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IDENTIFYING EFFECTIVE TOOLS FOR REGULATING THE CRYPTOCURRENCY MARKET TO REDUCE CRIME RATES AND HARMONIZE ECONOMIC PROCESSES

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ABSTRACT

No regulation in cryptocurrency operations creates social and economic risks. However, attempts to regulate the cryptocurrency market are not always effective. Scholars are engaged in discussions to find effective tools for regulating the cryptocurrency market. The study aims to identify effective tools for regulating the cryptocurrency market to reduce crime rates and harmonize economic processes. The research methods are based on the analysis of a limited range of studies, analytical reports, reviews, and surveys conducted by competent internet resources. The study highlights the main cryptocurrency management strategies, depending on the administration level. Based on the obtained data, the authors develop key directions to reduce crime rates and harmonize economic processes. It is essential to minimize the anonymity of cryptocurrency. The authors suggest achieving this through the licensing of cryptocurrency exchanges and the registration of crypto investors. The cryptocurrency taxation system needs to be improved to provide the state with the means to protect crypto investors. The state should enhance the legal framework for

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cryptocurrency operations to mitigate criminal risks. These directions are crucial for addressing the issue of cryptocurrency market governance.

Keywords: Cryptocurrency; Crypto market governance; Transactions; Mining; Crypto industry; Inflation; Financial stability; Risks of using cryptocurrencies.

INTRODUCTION

The active development and growth of the cryptocurrency market present new regulatory challenges for all governments regarding the virtual circulation of crypto assets. States adopt various approaches to regulating the cryptocurrency market, ranging from a complete ban to attempts at legislative regulation and involvement in cryptocurrency creation (Abdullayev et al., 2025). According to statistical data from 2023, the global cryptocurrency adoption index has increased tenfold (Chainalysis, 2022).

The rise in cryptocurrency usage is driven by several factors, including transaction anonymity, the absence of intermediaries, and decentralization. Individuals purchasing cryptocurrency aim to earn profits and protect their assets from devaluation (Kuck, 2020; Morozova et al., 2020). Governments face the task of protecting the public from fraudulent activities prevalent in the cryptocurrency market while ensuring that citizens' interests are effectively safeguarded and warning them against illegal activities (Khlifat, Al-Awamleh, 2025). Cryptocurrency is a decentralized virtual currency; whose transactions are beyond the control of governments and central banks. These transactions are conducted without intermediaries or financial institutions (Kouam, 2023; Bobrova et al., 2023). Neither owners, nor banking institutions and regulatory bodies can cancel, interrupt, or alter cryptocurrency transactions (Faria, 2022; Osadchy et al., 2024). Cryptocurrency is not backed by any assets, and its issuance is not tied to goods or services. Issuers release cryptocurrencies, potentially acting in their interests without considering their actions' economic and legal consequences (Luther, 2016; Iarutin, Gulyaeva, 2023). Therefore, managing the cryptocurrency market is a critical aspect of government policy in ensuring financial stability and security.

The study aims to identify effective tools for regulating the cryptocurrency market to reduce crime rates and harmonize economic processes.

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1. LITERATURE REVIEW

When considering cryptocurrency market governance, experts highlight risks that impact socio-economic development. We classified what we consider the most significant risks.

First and foremost are the risks of labor market distortion within a country. The widespread adoption of mining can diminish a country's economic potential as citizens, instead of acquiring qualifications and securing employment in socially significant jobs, may opt to install equipment and mine cryptocurrency, exchanging it for fiat money (Mezquita et al., 2023).

Second, there are challenges in the production of high-tech equipment. Increased demand for specialized mining equipment may lead to a semiconductor shortage, affecting various industries, from automobile manufacturing to personal computer production (Muradyan, 2023). Such trends could become an additional inflationary factor in national and global economies (García-Corral et al., 2022). The inefficient use of electrical equipment for cryptocurrency mining undermines the economy (Grassman et al., 2021; Muradyan et al., 2023). In contrast, some scholars claim that trade wars (Elsayed & Sousa, 2022) and military and political conflicts (Fokina et al., 2023) might have a greater impact on the semiconductor shortage.

