



Research Article



An Integrated Legal Framework for Digital Investment Fraud Prevention in Indonesia

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Abstract: The rapid development of digital financial technology in Indonesia has presented significant opportunities for investment growth, but has also opened up space for increasingly complex fraudulent methods. The significant public losses due to illegal digital investments demonstrate that the existing legal framework is unable to provide effective protection, as regulations remain fragmented, repressive, and not fully adaptable to technological innovation. This study aims to identify an integrated legal framework for preventing digital investment fraud. The research method employed is normative juridical research, utilizing a statutory and conceptual approach, as well as a comparison with Singapore, which is recognized for its responsive legal framework to developments in financial technology. The results show that existing provisions, such as the Criminal Code (KUHP) and the Electronic Information and Transactions Law (UU ITE), have proven inadequate because they are designed to address conventional fraud or electronic information fraud in general, not the complexities of digital investment. This situation creates legal uncertainty, making it difficult for law enforcement officials to accurately classify crimes and impose appropriate sanctions, while also weakening the legal protection for victims. In contrast, Singapore has been able to establish a responsive, consistent, and effective system for preventing and prosecuting digital investment fraud through the Securities and Futures Act (SFA) and the Monetary Authority of Singapore's (MAS) broad powers, encompassing regulation, investigation, and enforcement, with court support that provides a deterrent effect. Therefore, Indonesia needs to establish a more comprehensive, integrated, and specific regulatory framework for fraudulent investment crimes, encompassing prevention, law enforcement, victim protection, and recovery.

Keywords: Digital Investment; Fraud; Integrated; Legal Framework;



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INTRODUCTION

In this era of globalization, electronic and financial systems have undergone significant improvements. Changes in the financial sector have created a complex, dynamic, and interrelated system across various parts of the financial sector. This complexity is evident in the products and services that banks and other financial organizations offer. ¹ Additionally, the presence of numerous financial services organizations operating across various parts of the financial system complicates transactions and relationships between financial institutions. To have a strong economy, businesses need to generate more revenue, which is a sign of success and

¹ BenSu Guo and JinDong Guo, 'The Digital Divide and Household Risky Financial Investments in China', *International Review of Economics & Finance*, 104 (2025), 104565 <https://doi.org/10.1016/j.iref.2025.104565>

the best way to maximize profits. However, not all strategies can be used to get these benefits.²

In this complex financial system, Indonesia is a developing country with considerable growth potential. This makes it a good place to invest. The Indonesian economy is developing, which is beneficial for investment, given Indonesia's relatively large population. The country's economy is predicted to grow thanks to both domestic and foreign investment. Investment is a key component of economic growth, and that is what keeps a country's economy moving forward. Therefore, the government needs to regulate it so that it can benefit the country and its people.³

As the digital world evolves, almost every industry has begun incorporating digital elements into its products. Digital investment, which is sometimes known as "online" investing, is also getting much attention from various sectors in the investment world. Millennials are one group of people who are starting to look into this new trend.⁴ People think that investing online is faster, easier, and even more profitable. You may invest with just a smartphone and, of course, some extra money. Digital investing app suppliers or operators often utilize the promise of ease as a way to trick people into making bad investments. People often use the phrase "fictional investment" these days. An investment that does not pay off or give you any benefits is called a fictitious investment. The investor's money cannot be effectively managed because the company is not productive or lacks a clear business plan. The way these digital investment app operators perpetrate fraud is not really different from how other fraud cases work.⁵

Digital investment fraud is becoming a bigger and bigger problem in Indonesia. It uses social media, artificial intelligence, deepfake technology, and complicated digital payment systems to do this.⁶ This creates a new type of financial crime that is hard to deal with using traditional legal systems. The Indonesia Anti-Scam Centre (IASC) has now put out information that shows how big the situation really is. More than 128,000 reports of digital financial fraud in the first five months of 2025 led to losses of more than IDR 2.6 trillion (about USD 160 million).⁷ This information shows that losses went from hundreds of billions of rupiah in 2021 to more than IDR 2.6 trillion in the first five months of 2025. In the first few months of 2025, 310 illegal

² Hongjie Zhang and others, 'The Digital Path to Green: Exploring the Impact of Supply Chain Digital Transformation on Corporate Green Investments', *Journal of Cleaner Production*, 526 (2025), 146656 <https://doi.org/10.1016/j.jclepro.2025.146656>

³ Cuihua Zhu and Jingyuan Yu, 'Going out and Bringing in: Impact of Digital Finance on Firms' Cross-Regional Investments', *International Review of Financial Analysis*, 106 (2025), 104553 <https://doi.org/10.1016/j.irfa.2025.104553>

⁴ Myne Uddin and Muhammad Shahbaz, 'Evaluating the Influence of Chinese Investment, FDI and Digitalization on Renewable Energy Dynamics in Africa', *Renewable Energy*, 256 (2026), 124051 <https://doi.org/10.1016/j.renene.2025.124051>

⁵ Bofan Liu, Ruifei Guo, and Huaqin Shi, 'Digital Government and Corporate Investment: Effects and Mechanisms', *Economic Modelling*, 151 (2025), 107189 <https://doi.org/10.1016/j.econmod.2025.107189>

⁶ Yihui Wang and Xiangyu Ge, 'Digital Finance, Investor Sentiment, and Corporate Inefficient Investment', *Finance Research Letters*, 83 (2025), 107688 <https://doi.org/10.1016/j.frl.2025.107688>

⁷ A. van Dijk, *Criminal Liability for Serious Traffic Offences: Essays on Causing Death, Injury and Danger in Traffic*, ed. by H. Wolswijk (Eleven International Publishing, 2015).

investment groups were shut down. About 23% of Indonesian consumers said they lost money because of digital fraud in 2024. This is a big jump from 19% the year before, on top of the immediate financial damage. This has greatly damaged people's trust in digital banking services. The long-term societal effects of the psychological anguish that the victims, who are mostly older or financially weak, have gone through are felt by families and communities all throughout the archipelago. This highlights the critical need for robust legal and social protection frameworks. Digital investment fraud is an example of how new technology can generate new possibilities for criminals to make money.⁸ Fraudulent methods are getting more advanced, and they now include changing transaction data, digital-based Ponzi schemes, and apps that seem like trading platforms. For example, binary options promise people quick returns with no risk, even though these tactics are actually just a way to bet without showing your hand. In the same way, people who commit fraud in trading algorithms sell software that claims to provide steady profits, but in reality, they steal investors' money for their own benefit. These actions not only cost money, but they also make people less trusting of technology-based financial innovation and hurt the stability of the digital economy. There are several examples that show how big the losses from illegal digital investment techniques may be. The following data shows the expected public losses in Indonesia due to several types of digital investment fraud.⁹

Table 1. Data on Digital Fraud Investment Losses in Indonesia

Case/Mode	Period/Source	Estimated Losses
Fake investments, especially trading robots	In 2022, the Investment Alert Task Force (OJK)	Rp109.67 trillion was lost throughout the year in fraudulent investments, largely from robot trading practices.
General illegal investments (including money games, trading robots, other unlicensed investments)	2018-2022, SWI and OJK data	Around Rp. 126 trillion (accumulated over 5 years) in public losses due to illegal investments.
Illegal investments (i.e. "unlicensed investments / illegal investment entities")	2017-2022 period	Around Rp137.84 trillion in losses to the public were due to illegal investments and unlicensed businesses.
Illegal crypto offerings + trading robots for ~10 years	OJK	The total cost is estimated at Rp117.5 trillion in public losses.
Specific case of DNA Pro trading robot	Reported to the Police	± Rp97 billion for losses suffered by victims in the DNA Pro trading robot case.
Covid cases and illegal trading robots & illegal crypto	2021	Losses from illegal trading robots exceed IDR 2.5 trillion and from illegal crypto exceed IDR 4 trillion.
Fahrenheit trading robot case	Police Report	Around Rp. 480 billion in losses involved ±550 victims.

⁸ Guanzhe Han and Fenglei Li, 'Digital Economy of Trading Partner Countries, Outward Investment, and Cross-Border E-Commerce Exports', *Finance Research Letters*, 85 (2025), 108034 <https://doi.org/10.1016/j.frl.2025.108034>

⁹ Meiying Huang, Pengfei Cheng, and Yimeng Yuan, 'Empowering Corporate Growth: How Digital Government Enhances Investment Stability', *Economic Analysis and Policy*, 87 (2025), 146–61 <https://doi.org/10.1016/j.eap.2025.06.004>

Binary option case (victims of Binomo et al)	Legal report / victim reporting	One report: $\approx$ 200 victims with losses reaching Rp. 10 billion for a particular binary options case.
Scar / digital scam common treatment of financial fraud / online scam	November 2024-August 2025, IASC / OJK	$\pm$ Rp. 4.6 trillion in public losses due to financial fraud / online scams.

Source: processed by the author

According to the data, unlawful digital investment activities in Indonesia have led to substantial losses. The Financial Services Authority (OJK) Investment Alert Task Force reported that people lost Rp109.67 trillion in 2022 alone, primarily due to trading robots. More generally, the total losses from various types of illicit investments, including money games, trading robots, and other unauthorized investments, are estimated to be between Rp126 trillion and Rp137.84 trillion between 2017 and 2022. Additionally, illegal trading robots and unapproved crypto offers have resulted in losses exceeding Rp117.5 trillion over the past decade. Not only on a large scale, but also in specific cases, there have been big losses. For example, the DNA Pro case resulted in a loss of around Rp97 billion, and the Fahrenheit case incurred a loss of about Rp480 billion, affecting more than 550 victims. Approximately 200 others have also lost money in binary options schemes, such as Binomo, which has cost them around Rp10 billion. In 2021, criminals took advantage of the COVID-19 outbreak by selling unlawful trading robots and cryptocurrency, which cost people more than IDR 6.5 trillion. In reality, from November 2024 to August 2025, public losses from digital financial fraud, or online scams, stayed high at about IDR 4.6 trillion.¹⁰

This shows that Indonesia's judicial system has several problems. Different organizations have different rules about digital investments. The Financial Services Authority (OJK) is in charge of the financial services sector, the Commodity Futures Trading Regulatory Agency (Bappebti) is in charge of crypto asset trading, Bank Indonesia is in charge of payment systems, and the Ministry of Communication and Information Technology is in charge of keeping people from using illegal platforms. This patchwork of rules makes it difficult to coordinate and provides scammers with opportunities to circumvent them. Additionally, the current rules are more focused on punishing individuals after they commit fraud than on preventing it from happening in the first place. As a result, new victims continue to come forward, even if law enforcement has attempted to assist them in the past.¹¹

The legal framework governing digital investment fraud currently operates through a complex intersection between Article 378 of the Criminal Code (KUHP), which addresses conventional fraud through provisions targeting deceptive practices for unlawful gain, and Article 28 paragraph (1) of the Electronic Information and Transactions Law (UU ITE), which specifically prohibits the dissemination of electronic information that is misleading and detrimental to consumers. However, implementing

¹⁰ Long Tang, Yanbing Wen, and Yan Jiang, 'Can Digital Finance Foster Green Innovation in Short-Term Debt for Long-Term Investment Firms?', *Pacific-Basin Finance Journal*, 93 (2025), 102849 <https://doi.org/10.1016/j.pacfin.2025.102849>

