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Legal regulation of the international financial architecture in the context of digital transformation. The experience of the European Union and the Republic of Poland

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Abstract: The digital transformation of public relations has become possible with the introduction of artificial intelligence, the Internet of Things, cloud computing, immersive technologies, and data analytics. These technologies make it possible to create a metaverse where communication, knowledge acquisition, work, business, investment, creativity, and much more are available to everyone.

The article offers an in-depth analysis of the institutional legal framework governing the international financial architecture within the realm of digital transformation. It explores regulatory mechanisms and developmental trends within the legal and financial systems of both the European Union and the Republic of Poland. The study delves into instances of commercial fraud involving digital assets, thoroughly examining their implications on the traditional financial system.

In the virtual world, the capital market has no borders and jurisdictions. False and unreliable information has become an instrument of manipulation by society and is actively used by market participants. The conventional financial system experiences a loss of control over its

functions, particularly in the process of converting fiat funds into digital assets. Decentralized finance regulated by cryptocurrency can replace the Bretton – Woods system. Blockchain is “a technology of utmost honesty” in data transmission. The task of society is to be guided by ethical, social, moral, and environmental aspects in the initial placement of information. The effectiveness of legal regulation of the digital environment is possible only with the adoption of regulations, rules, and recommendations of international organizations in the legislation of each country. A single principle of legal regulation will allow us to build a more just world and its sustainable development.

Keywords: blockchain, decentralized financial system, international financial architecture, metaverse, cryptocurrency, commercial fraud, token, transnational organized crime, digital assets, digital transformation

Introduction

Technological progress has provided the world community with new opportunities for interaction and confidence-building in institutional structures, in-

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formation storage, and transactions in the financial sector. With the introduction of new technologies, such as the use of artificial intelligence, the Internet of Things, cloud computing, immersive technologies, data analytics, and mobile applications, a digital transformation of the financial architecture of the world has become possible. New technologies are making changes in the traditional interactions of the world community, covering political, economic, social, technological, legislative, ethical, moral, and environmental aspects. Virtual reality is actively employed, granting boundless access to information for tasks like work, communication, knowledge acquisition, business activities, creative pursuits, and numerous other online engagements. Virtual reality technologies create a metaverse – decentralized three-dimensional spaces using immersive technologies.

The rapid development of technologies sharply raises the problem of further development and improvement of the existing legal regulation – digital identity, property, currencies, and assets. The generally accepted concept of “digital asset” includes various intangible assets in digital form. These can be digital files, including videos, music, images, email accounts, domain names, and crypto tokens, including non-interchangeable tokens (NFT) and cryptocurrencies, for example, Bitcoin or Ethereum, digital currencies of central banks, such as the Chinese yuan or electronic stocks. You can exchange cryptocurrency for fiat through centralized exchanges and other services. Replacing traditional financing instruments, digital assets offer new opportunities to raise funds through the issuance of digital tokens such as Initial Coin Offerings (ICO) or Security Token Offers (STO). Decentralized networks and blockchain technologies are actively used in such projects. Blockchain technology allows you to create a single digital registry that combines the data of all national registries, in which everyone has equal opportunities to own, participate and develop without the intervention of others. Each block is encrypted, has a timestamp, and is not subject to change, which makes it secure. The network regularly updates the registry at all sites where it exists, so all copies of it are always identical. A single digital register will eliminate the need for intermediaries to make transactions or sign legal agreements. For example, this is the creation of a global value chain of goods,

from the beginning of their production to the fact of delivery, verification of authenticity, and quality, including automation of control of legal regulation. Blockchain is “a technology of utmost honesty” in the transmission of information. The utilization of digital assets is extensive, and the financial sector should not undervalue these innovations. Instead, it should embrace the challenges, considering the potential for transformation, and initiate the development of a legal regulation strategy.

The emergence of force majeure circumstances: humanitarian disasters, and military conflicts, also reveals the imperfection of the traditional political and economic system. The global economic crisis of 2008 called into question the effectiveness of the existing global financial system. In accordance with the “Global Wealth Report 2015” presented by Credit Suisse, the crisis has resulted in a reduction of the middle class’s share in the overall global wealth (The Credit Suisse Global Wealth Report, 2015). In 2023, a staggering 1.2 billion individuals endure “multidimensional poverty,” lacking essential provisions such as proper nutrition, adequate housing, electricity, access to clean water, and the ability to seek medical attention or pursue education (Global multidimensional poverty index, 2023). “Today 52 countries are in default or dangerously close to it, dozens more are at risk of joining them,” (*Global Financial Architecture...*, 2023) the concern of UN Secretary-General Antonio Guterres at the summit in Paris on June 22, 2023, indicates the need to rally the international community to new challenges and threats.

The global community encountered unprecedented challenges during the COVID-19 pandemic, as humanity grappled with isolation and the looming threat of species-wide extinction. The absence of conventional forms of social interaction has led to a surge in virtual activities within society, facilitated by the adoption of new technologies. Digital technologies have enabled the state to provide social and targeted assistance to its citizens. New business opportunities have appeared, and financial transactions have switched to an online format. Meanwhile, the pandemic has exacerbated the situation of digital inequality in countries and its legal regulation.

