Big FinTechs, digital currencies and CBDC impacts on least developed countries

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Introduction - UNCDF UNDP Big FinTech impact on LDCs technical papers

Overview of Digital Currencies, Stablecoins and CBDCs

Opportunities

Key challenges and risks

Risk Mitigation Opportunities

Recommendations

Questions





Download: https://www.undp.org/publications/towards-inclusive-sdg-aligned-governance-global-fintech-platforms-bigfintechs

Dialogue on Global Digital Finance Governance



Digital currencies and CBDC impacts on least developed countries (LDCs)

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The findings of the Dialogue on Global Digital Finance Governance are packaged into three thematic areas:

Theme 1

BigFintechs and their impacts on sustainable development

 Technical Paper 1.1 BigFintechs and their impacts on sustainable development
 Technical Paper 1.18 BigFintechs and their impacts on macroeconomic policies
 Technical Paper 1.2 Digital currencies and CBDC impacts on least developed countries

🖗 Theme 2

Corporate governance innovations • Technical Paper 2.1 BigFintechs and the UN SDGs: the role of corporate governance innovations

Theme 3

BigFintechs and international governance policymaking and the SDGs

 Technical Paper 3.1 Policymakars, BigFintechs and the United Nutrions Sustainable Development Goale Technical Paper 3.2 BigFintechs and international governance, policymaking and the UN Sustainable Development Goals: the SDGs in the international governance of Finance Technical Paper 3.3 A principles-based approach to the governance of BigFintechs

Executive Summary

robust understanding of the potential macroeconomic impacts and related regulatory challenges of central bank digital currencies (CBDCs) and other digital currency initiatives on developing countries. This paper begins from a point of recognition that the landscape of digital currencies, their associated taxonomy as well as related regulations are still evolving alongside their potential implications. As such, we focus on the different types. of digital currencies previously in circulation, delineating these from those on the near and immediate horizon. We employ an umbrella definition to encompass CBDCs and digital ledger technology (DLT)-based currencies including stablecoins, as well as earlier versions of digital money, as subsets of digital currency to examine the evolution of macroeconomic impacts on developing countries as well as the emerging regulatory gaps. We cluster key elements and draw assumptions across common parameters in research, for the sake of consistency and to retain the focus on advancing the understanding of the broader macroeconomic impacts on least developed countries (LDCs).

The purpose of this Technical Paper is to garner a more

We begin with the evolution of mobile money and errorey as a subset of digital currents and their well understood positive impact on francial inclusion. We touch triefly upon the regulatory valences related to the near monopolies of mobile francial services provides and the implications on the radiation commercial banking sector as well as for consumer protection. We also examine the implications of regulatory gaps and risks related to e-money including the market dominance of Befrinted. 1987. Drognations 60thering e-money. The Central Bank Digital Currencies (CBDCs) and other digital currency initiatives

- Recognizes evolving landscape of digital currencies, their associated taxonomy, related regulations and potential implications.
 - Focused on those in circulation
 - Umbrella definition CBCDs DLT based currencies and digital money
 - Market dominance of BigFintech companies
 - Focus on macroeconomic impacts
 - Specifically for developing countries
- Key examples and sections
 - African Context
 - Covid-19 implications
 - Shadow banking
- Potential risks and implications of fragmented regulatory approaches
- Emerging technology and governance structures
- Need for governance innovation and change management strategies



- Focus on non-bank Digital Currencies
- Emphasis on impact of these instruments in Big FinTech context
 - Analysis of the greater impact on LDCs
 - Key highlights from the report are in black
 - Additional opportunities, based on report's findings are in teal

Privately issued currencies

- True cryptocurrencies are limited in supply
- Private sector has been leading in issuing alternative currencies MM and others
- US OCC has declared banks can use **stablecoins** as equivalent to other currency
- Banks now starting to offer stablecoins for customer use, e.g. JPM Coin, Visa using USD Coin, Fnality USC backed by multiple banks
- Diem proposed USD stablecoin which will be available on wallets through **Facebook**
- **Amazon** is hiring digital currency experts for a launch in Mexico