Third, there are risks to the stability of a country's financial system. The disruption of state monopolies on issuing national currencies due to cryptocurrency is a key aspect in the discussion of modern financial systems (Ben Dhaou & Rohman, 2018; Nica & Piotrowska, 2017; Milosh & Gerasenko, 2020; Gagarina & Nestik, 2019). Traditionally, central banks control currency issuance, regulate the economy, manage inflation, and ensure financial stability (Gubin, 2023).

Fourth, there are risks associated with fraudulent operations. In the absence of cryptocurrency market regulation, the volume of transactions involving criminal organizations may increase, contributing to the growth of shadow income and the redistribution of values among subjects within society or a specific state (Nurgaliyeva et al., 2023). This could potentially facilitate the financing of terrorism and international crime (Pushkarev et al., 2022; Muradyan et al., 2022).

Thus, our research aims to determine the magnitude of these risks. The question arises as to whether the cryptocurrency market can significantly impact state

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ISSN: 2316-2880

economies financially and socially or whether there is no need for government regulation of crypto assets.

METHODS

To address cryptocurrency market governance from a socio-economic perspective, we conducted a qualitative content analysis of research papers from Scopus, Web of Science, and Google Scholar and statistical and analytical reports and respondent surveys conducted by expert internet resources and companies.

For a comprehensive analysis, 57 studies were selected using the PRISMA algorithm. These studies contained definitions of cryptocurrency market governance, cryptocurrency market regulation, risks of cryptocurrency use, and socio-economic factors of cryptocurrency use. This methodology allowed us to identify the risks of unregulated cryptocurrency usage and propose a system of measures for managing the crypto industry.

RESULTS

Due to the importance of cryptocurrency market regulation, we gathered statistics on countries using different strategies for the cryptocurrency market (Table 1).

Table 1. Types of countries by crypto market governance

Type of regulation	Essence	Examples	Studies
Strict	Strict restrictions are introduced on trading cryptocurrencies and ICO, which helps to minimize the risks of fraud and market volatility and control the financial transactions of citizens	China	Ermolaev & Cheremisinov, 2019; Reutov et al., 2019; Doria, 2020; Giudici et al., 2020
Soft	Clear and transparent rules are developed for cryptocurrency companies, which encourage investment and foster blockchain development. This approach allows countries to remain competitive on the international stage	Singapore, Russia, Switzerland, USA, Canada	Garcia et al., 2014; Narayanan et al., 2016; Pazaitis et al., 2017; Parino et al., 2018; Aliyev, 2022

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Self-regulation	Regulation is completely avoided, and the emphasis is placed on self-regulation and market mechanisms	Brazil, South Africa, Chile	Jansen, 2013; Mohsin, 2019; Caliskan, 2020; Jalal et al., 2021; Laboure et al., 2021

Charatynowicz (2021) offers a more fractional structure (Table 2).

Table 2. The regime of cryptocurrency functioning in different countries

Regime	Essence	Countries
A complete ban on cryptocurrency	Buying, selling, and storing cryptocurrency is prohibited, any transactions are prohibited, and using cryptocurrency is punishable by imprisonment	Bolivia, Kyrgyzstan, Nepal, Jordan, Bangladesh, Algeria, Ecuador, Malaysia, Egypt
Partial ban on cryptocurrency	Mining of crypto assets is under state control, while exchange and payment are prohibited	China, Namibia, Indonesia, Kazakhstan
Refusal to regulate the crypto market	Cryptocurrency has no legal status; there is no legislative framework regulating legal relations in cryptocurrency transactions	Iran, Hong Kong, Brazil, Iran, South Africa
Partial permission to use cryptocurrencies	Trading in cryptocurrencies is permitted, and some cryptocurrency transactions are subject to taxes	Belarus, Israel, Estonia, Thailand
Cryptocurrency is allowed	Virtual currency is legalized; crypto exchanges are licensed; there is a well-coordinated taxation system, and exchange, sale, and purchase of cryptocurrency are allowed	Czech Republic, Switzerland, Australia, New Zealand

Given the diversity of approaches to cryptocurrency, we summarized the risks that cryptocurrency may pose to states (Table 3).