“All these problems are indicative of an imperfect global financial architecture that was designed for a world that no longer exists... We need to adjust the

course and create a new Bretton Woods system,” UN Under-Secretary-General Amina Mohammed said at the weekly spring meeting of the International Monetary Fund and the World Bank (April 13, 2023) (*UN chief in Paris...*, 2023), which indicates a new era of world development, which requires a new approach towards international legal regulation. The main goal of the development of the world community is the elimination of poverty, at the same time increasing economic growth and solving social and environmental issues (Sustainable Development Goals, SDGs).

With the introduction of digital transformation into international financial architecture, it will be possible to form an infrastructure that will ensure access to justice for all by creating effective, accountable, and participatory institutions at all levels.

The financial architecture of the world is an operating system of laws, norms, rules, and institutions that regulates and organizes financial relations for the purpose of forming, distributing, and using funds between states, corporations, financial institutions, and individuals (Our Common Agenda Policy Brief 6, 2023).

The source of legal regulation of the financial architecture of the world is international agreements and national regulations that establish universal principles for the sustainable development of the world community. The stability of the financial system is ensured by international standards and principles in the field of assessment and supervision in the banking and financial sectors. The main international institutions involved in the development, establishment, and regulation of the financial architecture of the world are the International Monetary Fund (IMF), the World Trade Organization (WTO), the Bank for International Settlements (BIS), the International Bank for Reconstruction and Development (IBRD). One of the main documents regulating the financial architecture of the world is the agreement of the International Monetary Fund (IMF), which provides for a regular assessment of the economic and financial situation of the participating countries. The Agreement contains provisions on exchange rate policies, debt management, financial control, IMF resources, and mechanisms for providing financial assistance to countries with solvency problems. Special drawing rights (SDR) are used to regulate the balance of payments, cover the balance of payments deficit, replenish reserves, and

settle IMF loans. SDR (eng. Special Drawing Rights, SDR) is an interest rate – bearing international reserve asset created by the IMF in 1969 to supplement other reserve assets of member countries (Our Common Agenda Policy Brief 6, 2023).

Beyond international organizations, financial architecture is subject to regulation by economic and political unions. An illustrative instance of the legal interplay between an economic and political union is the coalition of 27 nations known as the European Union (EU), encompassing the Republic of Poland. The EU is based on economic integration, the creation of a single market, freedom of capital movement, unhindered payments, and transfers. To align the economic and financial policies of participant nations, the European International Monetary System (EMS) was instituted. Its purpose is to mitigate fluctuations in the international monetary system (The European Union, n.d.).

The EU law’s source system comprises primary, secondary, and tertiary law acts. The acts of primary law encompass all constituent treaties of the European Union, with ongoing efforts towards the adoption of a unified constitution. These acts possess the highest legal authority. Acts of secondary law encompass acts issued by EU institutions and all other acts adopted on the basis of constituent agreements. The decisions of the Court of Justice of the EU and other judicial bodies of the Union relate to acts of tertiary law, and are used as case law (Fact Sheets on the European Union, 2023).

In order to provide users and investors with adequate protection in the new conditions, the EU is developing a legal framework, creating an infrastructure to regulate the turnover and use of new technologies and digital assets. The Luxembourg Convention on Privacy in Information and Communication Technology of 1981 (Convention 108) (Council of Europe, n.d.) establishes rules for the protection of personal data in information and communication technologies. The European Union Directive on E-Commerce (2000/31/EC) establishes rights and obligations in this area of the economy.

The Strategy “Shaping the Digital Future of Europe” adopted in 2020 defines three areas of development: technologies for people, a competitive digital economy, and an open, democratic, and sustainable society (2020 Strategy “Shaping the Future of Europe”, n.d.).

In 2021, the Digital Europe program was approved (Digital Europe program, n.d.). The policy on the use of digital technologies in the EU is assigned to the European Centers for Digital Innovation (EDIH), which form several InvestEU organizations with the European Entrepreneurship Support Network (EEN) (European Commission, 2021; European Digital Innovation Hubs, n.d.).

A draft Law on Artificial Intelligence (AI) has been formulated and submitted for consideration in April 2021, aligning with the regulations set forth by the European Parliament and the Council. These regulations establish agreed-upon rules governing the utilization of artificial intelligence. The proposed legislation adopts an intersectoral approach to oversee the use of AI systems within the EU. Its provisions are crafted to govern the operations of AI system operators, aiming to mitigate the risks associated with the deployment of artificial intelligence systems. Transparency requirements have been implemented for AI systems, accompanied by a set of prohibited practices. These include restrictions on emotion detection systems, biometric categorization, image manipulation, and sound or video monitoring. These regulations are outlined in the EU AI Act, the first regulation specifically addressing artificial intelligence, introduced in 2023. Additionally, the Law “On Data Management” (Data Governance Act) came into force in June 2022, further contributing to the regulatory framework. Other legislative measures, such as the Law “On Digital Services” (Digital Services Act) and the Law “On Digital Markets” (Digital Markets Act), became enforceable in November 2022. Collectively, these legal instruments aim to establish guidelines and limitations on the deployment of AI technologies, emphasizing transparency and ethical considerations. On December 15, 2022, the EU adopted a Declaration on Digital Rights and Principles (2023/By 23/01). The purpose of the document is to guarantee universal values in a changed digital environment. The foundational rights and principles of digital transformation include data protection, equal treatment, technological and net neutrality, and inclusivity. On April 20, 2023, the comprehensive regulations governing the supervision and safeguarding of consumer rights concerning cryptocurrencies, known as Markets in Crypto Assets (MiCA), were officially adopted.