Issuer	Underlying currency	Collateral	Risk
Bank, e.g. JPM Coin 'Cash on Ledger'	US\$, EUR, other stable fiat currencies	Fractional reserve limits, i.e. no external or central bank collateral requirement but offset 1:1 against bank issued currency ⁴³	Inherits risk of issuing bank (part of fractional reserve by extension—holding same risks an subject to same rules)
Central Bank, e.g. PBOC	National currency	n/a, issued under national monetary policy money supply limits	Inherits risk of national currency
Consortium of banks, e.g. Fnality	US\$, CAD, GBP, EUR, YEN	Cash reserve at central banks (Fnality)	Partially that of bank but supported by national currency because of cash reserve
Non-bank Fintech (fiat backed stablecoins), e.g. Tether	National currency	Cash reserve in commercial bank	Inherits risk of the holding commercial bank; however (as with Tether), requires transparency to maintain confidence. It also threatens financial stability as it carries the traditional risks of private sector-mandated stablecoins being 'too big to fail' and 'too connected to fail'. Furthermore, it carries the risks of impacting countries' monetary policy transmission and may threaten the effectiveness of the central bank's functions as a lender of last resort ⁴⁴
Non-bank Fintech (collateral backed), e.g. MakerDAO DAI	US\$, EUR, other stable currencies	Collateral reserve held as digital assets	Managed by Fintech and governed by Board, Foundation, etc.
Non-bank Fintech (fiat backed, multiple currency) e.g. Diem	US\$ + YEN + CHF + GBP + EUR	Can include fiat currency and bonds (i.e. Dierm originally proposed a mixture of cash and bonds held in a Swiss Commercial Bank)	Inherits risk of holding commercial bank BUT not clear how currency valuation and fluctuations would be managed

Central Bank Digital Currencies Landscape

Pilot Overlopment Research Cancelled Inactive



Advantages of CBDCs for governments

Retail:

- Presents **financial inclusion** opportunities
- Meets the future payment needs of a digital economy
- Avoids the risks of new, under regulated or defined forms of private money such as stablecoins
- Creates more **resilient** payments
- Offers **cross border** payments opportunities

Commercial/Wholesale:

- **RTGS** opportunities
- Reduces friction in **securities settlements**
- Transparency for securities and DFIs can lead to deepening of **capital markets**
- Reduces cross border friction for better **trade**

Digital economy opportunities for citizens

- Accessible, domestic denominated CBDCs offer the opportunity to increase **financial inclusion** and financial resilience
- Well regulated alternative digital financial services can **lower the barriers to entry** for the most vulnerable
- Safe store of value for **financially excluded**, especially women
- Interoperability opportunities with **foreign currencies**
 - Boosts trade opportunities
 - Reduces supply chain friction

Which leads to ...

- CBDCs and Stablecoins both create a digital **financial history**, without the high cost barrier of Telco issued mobile money
- Digital assets such as tokens can move value within closed loop economic systems without the risk of cash
- Opportunities to interact with other **value systems**, e.g. community currencies, bloc currencies

Digital economy for smallholders and women



Risks of BFT Stablecoins and CBDCs \gtrsim diem

- Accessible foreign currency stablecoins and CBDCs • could accelerate currency substitution
- Could accelerate the **digital divide** if only accessible via e.g. smartphones
- Extension of **shadow banking** to less well • defined/regulated businesses - not protected by deposit guarantee schemes
- Without clear governance, stablecoins could reduce central banks' ability to implement **monetary** policy
- CBDCs could reduce liquidity in **commercial banking** system, especially where there is low trust in the system
- Free/low cost transactions will compete with Mobile Money providers

- Monopolistic Big FinTech companies can reach more customers than any bank
 - Novel **business models** transcend national 0 borders - hard to regulate
 - US regulators will protect **US interests** 0
 - Facebook has **2.7bn** monthly active users 0 including >250m in Africa
 - Diem wallets issued by Facebook could 0 reach **more subscribers** than any mobile money or bank network
 - Risk of **USD** denominated **peer to peer** 0 payments and **store of value**
- e-Yuan could potentially become alternative substitute currency
 - Dependent on accessibility 0
 - Not yet clear whether China will be pursuing 0 e-Yuan for international payments hiveonline

Examples of Risk Mitigation strategies for LDCs

• Issue domestic CBDCs

- Multi-layered for **universal inclusion**
- Offline, **device independent** (e.g. cards) to maximise inclusion
- Provides traceability and opportunities for implementing monetary policy
- Authorise domestic denomination stablecoins
 - Clear **definition** in line with Basel recommendations
 - Mitigate **currency substitution** in the short term
 - Advance **financial inclusion** via fintechs
 - Reduce barriers to entry to encourage **competition** for monopolistic BFTs

