International Journal of Technology and Applied Science (IJTAS)

E-ISSN: 2230-9004 ● Website: www.ijtas.com ● Email: editor@ijtas.com

Future of Global Finance: Integrating CBDCs, Stablecoins, and Regulated Cryptocurrencies in 2025

Lakshana S Nair

Assistant Professor
Centre for Distance and Online Education
Jain (Deemed-to-be University), Bangalore- 560078, Karnataka, India.

Abstract:
The year 2025 is an event that is defining a paradigm shift in the field of global finance since the digital currencies will become the usual thing. Privately issued stablecoins and Central Bank Digital Currencies (CBDCs) are progressively becoming a part of payment systems and financial markets all over the globe. This review paper analyses the present situation and prospects of this integration with reference to the key economies globally in Europe, United States, and Asia. We explain how stablecoins are rapidly increasing as a medium that transfers volatile crypto-assets into stable money, the speed at which central banks are adopting CBDCs to increase payment efficiency and financial independence, and how a new regulatory ecosystem of digital assets is being built (ex. the MiCA regulation of the EU and new crypto legislation in the US). Literature and industry evidence suggests that regulatory transparency in 2025 has driven institutional buying of crypto-assets and innovation in decentralized finance (DeFi) based on blockchain and smart contracts. Meanwhile policymakers are dealing with issues of crypto market volatility, trading behaviour, financial stability and cross-border coordination. It is revealed in this paper that a hybrid monetary system is emerging, which combines the trust and stability of CBDCs with the programmability and global access of stablecoins and tokenized assets. We finish by examining how such an integrated system might transform the global finance - making payments easier and more inclusive, as well as increasing new policy issues - as the world becomes more digital and controlled by regulation.

Keywords: Cryptocurrency adoption 2025; blockchain regulation; crypto market trends; crypto volatility; Central Bank Digital Currencies; stablecoins; crypto trading behaviour; MiCA regulation; US crypto laws; DeFi; smart contracts.

Introduction

Digital assets and cryptocurrencies have since ceased to be a niche technology experiment, but rather a force of change in world finance. Over the last few years, the spread of blockchain-backed assets, including Bitcoin and Ethereum (and a host of stablecoins) has represented a challenge to the conventional payment and banking systems. Such innovations are promised to make transactions faster, cheaper and offer new financial products, however, they also carry risks as they are known to be volatile and largely unregulated in the past. As of 2025, the situation has significantly changed since the laissez-faire crypto boom of the late 2010s. The world governments and central banks are already exploring digital currency and are trying to realize the benefits and curb the risks by regulating and designing technologies. Interestingly, as a sovereign measure to counter the emergence of private cryptocurrencies, central banks are creating Central Bank Digital Currencies (CBDCs), intending to maintain the monetary authority and enhance the payments. Meanwhile, stablecoins cryptocurrencies tied to fiat currencies or other assets have been on the rise as a stable medium of exchange in the crypto economy and others. In large jurisdictions, regulators have enacted new laws (including MiCA regulation in Europe and new crypto laws in the U.S.)

to bring these stablecoins and other crypto-assets within the traditional financial regulatory perimeter. The outcome is that both traditional and digital finance are converging: commercial banks and fintech companies are now experimenting with issuing their own forms of tokenized money, crypto exchanges are confining to seek licensure, and decentralized finance (DeFi) platforms are travelling the compliance pathway.

In this paper, the author gives an overall overview of the future of international finance due to the incorporation of CBDCs, stablecoins, and regulated cryptocurrencies, paying specific attention to the events in 2025. We explore the history and motivation of this trend, scan the present situation of adoption and regulators in various jurisdictions, and explore such trends as the cryptocurrency market trends, mitigation of volatility, changes in trading behavior, and the interaction of technology and policy. It includes the global perspective, although it focuses on Europe (which is adopting a radical regulatory framework and considering a digital euro), the United States (where a new policy framework is forming crypto markets, but does not have a U.S. CBDC), and the Asian region (where some are implementing CBDCs, and others have a thriving crypto market). We also discuss the way the regulation and coordination of blockchain is changing in order to deal with cross-border matters that digital currencies present. Consolidating academic literature, government reports, and business statistics, the paper will seek to explain how the convergence of government-sponsored and privately-run digital currencies may reshape payments and banking, as well as balance of economic power. The analysis tone crosses policy, technology and finance as the subject matter of this topic is multifaceted. Other important chapters of this paper are the overview of the literature of interest, a discussion of current trends (relevant in 2025) of crypto adoption and regulation, the analysis of CBDCs and stablecoins, the analysis of regulatory frameworks in key jurisdictions (MiCA in the EU, U.S. crypto laws, and Asian models), and the future implications of this situation in terms of the global financial system.

