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Legal Certainty and legal Protection: Two Keys Pillars of Investor Protection Against Stock Manipulation by Influencers Following POJK No.13/2025

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Abstract

Digital transformation has given rise to the phenomenon of financial influencers, who significantly influence retail investment behavior in the Indonesian capital market. On the other hand, it has led to stock price manipulation through pump-and-dump schemes and the dissemination of misleading information. This study aims to analyze how the two fundamental pillars legal certainty and legal protection are implemented in POJK No. 13/2025. The research method employed is

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a normative legal approach using qualitative-descriptive analysis. The primary legal sources are POJK No. 13/2025 and Law No. 4 of 2023 on P2SK. Secondary legal sources include scientific journals, legal textbooks, OJK press releases, and relevant academic research. The research findings indicate: First, POJK No. 13/2025 successfully establishes legal certainty through a three-tier classification of influencer categories that is lex certa in nature, although it still leaves some uncertainty regarding independent influencers. Second, legal protection is realized through preventive mechanisms such as the requirement for written agreements, due diligence, and tiered agreements, as well as repressive measures such as multi-tiered administrative sanctions up to the revocation of personal licenses and proposed criminal sanctions. POJK 13/2025 has successfully established a foundation of certainty through clear normative classifications; however, the effectiveness of its legal protections both preventive and repressive heavily depends on strengthening law enforcement capacity and expanding the regulatory scope to close the loophole regarding independent influencers. In Singapore, finfluencers are regulated more flexibly under existing regulations, whereas in Australia, the focus is on legal proceedings.

Keywords

Legal Certainty, Legal Protection, POJK 13/2025, Capital Market Manipulation, Financial Influencer.

A. Introduction

Advances in digital technology have fundamentally transformed the way people access financial information and invest in the capital market.[1] The capital market serves as a meeting place for the supply and demand of securities; individuals and business entities with surplus funds invest in securities offered by issuers, and conversely, companies (entities) in need of funds offer securities by first listing them with the

[1]Annisa Fitri Anggraeni et al., Institusi Keuangan Dan Pasar Modal, ed. Yayan Agusdi, vol. 2 (Jambi: PT. Sonpedia Publishing Indonesia, 2025).

relevant authorities as issuers.[2] The capital market is one of the primary instruments driving a nation's economy, serving as the venue where investors meet companies in need of funding.[3]

As digital technology advances rapidly, it has become a gateway to easier access for the public to participate in the capital market.[4] Through user-friendly online investment platforms, young people can start investing with a small amount of capital. This encourages them to begin managing their finances early on while also supporting economic growth.[5] However, this ease of access also has its own consequences, namely the rise of novice investors with limited knowledge of stock trading mechanisms.[6] The lack of understanding that novice investors have of the capital market can be exploited by unscrupulous parties to make a profit. Therefore, a novice investor must be more careful before deciding to invest by seeking factual and up-to-date information about the stocks they plan to buy.

The rise of social media has opened up new opportunities for financial influencers, or finfluencers.[7] Financial influencers are social

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[2]Sri Handini and Erwin Dyah Astawinetu, TEORI PORTOFOLIO DAN PASAR MODAL INDONESIA (Surabaya: Scopindo Media Pustaka, 2020).

[3]Mangasi Sinurat, Didik Gunawan, and Syahputra, PASAR MODAL (Padang: PT Inovasi Pratama Internasional, 2022).

[4]Namira Hamni Lubis et al., "Kontribusi Pasar Modal Indonesia Terhadap Pertumbuhan Dan Stabilitas Perekonomian Nasional Kontribusi Pasar Modal Indonesia Terhadap Pertumbuhan Dan Stabilitas Perekonomian," Journal of Golden Generation Multidisciplinary 2, no. 1 (2026): 162–71, https://doi.org/https://doi.org/10.65244/jggm.v2i1.327.

[5]Jihan Fadika and Yetti Afrida Indra, "PERAN PASAR MODAL DALAM MENINGKATKAN MINAT INVESTASI PADA GENERASI MUDA DI ERA DIGITAL Jihan," Journal of Management and Innovation Entrepreunership (JMIE) 2, no. 1 (2024): 1700–1712, https://doi.org/https://doi.org/10.70248/jmie.v2i1.1430.

[6]Beni Sucipto et al., "ANALISIS PERILAKU HERDING DAN OVERCONFIDENCE DALAM PENGAMBILAN KEPUTUSAN INVESTASI GENERASI Z KABUPATEN JOMBANG DI PASAR SAHAM SYARIAH INDONESIA," JMD: Jurnal Manajemen Dan Bisnis Dewantara 9, no. 1 (2026): 43–56, https://doi.org/https://doi.org/10.26533/jmd.v9i1.1547.

[7]Aulia Tazkia and Risna Wijayanti, "PENGARUH INFLUENCER KEUANGAN DAN LITERASI KEUANGAN TERHADAP MINAT INVESTASI GENERASI

media creators who regularly produce financial content ranging from basic education and stock analysis to buy and sell recommendations on various platforms such as YouTube, TikTok, Instagram, and Twitter.[8] This phenomenon has grown significantly since mid-2020, coinciding with a surge in the number of new retail investors in Indonesia—most of whom are young people who lack a sufficient understanding of how the capital market works.[9] The diverse nature of Indonesian society also influences demand as a result of the FOMO phenomenon, which drives people to follow trends without carefully considering the circumstances.

However, despite the educational benefits they offer, finfluencer activities also pose serious risks to investor protection. Many stock influencers provide investment recommendations without sound fundamental analysis, and quite a few even deliberately manipulate stock prices for personal gain at the expense of their followers. This practice is commonly known as "stock manipulation" or "pump and dump," where an influencer first buys a specific stock, then promotes it extensively to their followers, and finally sells the stock once the price has risen due to high demand triggered by the recommendation.[10]

Another common form of manipulation involves spreading false or misleading information through social media, including announcing

MILENIAL DI PASAR MODAL," Jurnal Management Resiko Dan Keuangan 1, no. 2 (2022): 112–27, https://doi.org/https://doi.org/10.21776/jmrk.2022.01.2.05.

[8]Yosi Kurnia, Sri Mona Octafia, and Dina Hadia, "FENOMENA 'FINANCIAL INFLUENCER' DAN PENGARUHNYA TERHADAP LITERASI KEUANGAN GEN Z DI KOTA PADANG," Journal Economic and Strategy (Jes) 6, no. 1 (2025): 44–57.

[9]Muhammad Hammam Rafati Lubis and I Gede Komang Chahya Bayu Anta Kusuma, "AnalisisPertumbuhan Investor Ritel Pada Masa Pandemi Dan Implikasi Pajak Penghasilan Final Atas Penjualan Saham Di Bursa," JURNAL PAJAK INDONESIA (Indonesian Tax Review) 6, no. 2 (November 30, 2022): 245–64, https://doi.org/10.31092/jpi.v6i2.1854.

[10]E P Anjani, N Suryanti, and D Yuanitasari, "Kedudukan Influencer Yang Merekomendasikan Saham Tertentu Berdasarkan Hukum Pasar Modal Di Indonesia," Reformasi Hukum XXVI, no. 2 (2022): 132–50, https://ojs.uid.ac.id/index.php/jrh/article/view/467%0Ahttps://ojs.uid.ac.id/index.php/jrh/article/download/467/182.

plans to buy shares or predicting price movements at specific times, while simultaneously executing transactions that run counter to the expected reactions of followers to such information.[11] This practice violates various provisions of Law No. 8/1995 on the Capital Market, as amended by Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector, specifically Articles 90, 91, 92, and 93, which prohibit market manipulation.

Stock manipulation involving influencers has become a significant issue in Indonesia following the enactment of Law No. 4/2023 on the Development and Strengthening of the Financial Sector, which expanded the legal scope of such practices. Viral promotions on social media can trigger sudden spikes in demand.[12] A sharp spike in a short period of time creates an artificial market condition, raising the risk of a pump-and-dump scheme.

A recent concrete case involves an influencer with the initials BVN, who was found to have engaged in stock price manipulation by spreading false information via social media, while simultaneously executing transactions that triggered the formation of abnormal prices for a number of listed companies' stocks. An in-depth investigation by the Financial Services Authority revealed suspicious trading patterns carried out by BVN during the period from 2021 to 2022. He is suspected of using securities accounts under other people's names to create fake trading activity, thereby distorting stock prices to reflect conditions that do not align with the actual market. This practice has the potential to mislead the general public who follow his advice on social media. The modus operandi that was uncovered includes the dissemination of information about specific stocks, including acquisition plans or predictions of stock price increases. Meanwhile, he

[11]Ahmad Nabhani, "Lakukan Goreng Saham - OJK Denda Influencer Saham BVN Rp5,35 Miliar," Neraca.Co.Id, February 23, 2026, https://www.neraca.co.id/article/233435/lakukan-goreng-saham-ojk-denda-influencer-saham-bvn-rp535-miliar.

