

Karpenko, Oksana A.; Blokhina, Tatiana K.; Chebukhanova, Lali V.

## Article

# The Initial Coin Offering (ICO) process: Regulation and risks

Journal of Risk and Financial Management

## Provided in Cooperation with:

MDPI – Multidisciplinary Digital Publishing Institute, Basel

*Suggested Citation:* Karpenko, Oksana A.; Blokhina, Tatiana K.; Chebukhanova, Lali V. (2021) : The Initial Coin Offering (ICO) process: Regulation and risks, Journal of Risk and Financial Management, ISSN 1911-8074, MDPI, Basel, Vol. 14, Iss. 12, pp. 1-7, <https://doi.org/10.3390/jrfm14120599>

This Version is available at:

<https://hdl.handle.net/10419/258702>

### Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

### Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>



Article

# The Initial Coin Offering (ICO) Process: Regulation and Risks

Oksana A. Karpenko <sup>1\*</sup> , Tatiana K. Blokhina <sup>1</sup> and Lali V. Chebukhanova <sup>2</sup>

<sup>1</sup> Finance and Credit Department, Peoples Friendship University of Russia (RUDN University), 6 Miklukho-Maklaya St., 117198 Moscow, Russia; blokhina-tk@rudn.ru

<sup>2</sup> Law Institute, Peoples Friendship University of Russia (RUDN University), 6 Miklukho-Maklaya St., 117198 Moscow, Russia; chebukhanova-lv@rudn.ru

\* Correspondence: karpenko-oa@rudn.ru

**Abstract:** ICOs are very attractive for investors and issuers. ICOs allow funding raising in exchange for cryptographically secure tokens, which are a means of paying for future projects or services. However, there is insignificant regulation of this process all over the world. Some countries have banned crypto assets; others have allowed the free use of tokens but do not give them official status. In this paper, the authors present an overview of the legal regulation of ICOs in different countries, dividing them into three groups: in the first group are the countries with developed legal norms and rules for conducting ICO, they have the subsequent circulation of tokens on their territory; in the second group are the countries that are most friendly to ICOs; the third group of countries has a wait-and-see attitude. The author connect the insufficient law regulation and risks of ICOs in different countries. The types of ICO risks are divided into three main categories: financial, technical, and analytical. The main ways to reduce these risks, depending on their types, are highlighted in this study. They are connected with the improvement of the legal regulation of the publication of a White Paper, the KYC procedure, and the involvement of escrow agents.



**Citation:** Karpenko, Oksana A., Tatiana K. Blokhina, and Lali V. Chebukhanova. 2021. The Initial Coin Offering (ICO) Process: Regulation and Risks. *Journal of Risk and Financial Management* 14: 599. <https://doi.org/10.3390/jrfm14120599>

Academic Editor: Robert Brooks

Received: 8 September 2021

Accepted: 8 December 2021

Published: 12 December 2021

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

**Keywords:** ICO; crypto asset; regulation of ICO; successful ICO; ICO risks; White Paper of ICO; ICO platforms; funding of ICO projects

## 1. Introduction

Nowadays, the cryptocurrency market is in a stage of rapid development. There are more than 5100 crypto assets, with total market capitalization exceeding \$250 billion worldwide. Most of them, such as bitcoin or litecoin, are used as a form of payment for goods and services. However, today, there are more and more opportunities for the use of cryptocurrencies and blockchain technology to finance startups by issuing cryptocurrencies or tokens (Chod and Lyandres 2018).

Ethereum was the first cryptocurrency that was used during the procedure of initial token offerings to raise capital. This experience turned out to be successful and helped in identifying the problems faced by companies engaged in ICOs (initial coin offerings).

Initial coin or token offerings (ICOs) are smart contracts based on DLT or blockchain technology to attract external financing by issuing digital financial assets (coins or tokens). The exchange is carried out using smart contracts. They represent computer protocols exchanging values between an entrepreneur and investors, potentially creating an ideal disintermediation that significantly reduces the costs of financial market participants.