Literature Review

The possibility and obstacles of the incorporation of state-sanctioned digital currencies and privately owned crypto-assets into the financial system are explored in an increasing amount of literature. Policy and academic studies about CBDCs have been dominated by the issues of design decisions and how they affect monetary policy and financial stability. As an example, researchers have discussed the possibility of a popular retail CBDC disintermediating commercial banks through deposit attraction, and how this threat can be reduced through interventions like limits or non-interest bearing accounts in CBDC[9][10] The empirical evidence on the pilot of the digital yuan in the People's Bank of China indicates that the uptake of a digital currency has been high in absolute terms (since more than 7 trillion e-CNY have been completed by mid-2024) but that the success of a CBDC is reliant on convenience as compared to existing payment methods[11][12]. The other line of study is the comparison between the good and bad of CBDCs and stablecoins. BIS economists have explained a set of three conditions on a stable monetary system singleness of money, elasticity, and integrity, and claim that even new stablecoins do not meet their goals as the backbone of the financial system, as they do not satisfy these conditions[13]. Only a system where central bank money forms the core of the system (which again may be tokenized on new high capacity ledgers) will guarantee equal values, lender-of-last-resort liquidity and confidence in the money[14][15]. This view is consistent with the idea of the BIS of a single ledger in which tokenized central bank reserves, commercial bank deposits, and digitized assets coexist to take advantage of smart contracts and maintain central bank control[16][14].

Other interpretations are more pluralistic and view CBDCs and stablecoins as potentially complementary and coexisting in a digital economy in the future. An IMF series on fintech notes assumes that both classes of digital money could be used in payment: should they be well regulated interoperable, stablecoins may play a niche and cross-border role, whereas CBDCs will act as a public utility; though, stablecoins may compete with CBDCs should they become equally safe and convenient substitutes[17]. The more mainstream payment systems stablecoins are and the less risky they seem to be, the more like general

money they might look and become, which may be difficult to regulate by a central bank[17]. This rivalry may be particularly strong in nationalities that lack confidence in the local currency and where dollar-backed stablecoins can be found in smartphones without any complications, which will result in some kind of digital dollarization, as some researchers have cautioned. It is true that the IMF has already expressed some fears regarding the risk of currency substitution in case foreign stablecoins gain some popularity in weak currency economies, and hence the significance of monetary sovereignty considerations[18][19].

Regarding regulatory studies, there is an agreement that the period of 2023 2025 was the tipping point of ambiguity to action. The comparison of the global regimes (including an IMF survey of emerging stablecoin legislations), makes the Markets in Crypto-Assets (MiCA) regulation of the European Union considered an all-encompassing solution, which other jurisdictions monitor carefully[7][27]. MiCA does not only establish the category of crypto-assets (such as e-money tokens i.e. stablecoins) and authorizes issuers and service providers to conduct their operations, but also introduces prudential requirements, governance, and investor protection throughout the EU. According to the literature MiCA implementation phase is under intense review as an example, although it also reveals the possible issues like different national approaches inside EU in implementing the rules[28]. The historically divided regulatory oversight (is divided between agencies, such as the SEC, CFTC, federal and state banking regulators) and absence of a single crypto law has been addressed in academic commentary in the United States. Nevertheless, before the end of 2025 the enactment of a federal law on stablecoin, the Guiding and Establishing National Innovation in U.S. Stablecoins Act (GENIUS Act) is anticipated to become a turning point in the global standards of stablecoins due to the leading position of the US dollar[27][29]. Analysts note that the requirements of the GENIUS Act (one-to-one reserve support with liquid assets, monthly reporting, and redemption requirements) are similar to a large number of best practices suggested by international agencies[30][31]. They also observe its geopolitical motive: developing a regulated dollar-backed stablecoin industry, the U.S. will establish the international dominance of the dollar and seal the gap it faces as the result of foreign fallout of U.S. Treasury bonds[32][33].

Analysis of CBDCs

- The digital versions of sovereign money introduced by central banks are known as Central Bank Digital Currencies. They are the e-cash (in the case of retail CBDCs available to the public) or the central bank reserves (in the case of wholesale CBDCs used between financial institutions). When the CBDCs are examined, one should take into consideration motivations, design decisions, and initial results of the projects that are launched by 2025.
- Motivations: There are various reasons why central banks should be motivated to use CBDCs. One of the key reasons is to enhance payment efficiency and resiliency. With the digitalization of economies, central banks want to make sure that in the digital case, the populace can use risk-free central bank money in digital payment, just as they can use physical cash. CBDCs have the potential of being able to make payments instantly and 24/7 without the intermediaries present in the current electronic transfers[23][24]. Financial inclusion is also cited by many central banks, particularly in emerging markets, as an objective, with giving populations without access to banks a digital wallet issued directly by the central bank having the potential to enlarge the range of people receiving financial services[65][66]. In fact, according to the surveys some 62% of central banks in developing economies were more concerned about inclusion in their CBDC projects in 2025[50][67]. The other reason is the protection of monetary sovereignty against the privates. The emergence of dollar-backed stablecoins and foreign CBDCs has made the question of small countries having their currencies dwarfed a concern. CBDC might contribute to the popularization of the use of the local currency by rendering it convenient and high-tech to fight off digital dollarization. This has contributed to the introduction of, say, Eastern Caribbean states of DCash (a digital EC dollar) to compete with the prevalence of USD in the area[68]. In large economies, geopolitics plays a role: the creation of e-CNY in China is partially aimed at internationalizing the yuan and stop depending on the

financial system dominated by the US, and the project of digital euro in Europe is tied to keeping the euro competitive in the global market[58][69]. Lastly, other central banks regard CBDCs as a means of stimulating innovation within the wider payment ecosystem - through the creation of a public platform (which may be open to programmability by the private sector) that can trigger the development of new services (such as support of smart contracts based automatic payments, micropayments, or better cross-currency exchange).