[12]Yosua Audric Matthew Sitorus and Rianda Dirkareshza, "The Law Enforcement of Stock Pump and Dump Practices by Influencers through Act No. 4 of 2023 Concerning Development and Strengthening of the Financial Sector," LDJ: Law Development Journal 5, no. 4 (2023): 496–514.

capitalized on his followers' reactions to buy or sell stocks, profiting from artificially created price fluctuations. This case involves several listed companies, namely PT Agro Yasa Lestari Tbk, PT MD Pictures Tbk, and PT Bintang Samudera Mandiri Lines Tbk.[13]

The actions taken by the influencer BVN were deemed misleading to investors because they created a discrepancy between the information provided and the actual trading positions executed. In carrying out these actions, BVN used several nominee securities accounts registered in the names of third parties but controlled by the actual parties behind the transactions. The methods used included spreading stock recommendations on social media, leveraging influence over retail investors, using multiple brokerage accounts, and engaging in pump-and-dump schemes. As a result of this stock price manipulation, on February 20, 2026, the Financial Services Authority (OJK) legally imposed a fine of 5.35 billion on BVN.[14] A study conducted by Rawia Salsabila et al. (2026) shows that stock influencers can be held accountable administratively, civilly, or criminally, and underscores the importance of strengthening regulations and regulatory oversight in addressing the increasingly complex dynamics of the capital market in the digital age.[15]

The criminal provisions of the Capital Market Law impose penalties of up to 10 years' imprisonment and a fine of up to Rp 15

[13]WizdanUlum, "OJK Kenakan Denda Besar Pada Influencer Saham Belvin Tannadi," Sekolah Tinggi Ilmu Ekonomi Studi Ekonomi Modern (STIE STEKOM), 2026, https://stiestekom.ac.id/berita/ojk-kenakan-denda-besar-pada-influencer-saham-belvin-tannadi/2026-02-21.

[14]Baratut Taqiyyah Rafie, "Investor Wajib Tahu: Ini Modus Saham Gorengan Influencer Yang Dibongkar OJK," Kontan.Co.Id, February 21, 2026, https://nasional.kontan.co.id/news/investor-wajib-tahu-ini-modus-saham-gorengan-influencer-yang-dibongkar-ojk.

[15]Rawia Salsabilla et al., "AnalisisYuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan," KOLONI: Jurnal Multidisiplin Ilmu 5, no. 2 (2026): 1080–91, https://doi.org/https://doi.org/10.31004/koloni.v5i2.970.

billion on those who engage in market manipulation.[16] However, Law No. 8/1995, which remains the primary legal framework to this day, does not provide detailed regulations regarding capital market activities in the digital realm.[17] The limited scope of this Law regarding third parties who have no direct legal relationship with issuers but are capable of manipulating public opinion digitally indicates that existing regulations need to be strengthened, particularly regarding the legal liability of parties who disseminate misleading information in cyberspace.

Influencers do not have a recognized legal status under the Capital Market Law because they do not fall under the category of investment advisors licensed by the capital market regulatory authority.[18] The criminal liability of influencers for fraud in criminal cases involving market manipulation is limited to imprisonment and fines. Meanwhile, the aspect of redress for fraud victims falls under civil law, involving the consolidation of civil claims with criminal proceedings, supported by witness and victim protection measures from the Financial Services Authority.[19]

A fundamental issue facing the Indonesian legal system is the absence of regulations that specifically govern influencer activities in the capital market. Law No. 8/1995 on the Capital Market, which remains the overarching framework despite having been updated through the

[16]Pricilia Angel Sie, Dienda Cecilia, and Stefano Salim, "Menelusuri Integritas Pasar Modal Indonesia Melalui Studi Kasus Manipulasi Saham PT Sekawan Inti pratama Tbk," Antholoogy: Inside Intellectual Property Rights 3, no. 2 (2025): 374–92.

[17]Miftakhur Rokhman Habibi, Hukum Pasar Modal Indonesia Perkembangan Hukum Pasar Modal Era KolonialHingga Era Digital (Malang: Inara Publisher, 2022).

[18]I gusti Bagus sakah Sumaragatha and Septira Putri Mulyani, "Kedudukan Hukum Influencer Pasar Modal Dalam Perspektif Undang-Undang Pasar Modal Legal Standing of Capital Market Influencers in the Perspective of the Capital Market Law," Jurnal Private Law Fakultas Hukum Universitas Mataram 5, no. 3 (2025), https://doi.org/https://doi.org/10.29303/05xvea94.

[19]J Wiyaka, H Jayadi, and T Situmeang, "Tinjauan Yuridis Penegakan Hukum Terhadap Influencer Dalam Memasarkan Platform Investasi," Jurnal Hukum To-Ra: Hukum ... 9 (2023): 171–84, https://ejournal.fhuki.id/index.php/tora/article/view/540%0Ahttps://ejournal.fhuki.id/index.php/tora/article/download/540/256.

P2SK Law does not explicitly address third parties in the digital realm who lack a direct legal relationship with issuers yet are capable of massively manipulating public opinion. This legal loophole creates legal uncertainty as well as weak legal protection for investors who become victims.

Recognizing this urgency, on June 11, 2025, the Financial Services Authority issued Financial Services Authority Regulation (POJK) No. 13/2025 on Internal Control and Conduct of Securities Companies Engaged in Business Activities as Underwriters and Securities Dealers. This regulation takes effect six months after its promulgation, namely on December 11, 2025, and specifically regulates cooperation between securities companies and social media influencers in the promotion of capital market products. The issuance of this regulation is driven by the increasing complexity of securities companies' business activities as well as the development of the securities industry across various aspects, including products, business processes, and service mechanisms.[20]

The novelty of this regulation lies in three fundamental aspects. First, for the first time, the Financial Services Authority has explicitly classified influencer activities into three tiers with differing legal consequences. Second, this regulation establishes a chain of responsibility mechanism that links influencer behavior to securities firms' compliance. Third, sanctions are imposed not only on corporations but also on individual influencers, including the revocation of individual licenses. The Executive Director of Capital Market Supervision at the Financial Services Authority (OJK), Inarno Djajadi, emphasized that this new regulation aims to mitigate potential issues arising from influencer activities, including potential fraud in marketing and investment recommendations.[21]

[20]Nanang Wijayanto, "OJK Keluarkan Aturan Baru Promosi Saham Oleh Influencer, Youtuber Cs Tak Bisa Lagi Sembarangan," SindoNews, July 21, 2025, https://ekbis.sindonews.com/read/1595543/178/ojk-keluarkan-aturan-baru-promosi-saham-oleh-influencer-youtuber-cs-tak-bisa-lagi-sembarangan-1753060032.
[21]Andi Hidayat, "Influencer Saham Bisa Dipidana Kalau Terbukti Menyesatkan," Detik, August 5, 2025, https://finance.detik.com/bursa-dan-valas/d-8045556/influencer-saham-bisa-dipidana-kalau-terbukti-menyesatkan.

This research is crucial for three main reasons. First, Financial Services Authority Regulation (POJK) No. 13/2025 is a very recent regulation (enacted in June 2025 and effective in December 2025), so academic studies on its implementation remain very limited. Second, the phenomenon of stock price manipulation by influencers in the digital age continues to grow and become increasingly widespread, as evidenced by the dozens of cases currently under investigation by the Financial Services Authority (OJK), making a comprehensive understanding of the effectiveness of existing regulations in protecting investors essential. Third, there is a gap between the preventive and repressive provisions in Financial Services Authority Regulation (POJK) No. 13/2025 and the reality on the ground, where the sanctions imposed have not been fully effective in serving as a deterrent and the scope of the regulations remains limited to influencers collaborating with securities firms.

The issue of stock manipulation by influencers offers a highly relevant case study for analyzing the application of Gustav Radbruch's theory of legal certainty in the digital age. According to Gustav Radbruch, good law must fulfill three main pillars: justice, certainty, and utility. One of the main pillars of legal justice is certainty that is, the law's ability to provide clarity, consistency, and predictability in social life.[22] Without legal certainty, the law risks losing its legitimacy as a guide for behavior and as a safeguard for citizens. In the context of stock manipulation by influencers, the absence of clear and consistent regulations can actually create opportunities for cybercrime and systematic exploitation.

Philipus M. Hadjon's theory of legal protection emphasizes the protection of human dignity and human rights from the arbitrary actions of those in power, based on legal provisions. Philipus M. Hadjon argues that legal protection consists of two forms: preventive, through deterrence, and repressive, through enforcement.[23] As drivers of the economy, investors have the right to comprehensive legal

[22]Muh Afif Mahfud, PengantarIlmu Hukum (Semarang: Yoga Pratama, 2016).
[23]Philipus M. Hadjon, Perlindungan Hukum Bagi Rakyat Indonesia (Surabaya: Bina Ilmu, 1987).

protection. However, reality shows that their right to legal protection has not been adequately fulfilled. The state has a moral and constitutional responsibility to guarantee these rights.

Based on the above discussion, this article aims to critically analyze the extent to which the provisions in Financial Services Authority Regulation (POJK) No. 13/2025 classified as a very new regulation (enacted in June 2025 and effective in December 2025) can realize these two main pillars, namely Legal Certainty and Legal Protection for the future of investors in Indonesia. The analysis will be conducted through the lens of Gustav Radbruch's Theory of Legal Certainty and Philipus M. Hadjon's Theory of Legal Protection. This article will examine in depth the forms of preventive and repressive protection provided by Financial Services Authority Regulation (POJK) No. 13/2025 to investors harmed by stock price manipulation carried out by influencers in the digital era, as well as identify the main obstacles in its implementation to protect investors from stock price manipulation practices by influencers. Thus, this article is expected to provide constructive theoretical and practical insights for fair and sustainable regulation.

