

Monetary Sovereignty and Central Bank Digital Currency

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SUMMARY

The effective monetary sovereignty of a state is the ability of the state to use monetary instruments to achieve its economic policy objectives. This notion goes beyond the conceptualisation of the traditional Westphalian sovereignty of interference-free discretion, which is necessary because of the hierarchical operational complexity of the *fiat* and credit money systems in the modern financial system. At the same time, the monetary challenges of the 21st century may also erode the effective monetary sovereignty of states, which can, however, be partially rescued through the introduction of digital central bank money. The paper therefore explores different areas of the impact of digital central bank money on effective monetary sovereignty, taking chartalist monetary theory as a starting point. It shows how central bank digital currency may achieve an improvement in these areas of effective monetary sovereignty.

KEYWORDS: monetary sovereignty, central bank digital currency, chartalism, monetary policy, financial stability

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In the post-Bretton Woods era, the international financial system evolved along a complex and hierarchical relationship of *fiat* money¹ and credit money, in which the settlement instruments of the smaller countries are backed by the currencies of larger countries. Meanwhile, the money increasingly used in the real economy became the scriptural money created by the banks through lending (McLeay et al. 2014, Åbel et al. 2016). As such, lending is associated not only with an expansion of production capacities and asset prices, but also of monetary aggregates. In the two-tier banking and monetary systems, the central banks keep up the balance of these systems by fine-tuning operations, ensuring the “integrity” of interbank settlements and cash.

Numerous Western countries (especially Sweden and the United Kingdom²) have seen a radical decline in cash in recent decades. Cash, as the liability of a state, can be seen as a final means of payment. In legal terms, it means that the state guarantees the most important functions of this money – store of value, unit of account, medium of exchange – at all times. The currency designated as a measure of value is essential in determining the relative value of the individual goods and services, and that makes money a sort of compass in the various economic production processes. Settlement, as a role, is just as important, i.e. the use of money to facilitate economic transactions, where parties settle their debts to each other on a consensual basis, using a given currency. To avoid the speed of transactions overheating the economy, the central power must also be able to ensure the stability of the value of money, and its subsequent use. But what happens if there is less and less demand for the “debt” of the state, i.e. cash in the society? Who or what could ensure the sustainability of money, and ultimately, of the state?

The state does not provide financial security for the society altruistically. The right to issue

money has been the cause of much fighting throughout history, and counterfeiting has been punished most severely over the centuries. From the early microsocieties based on debt and favour, the central powers built civilisations partly by law and partly by money, as the presence of these centralised institutions was key to their organisation (Knapp, 1905; Graeber, 2011). Money and central power reinforced each other: during the increasingly frequent interregnums after the fall of the Western Roman Empire, there was no known imperial currency in Europe comparable to the Roman denarius. The currencies of some smaller regions (various ducats, florins, etc.) managed to stabilise their rulers’ economic standing for a while, but international trade and the resulting imbalances were able to erode them quickly (Fuller, 2020).

The current financial system is the result of an intricate web of financial interconnections, with several central nodes that are interconnected hierarchically. In addition to the International Monetary Fund (IMF), which, as the legacy of Bretton Woods brings together almost 200 countries, the role of the central banks with SDR currencies – the Federal Reserve, the European Central Bank, and the PBoC, i.e. the Chinese central bank – is also instrumental. But the global commercial banks with balance sheets often exceeding the annual output of a medium-sized country are, more or less, just as important. Then there are the central banks and banking systems of the smaller open countries, which hold international reserves to back their own currency, and rely on the already mentioned actors for further debt issuance in foreign currency.

What does it mean for a nation state today to have its own currency, and how can central bank digital currency (CBDC) help maintain this in the future? This paper seeks to answer this central question, as well as how autonomy in the financial sense can be interpreted in

today's monetary system, and in what sense monetary sovereignty can be discussed in the current international financial system in the case of smaller countries that do not issue reserve currency.

