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MONETARY SOVEREIGNTY IN A DIGITAL WORLD

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Table of contents

- 1. The definition of monetary sovereignty**
 - a. Sovereignty and autonomy
 - b. Monetary sovereignty and the three functions of money
 - c. The unit of account
 - d. The uniformity of the currency
- 2. The digitalization of money**
 - a. The tokenization of money
 - b. The networks and platforms
 - c. Digitalization transforms monetary systems
- 3. Digital threats to monetary sovereignty**
 - a. The risk to the uniformity of currency
 - b. The disappearance of cash
 - c. Reshaping the international monetary system
- 4. Money and other dimensions of sovereignty**
 - a. The sovereignty trilemma
 - b. The normative power of platforms and digital networks
 - c. Money, payments and data
 - d. Money and privacy
- 5. Possible policy responses**
 - a. The Regulation of digital money
 - b. CBDC: protecting public money in a digital environment

Abstract

This Policy Brief explores the challenges to monetary sovereignty in the digital age, addressing the risks posed by digitalization and tokenization of money, their implications for currency uniformity and stability, and their impacts on the international monetary system. It also examines sovereignty's various dimensions, including the influence of digital platforms and networks, privacy concerns, and the nexus of money, payments, and data. Finally, it evaluates policy options, with a focus on stablecoins and Central Bank Digital Currencies (CBDCs).

Introduction

In September 2019, Facebook announced the launch of the Libra project, a new digital currency, available for use on the whole Facebook network.

That announcement acted as a wake-up call. The world was made suddenly aware of the potentialities of a new money, denominated in its own unit of account and instantly available across the world to more than 2 billion users, irrespective of borders.

Libra illustrated the synergies that large platforms can develop between payments and other data-based activities such as social media and e-commerce. Unlike other crypto currencies, like Bitcoin, Libra was intended to be backed by the U.S. dollar. The project attracted 28 companies and nonprofits, including Uber, Vodafone, Spotify, Visa, and Mastercard, as founding members. Facebook even developed its own digital wallet, called Novi, for the diem coin associated with Libra.

Libra prefigured the development of diverse global stablecoins will ultimately allow citizens as well as firms to choose which currency they want to adopt, and ultimately which global economic and monetary system they want to participate in. A digital wallet on a smartphone becomes the alternative of having a personal bank account. In other words, state capital controls and monetary policies will find themselves in direct competition with smartphone applications and blockchain technologies used to fuel stablecoin.

It should not be surprising, then, that this innovation was met with strong pushback by Government and regulators. Almost immediately, Libra was described as a threat to monetary sovereignty. In the following months, regulators developed their objections.

Due to the lack of regulatory support, the project was finally abandoned. The remnants of Mark Zuckerberg's vision for digital money were eventually sold to a Californian bank for \$182 million.

This paper explores the challenges to monetary sovereignty in the digital age, addressing the risks posed by digitalization and tokenization of money, implications for currency uniformity and stability, and impacts on the international monetary system. It also examines sovereignty's various dimensions, including the influence of digital platforms and networks, privacy concerns, and the nexus

of money, payments, and data. Finally, it evaluates policy options, with a focus on stablecoins and central bank digital currencies (CBDCs).

1) The definition of monetary sovereignty

Any Government (or, for that matter, any private entity) can issue money. The problem is to get that money used by a sufficiently large number of people. Monetary sovereignty means the ability of the sovereign to ensure the usage of its currency on its territory and/or by residents.

Monetary sovereignty allows a nation to control its currency and monetary policies. The loss of control restricts a country's ability to manage economic fluctuations and respond to crises independently, making it vulnerable to domestic or external shocks.

A. Sovereignty and autonomy

Sovereignty is different from autonomy - which is the ability to determine domestic monetary conditions independently of external influences and forces. Yet, autonomy and sovereignty are often used interchangeably. It is well known that, for most countries, monetary policy autonomy is limited if the capital account is (more or less) open conduct an independent monetary policy. Then, even if it has its own currency, its domestic financial conditions are influenced by the monetary policies of other countries.