Based on the background and research gaps outlined above, the research questions for this study are: (1) How does the legal certainty provided by Financial Services Authority Regulation (POJK) No. 13/2025 protect investors from stock manipulation by influencers? (2) What legal protections are provided to investors against stock manipulation by influencers under Financial Services Authority Regulation (POJK) No. 13/2025? (3) What are the challenges in implementing Financial Services Authority Regulation (POJK) No. 13/2025?.

This study employs a normative legal approach using a doctrinal legal research method of a descriptive-analytical natureaccording to Soerjono Soekanto & Sri Mamudji (2007:13) doctrinal legal research is conducted by examining library materials or secondary date alone.[24] Primary data sources are data obtained from primary sources, namely

[24]Nurul Qamar and Farah Syah Rezah, Metode Penelitian Hukum Doktrinal Dan Non-Doktrinal (Makassar: CV. Social Politic Genius (SIGn), 2020).

original sources that contain relevant information or data.[25] The primary legal sources used include Financial Services Authority Regulation (POJK) No. 13/2025 and Law No. 4/2023 on the Development and Strengthening of the Financial Sector (P2SK). Secondary data refers to data obtained from sources other than those that originally generated the information or data. Secondary data is used as research findings that support primary data in the discussion and analysis process.[26] Secondary legal materials consist of scientific journals, legal textbooks, news articles, and press releases related to legal certainty and investor protection in the capital markets. Data collection was conducted through a literature review of academic databases, reliable news articles, and official government agencies. Verification of secondary data from mass media, such as news articles and press releases, based on the credibility of the sources and cross-checking the content against primary sources. Data validity in qualitative research is based on data triangulation. Data triangulation is a method of checking or verifying the validity of data obtained by using various data collections techniques to produce credible data.[27]

Data analysis employs a descriptive qualitative method, utilizing Gustav Radbruch's Theory of Legal Certainty and Philipus M. Hadjon's Theory of Legal Protection as analytical frameworks to assess the effectiveness of the provisions in Financial Services Authority Regulation (POJK) No. 13/2025. Data analysis techniques include normative analysis to examine existing legal constructs, as well as critical analysis to identify legal gaps. The research results are presented in two main sub-sections that analyze legal certainty as the foundation of investor regulation and legal protection as a fundamental right of investors.

B. Legal Certainty: POJK No. 13/2025

[25]Tatang M. Amirin, Menyusun Rencana Penelitian (Jakarta: CV. Rajawali, 1990).
[26]Nindynar Rikatsih, MetodologiPenelitian Di Berbagai Bidang (Bandung: CV. Media Sains Indonesia, 2020).
[27]Sapto Haryoko, Bahartiar, and Fajar Arwadi, ANALISIS DATA PENELITIAN KUALITATIF (Makassar: Badan penerbit Universitas Negeri Makassar, 2020).

From a formal legal standpoint, the issuance of Financial Services Authority Regulation (POJK) No. 13/2025 is mandated by Law No. 4 of 2023 on the Development and Strengthening of the Financial Sector (P2SK Law), which strengthens the OJK's authority to regulate consumer and investor protection in the financial services sector.[28] This regulation was created to address legal issues related to capital market promotional activities conducted by influencers. This regulation is relatively new, as it was only officially enacted on June 11, 2025, and will take effect on December 11, 2025.

From a philosophical perspective, this regulation stems from the recognition that advancements in information technology have fundamentally transformed the way investment products are marketed. The use of social media by securities firms as a promotional channel now requires legal certainty, given the potential losses that could result from inaccurate or misleading information.[29]

1. Lex Certa: Three Level Classification of Influencer Activities

The most significant contribution of POJK No. 13/2025 is the classification of activities carried out by influencers who collaborate with securities companies. Article 106 (2) outlines three distinct categories of collaboration, each with different legal implications.

Level first general media and information providers. At this level, influencers serve as a platform or communication channel to convey general information related to the capital market. Their primary characteristics include not making any offers to clients, not soliciting clients for securities firms, and notproviding personal assessments or analyses of specific securities, products, or services. Legally, influencers in this category are not required to hold a business license or be

[28]Indonesian national police, "OJK Proposes Criminal Sanctions for Misleading 'Finfluencers' in P2SK Law Revision," Inp.Polri.go.id, 2026, https://inp.polri.go.id/artikel/ojk-proposes-criminal-sanctions-for-misleading-finfluencers-in-p2sk-law-revision.

[29]wartaekonomi.co.id, "OJK Perketat Aturan Perusahaan Efek, Influencer Pasar Modal Wajib Kantongi Izin," Investing.Com, July 19, 2025, https://id.investing.com/news/stock-market-news/ojk-perketat-aturan-perusahaan-efek-influencer-pasar-modal-wajib-kantongi-izin-2835926.

registered as marketing partners as stipulated in Article 107 of the Financial Services Authority (OJK) Regulation No. 13/2025. Furthermore, Article 106(2) states that they are not required to be registered as marketing partners of a securities firm and do not need to hold a business license from the Financial Services Authority (OJK). Furthermore, Article 109 emphasizes that securities companies are still required to enter into a written agreement and include a disclosure stating that the influencer is an employee of the securities company and holds a license from the Financial Services Authority (OJK).

The second level of investor brokerage services. At this level, influencers actively solicit potential investors to open accounts or become clients at securities firms. This activity is substantively identical to the marketing functions traditionally performed by registered marketing partners. Legally, securities firms are required to ensure that influencers have met all the requirements in OJK regulations regarding Securities Dealer Intermediary (PPE) marketing partners, including registration, training, and compliance monitoring obligations.

The third level of investment analysis and recommendations. This category involves the strictest requirements. Influencers who provide fundamental or technical analysis of a security, or issue buy, sell, or hold recommendations for stocks, mutual funds, or other investment products, are required to hold an official license as an investment advisor from the Financial Services Authority (OJK). This requirement reflects the principle that activities which materially influence the public's investment decisions must be conducted by parties who possess the necessary competence and adhere to a professional code of ethics.[30][31]

[30]Ana Noviani, "Cek Aturan Baru OJK Soal Kerja Sama Sekuritas Dengan Influencer Saham OJK Mengatur Tiga Ruang Lingkup Kerja Sama Iklan Yang Dapat Dijalin Oleh Perusahaan PerantaraEfek Atau Sekuritas Dengan Pegiat Media Sosial Atau Influencer," Bisnis.Com, July 15, 2025, https://market.bisnis.com/read/20250715/7/1893350/cek-aturan-baru-ojk-soal-kerja-sama-sekuritas-dengan-influencer-saham#goog_rewardedhttps://market.bisnis.com/read/20250715/7/1893350/cek-aturan-baru-ojk-soal-kerja-sama-sekuritas-dengan-influencer-saham%23.

[31]Wijayanto, "OJK Keluarkan Aturan Baru Promosi Saham Oleh Influencer, Youtuber Cs Tak Bisa Lagi Sembarangan."

The three-tier classification in Article 106 (2) reflects the principle of lex certa, meaning it contains clear and unambiguous rules. An influencer can be certain that: if they merely convey general information without encouraging others to open an account, they do not need a license; conversely, if they encourage others to open an account, they must be registered as a marketing partner; and if they provide stock recommendations, they must hold an investment advisor license.

In Indonesia, the OJK categorizes the roles of influencers into three distinct categories: educator, marketer, and advisor, and requires competency certification for stock recommendations.[32] In contrast to Indonesia's more prescriptive approach which involves strict categorization of activities Singapore, through the MAS, has adopted a more flexible yet accountable principles based approach. The MAS places greater emphasis on the responsibility of financial institutions remain fully responsible for all content produced by their digital marketing partners, as if the content were their own. Singapore also relies on the Investor Alert List as a tool to warn consumers about unlicensed entities.[33][34] Meanwhile, Indonesia employs mechanisms such as blocking access to electronic media and interagency coordination.[35]

[32]Indra Arief Pribadi, "OJK: Finfluencer Harus Jelas Nyatakan Posisinya Di Awal Kepada Publik," ANTARA, June 10, 2026, https://www.antaranews.com/berita/5644479/ojk-finfluencer-harus-jelas-nyatakan-posisinya-di-awal-kepada-publik?utm_source=antaranews&utm_medium=desktop&utm_campaign=popular_right.

[33]Ying Yie Liew and Yvonne Tan, "Singapore Regulator Introduces Conduct Requirements for Digital Advertising Activities of FIs and Warns 'Finfluencers,'" CMS Law Tax Future, September 25, 2025, https://cms.law/en/sgp/legal-updates/singapore-regulator-introduces-conduct-requirements-for-digital-advertising-activities-of-fis-and-warns-finfluencers#utm_campaign=redirect_law-now.

[34]Kevin Chua, "Tighter MAS Measures on Digital Financial Content in Singapore," Chambers, 2025, https://chambers.com/articles/tighter-mas-measures-on-digital-financial-content-in-singapore.