¹¹ Lei Chen and Jieshuang Wang, 'Intellectual Property Protection, Investment and Digital Technology Innovation: An Empirical Study Based on the Revision of the Patent Law', *International Review of Economics & Finance*, 103 (2025), 104320 <https://doi.org/10.1016/j.iref.2025.104320>

these rules in Indonesia's complex regulatory environment, which encompasses the Financial Services Authority (OJK), the Commodity Futures Trading Regulatory Agency (Bappebti), Bank Indonesia, and various law enforcement agencies, is extremely challenging. This is because there are numerous gaps in the rules that fraudsters are exploiting. The Indonesian Anti-Fraud Center and the Illegal Investment and Finance Task Force are two examples of efforts to enhance the connection between criminal law enforcement, as outlined in Article 378 of the Criminal Code, and administrative sanctions, as stipulated in Article 28 of the ITE Law. However, these efforts are still not working well together and are only reacting to problems instead of preventing them.¹²

This dispersion is especially troublesome when it comes to technologically advanced fraud schemes, as shown by the fact that losses from digital investment fraud reached IDR 117.4 trillion in 2022 alone. Because digital evidence is complex and law enforcement often struggles with it, many instances do not result in victims recovering their property. Existing techniques sometimes generate enforcement weaknesses because they operate in regulatory silos and fail to connect criminal prosecution capabilities with administrative preventive tools.¹³ This enables digital investment fraud to transcend borders and cross various technology platforms. Indonesia is the largest economy in Southeast Asia and plays a leading role in regional financial integration efforts. This makes it even more crucial to address this problem. The constant risk of digital investment fraud makes people less likely to trust digital transformation, hindering their access to funds. Therefore, Indonesia needs to learn from other countries that have successfully established integrated regulatory frameworks to address similar issues. Singapore is an example of a digital monitoring system that is both preventative and adaptive. It is known as a regional financial center.¹⁴

Singapore is a notable example for Indonesia, as it has established a legal system that can adapt to changes in financial technology. The Monetary Authority of Singapore (MAS) has established a regulatory sandbox that enables fintech and digital investment companies to test their products or services in a controlled environment before launching them on the market. This tactic shows that the government is taking a proactive approach, rather than only taking legal action after losses have occurred. Singapore's legal system can serve as a model for developing a more comprehensive and proactive system of oversight to prevent digital investment fraud in Indonesia. Currently, Indonesia's regulatory system is divided among the Financial Services Authority (OJK), Bappebti (Commodity Futures Trading Regulatory Agency), Bank

¹² Yunrui Wang and others, 'Research on Optimization Method of Coal Mine Safety Investment Driven by Digital Twin-Enabled INFO-SVR', *Process Safety and Environmental Protection*, 200 (2025), 107345 <https://doi.org/10.1016/j.psep.2025.107345>

¹³ Inese Mavlutova and others, 'The Role of Green Digital Investments in Promoting Sustainable Development Goals and Green Energy Consumption', *Journal of Open Innovation: Technology, Market, and Complexity*, 11.2 (2025), 100518 <https://doi.org/10.1016/j.joitmc.2025.100518>

¹⁴ Michael Funke and Raphael Terasa, 'Will Temporary Super Depreciation Allowances for Green and Digital Investments Have Knock-on Effects?', *Journal of Policy Modeling*, 47.5 (2025), 977–98 <https://doi.org/10.1016/j.jpolmod.2025.03.003>

Indonesia (BI), and the Ministry of Communication and Information Technology (Kominfo).¹⁵

Singapore's competitive edge also stems from its combination of education for investors, openness, and legal clarity. Not only does MAS set strict rules for digital financial service providers to follow, but it also maintains a public listing of both licensed and unlicensed companies that people should avoid. This system provides people with access to clear information, enabling them to make safer financial decisions.¹⁶ Another benefit is that regulators, financial institutions, and industry participants work closely together, making it easier for them to monitor one another. This indicates that fraud prevention in Singapore is effective only when information is clear, different sectors collaborate, and strict rules are in place. This best practice offers Indonesia valuable insights into creating a unified legal framework that prioritizes enhancing digital financial literacy, fostering institutional collaboration, and promoting effective regulation.¹⁷

Vinicius Facco Rodrigues and others conducted research before this, which showed that fraud protection measures can be implemented at three distinct points in the buying process. The e-commerce front-end is a crucial source of real-time data, as it provides accurate information about customers. The real-time data gathering procedure collects information such as the IP address, location, browser version, and more every time a customer interacts with the website. It is crucial to capture this information and send it to the database promptly. This information is used internally to enable fraud detection systems to perform risk analysis and malware detection before the transaction is completed. Second, real-time analytics offers numerous benefits, particularly in the areas of behavioral analytics and malware detection. For example, the Behavioral Analytics module for Bot Detection analyzes real-time data streams to determine the likelihood of specific client sessions occurring. These chances are then used in automated scripts. The Fraud Manager can use this information to stop consumer page flows or add extra checkpoint measures, such as CAPTCHA, to prevent bots from accessing the site.¹⁸ According to the research of Marina Brogi and Valentina Lagasio, the growing interest in FinTech has led to big improvements in digital financial services. However, FinTech is prone to possible excesses. Policymakers need to take steps to create a comprehensive set of rules that protects consumers and maintains market integrity. To build a culture that encourages ethical behavior and responsible innovation, it is essential for individuals in the sector to collaborate in a proactive manner. By working together to address issues in the

¹⁵ Liyuan Liu and Yi Feng, 'Government Digital Governance and Corporate Investment Efficiency', *Finance Research Letters*, 77 (2025), 107018 <https://doi.org/10.1016/j.frl.2025.107018>

¹⁶ Tianxiao Huang, 'A Study on the Influence Effect of Digital Investment on the Environmental Performance of Listed Companies', *Transactions on Economics, Business and Management Research*, 8 (2024), 368–80 <https://doi.org/10.62051/ycp16124>

¹⁷ Haojun Wang and others, 'Are Industry Associations Conducive to Radical Innovation in Biopharmaceutical Companies?—The Dual Effect of Absorptive Capacity and Digital Investment', *Technological Forecasting and Social Change*, 207 (2024), 123619 <https://doi.org/10.1016/j.techfore.2024.123619>

¹⁸ Vinicius Facco Rodrigues and others, 'Fraud Detection and Prevention in E-Commerce: A Systematic Literature Review', *Electronic Commerce Research and Applications*, 56 (2022), 101207 <https://doi.org/10.1016/j.eierap.2022.101207>

financial technology sector, we can establish a robust and dependable digital financial ecosystem that leverages new technologies while safeguarding the interests and well-being of all stakeholders.¹⁹ Ben Charoenwong et al. found that the use of regulatory technology (RegTech) enables financial institutions to automate compliance and identify issues early, thereby reducing the likelihood of fraud and other misconduct in the financial industry. The use of technology in regulatory compliance streamlines audits and monitoring, making it easier for individuals to perform their duties. This is important to the legal framework for digital investments because it demonstrates that rules associated with technology can help prevent fraud without hindering the development of new ideas.²⁰

Most academic study on digital investment in Indonesia has focused on economic issues, financial risks, or post-crime law enforcement strategies. There has been little research on the need for a comprehensive legal system that prioritizes fraud prevention. A comprehensive study approach is essential to capture the entirety of investigations, considering the complex interplay of growing regulatory frameworks, law enforcement methodologies, emerging financial technologies, and recorded instances of fraud. The cross-border nature, rapid technical progress, and the involvement of multiple regulatory entities operating under different legal frameworks create distinct analytical challenges in the digital investment fraud scenario.²¹

METHOD

The primary objective of this research, which employs a normative juridical approach, is to examine the laws, regulations, legal doctrines, and principles relevant to combating digital investment crimes in Indonesia.²² The employed method utilizes a statutory framework, which entails analyzing various relevant regulations, including the Criminal Code (KUHP), the Electronic Information and Transactions (ITE) Law, the Capital Markets Law, and additional financial and investment regulations pertinent to Indonesia.²³ Furthermore, a conceptual framework is formulated to elucidate the importance of *lex specialis* in preventing fraudulent digital investments, protecting investors, and ensuring legal certainty.²⁴ A comparative methodology is employed to develop a model applicable to Indonesia by examining Singapore's legal

¹⁹ Marina Brogi and Valentina Lagasio, 'New but Naughty. The Evolution of Misconduct in FinTech', *International Review of Financial Analysis*, 95 (2024), 103489 <https://doi.org/10.1016/j.irfa.2024.103489>

²⁰ Ben Charoenwong and others, 'RegTech: Technology-Driven Compliance and Its Effects on Profitability, Operations, and Market Structure', *Journal of Financial Economics*, 154 (2024), 103792 <https://doi.org/10.1016/j.jfineco.2024.103792>

²¹ Mengjie Li and others, 'Digital Infrastructure Investment and Carbon Emissions Reduction Based on the Broadband China Policy', *Utilities Policy*, 95 (2025), 101964 <https://doi.org/10.1016/j.jup.2025.101964>

²² Ristania Intan Permatasari, Sapto Hermawan, and Abdul Kadir Jaelani, 'Disabilities Concessions in Indonesia: Fundamental Problems and Solutions', *Legality: Jurnal Ilmiah Hukum*, 30.2 (2022), 298–312 <https://doi.org/10.22219/ljih.v30i2.23814>

²³ Sreenu Nenavath, 'Exploring the Dynamics of Fintech Impact, Financial Regulation, and Corporate Financial Trends: An Analysis of India', *Asia Pacific Management Review*, 30.1 (2025), 100336 <https://doi.org/10.1016/j.apmr.2024.11.006>

²⁴ Lijun Zhu, 'The Influence of Digital Transformation on Chinese Firms' Outward Foreign Direct Investment', *Finance Research Letters*, 72 (2025), 106567 <https://doi.org/10.1016/j.frl.2024.106567>

framework, specifically the Securities and Futures Act (SFA) and the jurisdiction of the Monetary Authority of Singapore (MAS).²⁵

This research utilizes primary legal materials, including national laws and court rulings related to fictitious digital investment cases, as well as secondary legal materials comprising academic literature, journal articles, and prior research. Additionally, tertiary legal materials, such as legal dictionaries and encyclopedias, are employed.²⁶ The legal papers were obtained via library research and subsequently subjected to qualitative analysis. This involved determining the current legal norms, identifying their flaws, comparing them to legal practices in Singapore, and developing a unified legal framework that could help Indonesia prevent digital investment crimes.²⁷

RESULT AND DISCUSSION

Regulatory Fragmentation in Indonesia's Legal Response to Digital Investment Fraud

The digital investment fraud problem in Indonesia is no longer just a single case; it has evolved into a widespread issue that threatens the stability of the economy and erodes the public's trust in financial systems. Digital technology has advanced significantly in a short period, creating numerous investment opportunities. However, bad people have also used it to carry out more complicated fraud schemes. Over the past four years, digital investment fraud has gotten so bad that it has caused a national catastrophe in Indonesia.²⁸ Comprehensive statistics from various official sources indicate a consistent upward trend. The official statistics, shown in the table below, indicate that the number of cases and financial losses have increased significantly over the past several years. This illustrates the severity and prevalence of the issue.²⁹

Table 2. Digital Investment Fraud Trends in Indonesia (2022–2025)

Year	Number of Cases/Reports	Financial Loss	Data source
2022	5,300+ cases of fraudulent investments	Rp. 120.79 trillion	OJK Report (2023)
2023	5,300+ cases of fraudulent investments	Rp 5.9 trillion (digital only)	OJK Report (2023)
2024	18,614 reports (November–December only)	Rp. 363 billion	IASC-OJK Data (2024)

²⁵ Yuling Chen, Zhen Che, and Dongqi Wan, 'How Does the Financial Technology Innovation Regulatory Pilot Influence Financial Regulation?', *Finance Research Letters*, 69 (2024), 106255 <https://doi.org/10.1016/j.frl.2024.106255>

²⁶ Hein Minn Tun and others, 'Navigating ASEAN Region Artificial Intelligence (AI) Governance Readiness in Healthcare', *Health Policy and Technology*, 14.2 (2025), 100981 <https://doi.org/10.1016/j.hlpt.2025.100981>

²⁷ Abdul Kadir Jaelani, Reza Octavia Kusumaningtyas, and Willy Naresta Hanum, 'The Impact of Constitutionalism and Social Justice on Protection Employment: A Lesson from Asean Country', *Konferensi Nasional Asosiasi Pengajar Hukum Tata Negara Dan Hukum Administrasi Negara*, 2.1 (2024), 73–100 <https://doi.org/10.55292/wx4a0h35>

²⁸ Li and others.