It has been argued that, by that standard, only a few countries are truly sovereign in the contemporary world. This paper takes a different approach. Opening the capital account is a choice that may entail loss of autonomy. But it is a sovereign choice. Many countries, first of all China, have strong controls on capital movements. Conversely, others have opted for total alignment of their monetary policy on the one of a foreign country, through fixed exchange rates or Currency Boards arrangements. Again, this is a sovereign choice. Sovereignty is a necessary condition for autonomy. However, in the current interdependent world, no Sovereign state is fully autonomous, all are dependent on each other, and influencing each other, admittedly with unequal force. A more circumscribed and precise definition of monetary sovereignty is therefore necessary.

B. Monetary sovereignty and the three functions of money

Money is first and foremost a medium of exchange. It serves to make and settle payments. In most countries, that function is taken over by the private sector. Most of the money we use in our daily lives is made of bank deposits, privately created and managed by banks. That arrangement has been challenged by those who think that banks, in particular, should not be entrusted to create money. It has been formally contested, with no success, in some countries (the Sovereign Money Initiative in Switzerland). Apart from that it is almost universally accepted that the current system is a mix of public and private money where private money is quantitatively dominant. Payment systems are a matter for private enterprises. The medium of exchange function therefore is not considered as involving or threatening the sovereignty of the State.

The same can be said for the second function, the store of value. This is by no means a monopoly of state money. Besides money, many alternative stores of value are provided by private financial institutions and markets.

Central Banks can act on the economy because they set the interest rate attached to their own liabilities. Changes in the policy rate are transmitted across a whole spectrum of financial and credit markets. Central Banks actions (and pronouncements) can then influence domestic financial conditions and the economy.

For that process to work, two basic conditions must exist. First, residents in the country must all use the official currency to count and denominate their transactions – they must have the same unit of account. Second, all the forms of money that circulate in the economy must be denominated in that unit of account and have certain value – this is the uniformity (also called “singleness”) of money.

Monetary sovereignty is achieved if the State controls the unit of account, and the currency is uniform. What delimits a monetary zone, what creates monetary sovereignty, and what makes an independent monetary policy possible is the simple fact that people all count and pay in the same unit; and that money units have the same certain value everywhere in the area, whatever their form, their location and the identity of their issuer.

C. The unit of account

The unit of account may be the most important function of money. It serves for quoting prices, for denominating debt, and for negotiating contracts. It is a basic

convention of society, such as the language and the standards for measurement. In modern economies, the central bank defines and controls the unit of account.

Monetary sovereignty can be defined as the ability of central banks to control the unit of account in their whole jurisdiction. Monetary sovereignty is lost when citizens start using a foreign (or private) currency in their daily lives to quote prices, wages, and financial contracts. In that scenario, the economy is "dollarized". Domestic monetary and financial conditions are determined by an authority (foreign or private) that issues the unit of account. Domestic monetary policy becomes powerless.

The unit of account has the character of a public good. While the two other functions of money (medium of exchange and store of value) can easily be operated by private actors (and indeed are in most countries), the unit of account is a coordination mechanism, a collective standard that can only be efficient if it is universally accessible (not rival, not excludable).

D. The uniformity of the currency

In the economy, money comes in different forms, with different (private) issuers. What matters is that they are all denominated in the unit of account. This is the uniformity of money.

Ensuring that the currency is "uniform" is a major mission for Central Banks. If the currency is uniform, all monetary instruments with the same nominal value trade at par in all circumstances, which eliminates a major source of uncertainty in their valuation, as well as any information asymmetry that could impede trade.

After a century of successful central banking, we tend to take the uniformity of currency for granted. It is not. Uniformity can be compromised by physical distances (as in the Free Banking area in the US), differences in intrinsic values of monetary objects, and, more recently, technological barriers.

