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Programmable Money and the Post Industrial Society

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Abstract

There has been discussion over the potential impact that blockchain might have on central banks and the future of monetary policy. This paper examines the socio-economic make up and monetary dimensions of the post industrial society, the growing friction caused by the swelling of political superstructures and the concomitant weakening of effective market mechanisms. A deeper exploration of the possible avenues for governments and central banks to hold control over their populations through the establishment of central bank digital currencies and the utilisation of distributed ledger technology are probed; as is the architecture of regulators, government and commercial banking when contrasted with political and governmental and central banking structures and existing forms of state control such as quantitative easing, the Chinese social credit system and the upward flow of private information from the intermediary layer between central banks and consumers. From this, it can be discerned that users of digital currencies would have greater control over the safety of their personal and financial information if there was no need for a third party to mediate the transaction. However, as numerous governments race to keep pace with a growing digital asset ecosystem, countries that have strong ties between their government, central bank, and commercial banking system are more likely to act first, with the support of their authority to halt or regulate cryptocurrency trade before forming a CBDC.

Keywords: *Central Bank Digital Currencies, Programmable Money, Social Credit System, Blockchain Technology, Distributed Ledger Technology, Government, Economic Policy, Monetary Policy, Society, Banking, Cryptocurrency*

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1. Introduction

The initial sections of the study provide an overview of the economic and technological characteristics that distinguish blockchain technology as a significant post-industrial phenomenon. These qualities are discussed in greater depth later in the article. The potential impact that blockchain may have on central banks and the future of monetary policy has been the subject of discussion. With conditional payments, it is possible to send money, but only if certain requirements are met beforehand. There are numerous potential applications, including employment and welfare benefits, insurance payments, employee expenditures, and conditional charitable donations. Using the smart contract and digital asset capabilities of blockchain, decentralised conditional payments may be implemented. consumers' and governments' potential benefits from programmable money. The architecture of the government, central banks, regulators, and commercial banking, as well as the probable outcomes of these investigations, have been investigated.

JMEE
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2. Monetary dimensions of post-industrial society

The concept of a society transitioning from industrial to post-industrial status places an emphasis on the structural shifts that take place over an extended period of time. These shifts include the transition of the economy from the production of goods to the provision of services, the ascendance of theoretical knowledge as a driving force in the advancement of technological advancement, and the modification of the nature of work and the workforce[1]. In contrast, the concept of a post-industrial society does not accurately portray the world as it will be in the not too distant future [2]. This is nothing more than an attempt to forecast how the various social policy tools will be impacted by the structural changes that are currently taking place. The institution of private property is a fundamental support system for any industrial society, but it is especially important in societies with a strong capitalist orientation. Throughout the entirety of the era of industrialisation, the accumulation of capital has represented the single most significant challenge that the economy has been forced to surmount [3]. Tensions between management and employees in the workplace are at the centre of the most pressing problem that society is currently facing. As a consequence of this, the earlier problems of an industrial society have been muddled or "fixed," depending on your point of view, to the extent that the process of investing has become routine and "class conflicts" have been contained. In contrast to the industrial era, when the economic function played a preponderant role in the formation of society, the political order now has a greater influence on how society evolves. This is because of the rise of globalisation and the interconnectedness of modern societies. The economies of post-industrial nations are typically subject to political direction as a matter of course. This is because the development of a political superstructure occurred concurrently with the deterioration of an efficient market mechanism, so political direction has become the dominant paradigm.

2.1. Supporting finance with blockchain technology (BCT)

The distributed consensus problem has been the subject of extensive research in computer science, and blockchain technology is based on a solution to this problem. The distributed consensus problem arises when it is possible that one or more computers were intentionally or unintentionally programmed to provide false information [4]. Distributed consensus refers to the method by which multiple, autonomously operating computers can agree on a set of shared facts while remaining secure in the presence of flaws [5]. Various software companies, such as Google, Facebook, and Yahoo, employ distributed consensus algorithms to combat this issue and prevent unauthorised access to sensitive data on large, dispersed networks such as the Internet.

