 23 June 2021. https://defirate.com/loan/.
[25] "Decentralized finance (DeFi)"by Ethereum.org, accessed 2 June 2021. https://ethereum.org/en/defi/#what-is-defi

For example, if Mr A gets 1 ETH from a pool that values it at USD$200 (Two Hundred Dollars) and sells it on an exchange for USD$220 (Two Hundred and Twenty Dollars) or trades the asset on a P2P Platform for USD$220, Mr A makes a $20 profit and can pay back the value of the loan (USD$200) to the pool, or can buy 1ETH at USD$200 and give it back to the pool. If the transaction is not completed within the short time frame, it fails [26]. To curtail the risk of the flash loan failing within the short time frame, the cryptocurrency usually stays in the lenders wallet until the borrower has completed the terms of the flash loan. There is no collateral deposited during a flash loan transaction and flash loan enthusiasts hope that it can be developed to have more use cases for short sellers and arbitrage traders [27].

Yield Farming

One of the criticisms of cryptocurrency as an investment class is that it does not yield interest as it sits in a wallet. However, the soaring prices of cryptocurrency meant holders were not particularly bothered about this. That was until the 'Dip' happened [28]. With Bitcoin crashing from an all-time high of USD$65,000 (Sixty-Five Thousand Dollars) to USD$37,000 (Thirty-Seven Thousand Dollars), and other coins following suit (Ethereum dipped by half of its market price), traders and holders of cryptocurrency are looking to hedge against the volatility of cryptocurrencies and gain interest on their investment while holding their cryptocurrencies despite the price movements ('**Hodling**' as popularly termed).

DeFi products are offering them an opportunity for passive returns on their assets through yields - "Yield Farming" [29]. By depositing stablecoins (defined below) into a pool administered by the Dapp, investors will be rewarded for their deposits with annual returns called Annual Percentage Yields ("APY") [30]. Another interesting factor to Yield Farming is that in addition to the expected APY, some DeFi protocols offer a new Token as an additional incentive [31]. If the new token received by the investors begins to gain traction in the market, they can sell it and make more profit.

As peculiar as it sounds, the incentive creates a positive growth loop for the DeFi protocols and its investors. Getting more people to use the protocol will increase the value of the native token the protocol offers, and investors may be attracted to use the protocol and "farm" to get the token.

However, Yield Farming has been criticised by stakeholders as a "pump-and-dump" scheme as the coins can easily lose their value if people decide to stop using the DeFi protocol it is attached to.

[26] "Decentralized finance (DeFi)"by Ethereum.org, accessed 2 June 2021. https://ethereum.org/en/defi/#what-is-defi.
[27]Aave Protocol, Accessed 2 June 2021 https://aave.com/flash-loans/.
[28] "Crypto Price Crash: Why Ethereum Could Soon Overtake Bitcoin" by Billy Bambrough for Forbes, accessed 2 June 2021. https://www.forbes.com/sites/billybambrough/2021/05/31/crypto-price-crash-why-ethereum-could-eventually-overtake-bitcoin/?sh=4140752f13e3.
[29] "What Happens When Cryptocurrencies Earn Interest?" by Marco Di Maggio, Nicholas Platias, Wenyao Sha, and Nicolas Andreoulis for Harvard Business Review, accessed 2 June 2021. https://hbr.org/2021/02/what-happens-when-cryptocurrencies-earn-interest.
[30] "Annual Percentage Yield (APY)" by James Chen, reviewed by Margaret James for Investopedia, accessed 2 June 2021. https://www.investopedia.com/terms/a/apy.asp.
[31] "What Happens When Cryptocurrencies Earn Interest?" by Marco Di Maggio, Nicholas Platias, Wenyao Sha, and Nicolas Andreoulis for Harvard Business Review, accessed 2 June 2021. https://hbr.org/2021/02/what-happens-when-cryptocurrencies-earn-interest

There is also a possibility that Whales can use it to manipulate the price of the tokens they own by lending some to a pool and then using another account to borrow the cryptocurrency, artificially driving up demand, which will in turn affect the price of the token [32].

THE GOOD, THE BAD AND THE UGLY OF DECENTRALISED FINANCE

Since the global financial crisis of 2007/2008 where investors were left with investments that had lost significant value and rising debt, faith in traditional financial institutions have been shaken. Citizens of countries with declining economies, like Venezuela and Zimbabwe also hold their monetary authorities responsible for the monetary policies they have implemented which they believe are not economically viable. These are one of the many reasons why cryptocurrency enthusiasts and retail investors believe decentralised finance is the future of finance by decentring central authorities such as central banks and middlemen such as banks and other financial institutions, and empowering everyday people via peer-to-peer exchanges [33].