MONETARY SOVEREIGNTY

The concept of money is still the subject of much debate and misunderstanding, which is mainly due to the fact that in the 20th century an economic movement based on a now heavily criticised monetary theory gained dominance (Graeber, 2011). According to metallist theoreticians (Jevons, Menger), money is a market institution with intrinsic value, which developed from barter independent of the state, and is ultimately neutral with respect to real economic processes.³ Anthropological research, however, has never been able to justify the myth of barter (Humphrey, 1985; Hart, 2005; Graeber, 2011), but instead found evidence of the role of the state as a central power in market building, and the close relationship between money and state. Moreover, the axiom of the neoclassical *mainstream* view of money, the classical dichotomy of the neutrality of money, was finally “shattered” in 2008, during the global financial crisis, when the collapse of the financial system dragged a major part of the world economy with it.

This paper starts from the idea that money as an institution embodies a power relationship in a social order based on credit and debt, and therefore inalienably represents a system of accounting and redistribution (Tcherneva, 2016). This interpretation has far-reaching implications if we look at the history of money and state in recent centuries in this light. It shows that the origin of money is closely linked to the institutions of power, taxation and religious sacrifice, as can be seen through numerous examples from the ancient Mesopotamia,

Egypt and Greece. Therefore, in contrast to the barter myth, which was in fact only “invented” by economists in their counterfactual thought experiments, the designation of money as a unit of account had, over time, been more in line with the social organiser principles of a central authority (chartalism). And looking at the powers and responsibilities of the nation states, this is still dominant today.

The Westphalian concept of sovereignty

The Peace of Westphalia signed in October 1648, which ended the Thirty Years' War, marks a conventional milestone in the history of nation-state thinking. While the peace treaties themselves do not *de jure* contain radical innovations in the concepts of religious freedom or sovereignty, the two bilateral treaties concluded at the time *de facto* laid down the principles of territorial sovereignty (Croxton 1999).⁴ Nevertheless, it brought an end to the age of religious wars with an international system of secular⁵ European states gradually evolving, thereby opening a brand new chapter in the history of Europe. The most important change was a radical reduction in the influence of the papal state, as the pope had possessed the power to intervene in the internal affairs of various territories in defence of the Holy Roman Empire, which, with the rise of Reformation, led to increasingly violent conflicts, and eventually to the Thirty Years' War. In *Kissinger's* view the war had no real winners, as all sides paid a heavy price in terms of population decline, so the peace treaties can be seen as a realistic adaptation to the *status quo* (Kissinger, 2014). The participating countries *formally* recognised each other's right over the legislative and executive structures and religious practices in their own territories. Therefore, the resulting practice of state sovereignty⁶ actually means the principle of non-intervention in the

internal affairs of other states, and it was finally crystallised in international law only 300 years later, by the UN Charter, as known today.⁷

The development of theoretical sovereignty and the pragmatic authority relying on it was not quite clear in the history of the emerging nation states, especially in a *monetary* sense. While in the Holy Roman Empire the right to mint coins and to mine used to belong entirely to the monarchs after Charlemagne, or to the prince-electors after 1356, in 1648 this was transferred to the numerous leaders delegated to the Reichstag. Moreover, France, Spain and Sweden, which gained greater autonomy with the peace treaty, also sought to create autonomous money.⁸ At the same time, these states began to issue competing currencies, which increased the role of coins with intrinsic precious metal value, while the potential of money created by sovereign will alone began to decrease with the rising rate of counterfeiting and devaluations. This ultimately resulted in a situation where the control held by a territory over its own currency grew dependent on precious metals, which could also limit the exercise of sovereignty by the rulers. The struggle for monetary sovereignty, as a vital precondition of sovereignty, became a central issue not only in Western Europe, but also in the United States during the Revolutionary and Civil Wars, in the colonies that were seeking independence (Tcherneva, 2016), and it even appeared in the Hungarian War of Independence in 1848, as one of the Twelve Points (Point 9: National Bank).