- Issue bloc digital currencies
 - Control **exchange** rates
 - Mitigate currency **substitution**
 - **Trade** opportunities
 - Control **monetary policy**
 - Provide smooth path for **domestic** CBDCs
- Consider authorising **community currencies** and clarify regulations for shadow banking
 - Design regulations to **protect** most vulnerable
 - Clear definition of **boundaries** will help issuers
 - Close **loopholes**

Recommendations

- International **collaboration** is key
 - Complex integrated business models need a regional approach to combat **monopolistic** behaviours of Big FinTechs
 - Align **definitions** and **regulation** of new assets
 - Balance **interoperability** to encourage trade, and threat of currency substitution
 - New approaches require effective change management
- Domestic digital currencies must be **attractive** and **accessible** to citizens
 - Level the field for the most **vulnerable**
 - Avoid extending the **digital divide** with conscious design choices
 - Encourage participation by **private sector** in domestic issuance

- Acknowledge that stablecoins are here to stay and create relevant **frameworks**
 - Encourage innovation by clearly defining digital assets
 - Create competition by authorising compliant businesses offering domestic denomination stablecoins
- A **holistic**, **integrated** approach to Big FinTech regulation is critical to concrete change
 - LDCs will feel a deeper economic, social and environmental impact
 - Combines financial regulation,
 competition policy and data privacy
- Encourage alternative financial structures that promote **inclusiveness**, e.g.
 - Community currencies
 - Voucher schemes
 - Savings group formalisation

Appendix

Supporting materials

Bahamas Sand Dollar example



- Piloted 2019, rolled out October 2020
- Issued by Central Bank, distributed via commercial financial sector
- Banks, credit unions and payments firms
- Tiered KYC for different limits, allowing for a level of financial inclusion without bank account
 - Balances of up to \$500 and \$1,500 in transactions per month with email address or phone number only
 - \circ Balance up to \$8,000 with full bank KYC

- Motivation was financial inclusion and addressing a lack of physical banking infrastructure
- Free transactions (for now)
- Available on smartcards or smartphones
 not feature phones
- Minors can use with parental consent
- Severe penalties for data breaches
- Interoperability between bank accounts and CBDC accounts
- Plans to allow interoperability between
 Fls (not yet in place)

Digital money >80% of narrow money

Distribution of Money

Category	Value (\$ Billions, USD)	Source
Silver	\$44	World Silver Survey 2019
Cryptocurrencies	\$1,060 (\$746 BTC)	CoinMarketCap
Global Military Spending	\$1,981	World Bank
U.S. Federal Deficit (FY 2020)	\$3,800	U.S. CBO (Projected, as of April 2020)
Coins & Banknotes	\$6,662	BIS
Fed's Balance Sheet	\$7,037	U.S. Federal Reserve
The World's Billionaires	\$8,000	Forbes
Gold	\$10,891	World Gold Council (2020)
The Fortune 500	\$22,600	Fortune 500 (2019 list)
Stock Markets	\$89,475	WFE (April 2020)
Narrow Money Supply	\$35,183	CIA Factbook
Broad Money Supply	\$95,698	CIA Factbook
Global Debt	\$252,600	IIF Debt Monitor
Global Real Estate	\$280,600	Savills Global Research (2018 est.)
Global Wealth	\$360,603	Credit Suisse
Derivatives (Market Value)	\$11,600	BIS (Dec 2019)
Derivatives (Notional Value)	\$558,500	BIS (Dec 2019)
Derivatives (Notional Value - High end)	\$1,000,000	Various sources (Unofficial)

Source: https://www.visualcapitalist.com/all-of-the-worlds-money-and-markets-in-one-visualization-2020/

CBDC Design Considerations

- Account or Token based impacts accessibility and anonymity
 - Account based requires KYC/account to be held
 - Token based more like cash, anyone (with a wallet) can hold it
 - Can be hybrid
- Bank issued or CB issued?
 - E.g. Sweden considering holding accounts at Central Bank - potential management issues
 - Can impact liquidity in commercial banking system
- Telco / Fintech channels?
 - Impacts financial inclusion
- Interoperability
 - With bank accounts
 - With foreign CBDCs
 - With other digital assets

- Used to implement monetary or fiscal policy?
 - No country has yet announced its intention to do so
 - Could apply interest rates on deposits to encourage saving
 - Or demurrage to stimulate spending
 - Could levy tax on payments at source
- Online or offline?
 - Offline transactions carry risks and asynchronous reconciliation
- Blockchain or "old" tech?
 - China not yet using blockchain but assumption is that they will - advocating blockchain interoperability
 - Rapidly evolving technology

Transactions can be trusted without intermediaries

What is Blockchain?

