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Abstract

This paper puts into perspective enforcement as conducted by the French Financial Market Authority since its creation in 2003 until 2021 with regards to the current state of the literature on financial crimes. We survey exhaustively the three main channels of action: sanctions, settlements (since 2012), and alerts (since 2010). The sample is comprised of 392 sanctions standing for cumulated 365 million euros of fines of 86 settlements standing for cumulated 13 million euros of fines, and of 194 alerts. The analyses stress the complex challenges of information acquisition regarding financial crimes, despite increased efforts of enforcers in terms of transparency. Financial innovations and internationalization of financial markets also contribute to challenge enforcement. The ultimate goal of this survey is to fuel regulatory debates on how to enforce financial regulations more efficiently in light of the recent history, in a European and globalized context.

JEL Classification: G18, G28, G38, K23, K41, K42
Keywords: Financial Crime; Financial Fraud; Financial Misconduct; White-Collar Crime; Regulation; Enforcement; Financial Markets; Information and Market Efficiency.

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1. Introduction

Adding to recent in-depth reviews by Amiram et al. (2018), Reurink (2018), and Liu and Yawson (2020), this survey documents the interconnexions between financial crimes, when market participants deliberately cheats on investors, and enforcement by making a retrospective of a nearly two-decade-long history of administrative sanctions set by the French Financial Market Authority (AMF).[1] The ultimate goal is to fuel regulatory debates on how to enforce financial regulations more efficiently (La Porta et al., 2006; Jackson and Roe, 2009). It is of critical importance as, amid all corporate crimes, financial crimes trigger the strongest market reactions and subsequently impact corporate reputations severely (Engelen, 2011; Karpoff, 2012 and 2020), as notoriously illustrated in 2020 by the collapse of the former star of the German DAX, Wireward due to a massive accounting fraud.

In line with the academic, practitioner, and policy literature, we define financial crimes as any market abuse and the breaches of securities laws. Market abuses are comprised of 1) breaches of insider dealing regulations – the divulgence and/or use of insider information for investment decisions, including frontrunning client orders, 2) price manipulations – a deliberate misconduct to influence securities prices and fair price formation,[2] and 3) breaches of public disclosure requirements – a failure to comply with financial reporting laws and regulations.[3]

Our study is unique in that it is an exhaustive retrospective of all sanction and settlement decisions published by the AMF since its creation in 2003 until late 2021, along the whole process from the violation period until the decision and possibly the subsequent appeal. Sanction decisions conclude with guilty or acquittal verdicts,[4] with different spillovers for the defendants, whereas settlements are free of guilt recognition. The scope also includes the alerts, a direct channel of communication with market participants introduced by the AMF in 2010 to stress the riskiness of market participants or market misconducts. The

[1] https://www.amf-france.org/fr

[2] For example: end-of-day manipulation, matched orders, circular trading, reference price influence, improper order handling (churning, wash trades, spoofing), band oiler-room operation.

[3] Failures to comply with financial reporting laws and regulations are most frequently misstatements on financial reports of public firms in violation of generally accepted accounting principles, with the objective of making others act in detriment to their best interests. Karpoff and Lott (1993) stress a key difference between accounting frauds and other violations of securities laws: the direct balance sheet consequences of accounting restatements.

[4] Acquittals are verdicts, not type one errors (*i.e.* false positive error), when a benevolent firm is misclassified as fraudulent (for example when using datasets of alleged securities litigation lawsuits or private class action lawsuits, which are more profit oriented). Type two errors are impossible to circumvent given the incomplete detection (partial observability of fraud) inherent to any sample construction for fraud. The great majority of fraudulent firms are mistaken as non-fraudulent, and their financial crimes remain undetected. Hence, this sample selection can be potentially biased, for example by how a regulator detects and prosecutes alleged misconducts.

comprehensiveness of the sample was permitted by the fact that the AMF shared with the authors confidential information to complete the dataset based on publicly available information. Regulatory information covered specifically the identity of the defendants, when anonymized, and some dates of the enforcement procedures, when not included in the published reports. Investigating exhaustively enforcement decisions is the best one can do to circumvent the partial observability of fraud. Consequently, this analytical article escapes, by construction, some challenges stressed by Karpoff et al. (2017) regarding the data quality and confidentiality: no omitted cases, no unintentional frauds, no alleged frauds, and no duplicates.