[35]Chelsea The Makawowor and Ariawan Gunadi, "Efektivitas Pengawasan OJK Terhadap Influencer Dalam Mencegah Promosi Investasi Ilegal," Riwayat: Educational Journal of History and Humanities, 2025, 7573–88, https://doi.org/https://doi.org/10.24815/jr.v8i4.50554.

Thus, regulations in Indonesia are more structured and prescriptive in defining influencer behavior, whereas regulations in Singapore are more flexible and focus on institutional oversight and industry accountability.

According to Chen (2022) in the Singapore Journal of Legal Studies, Singapore's legal framework is based on the Financial Advisers Act (FAA) and the Securities and Futures Act (SFA). Finfluencer content is considered financial advice if it contains recommendations for specific investment products, whether personalized or not. The MAS does not explicitly distinguish between general advice and personalized advice; as long as the content refers to a specific product, a license is required. Anyone providing financial advice must hold a financial adviser representative license. Unlicensed finfluencers who recommend stocks, mutual funds, or derivative products may face criminal penalties, including a fine of up to SGD 75,000 and/or imprisonment for up to 3 years. The study notes that the MAS tends to take a proactive approach through digital monitoring and collaboration with social media platforms to flag such content.[36]

The Monetary Authority of Singapore (MAS) has tightened oversight of the activities of financial influencers (finfluencers) and the financial institutions that partner with them, amid rising public complaints and the risk of misleading content on digital platforms.[37] This regulatory approach is two-pronged: it establishes clear responsibilities for financial institutions and provides direct guidance to content creators. The MAS explicitly distinguishes between general educational content and the provision of financial advice if a creator receives compensation for recommendations or opinions to buy, sell, or hold investment products—or does so on a regular basis, even without compensation. If an influencer falls under this definition, the

[36]Chen, "The Legal Framework for Financial Influencers in Singapore," Singapore Journal of Legal Studies 2 (2022): 345–67.

[37]Renald Yeo, "MAS Rolls out Digital Ad Guidelines for Financial Institutions, Checklist for Content Creators," The Businness Time, September 25, 2025, https://www.businesstimes.com.sg/companies-markets/MAS-rolls-out-digital-ad-guidelines-for-financial-institutions-checklist-for-content-creators?ref=article-bottom-more-in-companies-markets_banking-finance.

finfluencer is required to hold a license under the Financial Advisers Act (FAA) and be registered as a representative of a licensed financial advisory firm. Meanwhile, general educational content that does not recommend specific products does not fall under this category.

Even influencers who do not provide financial advice are prohibited from creating false or misleading content about capital market products, as this violates the Securities and Futures Act (SFA) and contravenes the principles of the Singapore Code of Advertising Practice (SCAP), which require advertisements to be "lawful, decent, honest, and truthful." A disciplinary action was taken in September 2025, when the MAS sent warning letters to five content creators deemed at risk of providing financial advice without a license, including for offering one-on-one coaching sessions that discussed specific product recommendations. They were asked to adjust their content and practices.[38]

MAS has issued "Guidelines on Standards of Conduct for Digital Advertising Activities," which will take effect on March 25, 2026.[39] These guidelines require financial institutions to implement five safeguards, which include selecting the appropriate platform by assessing the suitability and reputational risks of the digital platforms used; ensuring accuracy and clarity so that advertisements are not misleading and risk disclosures are presented clearly; not truncated due to format limitations; partner selection by carefully choosing finfluencers or digital marketers who understand the rules and binding them with formal agreements; strict monitoring by actively monitoring all digital marketing activities, including content reposted by partners, and taking immediate action if unauthorized or non-compliant content is found; and disciplinary action by imposing appropriate sanctions on partners proven to have committed violations.[40] It is important to note

[38]Liew and Tan, "Singapore Regulator Introduces Conduct Requirements for Digital Advertising Activities of FIs and Warns 'Finfluencers.'"

[39]Yeo, "MAS Rolls out Digital Ad Guidelines for Financial Institutions, Checklist for Content Creators."

[40]OrionW LLC, "MAS Sets the Bar for Digital Financial Ads," OrionW LLC, September 25, 2025, https://www.orionw.com/news-insights/mas-sets-the-bar-for-digital-financial-ads.

that ultimate responsibility remains with the board of directors and senior management of the financial institution, and this responsibility cannot be delegated to any third party.

Along with these guidelines, the MAS and the Advertising Standards Authority of Singapore (ASAS) launched a guide titled "7 Must-Knows When Sharing Financial Information Online," with key points covering responsible information sharing by ensuring that information is accurate, clear, and balanced by describing potential benefits and risks; verifying the credibility of institutions by always checking the licensing status of financial institutions in the MAS directory before promoting them; transparently disclosing any compensation or sponsorship received; and understanding that a disclaimer alone is not sufficient to exempt one from the obligation to hold a license if the content created falls under the definition of "financial advice."[41] As such, MAS is taking a proactive approach by providing early warnings and clear guidance. The goal is to protect consumers from misleading information, while also providing legal certainty for finfluencers and financial institutions in the era of digital marketing.

The MAS regulations have several important implications, namely the establishment of centralized accountability, whereby financial institutions can no longer shift compliance responsibilities to finfluencers or marketing agents; the heightened standards have been met with a positive response from influencers, as they provide clear guidelines and help them turn down non-compliant clients; and the adoption of a principles-based rather than prescriptive approach providing examples rather than rigid requirements while acknowledging the limitations of supervisory tools.

[41]Kevin Chua, "Tighter MAS Measures on Digital Financial Content in Singapore," Yuen Law LLC, 2025, https://yuenlaw.com.sg/singapore-law/mas-measures-digital-financial-content/.

Table 1. Comparison of Law Enforcement Regarding Finfluencer Regulations

Aspect	Singapore	Indonesia
Regulatory Clarity	An activity based framework with clear classifications provides legal certainty for industry players.	Regulations tend to be prescriptive but are still in a transitional phase, as oversight of equity assets is shifting from Bappebti to the OJK.
Respond Time	Prompt response to suspicious entities through the Investor Alert List and public warnings.	Responses still tent to be reactive, as seen in the BVN case, which shows that the OJK has only issued warnings without taking concrete actions, even though the P2SK Law has strengthened the legal framework.[42]
Enforcement Law	Strict action against financial advice license violations.	Enforcement has not yet been optimal, there is still a lack of specific regulations regarding the responsibilities of finfluencers and limitations in digital content monitoring technology.

Source: Compiled from various sources by authors.

[42]Salsabilla et al., "Analisis Yuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan."

POJK No. 6/2025 is the first formal regulation in Indonesia specifically governing finfluencer activities. This regulation was enacted in response to the rise in cases of market manipulation by influencers, including the Rp5.35 billion fine imposed on influencer BVN in February 2025 for engaging in a stock "pump and dump" scheme. This regulation is tailored specifically to govern finfluencers from the outset. It also grants the OJK the authority to block accounts that violate the regulations and mandates competency certification for influencers who recommend financial assets.

Unlike Indonesia, Australia through ASIC takes an approach based on the interpretation of existing laws. In INFO Sheet 269 (2022), ASIC explains that the licensing provisions under the Corporation Act 2001 apply to finfluencers who provide "financial product advice".[43] These regulations are interpretative in nature, applying existing rules to new contexts, they involve a case by approach with enforcement through the courts and while finfluencers are not required to hold any specific certification, they are required to hold an FS (Australian Financial Services) license.[44]

Market manipulation is regulated under the Capital market Law, but the regulations remain general in nature and do not yet specifically address the phenomenon of finfluencers.[45] In Australiaby contrast regulations regarding finfluencers are more flexible with consistent oversight and enforcement through the courts, which can serve as an

[43]Sujata Roy, "Fin-Fluencers- Questionable Legitimacy and Legislative Outlook F in -F Luencers - Q Uestionable," NLS Business Law Review 10, no. 2 (2024), https://doi.org/10.55496/JJIJ9614.

[44]ASIC, "ASIC Melanjutkan Penindakan Terhadap Pelaku Pengaruh Finansial (Finfluencer) Bersamaan Dengan Regulator Global," ASIC, 2026, https://www.asic.gov.au/about-asic/news-centre/find-a-media-release/2026-releases/26-081mr-asic-continues-finfluencer-crackdown-alongside-global-regulators/?utm_medium=email&utm_campaign=ASICcontinuesfinfluencercrackdownalongsideglobalregulators&utm_content=ASICcontinuesfinfluencercrackdownalongsideglobalregulators+CID_8702b9746e1bfeb508f9ccc49fa14304&utm_source=CampaignMonitor&utm_term=Viewthefullmediarelease.

[45]Salsabilla et al., "Analisis Yuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan."

effective model without the need for specific regulations.[46] However, both share and common goal of protecting investors from misleading information on social media.