Monetary sovereignty, seigniorage, hierarchy of money

In the Westphalian sense, monetary sovereignty means the freely chosen currency of a territory and the related right to mine, mint and issue money, which, in the light of the modern

credit money systems and the explanatory chartalist monetary theory, should be interpreted in a more nuanced way. To do this, however, we should present two traditional concepts and issues that concern money with an intrinsic value – as it was typical in the 300 years between the Westphalian Peace and Bretton Woods – in a tangible way, because it is important to point them out in regard to the modern financial system as well, although it would be more intricate. One of the concepts is *seigniorage*, and the other one is the hierarchy of money.

According to *Bjerg et al.* (2017), seigniorage (the revenue earned through the privilege to issue money) may seem to be a simple concept, but when placed in a historical context and examined in literature, the picture is much more complex. The problem is typically rooted in the way we view money, and the financial system discussed in relation to it. If the state creates demand for its designated unit of account which measures purchasing power by way of taxation, then the money it creates and thus being incorporated into the economic cycle also represents purchasing power for it. So, at first, every newly created unit of money increases the purchasing power of the state. However, in the absence of a precious metal or a stronger tax potential, it can gain implicit revenue through devaluation of the existing money supply already circulating in the economy, which we can call inflation (Friedman, 1971). In the age of commodity money, devaluation meant reducing the precious metal content of the minted coins, but instability in purchasing power often brought social and political instability. Consequently, rulers chose to apply devaluation only as a last resort, while the law typically punished counterfeiters with a death penalty for illicit revenue making, dilution of money, and ultimately violating the sovereignty of the ruler.

As for the hierarchy of money, from this

period Gresham's law, according to which "bad money drives out good" [from circulation], is worth mentioning. In the context of revenues gained through devaluation, *Thomas Gresham* observed, back in the 16th century, that the coins *legally* equivalent but with lower precious metal content tend to circulate in the economy, while the more valuable ones typically contribute to savings, therefore prices eventually start to increase, and a liquidity shortage may follow. In the absence of a legal provision – or in today's terms: by floating rates –, the opposite of Gresham's law may instead drive the use of money towards a higher level of hierarchy, where the inferior currency is effectively forced out of the economy, to be replaced with a more stable and more trusted currency. This however, in the case of *foreign* money, could even mean the loss of monetary sovereignty, which a ruler would try to prevent by all means. But in the case of money with intrinsic value, the availability of the currency-backing precious metal itself is the main limit to money creation, and thus monetary sovereignty, which has been overcome by the *fiat* and credit money systems.

Fiat money and effective monetary sovereignty

In 1971, the gold-dollar based international financial system that was established at Bretton Woods after the Second World War collapsed as a consequence of the Cold War competition and the ensuing production-globalisation cycle (Arrighi, 2010). The United States suspended the dollar's convertibility into gold, and the currencies of the various countries moved toward a free floating exchange rate system. This opened a new era of *fiat* money freely created by the states without gold-backing, and also a system of credit money, created by the commercial banks. In this two-tier monetary

system, central banks are above commercial banks ensuring the settlement of credit money by means of *fiat* money, the convertibility of bank deposits into cash, and confidence in *fiat* money as the ultimate payment instrument, as well as stability.

In this system, in addition to the designation of a free currency in the countries with *fiat* money, the concept of monetary sovereignty comprises a free interest and exchange rate policy (monetary policy), and unlimited money creation in the domestic currency (IMF 2006). But even this modern definition can be reconsidered if we take into account the money created by private actors as well (commercial bank money, shadow bank money, cryptocurrency), which is an increasingly important share of the monetary aggregates. In addition, the hierarchy between *fiat* currencies, and the foreign exchange reserve requirement of the international investors and the IMF, which remains an important actor even after Bretton Woods, cannot be ignored.

