

Agpaytech's Research
30th January, 2023

Overview Of CBDCs Trends, Visions & Challenges

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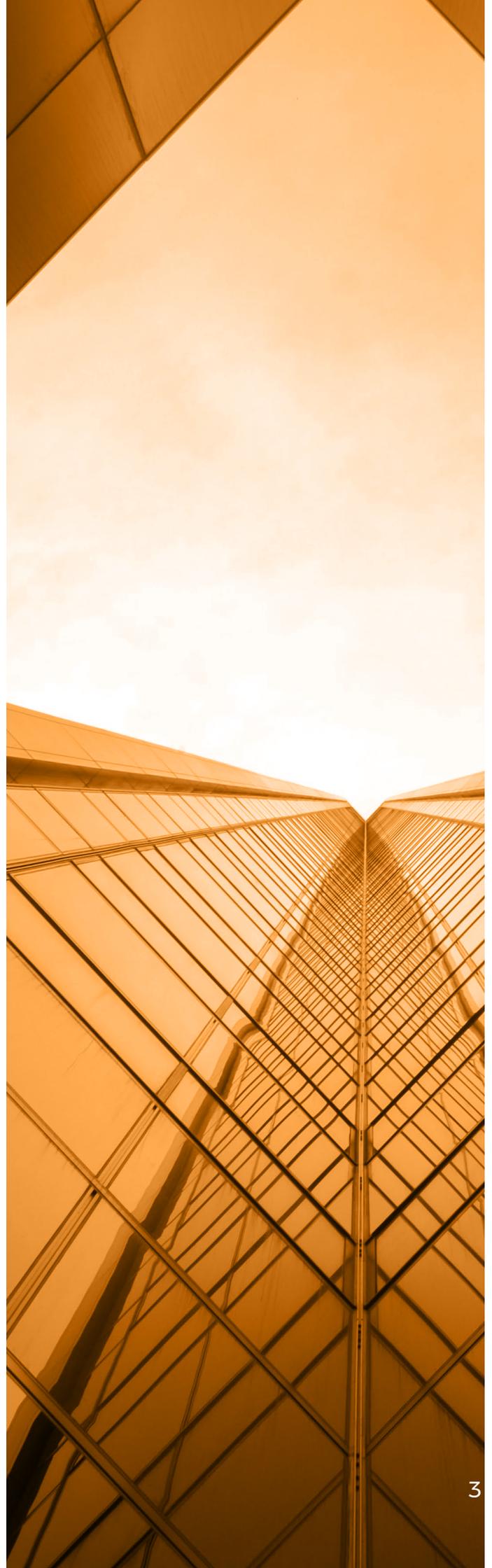
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Introduction

Central Bank Digital Currencies are expected to play a pivotal role in providing financial services in their jurisdictions. Currently, multiple central banks worldwide are in various stages of implementing their national digital currencies. CBDCs have demonstrated exponential growth over the last few years due to constant innovations in payments and technology. This paper presents a profound emphasis on the impacts of launching CBDCs. As per research, more than 100 countries are launching/working on CBDC. However, there are events of countries having already launched CBDCs, like the Bahamas (Sand Dollar), Nigeria (e-Naira), China (e-CNY) and India (eRupee). An IMF report states that it is critical to promote the exchange of experience and support the interoperability of CBDCs as a part of the service to members. The world bank has said that introducing the central bank's digital currencies will not just increase its responsibilities but could also disrupt the existing financial intermediation structure.