EU law possesses direct applicability within the territories of EU member states and takes precedence

over the national legislation of individual states. While each EU member state maintains its distinct legal system and national jurisdiction, EU law holds primacy in areas where it applies.

In April 2003, the Republic of Poland signed the EU Accession Treaty, followed by a referendum in June. On May 1, 2004, Poland officially became a member of the EU (Partnership for the accession of Poland, n.d.). As a result of this accession, investors gained unrestricted entry to the single market, comprising 500 million consumers. The supreme normative legal act of the Republic of Poland is its Constitution, approved by referendum on May 25, 1997 (Announcement of the National Electoral Commission..., 1997). Constitution guarantees freedom of economic activity, any restriction of which must be based on law. The rules for the formation and execution of the state budget are established by the Law “On the Budget” (Budget Act for 2023 of 15/12/2022). In the Law “On Taxes and Fees” the taxation system is reflected (Act of January 12, 1991 on local taxes and fees). The Law “On the Financial System” regulates the activities of financial institutions such as banks, insurance companies, investment funds, and others (Act of 1 December 2022 on the Financial Information System). The rules on the bankruptcy of individuals and legal entities are regulated in the Law “About bankruptcy” (Act of February 28, 2003. Bankruptcy Law).

The legal basis for the activities of the Polish banking system is set out in the law “On Banks” and in the law “On the National Bank of Poland”. As of April 2023, the structure of Poland’s banking system encompasses the Central Bank, commercial banks, and cooperative banks. Specifically, there were 30 commercial banks and 492 cooperative banks operating in Poland during this period (Office of the Financial Supervision Commission..., 2023). Poland is a member of the Organization for Economic Co-operation and Development (OECD), which makes it easier for foreign banks to open branches in the country (Organisation for Economic Co-operation and Development, n.d.).

The tasks of the Central Bank (National Bank of Poland) are established in the Constitution of Poland (Announcement of the National Electoral Commission..., 1997), as well as in the Law “About the National Bank of Poland” (The Act on Narodowy Bank Polski of 29 August 1997) and the Law “About banking activities” (Act of August 29, 1997. Banking Law). The

fundamental task of the National Bank is to promote the stability of the Polish financial system.

The difference between cooperative and commercial banks lies in the goals pursued by the financial institution. The main goal of commercial banks is to maximize profits and ensure the sustainable growth of their business. Cooperative banks appeared initially in order to counteract poverty and implement the prerequisites of social responsibility. Their activities are defined in banking and cooperative law. The activity is regulated by the Law “On the Functioning of Cooperative Banks, their Associations and uniting banks” of January 1, 2008 (Act of 7 December 2000 on the functioning of cooperative banks, their associations and banks).

The Warsaw Stock Exchange (WSE) is one of the largest stock exchanges in Central and Eastern Europe (Warsaw Stock Exchange, n.d.). The NewConnect system was organized on August 30, 2007, managed by the VFB, and designed for young and growing companies, in particular, working with new technologies (NewConnect, n.d.).

According to the law “On Supervision of the Financial Market” dated July 21, 2006, supervision of the activities of banks, the securities market is carried out by the Polish Financial Supervision Commission (Komisja Nadzoru Finansowego, KNF) (Act of 21 July 2006 on financial market supervision). Commission is accountable to the European Commission as a regulated capital market. The main task of supervision of the financial market is to ensure its proper functioning, stability, security, and transparency, maintaining confidentiality when conducting transactions in this market, as well as ensuring the protection of the interests of financial market participants. The Chairman of the commission, in full adherence to the Civil Code, is authorized to function as a prosecutor in matters pertaining to civil lawsuits or those concerning stock market transactions, banking operations, as well as issues related to pensions and insurance.

There are other regulatory legal acts that regulate the financial sphere, such as the financial market, leasing, investments, etc. All of them together create a legal basis for the functioning of the financial system and ensure its stability, transparency, and protection of the rights of participants.

Given Poland’s status as an EU member state, the regulatory framework governing digital assets

is shaped by a combination of domestic rules and regulations alongside directives from the European Union. In 2018, the “Law on Electronic Money Transfer Services” was adopted, and the concept of “digital currencies” (pol. cyfrowa waluta) and “providers of services related to digital currency” (pol. podmiotu usług związanych z cyfrowymi walutami) appeared in the legislation, currently, a license must be obtained to carry out cryptocurrency transactions (Act of August 19, 2011 on payment services).