There is no single universal platform or database of ICOs. However, there are several sites such as [www.coinschedule.com](http://www.coinschedule.com), [www.icobench.com](http://www.icobench.com), and [www.tokenmarket.net](http://www.tokenmarket.net), the world's leading statistics on the ICO market, as well as a number of the largest consulting companies, such as Ernst & Young, Credit Suisse, Pricewaterhouse Coopers, KPMG, and others conducting research on this market. However, the data from the above-mentioned sources vary in terms of both dates and volumes. The site [www.coinschedule.com](http://www.coinschedule.com) has been the most comprehensive and well-established data source since the beginning of 2016. We continue our research of ICO process that was launched earlier (Karpenko 2021).

As of January 2021, 5728 ICO projects have attracted more than \$27 billion.<sup>1</sup> From an entrepreneur's point of view, ICOs are very attractive because they offer financing at all stages with almost zero transaction costs.<sup>2</sup> From an investor's point of view, ICOs are also interesting because they offer potentially faster exits and high returns. Nowadays, almost all ICOs take place on the Ethereum platform: 4961 cases out of 5728.<sup>3</sup>

In general, the ICO process has different stages. Initially, investors fund a project created on the basis of blockchain technology, exchanging them for crypto financial assets (further CFA), which are used as an internal monetary unit of the project in the future (Niyazbekova et al. 2021a). They may be exchanged for cryptocurrency or circulate in the form of CFA (Cong et al. 2018). Investors need to open a special account on the appropriate technological platform, which will be used in the future for the purchase of CFA according to the rules established by the issuer (Gerasimova et al. 2019).

At the same time, the company attracting financing using the CFA and blockchain technology issues tokens and sets their initial price. From the point of view of technology, the issue of CFA takes place by fixing transactions in the blockchain with an indication of their volume, a unique identifier, and entering a description. Each element of the CFA placed in the ICO process receives a unique, unchangeable record in the blockchain, which allows for easy exchange and safety in the future (Patashkova et al. 2021). After the issue, the tokens can be sent to any open account in the blockchain system. They can be applied to specially created trading platforms or online services that allow free and unhindered circulation, and they are also available to everyone who wants to purchase them.

## 2. Materials and Methods

In recent years, in most countries, there have been significant changes in the regulation of blockchain and CFA. Some countries have banned CFA; others have allowed the free use of tokens but do not give them official status. A small group of countries recognized the possibility of holding an ICO and trading cryptocurrency at the legislative level; they have given them official status, ensuring the regulation of this sector of the economy. The most important criteria for choosing the country for the ICO are the following: recognition of the cryptocurrency as an official instrument of payment by the state; the requirement to obtain a license to conduct an ICO as well as to transfer and sell crypto assets; the interest of the country's authorities in an ICO; special incentives for foreign investors; and development of financial infrastructure and financial markets (Korobeynikova et al. 2020). The risk of ICOs in this type of country would be less.

Currently, the largest number of ICOs are held in the United States of America, which is an ICO-friendly country. American legislation is fairly transparent. In 2017, the US Securities Commission recognized that the current legislation should also apply to tokens and ICOs.<sup>4</sup> One of the most high-profile recent regulatory actions is the US SEC's December 2020 action against Ripple and two of its senior executives for allegedly conducting a USD 1.3 billion unregistered securities offering of XRP tokens. After this announcement, Ripple trading was suspended and XRP subsequently fell by 31%.<sup>5</sup>

The restrictions on ICOs include the fact that investors are not allowed to participate in the sale of tokens outside the country. The tax rate is 21%; however, it can be reduced in the future. The United States has a highly developed financial market, with a huge pool of investors with broad access to money, and it is the jurisdiction with the best access to money for institutional investors (Fenwick et al. 2017). The companies entering ICOs in the USA meet an active technology community and a developed blockchain industry that make it possible to provide the greatest prospects and high liquidity.

However, not all countries will approve an ICO on their territory. For example, at the end of 2017, China decided to ban all ICOs.<sup>6</sup> All started processes were suspended, and the invested funds were returned to investors. ICOs were also banned in South Korea in 2017, but the state is currently developing a regulatory framework to legalize ICOs. The risks of conducting an ICO in China and South Korea are extremely high, so companies choose other countries.

