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The gamification of financial investments

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Abstract

The study examines the phenomenon of 'gamification', defined as the application of game-like techniques in non-gaming contexts. The direct access of retail investors to financial markets via digital platforms and the widespread circulation of information on social media are posing new challenges for both regulators and supervisory authorities: gamification is significantly transforming investors' behaviour, particularly that of retail investors, introducing major risks related to volatility and impulsive decision-making.

To fully grasp the implications of gamification in financial investments, key cases – such as GameStop and Robinhood – are analyzed, exploring their regulatory implications and existing regulatory gaps. Furthermore, pressing issues – such as the role of digital platforms, social media, and fin-influencers in shaping investors' decisions – are discussed, along with an analysis of the inherent risks of copy trading and PFOF.

The surge in GameStop's share price between May and June 2024 highlights the ongoing influence of social dynamics and underscores the importance of providing reliable information to ensure market efficiency and investor protection.

To enhance the protection of retail investors, this research paper proposes several updates to the regulatory framework.

Keywords: gamification, social media, fin-influencer, GameStop, copy trading, PFOF.

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The phenomenon of gamification and its implications in the financial sector

(D. Colonnello, M. Gargantini and G. Trovatore)*

1 Introduction

The term gamification refers to «the use of game-like mechanisms, particularly those found in video games (points, levels, prizes, virtual goods, rankings), to encourage user or potential customer engagement with a website's activities and to generate interest in its services»¹. Scholars highlight that incorporating gaming elements and techniques into non-recreational activities is intended to elicit emotional engagement in participants². These gaming elements are divided into extrinsic and intrinsic categories, depending on whether the user can clearly and objectively perceive them³.

The trend towards gamification emerged around the turn of the 21st century and saw a significant rise following the Internet bubble. It then rapidly expanded after 2020, reaching many fields traditionally unrelated to gaming, such as education, job training, and scientific research, as well as economically driven sectors like web engagement, social business, and finance⁴.

The growing influence of gamification in financial markets, along with young people's marked inclination toward high-risk investments such as crypto-assets and decentralized finance, has recently been emphasised by both the Commissione Nazionale per le Società e la Borsa (CONSOB)⁵ and the European Securities and Markets

(*) Although the work is the result of joint reflection, sections 1.1. to 1.4 as well as sections 1.6 and 1.7 are to be attributed to Dario Colonnello and Gianfranco Trovatore, while sections 1.5 and 1.5.1 are to be attributed to Matteo Gargantini.

1 Definition of the term gamification in the Treccani encyclopaedia, at https://www.treccani.it/vocabolario/gamification_%28Neologismi%29/.

2 A.KANKANHALLI, M. TAHER, H. CAVUSOGLU, Et S. H. KIM, *Gamification: A new paradigm for online user engagement*, Proceedings of the Thirty Third International Conference on Information Systems, 2012, p. 3573; J. H. BALSTERS and J. EVERSLED, *La gamification en sciences du comportement: une perspective fascinante pour la recherche en ligne*, in Guide de l'Économie Comportementale, Soyez Nudge, Labrador BVZ, 2021, p. 66; R. BIANCHETTI, *Il fenomeno del gioco d'azzardo in Italia: analisi criminologica e questioni di rilevanza penale*, Rivista Italiana di Medicina Legale (e del Diritto in campo sanitario), fasc.1, 2021, p. 113; C. FAILLA, *Gamification, dark patterns and crypto-activities. Prospettive di adattabilità della disciplina delle pratiche commerciali scorrette*, Observatory of Civil and Commercial Law (ISSN 2281-2628) Issue 1, January 2024, pp. 113 ff.

3 A.M. TODA, A.C.T. KLOCK, W. OLIVEIRA et al., *Analysing gamification elements in educational environments using an existing Gamification taxonomy*, Smart Learn. Environ. 6, 16 (2019). <https://doi.org/10.1186/s40561-019-0106-1>, pp. 6 ff and J. H. BALSTERS and J. EVERSLED, *op. loc. cit.*

4 In more recent years, the growing influence of the gamification phenomenon can also be attributed to the restrictions of the pandemic period. On this topic, see MILOVIDOV, *Game Stops Not Yet: Investors' Behaviour in the Post-Pandemic Times*, in SSRN: <https://ssrn.com/abstract=3905795> or <http://dx.doi.org/10.2139/ssrn.3905795>, 2021, pp. 13 ff.

5 CONSOB, *Piano Strategico 2022-2024*, 2022, p. 1, in https://www.consob.it/documents/1912911/1949521/ps_2224.pdf/dcc07424-55f5-d283-8b0a-4d7c8e3e0507.

Authority (ESMA)⁶. These concerns echo previous analyses conducted by numerous other national authorities within Europe⁷, which have also highlighted that retail investors most involved in gamification tend to be younger⁸, already possessing a high-risk tolerance and a strong preference for digital devices⁹.

2 Forms of gamification in financial investments

Among the most widespread forms of gamification in finance are those aimed at encouraging trading, including commission-free trading¹⁰ and fractional share trading¹¹. The use of digital devices for trading activity is also becoming increasingly prev-

6 ESMA, 35-42-1227, *On the European Commission mandate on certain aspects relating to retail investor protection*, Final Report del 29 Aprile 2022, par. 134, 2022a, in https://www.esma.europa.eu/sites/default/files/library/esma35-42-1227_final_report_on_technical_advice_on_ec_retail_investments_strategy.pdf.

7 AFM, *Steeds meer Nederlanders beleggen om vermogen op te bouwen*, 2021, in <https://www.afm.nl/nl-nl/nieuws/2021/april/consumentenmonitor-beleggen-najaar-2020> ed AMF, *Les investisseurs particuliers et leur activité depuis la crise COVID : plus jeunes, plus nombreux et attirés par de nouveaux acteurs*, 2021, in <https://www.amf-france.org/fr/actualites-publications/publications/rapports-etudes-et-analyses/les-investisseurs-particuliers-et-leur-activite-depuis-la-crise-covid-plus-jeunes-plus-nombreux-et>. Germany's BaFin, for its part, focused specifically on *trading apps*, pointing out that only two investment firms used sound *gamification* elements. In this regard, it was observed by the German regulator that colour patterns are most frequently used in order screens and are intended to incentivise or disincentivise certain actions: the button to sell or buy is generally displayed in bright colours with the aim of enticing one to proceed with the transaction; the button to cancel the order process is instead usually grey and sometimes almost invisible, with the aim of discouraging one from continuing with the action. A further technique observed by BaFin in *trading apps* involves the use of charts of falling stock prices flashing red; this is intended to attract investors' attention to increase the likelihood of acting on the flashing red signals, even when it is not in their interest to do so. For more on this point see T. Klein, *Bits of advice: the true colours of dark patterns*, Oxera.com, in <https://www.oxera.com/insights/agenda/articles/bits-of-advice-the-true-colours-of-dark-patterns/>, 2021a.

8 In March 2021, the UK FCA issued a warning that younger investors are more likely to take on big financial risks and that younger users of investment *apps* come from less privileged socioeconomic backgrounds. FCA, *FCA warns that younger investors are taking on big financial risks all'indirizzo*, 2021a, in <https://www.fca.org.uk/news/press-releases/fca-warns-younger-investors-are-taking-big-financial-risks>.

In a further press release of 20 October 2021, the FCA itself also reported that around three quarters of younger, high-risk investors using investment *apps* with *gamification* techniques say they feel 'competitive', i.e. inside a game, when investing in high-risk products. FCA, *Young investors driven by competition and hype*, 2021b, in <https://www.fca.org.uk/news/press-releases/young-investors-driven-competition-hype>.

9 In this regard, see also R. ORTMANN, M. PELSTER and S. T. WENGEREK, *COVID-19 and investor behaviour*, Finance research letters 37, 2020, p. 1., where it is noted that the average intensity of weekly *trading* increased by 13.9% during the pandemic period.

On this point, a EUROFI FORUM study found that the number of people trading on the BEL20, the Brussels stock exchange index, increased fivefold compared to the pre-crisis period, while the number of single investors doubled. Younger investors appear to have been more active during the *lockdown* period. Trading volume on the stock market index also increased during the COVID-19 pandemic, with investments focusing on biotech, pharmaceutical and real estate companies. EUROFI FORUM, *Retail Investment Strategy: key priorities*, settembre 2022, p. 105, in https://www.eurofi.net/wp-content/uploads/2022/12/the-eurofi-high-level-seminar-prague-retail-investment-strategy-key-priorities_summary_september-2022.pdf.

10 Commission-free trading is now part of a long-term trend towards lower trading costs in major markets and represents a real paradigm shift from a behavioural point of view, as it leads to a significant increase in trading volumes. On this point, several studies point out that excessive trading activity due to zero commissions has detrimental effects on investors' financial health, as such trading generally takes place to the detriment of wealth creation with a long-term time horizon. The issue of commission-free trading will be addressed in more detail in Section 4, where the issue of Payment For Order Flow (so-called 'PFOF') and ESMA's positions on the subject will also be discussed.

11 Fractional shares are a further innovation aimed at increasing trading volumes, as they allow customers to invest small amounts in high-priced shares. The offering of fractional shares leads to a number of undesirable effects: in

alent. Major online brokers estimate that more than 20% of retail investors' transactions are now executed via mobile devices, with expectations for this figure to rise further in the coming years¹².

Another gamification technique significantly influencing investor behaviour is the so-called 'design', which includes intuitive and user-friendly trading platforms and apps with visually engaging elements (e.g., colour palettes or animated 'confetti' appearing upon certain events) that entice users to take specific actions¹³.

A widespread gamification approach involves fostering a strong connection between financial investment activity and social media use. Some trading apps allow users to share screenshots of their trades (or even those of others) on social media, encouraging the creation of trader rankings and copy trading. Rankings showcase the most successful traders based on popularity or performance over a given period, while copy trading – examined in detail in Section 3.4 – allows users to replicate the strategies of highly ranked investors.

Both phenomena capitalize on retail investors' tendency to emulate others, posing significant risks in volatile market conditions, where it becomes difficult to distinguish between results driven by investor skill and those achieved randomly. This risk is particularly acute when the copied trading strategies involve short-term investments.

A form of financial investment gamification closely linked to digital device use, trading apps, and social networks is meme stocks, that is, financial instruments popularized through internet 'memes' (humorous images, phrases, videos, or photos that spread virally)¹⁴.

some cases, fractional shares have in fact led to a large discrepancy between the number of contracts and volumes actually traded. In the case of fractional shares, dividends and voting rights are distributed proportionally among all shareholders; however, during corporate events (such as stock splits), clients holding fractional or whole shares are treated in a substantially similar manner. Outside the US and a few other markets, fractional *trading* is not the norm, due to practical problems with the relevant share ownership regulations. On this topic, see CFA INSTITUTE, *Fun and games investment gamification and implications for capital markets*, 2022, p. 9, in <https://www.cfainstitute.org/-/media/documents/article/industry-research/investment-gamification-implications.pdf>.

12 In doctrine, this phenomenon was examined using a dataset from two large German *retail* banks. By comparing trades made by the same investor over the course of a month on different platforms, it was found that traders who traded via smartphones on average purchased riskier and more volatile products - including so-called lottery type assets - and were more likely to purchase securities that had performed well in the periods immediately preceding the purchase. To gain a deeper understanding of the mechanism behind these results, further analyses were then conducted. Although investors would not be more likely to use this new technology at certain times of the day, the effects of smartphones were found to be more pronounced during after-hours. A. KALDA, B. LOOS, A. PREVITERO AND A. HACKETHAL, *Smart (phone) investing? A within investor-time analysis of new technologies and trading behavior*, SAFE Working Paper, No. 303, Leibniz Institute for Financial Research SAFE, Frankfurt a. M., 2021, pp. 27 et 28, pp. 8 and ff., tab. pp. 54 and 55. See also EUROFI FORUM, *op. cit.*, p. 106.

13 The influence of colour elements is such that some of these have also been perfected in gaming, where designers work with colour, light, animation, sound and space to entice the user to perform specific actions. This topic will be discussed at length in Section 2.1. On this topic, see also CFA INSTITUTE, *op. cit.*, p. 5.

14 One of the most striking cases, which occurred in early 2021, involved the GameStop stock, which will be discussed in more detail in Section 1.4 below. Since then, investors have also been interested in other meme stocks such as, for instance, AMC Entertainment Holdings (AMC), a cinema chain with declining profits during the COVID-19 pandemic, and BlackBerry Limited (BB), a well-known mobile phone manufacturer before the spread of smartphones. I. YOUSAF, L. PHAM, J. W. GOODELL, *The connectedness between meme tokens, meme stocks, and other asset classes: Evidence from*

Meme stocks can attract both institutional and retail investors, who are often encouraged to trade them via social media, which sometimes even serve as synchronization tools for their trading activity¹⁵. The mechanisms enabling small investors to coordinate rely heavily on viral social media memes. As a result, retail investors can act collectively as a major market force, driving prices significantly above a company's fundamental value¹⁶.

Meme stocks are generally riskier than other securities due to their high price volatility. Some authors have found that their volatility intensifies in times of uncertainty, such as during short-lived crises or exceptional events¹⁷.

A notable variation of meme stocks is meme coins, which are similarly volatile¹⁸ and often subject to pump-and-dump schemes, where coordinated social trading aims to create short-term price surges¹⁹.

Although meme securities account for only a small fraction of total market trading, some researchers argue that their price fluctuations can influence overall market trends, particularly during upward spikes²⁰. Retail investors often operate across multiple platforms, meaning their activity on one platform²¹ can spill over to others and, in extreme cases, impact the entire financial market²².

In this context, scholars have coined the term 'momentum' to describe the correlation between a meme stock's price, trading volume, and its social media presence, identifying distinct 'meme periods' in the market²³.

a quantile connectedness approach, *Journal of International Financial Markets, Institutions and Money*, 82: 101694, 2023, p. 2.

- 15 M. COSTOLA, M. IACOPINI, C. R.M.A. SANTAGIUSTINA, *On the 'momentum' of meme stocks*, *Economics Letters*, Volume 207, 110021, ISSN 0165-1765, <https://doi.org/10.1016/j.econlet.2021.110021>, 2021, p. 9.
- 16 For an examination of the role of certain platforms (e.g. Reddit) in influencing meme share price movements, see Š. LYÓCSA, E. BAUMÖHL and T. VÝROST, *YOLO trading: Riding with the herd during the GameStop episode*, *Finance Research Letters*, 46, 102359, 2022, pp. 7 and 8.
- 17 I. YOUSAF, L. PHAM, J. W. GOODELL, *op. loc. cit.*
- 18 Investing in crypto-assets and, in particular, crypto-currencies, may in fact expose investors to significant risks in the face of sudden price fluctuations, the characteristics of the exchange systems and the underlying technologies. CONSOB, 2022, *loc. cit.*, p. 3, in https://www.consob.it/documents/1912911/1949521/ps_2224.pdf/dcc07424-55f5-d283-8b0a-4d7c8e3e0507.
- 19 J. XU, B. LIVSHITS, *The anatomy of a cryptocurrency pump-and-dump scheme*, 28th {USENIX} Security Symposium ({USENIX} Security 19), 2019, pp. 1609–1625. The phenomenon affected, for example, Dogecoin – the first meme coin created in December 2013 – and, Shiba Inu. On 29 January 2021, Dogecoin's prices increased by 370%, after users of the Reddit forums r/CryptoCurrency and r/SatoshiStreetBets attempted to increase Dogecoin's prices to make it the next Bitcoin. Between January and May 2021, Dogecoin's price increased by over 12,000% and reached a market capitalisation of over 90 billion US dollars, partly fuelled by the endorsement of some celebrities. Since then, Dogecoin's prices have plummeted more than 7 times and its market capitalisation as of June 2022 is about 11 billion US dollars. Similarly, Shiba Inu gained over 5,130,000% between its debut in August 2020 and October 2021, followed by a substantial price drop between October 2021 and May 2022. I. YOUSAF, L. PHAM, J. W. GOODELL, *op. loc. cit.*
- 20 I. YOUSAF, L. PHAM, J. W. GOODELL, *op. cit.*, p. 3.
- 21 The possibility that retail investors may be active on several platforms at the same time means that buy signals may in fact be ubiquitous across the different platforms available. M. COSTOLA, M. IACOPINI, C. R.M.A. SANTAGIUSTINA, *op. cit.*, p. 1.
- 22 A. ALOOSH, S. OUZAN and S. J. H. SHAHZAD, *Bubbles across Meme Stocks and Cryptocurrencies*, *Finance Research Letters*, Forthcoming, in SSRN: <https://ssrn.com/abstract=4165054>, 2022, p. 3 and 13.
- 23 See in this regard M. COSTOLA, M. IACOPINI, C. R.M.A. SANTAGIUSTINA, *op. cit.*, pp. 2 and ff., A. ANAND and J. PATHAK, *The role of Reddit in the GameStop short squeeze*, *Economics Letters*, 211, 110249, 2022, p. 7.

Some studies also suggest that social media and trading platforms can create a unique form of involuntary communication among traders. For example, Pedersen's model theorizes an 'echo effect', where market participants interact within a closed system, amplifying and reinforcing their existing beliefs. This feedback loop can result in irrational market behaviour, not necessarily driven by deliberate coordination, but rather by social media's reinforcing influence²⁴.

A further form of gamification involves notifications highlighting stocks with the greatest price fluctuations, often accompanied by explicit calls to action. Gamification also intersects with marketing and advertising strategies, as seen in trading apps that use 'Scratch and Win' graphics to randomly transfer certain securities to investors after they 'scratch' a virtual lottery ticket²⁵.

The latest development in gamification, represented by the metaverse, will be analysed in paragraph 6 Section 1, focusing on its future growth prospects and legal implications.

3 Benefits and risks of financial investment gamification

Scholars sometimes view gamification as a valuable opportunity, but more often as a source of significant risks for investors²⁶.

Some experts argue that gamification can increase retail investor participation in capital markets²⁷ and enhance their cross-border nature²⁸. It could also improve financial education by making complex investment concepts and techniques more accessible and engaging²⁹. In this regard, some investment firms have integrated gaming features into their suitability and appropriateness assessment processes³⁰.

24 L. H. PEDERSEN, *Game On: Social Networks and Markets*, NYU Stern School of Business Forthcoming, 2021, in SSRN: <https://ssrn.com/abstract=3794616> or <http://dx.doi.org/10.2139/ssrn.3794616>, pp. 1 and ff. See also I. YOUSAF, L. PHAM, J. W. GOODELL, *op. cit.*, p. 9 and A. ALOOSH, S. OUZAN and S. J. H. SHAHZAD, *op. locc. cit.*

25 CFA ISTITUTE, *op. cit.*, p. 9.

26 A. VAN DER HEIDE and D. ŽELINSKÝ, *Level up your money game: an analysis of gamification discourse in financial services*, *Journal of Cultural Economy*, 14:6, 2021, DOI: 10.1080/17530350.2021.1882537, p. 711.

27 Also in the opinion of Verena Ross, President of ESMA, digital trends and new *business* models are, on the whole, contributing to making the investment business more accessible to the general public. ESMA, 71-99-1935, 29 April 2022, p. 1, in https://www.esma.europa.eu/sites/default/files/library/esma71-99-1935_pr_-_ta_on_retail_investor_protection.pdf, 2022c.

28 In order to increase savers' confidence in such investments, however, the gradual convergence of supervisory practices by regulators is necessary: the European Supervisory Authorities are therefore working on this aspect, although it must be considered that the speed of digitisation and the increase in cross-border activities is sometimes greater than the speed of convergence. In this respect, see EUROFI FORUM, *op. loc. cit.*

29 A thorough examination of By way of example, some contributions show that the short squeeze of the GameStop title, which will be discussed at length in Section 1.4, would have had positive repercussions in terms of financial education, as certain financial concepts were found to recur in numerous keyword searches on various platforms. This sort of financial self-education would have fostered an increased understanding of certain basic mechanisms of market speculation - such as short selling - and, thus, the influx of new retail investors. T. KLEIN, *A Note on GameStop, Short Squeezes, and Autodidactic Herding: An Evolution in Financial Literacy?* *Finance Research Letters*, Vol. 102229, DOI: 10.1016/j.flr.2021.102229, 2021b, p. 2.

30 EUROFI FORUM, *op. loc. cit.*

However, other scholars emphasize the risks associated with gamification, particularly the tendency for retail investors to oversimplify investment decisions or make them based primarily on emotional factors³¹.

This issue is particularly evident in day trading apps, which make investing so effortless that they essentially transform it into a game³². Day trading apps are a case in point, simplifying the activity of trading to such an extent that it is transformed into an actual game³³.

The ease of mobile trading may lead retail investors to purchase financial products without sufficient information or a full understanding of their complexity. Trading apps do not provide the same level of information as a financial advisor, and digital advisory service itself is of little use when it favours automation over personalized guidance³⁴.

Similar risks arise from trading notifications, particularly those that urge users to take immediate action. In extreme cases, these notifications can encourage excessive and impulsive trading, leading to substantial investor losses while benefiting the companies operating trading apps³⁵. Trading apps that prominently feature trading buttons may also encourage impulsive decisions, blurring the distinction between learning and actual trading³⁶.

When mobile trading coincides with the purchase of lottery-like³⁷ assets or trendy investments³⁸, the risk of inefficient portfolios and lower returns is even greater³⁹.

31 On this point, the French AMF has, for example, noted cases where such assessments were proposed in the form of interactive quizzes involving game elements. ESMA35-42-1227, *cit.*, par. 134.

32 In this respect, nudging may not always be in the investor's interest and, in extreme cases, lead to outright dependency. In this sense, T. KLEIN (2021b), *op. cit.*, p. 9.

33 M. JAIN, D. K. SHETTY, N. NAIK, B. S. MADDODI, N. MALAROUT and N. PERULE, *Application of gamification in the banking sector: A systematic review*, *Test & Engineering Management*, 83, 2020, p. 16933 argue in this regard that an element that encourages the use of such apps is precisely the provision of game-inspired functionalities.

34 EUROFI FORUM, *op. loc. cit.*

35 As will be made clearer in the introduction to Section 4, one of the factors that has contributed to the evolution of gamification in the financial sphere is the offering of brokerage services - i.e. the reception, transmission and execution of orders - without charging fees to clients. The latter, while not directly accelerating the formulation or implementation of investment decisions, nevertheless have a significant impact in speeding up the investor's decision-making process. Indeed, the elimination of commissions has an impact on thinking time, as it can lead investors to execute more transactions than would be considered optimal (a phenomenon known as 'behavioural churning', J. FALLOWS TIERNEY, *Investment Games*, in 72 *Duke L.J.*, 2022, p. 433).

36 Regarding the phenomena of copy trading and notifications, see CFA INSTITUTE, *op. cit.*, pp. 6 and 7; see also Chapter 3, paragraph 4, and Chapter 4, paragraph 1.

37 This definition refers to securities characterized by the potential for a substantial increase in value over time relative to a limited initial investment. A quintessential example is represented by Tesla stock. An in-depth bibliographic review of this type of security is provided by U. K. MUHAMMAD, A. FAHAD, J. YUEXIANG AND X. WENWU, *Predictability of extreme daily returns and Preference for lottery-like stocks in an emerging market*, *Economic Research-Ekonomska Istrazivanja*, 35:1, 1322-1344, DOI: 10.1080/1331677X.2021.1965000, 2022, pp. 1322 *and ff.*

38 On this point, scholarly literature has highlighted that investors who frequently use smartphones for trading activities tend to prefer assets characterized by higher volatility - such as the aforementioned 'lottery-type assets' - even when transactions are executed without the use of smartphones. A. KALDA, B. LOOS, A. PREVITERO and A. HACKETHAL, *op. loc. cit.*

39 A. KALDA, B. LOOS, A. PREVITERO and A. HACKETHAL, *op. loc. cit.*

In this regard, ESMA has emphasized that gamification techniques inducing undue risk-taking or addictive behaviours are never in the best interest of investors. As such, they fail to comply with the Markets in Financial Instruments Directive (MiFID II)⁴⁰.

While gamification offers some advantages, it primarily presents risks, particularly for retail investors⁴¹. Sector authorities must therefore identify and mitigate these risks through targeted regulatory interventions⁴², protecting investors as a priority while avoiding any unreasonable harm to financial industry innovation⁴³.

4 The GameStop case

The reconstruction of the GameStop share affair, which unfolded between late 2020 and early 2021, provides concrete evidence of the risks associated with gamification techniques in financial investments⁴⁴.

Amid the COVID-19 pandemic and the resulting strongly bearish trend in financial markets⁴⁵, an unexpected counter-trend event emerged at the beginning of 2021: GameStop's (hereinafter 'GME') share price surged from a low of 4 US dollars per share to an intraday high of 347 US dollars by the end of January. The key anomaly was that this dramatic price increase was entirely disconnected from the company's fundamentals. GameStop's financial statements painted a picture of a company in decline for several years.

40 ESMA, 2022a, *cit.*, par. 147.

41 T. DE RENZIS, *La digitalizzazione tra sfide ed opportunità Digitalizzazione - Conoscenze, attitudini e comportamenti degli investitori italiani*, 2023, in https://www.consob.it/documents/1912911/2058255/20230223_DeRenzis.pdf/fb667390-10ea-1fe1-5ee1-522330268e38?t=1677147697270, p. 11.

42 In this regard, it is indicated by CONSOB to start experimenting with methods or models for 'clustering' trading activities and identifying information disseminated via *social media* to monitor market abuse hypotheses, CONSOB, 2022, *cit.* p. 5.

43 The European Commission adopted the Digital Finance Strategy in September 2020, aimed at (i) seizing the opportunities offered by the digital revolution, (ii) making the benefits of digital finance available to businesses and consumers, and (iii) promoting sound risk discipline. The objective of this strategy is to safeguard financial stability, consumer protection, market integrity, fair competition and security. See MEF, *Libro verde su 'La competitività dei mercati finanziari italiani a supporto della crescita'*, 2022, p. 17, in https://www.dt.mef.gov.it/export/sites/sitodt/modules/dipartimento/consultazioni_pubbliche/LibroVerde-04.pdf.

44 The reconstruction of the Gamestop case is here largely taken up by Y. HAO, *Why Capital Always Win – A Case Study for Gamestop*, *Journal of Education, Humanities and Social Sciences*, 2022, 2: 163-166, pp. 163 and ff. On this point, see also M. A. SCOPELLITI, *Audizione della Segretaria generale della CONSOB davanti alla Commissione parlamentare di inchiesta sul sistema bancario e finanziario in merito al fenomeno GameStop e all'impatto prodotto dal trading online sui mercati finanziari e sul risparmio*, *documenti.camera.it*, 25 maggio 2021, pp. 2 and ff. and P. DERIU, *Intelligenza artificiale e vigilanza sui mercati finanziari*, in *AI Anthology, Profili giuridici, economici e sociali dell'intelligenza artificiale*, G. Cerrina Feroni, C. Fontana e E. C. Raffiotta (a cura di), Il Mulino, Bologna, 2022, pp. 435 and ff.

45 A more in-depth analysis of financial market performance in the early phase of the pandemic period is offered by S. GLOSSNER, P. P. MATOS, S. RAMELLI and A. F. WAGNER, *Where do institutional investors seek shelter when disaster strikes? Evidence from COVID-19*, CEPR Discussion Papers, (No. 15070), 2020, pp. 27 and ff.

It is anticipated that during 2024, there was yet another bubble affecting GameStop stock, albeit of a size not comparable to that which occurred at the beginning of 2021. For further details G. TIMPONE, *Torna 'gattino ruggente' e le azioni GameStop esplodono del 110%: è nuova meme stock mania?*, *investireoggi.it*, 2024, in <https://www.investireoggi.it/economia/azioni-gamestop-boom-40-nuova-meme-stock-mania/>.

The primary driver of this decline was the rise of e-commerce and widespread internet adoption, which had fundamentally changed the way consumers and gamers purchased video games. As a result, GME's share price had been steadily falling since 2017, dropping from 24.64 US dollars in March 2017 to just 2.80 US dollars per share in April 2020.

Given this unfavourable outlook, by mid-June 2020, traders specializing in short selling identified profit opportunities and began taking short positions on GME⁴⁶.

The situation evolved further in the following months, particularly after Ryan Cohen joined GameStop's board⁴⁷. By December 2020 and early 2021, a growing number of retail investors began purchasing GME shares⁴⁸, driving the price up to 347 US dollars on January 27, 2021⁴⁹.

This surge was largely fuelled by coordinated efforts on social platforms like Reddit⁵⁰ and by gamification techniques employed by brokers. The wave of retail investor purchases triggered reactions from other market participants. On January 19, a short seller publicly dismissed the idea that retail investors, even trading simultaneously, could significantly influence GME's price. However, other investors made statements in support of GameStop, further fuelling the rally⁵¹.

46 The operations of short sellers are essentially based on a forecast of a stock's decline. Such investors, in fact, borrow the securities of a target company and sell them on the market in anticipation of a downturn. When they are asked to return the borrowed securities based on the forecast of the lending agreement, the short sellers proceed to buy and return the borrowed security. Their profit is thus given by the difference between the price of the borrowed - and then sold - security and the price of the subsequently purchased security. In a bearish phase, therefore, short sellers can make gains; however, if the price of the security rises sharply, their losses can be very substantial.

47 For further details on this event, see chapter 2, par. 1.

48 Some have attempted to identify the typical investor of the GME stock and, in particular, what the behaviour was and how it differed from the generality of retail investors.

The results showed that investors in the GameStop stock: had a history of investing in speculative instruments, including securities with lottery-like characteristics (lottery *type assets*); were more likely to close their positions before the peak of the bubble; at the beginning of the frenzy, many retail investors also 'shorted' the GME stock.