The requirements for a uniform currency are very demanding. There needs to a process, an enforcement mechanism that ensures that all forms of money are considered as strictly equivalent at any moment in time. In practice, uniformity can be achieved when the different forms of money are always and everywhere convertible into each other, unconditionally and at par. In that case, the same money is truly circulating under a multiplicity of representations.

2) The digitalization of money

Digital money has surfaced in a variety of contexts. Chinese mobile applications WeChat's and Alipay's digital wallets are used by hundreds of millions of customers and have come to dominate the payment system in China. In Africa, mobile providers have launched successful money transfer services, such as Safaricom's M-Pesa. Meta (formerly Facebook) has led the development of digital currencies for social media networks, announcing plans – which were later rescinded – to issue its own currency, the Libra, a “stablecoin” pegged to a basket of official currencies. Finally, in recent years, thousands of cryptocurrencies have developed and prospered on blockchains with various protocols (and different degrees of decentralization).

Technically, digital money is both an instrument (tokens stored on a mobile device or computer) and an infrastructure (the network that transfers value across space). The internet allows to copy and transmit information at almost no cost over any distance. This creates enormous possibilities for citizens and businesses. New forms of digital money had to wait for recent progress in cryptography. Only since recently can such transfer of value over the internet and phone networks be made secure.

A. The tokenization of money

In monetary economics, a "token" is an instrument representing value that can be exchanged directly, on a peer-to-peer basis, without validation by a third party. Just holding the token means that one legally possesses it. There is no need for identification and certification. Cash, in the form of banknotes and coins, is a physical token.

Technology now allows the creation of purely digital tokens. A digital token has a name attached to it. By just changing the name, the value has been transferred and a payment is made. While the principle is simple, its implementation necessitates sophisticated technologies. The possible "tokenization" of money (and also other financial assets) may be the biggest innovation in the field of payments and finance over the last decades.

Digital tokens are easy to create. Today, any sophisticated software developer can issue money. Digitalization seemingly “democratizes” the monetary power. Not surprisingly, it has unleashed a wave of new private money initiatives. Today

there are almost 9,000 cryptocurrencies³ with different characteristics and unequal significance.

Digital tokens are fungible, divisible, and transferable. They can be customized to any specific need. They need proper security, and must be supported by a robust legal infrastructure. But they are otherwise fully flexible. In particular, tokens can (or not) keep track of the sequence of payments (the names attached to the file). Payments can be made more or less private or anonymous.

B. *The networks and platforms*

Digital networks tend to be organized around platforms. Platforms are defined as multi-sided markets where goods and services are provided to several distinct groups of end-users. In ordinary language, platforms are "ecosystems" within which consumers, merchants, and service providers interact. The economic logic of platforms is to create and develop complementarities and links between different activities.

Money can play an important role in the business model of platforms, as a shared (form of) currency could strengthen the network effects that keep a platform functioning. To lock-in customers and enlarge their footprint, platforms have the technical capacity to create their own differentiated digital money. This evolution is occurring most spectacularly in China, where fintech companies such as AntFinancial and Tencent have moved aggressively into payment services and e-money. They have developed state-of-the-art mobile payment systems while simultaneously aggregating many diverse activities. This model may also expand to other parts of the world.

C. *Digitalization transforms monetary systems*

First, money is becoming more diverse. Money in digital form is easy to create. It can be tailored to almost any shape or usage. It can be managed through a great variety of ledgers and protocols.

Second, money may become accessory to other services. In particular, money gives access to data. Big Tech platforms have an edge in data collection through their ability to combine payment data with other data sources. This induces a self-enforcing mechanism. Platforms that offer their own payment services are able to collect even more data, which improves their recommender systems, which makes more attractive for customers to join them.

Finally, money is becoming more competitive. In a digital world, (almost) anybody with some expertise in cryptography and computer science can create money. Experiments in private money (cryptocurrencies) are now flourishing. Currency competition may also develop both inside and across borders, with some countries – or private operators – using their digital networks to circulate their currencies in other jurisdictions, creating so-called global stable coins.