²⁹ Xinyue Wang, Bo Zhang, and Linyi Tang, 'Sales Investment, Marketing Digitalization, and Corporate Growth', *International Review of Financial Analysis*, 102 (2025), 104146 <https://doi.org/10.1016/j.irfa.2025.104146>

2025*	128.281 reports (until May)	Rp 2,6 trillion	IASC-OJK Data (2025)
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*2025 data as of May 2025

Source: processed by the author

Data shows a very worrying trend: in less than four years, Indonesia has seen a huge rise in cases of digital investment fraud, with losses totaling hundreds of trillions of rupiah. This case illustrates that the system is failing to prevent the growth of digital investment fraud, highlighting significant flaws in the current legal framework. This issue not only reveals an increase in the number of reports and losses, but it also indicates that the current legal system is not functioning properly.³⁰ To gain a deeper understanding of the underlying issue, the subsequent section outlines the key findings of this study regarding deficiencies in the favorable legal framework and systemic safeguards for victims of digital investment fraud in Indonesia.³¹

In Indonesia, the basic principle of legal protection for investors is based on Article 33 of the 1945 Constitution and the Constitutional Court's legal opinions. These clearly demonstrate that the government has a duty to ensure the economy is fair, stable, and legally certain for everyone involved, including investors. The state's main purpose of improving the general welfare must be in line with legal protections for investors. This means that the government needs to ensure that investments made by both domestic and foreign businesses not only benefit the economy but also contribute to the country's overall well-being. So, legal protection shouldn't just be about the legal rights of individual investors; it should also take into account the social and economic effects of investments as a whole to ensure that they don't harm the interests of society as a whole.³²

The 1945 Constitution and Article 3 paragraph (2) of Law Number 25 of 2007 concerning Investment both set rules for investment in Indonesia. Article 3 paragraph (2) also lists several important goals for investment in Indonesia. This objective has a flaw, though: it lacks a clear statement or emphasis on the need for legal protection for investors who wish to invest in Indonesia. Article 3, paragraph (2) of Law Number 25 of 2007 lists goals that are strategic and very important for economic growth. However, none of them specifically talk about how the law will protect investors in Indonesia.³³

³⁰ Yuyou He, 'Digital Economy Enterprise Investment Value Evaluation Model and Empirical Analysis', *International Review of Economics & Finance*, 99 (2025), 104005 <https://doi.org/10.1016/j.iref.2025.104005>

³¹ Panting Guo, Jiefeng Bi, and Mengnan Zhu, 'Enterprise Digital Transformation and Investment Efficiency: Empirical Evidence from Listed Enterprises in China', *Journal of Asian Economics*, 97 (2025), 101892 <https://doi.org/10.1016/j.asieco.2025.101892>

³² Qin Yang and others, 'Implications of Retailer-Owned Digital Twins Services: The Trade-Offs between Customer Experience, Misfit Returns Reduction, and Investment Costs', *Journal of Retailing and Consumer Services*, 88 (2026), 104478 <https://doi.org/10.1016/j.jretconser.2025.104478>

³³ Jialin Li, 'How Digital Marketing Capabilities Mitigate the Impact of Financing Constraints on Investment Performance in Industrial Enterprises', *Finance Research Letters*, 75 (2025), 106882 <https://doi.org/10.1016/j.frl.2025.106882>

In the context of investment, disputes frequently arise between investors and other parties, including the central government, regional governments, and even among corporations. However, the objectives articulated in Article 3, paragraph (2) of Law Number 25 of 2007 do not adequately address the significance of ensuring fair and effective dispute resolution mechanisms, nor do they emphasize the protection of investors' rights. The establishment of a clear and accessible framework for resolving such disputes is a fundamental prerequisite for fostering legal certainty for investors. In the absence of specific provisions safeguarding the rights of investors, they may perceive themselves as disadvantaged within the legal process and deprived of equitable means to secure their legitimate interests. This legal gap may, in turn, prompt demands for the creation of more robust mechanisms aimed at enhancing the security and stability of investment activities.³⁴

The rules in Indonesia regarding digital investment fraud are still not effective because there are too many of them. This occurs because digital investments are subject to several legal issues governed by multiple laws and institutions. The Financial Services Authority (OJK) is responsible for regulating securities-based investment products, as stipulated by the OJK and Capital Market Laws.³⁵ The Commodity Futures Trading Regulatory Agency (Bappebti), on the other hand, states that crypto assets are traded commodities under the Commodity Futures Trading Law. When the OJK classifies security tokens and other digital instruments as capital market items, and Bappebti classifies them as commodities, an overlap occurs.³⁶ Furthermore, the Financial Services Authority (Otoritas Jasa Keuangan, OJK) and Bank Indonesia (BI) exercise overlapping regulatory powers. Pursuant to the Bank Indonesia Law, BI holds the authority to supervise payment systems, including digital wallets and electronic money (e-money). At the same time, OJK maintains regulatory oversight over technology-based financial service providers, particularly those engaged in fintech lending and investment platforms. When a digital investment platform simultaneously offers e-wallet services, both BI and OJK regulations may apply concurrently. Such regulatory overlap creates uncertainty for businesses and policymakers in determining which set of rules should take precedence, thereby complicating compliance and enforcement efforts.³⁷

Overlapping regulations are also evident at the normative level. The Consumer Protection Law grants individuals the right to seek compensation for losses arising from misleading or false advertising, whereas the Law on Electronic Information and Transactions (Undang-Undang Informasi dan Transaksi Elektronik, ITE Law) prohibits fraudulent activities conducted through electronic or computer networks. Consequently, cases of digital investment fraud may be addressed under either the ITE

³⁴ Wei Wang and Lin Li, 'Digital Payment, Money Market Fund and Investment Behavior', *Pacific-Basin Finance Journal*, 85 (2024), 102348 <https://doi.org/10.1016/j.pacfin.2024.102348>

³⁵ Guanglin Sun and others, 'Digital Finance and Corporate Financial Fraud', *International Review of Financial Analysis*, 87 (2023), 102566 <https://doi.org/10.1016/j.irfa.2023.102566>

³⁶ Danqi Wei, Fayyaz Ahmad, and Nabila Abid, 'Digital Financial Inclusion, Environment Volatility and Investment Efficiency: Demand and Supply Side Experiences of Chinese Listed Renewable Energy Firms', *Environment, Development and Sustainability*, 2024 <https://doi.org/10.1007/s10668-024-05575-5>

³⁷ Qiang Gong and others, 'Digital Wealth Management and Consumption: Micro Evidence from Individual Investments', *China Economic Review*, 81 (2023), 102022 <https://doi.org/10.1016/j.chieco.2023.102022>

Law or the Consumer Protection Law. The absence of explicit rules establishing priority between these legal instruments gives rise to potential inconsistencies and divergent interpretations in judicial practice, thereby undermining legal certainty and predictability in the enforcement of digital investment regulations.³⁸ There is also a clear connection between the Money Laundering Law (TPPU) and the Financial Sector Regulations. The Money Laundering Law grants the Financial Transaction Reports and Analysis Center (PPATK) the authority to investigate suspicious transactions. The Capital Markets Law and the Futures Trading Law both impose fines and jail time for illicit investment violations. In real life, police often have to decide whether to charge someone with fraud, money laundering, or other financial crimes.³⁹

Indonesian criminal law now has two primary legal tools to address situations of digital investment fraud. Article 378 of the Indonesian Criminal Code, a classic law against deception that has been in existence since the colonial era, was intended to address regular fraud that involves direct physical contact.⁴⁰ Second, the Electronic Information and Transactions Law, a relatively new law that prohibits the dissemination of false information through electronic media, does not directly address digital investment fraud (Table 3). To see how the current laws are not working, you can look closely at these two main legal documents, which are listed below:

Table 3. Current Legal Instruments Governing Digital Investment Fraud

Legal Instruments	Current Legal Arrangements	Limitations/Weaknesses	Supporting Quotes
Article 378 of the Criminal Code	Organizing conventional fraud with the elements: "moving another person to hand over goods, money or create debt or eliminate receivables" with a maximum sentence of 4 years in prison.	- Does not recognize electronic media - Does not recognize corporate legal subjects - Sanctions are disproportionate to the losses - Difficult to prove the "moving" element in a digital context	"Article 378 of the Criminal Code, which regulates conventional fraud, has limitations because it does not recognize electronic media and corporate legal subjects, and the threat of a maximum prison sentence of 4 years is not sufficient to create a deterrent effect" - Puan Maharani (OJK Report, 2022)
Article 28(1) of the ITE Law	Prohibiting the dissemination of false and misleading news through electronic systems with a maximum penalty of 6 years imprisonment and/or a maximum fine of IDR 1 billion.	- The subjective element of "no rights" is unclear - Focuses on "fake news" rather than fictitious investment promises - Does not specifically regulate online investment fraud - Multi-interpretive in its application	"Article 28 paragraph (1) of the ITE Law also contains an unclear subjective element and the multi-interpretable phrase 'without rights,' so it does not specifically regulate online investment fraud." – Puan Maharani (OJK Report, 2022) "Article 28 paragraph (1) of the ITE Law often refers only to 'fake news' and does not specifically contain promises of fictitious profits in investments." – Brigadier General Adi Vivid (PASTI Task Force Data, 2023)

Source: processed by the author

³⁸ Meng Zhang and others, 'Optimal Investment and Coordination Strategies for Digital Technology Adoption in a Dual-Channel Supply Chain', *Computers & Industrial Engineering*, 193 (2024), 110289 <https://doi.org/10.1016/j.cie.2024.110289>