All in all, in the authors' opinion, the trend recorded in the GameStop stock is not the result of a mere digital protest against Wall Street but, rather, of speculative trading by a group of retail investors, moreover, consistent with their previous experience in trading high-risk securities.. T. HASSO, D. MÜLLER, M. PELSTER and S. WARKULAT, *Who Participated in the GameStop Frenzy? Evidence from Brokerage Accounts*, Finance Research Letters, 102140; TAF Working Paper No. 58/February 2021, in SSRN: <https://ssrn.com/abstract=3792095> or <http://dx.doi.org/10.2139/ssrn.3792095>, pp. 7 and 8. See also M. A. SCOPELLITI, *Audizione della Segretaria generale della CONSOB davanti alla Commissione parlamentare di inchiesta sul sistema bancario e finanziario in merito al fenomeno GameStop e all'impatto prodotto dal trading online sui mercati finanziari e sul risparmio*, documenti.camera.it, 25 may 2021.

49 Y. HAO, *op. loc. cit.* and P. DERIU, *op. cit.*, p. 437.

50 Some work has investigated the role played by the Reddit platform in the *short squeeze* that occurred for GameStop stock in early 2021. In this regard, the impact of user interactions on GME share price dynamics was examined through textual analysis on 10.8 million comments. The results indicated that both tone and number of comments influenced the stock's intraday returns, noting that longer threads had a greater influence. Fear was the dominant sentiment in all comments, with comments expressing a negative sentiment showing a significant impact. C. LONG, B. M. LUCEY and L. YAROVAYA, *I Just Like the Stock' versus 'Fear and Loathing on Main Street': The Role of Reddit Sentiment in the GameStop Short Squeeze*, 2021, in <https://ssrn.com/abstract=3822315>, pp. 15 and 16.

Other works show that comments with a '*fanatic*' and '*rational*' view were dominant at specific junctures and that their relative importance also depended on the following of the authors. L. H. PEDERSEN, *op. cit.*, pp. 35 and ff.

51 As a result of these events, the share price rose significantly: in a single market day, the increase was 140%. See, in this regard, M. COSTOLA, M. IACOPINI, C. R.M.A. SANTAGIUSTINA, *op. cit.*, p. 3. An analysis of the relationship between the

As the buying frenzy escalated, short sellers faced mounting threats, as their profitability depended on GME's price declining in line with their expectations.

In the final days of January 2021, some brokers (most notably Robinhood, which will be discussed in detail in Sections 1, paragraph 6, 2, and 4) restricted users from purchasing additional GME shares. Simultaneously, WSB (a popular retail investors' social network), also shifted to a disfavour towards such purchases. These restrictions led to a reduction in trading volume and a sharp decline in GME's market price, potentially benefiting short sellers⁵².

Nevertheless, many retail investors continued to buy GME shares through alternative brokerage platforms, causing substantial losses for short sellers, who were forced to cover their positions at high prices⁵³.

By the time the coordinated retail purchases subsided, GME's share price had rapidly fallen back to levels more aligned with the company's fundamentals.

More than two years after these events, in 2023, GME's share price had returned to its 2017 levels. In May 2024, another speculative bubble affected GameStop's stock, though on a much smaller scale than in early 2021⁵⁴.

From a broad perspective, the GameStop case outlines that retail investors, by acting collectively, were able to outmatch professional short sellers in terms of overall capital⁵⁵. However, at the individual level, the story was more nuanced: only those who invested early and sold at the peak realized gains, while many who bought near the peak and held on suffered significant losses.

Ultimately, the GameStop case provides empirical evidence of the strong link between investment gamification and heightened financial risks⁵⁶. This phenomenon does not only affect retail investors (who are the primary users of gamified trading platforms) but also professional investors, whose positions based on fundamental analysis can be disrupted by the synchronized trading of many small investors.

As explored in the following sections, the GameStop case stands out due to the interplay of various factors, including extensive short-selling, widespread use of trading apps, gamification-driven behaviour, and trading restrictions during the COVID-19 pandemic. The role of artificial intelligence-driven trading tools further amplified volatility. The rapid response from regulators in both the U.S. and internationally

prevailing sentiment in social media and GME share prices is also carried out by C. LONG, B. M. LUCEY AND L. YAROVAYA, *op. loc. cit.*, pp. 15 and ff.

52 The ability of such purchase restrictions to influence the course of prices is demonstrated by C. M. JONES, A. REED and W. WALLER, *When brokerages restrict retail investors, does the game stop?*, Columbia Business School Research Paper Forthcoming, 2021, pp. 45 et 46.

53 The *GameStop short squeeze* of January 2021 caused losses in the order of tens of billions of dollars for hedge funds. For more on this topic and a rich bibliography, see also I. YOUSAF, L. PHAM, J. W. GOODELL, *op. cit.*, pp. 2 and ff.

54 For more details G. TIMPONE, *op. cit.*, in <https://www.investireoggi.it/economia/azioni-gamestop-boom-40-nuova-meme-stock-mania/>.

55 In this sense, Y. HAO, *op. cit.*, p. 165.

56 A. ALOOSH, S. OUZAN and S. J. H. SHAHZAD, *op. cit.*, p. 2.

underscores how this event marks a turning point, highlighting new challenges in financial market regulation and oversight, particularly at the intersection of finance and new technologies⁵⁷.

5 Robinhood and a European counterpart: Trade Republic AG

Among the contextual factors that have facilitated the spread of gamification is, as previously noted, the widespread use of new online trading platforms (so-called neobrokers). The extreme ease with which trading orders can be submitted, even via mobile phone, has been compounded by a sharp reduction in user costs. In several prominent cases, commissions for these services have been reduced to zero, thereby further facilitating direct market access for investors, with all the attendant benefits and risks. In some instances, the absence of trading commissions has been enabled by remuneration policies based on the intermediary receiving payment for routing orders to third parties, typically operating as principal traders (a practice known as payment for order flow, or 'PFOF'). The economic and legal aspects of such practices will be analysed more extensively in Chapter 4, but it is worthwhile here to briefly review the main characteristics of some of the most well-known neobrokers, given their significance to the phenomenon of gamification.

The practice of PFOF originated in the United States, where it was conceived and first implemented in the early 1990s by a financier who, less than two decades later, would become infamous for other reasons: Bernie Madoff⁵⁸. It was precisely in that jurisdiction that the events unfolded which brought the dynamics of investment decision gamification, as analysed in the preceding sections, to the forefront of public attention.

As mentioned, neobrokers have contributed to the spread of this practice by virtue of their ability to reduce the (at least direct) costs of receiving and transmitting or executing orders. This is often facilitated by offering a narrower range of services compared to traditional competitors, resulting in lower operating costs⁵⁹. In particular, the potential execution venues identified in the so-called execution policy are often fewer in number than those of competitors, which leads to reduced opportunities for finding the best price conditions but also, concurrently, lower costs in searching for the best venue⁶⁰.

57 P. DERIU, *op. cit.*, pp. 437 and 438.

58 J.R. MACEY, *Securities Regulation as Class Warfare*, in 2021 *Colum. Bus. L. Rev.*, 2021, p. 821.

59 For example, no research services are offered (A.J.B. CABLE, *Regulating Democratized Investing*, in 83 *Ohio St. L.J.*, 2022, p. 683).

60 TELEBORSA, *Neobroker alla conquista dell'Italia: i piani delle app da zero commissioni*, *La Stampa*, 24 June 2022.

Although, as will be further detailed in the next sub-section, not all neobrokers utilise PFOF to the same extent⁶¹, the platform that has achieved the greatest market share growth is the renowned Robinhood⁶². In the US system, PFOF is characterized by the routing of buy and sell proposals to execution venues not subject to order transparency rules (dark pools). Compared to the European framework – where, as will be shown, these practices are subject to restrictions – the greater freedom in selecting the trading venue has generally provided a more favourable environment for PFOF, as it allows orders to be routed to a predetermined counterparty based on payment-back agreements, although such routing remains subject to best execution requirements.

Robinhood is the most well-known among neobrokers and is distinguished from its main competitors by its systematic use of PFOF as a source of funding and the exclusion of any client-side commissions. Indeed, there is no shortage of trading service providers in the United States that adopt particularly aggressive commission strategies, as these are characterized by a reduction, rather than a total elimination, of the commissions themselves⁶³. Another typical feature of Robinhood is the widespread automation of its operational processes, not only in the order management phase but also in the client profiling stage during the onboarding process, which also allows for considerable cost savings compared to more traditional service delivery methods.

Further characteristics of Robinhood are its client-facing graphical interface and the use, within that interface, of tools that induce gamification, prompting users to develop game-like dynamics while using the platform, partly through forms of gratification that are not merely financial⁶⁴. These include celebrating the execution of the first order with a shower of 'virtual confetti' and the use of point or level systems that encourage greater user loyalty⁶⁵.

The European landscape is equally varied, with a concentration of neobrokers primarily in the northern countries of the continent. Among these, it is worth briefly examining the model of Trade Republic, a neobroker based in Germany.

Trade Republic is a German bank⁶⁶ characterized by its extensive use of PFOF. As indicated in its general terms and conditions, Trade Republic may receive commissions – the maximum amount of which is specified in the contract – from the operators of execution venues for placing orders at those venues⁶⁷. The same general terms and conditions clarify that 'such fees allow Trade Republic to offer customers low-cost,

61 For a comparison with other operators see N. WATERS, *Remedying the Negative Effects of Equity Market Order Flow Decentralization on Retail Investors*, 16 Ohio State Business Law Journal 368, 2022, p. 371.

62 A.J.B. CABLE, *op. cit.*, p. 686.

63 *Ibid.*, p. 681 (with reference to Charles Schwab, E-trade and Ameritrade).

64 P. INGASSIA, *How Robinhood Has Revolutionized Online Trading and Dramatically Upended the Traditional Model for Payment for Order Flow (PFOF)*, 16 Virginia Law & Business Review 183, 2021, p. 186.

65 A.J.B. CABLE, *op. cit.*, p. 684.

66 Trade Republic, formerly a German investment firm passported to operate in Italy solely under the freedom to provide services, became a bank in December 2023 and changed its name to Trade Republic Bank GmbH.

67 Trade Republic will retain said commissions in derogation of the generally applicable provisions on agency, whose codicistic rules provide, with a default provision, for the transfer to the principal (paragraphs 675 and 667 BGB).

high-tech services⁶⁸, in line with the most typical characteristics of neobrokers. However, perhaps the most defining element of Trade Republic's business strategy is its selection of the execution venue for orders. The venue by far most frequently used by Trade Republic for order execution is the LS Exchange, a market segment active on the Hamburg Stock Exchange and managed by Lang & Schwarz AG. According to the market regulations of the LS Exchange, its microstructure is essentially based on a request-for-quote (RFQ) system (Annex 1 of Regulation (EU) 2017/587)⁶⁹. The market makers active on the LS Exchange commit to covering at least 95% of the requested volumes at price conditions defined by reference to the spreads present, at any given time, on Xetra (the main market of the Frankfurt Stock Exchange), with the possibility of accepting the offer made following the invitation to quote within ten seconds⁷⁰. The main market maker active on the LS Exchange is, moreover, Lang & Schwarz TradeCenter AG & Co. KG, a subsidiary of Lang & Schwarz AG itself. This is a structure, typical of the German market, in which a market segment has only one principal trader (operating as a market maker) who becomes the counterparty to all transactions concluded on the venue. It is, in essence, an operation analogous to that of a systematic internaliser which, however, is subject to the rules of multilateral systems that ensure greater transparency for trading orders⁷¹.

Finally, it may be useful to offer some observations regarding the demand side for neobroker services. The typical client attracted, in the United States and in Europe, by the commercial strategies of these intermediaries is characterized by a relatively young age and rather modest average investments, estimated to be in the range of 3,500 US dollars to 5,000 US dollars overseas (but with a median amount of only 240 US dollars) and just under 5,700 Eur in the old continent⁷².

For the sake of completeness, however, a significant difference in the business model between US and European neobrokers should be pointed out. The former centrally feature the trading of equity securities – including so-called meme stocks, as the GameStop case indicates – and options, which in many respects makes the trading activity riskier⁷³. In the case of European neobrokers, on the other hand, financial instruments characterized by longer-term investment horizons, particularly ETFs, seem to be more prominent⁷⁴.

68 TRADE REPUBLIC, *Customer agreement*, in <https://assets.traderepublic.com/>, 2024, p. 13, paragrafo 4.2.

69 LANG & SCHWARZ, REGELWERK LANG & SCHWARZ EXCHANGE, disponibile su https://www.ls-tc.de/_2024, par. 3.

70 *Ibid*, paragraphs 5 and 7.

71 G. SCHUSTER AND M. RAETZ, *Payment for Order Flow*, 34 Zeitschrift für Bankrecht und Bankwirtschaft 141, 2022, p. 146; for the classification of such platforms as multilateral systems (MTFs or regulated markets) see ESMA (2023a), p. 25.

72 A.J.B. CABLE, *op. cit.*, p. 685; N. WATERS, *op. cit.*, p. 371; TELEBORSA, *op. cit.*

73 A.J.B. CABLE, *op. cit.*, p. 691 and ff.; N. WATERS, *op. loc. cit.*

74 TELEBORSA, *op. cit.*, particularly with reference to Scalable Capital and BUX. Among the ETFs traded on Trade Republic, the most represented is MSCI World.

5.1 Alternative financing models for zero-commission brokers

Although Payment for Order Flow (PFOF) is arguably the most debated element characterising the business model of new trading platforms, it is important to stress that not all neobrokers employ it with the same systematicity, nor do all neobrokers use this remuneration technique.

Among the other sources of revenue these operators rely on are, for instance, interest earned on margin loans, the direct provision of services without third-party involvement, including the internalisation of order execution where possible, or the placement of their own-issued financial instruments⁷⁵. Robinhood itself, for that matter, lists among its revenue sources, alongside rebates from PFOF, similar rebates and interest received from affiliated banks where client cash balances are held, subscriptions to additional services (such as the provision of research reports by financial analysts), and interest earned from the lending of client-owned securities⁷⁶. Additional income is also derived from the use of client financial instruments for Robinhood's own benefit, for example, by employing them as collateral for proprietary trading or through securities lending⁷⁷.

There is, as mentioned, no shortage of intermediaries that do not receive such rebates. Perhaps the best-known case is Fidelity, which offers zero-commission trading services on equities while declaring that it does not resort to PFOF for this market segment⁷⁸. It is currently debated whether this business model, in which zero-commission trading services are not accompanied by PFOF, is sustainable. After all, Fidelity itself receives remuneration in the form of PFOF on its options trading activities⁷⁹, while other intermediaries even resort to requesting donations from clients to sustain the provision of zero-commission services⁸⁰.

The European landscape seems to largely reflect what has been indicated so far with reference to US operators. According to evidence gathered by ESMA, the revenue sources that characterise the activity of neobrokers include, alongside PFOF, the systematic internalisation of orders or, in any event, direct principal trading, as well as the lending of client securities and, finally, the sale of other services (such as securities custody or margin trading services)⁸¹.

75 A.J.B. CABLE, *op. cit.*, p. 681; TELEBORSA, *op. cit.*

76 ROBINHOOD (s.d.(a)), *How we make money*, <https://robinhood.com/us/en/about-us/how-we-make-money/> and ROBINHOOD (s.d.(b)), *Standard Pricing Fee Schedule*, disponibile su <https://robinhood.com/us/en/about-us/how-we-make-money/>.

77 A. FARLEY, *Is There a Catch to Free Stock Trading? Free Stock Trades Have a Few Problems*, Investopedia, <https://www.investopedia.com/>, 2022. These are practices that, under Italian law, require the client's written consent (Article 22, para. 3, Tuf).

78 N. WHITTEN, *Deceiving the Young to Give to Themselves: Eliminating Payment for Order Flow to Ensure Loyal Agents*, 64 Boston College Law Review 701, 2023, p. 734.

79 *Ibid.*, pp. 735 and ff., which also discusses a critique from competitor Charles Schwab.

80 *Ibidem*, with reference to Public.com.

81 ESMA, 2022a, *cit.*, para. 177.

6 Gamification of financial investments and the metaverse

A recent development in gamification is the so-called 'metaverse', a term coined by Neal Stephenson in his 1992 science-fiction novel *Snow Crash*. The concept describes a future evolution of the internet: a virtual reality world navigated through digital avatars.

Currently, there is no single metaverse model; rather, multiple platforms⁸² exist, each with distinct characteristics, particularly in terms of centralization. Some metaverse environments are highly centralized, with decision-making, planning, and security controlled by a single entity. At the other extreme are decentralized models, where authority and control are distributed among users. Most platforms fall somewhere between these two models⁸³.

Despite significant investments from major technology companies, according to some observers, metaverse adoption remains relatively low as the metaverse itself is largely empty⁸⁴. However, more than 400 million unique monthly users are active across various platforms, predominantly in gaming. The most popular platforms such as Roblox (200 million users), Minecraft (160 million) and Fortnite (80 million) are overwhelmingly used by individuals under 18⁸⁵. By contrast, non-gaming metaverse platforms have much lower engagement, with Horizon Worlds reaching 200,000 monthly users and either Sandbox or Decentraland attracting only 40,000–50,000 users each.

While technological and cost barriers currently limit non-gaming applications, future projections suggest significant potential. By 2030, the metaverse could host up to five billion users, with transaction values estimated between 8 trillion US dollars and 13 trillion US dollars⁸⁶.

In the metaverse financial entities can drastically reduce distribution costs⁸⁷: savings would be in the range of 50–70%, because virtual branches have significantly

82 Popular metaverse platforms, with indication of the cryptocurrency of reference in brackets, are as follows: Decentraland (MANA); Sandbox (SAND); GALA; AXIE Infinity (AXS); Metahero (HERO); Celebrity Atlas (ATLAS); Enjin Coin (ENJ); Cryptovoxels (CVPA); High Street (HIGH); Bloktopia. For further discussion on this point S. SARKAR., *Banking in Metaverse Opportunities and Challenges*, *The Management Accountant Journal*, 2023, 58.1, p. 64.

83 Minecraft and Fortnite represent typical examples of centralised metaverses. Decentraland, on the other hand, is a decentralised platform that is based on the Ethereum blockchain; its decentralisation is represented by an autonomous control organisation, the Decentralised Autonomous Organisation (DAO), composed of Decentraland participants who can freely vote and redraw the policies of the platform. For more on the notion of metaverse, especially in the financial sphere, S. SARKAR., *op. loc. cit.*

84 P. L. PARCU, N. INNOCENTI, C. CARROZZA, *The Metaverse: technology, financing and economics*, Robert Schuman Centre for Advanced Studies Research Paper, 2023, 2023/1, p. 18.

85 METAVERSED, *Metaverse user age profile*, Metaversed Research & Insight, 2022, in <https://www.metaversed.consulting/blog/the-metaverse-reaches-400m-active-users>.

86 CITI, *Metaverse and money*, 2022, p. 3, in https://www.citifirst.com.hk/home/upload/citi_research/AZRC7.pdf; GOLDMAN SACHS, *Framing the future of web 3.0 metaverse edition*, 2021, p. 22 in <https://www.goldmansachs.com/insights/pages/gs-research/framing-the-future-of-web-3.0-metaverse-edition/report.pdf>.

87 DUBEY VIVEK et al, *Metaverse and Banking Industry - 2023 The Year of Metaverse Adoption*, *Technium: Romanian Journal of Applied Sciences and Technology*, 4, 62-73. 10.47577/technium.v4i10.7774, 2022, p. 71 and S. SARKAR., *op. loc. cit.* Banks can also implement advanced forms of service customisation, e.g. by assigning a virtual assistant more in line with each customer's wishes. AVANADE, *Working in the metaverse How banks can create value*, 2022, in

lower costs than physical ones⁸⁸. In the field of human resources management and training, moreover, the metaverse might be useful as a training tool in interactions between employees and customers – while guaranteeing high levels of effectiveness and cost-efficiency⁸⁹ – and is able to attract and retain talent skilled in digital innovations⁹⁰.

In this context, gamification will play a fundamental role in fostering the development of banking and financial services, spreading these services among geographic areas and segments of the population currently less accessible, due to the difficulties of reaching physical branches⁹¹.

Concrete examples of metaverse banking⁹² are the virtual bank implemented by the South Korean Kookmin Bank⁹³, the banking metaverse of the Indian Kia.ai⁹⁴, the virtual room of the Union Bank of India⁹⁵, the digital bank of the Spanish Imagin⁹⁶ and the VR application of BNP Paribas⁹⁷.

Although they do not provide services open to the public yet, some banking and financial intermediaries have started to operate in the metaverse: JP Morgan Bank opened a virtual room in the Decentraland platform⁹⁸, Hong Kong's Standard Chartered acquired virtual real estate in the Mega City district of Sandbox⁹⁹, Thailand's Siam

<https://www.avanade.com/-/media/asset/technologies/working-in-the-metaverse-how-banks-can-benefit.pdf?la=en&ver=2&hash=C02064374D99079B65944F5E45453F8A>.

88 S. SARKAR., *op. cit.*, pp. 63 and 64.

89 DUBEY VIVEK et al., *Metaverse and Banking Industry – 2023 The Year of Metaverse Adoption*, Technium: Romanian Journal of Applied Sciences and Technology, 4. 62-73. 10.47577/technium.v4i10.7774, 2022, p. 71 and S. SARKAR., *op. loc. cit.* AVANADE, *Working in the metaverse How banks can create value*, 2022, in <https://www.avanade.com/-/media/asset/technologies/working-in-the-metaverse-how-banks-can-benefit.pdf?la=en&ver=2&hash=C02064374D99079B65944F5E45453F8A>.

90 Banking in the metaverse will indeed require professionals to take on new roles, including 3D artists, game designers, platform experts, cryptocurrency and blockchain specialists. AVANADE, *op. cit.*

91 One thinks, for example, of rural areas or geographic areas that are not easily connected to urban centres where the physical branches that provide access to banking and financial services are located; the problem concerns both advanced countries and, above all, developing countries. The metaverse, in this sense, can be a growth factor for more isolated communities. For more on this topic, see also S. SARKAR., *op. cit.*, pp. 64 ff. and M. R. H. ANGGARA et al., *op. cit.*, pp. 417 ff.

92 S. SARKAR., *op. cit.*, p. 65 and M. ABBOTT, *The metaverse has got banks thinking about a radically different future*, Forbes, 14 September 2022, at <https://www.forbes.com/sites/michaelabbott/2022/09/14/fools-gold-or-bullion-the-metaverse-has-got-banks-thinking-about-a-radically-different-future/?sh=1df2eee61bcf>.

93 M. ABBOTT, *op. loc. cit.*

94 <https://www.kiya.ai/metaverse/>.

95 <https://www.unionbankofindia.co.in/english/uni-verse.aspx>.

96 <https://www.imagin.com/imaginland>.

97 <https://wealthmanagement.bnpparibas/content/dam/bnpparibas/pdfs/december/Investment%20Themes%202022%20EN%20Compil%20ES%20DEF.pdf>.

98 ZACKS EQUITY RESEARCH, *JPMorgan (JPM) Enters Metaverse*, Unveils Virtual Onyx Lounge, Nasdaq, 16 February 2022, at <https://www.nasdaq.com/articles/jpmorgan-jpm-enters-metaverse-unveils-virtual-onyx-lounge>.

99 <https://www.sc.com/en/media/press-release/weve-partnered-with-the-sandbox-to-create-metaverse-experience/>.

Commercial Bank built a virtual office in the metaverse¹⁰⁰ and HSBC bought land there to interact with gaming and e-sports enthusiasts¹⁰¹.

The expansion of financial services into the metaverse raises complex regulatory questions, particularly concerning the competent jurisdiction¹⁰² when interoperability between platforms is adopted¹⁰³. Further issues concern resilience of payment systems as well as cybersecurity. Regulators must thus develop the necessary expertise and tools to ensure effective, real-time oversight of financial activities in the metaverse¹⁰⁴.

7 The risks of 'fin-influencers'

Another critical issue tied to investment gamification is the rise of financial influencers (so called 'fin-influencers'¹⁰⁵) on major social media¹⁰⁶. These individuals create short, engaging videos on platforms such as Instagram, TikTok, or YouTube, establishing themselves as experts in a particular field and often shaping their followers'

100 <https://www.scb.co.th/en/about-us/news/mar-2022/scb-10x-open-house-metaverse.html>.

101 M. SPORTELLI, *Hsbc like J.P. Morgan: bought land in the metaverse*, Forbes, 18 March 2022, in <https://forbes.it/2022/03/18/hsbc-come-jp-morgan-acquistato-terreno-metaverso/>.

102 As things stand, therefore, the operation in the metaverse would be comparable to a (possibly) cross-border provision of services under the freedom to provide services; for supervisory purposes, the connecting criteria would therefore be the location of the provider, as regulated, in the EU context, by the MiFID II package.

On this point, some theories nevertheless attempt to offer possible solutions.

(i) Theory of the law of the metaverse: according to this theory, the metaverse should have a jurisdiction separate from that of the real world, developing its own legal framework. As there is only one applicable law, legal certainty in the metaverse would be increased. On the other hand, however, it must be considered that, as things stand, there is no authority with the right to regulate and supervise the various metaverse platforms; the very establishment of such an authority is a further complication, as it would have to be established who has the right to do so.

ii) Theory of the Central Bank Digital Currency: this theory envisages that a Central Bank Digital Currency could be developed from the blockchain (or from an alternative technology), which would represent an additional medium of exchange in the metaverse with respect to crypto-currencies and stable coins. In a broader perspective, the Central Bank Digital Currency could also represent a real monetary instrument through which the Central Bank could exert more incisive control over inflation and thus economic stability in the metaverse.

(iii) Data centre location theory: this theory provides that the competent jurisdiction would be identified on the basis of the location of the data centre where the relevant data are stored; since the data centre has a legal domicile, the jurisdiction that will apply in the metaverse will be that of the place where the data centre is physically located. On this point, it must be considered that metaverse platforms are likely to make use of a plurality of data centres located in different countries; in such a case, it will be necessary to identify which jurisdiction will apply.

For more on this topic see M. R. H. ANGGARA et al., *op. cit.*, pp. 423 ff.

103 M. R. H. ANGGARA et al., *op. cit.*, p. 422.

104 P. SAVONA, *Intervento del Presidente Prof. Paolo Savona al seminario CONSOB/Luiss Guido Carli sul tema 'Financial regulatory and supervisory authorities facing the Metaverse'*, in consob.it/documents/1912911/1981397/intervento_Savona_20221013.pdf/05f4d718-ff53-87e7-15d7-0cbe202bead4, 2022, p. 2.

105 This phenomenon is of considerable importance, given that, to date, more than half of the global population regularly uses social media, including for information purposes. A. CANEPA, *Social media and fin-influencers towards a new digital vulnerability in investment decisions*, in Publication of the proceedings of the Conference 'Financial Supervision after two crises. Quali prospettive', held on 17 and 18 June 2022 at the Island of Capri and organised by the University of Naples Parthenope, pp. 307 to 324, in https://air.unimi.it/retrieve/89afe6cd-c967-4192-9b23-48e5eac1122d/2022_01_RTDE_Allegra-Canepa%20social%20media.pdf, p. 311.

106 E. C. CANATAN, A. TOKER, and A. COŞKUN, *Understanding Finfluencer Engagement: a Conceptual Framework of Attitude Development and Continued Usage in Video Consumption* (No. 10850), EasyChair, 2023, p. 3.

investment decisions¹⁰⁷ as small investors increasingly tend to informal and self-managed financial education, possibly free of charge and easily accessible¹⁰⁸. Their popularity stems from 'digital trust', built by sharing emotional and personal content with audiences¹⁰⁹, as deeply discussed in section 2.

While influencer marketing has been studied extensively in industries like beauty and sports, research on finfluencers remains limited¹¹⁰. However, financial influencers pose unique risks, as financial products are fundamentally different from typical consumer goods or services¹¹¹.

More specifically, the most critical issues are related to the quantity and quality of information provided by fin-influencers in the content shared via social¹¹² media and to the lack of perception of hidden advertising by followers¹¹³.

The risks associated with this behaviour are further amplified for followers with low financial culture, and this leads to an even greater reliance on fin-influencer content; this criticality is exacerbated in the case where such content constitutes the sole source of information consulted before making investment decisions¹¹⁴.

107 S. GUAN, *The Rise of the Finfluencer*, New York University Journal of Law and Business, Forthcoming, Santa Clara Univ, Legal Studies Research Paper Forthcoming, 2022, at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4400042, p. 545.

108 The growing interest in financial education topics can be attributed to a number of factors, such as, among others: an environment characterised by low interest rates up to 2021, which has increased the appeal of high-yield investments, frequently characterised by high complexity; the desire to use savings following the closure of various public establishments and travel restrictions; and greater availability of time to devote to researching investment opportunities. E. C. CANATAN, *op. cit.*, p. 3.

109 In social media, the emotional factor constitutes one of the key aspects in making an investment decision and is also frequently fuelled by the sharing of interests and actions with members of the community created by the influencer. In the opinion of some authors, belonging to a virtual community facilitates the coordination of collective choices, which can even go so far as to synchronise the actions of individuals. This is at the basis of identical investment decisions being taken by a large number of individuals in a short time span; a typical example of synchronisation of the actions of individuals was shown in section 1.4 concerning the Gamestop stock. A. CANEPA, *op. cit.*, p. 312.

110 E. C. CANATAN, *op. cit.*, p. 7.

111 To take account of these peculiarities, the European legislator has provided for a plurality of rules specifically dedicated to financial products and investment services (MiFID, PRIIPS, AIFMD, UCTIS, to name but a few).

112 The information provided by fin-influencers is frequently limited and not accompanied by a reference to in-depth links. A. CANEPA, *op. cit.*, p. 315.