Digital transformation is one of the five main directions of the National Recovery Plan of the Republic of Poland, approved by the EU in June 2022 (National Recovery and Resilience Plan (KPO), n.d.). The plan involves the allocation of \$3.4 billion for digital projects. “Our goal is to make people’s lives better through digitalization” – the mission assigned to the Ministry of Digitalization of Poland (Ministry of Digitization, n.d.). For the successful implementation of the program, it is necessary to create infrastructure, support the creation of web content, the introduction of electronic services, and the acquisition of knowledge and skills among citizens to use digital technologies (Economy and digital transformation in the National Reconstruction Plan, March 9, 2021). International global companies Google, Amazon and Microsoft have already opened regional offices in Poland, which made it possible to eliminate delays in data processing for companies in Poland, Central and Eastern Europe (*Google showed an office in Warsaw...*, 2020; *Amazon office in Warsaw...*, 2022; Microsoft headquarters in Poland, n.d.).

Currently, Poland is working on the revision of more than fifty legislative acts that constitute the sources of law in the field of new technologies: cybersecurity, electronic privacy, e-commerce, innovation, Internet, telecommunications, intellectual property, and data management (*New technologies law...*, 2023).

The enforcement of novel regulations regarding digitalization within the European Union and Poland contributes to shaping the global financial architecture, yet it falls short of ensuring its enduring sustainability and overall efficacy. The next stage in the development of the global financial market is its decentralization. Governments and international organizations should jointly systematize the approach to regulating new technologies in order to protect the interests of market participants and ensure their stability.

The advent of new technologies and digital assets has granted widespread access to diverse financial instruments, often characterized by complexity and lack of intuitiveness. While investing in these financial products holds the potential for high profitability, it also introduces new avenues for abuse and fraudulent activities. Decentralized payment systems have led to the absence of professional intermediaries and control by regulators. The organizations regulating the capital market and the central banks of the EU countries warn investors that the risk of asset depreciation and loss of money is an entrepreneurial risk.

According to the United Nations Office on Drugs and Crime (UNODC from the United Nations Office on Drugs and Crime), from 800 billion to 2 trillion US dollars are laundered annually in the fiat space, which is from 2 to 5% of global GDP (*Laundering of money...*, n.d.). The laundering of criminal money has a significant impact on the stability of the international architecture of the world, including the financial systems of individual countries. The Department of the Internal Revenue Service (Internal Revenue Service, Criminal Investigation (IRS-CI) seized criminal digital assets worth \$7 billion, which is twice the amount seized in 2021 (IRS Criminal Investigation Division's annual report, n.d.).

The investor may face the involvement of the project in transnational money laundering. The primary recommendations from the Financial Action Task Force on Money Laundering (FATF) for cryptocurrency platforms and virtual assets involve their registration and licensing. It emphasizes the implementation of "know your customer" (KYC) and "know your business partner" (KYB) measures to identify users and monitor transactions. Additionally, platforms should provide information and collaborate with law enforcement agencies and other competent authorities during investigations of suspicious transactions or incidents. Ensuring compliance with Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT) standards is essential, particularly when crossing borders (through declaration).

FATF recommendations are regularly reviewed to include the widest possible range of measures to combat new challenges and threats (FATF, 2023). As of April 2023, out of 150 interviewed countries that have committed to FATF standards, only 16 have implemented a standard for virtual assets. Each country

can decide how they will implement these standards in their national legislation (The Financial Action Task Force, n.d.).

Fraudulent projects using new technologies, cryptocurrencies, and NFT have become possible due to the absence of legal regulation in the legislative framework of many countries. For a more comprehensive understanding of such projects, a thorough review and analysis of media materials were conducted, encompassing available information from regulatory, supervisory, and law enforcement agencies.

Blockchain technologies make it easier to identify unscrupulous participants, as transactions are publicly and constantly recorded. You can exchange cryptocurrency for fiat through centralized exchanges, P2P exchanges, and other services. After the transfer, only the service itself will know which fiat accounts the funds were transferred to or to whom the cash was issued. In the future, it is possible to track the movement of funds only with the help of traditional methods of financial investigation. Crypto exchanges and other services that provide cryptocurrency-to-fiat exchange services with weak standards of customer due diligence are used by the criminal community.

The OneEcosystem project, featured on the website <http://oneecosystem.eu>, promotes independent "mining." The project provides assurance to investors that, in contrast to currencies issued by governments, OneCoins have a finite supply. OneCoin, with its finite number of 120 billion coins, is one of the largest reserve currencies in the world. Since the cryptocurrency is not tied to any particular country or central bank, the value of the coin depends on factors such as supply and demand. OneCoin gives an advantage in the ability to make payments and transfer money anywhere in the world (ONECOIN-Onelife, n.d.).