³⁹ Ting Cao, Wade D. Cook, and M. Murat Kristal, 'Has the Technological Investment Been Worth It? Assessing the Aggregate Efficiency of Non-Homogeneous Bank Holding Companies in the Digital Age', *Technological Forecasting and Social Change*, 178 (2022), 121576 <https://doi.org/10.1016/j.techfore.2022.121576>

⁴⁰ Zhiqiang Lu and others, 'Digital Finance and Stock Market Participation: The Case of Internet Wealth Management Products in China', *Economic Systems*, 48.1 (2024), 101148 <https://doi.org/10.1016/j.ecosys.2023.101148>

The protection system for victims of digital investment fraud is fragmented among different institutions, as illustrated by the problems with the legal framework in Table 3. The 2025 PASTI Task Force Technical Coordination Meeting states that this problem is exacerbated by conflicts of norms, which make it difficult to determine how to implement the law. The conference said, "There is a normative conflict between the Criminal Code and the ITE Law, as well as confusion about what articles about digital fraud mean, so the current rules don't do a good job of protecting victims of fake investments." The fact that each law enforcement agency and regulator has limited power highlights the weakness of the protection system. Mahendra Siregar, the Chairman of the OJK Board of Commissioners, stated that the OJK faces numerous institutional limitations: "The OJK is constrained in its ability to enforce criminal law." The primary issue is that the methods used by criminals are evolving much faster than the current police response can keep pace. Its main job is to oversee and punish regulated financial services companies that break the rules. The 2025 PASTI Task Force Technical Coordination Meeting revealed that the Financial Services Authority's (OJK) administrative penalties are ineffective in stopping unlawful investment activities. The meeting said, "The OJK can only impose administrative sanctions, which are not thought to be effective at stopping people from making illegal investments."⁴¹

It is essential to note that the absence of *lex specialis* in the regulation of false investment offenses complicates law enforcement's ability to determine the extent of the offenders' harm. In practice, law enforcement often utilizes general criminal provisions from the Criminal Code or general norms from the Electronic Information and Transactions Law (UU ITE) to tackle fictitious investment cases, even though these laws are not specifically designed to govern investment offenses.⁴² This circumstance creates significant legal confusion, as law enforcement cannot distinguish between genuine investment activities that violate the law and fraudulent investment offenses intended to be illegal. As a result, authorities often focus on traditional fraud, as described in Article 378 of the Criminal Code, rather than pursuing criminals using laws more relevant to digital investing. This lack of legal clarity has serious effects on the rights of victims to protection and compensation, as well as on the certainty of criminal punishments for those who commit crimes. Without a *lex specialis* that clearly outlines the rules, punishments, and procedures for recovering funds from fraudulent investments, the Indonesian legal system would continue to struggle in providing legal certainty, justice, and adequate protection for investors who have been wronged.⁴³

This uneven regulation creates legal confusion that harms victims and hinders law enforcement in its efforts to do its job. Investors often don't know which institution to submit cases to, and law enforcement needs more time to determine the correct legal basis. This circumstance, which allows criminals to exploit legal gaps and

⁴¹ Li.

⁴² Xiaokun Wei and others, 'One Click into Capital: The Impact of Digital Government on Venture Capital', *Pacific-Basin Finance Journal*, 91 (2025), 102709 <https://doi.org/10.1016/j.pacfin.2025.102709>

⁴³ Abdurrahman Abdurrahman, 'Extending the IBCDE Framework to Explore Barriers and Drivers in Indonesia's Digital Economy', *Journal of Digital Economy*, 2025 <https://doi.org/10.1016/j.jdec.2025.08.003>

loopholes, ultimately weakens the effectiveness of legal protection and public trust in Indonesia's digital investment rules.⁴⁴

Singapore's Model and Its Implications for Digital Investment Fraud Governance

The International Organization of Securities Commissions (IOSCO) and the Financial Action Task Force (FATF) are two key organizations that have established international standards to prevent digital investment fraud. These rules provide a comprehensive framework for addressing the issue of digital financial crime that transcends borders. IOSCO prioritizes platform accountability by requiring investment service providers to conduct thorough due diligence, establishing systems for active content monitoring and removal, and creating global coordination mechanisms, such as the I-SCAN database, to facilitate the identification of illegal investment companies worldwide. FATF recommendations emphasize the importance of Virtual Asset Service Providers establishing a comprehensive Anti-Money Laundering and Counter-Terrorism Financing framework, adopting a risk-based approach to digital asset oversight, and implementing enhanced international cooperation rules for cross-border law enforcement of digital financial crimes.⁴⁵

These international principles have led to the development of complex legal systems in leading jurisdictions, which effectively combat digital investment fraud through coordinated enforcement techniques and integrated regulatory procedures. For example, the Monetary Authority of Singapore utilizes its Shared Responsibility Framework to establish clear guidelines for safeguarding e-payment users and to hold financial institutions accountable for compensating victims when they fail to meet their obligations. The framework also clarifies the responsibilities of telecommunications companies and financial institutions towards each other. This framework demonstrates that for digital investment fraud prevention to be effective, a comprehensive victim protection system is necessary that addresses issues in both domestic law enforcement and cross-border crime, ensures clear coordination among institutions, and provides specific legal tools. Technological integration is also very significant.⁴⁶

In today's rapidly changing world of economic globalization, investment is a crucial component of a country's growth and development. The global investment phenomenon not only impacts the domestic economy but also serves a vital function in fostering sustainable economic development, facilitating cross-border capital flows, and strengthening interstate ties.⁴⁷ However, with the global economy becoming increasingly complex, protecting investors has become an even more pressing issue.

⁴⁴ Khuong Vu, Yiya Lu, and Saya Shiba, 'The Evolution of the Digital Economy: Comparative Insights from China and the United States, 1995–2020', *Telecommunications Policy*, 2025, 103075 <https://doi.org/10.1016/j.telpol.2025.103075>

⁴⁵ Haikel A Lim and others, 'Bridging Connectivity Issues in Digital Access and Literacy: Reflections on Empowering Vulnerable Older Adults in Singapore', *JMIR Aging*, 5.2 (2022), e34764 <https://doi.org/10.2196/34764>

⁴⁶ David Iheke Okorie, Adeniran Adedeji, and Chinedu Ifionu, 'Assessing Digitalization and the Economy: A Dynamic Recursive CGE Modelling Approach', *Telecommunications Policy*, 49.4 (2025), 102936 <https://doi.org/10.1016/j.telpol.2025.102936>

⁴⁷ Van Bon Nguyen, 'Digitalization's Divergent Impact on FDI Inflows: A Comparative Analysis between Advanced and Developing Countries', *Transnational Corporations Review*, 17.3 (2025), 200148 <https://doi.org/10.1016/j.tncr.2025.200148>

Singapore's rules for financial technology and digital finance are founded on sound principles and are well-coordinated. This makes policies more consistent and puts all the power in one place. The Monetary Authority of Singapore (MAS) is both a central bank and a unified financial regulator.⁴⁸ This enables them to create and implement policy tools that are consistent across the system. This setup reduces jurisdictional overlap, enabling the digital investment industry to respond quickly as a whole to new types of fraud.⁴⁹

Singapore combines clear payment accounts and fraud protection for customers with regulatory tools that benefit fintech. Recent regulatory actions have made it clear that major payment institutions and account issuers must establish systems for managing fraud risk and reporting incidents.⁵⁰ They also need to eliminate common methods of investment fraud, such as legitimate push payment scams and unauthorized account use. These specific objectives align with Singapore's overall strategy of striking a balance between clear operational risk requirements and the encouragement of new ideas.⁵¹

Singapore's paradigm is based on the regulatory sandbox, which allows for both risk-taking and innovation. It allows businesses to try new things while the MAS monitors the emergence of new hazards and business models in real-time. This sandbox mechanism not only speeds up the process of learning about possible ways consumers could be harmed (including investment fraud), but it also allows targeted protections, such as disclosure requirements, capital thresholds, or required fraud detection controls, to be implemented before products are widely marketed. Research on the sandbox suggests that the implementation of effective supervisory responses occurs more quickly, and the relationship between regulators and participants is enhanced.⁵²

Singapore's defenses against digital investment fraud depend on the effectiveness of its cybersecurity and data protection systems. Singapore's Cybersecurity Act, along with its accompanying policy tools and robust personal data protection laws, requires businesses to defend their networks, detect intrusions, and safeguard customer data. These steps help reduce the risk of fraud and make it easier to determine what happened in an event. Research on Singapore's cybersecurity posture emphasizes the

⁴⁸ Jamie Neo and others, 'Accelerating Digital Transformation in a Manufacturing Ecosystem: A Case Study from HP Singapore', in *Digital Manufacturing* (Elsevier, 2024), pp. 443–64 <https://doi.org/10.1016/B978-0-443-13812-6.00006-3>

⁴⁹ Barbara Koranteng and Kefei You, 'Fintech and Financial Stability: Evidence from Spatial Analysis for 25 Countries', *Journal of International Financial Markets, Institutions and Money*, 93 (2024), 102002 <https://doi.org/10.1016/j.intfin.2024.102002>

⁵⁰ Jianhua Zhang and others, 'Developing Green Tehcnology and Digital Economy to Cope with Resource Scarcity', *Resources Policy*, 100 (2025), 105439 <https://doi.org/10.1016/j.resourpol.2024.105439>

⁵¹ Jayoung James Goo and Joo-Yeun Heo, 'The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation', *Journal of Open Innovation: Technology, Market, and Complexity*, 6.2 (2020), 43 <https://doi.org/10.3390/joitmc6020043>

⁵² Di Luo and others, 'Investing during a Fintech Revolution: Ambiguity and Return Risk in Cryptocurrencies', *Journal of International Financial Markets, Institutions and Money*, 73 (2021), 101362 <https://doi.org/10.1016/j.intfin.2021.101362>

need for information security governance in mitigating the risk of online fraud, as well as financial oversight.⁵³

Singapore works diligently to establish cross-border regulatory cooperation and information-sharing agreements, which are essential for preventing transnational investment fraud schemes. Through memoranda of understanding and international supervisory forums, MAS and Singapore's law enforcement agencies can collaborate on investigations, freeze assets, and cooperate with law enforcement agencies from other countries. Academic studies have shown that this capacity is crucial, as illicit funds move quickly between jurisdictions.⁵⁴

The Financial Advisers Act (FAA) and the Securities and Futures Act (SFA) are two of the primary pillars of Singapore's regulatory framework for digital investment misconduct. The SFA comprehensively regulates capital market activities, derivatives trading, and digital financial instruments that can be classified as securities, thereby providing a clear legal foundation for combating unlawful technology-based investment practices. In the interim, the FAA oversees the provision of financial advice to the public, including through digital platforms, with a focus on transparency, licensing, and adherence to professional ethical standards. Misleading, misuse of information, and unlicensed investments are specifically prohibited by these two regulations, which function in tandem to establish an investor protection framework. Singapore has effectively established legal certainty that safeguards digital investors from potential losses resulting from increasingly complex fraud schemes and prevents regulatory voids through the integration of the SFA and FAA.⁵⁵