In BaFin's opinion, various fin-influencers often make statements that are only partially accurate - or, worse, completely inaccurate - and the investment tips offered are in most cases not reliable. BaFin, Investment tips on social media: caution is paramount, in https://www.bafin.de/EN/Verbraucher/Aktuelles/verbraucher_soziale_medien_en.html, 2023.

113 According to some authors, the lack of perception of surreptitious advertising tends to be exacerbated if content is accessed via smartphones since these, having a smaller screen than other devices (such as tablets or computers), would tend to favour the display of certain aspects to the detriment of others. A. CANEPA, *op. cit.*, p. 315.

114 An example of this is the publication of the fin-influencer's detailed investment plan, which is usually followed by a message of satisfaction in the purchase of the product that is the subject of the proposed content (such as a cryptocurrency or crypto-asset, for instance). This promotional activity is aimed at encouraging followers to conclude similar transactions. *Ibid.*, p. 316.

In general, fin-influencers' followers without a critical perspective may find themselves more easily exposed to the risk of wanting to make imprudent or inappropriate investments with respect to their profile¹¹⁵.

Younger users are the most vulnerable¹¹⁶, as they often have a limited understanding of the dynamics driving financial markets, a low awareness of advertising techniques in influencer content, and spend significant amounts of time on social media¹¹⁷.

Fin-influencer activity is not only governed by regulations on unfair commercial practices related to covert marketing – applicable to all influencer categories – but is also subject to much stricter regulatory frameworks: the content disseminated generally concerns regulated financial products (such as, for instance, investment funds or financial advisory services), and, for this reason, can significantly impact the financial decisions of savers.

Thus, a variety of regulations apply in the European context, including: the Regulation (EU) No 596/2014 (Market Abuse Regulation – MAR), the Directive 2014/65/EU (Markets in Financial Instruments Directive – MiFID II) and the Commission Delegated Regulation 2016/958, which regulates the proper presentation of investment recommendations or other information recommending or advising an investment strategy¹¹⁸.

However, the concrete conduct of fin-influencers sometimes moves in a grey area, on the borderline between what is advertising and what is mere disclosure¹¹⁹.

115 The operations of fin-influencers are not free of conflicts of interest: although the investment advice provided by them is generally free of charge, in some cases the motives for offering such advice appear opaque. In some circumstances, this is because the various sources of income of fin-influencers include the commissions paid by the companies whose investment products are presented, which are a powerful motivating factor. Studies conducted by BaFin show that, sometimes, payments of such commissions take place when the user, by clicking on specific text or image boxes, is redirected to other websites. BAFIN, *op. cit.*, 2023.

116 In this regard, EU Justice Commissioner Didier Reynders stated that: «*The business of influencers is thriving and a lot of consumers - often young people or even children - trust their recommendations. This business model, however, also comes with legal obligations. Influencers too must follow fair commercial practices and their followers are entitled to transparent and reliable information.*» EUROPEAN COMMISSION, *Daily News of 17/10/2023*, at https://ec.europa.eu/commission/presscorner/detail/en/mex_23_5067.

117 In Italy, the 18-34 age group is the most sensitive to social media and influencers: the 'influence' figure is 23.4% in the 18-34 age group, 16.2% in the 35-64 age group and 5% in the over-65 age group. STATISTA, Consumer Goods & FMCG, Influence of social media or celebrities on the purchase of consumer goods in Italy in 2019, by age group, 2019, in <https://www.statista.com/statistics/987017/influences-on-consumer-goods-purchase-in-italy/>.

This aspect was also highlighted by a study of the European Parliament in February 2022, which points out that «*Influencer marketing has an impact on consumer purchase decision making. Children and consumers with low education and/or low income are particularly vulnerable to influencer marketing.*» See F. MICHAELSEN, L. COLLINI et. al., *The impact of influencers on advertising and consumer protection in the Single Market*, Publication for the committee on Internal Market and Consumer Protection (IMCO), Policy Department for Economic, Scientific and Quality of Life Policies, EUROPEAN PARLIAMENT, Luxembourg, 2022, in [https://www.europarl.europa.eu/Reg-Data/etudes/STUD/2022/703350/IPOL_STU\(2022\)703350_EN.pdf](https://www.europarl.europa.eu/Reg-Data/etudes/STUD/2022/703350/IPOL_STU(2022)703350_EN.pdf), p. 10.

118 For a more detailed examination of the topic, see also F. PFLÜCKE, *Rethinking the Regulation of Financial Influencers*, Journal: Verfassungsblog: On Matters Constitutional, 2023, DOI: 10.17176/20230524-020306-0, at <https://core.ac.uk/display/574718929?source=4>, pp. 2 ff.

119 A. CANEPA, *op. cit.*, p. 311.

Also with a view to strengthening the protection of retail investors, the European Commission has provided for a number of measures in the package of rules in the Retail Investment Strategy, published on 24 May 2023¹²⁰; the package proposes, among other things, to introduce specific content requirements for financial marketing advertisements, which will also have to be complied with by fin-influencers¹²¹.

More specifically, recitals 30 and 32 of the draft Directive require investment firms to ensure the compliance and accuracy of marketing communications produced on their behalf. In the case of misleading advertising messages, supervisory authorities will then have the power to intervene, adopting measures such as ordering the cessation of the advertising campaign or imposing administrative fines on financial intermediaries who make use of the promotional activity of fin-influencers¹²².

Overall, the European Commission's objective is to raise the level of protection of retail investors from misleading marketing practices and, at the same time, to make fin-influencers and financial intermediaries responsible for the correct and ethical use of communications via social networks¹²³.

This European Commission initiative represents an initial attempt to harmonize regulatory frameworks and supervisory approaches across EU Member States.

Indeed, ESMA in a communication issued on 28 October 2021, had already emphasised the importance of compliance with EU Regulation No. 596 of 2014 on Market Abuse in relation to investment recommendations disseminated through social media. In the communication, the European Authority clarifies that the aforementioned Regulation imposes high levels of transparency and clarity in the financial communications made, to raise the level of investor protection and, by doing so, preserve the integrity of the markets. In this regard, ESMA makes it known that those who disseminate investment recommendations via social media must ensure the objectivity of their communications and disclose any conflicts of interest. Failure to comply with the

120 The Retail Investment Strategy standards package is available at https://finance.ec.europa.eu/publications/retail-investment-strategy_en.

121 In this respect, «marketing communications should be clear, fair, and not misleading, regardless of the channel through which they are distributed and whether performed directly by the investment firms or indirectly, for example via financial influencers or 'finfluencers'». EUROPEAN COMMISSION, *Questions and answers on the Retail Investment Package*, 24 May 2023, in https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_2869.

122 The draft directive stipulates that any marketing activities involving, for instance, the participation of influencers or the promotion of free events by investment firms fall under the direct responsibility of the latter. Therefore, information disclosed by fin-influencers concerning a company with which sponsorship agreements have been concluded will be equated with genuine marketing communications. See for a more detailed discussion the page of the European Commission's Retail Investment Strategy website, available at https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_2869.

123 The European Commission has also recently activated an Influencer Legal Hub, aimed at all categories of influencers, containing: video training courses, legal briefs, European legislation, cases decided by the Court of Justice of the European Union, links to national consumer protection authorities and a library of resources developed in cooperation with academic experts. Through this hub, influencers can easily consult relevant legislation. For further details, see EUROPEAN COMMISSION, *Daily News of 17/10/2023* and the institutional website of the European Commission at https://commission.europa.eu/live-work-travel-eu/consumer-rights-and-complaints/influencer-legal-hub_en.

provisions of the Market Abuse Regulation exposes the offender to fines and other possible actions by the competent national authorities¹²⁴.

In recent years, several national Authorities in Europe acted in this field.

In Spain, Royal Decree-Law 5 of 12 March 2021 introduced Article 240a into the Ley del Mercado de Valores (LMV) to strengthen the legal framework for the protection of citizens and investors regarding the advertising of new digital financial instruments. More specifically, the aforementioned article gives the Comisión Nacional del Mercado de Valores (CNMV) the power to subject the advertising of crypto-assets and other assets and instruments that are not regulated in the LMV and are offered as investment propositions to administrative control¹²⁵.

In application of the aforementioned regulatory provisions, on 17 January 2022 the Spanish Authority issued 'Circular 1/2022'. The aim of the circular is to regulate the way in which advertising activities involving crypto assets are carried out, so that campaigns are transparent and not misleading. In this regard, Circular introduces specific requirements, clearly outlining the responsibilities of crypto-asset service providers and advertising service providers¹²⁶.

The CNVM also announced, in a further communication of October 2022, that it had identified several fin-influencers whose advertising activities might not be in line with the regulations in force. In the communication, the Authority made it clear that it intends to contact these fin-influencers to ask them for some clarifications on their activities, with the aim of ensuring that investment recommendations are presented in a transparent and objective manner, highlighting possible conflicts of interest¹²⁷.

In France, the Autorité des Marchés Financiers (AMF) and the Autorité de Régulation Professionnelle de la Publicité (ARPP) have jointly organised a specific training module for influencers operating in the financial sector aimed at obtaining the «Re-

124 ESMA, *ESMA's Statement on Investment Recommendations on Social Media*, 70-154-2780, 28 October 2021, at https://www.esma.europa.eu/sites/default/files/library/esma70-154-2780_esmas_statement_on_investment_recommendations_on_social_media.pdf, 2021d.

125 Boletín Oficial Del Estado, I. Disposiciones Generales, 666, num. 14, Sec. I, p. 4106, 17 January 2022.

126 The circular emphasises the need to regulate the advertising of crypto-assets in order to protect investors, particularly retail investors, from the risks associated with the volatility, complexity and potential lack of liquidity of this type of asset.

The Circular requires that advertising messages be accompanied by specific risk warnings. Large-scale advertising campaigns (aimed at more than 100,000 savers), then, must be communicated in advance to the CNMV; advertising campaigns that are not large-scale are nevertheless subject to the supervision of the CNMV, although no prior communication is required. Finally, the annexes to the Circular contain the general principles and criteria with which advertising must comply, as well as the minimum content of information on the nature and risks to be provided to potential investors in crypto-assets. For further details see Boletín Oficial Del Estado, I. Disposiciones Generales, 666, num. 14, Sec. I, p. 4106 and CNVM, *Nueva circular de la CNVM de publicidad sobre criptoactivos presentados como objeto de inversión*, 17 January 2022, in <https://www.cnmsi.vedaes/webservices/verdocumento/ver?t=%7b67a4f7e8-49b7-42ec-8328-f8f4b2004cd8%7d>, 2022a.

127 For further details see CNVM, *Nota de prensa: «la CNMV detecta algunos influencers que podrían estar difundiendo recomendaciones de inversión sin cumplir íntegramente con la normativa»*, 24 October 2022, in <https://www.cnmsi.vedaes/portal/verDoc.axd?t=%7Bd6e36d88-f319-4671-e98ca-fa8f1cecc112%7D>, 2022b.

sponsible Influence Certificate in Finance»; the aim of the module is to help professionalise the activity of fin-influencers and subject it to specific regulation. The ARPP then monitors the work of certified content creators on an ongoing basis and may revoke the certification obtained in the event of non-compliance with regulatory provisions¹²⁸.

Other supervisory authorities are carrying out specific information activities for small investors. The German authority BaFin, for example, has published a short guide for small investors on its institutional website, in which it points out that one can come across self-styled experts on social networks who, despite lacking the necessary knowledge and expertise, nonetheless dispense advice on financial topics¹²⁹.

In Italy, CONSOB has progressively intensified its supervisory activities about research disseminated through websites, chats, forums and social media¹³⁰ and has participated in a specific survey carried out by ESMA¹³¹.

The Italian Authority has also set up targeted financial education activities and has provided for a section of its website – called 'Occhio alle truffe'¹³² – which contains a series of information aimed at raising savers' awareness and ability to recognise and escape abusive initiatives, which are often also fraudulent activities¹³³.

The matter has also recently been affected by a few legislative measures, such as Article 7-octies, para 1-bis of Testo Unico della Finanza ('Tuf') and Article 36, para 2-quaterdecies of Law No. 58 of 2019, so that CONSOB may respectively prohibit and order to remove advertising on the Internet or carried on through any other means of

128 In more detail, the module covers: investment products (such as shares, bonds, ETFs, funds, derivatives); the types of services offered (investment advice, portfolio management, reception and transmission of orders); trading and investment recommendations; how to verify authorisations to operate; and the salient aspects of crypto-assets, digital asset service providers (DASPs), and other types of assets (investments in tangible assets such as forests, wine, etc.) or crowdfunding. In the form, the two authorities also clarify which rules must be observed when communicating an investment offer, specifying for which products and services advertising is not allowed (such as, for example, contracts with a high risk of loss – such as binary options and certain CFDs on Forex).

The certificate can be obtained, in addition to the general certificate, by passing a specific test. For further details, see AMF, *The AMF and the ARPP launch the Responsible Influence Certificate in Finance*, 2023.

129 BaFin, in particular, offers some advice, including: inquire about the most common scams on social media; check the background and experience of the fin-influencer; do not give too much credence to high approval ratings, as they can be easily faked; investigate the risks of the suggested product, especially if the promised returns are high; and be wary of requests for immediate action, as they are often aimed at making rash investment decisions. BAFIN, *op. cit.*, 2023.

130 In this regard, in the course of 2022 the Authority carried out «an analysis on 28 innovative dissemination channels, with the aim of verifying the disclosure of information and evaluations for which the relative contents could constitute investment recommendations; the monitoring focused on websites and forums characterised by more critical profiles of fair presentation and disclosure of conflicts of interest and possible cases of market abuse». CONSOB, *Annual Report 2022*, 2023, p. 23.

131 This reconnaissance was aimed at «encouraging the sharing of supervisory and enforcement experiences and practices on the ways and means by which national authorities carry out surveillance activities on social media and other online channels, with reference both to investment recommendations and to the detection of possible market abuse». CONSOB, *op. cit.*, p. 23.

Cooperation with other European authorities is considered by the Italian authority «fundamental for supervisory interventions concerning abusive activities of an international nature». CONSOB, furthermore, cooperates with similar foreign authorities in relation to cases that are more widespread in the area of digital finance. CONSOB, *op. cit.*, p. 59.

132 <https://consob.it/web/area-pubblica/occhio-alle-truffe>.

133 CONSOB, *op. cit.*, p. 59.

communication, including telematic or telecommunication networks, when directly or indirectly related to investment services and activities provided by unauthorized persons.

Multiple actions are also underway outside the EU. In December 2022, the SEC charged eight fin-influencers with fraud and stock market manipulation on Twitter and Discord¹³⁴ for encouraging their followers to buy certain securities: the SEC found that the fin-influencers had first purchased the securities they had recommended and then sold them with huge gains once prices had risen thanks also to their advertising¹³⁵.

134 Discord is an online communication platform, initially designed to facilitate communication between gamers. Over time, Discord has gradually expanded the functionalities it offers and today it is a full-fledged social network. For further details see <https://support.discord.com/hc/it/articles/360045138571-Discord-Guida-per-iniziare>.

135 According to the head of the SEC Enforcement Division's Market Abuse Unit, 'the defendants used social media to amass a large following of novice investors and then took advantage of their followers by repeatedly feeding them a steady diet of misinformation, which resulted in fraudulent profits of approximately 100 million US dollars'. SEC, *Charges Eight Social Media Influencers in \$100 Million Stock Manipulation Scheme Promoted on Discord and Twitter*, in <https://www.sec.gov/news/press-release/2022-221>, 2022b.

The age of game and behavioural finance studies

(C. Brescia Morra)

CHAPTER 2

1 Gathering and spreading information in the era of apps and social forums

As Alessandro Baricco reminds us¹³⁶ in his book that tries to interpret the invasion of technology in our lives: «I'll put it brutally: for historical and Darwinian reasons, from a certain point onwards (from the iPhone onwards, if I had to guess a date), anything that didn't have the genetic heritage of video games in its DNA...has a serious chance of survival». Baricco then recalls the main characteristics of the video game: a pleasant design, a structure based on an elementary problem-solving scheme repeated several times, a progressive increase in the difficulty of the game, immediate fruition, a reassuring display of the score every few steps¹³⁷.

The GameStop case is similar to the Baricco scenario, not only because of its name, but also because of the dynamics of the facts and the behaviour of the protagonists in this financial affair. GameStop is immersed in a game dimension with which the big Silicon Valley companies have reorganised their interpersonal relations. This gaming dimension has been created by the strategic remodelling of computer programmes, by the use of apps, i.e. programmes that are much more 'pop' than Word and the offspring of video games, not born for computers and easily accessible through an icon on our mobile phone, now an extension of our arm.

As mentioned in Section 4 of Chapter 1, the resounding rise in the share price of GameStop, a struggling video game retailer with over 4,000 stores across America, from a few dollars in early 2020 to a peak of over 350 US dollars on 27 January, sounds like a video game scenario: the company, valued at less than 200 million US dollars in January, was worth 24 billion US dollars in April 2020. The story begins in the real world: in August 2020, Ryan Cohen, the former head of Chewy, an online pet food retailer, began accumulating a significant number of shares in the GameStop company. In November, Cohen began actively studying the company's business strategy and wrote to GameStop's board of directors, urging them to invest in e-commerce. The managers appreciated his suggestions and offered him a seat on the board. Investors also liked his activism. By 11 January 2021, his first day on the board, his 12.9% stake in the company had doubled in value.

136 A. BARICCO, *The Game*, Einaudi - La Repubblica, Rome, 2018.

137 *Ibid*, p. 150.

The rest of the story, which turned Cohen into an overnight billionaire, took place on social media: the rushing to buy by users of *r/wallstreetbets*, a forum on Reddit, a platform that has more than nine million followers. The huge growth of GameStop's stock began in January 2021 and came about thanks to amateur investors who organised themselves on Reddit with memes, emoji, live streams on the streaming platform Discord and with an attitude more akin to that of Internet trolls than that of financial investors. In these online forums, people identify themselves as 'monkeys', 'apes' or 'degenerates', showing awareness of their lack of financial expertise. The use of memes for interaction also reinforces the idea that users are looking for entertainment rather than a discussion of the financial-technical aspects that influence betting on the value of a security. Despite the memes and general troll attitude, many observers agree that sophisticated financial analysis is often circulated on *r/wallstreetbets*, and many non-professional investors have begun to use the forum to get advice and share impressions.

It is difficult to analyse the reasons for this rush to invest, but we will try to do so in the next section with the help of behavioural finance studies.

However, two facts help to understand the sudden rise in GameStop's share price. First, the year in which the facts occurred. It was the end of 2020 and the first months of 2021. As two economists have pointed out, access to the app and the intensity of discussions on Reddit can also be explained in the light of the COVID-19 pandemic, which forced many people to stay at home in all countries, including the US. People used these channels to keep in touch with the rest of the world. Second, another component of the events linked to the rise in stocks was the use of a free-trading app: commission-free apps, such as Robinhood, which provided easy access to traditional financial market platforms to numerous 'first-time traders', most of them in their 20s and 30s¹³⁸. Robinhood was created in 2013 by two Stanford graduates, Vladimir Tenev and Baiju Bhatt: the two decided to create an app capable of changing the financial markets after witnessing the Occupy Wall Street protests in 2011. Robinhood was the first platform to cancel commissions for buying and selling shares, normally expected when accessing the financial markets with an order to a broker. The app is particularly attractive for young people, who do not have much liquidity for investments, as there is no minimum deposit required to use it; moreover, one can also buy fractions of shares and thus make very small transactions, from a few dollars.

The US app Robinhood is the most popular of the financial services, but according to the Wall Street Journal, 10 million new brokerage accounts were opened in 2020, and non-professional investors now generate a quarter of all trades on the US financial market, thanks in part to new apps that make it very easy to trade on the stock exchange, such as Robinhood.

The facts just described recall an anecdote told by Barricco in his book 'The Game' about how Obama's use of the digital world can explain his presidential victory

138 S. KERCKHOVEN and S. O'DUBHAILL, *Gamestop: How online 'degenerates' took on hedge funds*, in *Exchanges* 2021 8(3), in *Game Stop: How online 'Degenerates' Took on Gamestop* by Sven Van Kerckhoven, Sean O'Dubhghaill, 2021, pp. 45-54.

on 4 November 2008. «At the heart of it all was his website: MYBO. In a short time, Obama built something that was not a party, not a campaign, not even an organisation, but a huge community of people who shared a dream: that of Obama becoming president of the United States. These people had very simple tools to find each other, to recognise each other, to exchange information. There were 20,000 groups on the site: you chose one you liked (from tango dancers to single mothers and so on) and you joined a small community of people like yourself. If you wanted to help out, the site gave you lists of voters who lived in your area [...] There was also a section dedicated to fundraising: [...] you basically became a fundraiser for the Obama campaign, set a goal, say 10,000 US dollars, and then started hammering friends and acquaintances. An aesthetic drawing of a thermometer would indicate how far along you were in your mission, just like in a video game». The inventor of all this was Chris Hughes, one of the four founders of Facebook. In this example, the digital world merely provided the tools, leaving Obama to choose the content, in the tradition of the Democratic Party.

The game, then, is not made of ideas, but of tools. Certainly, however, digital tools have put very powerful engines into bodies that are not solid enough to control them¹³⁹, as the discussions on Reddit and the avalanche of share purchases on Robinhood in the GameStop case show. Certainly, one could argue that we are witnessing signs of democratisation of a sector that is very difficult to access and has always been dominated by specialists. Unfortunately, this mechanism could also lead to serious damage to individual investors, who may lose their money, and to a loss of confidence in the fair functioning of financial markets, as outlined in section 3 of Chapter 1 and further explored in sections 3 and 4 below. The crucial point in assessing these innovations as positive or negative for the economy and for the social welfare objectives – that traditional financial market literature assigns to public regulation of financial markets¹⁴⁰ – concerns the quality and reliability of the information that circulates on social networks leading people to click buttons on an app, such as Robinhood.

In order to understand how tools are mechanisms capable of quickly passing on information that is easy to distort, it is useful to recall another example from Baricco's book. It is the story of the book by Valérie Trierweiler, Hollande's partner when he was the president of the French Republic in 2014. In this book the author reveals details of their separation. An independent bookshop in Brittany, in the days of the announcement of the book's publication, put up a poster saying: «We do not have Trierweiler's book», with an emoticon of a smiley face, and spread it on its webpage. In a few days, many other booksellers followed on social media, writing messages such as «We don't have Trierweiler's book... on the other hand, we have Balzac, Proust, etc.» making it clear that they did not want to sell a book of gossip. In short, from an advertisement with a 'smiley face' came a revolt of small independent shops against large retailers, such as Amazon, who sold the book. When a journalist interviewed the first bookseller, who had started the revolt, he discovered that the latter had only written an advertisement on social media because he didn't have the book, and he wanted to

139 A. BARICCO, *The Game*, cit., pp. 216-217.

140 The literature is vast: see for all R. COSTI, L. ENRIQUES, *Il mercato mobiliare*, Cedam, Padua, 2004, pp. 1-5.

reply to the many customers who asked him for it; he would have liked to sell the book if it had been available.

Digital tools, apps and social forums, such as r/wallstreetbets on Reddit, make it possible to mobilise large numbers of people and promote collective action with great impact in the real world, thanks to the appealing design of the apps, the ease of access via mobile phones and the playful component, i.e. the game, that attracts people's attention. The content or objective of the game may or may not be relevant to participation in the game.

This last consideration leads us to reflect on the possible distortions created by Game, which in itself, like television, or other technological innovations is a neutral tool. One question seems crucial: if social media tells stories that often have little to do with facts, how can the proper functioning of financial markets be reconciled with social media life, which is becoming increasingly popular among young and old?

2 When social forums are used by a company with market power

The use of social forums by a company with market power amplifies the problem of possible distortions in the proper functioning of markets. Such a problem is created by the connection between equity investments and social media, highlighted in the GameStop case. An important example in this regard is the Elon Musk - Twitter affair, which took place in 2022. It is no coincidence that the Economist (23 April 2022) noted on the entrepreneur's purchase of the social media as a 'GameStop for gazillionaires'. «Like last year's craze for the American game's retailer ('Gamestonk!!' as Mr Musk called it), he promotes the idea that the normal rules of investment do not apply. He paints stewards of fair play-regulators and boards-as pettifogging enemies of progress. And he idealises surreal narratives over economic facts. Such mischief-making has mostly been confined to the fringes of finance. In his pursuit of Twitter, Mr Musk is taking it into the mainstream». The article illustrated how Musk presented himself as the saviour of free speech, while the facts proved him wrong. Before Musk revealed a stake equal to more than 9% of Twitter's capital on 4 April 2022, the social media platform did not have high advertising revenues. After Musk's 'revelations', options trading increased, as did discussions on Twitter and on forums such as Reddit's WallStreetBets. The Economist remarked «it might just be harmless fun, but it's not». In an age where fortunes are made and lost through 'storytelling' on forums such as Twitter - which today, after the successful takeover is called X - the idea that Musk controls one of the world's most powerful media is scary. Musk is certainly no uninformed follower; in fact, he is well aware of the power of the platform. When Musk bought Twitter, it had 82.6 million followers, many of whom had helped amplify Musk's tweets promoting Tesla, making the social media a powerful marketing tool for the company.

Musk's lack of sensitivity to the rules of transparency and fairness was already evident when the SEC fined him 40 million US dollars for a tweet that spread unreliable news about the future of his electric car company. His tactics clearly disregard the fact that markets need reliable information to function properly. Fuelling the guessing game about his intentions, Musk tweeted a quote to Elvis Presley's 'Love Me Tender', implying - at least to those with meme-like intuition - that he might attempt to launch a public offering to all shareholders.

3 What behavioural economics tells us about how to interpret these phenomena, when they have to do with consumption or investment choices

3.1 Class struggle, speculative intent and collective action

Some very active people on the *r/wallstreetbets* forum pointed to Mr Cohen's management involvement as one of the main reasons for betting that GameStop's share price would rise. This is a traditional strategy of the rational investor in a well-functioning market, useful for disciplining management. An example is what Mr. Cohen did as a one of GameStop's small shareholders. He wrote to the board of directors urging them to invest in e-commerce and the board offered him a director's position. The value of his investment increased, according to the traditional theory that the share value of a better-managed company can rise, especially if the market notices this positive change.

Despite this, many users on the forum urged people to invest in the company's shares in an attempt to attack the mainstream investors who were downgrading the company's stock. GameStop had become the target of short sellers, who borrow shares, sell them and then buy them back, ideally at a cheaper price. These seemed to fuel a kind of 'class warfare': small investors ('common people') against big speculators, small against the establishment, regardless of profit motives. As an illustration of this approach, at the time of the GameStop battle, a post on Reddit had become very famous: «GME Squeeze and the demise of Melvin Capital»,¹⁴¹ where it was clear that the battle had been planned to 'take down' Melvin Capital, a very active hedge fund. In addition, a video that has gone viral and galvanised many investors on Reddit features Keith Gill, a financial analyst whose username on Reddit is DeepFuckingValue, who in a hearing of the House Committee on Financial Services of the US Congress entitled: «Game Stopped? Who wins and who loses when short sellers, social media and retail investors collide?» talked about the difficulties for a young man to find a job in 2009, the year he graduated from university, precisely because of the financial crisis that he blamed in large part on the speculation that short sellers had given rise to.¹⁴² In this hearing Gill strongly emphasised the contrast between the 'public debate' that takes place on forums such as Reddit and the 'technical' discussions among a few expert 'insiders'.

141 S. KECKHOVEN, S. O'DUBHGHAILL, *op. cit.*, p. 48.

142 *Ibid.*, p. 49.

But did the retail investors want the speculators to lose money or did they themselves make a speculative argument? Whatever the reason was that drove GameStop's supporters, ex post it turned out to be a winning strategy. The use of social media made it possible to overcome even the traditional collective action problem.

The GameStop case demonstrated that social media had a driving force capable of overcoming an obstacle that normally makes a strategy of multiple investors. This strategy is usually aimed at driving up the price of a stock. For such an action to be successful, it is necessary for the buyers of the securities to have the ability to buy – in order to drive the price up – but also to hold the securities in their portfolios long enough to see speculators lose money on the downside. The traditional literature on the individualistic rationality tells us that when the price of a security rises, buyers have an incentive to sell in order to capture the gain. Keeping stocks whose price has risen more than 20 times the purchase price in one's portfolio for a long time does not correspond to how a rational investor would behave. Memes favoured this collective action, and it is not by chance that the followers on Reddit have been called an 'army' because they did not follow the behaviour of a rational individual, but achieved collective action, even in the absence of a hierarchical order¹⁴³.

3.2 Cognitive biases in the age of social

The rational expectations paradigm of investors was challenged long before the advent of apps and social media by behavioural economics studies. The pioneers of this literature, Kahneman and Tversky¹⁴⁴ identified a series of 'cognitive traps' that condition the decision-making strategies of individuals. Biases may generate systematic errors that steer them away from behaviour inspired solely by the principle of utility maximisation – with which traditional economic literature explains the functioning of markets.

Reading Francesco Vella's book on 'Law and Behavioural Economics', which analyses the debate from a legal perspective, helps us to interpret the GameStop case in the light of the main findings of this literature¹⁴⁵. Vella's book contains a detailed examination of cognitive traps, also referred to as 'heuristics', i.e. 'mental shortcuts' that make people not evaluate all possible options and, in many cases, can result in cognitive biases.¹⁴⁶ Amongst these, the 'availability heuristic' seems to us to be particularly apt to explain the behaviour of the users of the Reddit forum r/wallstreetbet. This cognitive trap occurs when a judgement is made on 'readily available information'. For example, Gerd Gigerenzer¹⁴⁷ noted that after the tragic events of 11 September

143 R. HART, *The Silver Squeeze: Redditors Divided and Silver Value Soars As Online Traders Switch Focus To Commodities*, in *Forbes* 1 February 2021.