3) Digital threats to monetary sovereignty

A. The risk to the uniformity of currency

Economic forces unleashed by digitalization naturally work against the uniformity of currency. Private issuers have strong incentives and the technical capacity to create their own differentiated, special-purpose money. The economic incentives of digital platforms push them to erect technical barriers to the interoperability of their systems. Digitalization may therefore lead to an excessive fragmentation of the monetary space, ultimately compromising the ability of money to serve its basic functions. With each new currency introduced, the risk of fragmentation looms larger, threatening to erode the universal acceptance and fungibility that traditional currencies have long enjoyed.

B. The disappearance of cash

A full digitalization of retail payments would lead to the elimination of cash, which is currently the only public money accessible to all. Should cash disappear, citizens would lose access to public (central bank) money. There would in effect no longer be a functional legal tender, with the operation of the monetary system turned over to private entities. Money would no longer be a physical manifestation of sovereign authority. Citizens would no longer have any visible symbol linking money to the authorities and to the central bank. Symbols are important for money, as illustrated by the debates around the euro banknotes when the single currency was created. Connecting the central bank to money might also be important for the effectiveness of the central bank's communication.

C. Reshaping the international monetary system

Digital networks are ubiquitous by nature, they are not bounded by national borders. Any currency associated with a digital network is thus in effect potentially a cross-border currency. This implies that any person with an internet connection is technically able to exchange value with any other person instantly, securely, and at extremely low cost. Governments will face complex challenges to enforce

their fiscal and monetary policy, while the notion of cross-border payments, among others, will become obsolete.

One important threat to monetary sovereignty is “digital dollarization”, a process through which a domestic residents get accustomed to use a foreign currency is used as unit of account by participating in a foreign digital network. This is a real possibility for medium for small or medium size emerging economies without a strong monetary credibility. It is sometimes mentioned that the digital yuan, also known as eRMB, or e-CNY, developed by the People’s Bank of China would serve as an avenue for the internationalization of the Renminbi. There is some anecdotic evidence of Chinese citizens using Alipay, WeChat to settle in Yuan purchases and payments made in other countries.

Digital platforms may want to become autonomous monetary systems, currency areas of a new kind: Digital Currency Areas (Brunnermeier et al., 2019). Those currency areas are not defined, as in the traditional literature by the commonality of macroeconomic shocks and the degree of factor mobility (Mundell, 1961). They are based on digital interconnectedness. Because participants share the same form of money, payments inside the area are easier and trading frictions are lower than with the outside world.

4) Money and other dimensions of sovereignty

A. *The sovereignty trilemma*

- Citizens vs. State: Individuals seek greater autonomy and control over their digital lives, favoring decentralized currencies like cryptocurrencies due to mistrust of state-backed initiatives like CBDCs, which they fear might infringe on their privacy and increase surveillance.
- Citizens vs. Platform Networks: Users are advocating for greater control over their data, challenging the dominance of platform networks. However, they're simultaneously reliant on these networks for connectivity, services, and often their livelihoods. Balancing their desire for sovereignty with dependence on these platforms becomes a challenge.
- State vs. Platform Networks: Governments are concerned about the monopolistic control of data and its societal implications. Simultaneously, platforms are wary of government regulations that might restrict their

operations or access to user data, fearing it could affect their business models and innovation.

The simultaneous erosion of trust in both centralized platform networks, and state institutions will certainly affect both the development of CBDC and other private digital currencies. It is still important to highlight the difference between a

democratic state under the rule of law, whose mission is to protect the public interest, and private companies, whose main purpose is to maximize shareholder profit.

B. The normative power of platforms and digital networks

The platform's model is intrinsically destabilizing for sovereignty. Platforms wield unparalleled authority in setting rules, norms, and standards, which originally was the case only for sovereign states. A prime example is the governance exerted by entities like Meta and X (formerly Twitter) over content and user behavior.