Singapore is promoting the implementation of RegTech and advanced analytics by regulators and regulated companies in the technology sector to enhance fraud detection and compliance. Research indicates that a regulatory environment that promotes the use of RegTech, by establishing a sandbox for RegTech trials and clarifying compliance expectations, can significantly improve anomaly detection rates and reduce false positives. Consequently, this can enhance the operational capacity to identify and prevent digital investment fraud.⁵⁶ Singapore's plan also places a strong emphasis on multi-layered governance. This includes prevention (teaching consumers and setting platform standards), detection (monitoring institutions and reporting suspicious activity), and enforcement (quick investigations and fair punishments). Recent studies on emerging threats in digital payments and financial crime demonstrate that a multi-layered framework is superior to a singular regulatory

⁵³ Hasanul Banna, M. Kabir Hassan, and Mamunur Rashid, 'Fintech-Based Financial Inclusion and Bank Risk-Taking: Evidence from OIC Countries', *Journal of International Financial Markets, Institutions and Money*, 75 (2021), 101447 <https://doi.org/10.1016/j.intfin.2021.101447>

⁵⁴ Samer A.M. AL-Rjoub, 'A Financial Stability Index for Jordan', *Journal of Central Banking Theory and Practice*, 10.2 (2021), 157–78 <https://doi.org/10.2478/jcbtp-2021-0018>

⁵⁵ Pei Sai Fan, 'Singapore Approach to Develop and Regulate FinTech', in *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1* (Elsevier, 2018), pp. 347–57 <https://doi.org/10.1016/B978-0-12-810441-5.00015-4>

⁵⁶ Ya Bu, Xinghui Yu, and Hui Li, 'The Nonlinear Impact of FinTech on the Real Economic Growth: Evidence from China', *Economics of Innovation and New Technology*, 32.8 (2023), 1138–55 <https://doi.org/10.1080/10438599.2022.2095512>

approach. This is because it encompasses both the supply side (those who facilitate fraud) and the demand side (people who are easily deceived).⁵⁷

Singapore has also amended its securities laws to include digital tokens, which are similar to securities or futures in that they possess the same properties. The Payment Services Act controls digital tokens, which are a type of cryptocurrency.⁵⁸ The law establishes guidelines for distinguishing payment tokens from other digital assets. This strategy makes it easier to control the flow of things like bitcoin. The MAS has also established rules for cryptocurrency exchanges that outline the requirements they must meet. This reduces the risk of fraud and money laundering associated with cryptocurrencies. This flexible legal system has been changed to keep up with the rise of digital tools. It is also strengthened by effective law enforcement, which ensures that supervision is not only normal but also functional in the field.⁵⁹ The high effectiveness of law enforcement in Singapore in combating technology-based investment fraud is attributed to an integrated regulatory framework and the Monetary Authority of Singapore's (MAS) extensive powers. MAS is a regulator that can also investigate and enforce the legislation. For example, it can issue fines, revoke licenses, or stop certain businesses from working in the digital financial industry. Additionally, MAS collaborates closely with law enforcement agencies, such as the Commercial Affairs Department (CAD) of the Singapore Police Force, to investigate investment fraud cases that involve criminal activity.⁶⁰

The RegTech system's ability to monitor digital financial activity in real-time and respond quickly to public concerns demonstrates its effectiveness. For example, if MAS identifies illegal online investment proposals, it can quickly publish an Investor Alert List to warn the public about the potential for fraud. This strategy not only punishes criminals, but it also prevents them from committing the same offenses by providing investors with clear information.⁶¹ Additionally, Singaporean courts tend to impose severe punishments for individuals who engage in investment fraud, including imprisonment or requiring them to repay the lost funds. This serves as a deterrent to other would-be criminals. Singapore's law enforcement is fairly effective at stopping technology-based investment fraud, thanks to a stable legal system, clear rules, and collaborative efforts among different agencies. However, new problems continue to arise as digital financial innovations become increasingly complex and cross borders.⁶²

These basic disparities in how institutions are set up and how consistently the law is enforced are readily apparent when comparing them to Indonesia. The Financial Services Authority (OJK), the Commodity Futures Trading Regulatory Agency

⁵⁷ Siti Nurazira Mohd Daud and others, 'FinTech and Financial Stability: Threat or Opportunity?', *Finance Research Letters*, 47 (2022), 102667 <https://doi.org/10.1016/j.frl.2021.102667>

⁵⁸ Youngho Chang, 'Green Finance in Singapore', in *Handbook of Green Finance* (Singapore: Springer Singapore, 2019), pp. 659–74 https://doi.org/10.1007/978-981-13-0227-5_36

⁵⁹ Ming Sen Thong, *Blockchain for Financial Governance in Malaysia and Singapore* (Singapore: Springer Nature Singapore, 2025) <https://doi.org/10.1007/978-981-96-1281-9>

⁶⁰ John Beirne and David G. Fernandez, 'Digital Finance and Sustainability: Impacts, Challenges, and Policy Priorities', *Sustainability*, 15.20 (2023), 14830 <https://doi.org/10.3390/su152014830>

⁶¹ Jianhua Zhang and others.

⁶² Ahmad Alaassar, Anne-Laure Mention, and Tor Helge Aas, 'Exploring a New Incubation Model for FinTechs: Regulatory Sandboxes', *Technovation*, 103 (2021), 102237 <https://doi.org/10.1016/j.technovation.2021.102237>

(Bappebti), the Ministry of Communication and Information Technology (Kominfo), and the National Police all have different powers in Indonesia. This means that the country still has regulatory fragmentation.⁶³ This sometimes leads to overlapping authorities, slow reactions to public reports, and problems with integrated coordination, especially when it comes to cross-sector or digital asset-based investment fraud. Indonesia often has gaps in its regulations that allow fraudsters to take advantage of them, while Singapore puts the MAS in charge of a single-window approach. Additionally, Singapore's use of RegTech, sandbox procedures, and investor protection rules, based on education, has been stronger than Indonesia's. Singapore's experience demonstrates that Indonesia can develop a more effective and responsive legal system, better equipped to address the evolving nature of digital investment fraud, by consolidating supervisory bodies, enhancing the digital risk management framework, and fostering cooperation among institutions.⁶⁴

An Integrated Legal Framework for Digital Investment Fraud Prevention

As mentioned earlier, Indonesia already has several rules governing investment. There are numerous rules governing investments, electronic transactions, and fraud; however, these laws don't adequately safeguard individuals who are victims of fraudulent investment crimes. The public could lose a significant amount of money, especially since online transactions are becoming increasingly common. This means that legal protection needs to be clearer and more detailed. The government needs to establish rules that prioritize protecting people who have been tricked into investing online. This should include specific steps to ensure that those who commit crimes are severely punished and that victims are compensated.⁶⁵

In reality, victims of investment crimes often rely entirely on the general criminal provisions of the Criminal Code and Law Number 19 of 2016 about Electronic Information and Transactions, which lack special protections or procedures for fraudulent investment cases. The current rules don't do a good enough job of addressing fraudulent investment situations, which exacerbates the problem. This is especially true now that technology has made it easier for a wide range of fraudulent investments to happen online.⁶⁶ Unfortunately, the existing rules cannot keep pace with the rapid rise of digital investments and transactions made through online platforms. There are many ways to capture people's attention, such as promising high returns with minimal risk or utilizing digital technology to invest, which appears professional, credible, and secure. Many types of investment fraud happen online.⁶⁷ In many cases, individuals who commit investment fraud exploit the fact that community members are often unfamiliar with the law or computer usage, as well as

⁶³ Fan.

⁶⁴ Goo and Heo.

⁶⁵ Fahim Faisal Raunaq and others, 'Assessing the Challenges to Digital Technology Adoption in the Healthcare Sector: Implications for Sustainability in Emerging Economies', *Informatics and Health*, 2025 <https://doi.org/10.1016/j.infoh.2025.09.001>

⁶⁶ Yilan Chen and Shaohai Lei, 'Tax Avoidance Opportunity for Multinational Enterprises: Effects of Digitalized Tax Administration in China', *Journal of International Financial Markets, Institutions and Money*, 102 (2025), 102177 <https://doi.org/10.1016/j.intfin.2025.102177>

⁶⁷ Ali Akbar Firoozi and Ali Asghar Firoozi, 'Digital Integration in Eco-Construction 2.0: Advancing Sustainability through Technology', *Sustainable Futures*, 10 (2025), 101310 <https://doi.org/10.1016/j.sftr.2025.101310>

gaps in existing regulations, to profit without providing any assistance to the victims. Still, the Indonesian legal system doesn't specifically cover this kind of crime, despite its significant impact.⁶⁸

Therefore, it is crucial to establish more detailed and comprehensive rules against investment crimes. These rules should not only outline how the government operates and how investors are compensated, but they should also facilitate easier access to assistance for individuals whom scams or fraudulent investments have victimized. Victims often struggle to receive compensation or justice for the money they lose due to illegal investment operations, as the Investment Law lacks clear rules. It is essential to establish clear rules for investment crimes, whether they occur in person or online, to ensure that the law provides maximum protection and prevents further losses.⁶⁹ Additionally, with more detailed rules, authorities such as the Financial Services Authority (OJK), the Criminal Investigation Agency (Bareskrim), or other relevant organizations can focus more on monitoring and prosecuting illegal or damaging investment practices.⁷⁰ These rules will help prevent fake investment crimes from occurring again and ensure that legal and reputable investment platforms are transparent about their activities. This will also increase confidence in Indonesia's investment ecosystem, ensuring that there are clear pathways to obtain legal protection and that both traditional and digital assets are safeguarded.⁷¹

Another major weakness in Indonesia's investment laws and protections for victims of fake investment crimes is that the rules governing investments and investment crimes do not align with each other. An analysis of Law Number 25 of 2007 regarding Investment, Law Number 19 of 2016 regarding Electronic Information and Transactions, and the Criminal Code reveals that the current rules are not designed to work together to prevent crimes that occur in the investment sector, particularly online.⁷² Therefore, it is crucial to ensure that the laws governing investments and investment crimes are consistent with each other. It will be easier to deal with fake investment crimes when rules are more closely aligned, regardless of whether they occur through regular or digital transactions. Complementary and synergistic legislation will enhance legal clarity for both the public and investors, and it will also facilitate authorities' ability to address illegal investments. Investment crimes will continue to exploit and utilize legal loopholes, which will harm many people,

⁶⁸ Humairah Zainal and others, 'Organizational Leaders' Views on Digital Health Competencies in Medical Education: Qualitative Semistructured Interview Study', *JMIR Medical Education*, 11 (2025), e64768 <https://doi.org/10.2196/64768>

⁶⁹ Muhammad Tufail, Muhammad Imran, and Lin Song, 'Unlocking Energy Efficiency through Digital Platforms: Implications for Sustainable Energy Transition', *Renewable Energy*, 2025, 124503 <https://doi.org/10.1016/j.renene.2025.124503>

⁷⁰ Huilian Ma and Chengwen Kang, 'The Impact of U.S.-Style Digital Trade Rules on Digital Services Trade between China and CPTPP Member Countries', *Technology in Society*, 83 (2025), 103040 <https://doi.org/10.1016/j.techsoc.2025.103040>