144 D. KAHNEMAN, *Thinking, Fast and Slow*, London, Penguin, 2011, translated *pensieri lenti e veloci*, Milan, Mondadori, 2012.

145 For a rich and structured analysis of these studies F. VELLA, *Diritto ed economia comportamentale*, Il Mulino, Bologna, 2023.

146 F. VELLA, *op. cit.*, p. 28 ff.

147 G. GIGERENZER, *Gut feelings. The intelligence of the Unconscious*, New York, Penguin, 2007. Translation *Intuitive Decisions. When choosing without thinking too much*, Milan, Cortina, 2009.

2001, for a certain period of time many American citizens, frightened by the images of plane crashes, abandoned the use of what is considered one of the safest means of travel in the world. Another example is the overestimation of negative health conditions affecting people who had been vaccinated against COVID-19, when in reality these were statistically insignificant cases¹⁴⁸. An aspect much studied by those who have dealt with behavioural economics, and which certainly characterises the GameStop case, is 'behavioural contagion'. On the one hand, group decisions can compensate for the individual's limited cognitive resources in deciding complex problems¹⁴⁹. On the other hand, they run the risk of exposing the individual to systematic errors such as 'groupthink', where group pressure inhibits individual expression and favours uncritical positions, and the 'information cascade' - where gregarious attitudes emerge (herd behaviour) - or even the tyranny of the average¹⁵⁰.

Studies in behavioural economics make us reflect on how the use of social media can induce choices that rely on emotional and emulative components. Some behavioural papers, with the help of neurological science's research¹⁵¹, have particularly focused on the emotional component in investment choices. These studies demonstrate the importance that these cognitive elaboration processes also have in explaining investors' behaviour¹⁵². These feelings are influenced by the dissemination of information in traditional media and, even more so, in social media¹⁵³.

The theories presented in this section¹⁵⁴ reinforces the doubts, already raised by behavioural economics studies, about the robustness of the idea of the efficient market hypothesis (EMH)¹⁵⁵ underlying the functioning of modern financial markets¹⁵⁶.

In light of this briefly summarised literature, it does not seem easy to answer the question: is the price of securities traded in the financial markets suitable for making a judgement on the value of investments/financial products in the age of apps and social media? Investor protection regulation has always been based on the idea that

148 These behaviours can also be read as decisions based on statements of opinion, rather than statements of facts, as pointed out by P. LUCANTONI, *Capital market, pandemic and market information: the debate on the evolution of market abuse regulation*, in Banca Borsa e tit. cred., no. 4 2022, p. 578.

149 D. MALAGUTI, *Fare squadra. Psychology of work groups*, Bologna, 2018; F. Vella, op. cit., p. 539.

150 M. SYED, *Rebel Ideas. The Power of Diverse Thinking*, Edinburgh, John Murray, 2019.

151 An analysis of the role of 'emotions' in investment choices in the light of the main scientific literature can be found in G. LIACE, *Observatory - The irrational investor*, in Banca, borsa e tit. cred., 2020, pp. 966 ff. The point is also explored in depth in U. Morera, Judging economic relationships. cognitive profiles, in AGE, 2018, 2, pp. 525 ff.; R. MANNINO, *La tutela dell'investitore retail, tra 'spinte gentili', strumenti di public enforcement e rimedi civilistici. Una realtà in continuo divenire*, in Giust. Cisi see, 1, 2023, pp. 105 ff.; M. COSSU, *Dalle scelte di investimento dei Post-Millennials*, in Risi see delle Soc., 5-6, 2021, pp. 1253 ff

152 P. LEGRENZI, *Psicologia e Investimenti Finanziari: come la Finanza Comportamentale*, LaFeltrinelli, Milano, 2006.

153 P.C. TETLOCK, *Giving Content to Investor Sentiment: The Role of Media in the StockMarket*, in Journal of Finance, 2007, 62 (3), pp. 1139 ff.

154 Statements on social can be called statements of opinion, rather than statements of facts, as pointed out by P. LUCANTONI, *Capital market, pandemic and market information cit.*, pp. 578.

155 E.F. FAMA, *Efficient Capital Markets: A Review of Theory and Empirical Work*, in Journal of Finance, 1970, 25, pp. 383 ff.

156 P. LUCANTONI, *Capital Market*, cit., p. 579 with reference to the Gamestop case, writes of technology as 'an instrument of 'holocracy' and certainly not of democracy in the financial markets', where holocracy is understood as the political supremacy of the masses, who assert their demands through street protests and impose them on legitimate power and the law itself.

investors may lack the information necessary to make risk-aware investments, and has built protections around the assumption of the 'unsophisticated' investor. The GameStop case shows us that even this conceptual category cannot explain behaviours that are the result of a cognitive process. In other words, the current regulatory framework does not take into account the saver who is swept up in the 'emotions' that run through social media.

In the following sections, we look in more detail at the remedies provided by the current legal framework to protect investors, and we highlight possible changes to strengthen these legal protections in the world of social media.

Gamification and trading: market integrity protection profiles and remedies for retail investors

(G. Sandrelli)

1 Gamification and trading: reasons for regulatory attention

Previously (and particularly in Chapter 1, section 2), a description was provided of the 'digital engagement' practices most commonly used in the context of the gamification of financial investments. Attention was also given (as noted in paragraph 7 of the preceding Chapter 1) to the proliferation of so-called fin-influencers, the appeal they hold for retail investors, and the importance of their role in the circulation of financial information and 'trading ideas'.

Indeed, operators configure virtual trading platforms to host comments and reactions from clients who wish to share their trading experiences and initiatives with other investors. This occurs in an apparently 'disintermediated' context through the use of tools typical of social networking, where the investor gains the impression of interacting with other users outside the traditional bilateral relationship with a financial intermediary¹⁵⁷.

This interactivity, on the one hand, has encouraged an unprecedented coordination among non-professional investors in investment initiatives on individual securities that have become the target of activist campaigns (the so-called meme stocks: the cases of GameStop – already discussed – AMC, and Hertz were sensational but not isolated)¹⁵⁸; on the other hand, it has fostered the emergence of leaders, i.e., traders

157 Fin-influencers, in addition to operating on 'generalist' social media, have also arrived on the platforms where trading thrives; to the point that, today, it seems almost imprecise to refer to a 'fin-influencer category' in a uniform manner: it has come to include celebrities from the world of business and entertainment (i.e., 'true' influencers), as well as less known (not always professional) traders who have nevertheless gained a reputation among large groups of small investor followers. On the different categories of fin-influencers, see especially, in the legal literature, N. AGGARWAL-D.B. VALDOVINOS-C. ODINET, *#Fintok and Financial Regulation*, in 54 *Ariz. St. LJ*, p. 333 and ff.

See Chapter 1 for an analysis of supervisory (and, in limited cases, regulatory) interventions on the topic of disseminating opinions and investment recommendations on social networks and trading platforms, as well as for references to the European Commission's initiative on the issues under examination within the so-called Retail Investment Strategy. In this regard, the preparatory document from ESMA (the Final report cited in nt. 6) dedicated a specific analysis to the challenges of digitalization, gamification, and the promotion of financial products online, including through social media and fin-influencers. The Commission's proposals that stemmed from this process, embodied in the draft Directive of the European Parliament and of the Council amending Directives 2009/65/EC, 2009/138/EC, 2011/61/EU, 2014/65/EU and (EU) 2016/97 as regards Union rules to protect retail investors, COM(2023) 279 final (the so-called 'Omnibus Directive'), do not contain a comprehensive regulation of the phenomenon in question, offering targeted interventions concerning product governance rules and the accountability of distributors who use fin-influencers for marketing financial instruments. These aspects will be revisited later in this Chapter (see in particular the subsequent section 4.2). For a commentary on the measures contained in the Retail Investment Strategy, see F. ANNUNZIATA, *Retail Investment Strategy. How to boost retail investors' participation in financial markets*, Policy Department for Economic, Scientific and Quality of Life Policies, Directorate-General for Internal Policies, PE 740.090, June 2023.

158 On coordination, see e.g. J.J. SCHULP, *GameStop and the Rise of Retail Trading*, in 41 *Cato J.*, 2022, pp. 514 s.; CHIU-M.A. YAHYA, *The Meme Stock Paradox*, in 3 *Corp. & Bus. L.J.*, 2022, pp. 64 and ff. and *passim*; C.N. GRIFFIN, *Extrinsic Value*, in

around whom a consensus of follower-investors coalesces, who favour following their fin-influencers over traditional information and advisory channels. In part, the interaction between leaders and followers pertains only to the informational and imitative dimension: the public follows the inputs from influential investors and imitates their trading activity. In part, this interaction becomes part of an intermediated service: the trading platform operators themselves offer their clients the ability to replicate, in their investment portfolios, the operations of their preferred traders.

These phenomena have systemic repercussions. On the one hand, the prices of listed financial instruments are now determined by a broader set of variables than those considered in conventional 'fundamental' and 'technical' analyses, encompassing not only ESG concerns but also general social or even aesthetic or emotional motivations. On the other hand, non-professional trading coalesces into 'hypes', whose market impact is such as to cast doubt on the traditional axiom of the irrelevance of so-called noise trading in price formation mechanisms¹⁵⁹.

With respect to the European system of financial market rules, there are two points of focus for this chapter. The first, at a 'macro' level, concerns market integrity: the new trading dynamics based on the 'influence' of individual investors appear particularly exposed to forms of manipulation, often in novel forms that are not easily classifiable within the established categories of remedies for protecting market integrity. The second signal relates to the 'micro' level of individual retail investor protection: the protective instruments, rooted in the regulation of investment services, appear to be concentrated on a traditional and bilateral intermediary-client model, whereas retail investment choices now stem from multilateral interactions on the very portals managed by the brokers¹⁶⁰.

In investigating both aspects from a European law perspective, we will focus on two interconnected phenomena that represent a 'hallmark' of the evolution described above: i) the dissemination of opinions, investment recommendations, and trading ideas on portals dedicated to financial information, sometimes linked to trading platforms, and ii) the imitation of others' investments through the so-called copy trading 'service'.

Regarding the first aspect, as already mentioned in Chapter 1, section 7, the spread of fin-influencers poses a challenge to the regulation of information in the financial market and to the protection of retail investors. Indeed, beyond the application of the prohibition on market manipulation in the most severe cases, the ordinary interaction of these individuals with users online is not easily brought within the frameworks of investment services regulation, while the rules of conduct protecting market

75 *Ala. L.Rev.*, 2023, pp. 423 and ff.; J.E. FISCH, *GameStop and the Reemergence of the Retail Investor*, in 102 *B.U. L. Resi veda*, 2022, pp. 1803 and ff., S. GUAN, *Meme Investors and Retail Risk*, in 63 *B. C. L. Resi veda*, 2022, pp. 2061 and ff. and *passim*.

159 On these systemic repercussions, see *infra*, par 2.

160 The next chapter, in contrast, will address further retail investor protection profiles, which pertain to the relationship with the digital platforms where they concentrate their trading activity.

integrity (for example, on investment recommendations) prove, in our view, inadequate to meet protection needs.

As for copy trading, it is a product of the aforementioned 'influence' mechanisms: users receive a 'signal' on their account from their preferred traders and have the opportunity to replicate their operations by issuing a simple order to the intermediary managing the portal. If one considers that trading signals can be presented to the client according to algorithmic profiling mechanisms, a twofold question arises regarding the configuration of an investment service provided either by the 'copied' trader to the user, or by the financial intermediary managing the virtual exchange venues.

As we will see in the remainder of this chapter, the phenomena in question prompt a re-examination of the regulatory strategies used in financial market regulation, as well as their overall balance. If market abuse enforcement tools, by their nature, can only serve as a sanctioning measure of *extrema ratio*, it is not certain, on the other hand, that protective tools based on the bilateral contractual relationship (as is the case for investment services and especially for advisory) still retain sufficient effectiveness to justify their pre-eminence in our regulatory system. The question then arises – and it is what we will do in this chapter – whether priority should not now be given to adopting safeguards that operate *ex ante*, by identifying the target clients to whom investment opportunities are offered, differentiating according to the techniques with which the client interacts (or is induced to interact) with the intermediary and its platform. This implies product governance safeguards – following a path already opened by the second MiFID Directive – but also, in a new perspective, 'service' governance.

The remainder of this chapter is organized as follows. Section 2 discusses the systemic impacts of non-professional trading based on 'influence' mechanisms and provides a review of the literature on the subject. Section 3 reviews the regulation applicable to the fin-influencer phenomenon in the 'macro' sphere (market abuse regulation) and 'micro' sphere (protection of individual investors), and outlines some possible regulatory developments. Section 4 is dedicated to copy trading and, here too, a description of the service and its classification under current regulation is provided; finally, some hypotheses for intervention and regulation are outlined, taking into account the framework of the so-called European Retail Investment Strategy and the related proposal for the so-called Omnibus Directive.

2 Evolutionary trends in retail trading and systemic impact

According to a paradigm of traditional information theory in financial markets, non-professional investors are uninformed¹⁶¹: not only do they lack access to information on the so-called 'fundamentals' of issuers, but – unlike professional investors – information is not even the driving force behind their investment choices, which

161 For an illustration of this assumption, see M. FOX- L.R. GLOSTEN-G.SI VEDA RAUTERBERG, *The New Stock Market: Law, Economics, and Policy*, 2019, p. 62; S. GUAN, *Meme Investors*, *op. cit.*, p. 2060.

mostly depend on personal savings planning or speculative attitudes. As a consequence of this 'informational irrelevance', a traditional assumption postulates that the trading activity of retail investors has no effect on securities prices (hence the expression 'noise trading'); or, even if it did, the arbitrage of 'anti-noise traders' would neutralize it. It is therefore deduced that trades executed by small investors do not influence the price discovery process¹⁶².

There is a growing belief that the new dynamics of retail trading are profoundly altering these equilibria. A first factor is quantitative: it was mentioned in the introduction (and will be revisited in Chapter 4) that commission structures (including, thus far, payment-for-order-flow) that characterize the offerings on some online trading portals have made trading on these platforms almost free, thereby strongly encouraging access to trading by smaller and younger investors¹⁶³. Non-professional trading, therefore, has grown dimensionally, even outside the period of the pandemic.

A second, qualitative factor concerns the evolution of the motivations that guide the investment choices of retail investors. In the financial literature, models have been developed that describe the effects of the irruption of new traders into a market dominated by rational investors who decide based on 'fundamentals' and (still rational) short-term or very-short-term investors who operate based on technical analysis and arbitrage¹⁶⁴. A characteristic of these new traders is the tendency toward a polarization of investment choices, which increases the rigidity of their behaviours and amplifies their impact through dynamics typical of social networking.

Finance scholars talk of 'fanatical' leaders who 'obstinately' pursue investment choices that are sometimes irrational when examined by traditional evaluation parameters¹⁶⁵. The reference to 'fanaticism' – which suggests a connection with broader social phenomena (such as the polarization of opinions) – should not be read in a derogatory sense, but rather to indicate that the drivers of investment decisions are not limited to the economic prospects of the issuers considered (the traditional 'cash flow analysis'), but embrace politics, social protest, as well as emotional and even aesthetic motivations (scholars have been referring to this trend as 'expressive trading')¹⁶⁶. When, then, the market is reached by information that, based on criteria of

162 FOX- L.R. GLOSTEN-G. RAUTERBERG, *op. cit.*, p. 88.

163 For a description of these models, see, in the legal literature, A. FERREL, *A Proposal for Solving the 'Payment for Order Flow' Problem*, in 74 *S. Cal. L. Resi veda*, 2001, pp. 1027 and ff.; M. FOX and AA., *The New Stock Market: Sense and Non-sense*, in 65 *Duke L.J.*, 2015, pp. 261 and ff.; more recently, J.J. ANGEL, *GameStonk: What Happened and What to Do about It*, Georgetown McDonough School of Business Research Paper No. 3782195, 2021, pp. 34 and ff.; J. FALLOWS TIERNEY, *op. cit.*, pp. 384; D. AGGARWAL, A.H. CHOI, Y.A. LEE, *The Meme Stock Frenzy: Origins and Implications*, in 96 *S. Cal. L. Resi veda*, 2024, pp. 1387 and ff., also on https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4432824 (from where we cite), pp. 6 and ff. For empirical evidences, see, e.g., B. BARBER and AA., *Attention-Induced Trading, and Returns; Evidence from Robinhood Users*, in 77 *J. Fin.*, 2022, pp. 3141 and ff.; P.K. JAIN AND AA., *Application of gamification in the banking sector: A systematic review*, *Test & Engineering Management*, 2023, n. 83, pp. 1 and ff.

164 L.H. PEDERSEN, *op. cit.*, pp. 146 ss; I. GIANSTEFANI, L. LONGO, M. RICCABONI *The Echo Chamber Effect Resounds on Financial Markets: A Social Media Alert System for Meme Stocks*, 2022, in https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4053771, pp. 1 and ff.; T. RENAULT, *Market Manipulation and Suspicious Stock Recommendations on Social Media*, 2018, on https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3010850, pp. 1 and ff.

165 I. GIANSTEFANI, L. LONGO, M. RICCABONI, *op. cit.*, p. 4.

166 J.P. ANDERSON, J. KIDD, G.A. MOCSARY, *Social Media, Securities Markets, and the Phenomenon of Expressive Trading*, in 25 *Lewis & Clark L. Resi veda*, 2022, pp. 1232 and ff.; J. FISCH, *op. cit.*, pp. 1850 s. More generally on these trends, see C.N.

strict economic convenience, would suggest adopting choices different from those proclaimed by opinion leaders (for example, selling instead of continuing to buy), investors tend to stick to the latter. The empirical relevance of this phenomenon, in which imitation and coordination dynamics play a fundamental part¹⁶⁷, is confirmed by several studies¹⁶⁸.

Different value judgments can be expressed about this trend. Some view it benevolently and, while acknowledging the disruptive nature of the phenomenon, highlight its potentially 'disciplining' contribution in contrast to trading practices that increase the riskiness of financial markets, such as those carried out by hedge funds¹⁶⁹. Indeed, according to some, the growth of online trading would even be socially desirable, because it encourages the participation of small investors and contributes to their financial education¹⁷⁰, as well as their engagement with the governance of the issuers in which they invest, compensating for the passive role of index funds and funds that are 'universal shareholders'¹⁷¹.

On the other hand, there is the skeptical view of those who highlight the negative effects of the 'new' retail trading on price discovery processes, on the liquidity

GRIFFIN, *op. cit.*, *passim*. To be sure, fin-influencers do not base their opinions solely on cultural orientations or personal preferences, but often also on the economic return derived from promoting certain issuers, securities, brokers, or traders, or by considering choices that maximize their popularity: see on this point S. GUAN, *The Rise*, *cit.*, pp. 524 and ff.

167 In this regard, the importance of 'echo-chamber' effects, typical of social contexts and coordination among traders according to leader-follower dynamics, should be noted. See, in the legal literature, I. CHIU, *Social Disruptions in Securities Markets – What Regulatory Response Do We Need?*, in 28 *Rich. J. L. & Tech.*, 2021, pp. 3 and ff. and *passim*; S. GUAN, *Meme Investors*, *cit.*, pp. 2073 and ff.; and, in the economic literature, the authors cited in nt. 165. At the same time, it should be observed that investment services with higher added value (advice, portfolio management), which could lead to personalized investment choices not conditioned by imitative mechanisms, are less attractive to small investors and are therefore less 'frequented'. C. DIM, *Should Retail Investors Listen to Social Media Analysts? Evidence from Text-Implied Beliefs*, 2021, in https://www.efmaefm.org/OEFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2022-Rome/papers/EFMA%202022_stage-3032_question-Full%20Paper_id-32.pdf, pp. 1 and ff.; C. LONG-B.M. LUCEY-L. YAROVAYA, *op. loc. cit.*, pp. 1 and ff.; I. GIANSTEFANI, L. LONGO, M. RICCABONI, *op. cit.*, pp. 1 and ff.

168 See e.g. B. BARBER and AA., *op. cit.*, p. 3141 and ff. (using data collected on Robinhood), S. DUZ TAN, O. TAS, *Social Media Sentiment in International Stock Returns and Trading Activity*, in 22 *J. Behavi veda Fin.*, 2021, pp. 221 and ff. (analysing the predictive effect of sentiment on X-Twitter with respect to stock returns); R. JARROW, S. LI, *Media Trading Groups and Short Selling Manipulation*, 2021, disponibile su https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3804130, pp. 1 and ff. (for an analysis of the effects that opinions spread on chatrooms have on stock prices); H. CHEN AND AA., *Wisdom of Crowds: The Value of Stock Opinions Trasmitted Through Social Media*, in 27 *Resi veda Fin. Stud.*, 2014, pp. 1367 and ff. (who highlight the effects of posts published on Seeking Alpha with respect to stock prices); other references in S. GUAN, *The Rise*, *cit.*, pp. 519 and ff. It is interesting to observe that the effects of expressive trading on the prices of so-called meme stocks tend to be long-lasting (L.H. PEDERSEN, *op. cit.*, pp. 1097 and ff.).

169 J.P. ANDERSON, J. KIDD, G.A. MOCSARY, *op. cit.*, pp. 1239 ss This, with reference to the US market, is the provocation of J.R. MACEY, *op.cit.*, pp. 805 and ff.

170 M. LEE, *How Gamification Could Take Investor Experiences to a New Level*, 2019, disponibile su www.ey.com, and A. BARBARINO, SEC's Peirce on Crypto Ambitions, GameStop's Lessons, in *Law360*, 2021.

171 This is the model of citizen capitalism (S.A. GRAMITTO RICCI, C.M. SAUTTER, *Corporate Governance Gaming: The Collective Power of Retail Investors*, in 22 *N. L.J.*, 2021, pp. 51 and ff.; ID., *The Wireless Investors Movement*, in *Unis. Chi. Bus. L. Resi Blog*, 2022. Also J.E. FISCH, *op. cit.*, pp. 1831 and ff. emphasizes the «underrecognized value of retail investing».

of securities, and on the function of the capital market for the correct allocation of savings and investments¹⁷²; this is supported by some empirical evidence¹⁷³.

In any case, it would be an oversimplification to relegate the new forms of retail trading to the category of 'noise'. The 'noise' in traditional theory is contrasted with an investment decision based on information related to fundamentals. Today, the link between information, price, and fundamental values is in crisis. Expressive traders act in an informed manner (even if not according to the parameters of traditional financial analysis) and, in turn, generate information destined to be incorporated into prices¹⁷⁴. In short, it is reasonable to postulate that, thanks to the technological evolution affecting 'gamified' trading, the information paradigm in the markets is partially changing¹⁷⁵.

3 Fin-influencers and trading activity: state of the art

Turning now to the specific areas of investigation of this chapter, let us begin with the innovative forms through which, via the activity of financial influencers, information, opinions, and trading ideas are disseminated to the public through dedicated portals and platforms.

At a contractual level, there are the general conditions imposed by the operators of the 'venues' of dissemination; at a (special) legislative level, the rules protecting market integrity are in force, as well as those on the provision of investment services.

172 See, e.g., S. GUAN, *Meme Stock*, *op. loc. cit.*, pp. 2089 and ff., and J. F. TIERNEY, *op. cit.*, pp. 416 and ff., highlighting the greater volatility of the affected securities (especially meme stocks), the consequent effects of potential market exit by more informed operators, inefficient price formation, and an overall loss of confidence in the market, especially the stock market.

173 See, e.g., G.W. EATON and AA., *Retail Trader Sophistication and Stock Market Quality: Evidence From Brokerage Outages*, in 146 *J. Fin.*, 2022, pp. 502 (on the liquidity effects induced by imitative trading dynamics); P.K. JAIN and AA., *Trading Volume Shares and Market Quality: Pre- and Post-Zero Commission*, 2023, on https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3741470, pp. 1 and ff. highlighting a negative correlation between the elimination of trading commissions and the contribution of trades to efficient price formation); see also B.M. BARBER and AA., *op. cit.*, p. 3141 and ff. On the risks arising from 'PFOF' commission models, see Chapter 4. As to the risks for market integrity, given that 'gamified' traders are considered exposed to greater risks of manipulation, see K.J. PAUL, *Playing the Game: Hedge Funds, Brokerage Firms, and Social Media Influencers in the Context of SEC Rule 10b-5 Market Manipulation*, in 16 *Ohio St. Bus. L.J.*, 2021, pp. 37 and ff. (and see also, more generally on technological evolution and market manipulation, T.C.W. LIN, *The New Market Manipulation*, in 66 *Emory L.J.*, 2017, pp. 1253 and ff.). We will return to this point in the subsequent section 3.2.

174 It is not irrelevant to observe that the GameStop affair itself ended with a heavy retracement of the stock's price (and with huge losses for many investors, small and large); yet, those shares now trade at a price well above the levels preceding the events of January 2021; it can therefore be argued that the hype unleashed by the 'Redditors' has left an 'informational trace' destined to be incorporated into the long-term value of the company; alternatively (or in addition), the effect of the change in strategy impressed upon the company by its management, following pressure from small investors, must be considered.

175 J.P. ANDERSON, J. KIDD, G.A. MOCSARY, *op. cit.*, p. 1242; S. GUAN, *The Rise*, *cit.*, p. 519 and ff. For I. CHIU, *op. cit.*, pp. 68 and ff., «retail trading signals are attempts to correct unnaturally low prices fed into conventional financial analysis with which retail traders simply disagree». The same author correctly noted (pp. 72 s.) that an issuer's environmental policies (and other ESG issues) were not initially considered as essential informational components of a company's value; today, instead, criteria and metrics to measure them have become essential in company valuations. We are therefore not in the presence of an unprecedented phenomenon.

3.1 Contractual regulation

Starting with contractual rules, we observe empirically that general terms and conditions are primarily driven by the need to limit the liability of platform operators with respect to the content conveyed by users. This only indirectly and partially protects the formation of the will of those making investment decisions from being influenced.

For example, it is common for the operator to state in the contract that the content published on the forum does not constitute advice or recommendation attributable to (or approved by) it¹⁷⁶, and even that such content does not, in absolute terms, constitute an investment recommendation¹⁷⁷.

In some cases, the operator directly restricts the activity of its users: for example, eToro, a platform, prohibits its European users from providing or marketing services such as investment advice or portfolio management¹⁷⁸, but it is by no means certain that the intermediary has at its disposal – for instance, through the use of artificial intelligence – the analysis and enforcement tools that would allow it to intervene to ensure compliance with such prescriptions¹⁷⁹.

3.2 Statutory rules

Moving to legal regulation, two main areas, both harmonized at the European level, come into play: market abuse (in the form of manipulation) and investment recommendations, the latter being a *proprium* of the EU legislative framework.

For the reasons we will indicate below, neither of these regulatory strands currently appears adequate to address a massive spread of fin-influencing, although the EU framework, compared to the American model, on which a significant part of the discussion on the topic has so far been based, seems better equipped to capture the ongoing trends. We will discuss later the 'micro' issues concerning the regulation of investment services.

176 See the general terms and conditions of what is perhaps the most widespread online trading platform in Europe: eToro Terms and Conditions (Europe) 2022, article 24.6 (available at www.eto.com).

177 Thus in the general terms of a widespread crowd-sourced financial information portal: Seeking Alpha, Terms of Use (2021), Clause 3 (available at <https://about.seekingalpha.com/terms>). Clause 4 contains the warning that the content of the site «is being provided for information purposes only, excluding any investment advice or solicitation». It is evident that such declarations offer no protection either to the market or to the investor, and indeed often amount to a petition of principle: whether a statement constitutes an investment recommendation or not certainly does not depend on the prejudicial and abstract qualification given to it by the portal operator in its general conditions.

178 eToro Terms and Conditions (Europe) 2022, article 24.3(c). It is not clear from the tenor of these general conditions whether it is possible to disseminate investment recommendations through the site (see *infra*).

179 Seeking Alpha appears more attentive to the issue of conflicts of interest: those who publish content are required to disclose the existence of long or short positions on the securities they discuss. Furthermore, users must disclose (though it is not clear to whom) the existence of any significant relationship with the issuers of the shares mentioned in a post. Seeking Alpha, Terms of Use (2021), Clause 8.

i) Market manipulation

To begin with, it is useful to analyse some of the phenomena previously described in light of the concept of so-called informational manipulation¹⁸⁰, no need to dwell on the most egregious episodes of disseminating false information on social media, which are easily classifiable into typified offenses like pump-and-dump¹⁸¹.

In relation to so-called 'expressive trading' (see Chapter 3, section 2), commentators in both the United States and Europe share the conclusion that the 'waves' of traders operating on meme stocks according to imitative mechanisms are not, as a rule, the result of abuse. This is for the simple reason that the media hype surrounding cases like GameStop and AMC does not consist of the dissemination of untrue facts (which is the basis for sanctioning manipulative behaviour), but rather of (genuine, though debatable) opinions¹⁸². It can also be observed that the opinion leaders who use their influence capital to guide their followers often hold stable 'long' positions on the stock they recommend buying, which distances these scenarios from the paradigmatic schemes of abuse, where the author of the misleading information usually trades 'against' the statement itself^{183, 184}.

180 The relevant case is thus that of the «dissemination of information [...] which gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of, a financial instrument... or which secures, or is likely to secure, the price of one or several financial instruments... at an abnormal or artificial level, including the dissemination of rumours, where the person who made the dissemination knew, or ought to have known, that the information was false or misleading» (Article 12.1, para c of Regulation (EU) No. 596/2014 'MAR'). For a mention of possible cases of operative manipulation, see *infra*, nt. 185.