2.1.1. Blockchain systems and decentralised data storage

Blockchain is a consensus method for generating a distributed, shared, and immutable ledger of transactions (a "block"). This ledger can be used to generate a record of financial transactions that is both transparent and verifiable. This database is being compiled by a diverse group of people, not all of whom may have complete faith in one another.

The following are the three primary types of blockchain technologies:

- Public blockchain: Here, anyone can verify transactions and arrive at a consensus. Instances Bitcoin and Ethereum [6].
- Consortium blockchain: This type of blockchain has a controlled user group and is semi-private. We can choose in advance whether the information in a blockchain will be public or private and for which user group [7].

JMEE
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- Private blockchain: In contrast to public/open blockchains, not all nodes are permitted to participate in the verification and consensus process. Nodes are restricted, and a stringent management authority regulates data access regulations. Example Ripple [8].

All three make use of programmable money techniques that have been around for several decades, such as algorithms for distributed consensus, hashing, and digital signatures, in addition to distributed database technology. The phrase "distributed ledger technology" (DLT) is commonly used to describe this topic in terms that are broader and more general in order to avoid confusion with the more specific term "blockchain." There is little doubt that the successes of Bitcoin and, subsequently, other permissionless programmable money systems served as an inspiration for the most recent wave of research and implementation of distributed ledger technology.

2.1.2. Smart contracts

In addition to recording financial transactions, blockchains can store any time-sequenced data, such as the instructions for a "smart contract," which can then be executed once the data has been read. Due to their decentralised nature, blockchains have grown in popularity over the past few years [9]. According to the terms of a software-defined contract, 'smart contracts' make it possible to transfer digital assets in a digital environment and ensure that the transfer occurs. Clack et al. proposed a definition for smart contract. They defined a smart contract as "an automatable and enforceable agreement. Automatable by computer, although some parts may require human input and control. Enforceable either by legal enforcement of rights and obligations or via tamper-proof execution of computer code." [10] For instance, a business could use a blockchain smart contract to pay digital currency to a customer upon the occurrence of a mutually agreed-upon state transition. A specified software clause would determine this. Smart contracts have an advantage over traditional contracts in that the blockchain network itself ensures the contract is executed without the need for a third party (such as a trustee or escrow agency) to act as a mediator between the parties. Smart contracts eliminate the need for this [11] This might open the way for further automation of transactions and reduce the amount of friction that occurs when different parties exchange value.

2.1.3. Impact of Blockchain technology

It is possible that, as a result of blockchain technology, the costs that are associated with trusting the financial system will be reduced to a significant degree. Numerous factors, such as vault doors, cybersecurity, settlement processes, identity management, regulatory teams, security officers, and anti-fraud systems, make it possible for banks and other centralised institutions to charge exorbitant fees. All of these factors contribute to the likelihood of this occurring. Various financial services, including deposit banking, custody services, insurance, and trading on secondary markets, are built on trust. Customers have confidence in the security of their savings at their respective banks. Investors are confident that their transactions will be handled in a straightforward and trustworthy manner. Additional benefits of Blockchain technology are summarised below:

Table 1 Aspects of finance and Blockchain technology

Finance and Blockchain technology		
Advantages	**Challenges**	**Functions**
People	**Financial Challenges**	**Data ownerships**
Relationships Confidentiality Openness	Vulnerability Security incidents	Credit resources
Organisation	**Regulation Challenges**	**Data sharing**

JMEE
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Centralisation Decentralisation Transaction Speed	Government regulations	Data automatic records
Technology	**Operational Challenges**	**Data protection**
Smart contracts	Wasted resources	Privacy protection
Network security	Scalability	
Economics	**Adoption Challenges**	**Devising innovations**
Low transaction cost	Standards	Smart contracts