Submetido em: 01/01/2024
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Avaliação: Double Blind Review
ISSN: 2316-2880

Table 3. Socio-economic risks when using cryptocurrency

Risks	**Essence**	**Studies**
Violation of the monopoly on the issuance of national currency and control over the circulation of cryptocurrency	One of the goals of creating cryptocurrencies is to build a new financial system independent of the state, which poses threats and risks. Blockchain provides citizens with decentralized cryptocurrency without intermediaries and ensures the participation of government agencies deprived of the right to supervise the economic activities of crypto market participants	Nica et al., 2017; Ben Dhaou & Rohman, 2018; Gagarina et al., 2019; Milosh & Gerasenko, 2020
Use of cryptocurrency by criminal organizations	Since transactions are anonymous and not controlled by government agencies, cryptocurrency can be used for criminal activities, such as buying weapons and sponsoring terrorism and extremism	Jang-Jaccard & Nepa, 2014; Mukkamala et al., 2018; Nikiforova et al., 2019; Faria, 2022; Cavallaro & Mathieu, 2024
Indirect state responsibility	The state bears the risks that citizens face when purchasing cryptocurrency and using it as a means of payment or accumulation	Narayanan et al., 2016; Cani, 2018; Vaz & Brown, 2020; Fenech Castaldi, 2022
Ineffective taxation system	Lack of control in the cryptocurrency market	Vejačka & Paľová, 2019; Udofa, 2020; Kotsur & Ihnatenko, 2022; Özbek & Efe, 2022; Viano et al., 2022

In Table 3, the use of cryptocurrency by criminal organizations is ranked high among socio-economic risks. We believe that the criminal vulnerability of cryptocurrency has the most significant impact on society and its well-being. In this regard, we will examine specific criminal activities associated with cryptocurrency (Bala & Kopyściański, 2016; Mukkamala & Vatrapu, 2018; Nurgaliyeva & Blikhar, 2023; Nikiforova et al., 2024) (Figure 1).