Advantages of Decentralised Finance

Some of the advantages include:

- **Speed**: DeFi protocols and products are processed quickly; for example, loan requests are processed timeously considering the promptness of blockchain-based transactions. This is in contrast to bank loans which may take days or even weeks for approval.

- **Accessible and permissionless**: DeFi products offered on blockchain technology fosters access to finance as users are not limited by location or credit history. Retail investors can access financial products or services through DeFi, provided they meet the terms of the Smart Contract. There are also no limits on the value that may be available users as opposed to traditional financial institutions who are subject to regulatory limits. For example, the Banks and Other Financial Institutions Act 2020 provides that a commercial bank cannot, without the prior written approval of the Central Bank of Nigeria ("CBN"), grant to any person any loan or credit facility such that the total value of the liability in respect of that person exceeds 20% of the bank's shareholders' funds unimpaired by losses.

- **Transparency**: blockchain transactions are transparent as you can trace the wallet IDs of contract parties, and execution and completion time of transactions are recorded on the network. In addition, transactions conducted on them are permanent and cannot be altered.

[32] "What's 'Yield Farming'? (And How Do You Grow Crypto?)" by The Washignton Post, accessed 2 June 2021. https://www.washingtonpost.com/business/whats-yield-farming-and-how-do-you-grow-crypto/2020/07/25/b0fc4662-ce5d-11ea-99b0-8426e26d203b_story.html.
[33] "Decentralized Finance Is Building A New Financial System" by E Napoletano and John Schmidt for Forbes Advisor, accessed 3 June 2021. https://www.forbes.com/advisor/investing/defi-decentralized-finance/.

Once a financial transaction or Smart Contract has been recorded onto a blockchain, its terms are visible to participants on the blockchain network and become immutable. This creates some form of security with DeFi financial products as assets or transaction records cannot be altered or fraudulently manipulated [34]. ·In addition, as the terms of the Smart Contract are written as codes on the blockchain, this limits disputes on interpretation of contract terms.

As seen above, DeFi has great benefits but there are also inherent risks.

Disadvantages of Decentralised Finance

- **Hackers**: Hackers are a major security risk for a blockchain technology network. While it is hard to hack blockchain technology, it is not impossible. Since 2011, over USD$11,000,000,000 (Eleven Billion Dollars) worth of cryptocurrency has been stolen [35] from crypto wallets that were hacked [36].

- **Strict Terms**: the financial terms of Smart Contracts are typically stringent as a scale against the limited requirements. Take De-Fi loans where the collateral required is typically set to be equal in value (or more) to the loan requested. Such stringent financial terms are limiting with respect to persons who can realistically access the DeFi products [37].

- **Fakes**: There have been instances where scammers have used popular Dapps to list fake cryptocurrencies labelled as tokens that can be used to access DeFi protocols [38]. ·Investors have to be careful in choosing the digital assets they decide to invest in and retail investors may not appreciate the due diligence required.

- **Investor Protection**: DeFi services, products, and technology, are by their very nature, typically outside regulatory oversight. Thus, the investor protection provisions that regulated financial institutions are subject to may not apply to Dapps, DeFi protocols or issuers. Without these investor protection requirements, consumers and their investments are subject to the whims of the issuers of these financial products. As highlighted earlier, there is a conspicuous counterparty risk with De-Fi products. For example, if an issuer pulls the plug on a Dapp or blockchain technology, that could put investors funds or any collateral that have been deposited in peril.

There are definite pros and cons to De-Fi that requires serious consideration for anyone looking to explore De-Fi products or services. Cryptocurrency enthusiasts are ever optimistic of decentralised finance as the future of finance in terms of the delivery of financial products and services and the different innovative solutions that may result from block chain technology.