In order for financial institutions to successfully reconcile their consolidated accounts and records, they are required to rely on back-office operations that are both time-consuming and expensive. Institutional entities such as large banks, exchanges, clearinghouses, and central banks, in addition to start-up businesses attempting to challenge traditional business models, are investigating distributed ledger technologies (DLTs) as a means of addressing the numerous associated costs. This is done in an effort to challenge traditional business models. Current participants in the market are optimistic that this innovation will help them save money and reduce risk, particularly in regards to the administrative or post-trade responsibilities that they are responsible for [12]. New companies are constantly vying for a portion of the substantial economic rents that exist in the financial services industry. This is done with the goal of providing the general public with services that are superior in both quality and cost but are still within their financial reach. A growing number of companies are considering how they can capitalise on the growing interest that the general public and a growing number of businesses have shown in programmable money. The global economy as a whole, including its most important subsystems, such as the financial services industry, have struggled with a number of issues and have ample room for expansion. This is true despite the fact that there is ample room for growth. There have been several instances of severe problems in the financial and banking sectors. Tens of millions of people were forced to quit their jobs and move out of their homes as a direct consequence of the global financial crisis that occurred in 2008. While it is necessary to investigate and consider how the implementation of technologies such as blockchain and DLT may affect the stability of the financial system, it is also worthwhile to investigate whether or not these technologies, which are currently not dependent on centralised institutions, could in fact contribute to the creation of a more robust financial system. While it is necessary to investigate and consider how the implementation of technologies such as blockchain and DLT may affect the stability of the financial system, it is also worthwhile to investigate whether or not these technologies could contribute to the creation of a more Central intermediaries hold a disproportionate share of the system's risks and are in an excellent position to extract enormous economic rents. The financial sector has a long history of concentrated risk, and the economic crisis that occurred in 2008 is merely the most recent illustration of this pattern. Despite the fact that contemporary approaches to verifying and settling payments represent a significant leap forward in comparison to their forebears, these approaches are expensive and fraught with risks associated with verification and intermediaries. Furthermore, the level of financial inclusion varies greatly from one part of the world to another, and the transaction fees that are associated with various financial products can sometimes be unaffordable.

3. Programmable money (PM)

Before blockchain-based transaction technologies can realise their full development and operational efficiency potential, there are a number of technological obstacles that must be overcome. Some of these obstacles are unique to particular blockchain platform technologies, while others are inherent to distributed ledgers as a whole. As they work on blockchain-based systems, software developers

JMEE
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will need to address new architectural and development challenges. Programmable money is distinguished from other forms of digital currency, such as database tables in a financial system that "store" money digitally, by the term "programmable." Ethereum is an example of this type of digital currency [13]. Frequently, "programmable money" or "smart money" refers to money that must first meet a set of predetermined conditions before it can be spent.