All this is a transition to a new stage of fraud by transnational criminal organizations. This is a re-branding that appeared after the start of criminal investigations on the OneCoin / OneLife project. These trademarks belong to a group of companies established in 2014, which included "OneCoin Ltd.," "OnePayments Ltd.," "OneNetwork Services Ltd." "We have built a company for a billion euros, which is present in more than 190 countries and 6 continents, and we show a world that is much bigger more than just cryptocurrency," said OneCoin founder Ruja IG-NATOVA (OneCoin is a Revolution in the World of

Cryptocurrencies!, n.d.). For the period from October 2014 to December 2016, OneCoin sales amounted to 4,037 billion euros (*Cryptoqueen: How this woman...*, 2019). The cost of the OneCoin token has steadily increased from 0.50 euros to 29.95 euros (*Manhattan U.S. Attorney Announces...*, 2019).

The companies used the OneCoin website and the OneLife digital platform, which was presented as an ecosystem of social network tools, with access to OneAcademy e-learning programs. The ecosystem offered alternative payment solutions. Equal access to financial education for people all over the world. The introductory package provided general information and the book “Think and Get Rich”, was offered for free. There were 7 levels of training packages, the price was from 110 to 118 000 euros. Sales were carried out through the MLM OneLife network (OneCoin / OneLife, n.d.). The “global general distributor” of the network was Karl Sebastian Greenwood, his earnings were about 20 million euros per month. After registering on the MLM OneLife network, all participants had the right to attract new users and receive a commission for it (*OneCoin Was a Fraudulent Cryptocurrency...*, 2022).

People worldwide deposited funds into accounts to buy training packages, each package entitling buyers to a specific number of OneCoin. Transactions with OneCoin were facilitated through personal accounts, and mining operations were conducted by One Coin Limited. Unlike other crypto exchanges, external operations with OneCoin were not available. Although there were plans to launch the OneCoin Exchange, it never materialized, and the company’s founder went missing. Consequently, participants in the ecosystem started reporting instances of fraud involving the company’s representatives (*Cryptoqueen: How this woman...*, 2019).

Since 2017, law enforcement agencies have been conducting investigations around the world. As a result, servers, documents, and other evidence were confiscated, despite this, the project’s activities did not stop (*The Prosecutor’s Office...*, 2018). The financial regulators of Bulgaria, Hungary, Thailand, Austria, Great Britain, Italy, Kazakhstan, Belize, Vietnam, Germany, and other countries stated that the companies’ activities were illegal and imposed a ban on the circulation of OneCoin (*The Prosecutor’s Office...*, 2018; MESSAGE – OneCoin, 2015; *Virtual means of*

payment..., n.d.; Bangkok Post, n.d.; OneCoin Ltd. Investor Warning, n.d.; *London Police Investigate...*, n.d.; *PS10550 – Pyramid sales...*, n.d.; *The operation scheme...*, n.d.; IFSC. One Life Network Limited, n.d.; Behind MLM, n.d.; 70418_Onecoin_Ltd_en.html; Ignatova, n.d.). After such warnings, the project closed its business in these countries and moved its operations to other jurisdictions.

On October 12, 2017, the OneCoin project was declared fraudulent by the US District Court for the Southern District of New York. Investigative work on the fact of fraud was carried out by the Criminal Investigation Department of the Internal Revenue Service (Internal Revenue Service, Criminal Investigation (IRS-CI) together with the FBI (FBI) (*OneCoin Was a Fraudulent Cryptocurrency...*, 2022). A federal warrant was issued for Ignatova’s arrest by a court decision, and she is currently wanted by the FBI and Europol (Ignatova, n.d.). In 2012 Ignatova already had a criminal record for fraud (Ignatova, 2022).

Greenwood was arrested in July 2018 by the Royal Thai Police at his residence in Samui and extradited to the United States in October 2018. In court, Greenwood pleaded guilty to electronic fraud and money laundering committed in collusion with a group of individuals. The maximum possible punishment established by Congress for this type of fraud is 20 years in prison, with confiscation of property (Section 18 of the US Code, sections 981 and 982; Section 21 of the US Code, sections 853; and Section 28 of the US Code, Section 2461) is now in custody, the court’s decision on the measure of punishment is postponed (*U.S. v Greenwood information*, n.d.).

Further arrests of the company’s management followed. Konstantin Ignatov was arrested on March 6, 2020, at Los Angeles International Airport (*Alleged Leader of OneCoin...*, 2020). The former head of the legal department and compliance service, Irina Dilkinskaya, was extradited from Bulgaria to the United States. On the combined charges, she faces up to 40 years in prison (Fathi, 2022).

Legally, the companies had no financial obligations to OneCoin participants, as they sold educational materials on cryptocurrencies and transactions with them. Due to the lack of information about the nature of this “financial instrument”, the current legal system classifies only the fact of commercial fraud. And accordingly, all actions of the “financial instrument”

outside of legal regulation. For this reason, in case of bankruptcy, European investors will not receive compensation for losses from the ICF (Investor Compensation Fund) under the EU Directive (2014/49/EU). It is worth noting that companies providing cryptocurrency exchange services for fiat that have weak standards of customer due diligence are used by the criminal community. Owners of criminal capital are actively interested in such projects in order to legalize funds. In order to conceal their interests, a financial pyramid is being created with the involvement of a large number of investors from different countries, through promises of payment of excess income to participants.