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ISSN: **2316-2880**

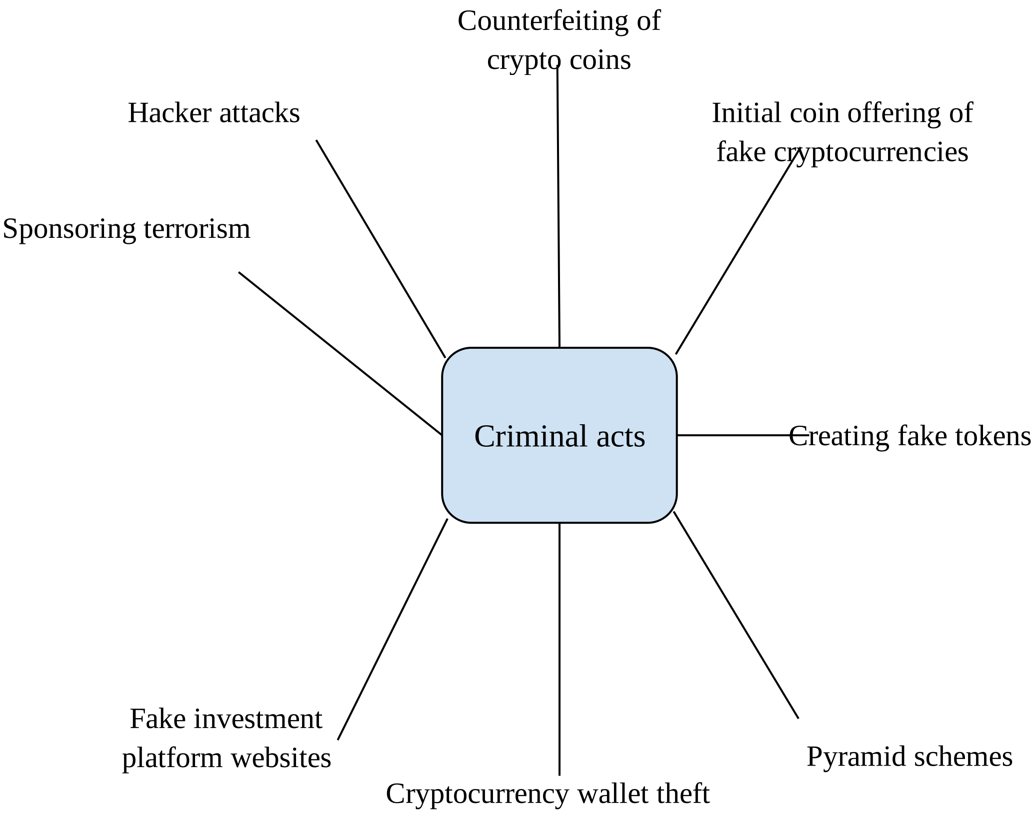

Figure 1. Criminal acts related to cryptocurrency

DISCUSSION

The classification of approaches to regulating the cryptocurrency market (Tables 1 and 2) requires further discussion. Each of the approaches has its drawbacks. A cryptocurrency ban reduces risks for owners and the financial system but hinders innovative development (Begishev et al., 2024). Countries with limited resources or high levels of corruption, where public authorities seek to minimize their intervention in the economy (Abdullaev et al., 2023; 2024), prove this point. Countries like Kazakhstan and Indonesia, where corruption remains entrenched, may find that a partial ban on cryptocurrency transactions reduces economic risks while facilitating the achievement of individual goals for citizens.

The differences in cryptocurrency management diminish the overall effectiveness of regulation. When legislation is tightened in one country, cryptocurrency operations move to countries with more lenient policies. When China implemented a complete ban on cryptocurrency operations, mining shifted to the United States and Kazakhstan, resulting in a tripling of Bitcoin shares in these countries (from 10 to 35% in 2021). The intensified mining activities in Kazakhstan led to

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widespread power outages, prompting government measures to disconnect crypto farms from the electricity grid (Mezquita & Plaza-Hernández, 2023). When the decision to license exchanges was made, Binance servers migrated from Hong Kong to Malta, where the regulation of cryptocurrency exchanges was not as strict (Marszałek-Kawa & Dmochowski, 2021).

For the effective regulation of the cryptocurrency market, governments must move away from diverse strategies and strive to harmonize economic processes in virtual currency transactions at the international level. Based on our results, we claim that uncoordinated laws destabilize markets and facilitate the flow of capital to countries with a more lenient attitude toward cryptocurrency. Thus, unified standards for risk management in the crypto industry should be developed.

A significant part of our research (Table 2 and Figure 1) involved analyzing the risks associated with cryptocurrency use and classifying specific criminal activities. This information is essential for understanding how governments should combat these issues and what measures are necessary to mitigate these risks.

To prevent criminal activity and mitigate the use of cryptocurrency by **criminal organizations,** it is essential to **address its anonymity**. The lack of ability to trace the sources of cryptocurrency and identify owners attracts fraudsters to cryptocurrency exchanges (Tomé & Gromova, 2023). Providers of virtual assets should identify their clients, ban anonymous crypto wallets, and establish the sources of cryptocurrency before services are provided. The level of control over user information regarding crypto assets remains a topic of significant debate.