Trends of CBDC projects

- **CBOB sand dollar:** The Sand Dollar was officially launched in October 2020. In 2021, there were around 20,000 Sand Dollar wallets in a population of about 400,000, and functions are continuously being developed.
- **BOC:** The BOC has yet to find a pressing case for digital currency, given the present state of the Canadian payments system. However, it continues to build the technical capacity to issue a CBDC and monitor developments that could increase its urgency.
- **PBOC, e-CNY:** Formal decision has yet to be taken to do a nationwide launch of the e-CNY. The PBOC runs a pilot in parallel in different regions. By October 2021, there were over 123 million e-CNY wallets registered with individuals and about 9.2 million wallets held by firms—a rapid increase from approximately six million active e-CNY wallets in April 2021. In a population of nearly one and a half billion, the share of e-CNY users is now approaching 10 per cent.
- **ECCB, DCash:** No decision has been made to issue DCash formally. In March 2021, the ECCB launched a pilot program to successfully extend DCash throughout the Eastern Caribbean Currency Union (ECCU) countries and run the program for 12 months. Given its rapid adoption, ECCB is now considering transitioning to an official CBDC launch.
- **Sveriges Riksbank, e-krona:** No decision has been made to issue the e-krona. The Riksbank has developed a proof of concept and is exploring the technological and policy angles of CBDC. A government inquiry is investigating the state's role in the digital payments system, including the potential role of a CBDC.
- **BCDU, e-peso:** After ending a pilot in 2018, the BCDU has changed leadership and opted not to pursue a second pilot due to other priorities and a lack of resources.

There is a pressing need for more consideration of the policy goals to be achieved with the launch of CBDCs. The section hereunder covers how central banks are approaching their objectives vis-a-vis CBDCs.

Figure 1: Choices and Considerations for a Central Bank Digital Currency Project



Source: IMF

Consideration Behind CBDCs Vision

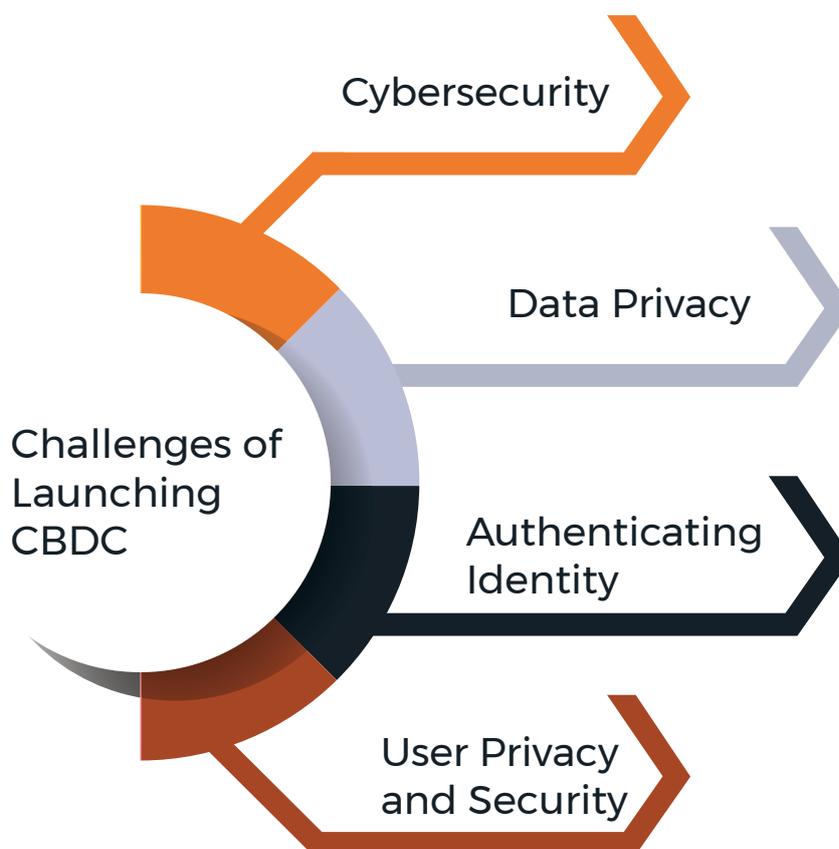
In the digital banking era, the financial world is filled with new technology and innovation in the payment system. However, it is becoming clear that this world will be unrestricted by privately issued crypto assets like Bitcoin or Stablecoins. ***“Crypto assets and stablecoins are no match for well-designed central bank digital currencies” (CBDCs). If CBDCs are designed prudently, they can offer more resilience, safety, availability, and lower costs than private digital money.*** Central banks worldwide are now exploring their potential as they could offer several benefits. However, various reasons range from real-time payments to increased financial participation by the unbanked and underbanked. As per the current scenario, 97 countries across several continents have indicated interest and are now exploring CBDCs, which is more than half of the global central banks. According to a recent survey, 105 countries are exploring CBDCs, and 11 launched them.