In Japan, the climate for cryptocurrencies and startups is much more friendly than in neighboring Asian countries, regardless of the attitude to the CFA of the government and central bank.<sup>7</sup> Japanese exchanges are ready to accept tokens of some Chinese ICOs. Crypto exchange Coincheck is one of the world's largest bitcoin markets, attracting talent from China and South Korea. However, in order to prevent the growth of fraudulent transactions, the exchange has established a ban on cryptocurrencies with a high degree of anonymity. The registration of an ICO company in Japan is very profitable due to the existing high technological potential of the country and the development of the financial technology sector, which is supported by the state. In Japan, digital assets can be used not only for settlements but also as a means of private capital.

All countries may be divided into three large groups due to the ICO process and its regulation. In the first group, the countries develop legal norms and rules for conducting an ICO and have the subsequent circulation of tokens in their territory. They adopt standards related to their conduct to prevent fraudulent actions in the process of implementation. As a rule, these are countries with a high level of development of financial infrastructure and digitalization of their economy and legal culture. These countries are the USA, Hong Kong, Canada, and the UK, among others.

The second group of countries is most friendly to ICOs; as a rule, they create the most favorable conditions in their territories, decrease tax rates, and so on. Singapore, Switzerland, Japan, and the Cayman Islands are among this group of countries.

Switzerland is a favorable jurisdiction for conducting ICOs. Their "crypto valley" is founded in the canton of Zug. It is an ideal place to enter an ICO on the Ethereum platform.<sup>8</sup> The Cayman Islands is famous for its attractive tax regime. The only tax levied within the jurisdiction is a stamp tax, which is related only to fixed assets. In addition, companies registered in the Cayman Islands have a high degree of independence; the level of state interference in business in the country is minimal. It is important to take into account that the Cayman Islands is a tiny country, and there is a small qualified labor force to serve startups engaged in such complex technologies as the blockchain sector.<sup>9</sup> Thus, the startup must work remotely.

Taiwan and Hong Kong are also attractive regions for conducting ICOs. They are the most friendly jurisdictions for Chinese investors.<sup>10</sup> Hong Kong regulates entities conducting activities in cryptocurrencies where the relevant cryptocurrencies are "securities" or "futures contracts", as defined in Hong Kong's Securities and Futures Ordinance (SFO). From the point of view of the law in these jurisdictions, the token is a security, while the ICO is an analog of an IPO. For this reason, the relations of the ICO are regulated by the Law on Securities and Exchanges. Estonia is an attractive market for conducting ICOs due to the high level of development of digital technologies, the lack of legislative regulation of this process, and a favorable investment climate.

The third group of countries is the most numerous. The countries have a wait-and-see attitude, gradually migrating to the first or second group of countries. There are the Russian Federation and EU countries. Many successful Russian projects (SONM, BitCAD) have entered their ICOs in Singapore. In the technologically developed jurisdiction of Singapore, the procedure for opening a company for issuing tokens is maximally simplified, the authorities are generally loyal to blockchain startups, and the transfer of the tokens into fiat money is simple and transparent. Registering a company for crypto activities in Singapore requires entrepreneurs to come up with a White Paper. The Tax Authority of Singapore allows the application of standard fiscal rules and even deductions to companies. Registration of a business in the country costs USD 6000–10,000.<sup>11</sup>

The largest number of ICOs is carried out in the United States—36.26%, while the country also has the largest volume of funds raised; however, the share of successfully completed projects is 27.74%, which is significantly lower than the total number of ICOs (34.83%). ICOs in the USA, as a rule, are carried out by companies that have their place of registration in or are targeting the American market (Table 1). ICOs, based on specific facts, may be securities offerings and fall under the jurisdiction of the US Securities and

Exchange Commission (SEC) to enforce federal securities laws.<sup>12</sup> ICOs in the USA most likely need to be registered with the SEC.