- Design and Technology: A CBDC design can be a lot different. The major design options are whether to have a retail CBDC (available to the general population) or a wholesale CBDC (accessible to banks and a few select institutions). The majority of the projects in the advanced economies have involved retail CBDC (e.g. the e-krona concept, in Sweden), although some, such as Switzerland, have involved wholesale (Project Helvetia). The architecture is another option: there are CBDCs based on distributed ledger technology (DLT) and resembling blockchains, as well as those based on more traditional centralized databases. As an example, the Sand Dollar of the Bahamas has a hybrid model that has centralized control and distributed access nodes, whereas the e-CNY of China has no blockchain-based system but instead has a centralized model that employs commercial banks as intermediate nodes. Other important design elements are privacy and identity. The anonymity of cash is sought by many central banks to an extent but with protection. As an example, the e-CNY has a tiered wallet-based system, permitting small transactions with little KYC and large transactions with complete identification, and aims at balancing user privacy and compliance. The other feature is smart contract capability: certain CBDCs, such as on pilot in programmable platforms (e.g. on the discussions of Bank of England), can be programmable to a certain degree (e.g. by providing the ability to add conditions to payments). Bank of England has discussed a platform model in which the central bank offers core infrastructure and programmable overlays are offered by the private firms. Others such as the U. S. (unless it ever did a CBDC) stress that the government must not directly program money since it might result in state overreach[59][70]. Interestingly, even lacking a U.S. retail CBDC as of 2025 proves to be already a design choice - the U.S. administration has instead advanced regulated stablecoins as serving the role of a digital dollar, to the point of modifying policy specifically to disallow the issuance of a Federal CBDC[60][61]. This distinguishing feature is an indication of a philosophical distinction: the use of the private sector (regulated and enhanced) to develop digital money, rather than a token issued by the government.
- Initial Results and Problems: With one of the only fully operational CBDCs, there have been mixed outcomes. The Sand Dollar of the Bahamas (introduced 2020) was initially slow to pick up, which in part was because of a lack of merchant acceptance, but with the government encouraging its use in paying social welfare, the adoption grew modestly. In Nigeria, eNaira, which was introduced in 2021, struggled and only a small percentage of bank clients downloaded the wallet during the first year; the government in the country experimented with incentives such as discounts when using eNaira, but citizens have been more drawn to cryptocurrencies and stablecoins (particularly due to tight FX controls) than the eNaira. JamDex in Jamaica also experienced slow growth with the integration of the government programs. These examples highlight that provision of a CBDC alone does not mean that it is going to get used - it has to address a genuine issue or be more convenient than other options. Conversely, the e-CNY in China has had more (but not universal) usage due to its aggressive marketing (e.g. lotteries giving free e-CNY to customers) and its integration into existing payment apps such as Alipay/WeChat Pay. Having replicated the user experience of well-known applications, China has recruited hundreds of millions of users to at least use the CBDC[71]. At that, e-CNY continues to take a minor part of the total retail payments in China, which are dominated by the available digital yuan in bank accounts available via Alipay/WeChat. Interoperability is also becoming a critical aspect: CBDCs are preferably supposed to be compatible with the current banking and payment systems in order to be adopted (e.g., being able to convert bank deposits into CBDC freely and the opposite). Commercial banks are becoming intermediaries or distributors of CBDC by many central banks (a two-tier model) to draw on the experience of the banks in dealing with their customers. The other initial observation is that awareness and trust amongst people are vital. In some

developed states, surveys (such as one by the CFA Institute) indicate a rather positive outlook to CBDCs, with cybersecurity and privacy being the frequently mentioned issues[9][10]. Event such as hacking of the digital payment systems begs the question of how a CBDC system will be resistant to cyber-attacks - central banks are thus considering the security of design as a priority and are frequently carrying out gradual rollouts to test the strength[72].

- To deal with operational risks and compliance risks of the stablecoins, authorities are also taking action. It is becoming more and more required that the stablecoin arrangements have high cybersecurity practices, operational resilience, and AML/CFT practices (such as the capability to freeze stolen funds or blacklist prohibited addresses). In 2023-24, the UK amended its framework on Electronic Money, and the stablecoin wallets providers and custodians were brought under the regulations, focusing on consumer protection and redress. Overall, by 2025 the period of unregulated growth of stablecoins is over - large participants USDT and USDC themselves have made efforts to release transparency reports and to decrease the risk in their reserve portfolios (USDT, as an example, eliminated its commercial paper holdings in favor of Treasury bills in 2022 in order to enhance the quality of the reserves). Such relocations are partly due to the pressure by regulators and partly to retain the trust of the users.
- Challenges and Future of Stablecoins: Stablecoins have been so successful, but they have problems. The level of competition is on the rise - not just due to CBDCs (which might have an alternative digital fiat), but also some stablecoin issuers such as more recent models such as fully regulated fintech issuers or decentralized models. Another way in which stablecoins might need to be differentiated in case of a wide availability of CBDCs is through features such as being multi-chainable, business logic (perhaps through integration with smart contracts), or interest-bearing (but again, an interest-bearing stablecoin would be more of a money market fund and would be more heavily regulated). Stablecoins remain loosely regulated on a global basis; even incoherencies may create regulatory arbitrage in which issuers may opt to be regulated in the least strict jurisdiction. As an illustration, when one nation has a weaker reserve standard, an issuer may set up there and yet sell on the international marketplace - a fact regulators fear would harm the overall performance[87][88]. Therefore, regulators such as IOSCO and the BIS are in the process of establishing international supervisory principles of stablecoins.
- To sum up the analysis, the issue of stablecoins in 2025 is an exciting and dynamic aspect of world finance. They provide an example of how change in payments and finance can be facilitated through the use of blockchain technology in the case of private innovation. When overseen and incorporated into the mainstream financial system, stablecoins have the potential to become a bridge - between the crypto economy and the traditional money and allowing new types of commerce to be conducted. Their eventual function will be in part determined by the future development of CBDCs: a situation is unfolding where regulated stablecoins and CBDCs will co-exist, each having applications that suit their purposes best (it is possible that stablecoins will be predominantly the ones innovating cross-platform and CBDCs ensuring access and stability everywhere). The following section will dive deeper into the regulatory frameworks that support this integration, and specifically how various jurisdictions are considering this task in relation to how to regulate both stablecoins and the crypto markets on the whole.