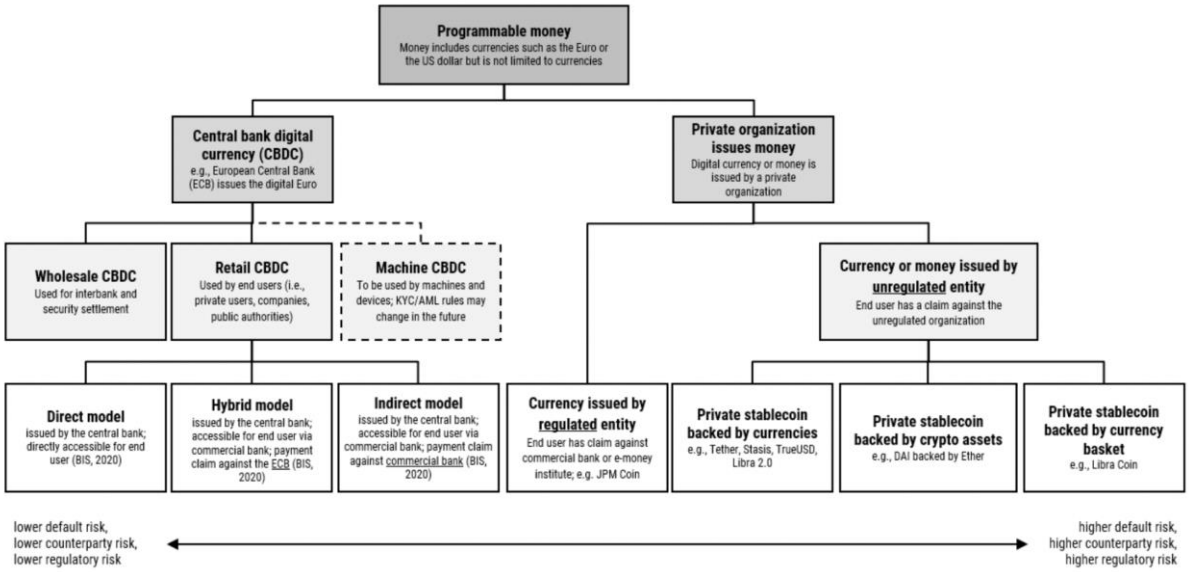

Fig 1 Taxonomy of programmable money [14]

3.1. PM vs Conventional digital money

Traditional methods of digital money are built on a foundation of double-entry accounting. Every user does not have their own private supply of virtual cash in their accounts. The bank takes on responsibility in the form of monies that are owed to it in the form of deposits; this debt is offset by the bank's assets (claims on others, such as loans and bonds held). Programmable money has no connection to anything that is valuable. As a direct consequence of this, Programmable money may be locked up for long stretches of time without experiencing any adverse effects. Contrary to this in the traditional finance markets, banks are unable to lawfully safeguard the money of their customers. Banks are required to take ongoing steps to ensure that they are solvent (have more assets than liabilities) and have sufficient acceptable assets, such as central bank reserves, to meet their commitments to other banks and their customers. These obligations include ensuring that the banks have enough assets to cover their liabilities.

3.2. Economic stagnation and programmable money

There are a great deal of challenges that need to be overcome before complementary monetary systems can be properly implemented, which is one of the reasons why they are not utilised more commonly. Although such fundamental characteristics such as transparency, decentralisation, and security can be inherited from a protocol that already exists.

Ethereum, the most popular blockchain platform for app creation, simplifies the process of creating a decentralised token that can be completely configured, and current standards guarantee that it will be compatible with a broad variety of services and apps from the very beginning. In light of this, an Ethereum-like system is an acceptable underlying technology for the implementation of a safe monetary system, notwithstanding the significant challenges it presents in terms of scalability. This

establishes the framework for additional research into, and the actual implementation of, local currencies based on blockchain technology. We should anticipate, in the not-too-distant future, a transition from the digital implementations that are currently in use to a local currency system that is based on blockchain technology. This should be expected in light of the near-term benefits that distributed ledgers may bring to the model of the local currency.

4. Governments & control

Central banks are the entities responsible for issuing national currencies, and these currencies may take different forms, such as physical notes or digital tokens. Which are supported as well as constrained by national or regional monetary policy, which is in turn often determined by national governments and may entail increases or falls in volume or value. This policy may also be supported or constrained by fiscal policy. Value shifts are often determined by international agreements made between nations. In spite of the fact that this is intended to be handled by central banks, governments nevertheless have some say in the matter. There has been a significant amount of consideration given to the creation of a digital version of national fiat money that would be issued and maintained by the central bank of the country. Since the beginning of 2014, when preliminary study and speculation were first begun, key international organisations and central banks, such as the IMF, continually remarked that cryptocurrencies would be a part of their long-term plan.

4.1. Control using quantitative easing

In a zero-interest-rate economy, governments frequently employ quantitative easing (QE), which entails adding government bonds to the balance sheets of central banks and then relying on the commercial banking system to translate this into a transfer of cash into the real economy [15]. This is done in order for governments to exert influence over relative interest rates. Despite the fact that commercial banks would benefit from this development, they have been hesitant to implement it in the past. It is possible that the money supply could be expanded rapidly through the issuance of programmable money as a form of quantitative easing [16], without the participation of commercial banks. Automated rules could deliver interest directly to programmable money, thereby directly incentivizing saving. This would eliminate their current reliance on banks to provide incentives for savings. On the other hand, this may reduce the reliance on the ethical conduct of commercial banks as an incentive for depositors.