- Blockchain is a type of Distributed Ledger Technology (DLT) - other types exist such as DAG (directed acyclic graph)
- The technology enforces compliant behaviour without the need for intermediaries
- Cryptographic locks ensure past transactions can't be overwritten or altered
- Each is unique but fungible, like a bank note
- Decentralisation vs utility different types of consensus algorithms
- Digital assets "know" which wallet owns them and their full history



Digital Assets

- Cryptocurrency is the "base unit" of most blockchains, a digital asset that can only run on that blockchain - Bitcoin is best known
- Tokens are transferable assets built on top of blockchains, with different characteristics
 - Utility tokens
 - Stablecoins
 - Security tokens
 - NFTs
 - Certificates
 - Identity



 Many blockchain platforms provide template tokens, e.g. Ethereum's erc20 (Utility), erc1400 /1410 (Security Tokens), erc721 (non-fungible) or Hyperledger Indy (identity management) *Digital assets represent different types of value*

- "Smart contract", "State" "Chaincode" etc are terms used to describe self-executing mini programmes that are triggered when certain conditions are met
- Smart Contracts usually transfer digital assets

Programmable Money	Trustless Identity	
Fractional Securities	Ownership Certificates	
Access to Services	Reward Tokens	

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Theme I: BigFintech Impacts Sustainable Development (LDCs)

Paper Overviews

Background Material

THEME 1 : BigFintechs and their Impacts on Sustainable Development



BFT category	Examples of organizations active in this category
Payment platforms Regional mobile money providers and global payment platforms—including alternative currencies, CBDC (along with synthetic CBDCs), stablecoins, bank cash on ledger, credit card companies	Alipay (Ant technology group), Apple Pay, Fnality, Facebook, Google Pay, JPM Coin, MTN, Paytm, People's Bank of China, Safaricom, Tencent (WeChatPay)
e-commerce/marketplace platforms Online platforms for marketplaces, connecting sellers with buyers (products or services) B2B, B2C, C2C	Amazon, Alibaba, eBay, Fiverr, Jio, Jumia, Reliance, Upwork, Mercado, Facebook Diem
Social media platforms Venturing into payments and social commerce	Facebook Marketplace, Facebook Pay, Diem, SME Grants, WeChat
BigTech cloud services Providing data and infrastructure services to financial players	Amazon Web Services, Alibaba Cloud Services, Azure, Google Cloud, Ethereum, Microsoft, Next Gen DLT
Techfin platforms Originating from tech players venturing into financial services and digital livelihoods.	Airbnb, Amazon, Apple, Binance, Grab, Mechanical Turk, Uber, including cryptocurrency exchanges
Incumbents/mature 'Fintechs' Digitalizing global banks and financial actors, in retail or wholesale	Blackrock, JP Morgan, Mastercard, SaxoBank, Swift, Visa

Limitations of BFT Categorization

- BFT generally examined in terms of their component parts
- Fragmented examinations of risks and regulations
- Assumption of positive "enabling narrative" of digital economy and financing for sustainable development

Ecosystem of Activities and Systemic Impacts

- BFTs often originate from non-financial industries
- Complex integrated and rapidly evolving business models
- Undertook holistic and systemic perspective of BigFintech Business models, activities and potential impacts

Tools Developed and Employed

- 1) BFT-SDG Landscape Tool
- 2) Case Studies

3) CSR-ESG-SDG Combined Lens

4) Tiered Impact Table				
Tier 1	Direct service offerings	Positive and negative impacts related to direct intended goals and the direct (unintended) effects		
Tier 2	Services, operations, infrastructure and processes	Positive and negative individual and institutional effect impacts.		
Tier 3	Business model, value chain and ecosystem (vertical and horizontal integration)	Cumulative and systemic impacts related to activities stemming from inherent business models and ecosystems (across regulatory sectors)		

Tools Available in Annex

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UN

UN UN DP Uncleasing Public and Private Finance for the Poor

Landscape visualization of BGT impacts on SDG in LDCs



Positive and negative impacts

Findings and Conclusions

- Complex integrated business models transcending
 - National and sectoral boundaries
 - Governance frameworks
- Integrated and invisible impacts
 - Beyond "enabling narrative" and related governance discussion
- Deeper economic, social and environmental impacts for LDCs
- CSR-ESG-SDG Lens
 - Growing gaps re impact measurement
 - Core operations vs opaque supply chains
 - End to end integrated services
 - Monopolistic data collection