Therefore, the concept of effective monetary sovereignty, and the evolution of the real possibility of monetary governance in the past 50 years is worth examining. Following the reasoning of *Murau-Klooster* (2020), which distinguishes between the concept and the conceptualisation of sovereignty, we can say that the concept of monetary sovereignty in the modern financial system, which has its origin in the Westphalian system, requires considerable further reflection. This is primarily due to the complex cross-border nature of the activities of hierarchical money issuers in today's financial system, and their limited controllability at the level of nation state authorities. Nevertheless, the states continue to have a number of privileges that make the concept of monetary sovereignty meaningful:

a **DEFINING THE UNIT OF ACCOUNT:** the constitutions of most nation states specify the currency that is officially accepted in their

territory for both settlement and tax payment purposes. According to chartalist views, this right and its enforceability are essential.

b **MONETARY LEGISLATION AND GOVERNANCE:** as *Knapp* (1905) pointed out, the states indirectly influence the acceptability and trustworthiness of the different levels and types of money through civil codes, and directly through monetary regulation. The mandates to be followed and their priorities for maintaining monetary stability can be defined by autonomous central bank laws.

c **FINANCIAL OPENNESS:** a state can enable its currency to be used for creating credit money even outside its jurisdiction through various international agreements and institutions (swap lines, foreign exchange reserves, reciprocal arrangements, deposit insurance schemes).⁹

d **INCLUSION IN THE HIERARCHY OF MODERN FIAT MONEY:** although the currencies of the states with less military power and output typically need to find backing in the form of a currency with greater economic and power background, it also opens up the opportunities offered by the international financial system.

However, the latter two aspects already take us from the Westphalian concept of monetary sovereignty towards the need to define actual sovereignty, as the Westphalian concept provides a far too narrow framework for interpreting the phenomena in the global and hierarchical monetary system today. But rather than just proclaiming the end of monetary sovereignty (Cohen, 1998), it is worth revising the concept and adapting it to reality, as was the case in respect of the peace treaties of Westphalia. Effective monetary sovereignty can be defined as the ability of a state to achieve its economic policy goals through the instruments of monetary control (Murau–Klooster, 2020). This definition may also designate new paths for the states along which their apparent (Westphalian) sovereignty may decrease, while their actual sovereignty may even increase.¹⁰

A further challenge is that in the 21st century, the prerogatives and potentials of the nation states, and effective monetary sovereignty are threatened in many ways. In addition to traditional dollarisation and euroisation, there is also the threat of the so-called digital dollarisation (Brunnermeier et al., 2019; Horváth–Horváth, 2021), which can challenge the currency of a nation state in case a technology company with a large user base issues money. Meanwhile, the potential increase in the penetration of credit money and shadow banking could lead to a situation witnessed in Sweden and the United Kingdom, where the state currency, or cash is used less and less. The introduction of central bank digital currency could be a way to address all these threats.

CENTRAL BANK DIGITAL CURRENCY AND MONETARY SOVEREIGNTY

In this paper central bank digital currency (CBDC) is defined as used by the BIS, according to which CBDC is the official ultimate means of payment issued by a central bank in electronic form which is universally available to households and businesses, and it can bear interest and can be used for bilateral settlements similar to cash (BIS, 2018). Using the precise definition is important because the literature on CBDC has developed rather extensively in recent years, but the economic and legal content of CBDC can vary along with the possible planning aspects (Horváth–Kolozsi, 2019). This paper focuses on implementation in a way where CBDC combines the availability and legal status of cash as the ultimate means of payment, i.e. the debt of the state with the monetary policy role of central bank liquidity in monetary transmission through interbank rates.

While central bank research is typically

focused on payment/settlement technologies, this study aims at a deeper level of interpretation where the widespread provision of safe, robust and convenient access to money guaranteed by the state can have significant implications in terms of monetary policy, financial stability, seigniorage and – practically – effective monetary sovereignty.¹¹ This paper is not intended to argue for or against CBDC by presenting a full cost-benefit analysis, but merely to demonstrate its theoretical relevance in the light of the considerations outlined above.