Brown & Williams (2023) in the Australian Business Law Review explain that ASIC applies the Corporations Act 2001 and has issued Information Sheet 269 (INFO 269) on "Discussing financial products and services online," clarifying that ASIC distinguishes between "financial product advice" and "factual information." Advice is defined as an opinion or recommendation intended to influence investment decisions. In contrast, factual information—such as current stock prices or the definition of a bond—does not require a license.[47]

ASIC is known to be highly active. In 2022-2023, ASIC sent letters to dozens of influencers, issued public warnings, and in several cases, prosecuted individuals promoting high-risk derivative products without a license. This strategy created a measurable deterrent effect. An AFS License is mandatory—anyone running a financial advice business must hold an Australian Financial Services (AFS) License. Finfluencers who receive sponsorships from product issuers or provide top stock recommendations of the week are considered to be conducting business and require a license. However, determining the factual boundary between fact and opinion still leaves a gray area, especially for entertainment content with a sarcastic tone.[48]

Financial Advisor, also known as financial planners, play a crucial role in Australia's financial services industry, where they provide personalized financial advice to clients by taking into account each individual's specific circumstances including their goals, financial situation, and needs to help clients make sound financial decisions. When the Australian Securities and Investments Commission (ASIC) uses the term "financial advisor", it generally refers to individuals authorized to provide personalized advice on "relevant products" to

[46]Roy, "Fin-Fluencers- Questionable Legitimacy and Legislative Outlook F in -F Luencers - Q Uestionable."

[47]S Brown and K Williams, "Regulating Finfluencers: ASIC's Approach and the Challenges of Social Media," Australian Business Law Review 51, no. 5 (2023): 55–73.

[48]Brown and Williams.

retail clients. This type of advisor is referred to in the corporations ACT 2001 (Cth) as a "relevant provider" and as of December 2021, there were approximately 18,500 financial advisors listed on ASIC's Register of Financial Advisors.[49]

In the area of market integrity ASIC generally takes a criminal enforcement approach to insider trading and market manipulation it uses notice of violation letters only to address alleged violations of market integrity rules and also generally uses notice of violation letters response to alleged violations of continuous disclosure requirements. This type of enforcement approach has a clear impact on the aggregate outcomes of a regulatory area based on the enforcement methodology.[50]

Table 2. Requirements for Influencers

Aspect	Indonesia	Australia
Qualifications	Must hold competency certification	Must hold an AFS License or be an authorized representative of a license holder
Scope of activities	Provides recommendations on financial assets including cryptocurrency	Providing financial product advice that influences investment decisions
Criminal penalties	None	Up to 5 years in prison and a fine of millions of Australia dollar

Source: Compiled from various sources by authors.

[49]Ian Ramsay and Miranda Webster, "Enforcement Action by the Australian Securities and Investments Commission in Relation to Financial Adviser Misconduct," Company and Securities Law Journal 39, no. 6 (2022).
[50]Ian Ramsay and Miranda Webster, "ASIC Enforcement Outcomes : Trends and Analysis," Company and Securities Law Journal 35, no. 5 (2017): 289–321.

Tan & Lee (2023), in a comparative study published in the Journal of Financial Regulation, found that Australia's approach strikes a better balance between investor protection and freedom of information sharing, and requires elements of conducting financial advisory business and providing factual information without a license, whereas Singapore has opted for a more conservative path with stricter liability rules to ensure legal certainty. Specific product recommendations immediately trigger a licensing requirement regardless of the nature of the business. Singapore, through the MAS, takes a stricter stance, where any product opinion is considered advice, whereas Australia, through ASIC, adopts a more nuanced approach: general advice still requires a license, but there is a safe harbor for purely educational content.[51]

Unlike Australia's ASIC, which is highly proactive, the OJK's approach remains largely reactive. In terms of enforcement, the OJK more often issues advisories, adds the names of finfluencers to its watchlist for illegal investments, and blocks content through collaboration with the Ministry of Communication and Information Technology. Some cases, such as the promotion of illegal trading bots, have led to criminal proceedings by the Criminal Investigation Unit (Bareskrim). There is no clear line between factual information and solicitation in the context of high-profile entertainment content, such as live-streamed trading sessions with dramatic narration. Furthermore, many users still cannot distinguish between licensed traders and ordinary influencers, and the public's reliance on these figures means that law enforcement alone is not sufficient.

2. Predictability of Sanctions: A Multitiered and Progressive Sanctions System

The predictability of sanctions results in a multi-tiered and progressive sanctions system. The clarity of these rules provides predictability for market participants including securities firms and influencers in designing their marketing and compliance strategies. This

[51]A Tan and J Lee, "Comparative Analysis of Finfluencer Regulations in Asia-Pacific," Journal of Financial Regulation 9, no. 3 (2023): 402–25.

aligns with the essence of legal certainty emphasized by Radbruch as a prerequisite for social order in modern society.

Another key aspect of legal certainty is the predictability of the consequences of violations. POJK No. 13 of 2025 establishes a multi-tiered and progressive sanctions system, thereby providing legal entities with certainty regarding the consequences of violating the regulations. Types of administrative sanctions include: written warnings, fines, restrictions on business activities, suspension of business activities, revocation of business licenses, cancellation of registration, and revocation of individual licenses. The inclusion of sanctions involving the revocation of individual licenses represents a significant breakthrough, as previously such sanctions could only be imposed on corporations.

The Financial Services Authority (OJK) has also emphasized that if an influencer is suspected of committing capital market crimes such as fraud, deception, or providing misleading information regarding investments, the Financial Services Authority (OJK) will pursue criminal charges in accordance with the provisions of the Capital Market Law and the P2SK Law. In the latest development, the Financial Services Authority (OJK) has even proposed to the House of Representatives to explicitly include a clause on criminal sanctions for financial influencers in the revision of the P2SK Law.[52] Stock market influencers can be held liable under administrative, civil, or criminal law.[53]

From Radbruch's perspective, this clear and tiered system of sanctions embodies both certainty and utility. Certainty is achieved because offenders know exactly what the consequences are for each level of violation. Utility is achieved because a progressive system of sanctions allows regulators to impose proportionate penalties, ranging from mild

[52]Indonesian national police, "OJK Proposes Criminal Sanctions for Misleading 'Finfluencers' in P2SK Law Revision."

[53]Salsabilla et al., "Analisis Yuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan."

penalties for administrative violations to the most severe penalties for criminal offenses.

3. Chain of Responsibility: Certainty in Legal Relations

Financial Services Authority Regulation (POJK) No. 13/2025 establishes a chain of responsibility mechanism linking influencer conduct to securities firms' compliance. Financial Services Authority Regulation (POJK) No. 13/2025 not only imposes obligations on influencers but also creates due diligence obligations for securities firms. Article 106 (2) requires securities firms to enter into a written agreement with the influencers they collaborate with. The agreement must explicitly state the scope of the collaboration, selected from three categories.

Furthermore, securities firms are required to conduct due diligence on prospective influencer partners, including reviewing their reputation, social media history, communication ethics, and potential conflicts of interest. Responsibility for the content of promotions remains with the securities firm, even if delivered by a third party such as an influencer.[54] This obligation creates a chain of responsibility linking the influencer's conduct to the securities firm's compliance.

This requirement provides legal certainty in two respects. For securities firms, it provides certainty regarding the standards they must meet before collaborating with influencers. For influencers, it provides certainty regarding the rights and obligations associated with such collaborations. For investors, it provides certainty that the content they consume has undergone a verification process by the responsible securities firm.

The Chain Key Responsibility mechanism, which links influencer behavior to securities firms' compliance, will create incentives for the industry to engage in self-regulation, licensing requirements that serve

[54]Karunia Putri, "OJK Atur Kerja Sama Sekuritas Dan Influencer: Tak Bisa Sembarangan Pompom Saham," katadat.co.id, 2025, https://katadata.co.id/finansial/bursa/687642b56bf28/ojk-atur-kerja-sama-sekuritas-dan-influencer-tak-bisa-sembarangan-pompom-saham?utm_source=Direct&utm_medium=Sub-Kanal Finansial Bursa Detail&utm_campaign=Baca Juga Redaksi Pos 3.

as entry barriers for unqualified parties, and a multi-tiered sanctions system that imposes varying levels of penalties.

4. The Certainty Gap: Independent Influencers in the Grey Area

Although Financial Services Authority Regulation (POJK) No. 13/2025 provides greater certainty for the regulated ecosystem, this regulation also leaves significant uncertainty for the unregulated sector. Financial Services Authority Regulation (POJK) No. 13/2025 only governs influencers who have formal partnerships with securities firms. This raises questions regarding influencers who independently provide stock analysis and recommendations without partnering with any securities firm.

This tension centers on the limited scope of the regulations, which target only influencers who have formal partnerships with securities firms, while independent influencers who independently provide investment analysis and recommendations which could potentially cause equally significant losses to the public fall outside the scope of the regulations. Two influencers with identical activities providing stock-buying recommendations to their followers will be treated differently under the law: one who partners with a securities firm is required to hold an investment advisor license and is subject to oversight, while the independent one has no legal obligations whatsoever. This situation, within Gustav Radbruch's framework, approaches an intolerable injustice if left unchecked; at the very least, it constitutes a violation of the principle of equality before the law.

From Radbruch's perspective, this gap creates a lex incomplete an incomplete law that is potentially exploitable by those with malicious intent. Within Radbruch's dialectical framework, this situation creates a tension between certainty (achieved in the regulated sphere) and justice (compromised due to unequal treatment between partnered and independent influencers). Independent influencers who engage in manipulation can avoid regulatory sanctions because they are not formally bound by a contract with any securities firm, thereby creating regulatory arbitrage.