181 We refer to cases, subject to intervention by the US SEC (ex Section 10(b) of the Securities Exchange Act and Rule 10b-5), characterized by the dissemination of knowingly false information on listed securities, with a clear manipulative intent and in the face of a concretely exploited profit opportunity. The information channels have changed (Twitter or Seeking Alpha, instead of the old online chatrooms), but the fraudulent schemes used remain the 'classic' ones. See SEC vs. Carol McKeown, Daniel F. Ryan, Meadow Vista Financial Corp., and Downshire Capital, Inc., Civil Action 10-80748-CIV-COHN (S.D. Fla., 23 giugno 2010); see SEC vs. James Alan Craig, Civil Action No. 3:15-cv-05076, (N.D. Cal., 6 novembre 2015); *In re Galena Biopharma, Inc. Sec. Lit.*, 336 F. Supp. 3d 378 (D.N.J. 2018). For other examples, see K.J. PAUL, *op. cit.*, pp. 38 and ff., and J.E. FISCH, *op. cit.*, pp. 1851 and ff.

182 It may be that these opinions are based on misrepresentations of facts or on incorrect information, but it is by no means certain that those who disseminate them are aware of it (although this circumstance could be relevant for another purpose, in relation to scalping conduct: see *infra*).

183 For this observation, see J.R. MACEY, *op. cit.*, pp. 812 and ff., I. CHIU, *op. cit.*, pp. 64 s.; K.J. PAUL, *op. cit.*, pp. 57 s. See also F. D'ALESSANDRO, *Il caso GameStop: una tempesta perfetta mette in crisi lo statuto della manipolazione del mercato*, in *Dir. pen. proc.*, 2021, pp. 1252.

184 Some scholars have argued that coordination among (retail) investors aimed at a 'corner squeeze' of those who have sold shares short (as happened in the GameStop case) constitutes an operative manipulation, as all the elements provided for this purpose by article 12, para. 2, lett. a, MAR, would be met, namely: i) a concerted action among traders, ii) the attempt to acquire a dominant position on the demand for the security, iii) the fixing of the price at an artificial level (in this sense, see I. CHIU, *op. cit.*, pp. 65 s.; C. MOSCA, *Il caso GameStop: vecchi e nuovi istituti a confronto*, presentation at a seminar organized by Centro di Ricerca Paolo Ferro-Luzzi sul Diritto della Banca e della Finanza in Europa, 23 April 2021 (on file with the Authors); M. ARRIGONI, *Think Twice, It's All Right. Lessons from the GameStop Saga*, EBI Working Paper Series No. 98, 2021b, on https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3877240, pp. 13 and ff.). ESMA also took a step in this direction in its warning following the GameStop affair: «Discussing the opportunity to buy and sell the shares of an issuer does not constitute market abuse. However, organising or executing coordinated strategies to trade or place orders at certain conditions and times to move a share's price could constitute market manipulation» (ESMA, *Statement. Episodes of very high volatility in trading of certain stocks*, 17 febbraio 2021, <https://www.esma.europa.eu/document/episodes-very-high-volatility-in-trading-certain-stocks>, 2021c).

This argument is perplexing, given the 'genuine' intentions that motivate many expressive traders, like the 'Redditors' in the GameStop case. At the European level (Article 5 Directive 2014/57/EU, so-called MAD 2) there is no such requirement as *mens rea* with specific intent in market manipulation: that is, it is not required to ascertain an offender's

The situation is different when a fin-influencer exploits their own statements to trade a financial instrument. This occurs, for example, when social platforms are used to 'attack' an issuer whose financial instruments have been sold short, by criticizing its strategies or governance, or by highlighting reasons for the stock's overvaluation: this has been termed 'negative activism'¹⁸⁵. In this case too, the fin-influencer projects her opinions on the issuer's poor prospects, based on publicly available information. However, a more nuanced assessment is suggested at least in cases where it can be demonstrated that the opinion is not 'genuine'¹⁸⁶. Indeed, the ascertainment of trader conduct that is incompatible with her the opinion, justifies repressive intervention, since the attack on market integrity has a similar disvalue whether it is perpetrated by disseminating (knowingly) false information, or by using one's credibility to spread artfully constructed opinions for the sole purpose of altering the price of securities.

In this regard, in the United States, the standard elaborated by the Supreme Court in the *Omnicare* case has been invoked. Although in the different context of prospectus liability, this standard equates an opinion not 'believed' by its author to an 'untrue statement'¹⁸⁷. Thus, it has been argued that an investor who has accumulated a 'short' position on a certain stock and uses social media to signal the overvaluation of that stock should be sanctioned if, shortly thereafter, it closed its position or reverse its sign. This would demonstrate (circumstantially) that the author considers the bearish effect triggered by its statement on the stock's price to be temporary and, indeed,

specific intention to alter the market. At the same time, the need to verify the existence of a generic *scienter* with respect to the manipulative offense translates into an inquiry not much different from verifying that the offender intended to alter the functioning of the market: it is a matter of ascertaining that the offender intended to carry out a transaction that has the effect of fixing the price of the financial instrument at an artificial level. See F. MUCCIARELLI, *Commento all'articolo 185*, in M. FRATINI, G. GASPARRI (a cura di), *Il Testo Unico della Finanza*, 2012, Torino, p. 2384

Now, if one looks at the *GameStop* case, it seems that the traders were determined to intervene based on the widespread conviction that the price of the stock was unfairly depressed by the market due to the 'fault' of the hedge funds that had massively sold it short. The investors openly claimed the desire to bring the price of *GameStop* shares back to their (presumed) natural level, not to fix it artificially; which we believe can exclude *scienter*. See, also with other arguments, F. D'ALESSANDRO, *Il caso GameStop*, *cit.*, pp. 1251 s.; M. CUPELLA, *I mercati finanziari a confronto con nuove tecnologie e Social Media: le prospettive penalistiche dell'Affaire GameStop*, 16 *Bocconi Legal Papers*, 2021, p. 171. It should be noted, in contrast, that in other legal systems (such as the English one) the mere fact of the abnormality of the price could be sufficient to found a charge of manipulation: I. CHIU, *op. cit.*, p. 65.

185 See on the subject J. MITTS, *Legal Perspective on Technology and the Capital Markets: Social Media, Short Activism and the Algorithmic Revolution*, Columbia Law and Economics Working Paper No. 615, 2019, disponibile su https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3447235, pp. 6 and ff.; J.C. COFFEE-J. MITTS, *Short Selling and the New Market Manipulation*, disponibile su <https://clsbluesky.law.columbia.edu>, 18 March 2019; P. MOLK, F. PARTNOY, *The Long-Term Effects of Short Selling and Negative Activism*, in 2022 *U. Ill. L. Resi veda*, 2022, pp. 1 and ff.

186 We cannot delve here into the relationship between the need to repress market abuse and freedom of expression. Indeed, an important element is added to the delicate relationship between the constitutional protection of freedom of expression and the regulation of market abuse. In addition to the issue of the potentially manipulative effects of journalistic activity (an issue now partly regulated by Article 21 MAR), the theme has been brought to the attention of European jurisprudence also with respect to the risk of insider trading (CJEU, 15 March 2022, case C-302/20; M. VENTORUZZO, *La meta-informazione privilegiata: il giornale di domani e gli abusi di mercato*, in *MediaLaws*, 2022, n. 2). In the United States, the conflict between manipulation (not only in the financial sphere) and the protection of the perpetrator based on the First Amendment often emerges in the debate: R.S. KARMEI, *The First Amendment and Government Regulation of Economic Markets*, 55 *Brook. L. Resi veda*, 1989, pp. 1 and ff.; H. NORTON, *Manipulation and the First Amendment*, in 30 *WM. & Mary Bill Rts. J.*, 2021, pp. 221 and ff.; see also, K. LANGVARDT, J.F. TIERNEY, *On 'Confetti Regulation': The Wrong Way to Regulate Gamified Investing*, in 131 *Yale L.J.F.* 2021-2022, pp. 725 and ff.; J. MITTS, *op. cit.*, p. 27.

187 *Omnicare, Inc. Laborers Dist. Council Constr. Indus. Pension Fund*, 575 U.S. 175 (2015).

fears a price recovery; therefore – it is argued in the USA, with a problematic stretch of a rigorous application of the principle of legality – the author would personally consider his opinion as unreliable and not genuine¹⁸⁸.

In this respect, the European framework benefits from a more precise codification. In particular, Article 12.2(d) of the Market Abuse Regulation (MAR) establishes a presumption of manipulation 'tailored' to the problem of valuations. Sanctioned is the conduct of one who takes

«advantage of [...] access to the [...] media by voicing an opinion about a financial instrument [...] after having previously taken positions on that financial instrument [...], and profiting subsequently from the impact of the opinions voiced on the price of that instrument [...] without having simultaneously disclosed that conflict of interest to the public in a proper and effective way».

This provision on so-called 'scalping' is flanked by the general clause that considers manipulative any «transaction [...] or any other activity or behaviour which employs a fictitious device or any other form of deception or contrivance» that affects, or is likely to affect, the price of one or more financial instruments (Article 12, para. 1, MAR). One of the 'indicators' of manipulation to 'take into account' in this context is

«whether orders to trade are given or transactions are undertaken [...] before or after the same persons or persons connected to them have produced or disseminated investment recommendations which are erroneous or biased or demonstrably influenced by a material interest»¹⁸⁹.

Note the interplay that results from the two norms: Article 12, para. 2, lett. d, of MAR is unconcerned with the 'genuineness' of the opinion expressed, as the failure to disclose the conflict of interest is sufficient for the sanction. On the other hand, under Article 12, para. 1, lett. b, MAR – as implemented in the 'indicators' of manipulation – the existence of a conflict of interest (disclosed or not) is sufficient if the opinion expressed constitutes an investment recommendation, and provided, of course, that it is capable of altering market prices^{190, 191}.

188 J. MITTS, *op. cit.*, p. 14 and ff. ; J.C. COFFEE, J. MITTS, *op. loc. Cit.* In this regard, a long-standing orientation of the SEC on the subject of manipulation is also relevant, which expressed itself as follows: «one who accumulates at rising prices and sells out at prices created by his buying efforts will be presumed to have raised prices for the purpose of inducing others to buy» (In the Matter of Hasley, Stuart, Exchange Act Release No. 4310, 1949 WL 36458 (Sept. 21, 1949)). Consistent with this assumption is the SEC's decision in the Lidingo case: a trader had 'posted' on Seeking Alpha an enthusiastic comment about a certain issuer, but had sold the shares the next day. The Authority considered the non-disclosure of this sale as manipulative. Complaint, SEC v. Lidingo Holdings, No. 17-CV-02540 (S.D.N.Y., 10 April 2017).

189 Annex I, Section B, of the MAR. See also Annex II, Section 2, of Commission Delegated Regulation (EU) 2016/522, which lists pump-and-dump and trash-and-cash as examples falling under the general case described in the text.

190 On the other hand, even in the absence of a conflict of interest, the conduct is punishable if the recommendation is 'erroneous.' In practice, it is far from simple to establish when this may occur, given that the recommendation also lies, in principle, in the realm of opinions and not facts. In the literature, it has been argued that this would happen when the recommendation is «not ... compiled with the necessary expertise, care and diligence» (R. VEIL (a cura di), *European Capital Markets Law*, Bloomsbury Publishing, Oxford, 2022, p. 517).

191 In addition to manipulative aspects, those related to a possible abuse of inside information should be considered. This topic is beyond the scope of this discussion, and for this, we refer to R. VEIL, *op. loc. cit.*, who cites a judgment of the BGH (6 November 2003 - 1 StR 24/03, BGHSt 48 (2003), 373) according to which the scalper's opinions, being self-generated, do not constitute inside information.

European authorities benefit from a granular disclosure system that can facilitate enforcement in suppressing the behaviours examined here. It is worth recalling, in fact, the obligation, provided for by the EU regulation on short selling (no. 236/2012), to declare to the competent national authority net short positions that exceed 0.2% of an issuer's capital (and, once this threshold is passed, every subsequent 0.1%)¹⁹².

ii) *Investment recommendations*

Leaving the realm of illicit activities, a different strand is that of investment recommendations, the regulation of which is part of the market abuse framework precisely because of the potential for interference that recommendations have with market integrity¹⁹³.

It is significant that, in this context, what is relevant are opinions (and not facts), in the qualified form of «information [...] recommending or suggesting an investment strategy, concerning one or more financial instruments or the issuers, when intended for distribution channels or for the public» (Article 3.1, no. 35, of MAR)¹⁹⁴. Furthermore, the recommendation can be 'explicit or implicit', which opens the way to a vast set of communications destined for social media.

Certainly, fin-influencers come into play here as potential 'producers' of recommendations, as do traders who display their investment strategies to their followers on platforms¹⁹⁵. However, the MAR rules are conceived with the role of analysts and professional producers of financial research in mind, while they seem ill-suited to regulate the phenomenon of self-taught leaders or non-professional investors who dispense their strategies or publicize their operations.

192 Article 5.1.2 of Regulation (EU) no. 236/2012 (the so-called Short Selling Regulation or SSR). Net positions exceeding 0.5% of the capital must be disclosed to the public.

193 See recital no. 63 of the MAR.

194 According to ESMA, a prerequisite for a recommendation is that it is «capable of reaching a large number of persons» (ESMA, *Technical advice on possible delegated acts concerning the Market Abuse Regulation*, 3 febbraio 2015, ESMA/2015/224), paragrafo 340 and ff. This constitutes the discriminant with respect to recommendations provided in the context of investment advisory services: see *infra*, par. 4.2.

195 For some time now, in CONSOB's interpretation, 'trading ideas' are forms of implicit recommendation: see *Raccomandazioni di investimento, Linee Guida*, n. 2/2017, para 3.4 in Chapter 2. At the beginning of 2024, ESMA intervened with a warning on the dissemination of investment recommendations on social media, reminding operators to comply with the relevant legislation, with particular reference to the information that must accompany content disseminated by so-called experts (see *infra* in the text): *Warning for people posting Investment Recommendation on social media*, 6 February 2024, available at esma.europa.eu. Among the examples provided by the European Authority, some concern content similar to that disseminated by fin-influencers and simple traders on social platforms (see in particular examples 3-5). It should also be remembered that if an investment recommendation is not presented as independent, it is considered as a marketing communication for the purposes of the MiFID regulation and, inter alia, the investment firms that produce or disseminate it must ensure that it is clearly identified as such (Article 36.2 Delegated Regulation (EU) 2017/565, implementing MiFID II). This point is relevant whenever the fin-influencer acts on behalf of or in the interest of an investment firm.

Indeed, the most significant protections for retail investors¹⁹⁶ come into play in the case of recommendations issued by qualified persons (independent analysts, investment firms, other professionals)¹⁹⁷ and by so-called 'experts': only the latter are required to disclose the long or short positions taken on the capital of the issuer concerned by the recommendation¹⁹⁸.

Now, an 'expert' is someone «who repeatedly proposes investment decisions in relation to financial instruments» and who i) «presents himself as having financial expertise or experience» or ii) «puts forward his recommendation in such a way that other persons would reasonably believe he has financial expertise or experience»¹⁹⁹. Fin-influencers evidently fall into this category²⁰⁰. However, the exemptions and procedural simplifications currently provided for by this regulation significantly reduce its scope precisely in the area that concerns us here. For example, if the disclosure due for investor protection is «disproportionate to the length or form of the recommendation» (as happens in the case of a non-written recommendation disseminated via the Internet), it is sufficient to indicate the (virtual) place where the relevant information is accessible²⁰¹. This can evidently translate into a non-protection if one thinks of recommendations spread on YouTube videos, in the pop-ups of a trading platform, or in the advice disseminated in an online chatbot. Indeed, it is easy to verify empirically that, as a rule, no reference of this type is normally found in these contexts, not to mention recommendations disseminated under a pseudonym, where it may be impossible for the public to trace the author.

iii) Liability of platform operators

A related aspect to the one just examined concerns the role of those who manage the virtual space where content qualifying as investment recommendations is conveyed to users. In the MAR framework, whoever disseminates recommendations produced by third parties is equated, including in terms of liability, to the 'producer' of the recommendation (Article 20 MAR); moreover, they are required to provide additional information, for example, on conflicts of interest²⁰².

196 Specifically, among others, the obligation to declare the 'underlying assumptions' applied to evaluate the financial instrument, to offer an adequate explanation of the meaning of each recommendation made, as well as appropriate risk warnings and sensitivity analyses (Article 4 of Commission Delegated Regulation (EU) 2016/958 of 9 March 2016, implementing MAR on investment recommendations).

197 Article 3.1(34)(i) MAR.

198 Article 6 Regulation (EU) 2016/958. Otherwise, the general threshold of 0.5%, already mentioned above, applies under the regulation on short selling. If, on the other hand, the recommendation is issued by a 'non-expert', only general duties of conduct apply (Article 3.1 Reg. cit.), together with the obligation to declare «any relationship or circumstance that could reasonably be expected to compromise the objectivity of the recommendation» (Article 5.1).

199 Article 1(a) of Regulation (EU) 2016/958.

200 Note that recital no. 2 of Regulation (EU) 2016/958 gives relevance for the qualification of 'expert' to the eventuality that the expert's past recommendations have been «re-disseminated by third parties, for example by the media». And indeed, see, on this topic, the ESMA *Warning ESMA* cited *supra*.

201 Arts. 3.2, 6.4, and 10.2 of Regulation (EU) 2016/958.

202 Arts. 8-10 of Regulation (EU) 2016/958.

Now, whether the operator who conveys such content on their platform can be considered a 'disseminator' of others' recommendations – with the correlated responsibilities mentioned – brings into question the issue, as far as we know unexplored²⁰³, of coordinating the special regulation on market abuse with the general one that is now applicable to so-called intermediary services by virtue of the European Regulation on digital services (no. 2022/2065 of 19 October 2022, hereafter 'DSA', in force since February 2024).

In principle, the provider of an 'intermediary service' who is limited to 'mere conduit' of data – and therefore neither selects the recipient nor modifies the transmitted information – does not assume responsibility for the transmitted information (Article 4.1 DSA)²⁰⁴. The same applies when the provider offers a 'hosting' service (i.e., storage of information at the request of the service beneficiary), although, in this case, the operator's 'immunity' operates on the condition that they are not aware of the 'illegality' of the stored content (Article 6.1 DSA). Of course, the hosting must be 'passive', in the sense that any modification of the stored or transmitted information is excluded.

The host-operator is instead responsible for the content if it exercises some control over the producer of the information, and also if the platform²⁰⁵ presents the information «in a way that would lead an average consumer to believe that the information is provided either by the online platform itself or by a recipient of the service who is acting under its authority or control» (article 6.3 DSA)²⁰⁶. More generally, Article 8 of the DSA excludes any «general obligation to monitor the information which providers of intermediary services transmit or store»²⁰⁷.

Specific rules then apply to platform operators that classify information for users or prioritize it, typically through algorithms: this is referred to as 'recommender

203 See, however, the analysis relating to the treatment of online forums among shareholders of listed companies, where the issue of coordination with the regulation on hosting data on digital platforms had already been raised: M. GARGANTINI, *I forum degli azionisti*, in F. BRIOLINI (a cura di), *Principio capitalistico quo vadis?*, Giappichelli, Torino, 2016, pp. 362 and ff.

204 It is understood that it is not, as a rule, responsible for any 'illegal content' that may be transmitted (see in this regard recital 17 of the DSA). It should be noted that the definition of 'illegal content' is very broad, so as to include «any information that, in itself or in relation to an activity, [...] is not compliant with Union law or the law of any Member State» (article 3, lett. h), DSA).

This does not mean that the service provider is immune from obligations, for example, in the event that an authority requires its cooperation to cease detected violations (Article 4.3 DSA), or to disable access to information of whose illegality it becomes aware (Article 9).

205 The issue, which cannot be fully explored here, arises of the classification of trading platforms as 'online platforms' under the DSA. Only to the latter, in fact, does the rule of Article 6.3 mentioned in the text apply, as well as the rules on recommender systems discussed shortly. The online platform is characterized by the dissemination of information (through its storage) to a potentially unlimited number of third parties; however, Article 3, lett. i), excludes this classification for operators who carry out dissemination in an ancillary mode to another main service. Evidently, a case-by-case analysis will be necessary to make this judgment of the prevalence of investment services offered through the platform over the dissemination (for example) of recommendations, trading ideas, user comments, etc.

206 See, for some examples, recital no. 24 of the DSA.

207 The regulation of the DSA is in continuity with that on electronic commerce already contained in Directive 2000/31/EC. See already on the subject T. PINTO AND AA., *Liability of Online Publishers for User Generated Content: A European Perspective*, in *Communications Lawyer*, 2010, pp. 5 and ff.

systems²⁰⁸. However, if the operator uses such systems, the obligations incumbent upon it are mainly for disclosure of the parameters used (Article 27 DSA).

In this regulatory framework, it is essentially recognized that the mere 'conduit' of information (i.e., making the platform available for information to be conveyed) and its 'passive' hosting do not lead to the imputation of the information to the operator, nor do they establish a presumption of the operator's control over the activity of the information producer ('recipient of the service', in the DSA's lexicon). If, even with reference to investment recommendations conveyed through its platform, the operator limits itself to these 'neutral' activities, it would seem unjustified, in the absence of an explicit legal provision, to impose the liability regime provided by MAR on disseminators of recommendations. It is true that, in the DSA itself, the online platform is characterized by 'dissemination to the public'²⁰⁹; but, beyond the terminological assonance, in light of what has been observed, it does not seem systematically coherent that the neutral provision of information on a platform (which is what 'dissemination to the public' consists of) should be equated with the dissemination referred to in the MAR regulation, which is characterized by the active participation of the disseminator in the transmission of the informational content and not by its identification with the transmission medium (distribution channel). Confirmation of this characterization of the 'disseminator's' role under MAR seems to be drawn from the fact that the regulation focuses on the potential modifications or alterations that the disseminator can make to the transmitted recommendation (to which the aggravation of information burdens is linked). And, conversely, with a provision relevant to the design of the 'dissemination' concept itself, disclosure obligations are expressly excluded for the intermediary who merely acts «as the disseminating channel of the recommendations produced within the same group without exercising any discretion as to the selection of the recommendation to disseminate»²¹⁰.

At this point, one must ask whether a presentation of recommendations based on the characteristics of the recipient user leads to a 'category spillover' and the consequent application of a more rigorous regime for the platform operator. This occurs when the operator uses algorithms to 'order' the information conveyed to individual users. In terms of the regulation of digital services, this seems only to trigger the increased information burden provided for in the case of using 'recommender systems' (Article 27 DSA); but, in terms of the regulation of investment services, the issue arises of qualifying this activity as investment advice. Since this question is closely connected to that of transmitting trading signals, it will be addressed jointly in the subsequent

208 More precisely, a recommender system is «any fully or partially automated system used by an online platform to suggest in its online interface specific information to recipients of the service or to prioritise that information, including as a result of a search initiated by the recipient of the service or otherwise determining the relative order or prominence of information displayed» (see Article 3, lett. s), DSA).

209 See *supra*, nt. 207.

210 Article 8.2, lett. b), of Delegated Regulation (EU) 2016/958. Naturally, a different conclusion must be reached where the platform operator 'adopts' – by altering them or even simply presenting them under its own brand – the recommendations of third-party 'experts,' whether or not it has financial or commercial relations with them. But, in that case, being in the presence of 'active' hosting, it would be the regulation on digital platforms itself that would deprive the online platform of the provided exemptions from liability (see above).

section 4.2 of Chapter 3, with conclusions that can be extended to the case examined here.

3.3 Possible strategies for intervention

Inadequacy of the current regulatory framework

The state of the art described so far leads to an initial assessment of the adequacy and effectiveness of the current safeguards in European financial law in the face of the issues examined here.

Having noted the insufficient contribution of spontaneous private regulation (see Chapter 3, section 3.1), three aspects must be taken into consideration.

Firstly, empirical data suggest that, especially in the case of equity securities most targeted by retail investors (the meme stocks, discussed in Chapter 1, section 2), price movements and 'abnormal returns' appear compatible with hypotheses of manipulation, rather than with mere imitative mechanisms among traders²¹¹. However, strategies to combat manipulation must contend with a high fragmentation of conducts and their low individual magnitude. This calls into question the effectiveness of the current regulatory apparatus, which is based on criminal or administrative-sanctioning protections and thus intervenes *ex post*, in the form of repression of the unlawful act, with obvious difficulties of enforcement. Not to mention that – as seen in Chapter 3, section 3.2 – the regulation on market abuses is limited to addressing, in a piecemeal fashion, only some epiphenomena (e.g., scalping), but does not reach (nor could it, by its nature and function) the deeper interaction between financial communication, the behaviour of retail investors, and price formation (Chapter 3, section 2). Furthermore, in the contexts under examination, it can be difficult to distinguish (or balance) the free expression of opinions, inducement to trade, and harm to market integrity.

Secondly, outside of manipulation scenarios, it is necessary to consider the impacts on market functioning induced by the tendency of retail investors to operate according to imitative patterns. At the 'macro' level, the issue of so-called overtrading arises, along with the ways in which platform operators manage and route trading orders to other intermediaries. At the 'micro' level, it is a matter of verifying whether the ways in which information reaches the individual trader do not translate into a substantial compromise of the correct formation of their investment decision. Here it has been seen that, even where the regulation on investment recommendations 'intercepts' the problem (e.g., identifying the role of the 'expert' in investment recommendations), it does not offer protections and remedies that correspond to technological evolution (point iii of Chapter 3, section 3.2).

Thirdly, it is important to keep in mind the role of the intermediaries operating in the context under examination. According to a narrative that is as common as it is illusory, retail investors would today operate in a 'disintermediated' environment. In

211 See the study by T. RENAULT, *op. cit.* The importance of combating manipulation in the context of 'gamified' trading is highlighted by S. GUAN, *The Rise, cit.*, pp. 48 and ff.

truth, as has been seen, the operators of virtual trading venues are in a position of potential control over the information accessible to their users; a position that, moreover, benefits from a high degree of protection under the recent EU regulation on digital services. Nevertheless, their role as gatekeepers is evident and should be leveraged with care for the implementation of regulatory strategies adequate for the new phenomena.

Hypotheses for the evolution of regulation

In light of the foregoing, we may draw some possible evolutionary lines, potentially implementable even without legislative changes, by resorting to self-regulation and leveraging the private autonomy of platform operators.

i) Terms and conditions of access to portals and forums

As previously mentioned, some general terms and conditions of portals and forums already include the duty, for those who disseminate content (think of publishing a post on the prospects of a certain stock, publicizing a model investment portfolio, or indicating financial instruments deemed suitable for certain categories of investors), to declare any investment positions, current or prospective, on the securities, as well as the existence of economic or professional relationships with the issuers²¹². *De iure condendo*, such forms of transparency could be made mandatory, in the form of imposed clauses that supplement by law the content of the contract between the platform operator and the user.

The disclosure in question – to be applied regardless of the qualification of the content to be published as an investment recommendation for MAR purposes – could be of a more concise tenor than that provided for by EU rules for recommendations disseminated by 'experts', so as to be more suited to the medium²¹³. The platform operator would then have the duty – now achievable with artificial intelligence tools – to process and present to the generality of users the information provided in a form adapted to the platform's layout: one might think of a warning, with appropriate graphics, at the moment a user views the content made available (the digital engagement practices described in Chapter 1, section 2 can, here, be part of the solution)²¹⁴.

212 See *supra*, notes 177 and ff. and corresponding text.

213 For example, the author could be required to provide a brief indication of the existence of an investment position in the security concerned by their statement, as well as of monetary or non-monetary relationships/incentives with the issuer or its closely related parties. A mechanism could be envisaged that prevents the uploading of content to the portal/forum/platform if a questionnaire preparatory to the disclosure in question has not been completed. Furthermore, a duty to update could be provided for those who have made a disclosure.

214 One might object that such a solution is difficult to implement because it is possible to 'upload' financial content on any site, platform, or social network, so that burdens would be placed on an indeterminate number of operators. However, apart from the fact that the regulation of investment recommendations is already of general application (in the sense that it disregards the medium through which the recommendation is disseminated), it should be remembered that the artificial intelligence tools available to these operators would allow them to intercept, effectively and at relatively low costs, the circulation of sensitive financial information, as is the case in numerous other sectors considered 'at risk' for users. For a gradual system and possible exemptions, see, however, *infra*, sub (c).

ii) Supervision of operators

One could hypothesize introducing a circumscribed duty of monitoring for those who manage the virtual spaces where information is disseminated; this, however, in terms strictly functional to supporting supervisory authorities (in a gatekeeping logic), so as to avoid generalized 'surveillance' duties that would, moreover, be incompatible with the current framework outlined by the European regulation on digital services.

First of all, platform operators could be required to monitor compliance with their own general terms and conditions, excluding from platform use the authors of non-compliant content (see above, sub (i)): this is, after all, a way of implementing the duty of 'content moderation' already set forth by the DSA²¹⁵.

Secondly, operators could be required to identify and report to the supervisory authority critical situations in the relationship between published content and trading positions or conflicts of interest: parameters and thresholds of relevance could be established at a regulatory level (think of the size of declared investment positions, or the relevance of the author, e.g., by number of followers). This reporting duty would allow for the anticipation of the authority's intervention at the moment the 'problematic' information is disseminated, whereas, in the presence of micro-manipulations followed by herd behavior, the authorities are made aware of the criticality of the disseminated content when it is already reflected in the prices of the affected financial instruments²¹⁶.

iii) Opt-in

In order to avoid a disruptive impact on market structures, the regulation outlined above could be applied gradually and on a voluntary basis, following an 'opt-in' model. One path to follow could be that of self-regulatory codes that incorporate the solutions hypothesized above, with legislative 'coverage'. For example, those who adhere to a code by applying the 'concise' disclosure model hypothesized above would be exempted – together with the authors of the content – from the more burdensome regime provided for 'experts' by the MAR regulation.