CBDCs are considered an avenue for central banks worldwide to bring financial services to their unbanked population. The benefits of CBDCs are designed prudently to possess all the qualities of the underlying technology of crypto assets. They can offer more resilience for domestic payment systems, safety, availability, and lower costs than private digital money forms.

Challenges of launching CBDCs

However, IMF pointed out some of the issues CBDCs might face, including apathy, which may affect adoption. Central banks first need to determine if there is a compelling case to adopt them, including if there will be sufficient demand. Furthermore, there are some issues which need to be considered. Central banks will also need to weigh their capacity to manage cyberattack risks while ensuring data privacy and financial integrity. IMF pointed out that central banks need to assess risks before issuing CBDC and, simultaneously, strengthen the ability to cyber-attack risks to protect the property security and privacy security of people in their own countries. These challenges include training users on how to use it, authenticating identity, accessing it offline and taking measures to preserve user privacy and security.

Figure 2: Challenges of launching CBDCs



Source: Agpaytech Research



Data privacy

Data privacy is significant to keep the information secure to foster the same public trust and broader acceptance of the CBDC.



Cyber security

Governments and central banks are not only working on CBDCs for policy benefits but also working on cybersecurity threats. The financial institutions and central banks are helping to make a better manage for existing risks, including fraud, money laundering and terrorist financing. However, CBDCs offer the potential to build in fraud prevention by embedding rules and policies around the type and size of transactions. CBDCs also have implications for nearly every data-driven part of finance. From managing 'know your customer' data to tracking illegal activity across billions of transactions, a digital currency can create a detailed audit trail that could help to tackle some of the most significant challenges facing the financial sector today.



Authenticating Identity

Central banks has faced another challenge of customer's identity. Central banks need to be cautioned to avoid these risks. To avoid disintermediating banks by depriving them of their deposit base, central banks have imposed caps on balances, paid no interest on CBDC, or considered imposing a penalty interest rate on holdings above some threshold. To avoid facilitating illicit activity, central banks have mostly decided against fully anonymous accounts or capped anonymous transactions and have tasked commercial bank intermediaries with monitoring customers and transactions.



User Privacy and Security

CBDCs may require that central authorities intrude on private users to monitor transactions and combat financial crimes like money laundering. No longer will there be private transactions, as everything is recorded on a ledger controlled by the country's central banking entity.

Despite that, security handling will be challenging. Indeed, it will be of difficulty because of the fundamental paradox at the heart of financial system protection. Therefore, privacy and security are the two significant challenges.

Eliminating intermediaries in financial transactions is one of the critical benefits of distributed technology yet doing so carries real dangers if affected at a systemic level. Deploying a CBDC could undermine the existing retail financial arrangement and, potentially causing economic damage, could put central banks in a customer-facing role. The challenges described above are considerable. To further compound the issue, they are challenges that must be addressed while maintaining compatibility with existing systems. Implementing a CBDC should retain compliance with the ISO20022 payments messaging standard and Open Banking/ Payment Services (Directive 2) wherever possible, as financial systems drive towards global standardization.