We believe it is necessary to closely monitor institutional participants in the crypto market. Scholars advocate for the mandatory publication of cryptocurrency prospectuses and their registration with a specialized authority (Stolarski & Lewoniewski, 2020). Additional cryptocurrency requirements should include no complete anonymity and a regulated framework for cryptocurrency exchanges, which could involve mandatory licensing or registration of cryptocurrency exchange operations. Some countries have already implemented mandatory licensing for cryptocurrency exchanges. A specialized body in South Korea has been established to oversee the registration and cryptocurrency exchange (Silva & Silva, 2021).

It is also necessary to enhance the collaboration between cryptocurrency exchanges and law enforcement agencies. It would be advisable to require cryptocurrency exchanges to report suspicious transactions and operations exceeding

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a threshold amount. In Hong Kong, only qualified investors with capital of at least 1 million US dollars are allowed to participate in cryptocurrency exchanges (Suja, Gayathiri, 2024). This rule suggests the absence of criminal intent among clients (García-Corral et al., 2022). Crypto exchanges should also be required to monitor clients who raise suspicions and may be linked to terrorism financing.

Another key conclusion from our research (Table 3) highlights the importance of using taxation to mitigate socio-economic risks. With the growing popularity of cryptocurrencies, the volume of transactions has increased, and many governments are striving to capture part of these operations within their taxable base to generate revenue for the state budget. In Russia, the estimated budget losses from cryptocurrency circulation amounted to over 150 million US dollars in 2023. This figure accounts only for corporate profit tax, excluding other operations (Soloviev & Belinskiy, 2019). Cryptocurrency taxes help to replenish state coffers and ensure a fair distribution of the tax burden between digital asset holders and other taxpayers.

Transparent tax regulations can play a crucial role in preventing money laundering and other illegal practices and minimizing cryptocurrency crimes. Implementing cryptocurrency taxes will provide a legal framework for investors, enable them to operate confidently within the law, and protect their interests (Grassman et al., 2021; Kirillova et al., 2021).

An effective taxation system should include mechanisms for monitoring cryptocurrency commercial transactions, controlling miners' income, and identifying cryptocurrency operations that conceal taxable sales. The following operations should be subject to taxation: mining operations, purchasing goods and services using cryptocurrency, exchanging cryptocurrency for fiat money, and storing cryptocurrency in digital wallets (Jadaan, Hasan, 2024).

Many scholars of socio-economic threats emphasize **the indirect responsibility of the state** for the financial risks facing citizens in the cryptocurrency market (Table 3). Government authorities do not bear direct responsibility for citizens' losses resulting from cryptocurrency investments. However, their policies and regulations can significantly affect the level of risks encountered by users. In countries with unclear legal frameworks, citizens are often victims of fraud and abuse (Kostakis & Giotitsas, 2014). The state's role lies in creating a transparent and secure legal environment, which can reduce the likelihood of financial losses. Addressing cryptocurrency crimes can be supported by effective fraud prevention mechanisms (Velasco, 2017). The

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financing of terrorism could be mitigated by developing legal frameworks for dispute resolution in cryptocurrency transactions (Binda, 2020). Issues such as cryptocurrency theft from wallets could be resolved by regulating inheritance processes for crypto assets (Steinmetz & Von Meduna, 2021).

CONCLUSIONS

The study examines the experiences of various countries in regulating the cryptocurrency market and the risks associated with cryptocurrency use. Based on the research, we proposed specific steps governments can take to manage the cryptocurrency market to reduce crime rates and harmonize economic processes. Regulation should function in several directions. First, we see the feasibility of eliminating the anonymity of cryptocurrencies through licensing cryptocurrency exchanges and registering crypto investors. Second, we believe it is essential to introduce clear cryptocurrency taxation to enhance state wealth and provide governments with the means to protect the rights of crypto investors. Third, we argue that governments should clearly define the legal framework for cryptocurrency operations. These proposals should be considered when addressing cryptocurrency market governance.

The size of the source sample limited our research scope. We selected 57 studies on the governance of the cryptocurrency market with due regard to socio-economic factors.

Future research should examine the taxation system for cryptocurrency transactions and develop a comprehensive set of measures for regulating mining.

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