⁷¹ Qian Lyu, Binkai Chai, and Zhensheng Tao, 'The Impact of Digital Finance on Carbon Emissions of Manufacturing Enterprises', *Finance Research Letters*, 85 (2025), 107967 <https://doi.org/10.1016/j.frl.2025.107967>

⁷² Mengfan Du and Yue-Jun Zhang, 'The Synergistic Carbon Emission Reduction Advantage of Green Finance and Digital Finance', *Environmental Impact Assessment Review*, 112 (2025), 107795 <https://doi.org/10.1016/j.eiar.2024.107795>

especially victims who lose their money without sufficient legal protection, if the rules aren't in sync.⁷³

Given that investment activities inherently involve risks, confer distinct rights and obligations on the parties concerned, and require transparency and accountability, effective law enforcement is indispensable to ensure that investment providers comply with applicable regulations. The increasing prevalence of fraudulent investment schemes, particularly those perpetrated through online platforms, indicates that existing legal provisions remain inadequate and are not consistently or effectively enforced. The insufficient emphasis on certain critical aspects of investment regulation may result in victims being unable to obtain appropriate remedies or protection. This regulatory gap not only undermines investor confidence but also creates uncertainty for legitimate investors in determining the appropriate legal recourse to safeguard their interests.⁷⁴ When law enforcement overlooks these specific aspects, it may also hinder the development of a healthy and sustainable investment ecosystem in Indonesia. Fake investment crimes, which the Indonesian legal system does not recognize as a distinct offense, will tarnish the reputation of the investment market and its investors.⁷⁵ Therefore, the legal system needs to prioritize the prevention of false investment offenses by instituting more stringent restrictions for capital investment and investment management. This ensures that investors are legally protected and that the investment possesses the best possible characteristics.⁷⁶

When law enforcement is not grounded in legislation that specifically regulates investment, such as Law Number 25 of 2007 on Investment, the provisions concerning restitution or compensation for victims remain ambiguous. Indonesian law should explicitly allow victims to seek restitution or compensation directly within the criminal law enforcement process when infractions or crimes occur in the investment sector. This is particularly crucial in addressing fraudulent investment schemes. The existing legal protection for victims of such schemes is largely ineffective, as there is no clear or accessible mechanism for the recovery of their financial losses. The absence of meaningful efforts to restore victims' rights undermines the very nature of investment, which, while inherently risky, should still afford investors a reasonable sense of security and assurance of legal protection. Perpetrators of fraudulent investment activities should not only be subjected to criminal sanctions but also be obligated to compensate victims for the losses they have incurred. Without explicit legal provisions

⁷³ Md. Abdul Halim, 'Does Crowdfunding Contribute to Digital Financial Inclusion?', *Research in Globalization*, 9 (2024), 100238 <https://doi.org/10.1016/j.resglo.2024.100238>

⁷⁴ Qiuwen Wang, 'Managing Emerging Port Security Challenges in Developing Green and Digital Shipping Corridors: A Port Governance Cooperation Perspective under the Belt and Road Initiative', *Ocean & Coastal Management*, 270 (2025), 107924 <https://doi.org/10.1016/j.ocecoaman.2025.107924>

⁷⁵ Yingqi Xu and Tao Wang, 'The Spatiotemporal Evolution of Digital Technology Innovation and Multidimensional Mechanism of Digitalization', *Applied Geography*, 182 (2025), 103714 <https://doi.org/10.1016/j.apgeog.2025.103714>

⁷⁶ Doğan Başar and others, 'Digital Financial Literacy and Savings Behavior: A Comprehensive Cross-Country Analysis of FinTech Adoption Patterns and Economic Outcomes across 12 Nations', *Borsa Istanbul Review*, 2025 <https://doi.org/10.1016/j.bir.2025.09.004>

to this effect, victims' financial losses will remain uncompensated, perpetuating injustice and weakening confidence in the investment regime.⁷⁷

Moreover, when judicial decisions fail to provide clear directives regarding remedies and enforcement, public confidence in both the legal system and the investment sector may be significantly undermined. Such ambiguity can lead individuals to feel inadequately protected under the law when engaging in legitimate investment activities, particularly when those investments ultimately prove to be fraudulent. Consequently, the Indonesian legal system must adopt a more proactive approach to safeguarding the rights of victims of fraudulent investment schemes. This includes the establishment of comprehensive mechanisms for loss recovery, to be incorporated not only within the substantive provisions of investment legislation but also enforced through clear and definitive judicial procedures. Strengthening these measures would enhance legal certainty, promote investor protection, and foster greater trust in the integrity of Indonesia's investment environment.⁷⁸

In formulating an effective legal framework to ensure legal certainty in protecting victims of fictitious investment crimes conducted through online platforms in Indonesia, it is imperative to consider several interrelated factors, including the conduct of perpetrators, mechanisms for victim protection, preventive strategies, and the imposition of appropriate sanctions. These elements must be integrated to guarantee the effectiveness and enforceability of future legislation. The optimal framework for safeguarding victims of fraudulent online investment schemes should include a clear statutory definition of fictitious investment, mandatory registration and supervision of investment service providers, obligations for providers to deliver transparent, accurate, and honest information to prospective investors, the establishment of accessible complaint and dispute resolution mechanisms, the imposition of criminal and administrative sanctions against perpetrators of fictitious investment crimes, the explicit recognition and protection of victims' rights including restitution and compensation, and the clear delineation of the roles and responsibilities of the Financial Services Authority (OJK) and other relevant supervisory institutions. Integrating these provisions into the legal framework would strengthen both preventive and remedial measures, thereby enhancing investor confidence and contributing to a more secure and sustainable investment environment in the digital era.⁷⁹

It is essential to create an institution with clear jurisdiction to oversee all types of investments, including those made through digital and internet platforms. Furthermore, it is essential to improve the collaboration among the Financial Services Authority (OJK), the Investment Coordinating Board (BKPM), and the National Police

⁷⁷ Shuzhong Ma, Yuting Shen, and Chao Fang, 'The Digital World That Trade Created: Evidence from the Information Technology Agreement', *Economic Analysis and Policy*, 87 (2025), 746–63 <https://doi.org/10.1016/j.eap.2025.06.012>

⁷⁸ Eric C. Mota and Peter G. Klein, 'Extrusive Effects of Digital Government: Reframing the Citizen–State Relationship', *Government Information Quarterly*, 42.3 (2025), 102064 <https://doi.org/10.1016/j.giq.2025.102064>

⁷⁹ Volkan Göçöğlu and others, 'Shifting Digital Priorities for the SDGs: A Global Analysis on Economic and Geographic Scales', *Telecommunications Policy*, 2025, 103032 <https://doi.org/10.1016/j.telpol.2025.103032>

(Polri) to ensure that all investment activities in Indonesia, whether legal or illegal, are more efficiently overseen. By establishing a clear and effective oversight structure, the likelihood of investment fraud can be significantly reduced, thereby enhancing the safety of investors and the public.⁸⁰

It appears that Indonesia is significantly less safe for investors than Singapore. The Securities and Futures Act (SFA) in Singapore encompasses all aspects of investment products, including service provider registration requirements, the prohibition on providing false information, and severe penalties for violating the law, whether criminal, civil, or administrative.⁸¹ Under the SFA, the Monetary Authority of Singapore (MAS) has considerable power to investigate investment fraud, freeze assets, and compensate victims. The convergence of regulations and the establishment of a single regulatory agency make law enforcement in Singapore more efficient, effective, and capable of restoring public trust in the investment market. This comparison underscores Indonesia's need to strengthen its legal framework by implementing laws that specifically govern bogus investments, as well as to establish a cohesive institutional framework to ensure legal protection for victims.⁸² Consequently, the imperative of instituting a *lex specialis* in the domain of fake investments is both normative and strategic for the enduring viability of a robust and equitable investment environment in Indonesia.⁸³

CONCLUSION

The rapid growth of digital financial technology in Indonesia presents numerous investment opportunities. However, it may also increase the ease with which people can carry out more sophisticated fraud schemes. The existing legal framework's failure to offer adequate protection is demonstrated by the significant public losses incurred by illicit digital investments. Regulations are often broken up, too strict, and struggle to keep pace with new technologies. The Criminal Code (KUHP) and the ITE Law are insufficient because they were designed to address general fraud or electronic information fraud, rather than the intricacies of digital investment. This circumstance makes it more difficult for victims to obtain legal protection and generates legal confusion, which in turn hinders law enforcement in imposing the appropriate punishments and classifying crimes. Regulatory fragmentation and the inadequate administrative penalties that agencies like the Financial Services Authority (OJK) can apply make law enforcement even less effective. On the other hand, Singapore has established a system that is consistent, effective, and quick to respond to digital

⁸⁰ Yingchao Lu, Hailing Chang, and Yadan Zhou, 'The Impact of Consumer Complaints on Corporate Digital Transformation', *International Review of Economics & Finance*, 101 (2025), 104203 <https://doi.org/10.1016/j.iref.2025.104203>

⁸¹ Khalid Eltayeb Elfaki and Elsadig Musa Ahmed, 'Digital Technology Adoption and Globalization Innovation Implications on Asian Pacific Green Sustainable Economic Growth', *Journal of Open Innovation: Technology, Market, and Complexity*, 10.1 (2024), 100221 <https://doi.org/10.1016/j.joitmc.2024.100221>

⁸² Xin Huang and others, 'Government Digital Transformation for Sustainable Development: How e-Government Initiatives Enhance Total Factor Energy Efficiency', *Research in International Business and Finance*, 80 (2025), 103084 <https://doi.org/10.1016/j.ribaf.2025.103084>

⁸³ Botond Benedek and others, 'Financial Impact of Digitalization – A Time-Lagged Analysis', *International Journal of Production Economics*, 288 (2025), 109699 <https://doi.org/10.1016/j.ijpe.2025.109699>

investment fraud. The MAS has considerable power, including the authority to regulate, investigate, and enforce penalties. It also has the support of the courts, which makes law enforcement more effective. As a result, Indonesia is urged to adopt more comprehensive, integrated, and precise legislation about bogus investment offenses. These rules should include measures to prevent crime, enforce the law, protect victims, and recover lost property. The best way to secure, clarify, and ensure fairness in Indonesia's investment climate would be to establish a *lex specialis* and a single regulatory authority with significant power, similar to Singapore's.