215 The DSA, in fact, relies on the enforcement of the general conditions applied by providers of intermediary service (see e.g., recital no. 45). Furthermore, the content of these conditions is partially constrained, for example with regard to so-called content moderation, functional to identifying illegal content (recital no. 45 and article 14): there is an obligation for service providers to act diligently to enforce and respect the restrictions in question.

216 The hypothesized solution appears consistent with the enforcement framework already available to supervisory authorities under the market abuse regulation, considering the pervasive investigative powers they have over any person informed of the facts, even when not supervised under the financial markets regulation: Article 23 MAR and Article 187-octies, paragraph 3, Tuf.

The development of sandboxes would have equivalent effects, following the model of pilot legislation experimented, for example, in the field of market infrastructures based on blockchain technology²¹⁷.

iv) Implications arising from the regulation of investment services

Those who have the responsibility of managing the virtual space where informational content circulates can organize the feed of their users by resorting to algorithmic tools and artificial intelligence. Consequently, the presentation of third-party content could depend on the user's preferences, as 'intercepted' by the operator. Although some operators declare that they exclude the use of algorithms for this purpose, this remains an available option to improve usability for clients and, potentially, to guide their behaviors.

The interference between algorithms and the rules of conduct for investment firms raises questions. In particular, one might ask whether the selection and reordering of opinions, comments, and recommendations can be interpreted as an investment service (advice) within the framework of the MiFID regulation. There is also the question of whether 'hosting' third-party recommendations related to certain financial instruments on one's own portal is consistent with the product governance regulation (Article 21, paras. 2-bis and 2-ter, Tuf)²¹⁸.

Since copy trading presents closely related issues, the matter is addressed jointly in the following section.

4 Copy trading: the phenomenon

As mentioned earlier, copy trading (hereafter, 'CT') consists of adjusting a client's investments by replicating the trading activity of another trader²¹⁹. Following the terminology used in the debate on the topic, I will refer to this trader as the 'copied trader' and to its operations – replicated by or for a client – as 'trading signals'.

CT can take various forms. A first modality (also called 'mirror trading' or 'auto-trading') consists of automatically replicating, in a client's portfolio, the global trading activity of the copied trader, with little to no control by the client, who normally sets protective thresholds only for 'stop loss' or the use of financial leverage, at

217 Regulation (EU) 2022/858 of 30 May 2022. The study of evidence from an experimental application phase could lead to verifying the prerequisites for the adoption of a universally applicable regulation. See also, for a mention in the literature, S. GUAN, *The Rise*, cit., p. 562.

218 This is a relevant issue also in view of the proposed Omnibus Directive, where it is intended to require 'producer' intermediaries to configure the distribution strategy of financial instruments in relation to marketing methods: Article 24, para. 5c, MiFID II, as amended according to the proposal.

219 The most complete survey of CT practices is offered by ESMA, Supervisory Briefing on supervisory expectations in relation to firms offering copy trading services, 30 March 2023, ESMA35-42-1428 (hereafter, ESMA 2023). The legal literature is scarce: see however, for some mentions, J.E. FISCH, *op. cit.*, p. 1820; S. GUAN, *Meme Stock*, pp. 2066 and ff.

most reserving the right to give specific instructions on individual operations²²⁰. This version of CT requires the intervention of an investment firm, tasked with continuously executing the imitated trades. In this sense, CT is configured as a service that the firm offers to its clients.

A second form of CT is elementary, but more uncertain in legal terms. The client is offered the opportunity to imitate one or more specific trades originating from a third-party trader. In what follows, I will focus mainly on this form of CT, which appears more problematic from a regulatory and policy perspective.

Indeed, this 'episodic' CT requires a less invasive intervention by the financial intermediary: the client, in fact, turns to the investment firm exclusively to execute single trades to be imitated, selected by the client herself. In other words, there is no distinction between the execution of the client's 'imitative' order and the execution of any other order she might give. However, in the digitized context of a trading platform, it can happen that the representation of the operations 'to be imitated' in a user-investor's feed depends on their preferences and investment profile. In such cases, the investment firm operating the platform might not limit itself to executing the copied trades imparted, but also play a role in a preceding phase, when the trades viewable by the client are selected.

In fact, even regarding the relationship between the platform and the copied trader, there are different levels of interaction²²¹. At a 'zero' level, the copied trader operates outside the circuit managed by the firm (e.g., the platform); the investor therefore 'manually' imports the trades into her trading book, giving the firm the order to execute them. The firm remains completely 'passive' with respect to the imitation phenomenon. Alternatively, the copied trader may in turn be a user of the platform, signalling its trades within it.

In this case, it is necessary to verify the level of collaboration between the platform operator (investment firm) and the copied trader. The latter may be an employee or agent of the firm itself, in which case it can be affirmed that it is the firm that is offering 'trading ideas' to its clients. In other situations, the copied trader acts independently, but on the basis of a contract with the intermediary. The remuneration provided for in the contract certainly constitutes an 'inducement' under the MiFID regulation²²², but the topic of greatest interest concerns the role of the intermediary who gathers the trading signals and makes them available to its clients.

There are also further 'variants', such as the one where the investment firm providing the CT service is not the same as the one executing the orders²²³.

220 A description and contractual regulation of this service is contained, for example, in the general terms and conditions of eToro, Terms and Conditions - Europe (2022), Schedule E.

221 See also ESMA 2023, paragraphs 16-23.

222 Pursuant to Article 24 MiFID II and, in domestic law, Arts. 52 ff. of CONSOB Regulation no. 20307/2018 (the so-called Intermediaries Regulation). ESMA 2023, paragraph 63.

223 ESMA, *Questions and Answers on MiFID II and MiFIR investor protection and intermediaries topics* (ESMA35-43-349), 2023b, paragraph 19.

4.1 State of the art

At the European level, CT has not yet been the subject of specific regulatory interventions. However, supervisory authorities have on several occasions proposed its classification within the context of investment services regulation.

In particular, in its Q&A on the (first) MiFID Directive, ESMA focused on the case it defined as 'mirror trading': since, in this situation, the investment firm providing the service automatically executes third-party trading signals without any client intervention, the Authority classified this service as portfolio management. This implies, in terms of rules of conduct, that the service is subject to the suitability rule, with all that this entails in terms of assessment obligations to be referred also to the client's investment objectives²²⁴.

ESMA's indication was less precise in relation to CT services where there is no automatic execution of third-party signals. The Authority specified that, in the case of investment decisions made by the client (and not by the intermediary), other investment services, such as advice and the reception and transmission of orders (RTO), could be relevant²²⁵.

The general terms and conditions of the main trading platforms operating in Europe take ESMA's interpretation into account, so that, where offered, the 'mirror trading' service is normally qualified as a portfolio management service and the suitability test is provided for. Regarding, instead, CT performed on an episodic basis, it is noted that the provision of an advisory service is expressly excluded. Indeed, platform operators emphasize the exclusive responsibility of the client in the individual investment decision, albeit based on information conveyed by the intermediary²²⁶.

At the end of March 2023, ESMA intervened again with the aim of providing its guidance on all forms of CT, addressing the various relevant profiles (client information, product governance, suitability and appropriateness, intermediary remuneration, and inducements)²²⁷. The previous position on 'mirror trading' was confirmed, while the novelties concern 'episodic' CT. ESMA recognizes that if a client 'imports' onto the platform trading signals conveyed, for example, through social media, the activity of the financial intermediary is limited, passively, to the execution or reception/transmission of the relevant client orders, in 'execution only' mode. Conversely, if

224 The reference today is to Article 25, para. 2, of MiFID II, as well as to Article 54 of the Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 (hereafter, 'MiFID Delegated Regulation'). Pursuant to the first paragraph, «[w]hen investment advice or portfolio management services are provided [...] through an automated or semi-automated system, the responsibility to undertake the suitability assessment shall lie with the investment firm providing the service and shall not be reduced by the use of an electronic system in making the personal recommendation or decision to trade». ESMA has also specified that the classification of the service as managerial is not prevented even when the client – as is common in the cases under examination – pre-establishes 'stop loss' parameters that bind the intermediary's activity. ESMA, 2012/382, MiFID Questions and Answers, 2012, paragrafo 9, in <https://www.esma.europa.eu/sites/default/files/library/2015/11/2012-382.pdf>.

225 *Ibidem*. ESMA's position has been adopted by some national supervisory authorities, including CONSOB: Comunicazione DIS/DIN/DTC/12062946, 26 July 2012.

226 E-Toro, Terms and Conditions – Europe (2022), Schedule E, article 5.

227 ESMA (2023b), paragrafo 9-10. This is a non-binding document for operators, with the aim of promoting, among national supervisory authorities, common supervisory approaches and practices. The previous orientation of 2012 is confirmed.

the intermediary maintains a (direct) 'link' with the copied trader, the provision of a purely execution-only service is judged 'unlikely'. The Authority seems here to suggest a presumption that, if there is a contractual relationship between the copied trader and the investment firm managing the trading platform, then the latter is promoting its trading signals as part of a broader 'offer' to clients: this moves us away from the area of mere execution services, where it is possible to disapply most of the protection rules for verifying the individual situation of the retail client.

What ESMA does not specify (referring to a case-by-case analysis)²²⁸ is whether the 'collection' of trading signals and their proposal through a portal constitutes the provision of some service, directed at the client, that is additional to and different from the subsequent execution of the trading orders that the client might issue. In one passage, the Authority formulates the example of 'copying' clients who become recipients of «personal messages including recommendations for them in relation to specific investment decisions or instruments»²²⁹: in this case, ESMA seems to suggest that there is a personalized recommendation to the client with reference to operations on financial instruments, i.e., investment advice²³⁰. If this were the case – as it is for mirror trading – it would trigger the suitability test and the duty of the investment firm to refrain from recommending non-suitable trades²³¹.

The question of the provision of a service by the platform operator within CT is of central importance for framing the relationships between the users of the platform (which produce and receive content through it) and for understanding the degree of protection that retail clients can currently benefit from. Indeed – as already observed regarding fin-influencers, recalling the categories of the DSA – the intermediary, as such, always performs the service of conveying and 'hosting' the content produced by the copied trader. However, 'mere conduit' is not an investment service and therefore does not trigger specific protection measures for the client, nor, as seen previously (Chapter 3, section 3.2), does it lead to the operator's liability for the conveyed content under the regulation of digital services.

It should be specified that, in CT, this content (the trading signals), in turn, is not even the expression of any service that is attributable to the trader who generates it and directed to the individual user who receives it. The copied trader does not 'see' the users who are its recipients and, therefore, by definition, does not 'personalize' their recommendation: they do not, therefore, provide advice. At most, the trading signal

228 ESMA (2023b), paragraph 29 and 35.

229 ESMA (2023b), in the 'questions' at the end of Section 2.2.

230 Artt. 1.1(4) MiFID II and 1, comma 5-*septies*, Tuf. It should be recalled that a recommendation addressed to the general public, being not personalized on the basis of the addressee's characteristics, is not deemed an investment recommendation under the MiFID framework. See Article 9 of MiFID Delegated Regulation.

An aspect on which the ESMA document dwells at length concerns the distinction between portfolio management and advice. In continuity with the orientation already expressed in 2012, ESMA has specified that the provision of a client's right to issue instructions to the intermediary (in the form of stop loss or closure of open positions) does not exclude the classification as a portfolio management service (paragraph 33), as is also the case when the client has a margin of time to modify or cancel the operation that would otherwise be executed automatically (Section 2.2).

231 Article 54, para. 10, of the MiFID Delegated Regulation.

can be considered an investment recommendation *in incertam personam*, according to the market abuse regulation²³².

The question of a 'category spillover' then re-emerges: whether the intermediary's intervention on the conveyed content determines its configuration as a provider of an investment service towards the client accessing its portal. Following the indication that comes from the rules on digital services (Article 27 DSA), a normatively relevant discriminant seems to be the use of algorithmic systems that allow for the ordering of trading signals in such a way as to adapt them to the preferences of the individual investor. There is no doubt, also from the perspective of investment services regulation, that this 'profiling' activity facilitates the matching between the signals and the 'consideration of the circumstances' of the investor in question, i.e., the personalization of the client receiving advice²³³. One can then advance the hypothesis that, between the one who generates the trading signal (the copied trader) and the one who 'personalizes' it (the intermediary), it is the latter who is providing advice.

However, important margins of uncertainty remain, which induce caution, especially in those cases where the trading signal is presented as information to the user and not as a recommendation for carrying out an investment²³⁴. In the logic of MiFID, there is indeed a distinction between 'information' and 'recommendation'. 'Filtering' the information that reaches the client does not necessarily mean transforming it into an investment recommendation attributable to the intermediating firm²³⁵; and all the more so, if there is no commercial relationship between the copied trader and such firm²³⁶.

232 Which, of course, does not exclude, as mentioned, that this activity of the copied trader may constitute a (remunerated) service rendered to the managing intermediary: the service, precisely, consisting in making the trading signals available on the platform.

233 Article 9 of the MiFID Delegated Regulation.

234 On this distinction, see again CESR, *Understanding the definition of advice under MiFID. Questions Et Answers*, 2010, paragrafo 13 ff, in https://www.esma.europa.eu/sites/default/files/library/2015/11/10_294.pdf.

235 *Ibid*, at paragraph 24: «CESR suggested a number of factors that may be relevant in deciding whether a filtering process involves a recommendation (e.g. the role played by the questioner who guides a person through the questions, the type of questions and whether they infer the use of opinion or judgement by the firm) but also put forward one critical factor: whether the process is limited to, and likely to be perceived by the investor as, assisting the person to make his own choice». It does not escape notice, however, that CESR developed this guideline in a pre-algorithmic era. In a 'gamified' environment, engaging messages common on today's platforms such as 'people like you would do the same operation' or 'try this trade' do not seem compatible with this assumption.

236 The uncertainties grow even more when one considers that, in the common perception, the same client who 'copies' the trading signal is not turning to third parties for consultation or to verify whether the operation in question is compatible with their investment plans. From a behavioral perspective, that 'user' is exploring opportunities offered by third parties, with the intention of assessing the risks on their own. There is therefore no intention of relying on a third party: neither the intermediary managing the platform (perceived as a mere conduit for the trading signal), nor the copied trader (who is 'trusted,' but from whom one does not expect to receive signals suitable for one's own profile). Clear are the differences with respect to the robo-advice model, where, unlike CT, the client deliberately relies on the automated processing of the investment firm, which acts on the basis of algorithms that start from the profile information provided by the client.

4.2 Possible strategies for intervention

It is possible – as has been recently observed²³⁷ – that the notion of advice traditionally accepted by MiFID is no longer suitable for capturing the flows of information that proliferate in digitized contexts, including CT. There is therefore a felt need to rethink the concept of advice and its rules: Filippo Annunziata has proposed, for example, introducing a 'digital suitability test' applicable to all who access digital channels of financial information and investment, regardless of the service type²³⁸.

Perhaps, and more radically, regulating through the investment advice rules is not the best strategy to address CT (as well as, more generally, the digital intermediation of sensitive investment information). The regulation of investment advice currently focuses (and also prospectively, according to the 'Omnibus Directive' approach) on a case-by-case suitability assessment, which appears ill-suited to the protection needs of retail investors who cultivate expectations of fast and repeated trading. These investors use platforms as sources for 'procuring' information (e.g., trading signals) from third parties, the advisability of which they intend, however, to evaluate on their own, without relying on the care of an intermediary.

In addition, the reform of the inducements regulation contained in the proposed 'Omnibus Directive' could significantly complicate the provision of CT services, especially in cases where there is a commercial relationship between the copied trader and the intermediary that conveys the signals. On the one hand, according to the proposal, the payment of inducements (including non-monetary ones) would in the future be prohibited if the investment firm merely provides services to the client in execution only mode²³⁹. On the other hand, if advice is provided, the payment of inducements would be subject to the new 'best interest test': the firm must base its advice on an appropriate portfolio of products, recommend the one that is preferable in terms of cost, and offer at least one alternative product that has the characteristics described in Article 29b of Directive 2014/65/EU (so-called MiFID II, as hypothetically modified). These constraints are structurally incompatible with how CT is currently made available to clients.

The context of technological evolution suggests a rationalization of the protections provided in relation to CT (and, prospectively, to other similar services). In digitized contexts, a particularly suitable regulatory model seems to be that of product governance.

It has been argued that intermediaries offering CT services would already today be considered as 'distributors' of the financial instruments subject to the trading signal, since they work to execute the 'copied' trades²⁴⁰. Here, the duty of distributors to «ensure that products and services they intend to offer [...] are compatible with the

237 F. ANNUNZIATA, *op. cit.*, pp. 22 and ff.

238 *Ibid.*, p. 23.

239 See the proposed article 24a.2 in the text of MiFID II.

240 So ESMA believes (2023b), paragraph 49. Pursuant to article 16 c.3 MiFID II, distributor intermediaries are those who 'offer or recommend' financial instruments, 'produced by the distributors themselves or by other intermediaries'.

needs, characteristics, and objectives of an identified target market and that the intended distribution strategy is consistent with the identified target market»²⁴¹. Key variables in defining the target market are, by client category, the complexity of the financial instruments involved and the type of service provided. For example, in designing the target market for certain complex instruments, the distributor could adopt a more prudent approach if it offers purely execution services, preventing such instruments from reaching an unsophisticated clientele. Conversely, if the services are advised (investment advice, portfolio management), the boundaries of the target market could be broader, because the suitability test ensures a more pervasive form of control²⁴².

Now, with reference to CT, it is to be considered that, even under current legislation, investment firms are responsible if, for example, they allow subjects without a specific track record (or on whose experience it was not possible to collect sufficient information) access to trading opportunities in risky products. In these cases, the firm that does not provide advice should carefully review the boundaries of the target market of the financial instruments that, through it, are distributed to clients via CT²⁴³.

That being said, the path of 'product governance' could be further developed. For example, supervisory authorities could specify, with a regulatory intervention, that CT for certain classes of products can be directed to retail clients without experience only subject to the availability of information on the product's risks and the trader's past performance.²⁴⁴ Furthermore, in case of recourse to algorithms, the firm could be required to adapt them in such a way as to prevent certain financial instruments from reaching clients belonging to the so-called negative target market.

Still *de iure condendo*, a further step – to be evaluated on the basis of adequate empirical research – would be to acknowledge an intrinsic dangerousness of CT and, thus, to prohibit the execution of the related trades (order execution, RTO) in execution only mode. In essence, in the case of CT, the appropriateness test would always be applicable, the eventual negative outcome of which would not be 'blocking', but would allow the operation to be executed on the client's initiative, following a specific

241 Article 10, paragraph 2, of delegated Directive (EU) 2017/593 of the Commission of 7 April 2016.

242 ESMA, *Guidelines on MiFID II product governance requirements*, 2018, ESMA35-43-620, paragraph 43-48.

243 The focus on defining the target market is present in the ESMA document, 35-43-620, *Guidelines on MiFID II product governance requirements*, in <https://www.esma.europa.eu/document/guidelines-mifid-ii-product-governance-requirements>, 2023c, paragraph 47-50.

244 Prospectively, this disclosure regime (for which the copied trader themselves could be held responsible) would combine with the new regime contemplated by the proposed 'Omnibus Directive': this would have an impact *both* on the definition of the distribution strategy which, according to the proposal, should specifically focus on marketing techniques (Article 1, para. 12, of the proposal) *and* on the characterization of the warnings required with reference to 'particularly risky' financial instruments (Article 24, para. 5c, according to the proposal). This is in addition to product intervention measures, applied, for example, to contracts for difference (ESMA, 35-43-1135, *Notice of ESMA's Product Intervention Decisions on CFDs and binary options*, 22 maggio 2018).

warning²⁴⁵. Such a solution would also allow, in the perspective of the Omnibus Directive, to make the CT service compatible with the payment of incentives to copied traders, following the current market trend.

In this context – where the heart of investor protection shifts from the intermediary-client relationship towards safeguards that operate ex ante and for the entire reference market – the 'issue' of investment advice would become residual, as this service would end up applying only to clients who request it or to those who fall outside the target market. The focus of regulation, in short, would move from the area of investment services and from a traditional perspective of product governance (i.e., definition of the target market based on the complexity of the financial instrument) towards a perspective of service governance, that is, definition of the target market based on the characteristics of a service, such as CT, which is characterized by being especially 'inductive' to trading, with consequent increase of the risks for retail investors.

245 The test could use the 'enhanced' formula provided in the proposed reform of Article 25, para. 3, MiFID II, as elaborated in Article 1, para. 14, of the 'Omnibus Directive,' so as to include, among the factors to be considered, the client's ability to bear losses and its risk tolerance.

The role of digital platforms in the gamification of financial investment: pathological aspects in the relationship with the retail investor

CHAPTER 4

(M. Gargantini)

As the previous chapters have shown, the gamification of investment processes has been driven by a combination of technological and legal factors, creating an environment that has fostered the interactions among investors and between investors and intermediaries. These conditions have enabled, or at least facilitated, particularly fast and cheap investment and divestment decisions by retail investors.

In this context, the speed of internet connections and online trading platforms, along with the ability to connect via mobile phones, has been matched on the regulatory side by the development of a legal framework that has removed – perhaps not always intentionally – some regulatory barriers that might have otherwise slowed the smooth process of generating, placing, and executing trading orders.

This section examines some of the legal conditions that facilitated these dynamics, focusing on the specific provisions and interpretations that have contributed to accelerating the investment process. In some cases, these provisions have directly reduced the transaction costs of submitting and executing orders. In other cases, the increase in speed has been achieved more indirectly, but in an equally effective way. This has occurred, for example, using exemptions within the framework for client protection – which typically requires an assessment of the appropriateness of the service – and the best execution of client orders.

Another factor that has partially contributed to the rise of gamification is the availability of order reception, transmission, and execution services (commonly referred to as brokerage) without any commissions charged to the client. While the absence of commissions does not, in itself, speed up the communication or execution of investment decisions, it plays a crucial role in accelerating the mental processes that lead to those decisions. This can result in a higher volume of transactions than what would be considered optimal – a phenomenon known as behavioural churning²⁴⁶. Here again, investors may rely on mental shortcuts that overlook key variables – deliberately made less salient by the service provider's strategy – making the decision-making process quicker and easier, though not necessarily more accurate.

246 J. FALLOW TIERNEY, *Investment Games*, 72 *Duke Law Journal* 353-446 (2022) in <https://scholarship.law.duke.edu/dlj/vol72/iss2/2>, p. 433.

1 «If you are not paying for it, you are the product»: gamification and zero-commission trading services

As previously discussed, the emergence of gamification in its current iteration has been substantially enabled by certain providers offering zero-commission trading services. This practice has recently undergone significant reform, resulting in an absolute prohibition under European law. The ban on providing brokerage services while accepting third-party payments will take full effect on 30 June 2026 in countries where the practice remains lawful. To clarify the rationale behind this prohibition and assess its merit, we will briefly examine two key aspects of how the absence of explicit commissions relates to gamification. The first is the influence of commission structures on investment behaviour; the second addresses the economic dynamics between such structures and platform operations.

1.1 The effects of the commission structure on investment decisions

The ability to place buy or sell orders for financial instruments without regard for transaction costs streamlines trading activities, enabling them to be conducted rapidly through electronic devices. While this speed does not match that of more advanced market participants, it is sufficient to facilitate quick decisions that may occasionally be impulsive or, even if considered, receive less scrutiny than the actual costs of investment and divestment would merit.

In financial markets, as in any other areas of the economy, there is no such thing as a free lunch, the costs of providing order reception, transmission, or execution services must be covered by alternative sources that replace the missing commissions. The source of revenue for the service provider, in these cases, takes the form of a wider spread applied to the order execution conditions. An example will help clarify this point.

Consider an example where an investor, A, uses trading platform X to submit a purchase order for one hundred shares. For simplicity, assume that the order is not executed internally²⁴⁷; instead, platform X forwards the order to a systematic internaliser, S, in exchange for a payment known as payment for order flow (PFOF)²⁴⁸. Platform X adopts this execution strategy because the payment from S offsets service costs in

247 Internalisation may, for instance, be prevented by rules requiring that orders relating to shares admitted to trading on a regulated market be sent to a trading venue or a systematic internaliser (the so-called trading obligation). Systematic internalisers are investment firms that, on an organised, frequent, systematic and substantial basis, deal on own account when executing client orders outside a trading venue (Article 4(1)(20), Directive 2014/65/EU - MiFID II).

248 The routing of orders to a systematic internaliser is a frequent scenario, so much so that it is taken as a reference in the proposal for the introduction of the PFOF ban (EUROPEAN COMMISSION, Proposal for a Regulation of the European Parliament and of The Council amending Regulation (EU) No 600/2014 as regards enhancing market data transparency, removing obstacles to the emergence of a consolidated tape, optimising the trading obligations and prohibiting receiving payments for forwarding client orders (COM/2021/727 final), 2021, p. 16). After all, routing orders to dealers who are not systematic internalisers could only concern limited volumes, while routing to a trading venue could not guarantee, where a plurality of market makers or other investors are present, that the order reaches a dealer with whom a payment-back agreement exists. See, however, the different model of the Lang & Schwarz trading venue, which operates with a single dealer, described later in the text.

place of commissions, which have been reduced to zero. S undertakes this role because it can earn revenue from the bid-ask spread on trades, buying financial instruments at lower prices and selling them at higher prices. After executing the transaction, A benefits from zero commissions, but this advantage may be offset by less favourable terms than might otherwise have been available.

The previous example illustrates how offering services free of charge downstream depends on being able to apply relatively less favourable execution conditions upstream to the same client²⁴⁹, although there is not complete certainty that these conditions are unfavourable in all cases. While these costs are subject to disclosure requirements discussed later, they tend to be less immediately obvious to retail clients than the clear absence of commissions. This situation reflects a dynamic similar to the availability heuristic, where information that appears more prominent can influence economic decisions more than other evidence that may be equally or more relevant but is less noticeable within the broader informational context (referred to as salience bias)²⁵⁰.

The potential hidden costs of services involving PFOF commercial strategies are subject to certain limitations and transparency requirements, as the next sections will show. These requirements often stipulate that relevant information be included within extensive and complex documentation, which may make it less likely for the average retail client to notice compared to disclosures about trading commissions²⁵¹.

As previously discussed, the emergence of gamification in its current form is partly linked to the capacity of certain trading platforms to provide commission-free services. Absent this commercial incentive, the group dynamics found on social media outlets – such as online forums and blogs, frequently influenced by financial content creators – will certainly survive, but one can expect that it might not result in trading volumes of the magnitude recently witnessed. Ultimately, it is the actual or perceived ease of access to trading services that largely accounts for the widespread public participation seen within these digital communities.

1.2 Platform economies and order routing

The contractual structure of PFOF reflects features commonly found in economic platforms²⁵². These infrastructures are characterized by operational dynamics shared with entities such as stock exchanges (regulated markets), credit card networks, telephone services, software providers like Microsoft, publishing companies, and online

249 M. FRANCHI, *Best execution, multiple trading venues e sistemi di scambi organizzati: alcune considerazioni generali ed un'analisi empirica del mercato dei Titoli di Stato*, Quaderno di Finanza CONSOB, disponibile su <https://www.consob.it/>, 2003, pp. 6 and ff.

250 R. H. THALER and C. R. SUNSTEIN, *Nudge. Improving Decisions About Health, Wealth, and Happiness*, Penguin Books, Londra, 2009, pp. 24 and ff. and 100 ff.

251 ESMA, 2022a, *cit.*, paragraph 174.

252 J. C. ROCHET and J. TIROLE, *Platform Competition in Two-Sided Markets*, in *Journal of the European Economic Association*, 990, 2003, p. 990; N. LINCIANO, G. SICILIANO and G. TROVATORE, *L'industria dei servizi di regolamento delle operazioni in titoli. Struttura, dinamiche competitive e questioni regolamentari*, in Quaderni di finanza CONSOB, No 58, 2005.

services such as Facebook or Amazon²⁵³. In this context, one notable feature of these platforms is their role in lowering search and transaction costs for different user groups. For example, credit card management services facilitate connections between merchants and consumers, while Facebook connects account holders with each other and with advertising service purchasers on the platform.

The case of Facebook demonstrates how cross-price elasticities of demand among different user groups can influence the platform's pricing strategies to optimise overall benefit. In some situations, this results in certain users accessing platform services at no cost or, in specific instances, receiving compensation. For example, depending on the bargaining power and reservation prices of both authors and readers, some publishing houses are funded solely by readers and compensate their authors – resulting in a negative price for authors – while others receive payments from both groups²⁵⁴.

Similar dynamics occur when incurring a loss on the side of the platform with high elasticity (referred to as the loss-leader segment) attracts enough users to produce positive externalities on the other side of the platform (the profit-generating segment). In this scenario, clients on the latter side are willing to pay for access to members of the first group, which can offset the platform's operating costs. For example, regarding credit cards, increased numbers of cardholders on a particular platform can encourage more merchants to join, as it increases the customer base less likely to use cash. Conversely, as more merchants participate, consumer interest in joining the platform also rises. These patterns result in positive externalities between the two groups, since the participation of consumers or merchants benefits not only themselves but also participants on the opposite side by expanding their potential interactions.

Analogies and differences with the Facebook model are evident: this social network also connects (at least) two groups of users: those who, having activated an account, use it to share content, and those who disseminate commercials. In this case, however, the positive externalities develop not only between the two sides of the platform but also on the same side: the more account holders there are, the more attractive the platform becomes for those wishing to connect to it.

The platform model provides an effective framework for analysing the structure of trading services markets. In this context, brokers become increasingly attractive and gain greater bargaining power with dealers – typically systematic internalisers – as the number of clients submitting orders grows. This is due to positive externalities that arise between the two sides of the trading platform. Notably, if retail clients were to interact directly, the broker could be classified as a trading venue under Article 4(1)(19), (21), (22), (23), and (24) of Directive 2014/65/EU (MiFID II)²⁵⁵.