The Financial Services Authority appears to be aware of this loophole. In a recent development, the Financial Services Authority has proposed to the House of Representatives that criminal penalties be imposed on financial influencers who disseminate misleading information, regardless of whether they are affiliated with a securities firm or not. If this proposal is incorporated into the revision of the P2SK Law, it will significantly close the identified loophole regarding legal certainty.[55]

The implementation of POJK No. 13/2025 in providing legal certainty to investors faces a number of significant challenges. Among them are:

a. *The scope of the regulations, which only target influencers who have partnerships with securities firms*

   As noted by Budi Frensidy, a capital markets analyst at the University of Indonesia, these regulations remain incomplete because unscrupulous influencers who promise high returns outside of partnerships with securities firms can still operate freely without adequate oversight.[56]

b. *Proving market manipulation offenses in the digital area*

   Proving criminal intent (mens rea) in digital activities requires digital standards of proof that are not yet explicitly regulated in the Capital Market Law, often making it difficult to impose criminal sanctions on perpetrators of capital market crimes in the digital age, and resulting in supervision that relies more heavily on administrative sanctions, which may not provide the maximum deterrent effect.

c. *Law enforcement remains suboptimal*

   Although the OJK previously imposed an administrative sanction on a social media influencer identified by the initials BVN, fining them Rp 5.35 billion for proven stock price

[55]Indonesian national police, "OJK Proposes Criminal Sanctions for Misleading 'Finfluencers' in P2SK Law Revision."

[56]Yuliana Hema and Putri Werdiningsih, "OJK Atur Influencer Keuangan, Simak Ketentuannya," Kompas.Com, July 17, 2025, https://money.kompas.com/copy/2025/07/17/063900226/ojk-atur-influencer-keuangan-simak-ketentuannya-.

manipulation between 2021 and 2022, this case demonstrates that the administrative sanctions imposed on perpetrators still face challenges in terms of effectiveness and deterrence. The OJK itself is currently investigating 32 cases of alleged capital market violations committed by influencers related to stock price manipulation, indicating that this issue is systemic and further investigation is still required.[57]

d. *Resistance from influencers to the regulations issued*

Some influencers have objected to the certification or licensing requirements, arguing that they appear to restrict freedom of expression and could potentially serve as a tool to stifle public opinion. An influencer currently undergoing the certification process in the financial sector stated that such regulations should be applied proportionally and not to all influencers without topic restrictions.[58] This resistance indicates that the implementation of POJK No. 13/2025 faces not only legal and technical challenges but also social challenges from those affected by the regulations.

e. *The readiness of law enforcement agencies to address crimes in the digital capital market*

The OJK acknowledges that the investigation process for manipulation cases involving influencers requires the review of stock transaction documents, the tracing of fund flows among parties suspected of being involved, and the solicitation of statements from relevant parties, including securities firms and clients involved in or associated with the transactions in question.[59]

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[57]Iqbal Dwi Purnama, "Kasus Manipulasi Saham, Influencer Hingga Perusahaan Kena Denda Miliaran Rupiah," IDXChannwl.Com, February 20, 2026, https://www.idxchannel.com/amp/market-news/kasus-manipulasi-saham-influencer-hingga-perusahaan-kena-denda-miliaran-rupiah.

[58]Kiki Safitri and Danu Damarjati, "Influencer Tolak Wacana Sertifikasi, Soroti Perbedaan Indonesia Dan China," Kompas.Com, November 11, 2025, https://nasional.kompas.com/read/2025/11/11/17030131/influencer-tolak-wacana-sertifikasi-soroti-perbedaan-indonesia-dan-china?page=2.

[59]Pulina Nityakanti, "OJK Dalami 32 Kasus Manipulasi Pasar, Peran Influencer Jadi Sorotan," Kontan.Co.Id, February 25, 2026, https://investasi.kontan.co.id/news/ojk-dalami-32-kasus-manipulasi-pasar-peran-influencer-jadi-sorotan.

This complex and time-consuming process poses a significant challenge in efforts to provide swift and effective legal protection for aggrieved investors.

C. Legal Protection for Investors Against Stock Manipulation by Influencers

The rapid advancement of the digital age has made the challenge of providing legal protection for investors increasingly complex. The prevalence of social media platforms and easy access to information has been exploited by unscrupulous individuals as a tool to disseminate misleading information to a wide audience. Many investors have fallen victim to such schemes, lured by the promise of quick profits without adequately verifying the information they receive. Normatively, regulations regarding market manipulation are established under Law No. 8/1995 on the Capital Market and the amending by Law No. 4/2023 (P2SK).[60] However, although normative regulations and legal protections are in place, their effectiveness still faces challenges, particularly regarding the burden of proof and the evolving nature of manipulation methods that continue to transform alongside technological advancements.

1. Preventive Protection: Mechanisms for Preventing Losses

According to Philipus M. Hadjon, preventive legal protection aims to prevent rights violations before any actual harm occurs. POJK No. 13/2025 establishes several significant preventive mechanisms:

First, a written agreement. This agreement ensures that any collaboration between a securities firm and an influencer is based on a clear legal relationship. The written agreement must specify the scope of the collaboration, the rights and obligations of the parties, and the dispute resolution mechanism. With a written agreement in place, investors have a clear legal basis to hold parties accountable in the event of a breach.

[60]Wardah Yuspin and Bima Artha Wijaya, "LEGAL PROTECTION ON BITCOIN PRICE MANIPULATION," Russian Journal of Agricultural and Socio-Economic Sciences (RJOAS) 2, no. 99 (2022): 47–54, https://doi.org/10.18551/rjoas.2022-02.06.

Second, Due Diligence Obligations. Securities firms are required to conduct due diligence on prospective influencer partners, including reviewing their reputation, social media history, communication ethics, and potential conflicts of interest. This obligation serves as a screening mechanism to prevent influencers with a poor track record from entering the regulated capital markets ecosystem.

Third, tiered licensing requirements. Influencers engaged in brokerage activities must be registered as marketing partners, while those providing investment recommendations must hold an investment advisor license. These licensing requirements serve as an entry barrier to screen out parties who lack competence or integrity.

Fourth, disclosure requirements. Influencers must explicitly state that the content they create is part of a partnership with a company, so that it is not misrepresented as personal opinion. This disclosure is important to protect investors from potential misunderstandings regarding the influencer's independence.

Fifth, the prohibition on misleading content. Content created by influencers must reflect accurate, balanced, and non-misleading information. Influencers are prohibited from making exaggerated or speculative claims, or providing investment advice that could mislead investors. This prohibition directly protects investors from pump-and-dump schemes and misleading information.

2. Repressive Protection: Sanctions and Compensation for Damages

From Philipus M. Hadjon's perspective, these preventive protection mechanisms are crucial because investor losses resulting from market manipulation are often widespread and difficult to fully recover through repressive measures. However, this study indicates that preventive protection in the Indonesian capital market requires information transparency and financial literacy, both of which are not yet fully realized. This serves as a critical consideration for the future implementation of Financial Services Authority Regulation No. 13/2025.

Within the framework of Philipus M. Hadjon's theory, repressive legal protection aims to punish perpetrators and restore victims' rights

after an incident has occurred. POJK No. 13/2025 and the broader legal framework provide several repressive mechanisms:

First, Administrative Sanctions. The Financial Services Authority may impose graduated administrative sanctions ranging from written warnings to the revocation of individual licenses. These sanctions may be imposed on both securities firms and individual influencers. The BVN case demonstrates that the OJK has exercised this authority by imposing a fine of IDR 5.35 billion on an influencer found to have engaged in manipulation.[61]

Second, law enforcement by the Financial Services Authority. The Financial Services Authority has demonstrated its commitment to law enforcement by imposing sanctions on finfluencers who have caused public concern. Frederica Widyasari Dewi, Acting Chair of the OJK Board of Commissioners, emphasized that the OJK will take firm action against legal violations, including stock manipulation and the dissemination of misleading information.[62]

From Philipus M. Hadjon's perspective, the effectiveness of repressive safeguards depends heavily on law enforcement capacity. Unfortunately, research indicates that repressive protection in Indonesia's capital market still faces serious challenges, including the fact that imposed sanctions often fail to serve as a deterrent. Investigating cases of manipulation by influencers also requires significant time due to the complexity of digital evidence. Furthermore, the effectiveness of legal protection is not merely measured by the presence or absence of preventive and repressive mechanisms within regulations, but also by the extent to which these mechanisms function in practice.

[61]Salsabilla et al., "Analisis Yuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan."

[62]Indonesian national police, "OJK Proposes Criminal Sanctions for Misleading 'Finfluencers' in P2SK Law Revision."

3. Synergy Between Legal Certainty and Legal Protection

Based on the in depth analysis outlined in the previous subsection, which employed an integrative theoretical framework combining Gustav Radbruch's Theory of legal certainty and Philipus M. Hadjon's Theory of Legal Protection, a harmonius synergy has been demonstrated. Normatively, financial services Authority Regulation (POJK) No. 13 of 2025 has successfully established legal certainty for the ecosystem of collaboration between securities firms and financial influencers activities based on the principle of lex certathat is, it contains clear, definitive, and predictable norms. From Gustav Radbruch's perspective, the clarity of these norms provides the predictability that industry players urgently need to design their marketing and compliance strategies, while also fulfilling the demand for legal certainty as a fundamental prerequisite for social order in modern society.