One of the main tools for returning funds to victims is the mechanism of confiscation of property and funds received from criminal activity. In an integrated global economic system, assets are easily transferred to different jurisdictions, which complicates the work of law enforcement agencies. The organizers of fraudulent schemes conduct imaginary financial transactions with assets. For example, OneProperty purchased real estate in the center of Sofia (Bulgaria). The founder of the company is Risk Ltd represented by Ruzha Ignatova. Subsequently, she cedes ownership to the managing company Pergaon – a subsidiary of Artefix, owned by Ignatova's mother. Further, an imaginary sale of real estate to an unknown person in 2017 is carried out. That is why law enforcement agencies do not have the right to seize an asset belonging to a bona fide buyer (*Cryptoqueen: How this woman...*, 2019).

In particular, in many jurisdictions, companies are required to publish information about the owners and who actually owns the property. No such information has been provided for companies belonging to the OneCoin group. Financial statements are submitted without activity data.

Investors' losses can be recovered from the representatives of the holding if their involvement is proven. Thus, one of the companies representing IMS International Marketing Services GmbH received an order from the German Federal Financial Supervision Authority to return the money to investors, with a decision to seize 29 million euros. According to the data, more than 300 million euros passed through the company, the arrest could be imposed only in part of the balance of funds (IMS International Marketing Services GmbH, n.d.).

In addition to the creation of new fraudulent digital assets, schemes involving unfair trading practices with these assets have become prevalent. For example, the company Next Trade Ltd (Vanuatu), used the sites www.aspenholding.com, www.olympusmarkets.com, with the possibility of forex trading (260 types of pairs). The trading name of the Aspen Holding Olympus Markets platforms.

Advertisements about an investment platform for trading digital assets were placed in electronic media and social networks. Investors were promised to develop a personal trading strategy with high profitability in a short time. They provided broker deductions (spreads) lower than those of competitors. The investor had the opportunity to conclude large transactions with a small deposit (high leverage). For convenience, the investor had access to Olympus Webtrader and Olympus Markets Android mobile applications (24/7 transactions) (Olympus Markets, n.d.).

Potential clients were required to complete an application on the website, providing personal information, contact phone numbers, and email addresses. Subsequently, a company consultant would initiate contact with the client, proposing collaboration in establishing an individual investment account. To initiate a deposit, clients were instructed to register an account on the website and undergo a verification process. This involved submitting copies of their passport and bank card, along with other personal details. Once logged into their personal accounts, clients were required to fund their balances, with a minimum entry fee of \$250. Payments were made through online banks to the accounts of third-party individuals, or clients could transfer bitcoins to unspecified wallets. In cases where clients lacked funds, they were encouraged to secure a loan from a bank or micro-credit organization, with guidance provided on the process. To enhance trading success, paid consultations with financial analysts specializing in investments were offered, with service costs amounting to 1,700 euros. (Horbaczewski, 2021).

The consultant, through remote access programs such as AnyDesk or TeamViewer, could teach the investor how to work in a personal account on the company's website (Horbaczewski, 2021). The consultants' calls were made from telephone numbers of different countries such as South Africa, Luxembourg, Great Britain, Malaysia, Australia, and Russia (Aspen Holding review, reviews. Divorce?, n.d.).

Digital assets were traded only on the Aspen Holding platform, Olympus Markets. After the first profitable transactions, clients usually increased the deposit. To withdraw funds, the consultants asked to transfer money to pay taxes, or in every possible way delayed the withdrawal by switching the investor between employees, companies that requested different information and asked to pay for data verification services. As a result, the client's account reached zero, due to "unprofitable transactions". The support service of the platform did not give information about the reasons for zeroing deposits or did not answer calls at all (Aspen Holding review, reviews. Divorce?, n.d.). As a result, there was no way to withdraw funds from the client, and the personal account became unavailable (30 Next Trade Ltd. (Aspen Holding), n.d.).

Since the company Next Trade Ltd is registered in the offshore zone of Vanuatu, the investment activity was subject to certification by the Financial Services Commission (Vanuatu Financial Services Commission). The absence of a certificate, and a client agreement in the public domain for preliminary review, served as the basis for the inspection of Aspen Holding's activities by regulators of interested countries. In 2018, the Monetary Authority of Singapore (Monetary Authority of Singapore MAC), and in 2019, the International Organization of Securities Commissions (IOSCO) notified and warned about the inclusion of Next Trade Ltd in the list of unscrupulous financial companies. In turn, the Australian Securities and Investments Commission (ASIC) has also listed "companies that should not be dealt with" due to the lack of a valid Financial services license (AFS) or a credit license. The Central Bank of the Russian Federation has published Next Trade Ltd as an illegal broker that operates in the financial market in the list of unscrupulous companies from June 1, 2021 (*A Singapore Government Agency Website...*, n.d.; Investor Alerts Portal, n.d.; Next Trade Limited, n.d.; *List of companies...*, n.d.).