The importance of central bank digital currency for effective monetary sovereignty

Defining the unit of account

From a legal point of view, central bank digital currency can be seen as the electronisation of cash.¹² Hence, CBDC can be backed directly by the state, considered as the ultimate settlement instrument (“legal tender”). By this instrument, the state can create a safe anchor for the unit of account it has defined.¹³ Without cash or a digital version of cash, the prerogative of defining the unit of account may erode over time, as it does not carry a tangible content for society. Moreover, the state must also provide external money in the form of cash or CBDC to ensure the security of privately issued money, into which the economic actors can convert their bank deposits should it be necessary, or required. In economic terms, bank deposits as internal money merely carry a promise of convertibility into external money at any given time, at face value. In the absence of adequate and available external money, the role of internal money in settlements could also be questioned, possibly undermining the role of the given currency in this respect.

The electronisation of cash could also boost confidence in digital payments and their widespread use. There are still some groups in society without a bank account either by choice or because they do not have access to banking services. Both the availability of a credit risk-free, safe and secure money alternative and the inclusive nature of CBDC could enhance the use of a country’s own unit of account and its cost-effective yet shock-resistant functioning. The Sand Dollar introduced in the Bahamas is intended to increase the number, depth and penetration of economic transactions across the islands, while emphasising offline and offgrid (internet or electricity-free) operation as well. Meanwhile, the risk of counterfeiting, money laundering or other illicit activities that threaten the integrity of the national currency can be minimised, which is another step towards long-term sustainability.

Monetary legislation and governance

As for the role of the unit of account strengthened with CBDC in light of the above, the laws regulating payments, credit institutions and central banks with respect to national currency may undergo further significant changes. This, however, is mainly due to the fact that the instrument designated by the state for accounting, taxation and redistribution purposes would be gaining a tangible economic meaning once more – while the importance of cash is diminishing. The regulation of payments could take on a modern 21st-century form, with electronic cash playing a central role, and the state facilitating even the smallest young businesses capable of innovation through a standardised, non-bank-specific payment application programming interface (API). The Credit Institutions Act could also be clarified, as the state guarantees intended to address the inherent risks of bank deposits, such as deposit insurance, would be redundant. A further objective in central banking legislation would

be to ensure the widespread dissemination of CBDC in an inclusive way,¹⁴ which would allow the monetary authority to target the entire population (e.g. by the mandatory use of CBDC in public administration), making it far more effective to achieve its monetary policy mandate.

The main monetary policy mandate is to ensure price stability, which today is transmitted through multiple channels and the two-tier banking system. One of the most important channels is interest rate: the central bank seeks to influence monetary conditions in the economy by moving the policy rate. But this process takes place at the cost of central bank liquidity used as a settlement instrument for the banking system, occasionally obstructed in some sub-markets, but with a delay in any case, and spilling over into the loan and deposit rates perceived in the real economy. In contrast, CBDC would bring direct transmission in the interest rate perception of households and businesses for interest-bearing instruments. In addition, a much more effective form of quantitative easing than the one used during the past crises could take shape as an easing through CBDC (IMF 2022), which could be used for addressing income inequalities or for more effective tax and redistribution policies, but also for supporting economic growth more easily while reducing climate risks, in coordination with economic policies in an efficient way.