References

- Abdurrahman, Abdurrahman, 'Extending the IBCDE Framework to Explore Barriers and Drivers in Indonesia's Digital Economy', *Journal of Digital Economy*, 2025 <https://doi.org/10.1016/j.jdec.2025.08.003>
- AL-Rjoub, Samer A.M., 'A Financial Stability Index for Jordan', *Journal of Central Banking Theory and Practice*, 10.2 (2021), 157–78 <https://doi.org/10.2478/jcbtp-2021-0018>
- Alaassar, Ahmad, Anne-Laure Mention, and Tor Helge Aas, 'Exploring a New Incubation Model for FinTechs: Regulatory Sandboxes', *Technovation*, 103 (2021), 102237 <https://doi.org/10.1016/j.technovation.2021.102237>
- Ataman, Cem, Pieter Herthogs, Bige Tunçer, and Simon Perrault, 'From Insight to Action: An Integrated Assessment Framework for Digital Citizen Participation in Data-Centric Urban Practices', *Cities*, 156 (2025), 105545 <https://doi.org/10.1016/j.cities.2024.105545>
- Banna, Hasanul, M. Kabir Hassan, and Mamunur Rashid, 'Fintech-Based Financial Inclusion and Bank Risk-Taking: Evidence from OIC Countries', *Journal of International Financial Markets, Institutions and Money*, 75 (2021), 101447 <https://doi.org/10.1016/j.intfin.2021.101447>
- Başar, Doğan, Halit Keskin, Emel Esen, Abdullah Kürşat Merter, and Yavuz Selim Balcioğlu, 'Digital Financial Literacy and Savings Behavior: A Comprehensive Cross-Country Analysis of FinTech Adoption Patterns and Economic Outcomes across 12 Nations', *Borsa İstanbul Review*, 2025 <https://doi.org/10.1016/j.bir.2025.09.004>
- Beirne, John, and David G. Fernandez, 'Digital Finance and Sustainability: Impacts, Challenges, and Policy Priorities', *Sustainability*, 15.20 (2023), 14830 <https://doi.org/10.3390/su152014830>
- Benedek, Botond, Ottó Csiki, Krisztina Demeter, Dávid Losonci, and Levente Szász, 'Financial Impact of Digitalization – A Time-Lagged Analysis', *International Journal of Production Economics*, 288 (2025), 109699 <https://doi.org/10.1016/j.ijpe.2025.109699>
- Brogi, Marina, and Valentina Lagasio, 'New but Naughty. The Evolution of Misconduct in FinTech', *International Review of Financial Analysis*, 95 (2024), 103489 <https://doi.org/10.1016/j.irfa.2024.103489>
- Bu, Ya, Xinghui Yu, and Hui Li, 'The Nonlinear Impact of FinTech on the Real Economic Growth: Evidence from China', *Economics of Innovation and New Technology*, 32.8 (2023), 1138–55 <https://doi.org/10.1080/10438599.2022.2095512>
- Cao, Ting, Wade D. Cook, and M. Murat Kristal, 'Has the Technological Investment Been

- Worth It? Assessing the Aggregate Efficiency of Non-Homogeneous Bank Holding Companies in the Digital Age', *Technological Forecasting and Social Change*, 178 (2022), 121576 <https://doi.org/10.1016/j.techfore.2022.121576>
- Chang, Youngho, 'Green Finance in Singapore', in *Handbook of Green Finance* (Singapore: Springer Singapore, 2019), pp. 659–74 https://doi.org/10.1007/978-981-13-0227-5_36
- Charoenwong, Ben, Zachary T. Kowaleski, Alan Kwan, and Andrew G. Sutherland, 'RegTech: Technology-Driven Compliance and Its Effects on Profitability, Operations, and Market Structure', *Journal of Financial Economics*, 154 (2024), 103792 <https://doi.org/10.1016/j.jfineco.2024.103792>
- Chen, Lei, and Jieshuang Wang, 'Intellectual Property Protection, Investment and Digital Technology Innovation: An Empirical Study Based on the Revision of the Patent Law', *International Review of Economics & Finance*, 103 (2025), 104320 <https://doi.org/10.1016/j.iref.2025.104320>
- Chen, Yilan, and Shaohai Lei, 'Tax Avoidance Opportunity for Multinational Enterprises: Effects of Digitalized Tax Administration in China', *Journal of International Financial Markets, Institutions and Money*, 102 (2025), 102177 <https://doi.org/10.1016/j.intfin.2025.102177>
- Chen, Yuling, Zhen Che, and Dongqi Wan, 'How Does the Financial Technology Innovation Regulatory Pilot Influence Financial Regulation?', *Finance Research Letters*, 69 (2024), 106255 <https://doi.org/10.1016/j.frl.2024.106255>
- Chen, Yutong, 'Digitalization as a Double-Edged Sword: Winning Services and Losing Manufacturing in India', *Journal of Development Economics*, 179 (2026), 103618 <https://doi.org/10.1016/j.jdeveco.2025.103618>
- Daud, Siti Nurazira Mohd, Abd Halim Ahmad, Airil Khalid, and W.N.W. Azman-Saini, 'FinTech and Financial Stability: Threat or Opportunity?', *Finance Research Letters*, 47 (2022), 102667 <https://doi.org/10.1016/j.frl.2021.102667>
- Du, Mengfan, and Yue-Jun Zhang, 'The Synergistic Carbon Emission Reduction Advantage of Green Finance and Digital Finance', *Environmental Impact Assessment Review*, 112 (2025), 107795 <https://doi.org/10.1016/j.eiar.2024.107795>
- Elfaki, Khalid Eltayeb, and Elsadig Musa Ahmed, 'Digital Technology Adoption and Globalization Innovation Implications on Asian Pacific Green Sustainable Economic Growth', *Journal of Open Innovation: Technology, Market, and Complexity*, 10.1 (2024), 100221 <https://doi.org/10.1016/j.joitmc.2024.100221>
- Fan, Pei Sai, 'Singapore Approach to Develop and Regulate FinTech', in *Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1* (Elsevier, 2018), pp. 347–57 <https://doi.org/10.1016/B978-0-12-810441-5.00015-4>
- Firoozi, Ali Akbar, and Ali Asghar Firoozi, 'Digital Integration in Eco-Construction 2.0: Advancing Sustainability through Technology', *Sustainable Futures*, 10 (2025), 101310 <https://doi.org/10.1016/j.sftr.2025.101310>
- Funke, Michael, and Raphael Terasa, 'Will Temporary Super Depreciation Allowances for Green and Digital Investments Have Knock-on Effects?', *Journal of Policy Modeling*, 47.5 (2025), 977–98 <https://doi.org/10.1016/j.jpolmod.2025.03.003>

- Göçöğlu, Volkan, Atahan Demirkol, Elifnur Düzsöz, and İpek Didem Göçöğlu, 'Shifting Digital Priorities for the SDGs: A Global Analysis on Economic and Geographic Scales', *Telecommunications Policy*, 2025, 103032 <https://doi.org/10.1016/j.telpol.2025.103032>
- Gong, Qiang, Mingyuan Ban, Yunjun Yu, Luying Wang, and Yan Yuan, 'Digital Wealth Management and Consumption: Micro Evidence from Individual Investments', *China Economic Review*, 81 (2023), 102022 <https://doi.org/10.1016/j.chieco.2023.102022>
- Goo, Jayoung James, and Joo-Yeun Heo, 'The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation', *Journal of Open Innovation: Technology, Market, and Complexity*, 6.2 (2020), 43 <https://doi.org/10.3390/joitmc6020043>
- Guo, BenSu, and JinDong Guo, 'The Digital Divide and Household Risky Financial Investments in China', *International Review of Economics & Finance*, 104 (2025), 104565 <https://doi.org/10.1016/j.iref.2025.104565>
- Guo, Panting, Jiefeng Bi, and Mengnan Zhu, 'Enterprise Digital Transformation and Investment Efficiency: Empirical Evidence from Listed Enterprises in China', *Journal of Asian Economics*, 97 (2025), 101892 <https://doi.org/10.1016/j.asieco.2025.101892>
- Halim, Md. Abdul, 'Does Crowdfunding Contribute to Digital Financial Inclusion?', *Research in Globalization*, 9 (2024), 100238 <https://doi.org/10.1016/j.resglo.2024.100238>
- Han, Guanzhe, and Fenglei Li, 'Digital Economy of Trading Partner Countries, Outward Investment, and Cross-Border E-Commerce Exports', *Finance Research Letters*, 85 (2025), 108034 <https://doi.org/10.1016/j.frl.2025.108034>
- He, Yuyou, 'Digital Economy Enterprise Investment Value Evaluation Model and Empirical Analysis', *International Review of Economics & Finance*, 99 (2025), 104005 <https://doi.org/10.1016/j.iref.2025.104005>
- Huang, Meiyong, Pengfei Cheng, and Yimeng Yuan, 'Empowering Corporate Growth: How Digital Government Enhances Investment Stability', *Economic Analysis and Policy*, 87 (2025), 146–61 <https://doi.org/10.1016/j.eap.2025.06.004>
- Huang, Tianxiao, 'A Study on the Influence Effect of Digital Investment on the Environmental Performance of Listed Companies', *Transactions on Economics, Business and Management Research*, 8 (2024), 368–80 <https://doi.org/10.62051/ycp16124>
- Huang, Xin, Yao Hu, Fushun Zhang, and Tianren Li, 'Government Digital Transformation for Sustainable Development: How e-Government Initiatives Enhance Total Factor Energy Efficiency', *Research in International Business and Finance*, 80 (2025), 103084 <https://doi.org/10.1016/j.ribaf.2025.103084>
- Jaelani, Abdul Kadir, Reza Octavia Kusumaningtyas, and Willy Naresta Hanum, 'The Impact of Constitutionalism and Social Justice on Protection Employment: A Lesson from Asean Country', *Konferensi Nasional Asosiasi Pengajar Hukum Tata Negara Dan Hukum Administrasi Negara*, 2.1 (2024), 73–100 <https://doi.org/10.55292/wx4a0h35>
- Koranteng, Barbara, and Kefei You, 'Fintech and Financial Stability: Evidence from Spatial Analysis for 25 Countries', *Journal of International Financial Markets, Institutions and Money*, 93 (2024), 102002 <https://doi.org/10.1016/j.intfin.2024.102002>
- Li, Jialin, 'How Digital Marketing Capabilities Mitigate the Impact of Financing Constraints on