Financial Services Authority Regulation (POJK) No. 13 of 2025 provides a multi layered mechanism of legal protection that is both preventive and repressive. From the perspective of Gustav Radbruch's dialectic of values, Financial Services Authority Regulation (POJK) No. 13 of 2025 faces a fundamental tension between certainty and justice that has not yet been fully resolved. This tension centers on the limited scopeof the regulation, which targets only influencers who have formal partnerships with securities firms, while independent influencers who provide investment analysis and recommendations on their own remain outside the scope of the regulation.

From a utility perspective, the effectiveness of the implementation of POJK No. 13 of 2025 remains prospective, with a number of significant structural challenges. A theoretical integration of the theories of Gustav Radbruch and Philipus M. Hadjon leads to the finding that legal certainty and legal protection are two mutually reinforcing and inseparable pillars in an investor protection system.

D. Conclusion

Based on the conclusions drawn, this study offers a number of recommendations for various stakeholders, grounded in the theoretical

frameworks of Radbruch and Philipus M. Hadjon and taking into account the empirical realities of Indonesia's digital capital market is immediately expand the scope of regulations to accommodate independent influencers is develop a technology-based monitoring system for real-time monitoring of influencer content, strengthen the human resource capacity of law enforcement officials in the field of digital capital market crimes, formulate explicit electronic evidence standards for cases of market manipulation by influencers, and intensify financial education and literacy programs that specifically address the risks of financial influencers.

In regulating finfluencers, Singapore through the MAS relies on the investor Alert List as a tool to warn consumers about unlicensed entities. Australia through ASIC, places greater emphasis on criminal penalties and the requirement to hold an AFS license, while Indonesia employs mechanisms such as blocking access to electronic media and interagency coordination. However, all three share the common goal of protecting investors from misleading information on social media. Recommendations for future researchers include conducting empirical studies following the effective implementation of POJK No. 13/2025, conducting comparative studies with other jurisdictions that have already regulated financial influencers, and developing alternative analytical models to measure the level of legal certainty of a regulation in the digital age.

E. References

Anggraeni, Annisa Fitri, Apriyanto, Andi Rustam, Tri Kunwangsi Purnamaningrum, and Niar Astaginy. Institusi Keuangan Dan Pasar Modal. Edited by Yayan Agusdi. Vol. 2. Jambi: PT. Sonpedia Publishing Indonesia, 2025.

Anjani, E P, N Suryanti, and D Yuanitasari. "Kedudukan Influencer Yang Merekomendasikan Saham Tertentu Berdasarkan Hukum Pasar Modal Di Indonesia." Reformasi Hukum XXVI, no. 2 (2022): 132–50. https://ojs.uid.ac.id/index.php/jrh/article/view/467%0Ahttps://ojs.uid.ac.id/index.php/jrh/article/download/467/182.

ASIC. "ASIC Melanjutkan Penindakan Terhadap Pelaku Pengaruh Finansial (Finfluencer) Bersamaan Dengan Regulator Global." ASIC, 2026. https://www.asic.gov.au/about-asic/news-centre/find-a-media-release/2026-releases/26-081mr-asic-continues-finfluencer-crackdown-alongside-global-regulators/?utm_medium=email&utm_campaign=ASICcontinuesfinfluencercrackdownalongsideglobalregulators&utm_content=ASICcontinuesfinfluencercrackdownalongsideglobalregulators+CID_8702b9746e1bfeb508f9ccc49fa14304&utm_source=CampaignMonitor&utm_term=Viewthefullmediarelease.

Brown, S, and K Williams. "Regulating Finfluencers: ASIC's Approach and the Challenges of Social Media." Australian Business Law Review 51, no. 5 (2023): 55–73.

Chen. "The Legal Framework for Financial Influencers in Singapore." Singapore Journal of Legal Studies 2 (2022): 345–67.

Chua, Kevin. "Tighter MAS Measures on Digital Financial Content in Singapore." Chambers, 2025. https://chambers.com/articles/tighter-mas-measures-on-digital-financial-content-in-singapore.

———. "Tighter MAS Measures on Digital Financial Content in Singapore." Yuen Law LLC, 2025. https://yuenlaw.com.sg/singapore-law/mas-measures-digital-financial-content/.

Fadika, Jihan, and Yetti Afrida Indra. "PERAN PASAR MODAL DALAM MENINGKATKAN MINAT INVESTASI PADA GENERASI MUDA DI ERA DIGITAL Jihan." Journal of Management and Innovation Entrepreunership (JMIE) 2, no. 1 (2024): 1700–1712. https://doi.org/https://doi.org/10.70248/jmie.v2i1.1430.

Habibi, Miftakhur Rokhman. Hukum Pasar Modal Indonesia Perkembangan Hukum Pasar Modal Era Kolonial Hingga Era Digital. Malang: Inara Publisher, 2022.

Hadjon, Philipus M. Perlindungan Hukum Bagi Rakyat Indonesia. Surabaya: Bina Ilmu, 1987.

Handini, Sri, and Erwin Dyah Astawinetu. TEORI PORTOFOLIO DAN PASAR MODAL INDONESIA. Surabaya: Scopindo Media Pustaka, 2020.

Haryoko, Sapto, Bahartiar, and Fajar Arwadi. ANALISIS DATA PENELITIAN KUALITATIF. Makassar: Badan penerbit Universitas Negeri Makassar, 2020.

Hema, Yuliana, and Putri Werdiningsih. "OJK Atur Influencer Keuangan, Simak Ketentuannya." Kompas.Com, July 17, 2025. https://money.kompas.com/copy/2025/07/17/063900226/ojk-atur-influencer-keuangan-simak-ketentuannya-.

Hidayat, Andi. "Influencer Saham Bisa Dipidana Kalau Terbukti Menyesatkan." Detik, August 5, 2025. https://finance.detik.com/bursa-dan-valas/d-8045556/influencer-saham-bisa-dipidana-kalau-terbukti-menyesatkan.

Indonesian national police. "OJK Proposes Criminal Sanctions for Misleading 'Finfluencers' in P2SK Law Revision." Inp.Polri.go.id, 2026. https://inp.polri.go.id/artikel/ojk-proposes-criminal-sanctions-for-misleading-finfluencers-in-p2sk-law-revision.

Kurnia, Yosi, Sri Mona Octafia, and Dina Hadia. "FENOMENA 'FINANCIAL INFLUENCER' DAN PENGARUHNYA TERHADAP LITERASI KEUANGAN GEN Z DI KOTA PADANG." Journal Economic and Strategy (Jes) 6, no. 1 (2025): 44–57.

Liew, Ying Yie, and Yvonne Tan. "Singapore Regulator Introduces Conduct Requirements for Digital Advertising Activities of FIs and Warns 'Finfluencers.'" CMS Law Tax Future. September 25, 2025. https://cms.law/en/sgp/legal-updates/singapore-regulator-introduces-conduct-requirements-for-digital-advertising-activities-of-fis-and-warns-finfluencers#utm_campaign=redirect_law-now.

Lubis, Muhammad Hammam Rafati, and I Gede Komang Chahya Bayu Anta Kusuma. "Analisis Pertumbuhan Investor Ritel Pada Masa Pandemi Dan Implikasi Pajak Penghasilan Final Atas Penjualan Saham Di Bursa." JURNAL PAJAK INDONESIA (Indonesian Tax Review) 6, no. 2 (November 30, 2022): 245–64. https://doi.org/10.31092/jpi.v6i2.1854.

Lubis, Namira Hamni, T Razita Syahinda, Edo Adrio, Reni Ria, Armayani Hasibuan, Prodi Ekonomi Islam, Universitas Islam, and Negeri Sumatera. "Kontribusi Pasar Modal Indonesia Terhadap Pertumbuhan Dan Stabilitas Perekonomian Nasional Kontribusi Pasar Modal Indonesia Terhadap Pertumbuhan Dan Stabilitas Perekonomian." Journal of Golden Generation Multidisciplinary 2, no. 1 (2026): 162–71. https://doi.org/https://doi.org/10.65244/jggm.v2i1.327.

Mahfud, Muh Afif. Pengantar Ilmu Hukum. Semarang: Yoga Pratama, 2016.

Makawowor, Chelsea The, and Ariawan Gunadi. "Efektivitas Pengawasan OJK Terhadap Influencer Dalam Mencegah Promosi Investasi Ilegal." Riwayat: Educational Journal of History and Humanities, 2025, 7573–88. https://doi.org/https://doi.org/10.24815/jr.v8i4.50554.

Nabhani, Ahmad. "Lakukan Goreng Saham - OJK Denda Influencer Saham BVN Rp5,35 Miliar." Neraca.Co.Id. February 23, 2026. https://www.neraca.co.id/article/233435/lakukan-goreng-saham-ojk-denda-influencer-saham-bvn-rp535-miliar.

Nindynar Rikatsih. Metodologi Penelitian Di Berbagai Bidang. Bandung: CV. Media Sains Indonesia, 2020.