4.2. Control over tax avoidance

Instead of relying on the current centralised system, which requires the coordination of multiple ledgers across many parties (individuals, employers, companies, banks, as well as the government), authorities could use traceability to communicate tax records for corporations and individuals, and possibly levy taxes at the source. This traceability offers a substantial prospect for reducing tax evasion, provided that a sufficient amount of programmable money is used as a fraction of the total money supply.

Additionally, any government controlled cryptocurrencies may be parameterised in such a way that only trustworthy parties are able to use them. This would remove a significant incentive for tax evasion in many countries that currently operate on a cash basis. There is a risk of unethical social control being implemented, for instance by preventing access to it for particular groups of people and therefore growing the divide between the "haves' ' and "have nots" in society. This parameterisation is likely to vary from country to country as a consequence of changes in cultural norms and the participation of the government.

4.3. Political control

The aspect of social control that prevails in societies where the central government is only tangentially connected with democratic principles are marketplaces that are either unregulated or just little regulated [17]. It is possible that the use of programmable money will give governments a powerful weapon for imposing political control, using money as a method of coercion, and denying "undesirables" access to fundamental financial inclusion. The initial libertarian goal of Bitcoin's inventors was the farthest thing imaginable from a centralised, government-controlled programmable money that could be used to subvert democracy and control the public.

5. Central Bank Digital Currencies (CBDC)

In order to avoid these problems, a number of central banks have shown an interest in the prospect of producing varieties of digital currency that are available to a greater number of individuals than central bank reserves. The nation's central bank is most often responsible for the issuance of this kind of digital currency. Both conventional computer systems and the technology of distributed ledgers may be used to enable CBDCs.

Building scalable secure and nationally adopted programmable money using CBDCs using conventional technology is not much easier than interacting with established systems used by central banks. However, even this offers challenges since it is necessary for national central banks to sanction programmable money for it to be successful. In addition, there are potential liquidity problems that could arise if funds are held inside the smart contract for an excessively long period of time.

5.1. General purpose money

The implementation of CBDCs will have economic effects that significantly outweigh the changes in individual behaviour caused by the digitalisation of payment instruments, despite the fact that they may implement entirely different currency concepts that share little more than their immateriality and the acronym money flower [18]. CBDCs consist of public-use money in the form of an account held by the public directly at the central bank, which is comparable to accounts typically held at commercial banks (account-based), as well as digital cash, which is comparable to physical banknotes and shares many of the same properties as physical banknotes, including the ability to conduct transactions in private. In addition to the private digital token used in wholesale settlements.

5.2. Benefits

This new type of currency issued by central banks has the potential to increase the transparency of monetary policy, improve the efficiency and safety of payment and settlement systems, give central banks additional tools to combat the shadow economy, money laundering, and tax evasion, and make financial services accessible to those who are currently excluded from such opportunities. As a result of all of these advantages, the economy as a whole will continue to exhibit signs of improvement. However, CBDCs pose new threats to the business models of commercial banks, such as increasing the systemic risk of the private banking industry, and may threaten individual rights, notably privacy. Despite the fact that a number of studies have demonstrated that CBDCs are superior to cash, others have cautioned that the value of one over the other could fluctuate depending on the rate at which cash is replaced and the method used to replace it. It is generally accepted that central banks should produce a CBDC that meets expectations (potential users of the digital euro appear to favour privacy, security, and widespread use), and then refrain from taking

additional steps to accelerate the process of cash replacement. Because of this, current and prospective users must be able to choose between cash and CBDCs as their payment method.