At this point *seigniorage*, potentially transforming alongside CBDC, is also worth mentioning. *Bjerg et al.* (2017) explain in detail that in a two-tier monetary system, where money creation by commercial banks is responsible for the expansion of monetary aggregates, seigniorage based on monetary and opportunity cost calculation also occurs in the banking system. While money creation by the state is traditionally prohibited in many countries, interest income can at best

be generated on the central bank's balance sheet, but significant interest losses, too.¹⁵ The significant profits from the commercial banks' money creation – whether we talk about adding real assets (such as shares, or real estates) to the asset side, interest margins, or lower cost of funding – could decrease considerably as CBDG gains popularity. The primary reason for this is that the flow of bank deposits into CBDC could undermine the banks' ability to create money based on partial reserves, as it may force the commercial banking system to hold more reserves or deposits, depending on the customers' needs. In this respect the profitability and longer-term solvency of the banking system could also be undermined if it fails to obtain additional state guarantees or central bank refinancing for its operations.

From the aspect of a narrowly defined financial stability, i.e. considering only the liquidity and solvency situation of the banking system, the introduction of central bank digital currency may indeed pose some challenges. The inherent liquidity risk of bank deposits, or practical under-collateralisation, can be seen as a trigger for bank runs (Huber, 2021) which, with the introduction of CBDC as a safe instrument, could occur in a financial crisis even more easily than it did with the masses queuing to withdraw their money. At the same time, while retaining the existing powers of the banking system, and acting to avoid interference in the functioning of the financial system, the ways to make CBDC a convenient means of payment, but not an overly attractive form of investment, should be considered. Currently the European Central Bank (ECB) is also looking into the advantages and disadvantages of introducing a quantitative limit on individual digital euro holdings or tiered interest rates to discourage overuse (Bindseil, 2020).

In a broader sense, and considered in social terms, financial stability on the whole could be

enhanced if, along with the growing popularity of CBDC as a safe alternative, the ability of the banking system to create money was removed, and the importance of the credit money system as opposed to sovereign money decreased. With this the two-tier banking system would remain operational, but it would actually start to function in a textbook way, as a financial intermediary. Indeed, if bank deposits were less or no longer available to banks as a form of self-generated funding, then they would be forced to actually gather savings by means of CBDC. This could lead to a much-desired public money reform (Dyson, 2012; Huber, 2017), which is expected to make the financial system less procyclical and more socially balanced. Nevertheless, the impact on lending and hence on the expansion of production capacity and economic growth is still an important issue for debate, which could also make policymakers cautious about enhancing effective monetary sovereignty.

Openness, hierarchy of money and dollarisation

An obvious benefit of digital national currencies could be the simplification and cost-efficiency of cross-border payments, which could also result in increased trade volumes. This, however, requires a high level of coordination, possibly led by supranational institutions (BIS, IMF), the central banks of the largest economies (FED, PboC) or the ECB, the most relevant central bank for Central and Eastern Europe including Hungary. The advantages and disadvantages of this are not trivial, but reducing the risks of lending in non-domestic currency or the weight of foreign exchange reserves by simplifying central bank swap lines could bring significant initial benefits. Allocation decisions for foreign currency investments or access to the foreign exchange market could also become more efficient. Negative effects may arise from the forced adoption of non-

national regulatory items, or from the impact of the above described easy access in the form of sudden changes in exchange rates, or even dollarisation-euroisation.

It is because the introduction of CBDC does not eliminate the hierarchy of money. Actual dollarisation could take place in a digital form, with the Federal Reserve making eUSD available globally (FED, 2022), but even the money issued by big tech companies could force out incumbent currencies due to their broad user base and technological advantage. The domestic CBDC should therefore remain attractive enough so as not to be left behind in the foreign exchange competition, or it should be given constitutional protection, while avoiding Latin America's bad practices¹⁶. Similar considerations led the authors, *Brunnermeier and Landau*, who wrote an analysis for the ECB during the designing of the digital euro (Brunnermeier–Landau 2022) to find that currencies could become more competitive globally both as a store of value and as a transaction instrument, and that the digital euro could even lead to an “automatic” expansion of the euro area.¹⁷ In view of this eurosation risk, however, timing could be crucial for the sovereignty protection role of CBDC, as the risk of currency substitution could increase significantly in a weak macroeconomic environment and a period of high inflation (Brooks 2021).