[34]“Decentralised Finance” by Bird & Bird, accessed 3 June 2021. https://www.twobirds.com/~/media/pdfs/in-focus/blockchain/blockchain-defi-briefing-note.pdf.
[35] “Hackers have got their hands on $11 billion in stolen cryptocurrency since 2011” by Stephanie Palmer-Derrien for SmartCompany, accessed 3 June 2021. https://www.smartcompany.com.au/startupsmart/news/hackers-11-billion-cryptocurrency/.
[36] “Once hailed as unhackable, blockchains are now getting hacked” by Mike Orcutt for MIT Technology Review, accessed 3 June 2021. https://www.technologyreview.com/2019/02/19/239592/once-hailed-as-unhackable-blockchains-are-now-getting-hacked/.
[37] “Decentralized Finance Is Building A New Financial System” by E Napoletano and John Schmidt for Forbes Advisor, accessed 3 June 2021. https://www.forbes.com/advisor/investing/defi-decentralized-finance/.
[38] “What is Decentralized Finance (DeFi)?” by On Yavin for City A.M, accessed 2 June 2021. https://www.cityam.com/what-is-decentralized-finance-defi/.

IS DECENTRALISED FINANCE THE FUTURE OF FINANCE?

According to Benedikt Christian Eikmanns (*Senior Consultant at the strategy consultancy Roland Berger and doctoral candidate (PhD) at the Technical University of Munich), Prof. Dr. Isabell Welpe, (full professor (W3) at the Technical University of Munich, head of the Chair for Strategy and Organization, co-founder of the TUM blockchain center), and Prof. Dr. Philipp Sandner (founder of the Frankfurt School Blockchain Center (FSBC));*

"For the first time in history, a financial system is developing without intermediaries at a large scale. So far, DeFi applications cannot compete in terms of security, speed, and ease of use with traditional finance solutions yet. But DeFi has produced real, working applications that have already managed to attract billions of capital. Those resources will be used to develop more competitive and user-friendly applications in the future [39]. "

This is a succinct view of the widely held position on the future of DeFi – the future is bright! In Nigeria today, platforms like Xend Finance are leveraging on DeFi to offer financial products to credit unions, trade unions and individuals. Credit unions provide capital and invest on the Xend Finance platform.

The unions are given the $XEND token to hold and their capital is invested in other DeFi pools. At the end of the savings period, the returns on their investment is given to a member of the credit union for that month or period [40].

In terms of the future of DeFi in Nigeria, it is important to recognise that there are currently discordant approaches from regulators in the financial sector regarding cryptocurrency, which may impact the ease of operating Dapps and accessing DeFi products. On the one hand, the CBN has prohibited banks and other financial institutions from dealing in cryptocurrency and providing payment services to cryptocurrency exchanges and further directed financial institutions to close the accounts of customers who operate cryptocurrency exchanges within their system. On the other hand, Nigeria's Securities and Exchange Commission ("SEC") in 2020, released its 'Statement on Digital Assets, their Classification and Treatment', which set out how SEC would regulate crypto assets - signifying SEC's acceptance of cryptocurrency. While exchanges have found a work around these regulatory limits by facilitating peer-to-peer trades, these fragmented approach by the Nigerian regulators may leave investors wary of investing funds in a finance product whose infrastructure is based on blockchain and cryptocurrency.

[39] "Decentralized Finance Will Change Your Understanding Of Financial Systems" by Benedikt Christian Eikmanns, Prof. Dr. Isabell Welpe, and Prof. Dr. Philipp Sandner, for Forbes, accessed 3 June 2021. https://www.forbes.com/sites/philippsandner/2021/02/22/decentralized-finance-will-change-your-understanding-of-financial-systems/?sh=175575d25b52.
[40] Xend Finance, ver 1.1. Xend Finance Litepaper The first DeFi Credit Union on Binance Smart Chain. https://xend.finance/XendFinanceLitePaper.pdf.

Though DeFi is still a developing area of finance, one cannot underestimate its attractiveness to investors, whether institutional, high-net worth or retail, especially with respect to the different innovative solutions on offer. We also opine that it will be complementary to traditional financial services as innovation challenges the way traditional banks and financial institutions operate and offer their services.

As more money is being invested into the development of Dapps and De-Fi protocols, DeFi will become more efficient, easier to use and offer various iterations of financial products which will financially assist individuals and even countries. The future of finance is decentralised and DeFi will only continue to grow.

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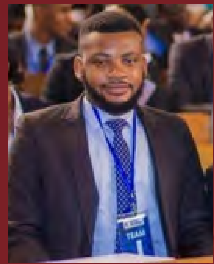

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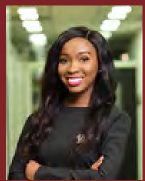

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