The number of victims in Poland from the activities of Next Trade Ltd is more than 200 people, and millions of zlotys were damaged. The company functioned under the names Olympus Markets and Aspen Holding, operating without officially registering a legal entity in Poland. Since January 2021, the Cybercrime Department of the Voivodeship Police Department in Rzeszow, Poland, has been conducting an inves-

tigation into traders associated with Aspen Holding under Article 178 of the Law on Trading in Financial Instruments. The investigation pertains to engaging in activities related to trading in financial instruments without the required authorization (Subcarpathian Police, n.d.). The fine amount is determined through a court decision, with the maximum penalty reaching five million Polish zloty. The Polish Financial Supervision Commission (KNF) has added Next Trade Ltd to the list of illegal brokers (*List of the KNF's public warnings...*, n.d.).

Such projects are used by the transnational criminal community as "franchises" with a ready-made business plan. The company is registered in a jurisdiction with formal capital investment requirements and a lack of regulatory control. In our case, the others are Orion Service (Bulgaria) and TLC Consulting (Marshall Islands), the OlympusMarkets platform. Before that, these companies worked through the website WiseBanc.com, which in 2018 was included in the list of unscrupulous companies by the FCA of the United Kingdom (Financial Conduct Authority). The authorized capital of Orion Service was 1 euro, and its beneficiary is TLC Consulting Ltd. The WiseBanc network included projects such as Green Tree Profits, Indicator Pro, and BTC News Trader, which are also recognized as fraudulent. A Bitcoin wallet has been provided on the site to pay for deposits, through which 397 transactions have been made. The amount of funds received in this wallet amounted to more than 1.5 million US dollars or 111 BTC (Wasilewska-Śpioch, 2019). These companies worked through the website primecfd.com, which in October 2018 was included in the list of unfair projects of the Central Bank of Ireland, and in December — the FMA regulator of New Zealand. In total, there are more than 18 related parties (Misiura, 2022).

All participants and equipment with which fraudulent Internet transactions are carried out are located in one or more legal jurisdictions. It should be assumed that the legislation regulates these transactions. Meanwhile, since the information is stored in a decentralized database, and processing is carried out in different jurisdictions at once, the biggest legal problem is international regulation. When the affected party and the fraudsters are in different legal jurisdictions, national law enforcement agencies are simply not effective. International organizations intervene in cases

of commercial fraud when a threat to the international financial system arises, especially when criminal funds are involved, leading to subsequent money laundering in these projects.

Such an example was the BTC-E and WEX crypto exchanges, according to which it was found that they carried out transactions with stolen assets from other crypto exchanges, and there is also the fact of taking investors' money. The criminal case of fraud on a large scale has become the subject of investigation by law enforcement agencies in Kazakhstan, Russia, China, and other countries.

The BTC-E cryptocurrency exchange was established in 2011, with A. Vinnik overseeing financial transactions and A. Bilyuchenko managing technical aspects. (Exchange BTC-E.com, 2011). In July 2017, A. Vinnik was arrested, the BTC-E crypto exchange was closed, and servers and assets located in the United States were arrested by the FBI (*FinCEN Fines BTC-E Virtual Currency...*, 2017). According to the indictment, 530 thousand bitcoins (1.5 billion US dollars) were stolen from the Japanese cryptocurrency platform MT. Gox was laundered through BTC-E. The US Department of Justice has recommended imposing a \$110 million fine on BTC-E and levying a \$12 million penalty on A. Vinnik in documents sent to EU authorities (*U.S. Attorneys Northern District...*, n.d.). Vinnik's defense strategy relies on the argument that the U.S. shared information with France regarding the evidence but did not provide the evidence itself. This raises concerns about the ability to verify the authenticity of the evidence presented (Zakharov, 2019).

In August 2017, D. Vasiliev, a significant client of the BTC-E cryptocurrency exchange, approached A. Bilyuchenko, a Russian citizen and the technical director at VTS-E, with a proposal to launch a new trading platform. It's noteworthy that during that period, the FBI had already seized the accounts of the VTS-E crypto exchange. On August 30, the bitcoin talk forum announced a plan to change the BTC-E trading platform to WEX, which began its work on September 15, 2017. Vasiliev became the owner of the official legal entity of the new exchange, the Singapore company World Exchange Services (Vasiliev Dmitry. Biography, n.d.). At the same time, WEX received from BTC-E registration information about customers and the status of their balances, depositors were credited with 61.79% of the previous balance in monetary

and cryptocurrency forms and in the form of bonus tokens 38.21% of the previous balance. In fact, customers have lost part of their funds (*BTC-E, a popular cryptocurrency...*, 2017).

In April 2018, Bilyuchenko considered creating a Vladex investment system project based on the existing Wex exchange, a special settlement infrastructure to preserve the financial and economic sovereignty of the Russian Federation. As a result, in the summer of 2018, the Wex exchange was sold to Dmitry Khavchenko, and the daughter Daria Khavchenko became the official owner, in order to make Wex a "platform for financial support of unrecognized republics" and also to "fight the dominance of the dollar" (Zakharov, 2019).