Europe (MiCA), United States, and Asia Regulation Models.

- The key to the success of introducing digital currencies into the traditional financial system is regulation. As of 2025, larger economies have passed or suggested all-encompassing frameworks to regulate cryptocurrencies, stablecoins, and associated services, but the strategies differ across territories. The section will examine major regulatory frameworks - including the ground-breaking MiCA regulation of the European Union, the developing regulatory framework of the United States, and instances of other regulatory frameworks throughout Asia - and explanations of how these regimes solve the problem of market integrity, consumer protection, and systemic risk.

Europe: MiCA and Beyond

- The European Union has been on the offensive by establishing one of the most integrated crypto-asset regulations in the world. In 2023, the Markets in Crypto-Assets (MiCA) regulation was enacted, and

it forms the EU-wide licensing and regulatory rulebook concerning crypto assets not regulated by the current financial law. MiCA applies to issuers of crypto-assets (stablecoin issuers included), and crypto-asset service providers (CASPs), like an exchange, trading platform, wallet provider, and advisor, located in the EU[7] [91]. Major provisions of MiCA are:

- Stablecoin (Asset-Referenced Token and E-Money Token) Rules MiCA differentiates between an assetreference token (ART, which may be a basket of assets or commodities) and an e-money token (EMT, a single-currency-pegged stablecoin such as a tokenized euro). Both are required to be licensed by an effective regulator in the EU and satisfy prudential conditions. They are obliged to have sufficient reserves (with specifications as to the quality and liquidity of these reserves) and policies that provide that holders may redeem tokens at par value whenever they please[92][77]. MiCA specifically excludes algorithmic stablecoins as EMT - a move likely to ban poorly secured stablecoins in the EU, an effort to learn the lessons of the failure of Terra. Provisions exist to provide additional oversight of important stablecoins (the stablecoins that surpass specific transaction volume or value in circulation requirements, e.g., >EUR 5 million transactions in one day or large number of users)[93]. Capital requirements and interoperability requirements might increase such important stablecoins. It is important to highlight that MiCA prohibits any issuer of stablecoins to be based in the EU that are not based in a legal entity within the EU - it does not allow foreign issuers to just market into Europe without being established[92].
- CASP licensing: MiCA would require crypto exchanges, brokers, custodians and so on to be licensed (like financial services licenses) and subject to regulations on how they protect client assets, capital, governance and reporting[94]. It has certain conditions like client crypto funds segregation with the own assets of the firm, transparency (whitepapers/prospectuses of the crypto-assets offered should be clear), and conduct rules that should ensure that the markets are not abused. Under the timeline of MiCA, EU nations began to enact these rules in 2024 concerning stablecoin issuers and in 2025 concerning other CASPs[28]. There is initial indication of national divergence - e.g. Germany, France acted fast to grant CASP licenses to exchanges, and Austria was very strict, meaning that initially only a small number of licenses were granted[95]. However, in the long run, these national variations will be ironed out through the supervision coordinating role of European Banking Authority (EBA) and ESMA.
- State regulations: The State of many crypto companies in the U.S. The traditional model of many crypto companies involved in the U.S. is a patchwork of state money transmitter licenses (most notably the New York BitLicense applicable to businesses dealing with digital currency). Part of that state-centric approach is already being overtaken by federal action (such as the GENIUS Act of stablecoins), though state laws remain in force unless preempted. Certain states such as Wyoming developed crypto-friendly jurisdiction (recognizing DAO, special purpose depository institutions of crypto, etc.), and other states such as New York are tough. The U.S is undergoing a transitional stage whereby federal law may pull together part of these rules in the future.
- Stablecoin Legislation (GENIUS Act): The next significant development is the legislation of the GENIUS Act in mid-2025, which, again, is mentioned above. The first law of its kind in the U.S., this law offers a federal regulatory framework to payment stablecoin issuers[100]. It gives the Federal Reserve and other regulators the main responsibility in issuing stablecoins. Prominent features of the Act are that the issuers must be reprehensible, and can be federally supervised (e.g. an insured depository institution, or a newly created charter specifically to issue stablecoins), must be fully reserve-backed (by highly liquid assets), must have audit and disclosure requirements, and must establish redemption standards (must redeem stablecoins directly into fiat). The Act also clearly outlaws the issue of non-redeemable in national currency stablecoins (to prevent the issuance of something like an algorithmic coin being sold as a inert stablecoin). At the time of its enactment, the Act has a delayed effective date, with the regulators having until 2026 to write detailed regulations, and when the Act becomes fully effective, which is by 2027[101]. However, its enactment in itself has provided markets and businesses with clarity that there is now a way to legally issue stablecoins in the U.S. Even before the law has been enacted, key stablecoin issuers are already planning to fall under this system (Circle, one of them, has already mentioned plans to apply to be

licensed by the new law). There are also international implications of the GENIUS Act: it can have an impact on international standards and the act itself is a declaration that the U.S. is more focused on prioritizing stablecoins (and by extension the digital Asia of the dollar: Diverse Approaches in Key Markets).