Needs to determine the policy goal

Financial inclusion is a common policy goal for CBDC projects. Financial inclusion has the one platform where appropriate and affordable financial services are discussed to reduce poverty worldwide. However, financial institution has many challenges, including access to digital technology. Most of the six jurisdictions in this survey identify financial inclusion as a top policy goal. In the Bahamas, 20% of the adult population is estimated to have no bank account. Likewise, the ECCU consists of island nations

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where it has been difficult for financial institutions to develop economies of scale and find profitable expansion channels. Foreign banks have increasingly withdrawn from the region. Citing low profitability. Overall, in ECCU, the result is lower financial inclusion. On the other hand, Uruguay has also seen a sluggish development of financial services for a significant part of the population. The government has actively sought to stimulate its development by making a digital option mandatory for actual payments.

Need To Improve The Financial Services

China has rapidly grown in financial inclusion and digitalization, and the population in remote regions needs to be serviced more by mobile payment operators. However, the PBOC has sought to promote digital payments and financial inclusion for two decades but estimates that around 10 % of the Chinese population still needs access to essential financial services.

- **Access to Payments:** Access to payment is also a significant challenge to financial inclusion. However, some central banks are concerned that private payment service providers might only extend the services to some parts of the population. Access to payments faces hurdles like shortage of cash, firms, refusal to accept cash, and lack of or recurring disturbances of digital infrastructure. For example, In the Bahamas, the Island geography creates difficulties in distributing cash and extending digital infrastructure. After that, the CBOB has listed access, payments-regardless of age, social status, or location, as one of its most important goals. In countries where cash usage is dwindling, access to payment is also a significant concern.
- **Making Payments More Efficient:** It is valid for countries where cash and check usage are high and operational costs are elevated. However, in some countries, existing digital payments are also relatively expensive. Therefore, CBDC is a potential policy tool to offer digital forms of payment that are cheaper to operate. The Bahamas and the ECCU are high-cost jurisdictions for physical and existing digital payments. In the Bahamas, an important additional consideration has been the high cost for government agencies to make cash-based payments to citizens who lack bank accounts. There are plans to integrate government agencies in the Sand Dollar network to support digital government payments to individuals to lower this cost.
- **Ensuring Resilience of Payments:** Ensuring the ability to pay and extend government transfers to individuals under severe circumstances is essential for all jurisdictions, but the urgency of this policy goal is exceptionally high in disaster-prone nations.

Table 2: Jurisdictions Stated Policy Goals of Central Bank Digital Currency

Country	Financial Inclusion	Access	Efficiency	Illicit use of Money	Resilience	Sovereignty	Competition
Bahamas	√	√	√	√	√		
Canada		√			√	√	√
China	√	√	√		√	√	√
ECCU	√		√		√		
Sweden		√	√		√		√
Uruguay	√		√		√		

Sources: Central Banks

Reduction of the illicit use of money

The Bahamas has the reduction of the illicit use of money as a top policy objective for its CBDC. There is a crucial choice in how to regulate the CBDC. To operate the CBDC, there is a need to follow the three steps of the CBDC model. Namely the unilateral CBDC, intermediated CBDC, and synthetic CBDC. However, these three conceptual operating models are applicable starting points for discussion on CBDC design. No central bank has explored the unilateral or synthetic CBDC models. The intermediated model differs depending on how functions are distributed between the central bank and private intermediaries. When discussing the distribution of functions between actors, it is helpful to distinguish between the owner of the technical system

necessary to carry out a specific function and the executor of the function itself. The objective is an ongoing campaign to strengthen the Anti-Money Laundering/ Combating Financing of Terrorism (AML/CTF). The Bahamas was put on the Financial Action Task Force grey list in 2018 due to strategic deficiencies in its AML/AFT framework, which resulted in increased monitoring.