**Table 1.** Number of ICOs conducted by country at the end of 2019.

|    | Country                | Quantity of ICO | Successful ICO | Percentage of Successful ICOs | Amount of Funds Raised, USD | Share in Total Funds, USD |
|----|------------------------|-----------------|----------------|-------------------------------|-----------------------------|---------------------------|
| 1  | USA                    | 703             | 195            | 27.74%                        | 7,323,891,476               | 36.26%                    |
| 2  | Singapore              | 571             | 219            | 38.35%                        | 2,453,584,996               | 12.15%                    |
| 3  | British Virgin Islands | 69              | 27             | 39.13%                        | 2,352,169,919               | 11.65%                    |
| 4  | Switzerland            | 253             | 106            | 41.90%                        | 1,779,762,235               | 8.81%                     |
| 5  | Great Britain          | 492             | 156            | 31.71%                        | 1,490,111,490               | 7.38%                     |
| 6  | Cayman Islands         | 120             | 48             | 40.00%                        | 1,339,048,258               | 6.63%                     |
| 7  | Taiwan                 | 22              | 8              | 36.36%                        | 1,046,428,001               | 5.18%                     |
| 8  | Estonia                | 287             | 121            | 42.16%                        | 948,870,090                 | 4.70%                     |
| 9  | Hong Kong              | 182             | 63             | 34.62%                        | 796,612,676                 | 3.94%                     |
| 10 | Russia                 | 327             | 111            | 33.94%                        | 666,042,670                 | 3.30%                     |
|    | Total                  | 3026            | 1054           | 34.83%                        | 20,196,521,811              |                           |

Source: <https://www.icobench.com> (accessed on 20 May 2021).

Singapore (12.15% of the total amount of funds raised) and the British Virgin Islands (11.65% of the same volume) are also popular (Table 1). The rise of ICOs in Singapore has been largely fueled by the development of blockchain-powered currencies such as Ethereum. At the same time, the share of successful ICOs in offshore territories such as the Cayman and British Virgin Islands is quite high—about 40%. However, the amount of funds raised from them is much less than from the United States. On average, an ICO in the United States attracts \$10.42 million; in Taiwan, on average, \$47.56 million can be raised during an ICO, which is 4.5 times more than in the United States. Despite this, the American jurisdiction is preferred for most ICOs. Perhaps the reason is that in this country, even in the conditions of an unsuccessful ICO, the issuer wins and the amount of funds raised does not depend on its success.

Cryptocurrencies are designed to create a global monetary network, but not all regions are equivalent in terms of ICO success. Thus, in developing countries, the share of successful projects is proportionally lower than in developed countries. According to Tokendata, Africa leads in the number of failed ICOs. Tingo Coin is one of the typical examples.<sup>13</sup> The project had many drawbacks (e.g., lack of experienced professionals in the team, its small size), but the main problem from the very beginning was the desire to become “Africa’s first agricultural project based on blockchain”.

Unambiguously, simplicity and convenience in the application of ICOs make it possible to conduct quick fundraising based on the lack of legislative regulation, ICOs do not give any guarantees to investors. ICOs have taken place in 25 different industries in the last ten years. Technology, business, entertainment, and education are the most popular industries. ICOs are very often called a financial bubble because of high risks, the lack of the possibility of a fundamental evaluation of the project, and the high level of information noise (Roosenboom et al. 2020).

Almost all risks are connected with insufficient legal regulation of ICOs in the country (Ante et al. 2018). Conditionally, all the risks of ICOs for investors may be divided into several categories: technical, financial, and analytical (Table 2).

**Table 2.** The risks of ICO projects and methods for their reduction.

| Type of Risk | Description  | Reduction Methods  |
|--------------|--|--|
| Analytical   | Wrong choice of ICO project  | Publication of an Information Memorandum (White Paper). It contains information about the project and its goals and the team of creators, mentors, and partners involved in the development. |
| Technical    | Errors in operations, project identification   | Identification of crypto investors in the ICO process (KYC procedure—know your customer)   |
| Financial    | Probability of losses due to high volatility of tokens and insufficient control over financing | Attraction by the issuer of an escrow agent who will take control of the allocation of financing. Diversification of the investor's portfolio.   |

Source: made by the author.

**Analytical risks** consist of choosing a failed startup. Very often, there is not enough information and reviews about them. Sometimes issuers do not publish White Papers with information about the ICO and a detailed description of a project for which an ICO is hosted. White Papers, as a rule, give technical information to investors as well as details about the team behind the project.

**Technical risks** are connected with the careless handling of funds. The fact is that the funds have the simple target of attracting investments, and it is usually impossible to receive money from them. This problem is especially relevant for those who are just starting to master cryptocurrency software. There are also fraudulent actions. In the case of the classic investment market, it is quite difficult to steal funds from a bank account. In the world of cryptocurrencies, due to the lack of formation and stability, scammers continue to find more and more sophisticated ways to steal other people's funds.