253 M. RYSMAN, *The Economics of Two-Sided Markets*, in *Journal of Economic Perspectives*, 2009, p. 125.

254 In general terms, F. ZINGAL and F. BECKER, *Drivers of Optimal Prices in Two-Sided Markets: the State of the Art*, in *Journal für Betriebswirtschaft*, 2013, p. 87. For an example of negative pricing in the market infrastructure sector, see A. CYBO-OTTONE et al., *Recent Development in the Structure of Securities Markets*, in *Brookings-Wharton Papers on Financial Services*, 2000, p. 223.

255 On the regulatory perimeters of trading venues in light of the multilateral nature of the interactions that occur therein, see ESMA, 70-156-6360, *Final Report on ESMA's Opinion on the Trading Venue Perimeter*, 2023a.

It is important to note, however, that identifying a group of platform users as beneficiaries of free services can be complex. Taking Facebook as an example, while users do not make direct monetary payments, participation requires sharing personal data that can be assigned economic value.²⁵⁶ In relation to these practices, there is a commonly cited observation – though its attribution remains uncertain²⁵⁷ – that when a service is provided at no cost, the customers or, more precisely, their data, constitute the product. The economics of trading platforms, therefore, vary depending on whether or not they resort to PFOF. If they do, the price of the service exists but is less visible. However, whether they do it or not, the cost of providing the service is borne by the clientele (which tends to be retail).

Beyond the legal considerations concerning client protection, which will be addressed further later in the paper, a critical question arises: do the potentially higher spreads paid by clients outweigh the benefits gained from eliminating trading commissions? If so, zero-commission trading might ultimately disadvantage clients by exploiting certain cognitive biases, thus justifying regulatory measures such as the recently adopted absolute ban, provided that the overall advantages of such actions are evaluated against possible regulatory inefficiencies. These issues are examined in more detail in the following section.

2 The impact of PFOF on investors: some empirical evidence

The mechanism of PFOF raises significant concerns about whether reducing or eliminating commissions genuinely enhances execution conditions for client orders, particularly when considering the potential offsetting effect of increased bid-ask spreads used to compensate intermediaries and execution venues. In this context, perspectives differ; however, the prevailing view is that PFOF may be disadvantageous to investors.

Some studies that support the function of PFOF argue that competition among market makers for order flow can offset potential increases in the bid-ask spread, potentially providing overall benefits for final investors²⁵⁸. A notable study by the German authority BaFin examined execution conditions at the four main execution venues in Germany and found that these platforms frequently offer better conditions than the reference market for small trading volumes²⁵⁹. This may be particularly relevant for retail investors with lower investment amounts, as they are less able to absorb

256 J. GONZALEZ CABAÑAS et al. (2017), *FDVT: Data valuation tool for Facebook users*, in Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (ACM), p. 3799.

257 See e.g. J. LANCHESTER, *You are the product*, in *London Review of Books*, 2017, in <https://www.lrb.co.uk/v39/n16/john-lanchester/you-are-the-product>.

258 E.g., G. SCHUSTER and M. RAETZ, *op. cit.*

259 Tradegate Exchange, the Lang & Schwarz Exchange, Gettex and Quotrix.

traditional trading commissions. However, this advantage appears to decrease for larger trade volumes²⁶⁰.

A pertinent publication commissioned by Trade Republic confirms that the company consistently ensures execution conditions that are at least comparable to those of the reference market, such as Frankfurt's Xetra²⁶¹. The study indicates that, in over 20% of orders, execution conditions surpass those available on the reference market. Furthermore, the research finds that the implicit costs associated with the service remain lower than the fees typically imposed by Trade Republic's competitors, thereby offering a cost-effective solution for clients.

Other studies have raised concerns regarding the limitations of that analysis. For instance, ESMA itself observed that the research is limited to a comparison between execution conditions at the selected market maker and a single reference market²⁶². However, one may rebut that, although the methodology of the study does not allow for a comprehensive assessment of the execution quality, the benchmark chosen is still a highly liquid venue.

Academic literature frequently criticises PFOF, noting that it may result in reduced price improvement due to the necessity of widening bid-ask spreads to offset the associated costs²⁶³. Empirical studies conducted by some national supervisory authorities within the European Union have largely determined, in contrast with Bafin's results, that broker-routed orders typically receive inferior execution conditions compared to those available on trading venues under similar circumstances. Both the Dutch AFM²⁶⁴ and the Spanish CNMV²⁶⁵ have articulated this perspective regarding their respective markets.

A further element highlighted in the literature is that PFOF, by its very nature, tends to facilitate higher order volumes from retail clients²⁶⁶. Authors who view this as a negative development, partly due to the costs associated with the constant re-balancing of these clients' portfolio and the costs associated with it (churning), tend to consider PFOF a harmful dynamic²⁶⁷. Conversely, other scholars see greater market participation by retail investors as a positive development in itself, whether for the

260 The threshold is identified as 2,000 Eur for financial instruments traded on the DAX and 500 Eur in other cases (BaFin (2022)).

261 S. MEYER, C. UHR AND L. JOHANNING, *Private Investors and the emergence of neo-brokers: Does payment for order flow harm private investors?*, working paper in <http://www.ssrn.com/>, 2021.

262 ESMA (2022a), paragrafo 172.

263 A. FERREL, *op. cit.*, pp. 1032-3; S. DOLGOPOLOV, *Off-Exchange Market Makers and Their Best Execution Obligations: An Evolving Mixture of Market Reform, Regulatory Enforcement, and Litigation*, 17 *New York University Journal of Law and Business* 477, 2021, p. 479; N. WHITTEN, *op. cit.*, p. 713-4.

264 AFM, *Assessing the quality of executions on trading venues. The comparative pricing model*, disponibile su <https://www.afm.nl/>, 2022.

265 CNMV, *Payment for Order Flow: an analysis of the quality of execution of a zero-commission broker on Spanish stocks*, in <https://www.cnmsi.vedaes/>, 2022c.

266 SEC, *Staff Report on Equity and Options Market Structure Conditions in Early 2021*, 14 ottobre, in <https://www.sec.gov/>, 2021, p. 44.

267 N. WHITTEN, *op. cit.*, p. 741; N. WATERS, *op. cit.*, p. 396.

educational value of the trading experience or for greater market democratization and disintermediation²⁶⁸.

The clarifications introduced by the British FSA-FCA in 2012 within its supervisory guidance provide a resource for research in this regard, too. The significant limitations on PFOF implemented as a result have enabled analysis of the impact of such incentives on order execution quality. Evidence indicates that order execution quality improved following the reduction of PFOF²⁶⁹.

A noteworthy study undertaking a comparison between the quality of execution in dark pools for PFOF orders and that on trading venues with transparent order books found contrasting results with respect to the US market, instead. Specifically, it determined that spreads observed on routed orders were, on average, narrower than those on transparent trading platforms²⁷⁰. However, this outcome can be attributed not to an inherent advantage of PFOF in order execution, but rather to the potential adverse impact that PFOF practices may exert on the efficiency of more transparent markets²⁷¹.

This line of argumentation is the guiding perspective of a notable avenue of research, which is less central to the investor protection debate but provides very useful insights. These studies examine the impact of PFOF not much on individual client welfare but more broadly on overall market efficiency and integrity. Predominantly originating from the United States, this body of analysis should be interpreted with caution when applied to the European context. However, it can nonetheless offer valuable general insights. The literature in this field typically identifies two primary issues associated with PFOF.

The first issue relates to how PFOF, due to its characteristics, often results in orders being routed to execution venues that are less transparent than trading venues. When PFOF becomes widespread – potentially influenced by the growth of gamification – markets may become overall less transparent, which contradicts the overarching policies that foster visibility and accessibility of buying and selling interests²⁷². In the US, these practices can diminish the relevance of NBBO data within the national market system (NMS). In Europe, routing orders to systematic internalisers can produce comparable outcomes. This occurs because, absent a trading book, pre-trade transparency

268 J.E. FISCH, *op. cit.*, p. 1799.

269 CFA INSTITUTE, *Payment for Order Flow. Internalisation, Retail Trading, Trade-Through Protection, and Implications for Market Structure*, Policy Brief, in <https://www.cfainstitute.org/>, 2016a; CFA INSTITUTE, *Payment for Order Flow in The United Kingdom. Internalisation, Retail Trading, Trade-Through Protection, and Implications for Market Structure*, in https://www.cfainstitute.org/_2016b; FINANCIAL CONDUCT AUTHORITY (FCA), *Market Watch. Newsletter on market conduct and transaction reporting Issues No 51*, in <https://www.fca.org.uk/>, 2016, p. 5 (where it was found that PFOF reduced free competition among trading venues, excluding from the selection made by brokers those that did not use this practice, even though they might offer better execution conditions).

270 S. ADAMS, K. CONNOR and K. ERIC, *Do Investors Save when Market Makers Pay? Retail Execution Costs Under Payment for Order Flow*, Working Paper, in <https://www.ssrn.com/>, 2021.

271 N. WATERS, *op. cit.*, pp. 395 s.

272 R. BATTALIO and T. LOUGHRAN, *Does Payment for Order Flow to Your Broker Help or Hurt You?*, 80 *Journal of Business Ethics* 37, 2008.

obligations only extend to quotes from systematic internalisers²⁷³ – moreover, the ability to interact with these quotes is restricted to the internalisers' clients²⁷⁴. However, this kind of negative externalities does not occur where, as demonstrated by the Trade Republic example, orders are directed to execution venues that, while having only one market maker acting as a counterparty, still qualify as trading venues.

The second concern is that orders routed through Payment for Order Flow (PFOF) inherently possess characteristics that can differ from those of other orders. Notably, retail investors may display a lower level of market expertise, which means their trading activity often reflects less informational advantage, such as access to privileged information or in-depth market and fundamental analysis. Consequently, these orders are sometimes referred to as 'dumb money'²⁷⁵. The systematic internaliser's awareness of the typical quality of such retail buy and sell orders enables the provision of improved execution conditions compared to scenarios where there is greater information asymmetry regarding order origins, ultimately benefiting retail investors²⁷⁶.

For the same reason, however, removing this order flow from execution venues subject to greater transparency or open to competition among dealers reduces the quality of lit trading. In fact, order books will contain a greater proportion of orders determining higher average exposure to adverse selection, thus widening the bid-ask spread as a reaction from other participants²⁷⁷.

At the same time, however, the dynamics of social media interactions, as discussed in the previous section, may render the retail investors who participate less uninformed than their traditional peers. Far from being the result of independent trading decisions, these orders may be the result of express or implied coordination that remains unknown to the professional counterparties. Hence, the higher average quality of client orders, in the sense indicated above, may no longer be a given as in the past.

273 Moreover, these transparency obligations are directed at the general public without requiring a request from a client only for equity and equivalent financial instruments that are traded on a trading venue and provided there is a liquid market for such instruments (Article 14 MiFIR). The new MiFIR regulation is in any case destined to make systematic internalisers more transparent in these respects (EUROPEAN PARLIAMENT and COUNCIL, *Regulation (EU) of the European Parliament and of the Council of amending Regulation (EU) No 600/2014 as regards enhancing data transparency, removing obstacles to the emergence of consolidated tapes, optimising the trading obligations and prohibiting receiving payments for forwarding client orders - Confirmation of the final compromise text with a view to agreement* (13972/23), 2024a).

274 Clients whom, in any case, systematic internalisers must select based on objective and non-discriminatory criteria, for example with regard to the creditworthiness of the potential client or the relative counterparty risk (Article 17 MiFIR).

275 J. MCCRANK, *US Online Brokers Still Profiting from 'Dumb Money'*, Reuters, in <https://www.reuters.com/>, 2019.

276 F. ARAMIAN and L. NORDÉN, *Costs and benefits of trading with stock dealers: The case of systematic internalizers*, 29 *European Financial Management* 1, 2023.

277 The dynamic may worsen when the market makers who acquire the orders are able to discriminate by selecting the orders to acquire (R. BATTALIO AND C. HOLDEN, *A simple model of payment for order flow, internalization, and total trading cost*, 4 *Journal of Financial Markets* 33, 2001).

3 Trading platforms and investor protection: an effective system?

The European legal framework establishes a range of measures designed to protect investors who receive trading and other investment services. Several of these measures are particularly pertinent in the context of systems utilizing PFOF; however, their relevance in zero-commission trading will inevitably diminish following the complete prohibition of PFOF from June 2026 onward. Other provisions continue to safeguard clients against risks present even in traditional commission-based regimes, where fees are charged directly for trading services. A concise analysis of these protections can help clarify their role in relation to the gamification dynamics discussed in previous chapters.

3.1 Disclosure of costs

Just like other investment services, order reception and transmission, as well as order execution services, are subject to transparency requirements regarding their features and associated costs. Intermediaries must ensure clients receive adequate information (Article 24, para. 1, lit. b, of the Italian Consolidated Law on Finance - Tuf). For these services, this includes explaining, in language appropriate for retail clients when relevant, the risks related to specific financial instruments and how they may behave under various market conditions, including an indication of volatility. If the investment involves financial leverage, as can be the case on trading platforms²⁷⁸, information must also cover the resulting risks and additional obligations, such as potential margin payments (Article 44, para. 2, lit. d, and Article 48 Reg. (EU) 2017/565).

Due to the influence of marketing strategies for trading services, it is important to highlight the requirement that relevant information is provided 'in good time' before the commencement of the service. There are exceptions to this, particularly if the method of communication used to enter into a contract for financial instruments makes prior disclosure impractical. In such cases, the service may only be provided if the client consents to receive the necessary information afterward and retains the choice to follow the standard information procedure, in which regulatory disclosures are made in advance. Even when transactions are completed before the information is received, clients are still entitled to obtain at least details regarding costs and charges by telephone before the transaction is finalized (Article 24, paragraph 4, subparagraphs 3 and 4, MiFID II; Article 46, paragraph 3, Regulation (EU) 2017/565).

278 In practice, leveraged (or margin) trading via zero-commission platforms is more frequent with regard to options, which by their nature offer the possibility of multiplying profits (and losses) (S. BRYZGALOVA, A. PAVLOVA and T. SIKORSKAYA, *Retail Trading in Options and the Rise of the Big Three Wholesalers*, 78 *Journal of Finance* 3465, 2023). Sometimes, the platforms themselves apply the zero-commission regime only to non-leveraged activity, which allows for limiting incentives for excessive risk-taking (see, with regard to eToro, O. EVEN-TOV et al., *Fee the People: Retail Investor Behavior and Trading Commission Fees*, MIT Sloan Research Paper No. 6801-2022, 2023).

Disclosure of implicit costs is an essential aspect of zero-commission trading, as the absence of explicit fees may obscure underlying expenses. Consequently, under Article 50 of Regulation (EU) 2017/565, information concerning costs and charges must also include payments – commonly referred to as inducements – that intermediaries receive from third parties in connection with services provided²⁷⁹. Such disclosures should be presented both in absolute terms and as a percentage of the total service cost, thereby promoting greater client awareness²⁸⁰. Within the framework of the Retail Investment Strategy, the European Commission has proposed further enhancements to these disclosure requirements, including standardized client communications using templates developed by ESMA. These templates are informed by consumer and industry testing and are designed to clarify both the amount and the purpose of inducements²⁸¹.

Zero-commission trading has achieved significant market penetration, partly due to the ways in which platforms and related service information are presented, including through fin-influencers. Gamification is based on the principle that investment activities do not have to be monotonous. An important aspect in this context is the regulation of marketing. Intermediaries must ensure that marketing communications remain consistent with those subject to transparency requirements (Article 46, para. 5, Reg. (EU) 2017/565). Additionally, the European Commission has submitted a proposal for a comprehensive legal framework regulating the marketing of investment services. If implemented, this proposal would require information to be provided according to criteria set by the Commission, ensuring it is understandable to its intended audience, with specific attention to the risks associated with the marketed investment services or financial instruments²⁸².

These provisions are further complemented by requirements concerning the information clients are entitled to receive following the conclusion of an investment services contract. Of particular importance is the client's right to obtain confirmation of order execution, as well as comprehensive details regarding the total execution cost and related commissions. Clients may also request, upon specific instruction, a detailed breakdown of charges by individual item (Article 59, para. 4, lit. m, Reg. (EU) 2017/565). This information is supplemented by post-transaction communications outlining costs and charges. As with pre-transaction disclosures, these must indicate both the absolute value and percentage of any payments received by the intermediary from third parties in connection with the service provided (Article 50 Reg. (EU) 2017/565).

279 Since this is forward-looking data, intermediaries must refer to an estimate based on previously incurred costs (Article 50, para. 8, Reg. (EU) 2017/565).

280 A. PERRONE, *Il diritto del mercato dei capitali*, Giuffrè, Milano, 2020, p. 220.

281 COMMISSIONE EUROPEA, Proposal for a Directive of the European Parliament and of the Council amending Directives (EU) 2009/65/EC, 2009/138/EC, 2011/61/EU, 2014/65/EU and (EU) 2016/97 as regards the Union retail investor protection rules (COM/2023/279 final), 2023, pp. 13 and 44 s. (article 24b).

282 COMMISSIONE EUROPEA (2023), *cit.*, pp. 41 and 46 and ff. (artt. 24(5c) and 24c).

Equally important given the inherent risks associated with leveraged positions, intermediaries must notify clients within the same business day of any depreciation of 10% or more in the value of a financial instrument, as stipulated in Article 62, paragraph 2 of Regulation (EU) 2017/565.

3.2 Transparency in order execution

Among the transparency obligations associated with zero-commission trading and gamification dynamics, intermediaries are required to disclose their order execution or transmission policy. This document – which is further examined in section 3.6 of this chapter – outlines the criteria intermediaries use when selecting the venue for order execution or, in the case of a transmission policy, the intermediary responsible for executing the order (Article 48 Reg. Intermediari; Article 27, para. 5, subpara. 2, MiFID II; Article 66 Reg. (EU) 2017/565)²⁸³. The execution of orders outside trading venues, including through systematic internalisers, such as occurs with PFOF, necessitates that clients receive prior information and provide explicit consent. This consent may be granted on a one-time basis before any trading services are provided (Article 48, para. 2, lit. b, Reg. Intermediari).

While the order execution policy is programmatic in nature, as it defines a commitment to future conduct by the intermediary, the backward-looking aspect of this policy is the obligation for the same intermediary to report annually on the quality of order execution. This should allow for a general verification of the implementation and effectiveness of the execution policy²⁸⁴. Under the current regulation, the intermediary must indeed continuously monitor and analyse the quality of execution of orders at the execution venues used and disclose the results of this analysis. The information is provided for each class of financial instrument²⁸⁵. The details to be provided include the relative importance attributed to the different execution parameters (price, total cost, speed, and likelihood of execution), with evidence of differences between client categories and, what is particularly relevant here, a «description of any specific arrangements made with the execution venue regarding payments made or received» (Article 3, para. 3, lit. c, Reg. (UE) 2017/576 - RTS 28).

Complementary to this form of transparency is the obligation for intermediaries to disclose – separately for professional and retail clients – the top five execution venues by trading volume for all client orders executed for each class of financial instrument (Article 27, para. 6, MiFID II; Article 65, para. 6, Reg. (EU) 2017/565; Article 3, para. 1, RTS 28). In the case of PFOF, a particularly relevant piece of information in this context is also that which responds to the duty to indicate how many of the orders executed at each of the top five execution venues are so-called 'directed' orders, i.e.,

283 The document is also referred to in the summary of executed orders (Article 66, para. 9, Reg. (EU) 2017/565).

284 For a critique of the actual utility of the regulation, not so much in the abstract as for the limited homogeneity and effectiveness of its application, see P. KRÜGER ANDERSEN, Time to Reduce Complexity in a Data-Driven Regulatory Agenda - Perspectives on the MiFID II Best Execution Regime, 17 European Company and Financial Law Review 692, 2020.

285 For equities, classes are distinguished based on their relative liquidity.

accompanied by an indication of the selection of the execution venue by the client, an element that characterizes the operations of some neobrokers, as will be further indicated (see *infra*).

However, the obligation to report on the quality of order execution, including the indication of the top five execution venues, will be repealed upon the entry into force of the recent reform of the regulation of trading venues²⁸⁶. The reason for this reversal lies in the lack of confidence, in light of practical experience, in the ability of the transparency regime to guide investor choices²⁸⁷. This revision of reporting obligations on best execution follows the similar fate of another obligation, partly instrumental to the previous one, imposed on execution venues that qualified as trading venues or systematic internalisers. These were in fact required to disclose – with regard to financial instruments subject to trading obligations, including shares admitted to trading on regulated markets – the costs applied to their members or users. The elements subject to publication also included the nature and level of any payments offered to users of the execution venue as well as information on their modulation according to the user or financial instrument (Article 5, para. 3, lit. b, Reg. (EU) 2017/575 - RTS 27). This obligation was to be fulfilled in the context of the periodic reports that the aforementioned execution venues were required to present, at least annually, on the quality of order execution (Article 27, para. 3, MiFID II; RTS 27). However, as anticipated, the obligation in question no longer applies: it was first suspended due to the limited use by investors of the information thus made available (recital 9 and Article 1, para. 6, Directive (EU) 2021/338) and was subsequently repealed in the context of the aforementioned reform of trading venues²⁸⁸.

The European legislature has therefore reduced the information due on the quality of execution. Moreover, the ability of this information to influence client behaviour is diminished by the lower salience of the data in question compared to a simple indication of execution costs²⁸⁹. More effective in this sense could be a reduction in emphasis on the price of the service, which, as mentioned, is misleading to the extent that the client perceives that the service comes free of costs. To this end, ESMA has stated that it considers the presentation of zero-commission broker services as 'cost-free' to be incorrect²⁹⁰. For the future, the consolidated information on the best bid and ask offers made available by consolidated tape providers has a stronger potential to facilitate an assessment of the quality of order execution²⁹¹.

286 COUNCIL AND EUROPEAN PARLIAMENT, Directive (EU) 2023/... of the European Parliament and of the Council of... amending Directive 2014/65/EU on markets in financial instruments - Confirmation of the final compromise text with a view to agreement (13973/23), 2024b, p. 19 (Article 27).

287 Ibid, p. 9 (Recital 7).

288 Ibid, p. 19 (article 27).

289 In general, on the limited value of transparency in ensuring better execution of orders, see A. FLECKNER, *Regulating Trading Practices*, in Niamh Moloney, Eilís Ferran and Jennifer Payne (a cura di), *The Oxford Handbook of Financial Regulation* (Oxford University Press, Oxford), 2015; N. MOLONEY, *How to Protect Investors*, Cambridge University Press, Cambridge, Cambridge, 2010, pp. 348 and ff.

290 ESMA (2022a), paragraph 180.

291 COUNCIL AND EUROPEAN PARLIAMENT (2024b), cit., p. 9 (Recital 7).

It is worth recalling that cost transparency is the strategy traditionally preferred by the Securities and Exchange Commission (SEC) in the United States, which are an interesting point of comparison due to its pioneering role in the spread of zero-commission brokers. However, the developments related to the GameStop case have led the SEC itself to assess whether the traditional approach based solely on transparency was capable of ensuring satisfactory outcomes from the perspective of investor protection and market efficiency, prompting the Authority's chairman to call for a ban on PFOF²⁹². Although no such proposal has been presented (as opposed to the strategy followed in the European Union), the SEC has proposed to strengthen the conduct-of-business rules, as we will see. As to transparency, it should in any case be remembered that the availability of information on the National Best Bid and Offer (NBBO) makes it easier to verify the quality of execution in the US and, therefore, to sanction any violations, the Robinhood saga being a case in point²⁹³.

3.3 Obligations to verify the appropriateness of the transaction

Transparency regulation is the typical remedy to which policymakers resort in case of widespread regulatory failures²⁹⁴. However, awareness of the limited effectiveness of this approach has gradually spread, particularly in the presence of constraints – such as bounded rationality – that curb clients' ability to understand and correctly use the information received. In these cases, the regulatory strategy may rely on rules of conduct, de facto subordinating the provision of the service to the adoption of minimum quality requirements, precisely on the assumption that clients may well be unable to determine whether the level of protection spontaneously guaranteed is sufficient for their needs.

This explains the conduct-of-business rules for brokerage services. For our purpose, we can include in such services the reception and transmission of orders concerning one or more financial instruments, as well as the execution of orders on behalf of clients (Annex I, Sec. A, nos. 1 and 2, of the Italian Consolidated Law on Finance – Tuf). The provision of these services requires the intermediary to verify, once the relevant information has been obtained from the client, that the client possesses the necessary knowledge and experience to understand the risk associated with investing in the financial instruments that form the object of the service (Article 21 Tuf; Article 35 Reg. Intermediari CONSOB, enacted in transposition of Article 25 MiFID II; Arts. 55 and 56 Reg. (EU) 2017/565).

If the intermediary concludes that the execution of the order (and, therefore, the purchase of the financial instrument) is not appropriate for the client – because this is unable to understand the risks the investment involves – or in the event that the client refuses to provide the requested information, it must warn the client of this

292 REUTERS, *SEC chairman says ban of payment for order flow 'on the table'*, 30 agosto, in <https://www.reuters.com/>, 2021.

293 SEC, *Administrative Proceeding In the Matter of Robinhood Financial, LLC*, Respondent, File No. 3-20171, in <https://www.sec.gov/>, 2020.

294 T. LAMBERT, *How to Regulate, A guide for Policymakers*, Cambridge University Press, Cambridge, 2017, p. 197.

judgment²⁹⁵ or, respectively, of its impossibility to assess the appropriateness. For the time being, the intermediary's assessment is therefore limited to a comparison between the risks of the financial instrument, on the one hand, and the client's ability to make consistent investment decisions in relation to those risks, on the other. This assessment could become more comprehensive if the European legislators approve the European Commission's proposal on the so-called Retail Investment Strategy (RIS). The package of proposed reforms includes, in fact, the expansion of the appropriateness assessment to the client's ability to bear the potential losses associated with the financial instrument, thereby bringing the role of the intermediary closer to that of an adviser, but without an assessment of the client's investment objectives.

Whether in the current framework or in the RIS, the alert sent to the client does not involve an absolute block on the transaction. The client can still confirm the original intention, thus obtaining the provision of the service and, therefore, the execution of the order. While a warning of this type does not have the effect of preventing the transaction, its effectiveness should not be underestimated, especially in the context of the gamification of financial services. In fact, the alert can reshape the recipients' perception, drawing their attention to the risks their decisions involve. Measures of this kind can alter investors' decision-making mechanisms by helping them focus on a key consequence of their actions (the risk), to the detriment of other aspects (such as potential returns) that are momentarily placed in the background²⁹⁶. This results in a shift from the so-called 'system 1' decision model – which relies on speed at the expense of the logic of cost-benefit analysis – to 'system 2' models, characterized by greater rationality²⁹⁷.

The warning is not, however, a decisive remedy, whether from the perspective of decision theory or from a legal point of view. There is indeed no certainty that it can overcome overconfidence and confirmation biases²⁹⁸.

Moreover, from a legal perspective, a message of this type might, by its nature, be reiterated without limits, if only for the fact that the frequency of order repetition – which is very high in the context of the gamification of trading – easily leads to the acquisition of greater experience. As such, the warning's ability to counter compulsive trading (which may lead to behavioural churning) in the context of gamification is limited.

In any event, even the appropriateness regime does not always apply to online trading. To make online trading more fluid, EU law provides that, where a trading order

295 When the client refuses to provide the requested information, the intermediary communicates the impossibility of assessing the appropriateness of the service or financial instrument.

296 On the role of attention as a characterizing element of decision-making mechanisms with greater rationality, see D. KAHNEMAN, *op. cit.*, p. 22.

297 *Ibidem*.

298 M. ARRIGONI, *The GameStop Case and Investor Protection. Towards a New Regime for the Provision of Executive Investment Services*, *Orizzonti del Diritto Commerciale*, 2021a, p. 962, notes the ineffectiveness of the remedy.

relates to a non-complex financial instrument²⁹⁹, clients may ask upon their own initiative to lift the appropriateness assessment, provided that they have been informed of the reduced protection this involves and subject to other protective measures, such as the regimes on conflicts of interest and inducements³⁰⁰. This way, EU law seeks to avoid the risk that a protective measure, such as the appropriateness assessment, translates into a detriment for the investor. The time required for the assessment and, where applicable, for sending the warning and then for the eventual confirmation of the order can in fact easily lead to a loss of opportunity on the market.

Remarkably, platforms offering zero-commission trading services often prefer not to offer this 'execution-only' regime³⁰¹. An explanation may be that they might want to avoid the risk of infringing the provision that execution-only must be initiated by the client, which is not always compatible with aggressive commercial policies. Only a generalized communication is compatible with the client initiative requirement (Recital 85 MiFID II)³⁰², although the initiative need not be 'exclusive' for the mere execution of orders regime to apply³⁰³.

3.4 The conflicts of interest regime

A further protective measure is the conflicts of interest regime, which relies on multiple regulatory strategies, including structural, procedural, and informational. To focus on just a few of them, EU law stipulates that each investment firm must first adopt organizational measures to identify and prevent potential conflicts of interest with its clients (or between clients) and to manage those conflicts should they nevertheless arise.

Supporting these provisions is the broker's duty to design a conflict-of-interest policy, to be disclosed to the client in summary and, upon request, in detail (Article 47, para. 1, lit. h and i, Reg. (EU) 565/2017). The policy specifies how the firm applies the legal provisions on conflicts of interest. It must, among other things, identify the circumstances that could potentially harm the client's interest due to the conflict and establish the procedures to follow to prevent or manage them (Article 34, paras. 1 and 2, Reg. (EU) 565/2017). Among the circumstances to be considered as relevant sources

299 Such as shares admitted to trading on a regulated market or an MTF (Article 25, para. 4, lett. a, MiFID II; Article 43, para. 1, lett. a, Reg. Intermediari; Article 57 Reg. (EU) 2017/565).