By dictating rules and norms akin to sovereign states, platforms enjoying a monopolistic situation, have the possibility, if not the incentive, to establish their own unit of account. This move would grant these platforms an unprecedented level of financial autonomy, altering the dynamics of global economies and potentially challenging established currencies. Back in 2019, Facebook announced working on a stablecoin payment system for billions of people and their transactions across the globe. However, the introduction of such a stablecoin would have further destabilized traditional monetary systems by presenting an alternative means of exchange outside governmental control. Just a few months after the announcement, the U.S. House Committee on Financial Services Democrats asked the company to stop the development of Libra.

As these platforms evolve and expand their influence - Meta currently culminating almost 4 billion of monthly active users¹ - the fragility of traditional notions of sovereignty becomes increasingly evident, demanding a reevaluation of power dynamics and regulatory frameworks in the digital age.

¹ Meta Earnings Presentation Q3, 2023. [investor.fb.com
https://s21.q4cdn.com/399680738/files/doc_earnings/2023/q3/presentation/Earnings-Presentation-Q3-2023.pdf](https://s21.q4cdn.com/399680738/files/doc_earnings/2023/q3/presentation/Earnings-Presentation-Q3-2023.pdf)

As a matter of fact, China launched its anti-tech monopoly in 2022² for this specific reason. What has been understood as nonsense in the Western world³ - who could imagine the U.S. would tear down its own big tech - actually aligned with China's digital sovereignty goals. Focused on driving robust economic growth in global and local tech sectors by controlling the hegemony of its own and foreign tech giants. This strategy emphasizes strict state oversight, ensuring conformity with Chinese values and the objectives of the CCP, governing market structures and participant conduct.

C. Money, payments and data

On 1 March 2021, leaders of four EU countries reportedly sent a letter to the President of the European Commission, in which they wrote: "Data has become a new currency which is mainly collected and stored outside Europe"⁴. Though it is technically not entirely accurate, this formulation highlights an important fact: in the age of digitalization, the interconnection between money and data is pronounced, jointly shaping the boundaries of sovereignty.

Payment systems are one privileged entry point. Every monetary transaction is an opportunity to collect data. Every credit is increasingly based on the exploitation of data. Whoever operates payment systems therefore has a significant impact on the treatment of data in the EU. Today, a large share of retail payments is operated by foreign-based entities. Most data are stored outside the EU, which raises significant privacy issues. To some extent, the tension can be managed as current payments systems – based on banks and credit cards operators – are not built with data exploitation as their primary principle of business and source of profit.

Those models are changing, however, with digitalisation and platform-based systems. Those rely mainly upon data collection and treatment as a source of income. From a public policy perspective, technological dependence on payments will translate into less control over data. This may also compromise the pursuit of other core policies, such as the fight against money laundering, terrorist

² Nicole, Sarah (2023) China's anti-tech monopoly policy: a unique approach to digital sovereignty <https://medium.com/@sarah.nicole/chinas-anti-tech-monopoly-policy-a-unique-approach-to-digital-sovereignty-9cfd29bda753>

³ The Economist, Xi Jinping's assault on tech will change China's trajectory <https://www.economist.com/leaders/2021/08/14/xi-jinpings-assault-on-tech-will-change-chinas-trajectory>

⁴ Eder, Florian. (2021). "Merkel among 4 leaders in push for EU digital sovereignty". Politico Pro article, 2 March.

financing and tax evasion. There will be increasing convergence between data and monetary sovereignty.

D. Money and privacy

For digital money, the challenge raised by privacy can be simply described. Cash is private by nature. It guarantees third-party anonymity and it leaves no traces. Regulation is necessary to limit the privacy it confers. For a digital currency, the logic is inverted. Transactions in digital money are recorded on a ledger – they necessarily involve a third party. No public digital currency will automatically and spontaneously ensure the same level of privacy as cash. For a digital currency, privacy has to be decided, organized and embedded into its design. It will result from fundamental political and social choices.

It should be noted that an important difference exists between the concepts of anonymity and privacy. Privacy requires that both the nature and participants to a transaction remain unknown. Anonymity is less demanding: while the identity of the parties is protected, the transaction itself can be observed and recorded.