5.3. Concerns

The general rule is that money issued by a central bank may only be used to make purchases using other kinds of currency or for transactions that take place directly between commercial banks that have reserves deposited with the central bank [19]. As a result, the dependence that consumers and companies have placed on the money that is issued by central banks has decreased. This is a tendency that has been accelerating in many countries, including the United States. This decline might have unanticipated consequences for financial inclusion, contestability in payment systems, and even monetary policy when new kinds of electronic money and payment systems are implemented.

One of the most prevalent concerns raised in literature is the possibility that a digital currency issued by a central bank may disintermediate the banking industry. If individuals and companies find this new option to be acceptable, they may transfer substantial quantities of money from their private bank accounts into the digital currency issued by the central bank [20]. If the cost of bank financing goes up, the banks' willingness to lend money and make investments can go down as a result.

To make things even more complicated, digital currencies have the potential to be held and used worldwide much more freely than physical currency does. This has the potential to affect international capital flows as well as local monetary policy.

5.4. Prospects of CBDC

CBDCs may be used in a number of different ways by the banks in order to aid the Banks' aims of monetary and financial stability. By increasing the availability of and demand for central bank money, CBDCs have the potential to mitigate the risks that are associated with the advent of new private money creation methods such as stable coins. It might help preserve a payments ecosystem that is stable, progressive, and competitive, which would make it easier to satisfy future payment needs [21]. Consequently, it could facilitate the fulfilment of future payment obligations. Additionally, it may be helpful in mitigating the effects of the falling popularity of currency. Last but not least, a domestic CBDC may provide a potential answer for enhanced international financial transactions in the future.

Some opportunities are illustrated in the following figure:

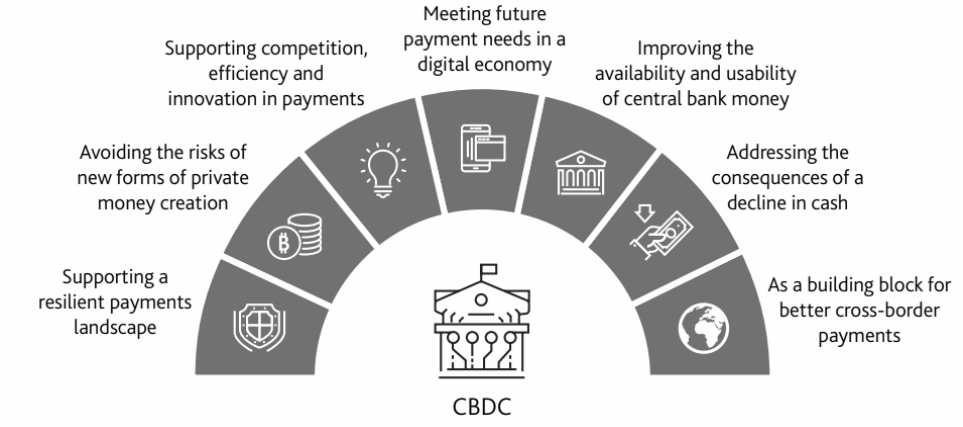

Figure 2 Prospects of CBDC

A few of these prospects are briefly discussed below:

5.4.1. Improve the financial stability

CBDC has the potential to strengthen financial stability by contributing to the robustness of payment systems and by providing some vital payment services outside of the commercial banking sector. It is possible that the launch of this new payment method will result in an expansion of available options, particularly in the domain of online purchasing, where cash cannot be used. Because it is less likely that CBDC and card networks would both go down at the same time, it is possible that CBDC might be utilised in lieu of card networks. The infrastructure of the CBDC has to be developed from the ground up with the idea of resilience at the forefront. This can include, for example, implementing certain aspects of decentralisation in order to increase operational resilience and avoiding the usage of outdated technology. While efforts are being made to strengthen the resilience of existing payment systems, the structure of the CBDC ecosystem may be architected to prevent some of the vulnerabilities that have developed in payment systems over time. These vulnerabilities have been brought about by the evolution of payment systems.