300 *Ibid*, p. 957.

301 TRADE REPUBLIC, *Customer agreement*, *cit.*, in <https://assets.traderepublic.com/>, 2020, p. 28, par. 3.5 Appendix 1.1 and TRADE REPUBLIC, *Report on the execution quality of the execution venues 2022*, in <https://assets.traderepublic.com/>, 2022a, 35, paragrafo 3.5 Appendix 1.1 (which instead reads: «Trade Republic does not perform an appropriateness test with respect to the following financial instruments: shares admitted to trading on an organized market, on a market of a third country equivalent thereto or on a multilateral trading facility; bonds and ETFs, insofar as they are not complex financial instruments»).

302 ESMA, 2023b, *cit.*, p. 41.

303 This differs from the analogous restriction on the provision of investment services by third-country investment firms within the Union, where the 'exclusive initiative' of the client is considered, and where it is therefore excluded that this mode of initiating business relationships with clients is compatible with any prior promotion or advertising of investment services (recital 111 and Article 42 MiFID II).

of conflict are situations where the broker is likely to make a profit to the detriment of the client or receives inducements (Article 33, lit. a and e, Reg. (EU) 565/2017). Inducements are benefits of monetary – such as PFOF – or non-monetary nature (paid to or obtained from parties (such as the dealer in the previous example) other than the client to whom the service is provided and which, therefore, tend to also satisfy the interests of these other parties.

Given their potentially harmful impact, inducements are subject to specific regulation. This regulation, however, does not make the general conflict-of-interest regime inapplicable, despite the species-to-genus relationship. In the case of PFOF, it is evident that the very structure of the relationships among the involved parties (client, broker, dealer) gives rise to a conflict of the type mentioned. In this sense, prevention can hardly be a remedy, short of abandoning the adopted model, something that only an outright ban by the European legislature could achieve³⁰⁴. The next safeguard in the conflict-of-interest regime, namely managing the identified conflict, yields only slightly more significant results. The management of conflicts includes, in particular, the adoption of 'reasonable' measures that can prevent detrimental consequences for the client's interest. Once again, this was no obstacle to the PFOF, as intermediaries could (at least in some jurisdictions) simply adopt systems to monitor the execution prices of transactions or could limit themselves to renouncing the power to determine the execution venue of trading orders. For example, the policies established by a leading operator in the sector provided, among the prevention and management strategies, that the broker adopts measures capable of ensuring transparency in price formation and, most important, that the client determines the execution venue. However, the same strategy established that clients could only choose among the execution venues that the broker had previously selected. A conflict-of-interest policy of this kind could offer little protection from the risks of PFOF when all the execution venues on the list committed to pay inducements to the broker.

In practice, the effectiveness of a broker's strategies to prevent potential disadvantages for the client appears to depend mainly on how the order execution conditions are set. This aspect is governed by additional specific regulations (besides those already noted regarding inducements), and will be discussed separately later.

If neither prevention nor conflict management strategies are sufficient to reasonably eliminate the risk of harming clients' interests, the service provider must inform clients clearly, brokers, in particular, must do so before processing an order. This disclosure must cover the existence, nature, and sources of the conflict, as well as the steps taken to minimise its effects (see Arts. 16(3), para. 1, and 23 MiFID II; Article 21, para. 1-*bis*, points a), b), and c)).

This regulatory approach allows clients to choose whether to use a service, but with more information. Since disclosure was previously used as a quick fix for weak conflict-of-interest procedures, current law requires disclosures to detail the specific

304 In the United States, the chairman of the SEC has stressed that PFOF gives rise to an irredeemable conflict of interest, although he does not consider a ban on the practice to be feasible (L. BEYOND AND KATHERINE DOHERTY, *SEC Set to Let Wall Street Keep Payment-for-Order-Flow Deals*, Bloomberg, 22 september, 2022).

conflict and risks involved, and emphasizes this should be a last resort (Article 34, para. 4, Reg. (EU) 565/2017). Frequent disclosures indicate that conflict management procedures need improvement (Article 34, para. 5).

These rules have often failed to prevent conflicted or harmful conduct toward clients. Since the regulation's inception, indeed, disclosure has been seen as a possible loophole in the regulatory architecture³⁰⁵. European regulations acknowledge that this remedy may not always be effective, even when it is not used systematically. For this reason, when the conflicts get particularly complex, special provisions specify that if preventive and management measures are not effective, offering the service is prohibited. In other cases, conflict management processes must consider the possibility of not providing the service (see Article 38, paragraph 2, and Article 41, paragraph 2, Regulation (EU) 565/2017, which relate to underwriting, placement, and placement of self-issued financial instruments).

PFOF has never been mentioned in these special rules, but was recently made subject to a generalized ban. This ban also responds to the divergent interpretations that have affected the regulation on conflicts of interest at national level. In some jurisdictions – for example, in Germany – PFOF was deemed to be compatible with MiFID II and its implementing measures. At the same time, as early as 2012, the UK FSA, which was back then responsible for enforcing national measures transposing the MiFID I Directive, noted that it was particularly difficult for brokers using PFOF to be able to demonstrate compliance with the rules on conflicts of interest. Even more difficult, according to the FSA, was to consider the PFOF regime compatible with the rules on inducements, on which the next section will focus.

3.5 The inducements regime

In the European regime on investment services, 'inducements' refer to fees, commissions, or non-monetary benefits that are paid by a third party to the provider of an investment service (or paid by the latter to a third party) in connection with the provision of the same service (or an ancillary one) (Article 24, para. 7, lit. b, paras. 8 and 9, MiFID II; Arts. 11 ff. Dir. (EU) 2017/593). Receiving inducements leads to an evident conflict of interest because the performance of the service may be oriented towards maximizing the intermediary's benefits rather than those of the client, as required by the MiFID II principles (Article 24, para. 1, MiFID II). In the case of so-called 'zero-commission' trading, the routing of client orders may in particular be directed to execution venues that guarantee greater payments to the broker, even if this entails less favourable price conditions for the client.

In light of the distortions that the receipt of inducements can create, this practice is subject to strong restrictions, making its regulation much more stringent than the general regulation of conflicts of interest (which remains applicable). The rules

³⁰⁵ For a generally negative assessment of the effectiveness of the regulation, see already L. ENRIQUES, *Conflicts of Interests in Investment Services: The Price and Uncertain Impact of MiFID's Regulatory Framework*, in Guido Ferrarini and Eddy Wymeersch (a cura di), *Investor Protection in Europe*, Oxford University Press, Oxford, 2006, p. 326.

on inducements differentiate the protection regime according to the service provided, so that the rules are more restrictive for services with higher added value and where clients rely more heavily on the professional judgments of the provider, as is the case with portfolio management and independent advice. In such cases, any monetary benefit received by the intermediary must be transferred to the client as soon as possible (Article 24, para. 7, lit. b, and para. 8 MiFID II; Article 12 Dir. (EU) 2017/593). Intermediaries may retain only non-monetary benefits of a minimal amount and only in limited cases, including the relevant informational documentation and when the inducement can enhance the quality of the service provided (Article 12, para. 2, lit. e, Dir. (EU) 2017/593).

The quality enhancement test, however, is particularly relevant in the general inducement regime, which is of concern to our analysis as it includes order execution. In this case, services are still subject to a general prohibition on the receipt (and payment) of inducements, but there is broader room for flexibility. For instance, intermediaries wishing to avoid the general prohibition on inducements shall demonstrate that such inducements are aimed at enhancing the quality of the service to the client and do not prejudice the obligation to act honestly, fairly, and professionally in the best interests of the counterparty (Article 11 Dir. (EU) 2017/593)³⁰⁶.

This general regulation applied to PFOF as well. As a consequence, the receipt of a fee in connection with the routing of orders to specific execution venues was not permitted unless compatible with the regimes on inducements – including the quality enhancement test – and conflict of interest (Article 27, para. 2, MiFID II, which was repealed following the adoption of the generalized ban on PFOF).

As CONSOB pointed out³⁰⁷, the key requirement for assessing the admissibility of inducements in the case of PFOF is the ability of this practice to improve the service provided to clients. This issue can be approached from (at least) two perspectives. From the perspective of the single investment contract, the question is what conditions inducements should satisfy to enhance the service. From the perspective of market structure, the question is whether PFOF has an impact on competition among execution venues, which in turn may affect liquidity, spreads and, ultimately, the conditions of order executions.

Both perspectives involve issues related to the duty of best execution, to which we will return in the next section. However, they also raise general doubts concerning the enforcement of the MiFID II regime. The reason is that answering the questions above can be very difficult from a theoretical standpoint, because the benefits inducements may bring to the client will depend, for each order to trade, on the conditions of that order's execution. In turn, those conditions shall be assessed both in absolute terms and relative to the alternatives available on the market at a given time.

³⁰⁶ For a critical summary, see F. ANNUNZIATA, *op. cit.*, p. 16.

³⁰⁷ CONSOB, *Dichiarazione sui casi di anomala volatilità nella negoziazione di azioni e nell'utilizzo di social forum e piattaforme di trading on-line*, 13 aprile 2021.

An even more complex analysis is required to ascertain whether PFOF has actually caused harm (or even just a loss of profit) to the client with regard to the specific sale and purchase contract. This assessment would involve a difficult counter-factual analysis of the commissions saved and whether these could more than compensate for the potential loss in terms of order execution quality³⁰⁸.

In any event, unlike the corresponding regime for insurance services (Article 29 Directive (EU) 2016/97 – Insurance Distribution Directive, IDD), the burden of proof regarding the compatibility of inducements with the pursuit of the client's best interest rests with the investment service provider (Article 24, para. 9, and Article 27, para. 2, MiFID II). It follows that, in case of uncertainty, the PFOF system should not be considered permissible.

This line of reasoning helps explain the approach taken towards PFOF in some jurisdictions where financial markets are particularly well-developed. As early as 2012, the UK FSA established that, under the regulation applicable at the time, which remarkably was less restrictive than the current one, there was very little room for implementing PFOF strategies without violating the rules on conflicts of interest, inducements, and (as we will see in the next section) best execution³⁰⁹. Following the publication of this guidance, the UK Financial Conduct Authority (FCA), the successor to the FSA on investor protection matters, has regularly supervised PFOF³¹⁰, observing that the guidance had largely eliminated it.³¹¹ More specifically, the use of PFOF has proved to be recessive for retail clients in that jurisdiction, with the exception of derivatives markets and trading from eligible counterparties.³¹² For these clients, the issue was not so much best execution or inducements but rather conflicts of interest – the only relevant regime that applies to eligible counterparties (Article 30 MiFID II).

Even more radical was the approach taken in the Netherlands. As early as 2013, under the MiFID I Directive 2004/39/EC, the Dutch policymakers adopted an absolute ban on inducements. This included PFOF, which was expressly indicated among the practices that the said regulation was intended to eradicate³¹³. The Dutch approach was made possible by the MiFID I provision (later confirmed in MiFID II), that in matters relating to investment services Member States could adopt more restrictive measures than those provided for in the MiFID II, in spite of the EU maximum harmonisation

308 For an analysis, see G. SCHUSTER AND M. RAETZ, *op. cit.*, 153 and ff.

309 FINANCIAL SERVICES AUTHORITY (FSA), *Guidance on the practice of 'Payment for Order Flow'*, in <https://www.fca.org.uk/>, 2012.

310 FINANCIAL CONDUCT AUTHORITY (FCA), *Payment for Order Flow (PFOF) – Dear CEO letter*, in <https://www.fca.org.uk/>, 2017.

311 In some cases, even after a specific supervisory action aimed at suppressing attempts to circumvent the restrictive interpretation described above by artificially presenting the payment back of commissions as remuneration for services of a different nature (FINANCIAL CONDUCT AUTHORITY (FCA), *Best execution and payment for order flow*. Thematic Review, TR14/13, in <https://www.fca.org.uk/>, 2014).

312 FINANCIAL CONDUCT AUTHORITY (FCA), *Payment for Order Flow (PFOF)*, in <https://www.fca.org.uk/>, 2019; FINANCIAL CONDUCT AUTHORITY (FCA), *Market Watch*. Newsletter on market conduct and transaction reporting Issues No 51, in <https://www.fca.org.uk/>, 2016.

313 MINISTRY OF FINANCE OF THE NETHERLANDS, *Notification of additional requirements under Article 4 Directive 2006/73/CE (FM/2013/2120 M)*, in <https://www.europa.eu/>, 2013.

regime. This option is limited to exceptional cases, to be notified to the European Commission, where there is a need to address risks to investor protection or market integrity that are specific to the national context of the country concerned, subject to the constraint of proportionality of the measures adopted (Article 4 Directive 2006/73/EC and Article 24, para. 2, MiFID II). The approach of the Netherlands, while reaching a result that is comparable to the UK interpretation, is therefore based on very different premises. The Dutch decision to resort to exceptional measures of super-equivalence reveals a distrust in the ability of European rules – or of their interpretation – to prevent harmful PFOF, thereby indirectly confirming wider margins for that practice than those believed to exist in the UK.

More generally, the regulatory and market developments that have characterized zero-commission brokers demonstrate that the European regulation on inducements has not been able to ensure the legal harmonisation, contrary to the intentions of MiFID II and its delegated acts. At the same time, even after a debate within European institutions that showed highly divergent positions among Member States³¹⁴, the position prevailed among legislators that the existing framework was unable to ensure investor protection with regard to inducements. In this context, multiple lawmaking initiatives were submitted to make the inducement regime more stringent. The European Commission has proposed, in the context of the Retail Investment Strategy, to supplement the current regulation on inducements with a special regime, applicable to order reception, transmission and execution, which prevents the intermediary distributing financial instruments from receiving commissions paid back by the manufacturing intermediary³¹⁵.

The proposal, which would apply only in the absence of investment advice, is therefore aimed only at the primary market, an unusual context for PFOF. At the same time, an outright ban became part of the MiFIR review. PFOF was thus considered so problematic as to overcome the reluctance, which instead characterizes the Commission's proposal on the Retail Investment Strategy, to plainly qualify inducements as an illegitimate practice³¹⁶. The compromise text resulting from the trilogue between the Commission, Council, and Parliament, in fact, established that intermediaries operating on behalf of retail or professional clients on request cannot receive payments or non-monetary benefits of any kind from third parties for the execution of orders on specific execution venues (or for their transmission to other intermediaries for execution on such venues). This is without prejudice, where permitted by the rules on trading venues³¹⁷, to discounts or rebates granted by the venue, provided that such benefits are passed on to the client and do not result in any benefit for the intermediary³¹⁸. The impact of the ban on the business model of zero-commission brokers is likely to be significant, even net of the possible alternatives to PFOF mentioned in section 2 above.

314 H. JONES, *Germany joins battle against EU ban on financial product commission*, Reuters, 16 gennaio 2023.

315 EUROPEAN COMMISSION (2023), *cit.*, pp. 15 and 42 (article 24a).

316 EUROPEAN COMMISSION (2023), *cit.*, p. 23 (Recital 3).

317 In particular, the payment of rebates is granted only in favour of intermediaries who have committed to operate as market makers (for regulated markets Article 48, para. 9, MiFID II; for MTFs and OTFs Article 18, para. 5, MiFID II).

318 COUNCIL AND EUROPEAN PARLIAMENT (2024a), *cit.*, pp. 138 *ff.* (Article 39a).

For this reason, the provision allows Member States to postpone the applicability date of the ban to 30 June 2026, but only if intermediaries using PFOF are based in those countries at the time of the new regulation's entry into force. This wording betrays the lack of a homogeneous interpretative framework in the Union, even at the level of supervisory guidance.

3.6 The obligation to execute orders under the best possible conditions (best execution)

Among the provisions protecting clients of zero-commission platforms, rules on the quality of order execution have a preeminent role. Brokers must indeed adopt policies that ensure the best possible result for the clients whose orders are executed (Article 27, para. 1, MiFID II; Article 65, para. 4, Reg. (EU) 2017/565). This is a crucial obligation for investor protection and, at the same time, one that is quite complex to fulfil. It requires, *ex ante*, to consider all possible variables that could affect execution and, *ex post*, a constant verification of the results obtained – and, if there is room for improvement, the amendment of the execution strategies. This does not mean that the intermediary should be held responsible if a single order did not obtain the best conditions available on the market: the assessment is indeed aggregate in nature, but an execution policy that is consistently unable to deliver the best execution quality is certainly incompatible with the MiFID II regime³¹⁹.

The assessment of execution quality (and thus the criteria that execution strategies must consider) is in principle multivariate, as it shall take into account factors such as the price of the purchase or sale contract, the related costs, the speed and likelihood of execution, and the order's nature and size. However, for retail clients, the assessment considers only the total consideration of execution, which includes the price of the financial instrument and the execution costs (see also Article 64, para. 1, lit. a, Reg. (EU) 2017/565). The execution policy must specify, with a granularity that depends on the class of financial instruments traded, the chosen execution venues. These shall be identified based on their ability to ensure compliance with the intermediary's policies, with an assessment to be reviewed annually (Article 65, paras. 5 and 7, Reg. (EU) 2017/565).

A particularly relevant element for the operations of neobrokers is the provision, reiterated multiple times in European regulation and of which the client is made aware, that the client's will is sovereign and prevails over any execution policy and strategy of the intermediary (Article 27, para. 1, MiFID II; Article 64, para. 2, and Article 65, para. 4, subpara. 2, and Article 66, para. 3, Reg. (EU) 2017/565). The rationale for this provision lies with the understanding that, in the case of so-called 'directed' orders, clients have already selected the execution venue on their own and, therefore, the choice is not subject to the typical agency dynamics of investment services. In such a case, the identification of the execution venue does not rely on any trust towards the intermediaries and should not therefore be subject to their policies.

319 ESMA (2023b), *cit.*, pp. 19 and *ff.*

However, practice shows that some brokers operating in European markets – and not only among neobrokers³²⁰ – have systematically deferred the choice of the execution venue to their clients (including retail clients). They have often done so only in a formal sense, by pre-determining the execution venues the clients could select and reclassifying the acceptances of the contractual conditions as clients' selection of the venue. This made sure the clients could only opt for venues that were part of an agreement for PFOF. For example, the general terms and conditions prepared by Trade Republic displayed, in the past, only Lang & Schwarz as an execution venue³²¹. At the same time, the contract stipulated that the execution of client orders could not occur except on the basis of a client's instruction³²², with the resulting exclusion of the intermediary's liability with respect to best execution obligations³²³. ESMA itself considers that the selection of a single execution venue within the execution policy is compatible with European regulation, although this cannot exempt the intermediary from constantly verifying that that venue is able to regularly offer optimal execution conditions³²⁴.

As a consequence of the ensuing reduced investor protection, ESMA clarified that directed orders cannot be considered a genuine expression of the investor's will if the execution venue is predetermined in contractual forms or other communications³²⁵. Some intermediaries adjusted to this interpretation by increasing the number of predefined execution venues from which clients could choose, confirming the deferral of the final decision to the investors and the ensuing inapplicability of the best execution regime³²⁶. As a matter of fact, at least for certain intermediaries, the broadening of the admitted execution venues did not lead to a substantial dispersion of orders across different venues, as execution remained *de facto* concentrated on the same market makers³²⁷.

320 G. SCHUSTER and M. RAETZ, *op. cit.*, 147.

321 TRADE REPUBLIC (2020), *cit.*, p. 53 («Trade Republic offers the Customer only a limited selection of tradeable securities as well as Execution Venues and means of execution. To this end, Trade Republic has concluded a subsequent contract for the execution of Customer orders with Lang & Schwarz Tradecenter AG & Co. KG (hereinafter 'L&S') for access to the Lang & Schwarz Exchange, an electronic trading platform on the Hamburg stock exchange»)

322 TRADE REPUBLIC (2020), *cit.*, p. 55 («Trade Republic accepts buy and sell orders for securities solely on the basis of the Customer's instructions. The Customer must instruct Trade Republic as to which of the Execution Venues offered by Trade Republic his order should be executed at. Due to the limited choice of Execution Venues described above, this will apply even when only one execution venue is offered»).

323 TRADE REPUBLIC (2020), *cit.*, p. 52 («Where an investment services enterprise acts on specific instructions provided by the Customer, this obligation [to ensure the best possible execution of Customer orders] is deemed to be fulfilled once the instruction has been carried out») and 55 («Trade Republic is bound by the instruction provided by the Customer in the Application when placing an order. The Customer therefore bears the risk of selecting the appropriate execution venue. As a result, Trade Republic is not obligated to achieve the best possible result (best execution) in accordance with these execution policies. The Customer will be required to inform himself regarding the criteria relevant to him prior to providing an instruction regarding the execution venue»).

324 ESMA (2023b), *cit.*, pp. 21 s.

325 ESMA, 35-43-2749, *Public Statement. ESMA warns firms and investors about risks arising from payment for order flow and from certain practices by 'zero-commission brokers'*, 2021a, pp. 2 s.

326 TRADE REPUBLIC (2022a), *cit.*, where it is stated that «Trade Republic accepts orders to buy or sell securities exclusively on the basis of a customer's instruction. The customer must instruct Trade Republic at which of the offered execution venues his order is to be executed».

327 TRADE REPUBLIC, *Top 5 Execution Venues 2022*, in https://assets.traderepublic.com/_2022b, where it is noted that 99.996% of the volumes traded on equities were executed by Trade Republic at the aforementioned Börse Hamburg

Following the entry into force of the PFOF ban, the provisions on best execution will remain fully valid and, indeed, will become even more relevant, since the need to protect the client interest will not disappear with payments for order flow. To the contrary, the selection of proper execution venues will become crucial in the absence of pre-determined agreements supporting PFOF.

However, the developments that led to the PFOF ban do not bode well for a truly uniform interpretation of best execution rules across the EU. Despite ESMA's efforts, national supervisory practices have led to divergent results regarding the admissibility of PFOF. In this regard, ESMA had recommended amending the delegated rules on post-trade information about execution quality (contained in the aforementioned RTS 28) by providing greater prominence for the inducements received, with an indication of the amount of commissions received by the intermediary in connection with the execution of orders for each of the top five execution venues, combined with the average of such commissions separately for each financial instrument³²⁸. The proposal was later withdrawn following the Commission's presentation of the measure to abolish PFOF³²⁹.

As previously noted, the practice of zero-commission brokerage originated in the United States; thus, it is appropriate to conclude with a brief comparative analysis of that jurisdiction's approach to order execution. Generally, the US regulatory framework appears to be more permissive regarding the execution of orders on venues not subject to transparency requirements (such as dark pools). This environment enables brokers to select trading venues that may have existing payment-for-order-flow arrangements.

In the US, rules of conduct tend to focus on the result of the order execution, which must lead to the (sole) benefit of the client, while measures aimed to pursue structural objectives, such as the trading obligations in the European Union, are less frequent. In more detail, intermediaries must ensure that orders are executed at conditions that are at least equal to the reference price (the so-called NBBO - National Best Bid and Offer). The reference price is determined based on information relating to the best prices available on the market at any given moment. To this end, the 'market' comprises all regulated markets and market makers that are subject to the obligations to disclose the bid and ask orders in their respective trading books (the so-called NMS - National Market System). The NBBO operates as a yardstick for the performance of intermediaries, which are required to ensure conditions 'at least equal' to those of the NBBO, thus having to guarantee an improvement on this price whenever possible (price improvement). While meeting conditions (at least) equal to those of the NBBO is an obligation defined by sectoral rules (FINRA Rule 5310)³³⁰, the need to obtain, whenever

- Lang & Schwarz Exchange (HAML). All orders are classified as 'directed', as they were routed there upon instruction from the clientele.

328 ESMA, 35-43-2836, *Consultation Paper. Review of the MiFID II framework on best execution reports*, 2021b.

329 ESMA, 35-43-3088, *Final Report. Review of the MiFID II framework on best execution reports by investment firms*, 2022b, p. 11, paragrafo 25.

330 See however SEC, *Regulation Best Execution* (Release No. 34-96496; File No. S7-32-22, in <https://www.sec.gov/>, 2022a, proposing to partially transpose FINRA rules into federal regulations.

possible, a price improvement derives from the fiduciary duties applicable to intermediaries in their role as agents of their clients³³¹. Strengthening these duties is a general prohibition (which also applies to the trading venues) against the execution of orders below the best NMS conditions (SEC Rule 611).

331 N. WHITTEN, *op. cit.*, p. 713.

Conclusions

C. Brescia Morra

The GameStop case has drawn the attention of financial market researchers to new ways in which the relationship between retail investors and financial markets is evolving. The main innovations are: access to the market via (apparently) free brokerage platforms on smartphones; the dissemination of investment-related information on social media; financial instruments and products promoted through the use of 'memes', that is, images, phrases, videos or photos that are humorously shared and become veritable catchphrases that spread virally on the web.

The first Section describes the facts that occurred in the GameStop case and interprets them in light of the new era of 'gamification' of financial investments, also foreshadowing a possible development of financial market transactions in the metaverse. The role of fin-influencers in investment choices is then underlined. The second Section focuses on the collection and circulation of information in the era of gaming and social media as attempting to frame the events of the GameStop case through the lens of behavioural economics scholars. Sections 3 and 4 question the adequacy of the current regulatory system to guarantee the protection of investors in a market dominated by meme-stock and fin-influencers. The authors of these two sections examine whether there are regulatory loopholes that allow intermediaries to avoid applying practices that are burdensome but have historically been essential to ensure the proper functioning of financial markets. They also ask whether certain rules need to be adapted to the new ways of accessing financial markets.

Some questions recur in Sections 3 and 4. The authors investigate whether contractual instruments that intervene *ex ante* are more useful than *ex post* criminal sanctions on the behaviour of traders who circumvent the rules of the financial markets. They also consider whether it makes sense to continue to give a central role in investor protection to conduct of business rules for intermediaries, as is the case in the current European regulatory framework. The robustness of the latter regulatory strategy is being challenged by the fact that more and more investors are accessing markets directly, using tools such as smartphones.

In both Sections, the question is raised whether an absolute ban on certain practices, such as 'copy trading' or the absence of brokerage commissions, which exploit an obvious cognitive limitation, is the right way forward for the legislator. Both Sections point out that an absolute ban on certain practices is not in the spirit of European financial market regulation, which has long since abandoned a paternalistic approach to protecting saver-investors. Instead of treating the 'uninformed' saver like a minor to whom cigarettes cannot be sold, today's European legislator treats them

like an adult for whom a warning about the risk of cancer or a shocking image of the dangers of smoking is sufficient, but who is left free to dispose of his health. The GameStop case shows that it is precisely this latter result that is called into question by the cognitive bias induced by the use of information on social networks. The problem is highlighted by the expression that Trump often used in his campaign on the social network Truth Social, the 'truthful hyperbole', which many of his critics call a 'lie'. It is a hyperbole or a lie, depending on your point of view, but it is crucial in explaining Trump's political success. It is also worth noting that Trump is the majority shareholder of the company that manages the social media Truth Social.

The problem is aggravated, as pointed out in Chapter 2, by the well-known American tycoon, Elon Musk, who uses social media intensively, even to the point of acquiring one of the most widely used in the world, Twitter, now called X. The control of social media today poses the same problems as the fight against large concentrations of power did at the end of the 19th century, when the Sherman Act (1890) was passed in the US, giving birth to antitrust laws. Indeed, such concentrations of power are able to exploit their market power to the detriment of competitors, consumers and democratic systems.

The proper functioning of financial markets, like the proper functioning of democratic elections, depends on the quality and reliability of the information on which investors and citizens base their decisions. In this respect, we believe that law-makers still have a long way to go.

In the face of these doubts, it does not seem reassuring to think that the GameStop phenomenon was a meteor due to exceptional market conditions that are unlikely to be repeated. In the months following the extraordinary rise in GameStop's share price, the financial markets seemed to have returned to normal, where transactions are governed by the Efficient Market Hypothesis (EMH), according to which the price is an appropriate measure of the value of the investment in the financial market³³².

A comparison of two Economist articles, one from 2 February 2023 and one from 16 May 2024, is very instructive in this respect. In the 2023 article, the last gasp of the meme-stock, the GameStop saga was framed in a context of very low interest rates (close to zero), resulting in ample liquidity that allowed irrational price growth of any stock and speculative enthusiasm. Higher interest rates changed the dynamics of the markets; the economic slowdown made investing in meme stocks less attractive. The bursting of the cryptocurrency bubble showed that in many cases the recent financial bubbles were underpinned by outright fraud (the article referred to the case of Bankman Fried and the failure of his platform FTX where cryptocurrencies were traded). In this context, the judgements of financial analysts again seemed to be crucial, even in the case of the short-selling practices so hated by active investors on Robinhood. Otherwise, in May 2024, The Point on Business in The Economist noted that the meme stock at the centre of the turbulent growth during the pandemic had 'come roaring back'. In particular, a table is published showing that GameStop's share price returned

332 See for all FAMA, *op. cit.*, p. 383.

to a tumultuous growth of 74% in May 2024, peaking at 36 US dollars on 7 June 2024 (as better illustrated in the following graph); thereafter, the price stayed around 20 US dollars in the period from August to October 2024. The price then began to rise again in November, peaking at around 26 US dollars on 15/11.



Fonte: Google Finance.

The cause of this sudden growth in May 2024 is, once again, the activity on the X Roaring Kitty account, which had been quiet since June 2021. The account belongs to Keith Gill, the financial analyst who was very active on Reddit³³³ during the days of the GameStop saga.

333 It is worth remembering that, in the days of the Gamestop saga, Gill used the username 'DeepFackingValue'. The success that Gill had using such a name to trade in the capital markets is a fact that needs to be further investigated by academics to analyse investor behaviour in the age of social media.

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