The technology offers many degrees of flexibility in deciding and implementing privacy/anonymity options. Privacy and anonymity can be differentiated according to the operational level. For instance, privacy may be assured for offline transactions below a certain threshold. Anonymity can be guaranteed *vis-à-vis* public authorities and not private operators – or the reverse. Depending on countries, it is possible that preferences differ, as the population may trust the government or the private sector more to preserve confidentiality of their data. An architecture that gives maximum flexibility while fully compliant with regulations is more apt in ensuring trust.

The emergence of cryptocurrencies, highly influenced by the Cypherpunk Manifesto published in the 90s, showcases an unequivocal prioritization of privacy while rejecting any sort of government, corporations, or any other large organization intervention. This highly libertarian ideology is embraced by specific communities, among which the Web3 communities and early adopters. Web3 motives for more decentralized peer-to-peer systems, owned and governed by their users rather than centralized operators or trusted intermediaries, utilize innovative technological platforms that empower users to regain control of their data and digital assets. These communities use computer code, and open-source decentralized and distributed technologies like blockchain as tools of sovereignty⁵. These technologies are mostly defined as free of third-party control.

⁵ N° 23 - Septembre 2023 - La souveraineté numérique : dix ans de débats, et après ? La souveraineté numérique sans l'État : y a-t-il une souveraineté individuelle pour « l'homo numericus » ? Pierre NORO

Additionally, in Western societies, China is depicted as the opposite example because of its minimal digital privacy and absence of digital ownership. This has led to a growing emphasis on individual control, especially due to privacy concerns. So much so, that the leading high tech media TechCrunch titles one of its first 2024 article “Data ownership is leading the next tech megacycle” explaining how data privacy will turn into data ownership in 2024⁶.

As of now this narrative of individual sovereignty is mostly targeted towards big tech companies. The main reason is their abusive control of data from its users. Harvard Professor, Shoshana Zuboff labeled this political economy “surveillance capitalism”. As seen above, the power of centralized platforms and digital networks strongly impacts individual behaviors, fuels polarization, and by doing so, weakens democracy.

5) Possible policy responses

Protecting monetary sovereignty is a universal objective of all Governments, whatever their institutional and political regime. A variety of approaches are available. All involve some mix of two policy instruments : first, the regulation of digital money; second, competing with private issuers through the issuance of a public digital money, the so called Central Banks Digital Currencies (CBDCs)

A. The Regulation of digital money

Many regulatory actions are currently taken in various countries. In April 2023 the Markets in Crypto-Assets Regulation (MiCA) was adopted in Europe.

Most initiatives focus on the regulation of stablecoins. As of 2023, over 25 countries have adopted legislation with regards to stablecoins, most of them being European countries.

MiCA states that stablecoin issuers are required to be licensed as either electronic money institutions, credit institutions, or providers licensed under MiCA, depending on the qualification of the stablecoin to be issued.

In the United States, in mid April 2024, was introduced the Lummis-Gillibrand Payment Stablecoin Act, aiming to establish a regulatory framework governing

⁶ TechCrunch, Data ownership is leading the next tech megacycle <https://techcrunch.com/2024/01/06/data-ownership-is-leading-the-next-tech-megacycle/?guccounter=1>

stablecoin transactions. Its primary objective is to foster a secure and regulated stablecoin market within the United States while upholding the dominance of the U.S. dollar. Indeed, under the proposed legislation, issuers would be required to exclusively offer stablecoins backed by the dollar, thereby safeguarding consumers by prohibiting the introduction of algorithmic stablecoins into the market. It would ensure that the dollar maintains its pivotal role in digitized financial markets, as issuers must hold significant reserves of dollars to secure a U.S. license.

By doing so, the legislation reinforces the idea that the dollar should remain the primary global medium for digital transactions. This leadership approach distinguishes the U.S. approach to regulating stablecoins compared with other nations.