The Asian region is a diverse crypto regulation area with the most permissive and the most restrictive jurisdictions. Among the representative models, we point out:

- Japan: Japan was among the earliest major economies to legally accept cryptocurrency (bitcoin) as a property, and to regulate the crypto exchanges (since the Mt. Gox incident in 2014 and later hacks, Japan added an exchange licensing regime in 2017). In 2025, Japan has an established framework: exchanges should be licensed and have to follow the AML and asset custody regulations, and there is self-regulatory body in the Financial Services Agency (FSA) supervision. The regulation of stablecoins was also a first in Japan, with an amendment to its Payment Services Act of 2022 that successfully converted only regulated financial institutions (banks, trust companies, or licensed money transfer agents) into issuers of yen-pegged stablecoins[104]. This became effective in 2023 and by 2025 we will see the Japanese banks beginning to issue stablecoins (one such is the Progmat Coin, a yen-pegged tokenized bank deposit issued by Mitsubishi UFJ Trust). The FSA strategy makes sure that stablecoins in Japan are as trustworthy as the bank money (only these institutions are able to issue this money). The attitude of Japan to CBDC is reserved - the Bank of Japan has already tested the creation of a digital yen proof-of-concept and in 2023 it introduced a pilot with consumers, but the decision to issue has not yet been taken. Japanese regulators have also been exploring the classification of some crypto tokens as investment securities where appropriate; a 2024 proposal was to place some tokens that have profit distributions characteristics in the securities law, which could increase regulation of token issuances[105]. Altogether, the Japanese model focuses on consumer protection (fiat and crypto should be separated, and most assets may be stored in cold stores) and attempts to introduce the crypto into current centers of legal regulations.
- Singapore: Singapore is a fintech and crypto hub that has an efficient regulatory environment. In 2020 the Monetary Authority of Singapore (MAS) added the Payment Services Act (PSA) making the cryptocurrency services of digital payment tokens (cryptocurrency) to be licensed ever since. The PSA is applicable to exchanges, custodians, and even nowadays, even crypto transactions to conduct AML purposes. Singapore has extreme AML/KYC requirements and must comply with Travel Rule requirements. In 2022-2023, MAS shifted to a more restrictive course by raising concerns with regards to retail speculation; it introduced measures such as banning crypto lending to retail users and advertising bans on crypto services. However, simultaneously, MAS promotes innovation in wholesale applications (Project Ubin in blockchain in clearing, Project Guardian in DeFi pilots). As to stablecoins, in 2023, MAS issued regulatory guidance suggesting standards of single-currency pegged stablecoins: at the threshold of a certain amount of circulation (e.g. overS$5 million) the issuers of stablecoins pegged to SGD or any G10 currency would be required to hold reserves of low-risk assets, make redemption available at par and disclose governance. These regulations will perhaps be implemented in the year 2025. The policy of Singapore is to permit stablecoins but within defined standards - a mini-MiCA, but of the stablecoins. In the case of CBDC, Singapore is concerned with wholesale CBDC interoperability (it does not yet consider a retail CBDC necessary with an effective private e-money such as GrabPay, etc.). It also takes part in transnational CBDC experiments (e.g. BIS Innovation Hub).

Future Implications for Global Finance

By 2025, the integration of CBDCs, stablecoins, and regulated cryptocurrencies will precondition the new period in the world finance. With the integration of these types of digital money, we envision these some important implications on payments, banking, monetary policy, and international financial order. Here we discuss these implications in the future, considering the developments that we have seen above.

1. Changing Payments and Settlement: Payments are one of the most direct effects of the use of digital currencies; the use of digital money will bring a radical change in the speed and efficiency of payments.

The transactions that used to require days to accomplish can now be accomplished in seconds using CBDCs and stablecoins, and even during non-traditional banking hours. This round-the-clock feature would enable firms and individuals to settle trades, remittances, and invoices immediately, enhancing liquidity and minimizing the counterparty risk. According to a McKinsey analysis, using the existing growth rates, the volume of stablecoin transactions might be compared to the volume of payment networks in a decade[48][49]. Moreover, smart contracts can be integrated into payment flows to be programmable - money can have conditions or triggers on it (e.g. a payment that automatically divides itself among parties on delivery confirmation, interest payments that stream at a rate of one second), programmable funds.