CONCLUSION

This study briefly reviews the fundamental points of the chartalist monetary theory and Westphalian sovereignty, eventually moving on to the concept of effective monetary sovereignty. According to the central issue of this paper, the introduction of central bank digital currency can have important implications in terms of shaping a country's

effective monetary sovereignty, which is understood as the ability of a state to achieve its economic policy goals by using monetary instruments (Murau–Klooster, 2020). The balance between the benefits and risks of introducing CBDC largely depends on parameterisation, but with the digitalisation of national currencies available in the current monetary hierarchy, in the coming decades we can expect to witness a competition that last occurred in the interwar period a hundred years ago, in the struggle for dominance between the British pound and the US dollar.

Historically, and from the aspect of monetary classification, CBDC can be important within the borders of a nation state or currency area mainly in defining its unit of account, monetary policy and financial stability in a broader sense, and outside the borders in preserving effective monetary sovereignty. Within the boundaries of a country or group of countries, the money issued by the state (society) or private actors (banks) have different characteristics, but share the beneficial concept of CBDC. Outside the borders, the introduction of CBDC could provide some protection against both traditional and digital dollarisation, allowing a state to retain at least partial monetary control over its own currency, as it can ultimately

determine the unit of account in which its public administration operates.

If properly designed, central bank digital currency could provide a state or currency area with effective monetary sovereignty, although with some reservations. On the one hand, with a widespread retail solution, direct social access could make the central bank's interest rate policy more efficient, but at the same time it could make the major cross rates more vulnerable. On the other hand, the challenges posed by private cryptocurrencies or even big tech currencies could be addressed by the state's monetary authority more effectively, but the availability of digital reserve currencies (dollar, euro, renminbi) poses some risks that need to be managed, especially in a high inflation environment. And third, in the event of a financial crisis, the possibility of a safe alternative currency would leave the cash flow in the monetary system intact, and a departure from credit money could make the modern financial systems less procyclical, eliminating the moral threat and social risk-taking associated with deposit insurance and oversized banks with regard to money as a common good. However, the impact on lending and growth potential is not clear, which calls for further research on the subject. ■

NOTES

- ¹ In the absence of a commodity or precious metal backing, today's money is generally declared a legal tender by the state via decree, and its value is also regulated institutionally. This is expressed by the Latin word fiat [‘let it be done’], which refers to the Biblical creation: “God said: »Let there be«, Gen 1:3.”
- ² Although Covid-19 has even increased it in many countries, cash as a share of GDP has fallen below
- 1 per cent in Sweden, and close to 4 per cent in the UK. Source: BIS (2021)
- ³ Unfortunately, every element of this view is based on mistaken ideas, partly due to the uncritical interpretations of Adam Smith's 1776 book, which, founding the discipline of economics, followed Locke's liberal philosophical tradition.
- ⁴ It also clarified the principle of „cuius regio, eius

religio” for the practice of religion, with was established in the 1555 Augsburg Settlement: it was no more compulsory for the subjects to adopt the religion of the local ruler, which also limited the power of the principalities.

⁵ Although the Empire finally ceased to exist only in 1806 as a result of the Napoleonic Wars, its sacral foundation had been challenged, and the European process of secularisation began.

⁶ The Treaty of Chanyuan signed in 1005 in medieval China can be seen as a forerunner of Westphalian sovereignty, as it also comprised territorial integrity according to the status quo (no new trenches or walls would be built, with a kind of extradition treaty). The treaty ensured external peace and internal prosperity for the affected provinces for more than 100 years, during which significant foreign trade relations were developed. The treaty provided a formal framework for „the realm under heaven” (China) to have two recognised rulers, who also created the practical conditions for this with an actual meaning. In China other similar treaties modelled on this one had been signed until the rise of the Mongol Empire in the 14th century.