B. CBDC: protecting public money in a digital environment

The launch of CBDCs is frequently advocated on pure efficiency grounds: to improve the functioning of payment systems. Proponents of such an expansion in central banks' role mainly refer to three arguments.

First, the need to stimulate competition and innovation in payments. Competition in payments is important and difficult, especially in the digital age. It can be best stimulated through specifically designed policies and instruments. As for innovation, recent evidence points to a very dynamic private process. New digital currencies, including cryptocurrencies, in particular stablecoins, have revealed latent aspirations for distant, instant, and peer-to-peer payments. To some extent, they are forcing other actors to adapt. Their business model may raise serious issues of competition and integrity.

Second, the necessity to foster financial inclusion. More than one billion people in the world (millions in the euro area) do not have a bank account. They mostly come from the poorest of households. Many of those unbanked persons have a mobile phone. Mobile payments work for financial inclusion. Instant and easy identification is possible through phone numbers. In case welfare payments are necessary (as was the case during the COVID-19 crisis), governments can reach those segments of the population that need it most. However, is direct public intervention necessary to create and foster mobile payments? In many cases, including in poor and emerging countries, private initiative has provided an efficient service. M-Pesa, in Kenya, has 50 million customers, most of them unbanked. If and when necessary, a proper mix of regulation and incentives applied to private operators could achieve the necessary result.

Finally, the need to improve cross-border retail payments. Technically, domestic payment systems are often not interoperable between countries. Delays are longer; compliance risks and costs related to anti-money laundering and countering the financing of terrorism (AML/CFT) are typically higher. Small payments (such as remittances) are most penalized. Some private digital currencies now offer new solutions that "bypass" existing bank-based payment systems. However, sustainable and scalable solutions will require significant investments to be coordinated between countries. This is a case where public intervention might help. The joint creation, by several countries, of interoperable CBDCs could build the necessary infrastructure and offer a backbone, fostering further private developments.

However, Central Banks have very little comparative advantage in managing retail payments and client relationships. This objective may be best achieved through proper regulation and incentives aimed at the private sector. All in all, the "business case" for a CBDC seems rather weak

The central motive for CBDC is to defend monetary sovereignty in a digital world : protect the unit of account against possible foreign competition ; protect the uniformity of money against a possible segmentation of the monetary system
To the extent that money becomes digital, central bank money must be made available in digital form.

Central bank money is of superior quality because it does not depend on the solvency of a private issuer. It is supported by the power of governments to tax and, in most countries, by legal tender. It provides the ultimate settlement asset between banks. It also defines the unit of account. As long as all forms of money are ultimately convertible into public money, it ensures that the currency is uniform: all monetary instruments with the same nominal value trade at par in all circumstances. They are equivalent.

To fulfill those functions, public money must be present and freely available in all sectors and parts of the economy. The ubiquity of central bank money is essential to its role as anchor. All households must be given the opportunity to hold and use central bank money. The same is true for corporations and financial institutions. As digitalization progresses, private payment and settlement networks and mechanisms will develop for good efficiency reasons, with, in some cases, special-purpose tokens acting as "local" media of exchange. To fulfill its functions, central bank money must be able to penetrate all those "cracks" in the productive and financial system. That can only be achieved if it exists in a form adapted to the needs of a digital economy.

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About the Digital, governance and sovereignty Chair:

Sciences Po's [Digital, Governance and Sovereignty Chair's](#) mission is to foster a unique forum bringing together technical companies, academia, policymakers, civil societies stakeholders, public policy incubators as well as digital regulation experts.

Hosted by the [School of Public Affairs](#), the Chair adopts a multidisciplinary and holistic approach to research and analyze the economic, legal, social and institutional transformations brought by digital innovation. The Digital, Governance and Sovereignty Chair is chaired by **Florence G'sell**, Professor of Law at the Université de Lorraine, lecturer at the Sciences Po School of Public Affairs, and visiting professor at the [Cyber Policy Center](#) of Stanford University.

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