Issuing is a crucial function of all types of money. As discussed above, all central banks in the study currently explore models in which the CBDC are their liability, just like cash. The central banks can let private companies own the technical systems that enable CBDC issuance. For example, in the Uruguay e-peso pilot, a private vendor owned and operated a technical system

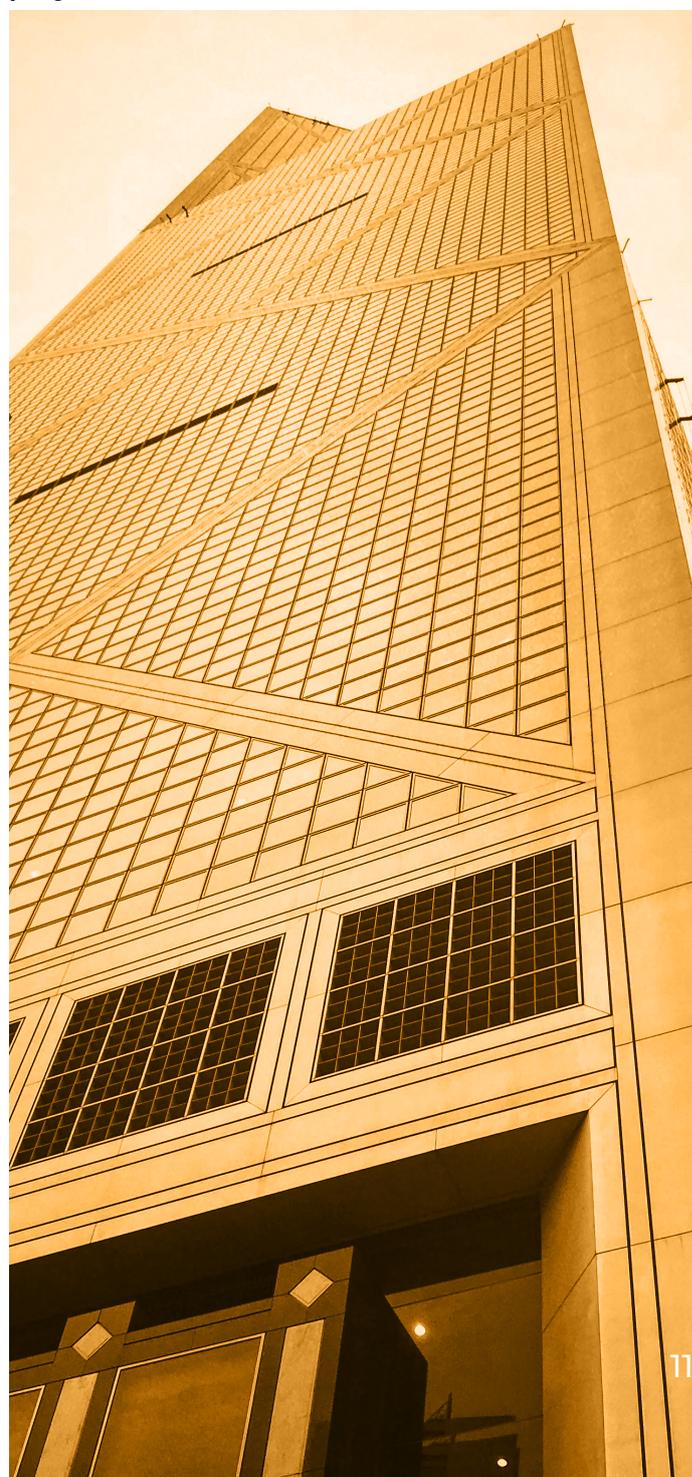
that converted pesos created by the central bank into e-pesos, effectively making the issuance of e-peso into a two-stage process. Therefore, the other process is validating a transaction. The concept is validation mostly takes place in a distributed ledger technology (DLT) network but can also refer to more traditional processes, including checking the user's identity, money's authenticity, and the funds' availability.

Monetary considerations for ecosystem players

Depending on the framework adopted for CBDCs by central banks, there will be a space for banks and newer fintech intermediaries to innovate and offer products linked to the CBDCs ecosystem. There it is to be fintech directly transact with their retail customers without needing a banking intermediary. CBDCs are also likely to provide additional customer data and hence provide data monetization opportunities to all ecosystem players.