2. Reorganizing the Roles of Banks and Financial Intermediaries: One of the important implications of CBDCs and stablecoins is a possible change in the functions of commercial banks and other intermediaries. In a retail-style environment of abundant CBDCs people and companies may have more money in their hands in CBDC form (central bank-supplied), particularly where CBDC wallets are highly convenient, or they have greater confidence in them than in banks. This may cause loss of some deposit base by banks which may in turn lower their lending capacities unless they change their funding models. To address this, central banks would probably liaise with banks (e.g. the two-tier model where banks issue CBDCs and, perhaps, even place limits or non-interest bearing design to make CBDC less attractive as a savings tool). Banks can also transform themselves by becoming value add: offering better yielding accounts or specialized lending or becoming custodians and asset managers to digital property. Banks are already planning to issue tokenized deposits or their own stablecoins[116][85]. When numerous banks do so we could well have an overload of bank-issued stablecoins with networks to which they can communicate (and perhaps common technical standards or consortia would standardize this).

Conclusion

The development of central bank digital currencies, the spread of stablecoins, and the growing regulation of cryptocurrencies are radically transforming the landscape of global finance in 2025. This review has explained the role of such developments that used to be considered with some degree of skepticism or as a niche experimenting has become the centre-stage of the financial innovation and policy. We have observed that CBDCs, stablecoins, and regulated crypto-assets are not in isolation, but connected aspects of a larger change towards digital money.

The most important results of our analysis are:

- Stablecoins as a Catalyst: Stablecoins have ceased being a marginal tool and have become a common and popular tool with all-time high usage and a response from regulators both in the United States and globally. They were essential to crypto trading and DeFi and are now expanding into real-life payments and remittances because of their capability to deliver stability in a volatile crypto market. Stablecoins have been identified by policymakers as potentially improving the efficiency of payments (e.g., making cross-border transfers cheaper) and at the same time commenting on the risks that it presents when not well supported and regulated. As a result, more than 70% of reviewed jurisdictions had improved new stablecoin regulations or legislation by 2025[90][118]. This influx of international companies (such as PayPal) into the stablecoin sector and the fact that banks are interested in the problem of issuing their own tokenized money confirms that stablecoins will probably remain an element of the financial ecosystem - existing side by side with fiat money, not eliminating it.
- CBDCs Gaining Momentum: Central banks have gone a long way in advancing the concept of CBDCs to reality. Although several retail CBDCs have already been launched (mostly in smaller economies), dozens of pilots are now being conducted in both emerging and developed locations. The reasons are associated with the betterment of domestic payment systems, safeguarding monetary sovereignty up to the increased financial inclusion. We can see that the key central banks (ECB, PBoC, etc.) are not willing to give in to the digital currency field to the private sector or other countries. Important issuance decisions (such as whether the digital euro will get off the ground, or whether countries such as Japan or the UK will proceed to issue CBDCs after their pilots) are expected in the next several years.

Notably, the two are feeding off each other, as CBDCs have become more popular, stablecoins have grown, and the reverse is also true (some jurisdictions are specifically considering coexistence models). It is possible that in the future, interconnected networks of CBDCs and stablecoins will allow the effortless transfer of money between private and public money.

- This is the role of Regulation as Enabler and Guardrail: rather than suffocating the crypto industry, the regulatory clarity wave of 20242025 in many ways authenticated and made even more widespread. The MiCA regulation of EU, in particular, gives a very straightforward rulebook that is attracting crypto businesses to comply with, and the institutional players who previously were reluctant are getting a legal certainty. In the U.S., a more permissive regulatory setting and the pioneering GENIUS Act on stablecoins have indicated that responsible innovation will be received, as long as it does not conflict with protections[119][120]. Experimentation in Asia has a wide range of experiences, including licensing-based systems in Hong Kong, balanced approaches adopted in Singapore that demonstrate that there is space to be innovative with regulations in a competitive but responsible manner. Sound regulation has been found to be a condition to institutional adoption - as observed, close to 80 percent of jurisdictions that have better defined rules experienced more institutional involvement in crypto markets[36]. These are also consumer and market protection measures that help in minimising chances of recurrence of the past crisis. Nevertheless, the regulations do not always follow a global pattern, which may lead to friction and arbitrage, and this aspect is why it is important to continue internationally coordination.

Table 1. Comparison of CBDCs, Stablecoins, and Traditional Cryptocurrencies

Aspect	CBDCs (Central Bank Digital Currencies)	Stablecoins (Private Digital Tokens Pegged to Fiat)	Traditional Cryptocurrencies (e.g., Bitcoin, Ether)
Issuer/Backing	Central bank (sovereign issuer); backed by govt. full faith and credit.	Private institutions (or decentralized protocols) issue; backed by reserves (fiat, assets) or algorithmic mechanisms.	Decentralized network; no intrinsic backing (value derived from market supply-demand).
Value Stability	Stable in domestic unit of account (effectively zero volatility against national currency).	Pegged to fiat (e.g., \$1); stability depends on reserve adequacy and market confidence*[1][2]*.	Highly volatile market price; not suitable for short-term unit of account due to large price swings.
Legal Status	Legal tender (or equivalent) in issuer's jurisdiction; universally accepted for debts/payments within country.	Not legal tender, but increasingly recognized/regulated as a form of private money or e-money*[68][7]*. Acceptance is voluntary.	Not legal tender; regulatory classification varies (commodity, security, etc.); acceptance limited and mostly for investment.
Regulation	Issued and regulated by central bank; design subject to laws (some require enabling legislation).	Emerging specific frameworks (e.g., MiCA in EU, GENIUS Act in US) impose licensing, reserve, audit requirements*[27][78]*.	Generally regulated indirectly (exchange and service provider regulations, AML laws); some tokens may fall under securities or commodities laws.
Transaction Finality	Final settlement in central bank money (no credit risk); transactions can be	Settle on various blockchains; subject to blockchain confirmation times and potential minor risks (e.g.,	Settle on their native blockchain; irreversible once confirmed (typically probabilistic finality). No