5.4.2. Adapting to the evolving payment requirements of the digital economy

The subsequent iteration of payment systems has to be suitable for use in a digital economy and provide straightforward communication between consumer and business services. Keeping this in mind, CBDCs may be established as a new system that would be to the advantage of the economy as a whole. In the instance of programmable money, CBDCs may make it simpler for transactions to take place depending on the conditions that have been established in advance. Integration with physical devices and applications based on the Internet of Things (IoT) are only two examples of the many different ways such capabilities might be put to use [22]. To name just a few potential applications of this technology, taxes could be automatically remitted to the appropriate authorities at the point of sale, dividends could be instantly distributed to shareholders, and utility bills could be mechanically settled between consumers and utilities based on actual consumption patterns, to name just a few of the many possible use cases. It is feasible that the adoption of micropayments might be facilitated by CBDCs, provided that it makes it possible for very small transactions to take place at far lower costs than what is now available. This has the potential to increase the amount and frequency of such payments, which may stimulate the establishment of new enterprises that make use of this feature. Increasing the volume and frequency of such payments This has the potential to clear the path for new kinds of business models, such as ones that include the purchase of digital content.

6. Chinese social credit management (CSCM) system

CSCM is an umbrella term for a wide variety of activities with common goals, frameworks for action, and policy. The CSCM system serves as an example of the informatisation of governance for the Chinese government. By facilitating horizontal and vertical information sharing, removing the principal-agent issues and departmental protectionism that have long plagued China's governance architecture, and digitising data that was previously only contained on paper, it uses information technology to revolutionise the way that Chinese government authorities manage the state and society. These problems and protectionism are what have plagued China's governance architecture for a long time. When the appropriate technical infrastructure is in place, it will be possible to identify individuals as well as collect, store, process, disseminate, and use data on those individuals.

JMEE
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6.1. Objectives of CSCM

The expansion of the financial services industry, on the one hand, and increased adherence to legal and regulatory requirements, on the other, are seen by the government as the two most significant priorities (the latter being the primary goal of the penalty systems). This opened the door for companies to develop their own scoring systems, which may include a rewards programme in addition to ratings and comments provided by platform users. Social credit is being utilised to fight benefit fraud, boost domestic consumption, and drive the establishment of new economic activity as part of a wider plan to rebalance China's economic development process. This approach is intended to rebalance China's economic development process. To achieve this goal, people, particularly those who do not have bank accounts or who have just a limited number of accounts, need to be recruited into a system where they can become financially engaged.

6.2. Main steps of CSCM

Identification of all those who must comply with the system is the first, essential condition. This occurs on two levels: first, by preventing actors from remaining anonymous, and second, by implementing a standardised file system that assigns unique identities to distinct topics. There wasn't much wiggle room when deciding on a name or number to uniquely identify a person. The need to restrict anonymous behaviour is not new; it was the impetus for the invention of licence plates for automobiles, to name just one example. While digital technology has many benefits, its widespread usage has also introduced new difficulties [23]. The leadership has stepped up their efforts to implement real-name registration requirements across the board in the digital sphere, including but not limited to the acquisition of (mobile) telephones, the use of online account-based systems, and participation in social media, in an effort to combat the pervasive anonymity that permeates these spaces. To facilitate ever more precise identification of people and linking of this identification with state-held information, the Chinese government is extending its biometric identity databases.

6.3. State and non-state actors

The blacklist processes of the CSCM strengthen traditional law enforcement tools by basing the criteria that are to be enforced through the system on existing laws and regulations. On the other hand, China's cash-based economy meant that in order to develop a credit economy, non-financial proxy categories would need to stand in for a well-measured creditworthiness record in terms of a financial score. This presented a challenge for the Chinese government. Due to the fact that different private corporations have made conflicting claims about the ways in which they collect and handle data, the question of whether or not these companies take into account the enforcement of social norms is still unanswered. However, the concept of private enforcement of social norms via the use of credit reports is an intriguing subject for comparative research.