- Investment Performance in Industrial Enterprises', *Finance Research Letters*, 75 (2025), 106882 <https://doi.org/10.1016/j.frl.2025.106882>
- Li, Mengjie, Sunfan Liang, Cheng Cheng, and Weijian Du, 'Digital Infrastructure Investment and Carbon Emissions Reduction Based on the Broadband China Policy', *Utilities Policy*, 95 (2025), 101964 <https://doi.org/10.1016/j.jup.2025.101964>
- Lim, Haikel A, Joanne Sze Win Lee, Meng Han Lim, Lynn Pei Zhen Teo, Natalene Siew Wen Sin, Rou Wei Lim, and others, 'Bridging Connectivity Issues in Digital Access and Literacy: Reflections on Empowering Vulnerable Older Adults in Singapore', *JMIR Aging*, 5.2 (2022), e34764 <https://doi.org/10.2196/34764>
- Liu, Bofan, Ruifei Guo, and Huaqin Shi, 'Digital Government and Corporate Investment: Effects and Mechanisms', *Economic Modelling*, 151 (2025), 107189 <https://doi.org/10.1016/j.econmod.2025.107189>
- Liu, Liyuan, and Yi Feng, 'Government Digital Governance and Corporate Investment Efficiency', *Finance Research Letters*, 77 (2025), 107018 <https://doi.org/10.1016/j.frl.2025.107018>
- Lu, Yingchao, Hailing Chang, and Yadan Zhou, 'The Impact of Consumer Complaints on Corporate Digital Transformation', *International Review of Economics & Finance*, 101 (2025), 104203 <https://doi.org/10.1016/j.iref.2025.104203>
- Lu, Zhiqiang, Junjie Wu, Hongyu Li, and Brian Galloway, 'Digital Finance and Stock Market Participation: The Case of Internet Wealth Management Products in China', *Economic Systems*, 48.1 (2024), 101148 <https://doi.org/10.1016/j.ecosys.2023.101148>
- Luo, Di, Tapas Mishra, Larisa Yarovaya, and Zhuang Zhang, 'Investing during a Fintech Revolution: Ambiguity and Return Risk in Cryptocurrencies', *Journal of International Financial Markets, Institutions and Money*, 73 (2021), 101362 <https://doi.org/10.1016/j.intfin.2021.101362>
- Lyu, Qian, Binkai Chai, and Zhensheng Tao, 'The Impact of Digital Finance on Carbon Emissions of Manufacturing Enterprises', *Finance Research Letters*, 85 (2025), 107967 <https://doi.org/10.1016/j.frl.2025.107967>
- Ma, Huilian, and Chengwen Kang, 'The Impact of U.S.-Style Digital Trade Rules on Digital Services Trade between China and CPTPP Member Countries', *Technology in Society*, 83 (2025), 103040 <https://doi.org/10.1016/j.techsoc.2025.103040>
- Ma, Shuzhong, Yuting Shen, and Chao Fang, 'The Digital World That Trade Created: Evidence from the Information Technology Agreement', *Economic Analysis and Policy*, 87 (2025), 746–63 <https://doi.org/10.1016/j.eap.2025.06.012>
- Mavlutova, Inese, Aivars Spilbergs, Inna Romanova, Jekaterina Kuzmina, Andris Fomins, Atis Verdenhofs, and others, 'The Role of Green Digital Investments in Promoting Sustainable Development Goals and Green Energy Consumption', *Journal of Open Innovation: Technology, Market, and Complexity*, 11.2 (2025), 100518 <https://doi.org/10.1016/j.joitmc.2025.100518>
- Mota, Eric C., and Peter G. Klein, 'Extrusive Effects of Digital Government: Reframing the Citizen–State Relationship', *Government Information Quarterly*, 42.3 (2025), 102064 <https://doi.org/10.1016/j.giq.2025.102064>

- Nenavath, Sreenu, 'Exploring the Dynamics of Fintech Impact, Financial Regulation, and Corporate Financial Trends: An Analysis of India', *Asia Pacific Management Review*, 30.1 (2025), 100336 <https://doi.org/10.1016/j.apmr.2024.11.006>
- Neo, Jamie, Robert Ronald, Tony Lai Chack Yong, Ashwin Ravindran, Goh Siew Piak, and Kenny Lip, 'Accelerating Digital Transformation in a Manufacturing Ecosystem: A Case Study from HP Singapore', in *Digital Manufacturing* (Elsevier, 2024), pp. 443–64 <https://doi.org/10.1016/B978-0-443-13812-6.00006-3>
- Nguyen, Van Bon, 'Digitalization's Divergent Impact on FDI Inflows: A Comparative Analysis between Advanced and Developing Countries', *Transnational Corporations Review*, 17.3 (2025), 200148 <https://doi.org/10.1016/j.tncr.2025.200148>
- Okorie, David Iheke, Adeniran Adediji, and Chinedu Ifionu, 'Assessing Digitalization and the Economy: A Dynamic Recursive CGE Modelling Approach', *Telecommunications Policy*, 49.4 (2025), 102936 <https://doi.org/10.1016/j.telpol.2025.102936>
- Permatasari, Ristania Intan, Sapto Hermawan, and Abdul Kadir Jaelani, 'Disabilities Concessions in Indonesia: Fundamental Problems and Solutions', *Legality: Jurnal Ilmiah Hukum*, 30.2 (2022), 298–312 <<https://doi.org/10.22219/ljih.v30i2.23814>>
- Raunaq, Fahim Faisal, Samia Islam, Md. Zahidul Anam, and A.B.M. Mainul Bari, 'Assessing the Challenges to Digital Technology Adoption in the Healthcare Sector: Implications for Sustainability in Emerging Economies', *Informatics and Health*, 2025 <https://doi.org/10.1016/j.infoh.2025.09.001>
- Rodrigues, Vinicius Facco, Lucas Micol Policarpo, Diórgenes Eugênio da Silveira, Rodrigo da Rosa Righi, Cristiano André da Costa, Jorge Luis Victória Barbosa, and others, 'Fraud Detection and Prevention in E-Commerce: A Systematic Literature Review', *Electronic Commerce Research and Applications*, 56 (2022), 101207 <https://doi.org/10.1016/j.elerap.2022.101207>
- Sun, Guanglin, Ting Li, Yongfang Ai, and Qinghai Li, 'Digital Finance and Corporate Financial Fraud', *International Review of Financial Analysis*, 87 (2023), 102566 <https://doi.org/10.1016/j.irfa.2023.102566>
- Tang, Long, Yanbing Wen, and Yan Jiang, 'Can Digital Finance Foster Green Innovation in Short-Term Debt for Long-Term Investment Firms?', *Pacific-Basin Finance Journal*, 93 (2025), 102849 <https://doi.org/10.1016/j.pacfin.2025.102849>
- Thong, Ming Sen, *Blockchain for Financial Governance in Malaysia and Singapore* (Singapore: Springer Nature Singapore, 2025) <https://doi.org/10.1007/978-981-96-1281-9>
- Tufail, Muhammad, Muhammad Imran, and Lin Song, 'Unlocking Energy Efficiency through Digital Platforms: Implications for Sustainable Energy Transition', *Renewable Energy*, 2025, 124503 <https://doi.org/10.1016/j.renene.2025.124503>
- Tun, Hein Minn, Lin Naing, Owais Ahmed Malik, and Hanif Abdul Rahman, 'Navigating ASEAN Region Artificial Intelligence (AI) Governance Readiness in Healthcare', *Health Policy and Technology*, 14.2 (2025), 100981 <https://doi.org/10.1016/j.hlpt.2025.100981>
- Uddin, Myne, and Muhammad Shahbaz, 'Evaluating the Influence of Chinese Investment, FDI and Digitalization on Renewable Energy Dynamics in Africa', *Renewable Energy*, 256 (2026), 124051 <https://doi.org/10.1016/j.renene.2025.124051>

- Vu, Khuong, Yiya Lu, and Saya Shiba, 'The Evolution of the Digital Economy: Comparative Insights from China and the United States, 1995–2020', *Telecommunications Policy*, 2025, 103075 <https://doi.org/10.1016/j.telpol.2025.103075>
- Wang, Haojun, Rui Yi, Yili Cao, and Bei Lyu, 'Are Industry Associations Conducive to Radical Innovation in Biopharmaceutical Companies?—The Dual Effect of Absorptive Capacity and Digital Investment', *Technological Forecasting and Social Change*, 207 (2024), 123619 <https://doi.org/10.1016/j.techfore.2024.123619>
- Wang, Qiuwen, 'Managing Emerging Port Security Challenges in Developing Green and Digital Shipping Corridors: A Port Governance Cooperation Perspective under the Belt and Road Initiative', *Ocean & Coastal Management*, 270 (2025), 107924 <https://doi.org/10.1016/j.ocecoaman.2025.107924>
- Wang, Wei, and Lin Li, 'Digital Payment, Money Market Fund and Investment Behavior', *Pacific-Basin Finance Journal*, 85 (2024), 102348 <https://doi.org/10.1016/j.pacfin.2024.102348>
- Wang, Xinyue, Bo Zhang, and Linyi Tang, 'Sales Investment, Marketing Digitalization, and Corporate Growth', *International Review of Financial Analysis*, 102 (2025), 104146 <https://doi.org/10.1016/j.irfa.2025.104146>
- Wang, Yihui, and Xiangyu Ge, 'Digital Finance, Investor Sentiment, and Corporate Inefficient Investment', *Finance Research Letters*, 83 (2025), 107688 <https://doi.org/10.1016/j.frl.2025.107688>
- Wang, Yunrui, Wenxuan Li, Le Wang, Rui Li, and Haoning Wang, 'Research on Optimization Method of Coal Mine Safety Investment Driven by Digital Twin-Enabled INFO-SVR', *Process Safety and Environmental Protection*, 200 (2025), 107345 <https://doi.org/10.1016/j.psep.2025.107345>
- Wei, Danqi, Fayyaz Ahmad, and Nabila Abid, 'Digital Financial Inclusion, Environment Volatility and Investment Efficiency: Demand and Supply Side Experiences of Chinese Listed Renewable Energy Firms', *Environment, Development and Sustainability*, 2024 <https://doi.org/10.1007/s10668-024-05575-5>
- Wei, Xiaokun, Yan Jiang, Tian Gan, and Honghui Zou, 'One Click into Capital: The Impact of Digital Government on Venture Capital', *Pacific-Basin Finance Journal*, 91 (2025), 102709 <https://doi.org/10.1016/j.pacfin.2025.102709>
- Xu, Yingqi, and Tao Wang, 'The Spatiotemporal Evolution of Digital Technology Innovation and Multidimensional Mechanism of Digitalization', *Applied Geography*, 182 (2025), 103714 <https://doi.org/10.1016/j.apgeog.2025.103714>
- Yang, Qin, Lin Sun, Xu Wu, and Youwei Li, 'Implications of Retailer-Owned Digital Twins Services: The Trade-Offs between Customer Experience, Misfit Returns Reduction, and Investment Costs', *Journal of Retailing and Consumer Services*, 88 (2026), 104478 <https://doi.org/10.1016/j.jretconser.2025.104478>
- Zainal, Humairah, Xin Xiao Hui, Julian Thumboo, and Fong Kok Yong, 'Organizational Leaders' Views on Digital Health Competencies in Medical Education: Qualitative Semistructured Interview Study', *JMIR Medical Education*, 11 (2025), e64768 <https://doi.org/10.2196/64768>
- Zhang, Hongjie, Feng He, Paijie Wan, Yao Zhang, and Yingming Zhu, 'The Digital Path to

- Green: Exploring the Impact of Supply Chain Digital Transformation on Corporate Green Investments', *Journal of Cleaner Production*, 526 (2025), 146656 <https://doi.org/10.1016/j.jclepro.2025.146656>
- Zhang, Jianhua, Fengxue Yin, Weihua Zhang, Lizhi Wang, and Xiaoyan Zhou, 'Developing Green Tehcnology and Digital Economy to Cope with Resource Scarcity', *Resources Policy*, 100 (2025), 105439 <https://doi.org/10.1016/j.resourpol.2024.105439>
- Zhang, Meng, Yongxi Yi, Ao Fu, and Yuqiong Li, 'Optimal Investment and Coordination Strategies for Digital Technology Adoption in a Dual-Channel Supply Chain', *Computers & Industrial Engineering*, 193 (2024), 110289 <https://doi.org/10.1016/j.cie.2024.110289>
- Zhu, Cuihua, and Jingyuan Yu, 'Going out and Bringing in: Impact of Digital Finance on Firms' Cross-Regional Investments', *International Review of Financial Analysis*, 106 (2025), 104553 <https://doi.org/10.1016/j.irfa.2025.104553>
- Zhu, Lijun, 'The Influence of Digital Transformation on Chinese Firms' Outward Foreign Direct Investment', *Finance Research Letters*, 72 (2025), 106567 <https://doi.org/10.1016/j.frl.2024.106567>