Aspect	CBDCs (Central Bank Digital Currencies)	Stablecoins (Private Digital Tokens Pegged to Fiat)	Traditional Cryptocurrencies (e.g., Bitcoin, Ether)
	near-instant if designed on modern infrastructure.	technical smart contract risk). Off-chain redemption involves credit risk of issuer[34].	central party ensures redemption of value.
Monetary Control	Central bank controls supply and can implement monetary policy directly (can create/destroy CBDC). Allows new tools (e.g., interest on CBDC) but could affect bank lending[10].	Supply theoretically elastic based on demand (issuer mints/redeems against reserves). Peg maintenance can influence short-term money markets (issuers adjust reserves)[32]. Central banks set broad rules but don't manage day-to-day supply.	Fixed or algorithmic supply rules (e.g., Bitcoin's 21M cap or Ethereum's protocol rules). No central control; this inelasticity can cause high volatility.
Role in Financial System	Extension of sovereign currency into digital realm; could improve payment efficiency, support public policy goals (inclusion, resilience). Possibly competes with bank deposits if widely adopted.	Serves as bridge between crypto and fiat: widely used in trading, DeFi, cross-border transfers. Complements banking by filling gaps (24/7 service, programmable payments)[24][121]. If regulated, can integrate with traditional finance (e.g., used by payment processors, corporations).	Alternative asset/commodity; a speculative investment or hedge. Some use as "digital gold" or for niche payments (especially where censorship-resistance desired). Mostly exists in parallel to mainstream finance, but institutions are now investing in these as assets.
Examples (2025)	e-CNY (China's pilot digital yuan); Sand Dollar (Bahamas); e-krona (pilot in Sweden); prospective Digital Euro (pilot phase)[11][58].	Tether (USDT ~$176B in circulation)[41], Circle's USDC (~$74B)[43]; Euro stablecoins like EUROC; Govt or bank-issued: JPM Coin (bank deposit token); HKMA-regulated HKDG (potential HK dollar stablecoin). New types like USDe (crypto-backed)[46].	Bitcoin (BTC), Ethereum (ETH), and thousands of altcoins. Some asset-backed tokens too, but "traditional crypto" here refers to unpegged, volatile tokens.

Source: Compiled by the author from various sources including IMF, BIS, and market data[1][2][41].

As Table 1 outlines, each type of digital asset brings different strengths: CBDCs bring trust and finality, stablecoins bring innovation and interoperability on public networks, and cryptocurrencies bring decentralization and new asset dynamics. The future global financial architecture may well incorporate all three, leveraging the best features of each.

REFERENCES:

1. TRM Labs. (2025). *Global Crypto Policy Review & Outlook 2025/26: Toward clarity for institutional adoption*. December 3, 2025. (Policy report summarizing 2025 crypto regulatory developments)*[35][36]*.
2. International Monetary Fund (IMF). (2025). *Understanding Stablecoins*. IMF Departmental Paper No. 25/09, December 2025. (Comprehensive analysis of stablecoin arrangements, use cases, benefits/risks, and emerging global regulatory approaches)*[1][7]*.
3. Bank for International Settlements (BIS). (2025a). *III. The Next-generation Monetary and Financial System*. In *BIS Annual Economic Report 2025*, June 24, 2025. (Chapter discussing tokenization, unified ledgers, and the roles of central bank money vs stablecoins in future finance)*[14][13]*.
4. Bank for International Settlements (BIS). (2025b). *Advancing in tandem – Results of the 2024 BIS survey on central bank digital currencies and crypto*. BIS Papers No.159, August 22, 2025. (Survey of central banks revealing over 90% engagement in CBDC projects and motivations, including reaction to crypto developments)*[5]*.
5. Morgan Stanley. (2025). *Stablecoins – Modernizing Financial Infrastructure*. Insight Article, September 15, 2025. (Financial industry report on stablecoins' growth, market structure, and implications for payments and the U.S. dollar)*[20][32]*.
6. Atlantic Council GeoEconomics Center. (2025). *Central Bank Digital Currency Tracker – Key Findings*. July 2025 update. (Online tracker providing data on global CBDC exploration, including number of countries in pilot/launch and usage statistics for e-CNY and e-rupee)*[11][56]*.
7. McKinsey & Company. (2025). *The Stable Door Opens: How Tokenized Cash Enables Next-Gen Payments*. (Report on stablecoins as a payments infrastructure, including transaction volume statistics and comparison with legacy systems)*[22][48]*.
8. IMF. (2023). *Elements of Effective Policies for Crypto Assets*. IMF Policy Paper, and IMF-FSB Synthesis Paper (2023). (Framework guiding member countries on comprehensive crypto-asset regulation, referenced in IMF (2025) stablecoin paper for policy positions)*[8][88]*.
9. European Parliament and Council of the EU. (2023). *Regulation (EU) 2023/1114 on Markets in Crypto-assets (MiCA)*. Official Journal of the EU, June 9, 2023. (EU legislation establishing a harmonized crypto-asset regulatory framework, entered into force 2023 with implementation phases in 2024-25)*[27][92]*.
10. Hong Kong Monetary Authority (HKMA). (2023). *Policy Statement on Development of Virtual Assets and Stablecoins*. HKMA Circular, and *Hong Kong Stablecoin Regulation Framework* (effective 2025) as referenced in TRM Labs (2025)*[82][83]*.
11. U.S. Congress. (2025). *Guiding and Establishing National Innovation in U.S. Stablecoins Act ("GENIUS Act")*, Pub. L. No. xx-xxx, enacted July 18, 2025. (United States federal law establishing requirements for issuance and oversight of payment stablecoins)*[100][30]*.
12. State Street Digital. (2025). *2025 Regulatory Preview: New U.S. Administration's Approach to Digital Assets*. Digital Digest, March 2025. (Article detailing shifts in U.S. federal crypto policy under the 2025 administration, leadership changes at SEC/CFTC, and executive orders promoting dollar stablecoins)*[102][97]*.
13. TRM Labs. (2025). *2025 Crypto Adoption and Stablecoin Usage Report*. (Referenced via TRM Labs resources; likely providing data on global crypto adoption rankings and stablecoin trends, supporting statements on emerging market usage and institutional entry)*[119][122]*.
14. S&P Global Ratings. (2025). *Stablecoins, Financial Stability, and Treasuries: What's Next for Money and Safe Assets?* October 2025. (Analysis of stablecoin reserve composition and their growing role in U.S. Treasury markets, noting stablecoin issuers' T-bill holdings around 2.5% of total by late 2025)*[84]*.

