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## Cryptocurrencies as Instruments of State Economic Policy: Challenges and Opportunities

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*Virtual currencies (“cryptocurrencies”) rely on decentralised payment systems independent of the control of state institutions. However, some countries are interested in creating their own cryptocurrencies, citing low costs and speed of transactions. National digital currencies could stabilise a financial system that uses private cryptocurrency. Their use, however, may challenge, for example, the effectiveness of economic sanctions or combating terrorism financing.*

**Private and National Cryptocurrencies.** Cryptocurrencies are digital forms of value mapping (virtual currencies). They are used in transactions based on blockchain technology, which uses distributed data blocks containing information on payments. These blocks form an open ledger and the credibility of transactions is protected by cryptographic tools and verification by the users. Cryptocurrencies are different from other payment methods in that they have no major issuer (usually they are generated after the creation of a new data block as a result of solving a cryptographic problem) or direct connections between the users and a high degree of anonymity. Other advantages of digital currencies are the speed and low cost of transactions, including the absence of taxes and intermediaries (e.g., banks). The main challenge is securing virtual wallets with cryptocurrencies against theft or strong fluctuations in their value, which limits consumer confidence. The first and still most popular cryptocurrency is bitcoin, created in 2009 in response to the outbreak of the financial crisis in 2008. By mid-2018, the number of virtual currencies in use (they can be purchased on virtual exchanges) already numbered around 1,600, amounting to \$170 billion in market capitalisation, and it is estimated that in 2019 it may increase to more than \$500 billion.

So far, in most cases, governments’ approach to cryptocurrencies has been sceptical, which has resulted in, for example, a prohibition on cryptocurrency in China after hacker attacks or in India, where, according to the government, these virtual currencies threatened the introduction of a reform on non-cash payments. However, the popularity and potential of cryptocurrencies has prompted the authorities of some countries to become interested in creating Central Bank-Issued Digital Currencies (CBDC), created and controlled by a public institution (possibly based on technologies other than blockchain). Research in this area is carried out by about 70% of central banks, including in Sweden, the UK, Canada, Russia, China, and Iran. However, the only country that has already introduced the CBDC is Venezuela (the *petro*).

**Challenges.** Cryptocurrencies (including planned CBDC) are a challenge for the current regimes of international economic and political relations. They may undermine the effectiveness of sanctions, for example, by bypassing international payment systems, e.g. SWIFT. Venezuela, Iran, and Russia are suspected of this motivation because they are all sanctioned, the latter after its annexation of Crimea in 2014. The use of cryptocurrencies may also hinder the fight against money laundering and terrorism financing—the U.S. alleges Iran is involved in both. The work on CBDC may also be a desire to replace

private crypto accounts, and thus to increase control over the flow of capital and society in general. This is especially applicable to governments of authoritarian states, such as China. State participation would, however, result in limiting the main advantages of digital currencies—anonymity and low transaction costs (e.g., no taxation)—or slowing the pace of transactions. At the same time, some central banks that do not plan to introduce CBDC (including Japan or the ECB), pointing to the lack of a need given existing instruments or fears about the stability of the financial market. The long-term effect of popularising CBDC could also be undermining the position of international trade currencies, mainly the dollar and euro.

The Venezuelan CBDC example indicates that its effectiveness is also related to the state of the national economy as well as the level of trust among investors and business partners. The appearance of the petro in February 2018 was associated with the intention of circumventing financial sanctions imposed by the U.S. and others and mitigating the effects of the [economic and political crisis](#) in the country, including high inflation, which the IMF estimates that in 2018 amounted to 1.4 million percent. The petro's effectiveness is negligible because investors are not convinced by its backing by oil resources, whose extraction in the country has been falling, and other countries, such as Russia (which is suspected of cooperation in creating the Venezuelan CBDC), or other OPEC members have not accepted payments in the electronic currency. Thus, the petro is used for transaction settlements within the country, e.g., payment of pensions, although this aspect of its use is limited in part because of a lack of trust in the petro among the Venezuelan public.

**Opportunities.** CBDC adoption could also create opportunities for the economy. With state institutions exercising control over the issuance of virtual currency, it can increase consumer confidence, for example, by being able to react to deep depreciation (such as the rapid fall in bitcoin value in 2017–2018). Increased trust could enhance the scope of use of cryptocurrencies. It could be an impulse for the development of financial services, such as social transfers or payment of tax liabilities. This is particularly important for people with limited access to traditional banking (about 2 billion people globally) because of high costs, formalities, or lack of trust in financial institutions.

At a fintech conference in Singapore in November 2018, IMF chief Christine Lagarde pointed out that CBDC could also stabilise the global financial system against increasingly frequent transactions using private cryptocurrencies, which the IMF considers “inherently unstable.” According to the IMF, it is possible to create public-private partnerships using the assets of both sectors—central banks would manage the transaction process and maintain security while the private sector would provide innovative services. State participation would limit criminal activity. These proposals are perceived by business and investors with scepticism, including the risk of minimising the trump cards of private cryptocurrencies mentioned above. However, the support of key international institutions, such as the IMF, for CBDC, can make an impact on the development of this technology. Lagarde herself argues the IMF's position shows “the winds of change” brought by digitalisation could also transform the nature of “money.”

**Conclusions and Perspectives.** The discussion about the validity of CBDC is at an early stage. Therefore, in the short term, their widespread introduction seems unlikely. A relatively small group of countries may try it, for example, those ending use of cash payments and with universal access to the internet (e.g., Sweden). However, the introduction of CBDC will depend not only on economic but also political goals, such as avoiding sanctions or laundering money. A possible solution would be to check selected operations at the request of regulators or services responsible for the security of the state (this is currently the case in private banks). Negative aspects of the use of digital currencies (including possibly CBDC) will be the subject of talks in international forums. At the G20 summit in Buenos Aires in 2018, it was decided work would start on international regulations regarding private cryptocurrencies. It is not clear what impact the introduction of CBDC would have on the banking sector. Probably, the creation of virtual money by central banks would strengthen them against commercial cryptocurrencies, which could affect a maladjustment of the money supply to the economic situation, but at the same time help to prevent the creation of so-called credit bubbles. It is worth noting that widespread use of CBDC would require extending access to the internet, including the construction of infrastructure.

Within the EU, the principles and possible implementation of CBDC activities can be discussed and coordinated within Union bodies to avoid, for example, the manipulation of their exchange rates. Currently, the European Parliament and the EU Council are taking action on private cryptocurrencies (e.g., including them in the 2015 Anti-Money Laundering Directive, or AML). Strengthening cooperation with foreign partners (conducted by the European Commission) in the field of creating regulations regarding private cryptocurrencies, as well as CBDC, may reduce the negative effects of their use. From Poland's perspective, these include, for example, illegal financing of political movements or [tax avoidance, which could cost the state budget up to €10 billion euros in lost revenues annually](#).