⁷ It is important to distinguish between the formal framework of sovereignty and the practical conditions of exercising authority, just as an ontological distinction between the ultimate basis of authority (God) and papal authority (the papal state) before the Peace of Westphalia existed. While the concept of (secular) sovereignty was only a formal departure from the Catholic universalism of the Middle Ages, filling this framework with real power potential often took decades, or even centuries in the entities that broke away from the Empire.

⁸ It did not occur quite so smoothly. For example, in Sweden, before the Riksbank was founded in 1668, Johan Palmstruch, director of the

Stockholms Banco tried to introduce paper money, but following the king’s order they printed too much of the new money, and thus the experiment failed, along with a partial precious metal reserve. Eventually, the Riksbank was established with much stricter rules, separated from the direct control of the king (Riksbank 2022b).

⁹ This is particularly significant in the case of the dollar, which has so far typically benefited from its international acceptance: the dominance of the Petrodollar or the Eurodollar, or even the production method relying on cheap Chinese labour has been made possible for the US-based multinational companies through the openness of the dollar.

¹⁰ Let us take for example, the Netherlands and Denmark. The former is a country of the euro area, while the latter has a fixed exchange rate regime, but also its own national currency. The governor of the Dutch central bank participates in the meetings of the European Central Bank’s Governing Council and seeks to promote national goals. In Denmark, however, the available volume of EUR can be seen as a given; the state is not able to create money on its own, and its central bank is not involved in setting the directions for the euro.

¹¹ With CBDC, a central bank can limit the current money creation capacity of the banking system by restricting sight deposits as the banks’ main funding channel, but it can also partially cannibalize the government’s own financial resources, for example, if the demand for treasury bills with less than 1-year maturity declines.

¹² For example, see one of the conclusions of phase 2 of the Swedish e-krona pilot project (Riksbank 2022). Consequently, the Swedish central bank does not see any obvious legal case for the e-krona as an interest-bearing instrument, which could raise further questions, e.g. in terms of monetary policy.

- ¹³ As pointed out by *Fabio Panetta*, Member of the Executive Board of the ECB in charge of payments and banknotes at a monetary policy roundtable in New York on 18 February 2022.
- ¹⁴ Based on an analysis carried out by the IMF legal team (IMF 2020 – Legal Aspects of Central Bank Digital Currency: Central Bank and Monetary Law Considerations), currently only a few of the central banking laws would be suitable for the direct introduction of CBDC, but this situation could be easily managed. However, there seems to be a much bigger problem, namely that according to their research, the current central bank liquidity could not be considered money in monetary law terms, which means that no account-based CBDC would immediately and legally become the ultimate payment instrument. To change this, they recommend a careful approach, with the harmonisation of private law and tax law. The assessment is certainly interesting, as tax payments are currently made in the form of liquidity to Treasury General Accounts (TGA) in most countries.
- ¹⁵ According to *Bjerg et al.* (2017), monetary seigniorage represents the increase in purchasing power gained through new money issuance, while opportunity-cost seigniorage refers to the difference between the interest rates on assets and liabilities (at the central bank), or the difference in funding costs on the liabilities side at commercial banks (low interest rate on created sight deposits versus higher interbank or long-term funding rate). Monetary financing, where the state uses the central bank to directly create money, is considered a prohibited activity in many countries. (See Article 123 of the TFEU.)
- ¹⁶ The example of Argentina or Venezuela could be a warning for the states trying to control monetary relations by statutory means but not taking into account the real capabilities or credibility problems of the state, which often paves the way for black market currency trading.
- ¹⁷ *Huang and Meyer* (2022), who have been documenting the technological-monetary competition between the PBoC and the FED found that the two major economies have pursued different strategies so far: while China has banned private cryptocurrencies and developed its own CBDC, the US has introduced fewer regulations for private actors, started to digitalise the dollar somewhat later, and is seeking to use its existing tools to protect the status of the USD.

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