15. Chainalysis. (2023). *The 2023 Global Crypto Adoption Index*. (Industry research ranking countries by grassroots crypto adoption, indicating high adoption in emerging economies – context for "cryptocurrency adoption 2025" discussions.)

(Note: All sources accessed and information verified as of December 2025. In-text citations in the format 【source†lines】 refer to specific supporting material from the listed references.)

---

[1] [6] [7] [8] [17] [18] [19] [25] [26] [27] [29] [74] [77] [78] [79] [80] [81] [86] [87] [88] [91] [92] [93] [94] [104] [113] [115] Understanding Stablecoins; IMF Departmental Paper No. 25/09; December 2025
https://www.imf.org/-/media/files/publications/dp/2025/english/usea.pdf

[2] [20] [21] [30] [31] [32] [33] [64] [75] [76] [85] [121] Stablecoins – Modernizing financial infrastructure | Morgan Stanley
https://www.morganstanley.com/im/fr-fr/intermediary-investor/insights/articles/modernizing-financial-infrastructure.html

[3] [4] [9] [10] [11] [51] [56] [57] [58] [61] [62] [69] [72] [73] [117] Central Bank Digital Currency Tracker - Atlantic Council
https://www.atlanticcouncil.org/cbdctracker/

[5] [63] Advancing in tandem - results of the 2024 BIS survey on central bank digital currencies and crypto
https://www.bis.org/publ/bppdf/bispap159.htm

[12] A 2025 Overview Of The E-CNY, China's Digital Yuan - Forbes
https://www.forbes.com/sites/digital-assets/2024/07/15/a-2024-overview-of-the-e-cny-chinas-digital-yuan/

[13] [14] [15] [16] III. The next-generation monetary and financial system
https://www.bis.org/publ/arpdf/ar2025e3.htm

[22] [23] [24] [34] [48] [49] [68] [116] Stablecoins payments infrastructure for modern finance | McKinsey
https://www.mckinsey.com/industries/financial-services/our-insights/the-stable-door-opens-how-tokenized-cash-enables-next-gen-payments

[28] [35] [36] [82] [83] [89] [90] [95] [96] [100] [101] [105] [106] [107] [108] [110] [111] [112] [114] [118] [119] [120] [122] Global Crypto Policy Review Outlook 2025/26 Report | TRM Labs
https://www.trmlabs.com/reports-and-whitepapers/global-crypto-policy-review-outlook-2025-26

[37] [38] [59] [60] [70] [97] [98] [99] [102] [103] 2025 regulatory preview: Understanding the new US administration's approach to digital assets and AI | State Street
https://www.statestreet.com/us/en/insights/digital-digest-march-2025-digital-assets-ai-regulation

[39] Bitcoin's 2025 rollercoaster may end on a low - Reuters
https://www.reuters.com/business/finance/bitcoins-2025-rollercoaster-may-end-low-2025-12-09/

[40] [41] [42] [43] [44] [45] [46] [47] [109] How stablecoins reached a $300 billion market cap in 2025
https://info.arkm.com/research/how-stablecoins-reached-a-300-billion-market-cap-in-2025

[50] [52] [53] [54] [55] [65] [66] [67] CBDCs (Central Bank Digital Currencies) Regulations Stats 2025 • CoinLaw
https://coinlaw.io/cbdcs-central-bank-digital-currencies-regulations-statistics/

[71] China Pursues Dual Model Towards Crypto Adoption
https://cryptoforinnovation.org/china-pursues-dual-model-towards-crypto-adoption/

[84] Stablecoins, Financial Stability, And Treasuries: | S&P Global Ratings
https://www.spglobal.com/ratings/en/regulatory/article/stablecoins-financial-stability-and-treasuries-whats-next-for-money-and-safe-assets-s101659822