Since September 2018, an initiative group of WEX traders has been created, the purpose of which is to defend the interests of participants who have lost money, to cover the problem in the media, as well as to search for persons guilty of misappropriation of funds. In particular, the group collects data for filing a class action and makes recommendations for filing individual statements to the police (Wex Scam, 2019).

In May 2022, one of the founders of the Wex cryptocurrency exchange, Vasilyev, a Russian citizen, was arrested in the Republic of Croatia based on an Interpol warrant at the request of the Republic of Kazakhstan. The arrest was related to allegations of fraud, with a criminal case stating that D. Vasiliev had allegedly misappropriated 20 thousand US dollars through the Wex crypto exchange in September 2018, funds he had received from a resident of Almaty in Kazakhstan. It's worth noting that this arrest marked the third time he had been apprehended in Europe, with previous arrests occurring in Italy during the summer of 2019 and in Poland in August 2021 (D. Vasiliev was arrested..., n.d.; Zakharov, 2021; Tassev, 2021). But the courts did not find grounds for the expulsion of the former head of the Wex crypto exchange to Kazakhstan (Tassev, 2021). According to investigators, investors' money was stolen through the Wex exchange from EU countries, as well as Russia, Belarus, and Kazakhstan, the total damage in all countries is about 450 million US dollars (Zakharov, 2019; Robinson, 2022; RIA Novosti, 2020).

Instances of commercial fraud involving digital assets underscore the varying degrees to which countries have incorporated new technologies into their national legal frameworks. In many cases, law

enforcement and regulatory bodies only intervene when the situation reaches a critical point, typically involving the protection of state interests. The absence of comprehensive legal regulations in this domain contributes to heightened interest from transnational criminal organizations, taking advantage of the regulatory gaps for their activities. The need for robust and globally coordinated legal frameworks becomes evident to effectively address and prevent fraudulent activities involving digital assets.

The development of technologies and digital assets require revision and updating of legal regulation to improve the efficiency and security of financial transactions. The goal of the digital transformation of the international financial architecture is to achieve transparency, fairness of decision-making, control, and accountability at all stages of transactions.

Conclusion

Global crises, whether in the form of disasters, epidemics, or wars, play a catalytic role in advancing digital technologies and the digitization of crucial data in the online sphere. The interconnectedness of geopolitical instability and the imposition of economic sanctions exerts adverse effects on the world's global financial system. The problems of sustainable development worsened against the background of the 2008 financial crisis and continued to worsen during the COVID-19 pandemic.

Inflation, currency devaluations, defaults – all these circumstances undermine the confidence of the world community in the existing financial architecture of the world, including the system of currency relations. The structure of international payments has undergone profound changes due to the growth of the GDP of developing countries and the policies of economic unions. For example, the European monetary system emerged on the basis of Western European integration in order to create its own currency settlement center. The decentralized financial system has provided new opportunities for the capital market.

One of the tools for retaining power and allocating resources is the traditional financial system. Currently, most states prefer to observe the development of a decentralized financial system using virtual currencies. The effectiveness of legal regulation of the digital en-

vironment is possible only after the adoption of regulations, rules, and recommendations of international organizations in the legislation of each country.

In an integrated global economic system, assets are easily transferred to different jurisdictions, which complicates the work of law enforcement agencies. For example, crypto exchanges and other services that provide cryptocurrency exchange services for fiat, with weak standards of customer due diligence, are used by the criminal community. For this reason, the owners of criminal capital are actively investing in new technologies in order to legalize funds. Financial pyramids are created to hide their interests. MLM networks attract participants from different countries by promising to pay extra income. Such projects are used by the transnational criminal community as a “franchise” with a ready-made business plan. The company is registered in a jurisdiction with formal capital investment requirements and a lack of regulatory control. In this case, a decentralized financial system carries risks of instability in the already established global economy.

Blockchain technologies make it easier to identify unscrupulous participants, as transactions are publicly and constantly recorded. In the case of storing information in a decentralized database and processing it in different jurisdictions at once, international legal regulation is required. When the affected party and the fraudsters are in different legal jurisdictions, national law enforcement measures are simply not effective. The supervisory authorities intervene in the situation only in extreme cases when it comes to protecting the interests of the state. International organizations are effective if the international financial system is threatened.

Further development of online technologies will allow changing the existing international financial architecture. Decentralized finance regulated by cryptocurrency can replace the Bretton Woods system. Because they are not tied to any particular country or central bank. They make it possible to make payments anywhere in the world.

Leveraging blockchain technologies for digital transformation holds the promise of providing unrestricted access to public data for all users without the need for intermediaries. While these cutting-edge technologies offer opportunities for realizing human rights, it is crucial to recognize that they also have the

potential to infringe upon those very rights. Specifically, the challenge of ensuring the reliability of data input control within the source block is a responsibility that society must collectively address.

The main goal of the world community is the elimination of poverty, at the same time increasing economic growth and solving social and environmental issues. Openness, transparency, and respect for human rights play an important role in the sustainable development of the world. Digital transformation will help to build a fairer space where everyone will be heard and will be able to make decisions on issues important to society.

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