Nityakanti, Pulina. "OJK Dalami 32 Kasus Manipulasi Pasar, Peran Influencer Jadi Sorotan." Kontan.Co.Id. February 25, 2026. https://investasi.kontan.co.id/news/ojk-dalami-32-kasus-manipulasi-pasar-peran-influencer-jadi-sorotan.

Noviani, Ana. "Cek Aturan Baru OJK Soal Kerja Sama Sekuritas Dengan Influencer Saham OJK Mengatur Tiga Ruang Lingkup Kerja Sama Iklan Yang Dapat Dijalin Oleh Perusahaan Perantara Efek Atau Sekuritas Dengan Pegiat Media Sosial Atau Influencer." Bisnis.Com, July 15, 2025. https://market.bisnis.com/read/20250715/7/1893350/cek-aturan-baru-ojk-soal-kerja-sama-sekuritas-dengan-influencer-saham#goog_rewardedhttps://market.bisnis.com/read/20250715/7/1893350/cek-aturan-baru-ojk-soal-kerja-sama-sekuritas-dengan-influencer-saham%23.

OrionW LLC. "MAS Sets the Bar for Digital Financial Ads." OrionW LLC. September 25, 2025. https://www.orionw.com/news-insights/mas-sets-the-bar-for-digital-financial-ads.

Pribadi, Indra Arief. "OJK: Finfluencer Harus Jelas Nyatakan Posisinya Di Awal Kepada Publik." ANTARA. June 10, 2026. https://www.antaranews.com/berita/5644479/ojk-finfluencer-harus-jelas-nyatakan-posisinya-di-awal-kepada-publik?utm_source=antaranews&utm_medium=desktop&utm_campaign=popular_right.

Purnama, Iqbal Dwi. "Kasus Manipulasi Saham, Influencer Hingga Perusahaan Kena Denda Miliaran Rupiah." IDXChannwl.Com, February 20, 2026. https://www.idxchannel.com/amp/market-news/kasus-manipulasi-saham-influencer-hingga-perusahaan-kena-denda-miliaran-rupiah.

Putri, Karunia. "OJK Atur Kerja Sama Sekuritas Dan Influencer: Tak Bisa Sembarangan Pompom Saham." katadat.co.id, 2025. https://katadata.co.id/finansial/bursa/687642b56bf28/ojk-atur-kerja-sama-sekuritas-dan-influencer-tak-bisa-sembarangan-pompom-saham?utm_source=Direct&utm_medium=Sub-Kanal Finansial Bursa Detail&utm_campaign=Baca Juga Redaksi Pos 3.

Qamar, Nurul, and Farah Syah Rezah. Metode Penelitian Hukum Doktrinal Dan Non-Doktrinal. Makassar: CV. Social Politic Genius (SIGn), 2020.

Rafie, Baratut Taqiyyah. "Investor Wajib Tahu: Ini Modus Saham Gorengan Influencer Yang Dibongkar OJK." Kontan.Co.Id, February 21, 2026. https://nasional.kontan.co.id/news/investor-wajib-tahu-ini-modus-saham-gorengan-influencer-yang-dibongkar-ojk.

Ramsay, Ian, and Miranda Webster. "ASIC Enforcement Outcomes : Trends and Analysis." Company and Securities Law Journal 35, no. 5 (2017): 289–321.

———. "Enforcement Action by the Australian Securities and Investments Commission in Relation to Financial Adviser Misconduct." Company and Securities Law Journal 39, no. 6 (2022).

Roy, Sujata. "Fin-Fluencers- Questionable Legitimacy and Legislative Outlook F in -F Luencers - Q Uestionable." NLS Business Law Review 10, no. 2 (2024). https://doi.org/10.55496/JJIJ9614.

Safitri, Kiki, and Danu Damarjati. "Influencer Tolak Wacana Sertifikasi, Soroti Perbedaan Indonesia Dan China." Kompas.Com, November 11, 2025. https://nasional.kompas.com/read/2025/11/11/17030131/influencer-tolak-wacana-sertifikasi-soroti-perbedaan-indonesia-dan-china?page=2.

Salsabilla, Rawia, Faizal Muslim, Sahara Intan Sari, and Ananda Nabila Pasya. "Analisis Yuridis Praktik Manipulasi Pasar Oleh Influencer Saham Dan Dampaknya Terhadap Investor Ritel (Studi Kasus Otoritas Jasa Keuangan Terhadap Influencer BVN) Pendahuluan." KOLONI:Jurnal Multidisiplin Ilmu 5, no. 2 (2026): 1080–91. https://doi.org/https://doi.org/10.31004/koloni.v5i2.970.

Sie, Pricilia Angel, Dienda Cecilia, and Stefano Salim. "Menelusuri Integritas Pasar Modal Indonesia Melalui Studi Kasus Manipulasi Saham PT Sekawan Intipratama Tbk." Antholoogy: Inside Intellectual Property Rights 3, no. 2 (2025): 374–92.

Sinurat, Mangasi, Didik Gunawan, and Syahputra. PASAR MODAL. Padang: PT Inovasi Pratama Internasional, 2022.

Sitorus, Yosua Audric Matthew, and Rianda Dirkareshza. "The Law Enforcement of Stock Pump and Dump Practices by Influencers through Act No. 4 of 2023 Concerning Development and Strengthening of the Financial Sector." LDJ: Law Development Journal 5, no. 4 (2023): 496–514.

Sucipto, Beni, Saiful Aminudin Al Kusuma Putra, Nurianah, and Irea Arrahima. "ANALISIS PERILAKU HERDING DAN OVERCONFIDENCE DALAM PENGAMBILAN KEPUTUSAN INVESTASI GENERASI Z KABUPATEN JOMBANG DI PASAR SAHAM SYARIAH INDONESIA." JMD: Jurnal Manajemen Dan Bisnis Dewantara 9, no. 1 (2026): 43–56. https://doi.org/https://doi.org/10.26533/jmd.v9i1.1547.

Sumaragatha, I gusti Bagus sakah, and Septira Putri Mulyani. "Kedudukan Hukum Influencer Pasar Modal Dalam Perspektif Undang-Undang Pasar Modal Legal Standing of Capital Market Influencers in the Perspective of the Capital Market Law." Jurnal Private Law Fakultas Hukum Universitas Mataram 5, no. 3 (2025). https://doi.org/https://doi.org/10.29303/05xvea94.

Tan, A, and J Lee. "Comparative Analysis of Finfluencer Regulations in Asia-Pacific." Journal of Financial Regulation 9, no. 3 (2023): 402–25.

Tatang M. Amirin. Menyusun Rencana Penelitian. Jakarta: CV. Rajawali, 1990.

Tazkia, Aulia, and Risna Wijayanti. "PENGARUH INFLUENCER KEUANGAN DAN LITERASI KEUANGAN TERHADAP MINAT INVESTASI GENERASI MILENIAL DI PASAR MODAL." Jurnal Management Resiko Dan Keuangan 1, no. 2 (2022): 112–27. https://doi.org/https://doi.org/10.21776/jmrk.2022.01.2.05.

Ulum, Wizdan. "OJK Kenakan Denda Besar Pada Influencer Saham Belvin Tannadi." Sekolah Tinggi Ilmu Ekonomi Studi Ekonomi Modern (STIE STEKOM), 2026. https://stiestekom.ac.id/berita/ojk-kenakan-denda-besar-pada-influencer-saham-belvin-tannadi/2026-02-21.

wartaekonomi.co.id. "OJK Perketat Aturan Perusahaan Efek, Influencer Pasar Modal Wajib Kantongi Izin." Investing.Com, July 19, 2025. https://id.investing.com/news/stock-market-news/ojk-perketat-aturan-perusahaan-efek-influencer-pasar-modal-wajib-kantongi-izin-2835926.

Wijayanto, Nanang. "OJK Keluarkan Aturan Baru Promosi Saham Oleh Influencer, Youtuber Cs Tak Bisa Lagi Sembarangan." SindoNews. July 21, 2025. https://ekbis.sindonews.com/read/1595543/178/ojk-keluarkan-aturan-baru-promosi-saham-oleh-influencer-youtuber-cs-tak-bisa-lagi-sembarangan-1753060032.

Wiyaka, J, H Jayadi, and T Situmeang. "Tinjauan Yuridis Penegakan Hukum Terhadap Influencer Dalam Memasarkan Platform

Investasi." Jurnal Hukum To-Ra: Hukum ... 9 (2023): 171–84. https://ejournal.fhuki.id/index.php/tora/article/view/540%0Ahttps://ejournal.fhuki.id/index.php/tora/article/download/540/256.

Yeo, Renald. "MAS Rolls out Digital Ad Guidelines for Financial Institutions, Checklist for Content Creators." The Businness Time. September 25, 2025. https://www.businesstimes.com.sg/companies-markets/MAS-rolls-out-digital-ad-guidelines-for-financial-institutions-checklist-for-content-creators?ref=article-bottom-more-in-companies-markets_banking-finance.

Yuspin, Wardah, and Bima Artha Wijaya. "LEGAL PROTECTION ON BITCOIN PRICE MANIPULATION." Russian Journal of Agricultural and Socio-Economic Sciences (RJOAS) 2, no. 99 (2022): 47–54. https://doi.org/10.18551/rjoas.2022-02.06.

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