**Financial risks of ICOs** are the least predictable, which is due to the high volatility of cryptocurrencies. It can occur even on an hourly scale, not to mention a daily or monthly one (Zetzsche et al. 2019).

In order to mitigate risks, it is also necessary to adopt special legislative acts regulating ICOs (Howell et al. 2019). They should provide a permissive procedure for ICO implementation. The permit must be issued by a state and a special public body. The issuer prepares a document that provides all information about the ICO and the issuer itself. Such a disclosure document, as well as advertising messages about the public offer of tokens, must be accurate, clear, and provide an understanding of the risks associated with the offer (Karpenko and Blokhina 2019). If, after receiving permission, the financial regulator finds out that the ICO does not correspond to the content of the information document, it can revoke the permission. In this case, all investors, as well as organizations of the secondary token market (where the tokens are resold), must be notified of the cancellation of the permit. Thus, the interests of investors are protected during the ICO campaign. At the same time, there should be no restrictions on the amount of investment in the ICO and no maximum amount of collection should be set by a separate project.

### 3. Results

In recent years, a new form of funding -ICOs has become widespread. ICOs allow an enterprise to raise funding in exchange for cryptographically secure tokens, which are a means of paying for future projects or services. In 2016–2019, over 7400 businesses attempted ICOs, raising a staggering USD 35 billion.

The growth in the number of ICOs has taken place in many countries of the world. The largest number of IPOs takes place in the United States and Singapore. These countries are characterized by a high level of development of financial infrastructure and widespread digitalization and sufficient legal regulation. Some jurisdictions are very attractive for ICO projects. Several countries have great potential for growth in this way of attracting funding but suffer from the lack of legal regulation (Niyazbekova et al. 2021b). Thanks to

the legislative changes that came into force in 2021 in many countries, investors have the opportunity to purchase tokens of cryptocurrencies and then sell them in their territories.

The modern practice of conducting ICOs testifies to the fact that very often, failure to achieve success is associated not so much with technical error but with insufficient legal regulation, with the interaction of startups with potential investors, or with the wrong choice of ways to promote the ICO. This includes a lack of advertising on the internet, social networks, and messaging services and the lack of press releases and presentations. An important aspect is also the legal support of the transaction, which allows investors to obtain guaranteed legal protection.

Conditionally, all types of ICO risks can be divided into three main categories: financial, technical, and analytical. The main ways to reduce these risks, depending on their types, are highlighted in this study. The publication of a White Paper, the KYC procedure, and the involvement of escrow agents can mitigate these risks.

The further effectiveness of the ICO will directly depend on changes in the capitalization of the crypto market as well as on the formation of a legislative framework for ICOs in the EU countries, the USA, Japan, Korea, the UAE, China, and other countries.

**Author Contributions:** Conceptualization, O.A.K. and T.K.B.; methodology, O.A.K.; software, O.A.K.; validation, T.K.B.; formal analysis, O.A.K.; investigation, O.A.K.; resources, L.V.C.; data curation, L.V.C.; writing—original draft preparation, O.A.K.; writing—review and editing, L.V.C.; visualization, T.K.B.; project administration, T.K.B.; funding acquisition, L.V.C. All authors have read and agreed to the published version of the manuscript.

**Funding:** This paper has been supported by the RUDN University Strategic Academic Leadership Program.

**Institutional Review Board Statement:** Not applicable.

**Acknowledgments:** This paper was supported by the RUDN University Strategic Academic Leadership Program.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Notes

<sup>1</sup> <https://www.coinschedule.com> (accessed on 15 May 2021).

<sup>2</sup> <https://www.coinschedule.com> (accessed on 20 May 2021).

<sup>3</sup> <https://www.icobench.com> (accessed on 20 May 2021).

<sup>4</sup> <https://www.sec.gov/ICO> (accessed on 14 September 2021).

<sup>5</sup> <https://markets.businessinsider.com/currencies/news/xrp-token-falls-after-platform-coinbase-says-to-halt-trading-2020-12-1029923012> (accessed on 28 October 2021).

<sup>6</sup> <https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html> (accessed on 30 October 2021).

<sup>7</sup> <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/japan> (accessed on 29 October 2021).

<sup>8</sup> <https://blockchainprivileged.com/ico-jurisdiction/> (accessed on 1 November 2021).