7. State control and programmable money

China has indicated that the digital yuan will circulate alongside conventional banknotes and coins for an indefinite amount of time into the foreseeable future. According to bankers and other observers, officials in Beijing have the long-term goal of converting all of China's cash to a digital version [24]. Regarding this matter, Beijing has not made any statements. It is possible that the government that issues digital money may see it as a utopian device for tracking public expenditure in real time, easing the delivery of help in the aftermath of natural catastrophes, and spotting suspect behaviour. It is possible for money to be programmed on its own. Beijing has conducted experiments with expiration dates in an effort to encourage customers to utilise products as quickly

as possible at times when the economy is in need of a boost. It is possible to monitor, adding to the existing vast surveillance conducted by the Chinese government. The government utilises a network of hundreds of millions of facial-recognition cameras in order to keep tabs on its residents. These cameras are sometimes used to impose punishments for offences such as jaywalking, and the government employs this network to do so. After an infraction has been committed, a digital currency might be utilised to instantly issue a fine and collect payment for the infraction.

7.1. Comparison

According to the available literature, the United States, along with a great number of other countries, has undergone a significant change in its attitude on CBDC towards a more positive tone in recent years [25]. On the other hand, China has moved far more aggressively to commit early and construct a CBDC. It's likely that the issuing of CBDCs are useful in developing countries like China, but in high-income countries like the United States and those in western Europe, the government is taking a more careful approach in order to guarantee as little disruption as possible. It would seem that the United States is placing its bets on a strategy that would position the Federal Reserve at the forefront of developing payment and currency technologies without ever necessitating the creation of a digital currency issued by the central bank. Through its retail pilot programmes, the People's Bank of China is amassing true "learning by doing" knowledge that the Federal Reserve will not be able to reproduce. This information pertains to the regulation of the intermediary layer that exists between the central bank and consumers. The Federal Reserve has probably come to the conclusion that, in a few years, the risk of piloting or issuing a CBDC will be significantly decreased due to the chance to learn from the experience acquired in other countries, namely China. Experts and the general public won't be able to determine the extent to which CBDC will promote financial inclusion, how to incorporate security features that can handle the risk of cyber threats, whether or not disintermediation or a flight out of banks can be prevented during financial crises, and the cost trade-offs until after all of these questions have been answered.

8. Conclusion

It is anticipated that blockchain technology will play a significant part in determining the path that the financial sector will take. First and foremost, customers would have a greater amount of control over the safety of their personal and financial information. If there was no need for a third party to mediate the transaction, then its successful completion could be assured in every respect. It may be feasible to include other strategies for raising conditionality into the overall financial system in order to enhance it. These strategies might include locking currency until an event takes place or making escrow agreements more easily accessible. It is not yet obvious if broad implementation of distributed ledgers, smart contracts, or tokenisation is required. The success of initial coin offerings and the rise of decentralised finance has shown that the world of money does not need any more layers of complication. Diverse countries, each with their own unique political objectives, are each pursuing their own unique course of action. If we take a look around, we can see that countries that have strong ties between their government, central bank, and commercial banking system are more likely to act first, with the support of their authority to halt or regulate cryptocurrency trade before forming a CBDC. Although the United Kingdom, Japan, and Canada have some of the most developed research teams, it is highly likely that the first adopters will come from China, India and other regimes that are more directly controlled. This is because star controlled regimes have so far conducted a far greater level of research into the issuance and implementation of CBDCs in the background. The CSCM blacklist methods improve the capabilities of traditional law enforcement by grounding the criteria that are to be enforced through the system on extant laws and regulations. To develop a credit economy in China, however, non-financial proxy categories will need to stand

in for a well-measured creditworthiness record in terms of a financial score. This is because China's economy is dependent on cash transactions. As a consequence of this, the Chinese government found itself in a difficult predicament. Concerning the question of whether or not private companies take into consideration because different organisations have said different things about the ways in which they collect and utilise data, the problem of enforcing social standards has not been addressed, and this is a major reason why social problems persist. On the other hand, private norm enforcement via the use of credit reports is an intriguing area for comparative research in the future.

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