Therefore, it has been needed to enhance the monetary and fiscal policy. CBDCs potentially reduce identity theft risk, as the digital trail would ensure traceability and enhanced security. CBDCs enable central banks to protect purchasing power to maintain the actual value of money in the economy. On the other hand, the digital nature of CBDCs will allow central banks to tap into more granular payment flow data across an economy, enhancing macroeconomic data integrity and

analytics. CBDCs are expected to replace cash partially but provide users with a new digital form of money and a way of making payments.



Conclusion

CBDCs need to work on critical things such as financial inclusion and regulatory framework. They have also potentially enabled real-time and cost-effective globalization of payment systems and can facilitate programmable money in terms of smart contracts to enable atomic transactions. CBDCs possess the potential to improve financial stability by managing liquidity squeezes and providing the public with alternatives to cryptocurrencies. Furthermore, they can reduce identity theft risk, as the digital trail would ensure traceability and enhanced security.

Reference:

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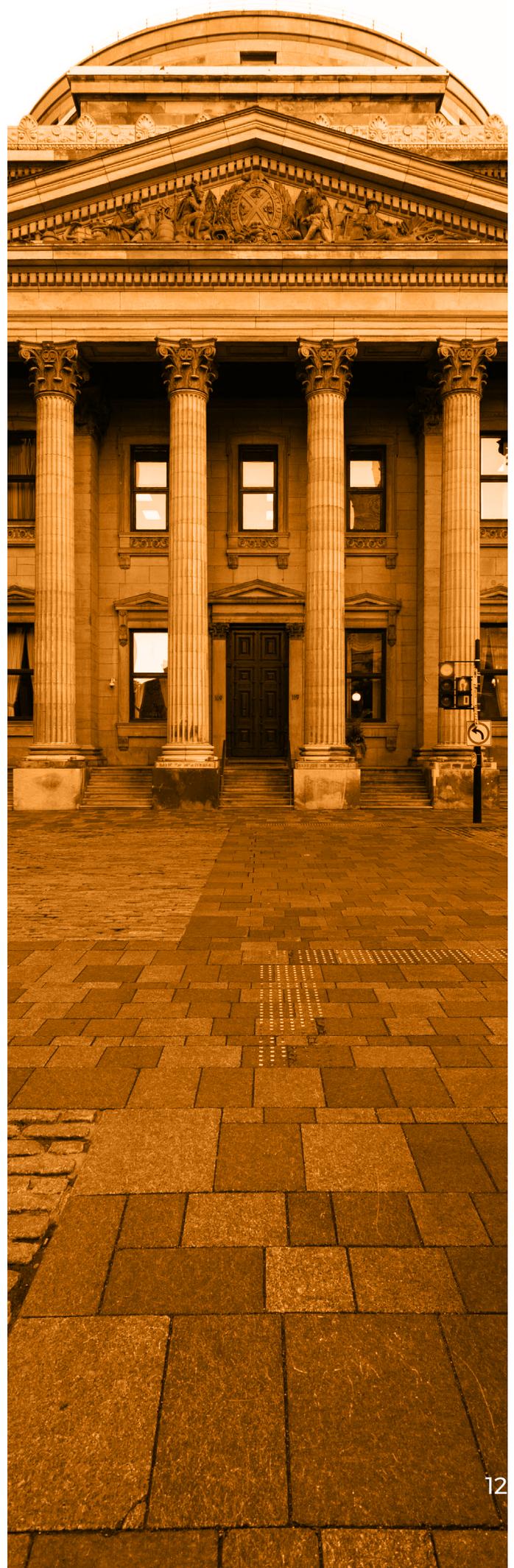
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About Agpaytech

Agpaytech Ltd. is a company pioneering in the Fintech Space with a focused approach to building robust technologies for eCommerce Card Processing Solutions for Payment Service Providers (PSPs). Additionally, we provide Compliance and Regulatory Umbrella, Remittance-as-a-Service White-Label Solution, Foreign Exchange, Cross Border Payments, and digital currency technology. We have partnered with multiple banks, non-banking financial institutions, and corporate organizations to create a solid service delivery model for them and their customers to ease their international remittances and payments concerns.
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