<sup>9</sup> <https://www.ogier.com/publications/structuring-an-ico-in-the-cayman-islands> (accessed on 29 October 2021).

<sup>10</sup> <https://charltonsquantum.com/> (accessed on 2 January 2021).

<sup>11</sup> <https://iqdecision.com/en/singapore-ico/> (accessed on 24 August 2021).

<sup>12</sup> <https://www.sec.gov/ICO> (accessed on 28 October 2021).

<sup>13</sup> <https://research.tokendata.io/> (accessed on 24 August 2021).

## References

- Ante, Lennart, Philipp Sandner, and Ingo Fiedler. 2018. Blockchain-Based ICOs: Pure Hype or the Dawn of a New Era of Startup Financing? *Journal of Risk Financial Management* 11: 80. [CrossRef]
- Chod, Jiri, and Evgeny Lyandres. 2018. *A Theory of ICOs: Diversification, Agency, and Asymmetric Information*. NBER Working Paper No. 27222. Cambridge: NBER.
- Cong, Lin William, Ye Li, and Neng Wang. 2018. *Tokenomics: Dynamic Adoption and Valuation*. Becker Friedman Institute for Research in Economics Working Paper No. 2018-49. Chicago: Becker Friedman Institute for Research in Economics.

- Fenwick, Mark, Wulf A. Kaal, and Erik P. M. Vermeulen. 2017. Legal Education in the Blockchain Revolution. *Vanderbilt Journal of Entertainment and Technology Law* 20: 351. [[CrossRef](#)]
- Gerasimova, S., D. Burkaltseva, L. Borsch, N. Apatova, E. Vorobyova, A. Zharova, S. Ivanov, and I. Zaytseva. 2019. Multi-level transformation processes: Digital technologies in the economy. *International Journal of Innovative Technology and Exploring Engineering* 8: 419–25.
- Howell, Sabrina T., Marina Niessner, and David Yermack. 2019. Initial Coin Offerings: Financing Growth with Cryptocurrency Token Sales. *The Review of Financial Studies* 33: 3925–74. [[CrossRef](#)]
- Karpenko, Oksana A. 2021. Choosing a jurisdiction for conducting an ICO. *Russian Economic Bulletin* 4: 238–43.
- Karpenko, Oksana A., and Tatiana K. Blokhina. 2019. Convertible bonds for companies investment process. *Academy of Strategic Management Journal* 18: 1–6.
- Korobeynikova, Olga, Diana Burkaltseva, Tatiana Dugina, Zinaida Kozenko, and Svetlana Shaldokhina. 2020. The state of the Russian payment market: Digitalization and the impact of COVID-19. *E3S Web Conferences* 217: 6003. [[CrossRef](#)]
- Niyazbekova, Shakizada U., Luiza P. Moldashbayeva, Bakhytzhama A. Zhumatayeva, Tatiana M. Mezentseva, and Larisa V. Shirshova. 2021a. Digital Economy Development as an Important Factor for the Country's Economic Growth. *Studies in Systems Decision and Control* 314: 361–66. [[CrossRef](#)]
- Niyazbekova, Shakizada U., Roza Zh Kurmankulova, Svetlana P. Anzorova, Makka G. Goigova, and Zeinegul K. Yessymkhanova. 2021b. Digital Transformation of Government Procurement on the Level of State Governance. *Studies in Systems Decision and Control* 314: 663–67. [[CrossRef](#)]
- Patashkova, Yelena, Shakizada Niyazbekova, Seyit Kerimkhulle, Madina Serikova, and Marija Troyanskaya. 2021. Dynamics of Bitcoin trading on the Binance cryptocurrency exchange. *ЕКОНОМІЧНИЙ ЧАСОПИС-XXI* 187: 177–88. [[CrossRef](#)]
- Roosenboom, Peter, Tom van der Kolk, and Abe de Jong. 2020. What determines success in initial coin offerings? *Venture Capital* 22: 161–83. [[CrossRef](#)]
- Zetzsche, Dirk A., Ross P. Buckley, Douglas W. Arner, and Linus Föhr. 2019. The ICO Gold Rush: It's a Scam, It's a Bubble, It's a Super Challenge for Regulators. *Harvard International Law Journal* 60: 267. [[CrossRef](#)]