Our contribution to the literature can be summarized in following points. Firstly, it is of great interest to enrich the knowledge on financial crimes from the perspective of an overlooked and significant European country over the long term: enforcement decisions made by the AMF regarding Euronext Paris. The existing literature focusses on the United States (U.S.) most frequently (de Batz and Kočenda, 2020). Investigating a civil law market is also a way to challenge the result of La Porta et al. (2006) that common laws (typically in the U.S. or the United Kingdom, U.K.) are more favorable to stock market development. Common laws would put more emphasis on private contracting and standardized disclosure. They would also rely on private dispute resolution using market-friendly standards of liability. A second critical objective of this article is to highlight general trends along two decades beyond exceptional stories, which hit the headlines of the financial and economic press and might distort perceptions. As stressed in Karpoff and Lot (1999; p. 528) for the U.S., "anecdotes about a few exceptionally large awards do not necessarily imply that firms in general expect large losses when cases are filed against them. Nor do they indicate that punitive damages impose large losses on the market as a whole". Thirdly, these developments on financial crimes are not meant to be comprehensive and encyclopedic: general trends and a selection of enforcement actions of the AMF are put into perspective with respect to academic research. We anonymized the parties at stake of specific decisions, not to breach confidentiality, and systematically referred to the decision number (SAN-year-number), as published on the AMF webpage.[5] No direct policy recommendations can be derailed based on our retrospective of French enforcement against financial crimes. The goal is to provide food for thought to market participants (for example compliance and risk departments) as well as to regulators. This work calls for complementary analyses. Better understanding financial crimes, their

[5] By searching on any search engine or directly of the AMF webpage (https://www.amf-france.org/en), one can access the whole sanction decision.

detection and spillovers can contribute to design efficient financial regulations and reinforce the effectiveness of supervision and enforcement.

The rest of the article is organized as follows. As a first step in challenging enforcement of financial regulations, section 2 summarizes major characteristics of financial crimes as documented in the cross-disciplinary literature for decades. This sets the basis for two sections based on financial crimes detection and subsequently on their punishment. The fifth section stresses key challenges for enforcement and deterrence of financial crimes. Finally, the last section concludes this retrospective.

2. Characteristics of financial crimes and enforcement

2.1.Financial crimes: a specific white-collar crime

Generally speaking, Edelhertz (1970; p. 3) defines white-collar crimes as "illegal act(s) or series of illegal acts committed by non-physical means and by concealment or guile, to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage". Such crimes cover a wide range of misdeeds, ranging from fraud and manipulation to theft and corruption, as defined by Gottschalk (2010). Three prerequisites can lead to a white-collar crime, according to Cressey (1950, 1953): 1) a private non-sharable financial problem; 2) contextual opportunities to commit fraud, which would allow the perpetrator to commit the fraud and escape detection; 3) the ability to justify to oneself that the fraudulent actions are not necessarily wrong. Financial crimes can be motivated by the pressure to meet financial targets, the dishonesty of the management, or the search to maximize personal gain (for example, to protect bonuses or stock option schemes). Acting legally can turn into an economic disadvantage for a firm and/or its management (Hawley, 1991, Aupperle et al., 1985), for example when the costs for abiding the law can represent an economic disadvantage if competitors/peers do not abide it. In line with Becker's (1968) model of crime,[6] the expected costs of being sanctioned (fines, litigation costs, reputational penalties, impact on clients and suppliers, HR consequences, etc.) can be lower than the benefits of cheating on the law (higher returns on assets, lower costs of doing business, etc.).

Financial crimes cannot be observed directly and are difficult to detect and prove. Direct evidence of the crime is rare, and investigations typically rely in circumstantial evidence and draw reasonable inferences. Only a limited share of those crimes is detected (so-

[6] Becker (1968) models the choice to engage in misbehavior like any other decision involving cost-benefit tradeoffs, in light of the expected profits from fraud, the probability of being caught, and the subsequent sanction.

called "partial observability") by the large network interacting with the firms (managers, employees, shareholders, stockholders, regulators, external auditors, financial analysts, whistleblowers, journalists, etc.), with an unknown and low probability. Alawadhi et al. (2020) assess that only 3.5% of financial mis-presentations are eventually caught and sanctioned in the U.S. Consequently, Amiram et al. (2018; p. 738) conclude that "our knowledge of financial misconduct comes almost exclusively from firms that were caught, and the characteristics of those firms may differ from firms that commit fraud without detection." When detected, white-collar crimes can lead to major corrective actions: changes in the financing mix due to higher costs of doing business, changes in the top management, impact on remunerations and teams' commitment, corporate rating downgrades, replacement of auditing firms, etc.

In this article, we limit the scope of white-collar crimes to "financial crimes" as enforced by securities market supervisors (or central banks, depending on the jurisdictions): the three market abuses (insider trading, price manipulation, and dissemination of false information) and any breach of securities laws.[7] This scope is supported by the argument of Haslem et al. (2017) that, amid all types of legal corporate violations,[8] securities litigation triggers – by far – the largest (and statistically significant) reaction in the U.S. Amiram et al. (2018) also stress that financial crimes threaten the existence and efficiency of capital markets, which are based on trust from market participants (investors, stakeholders, financial analysts, etc.).

2.2. What are the goals of enforcement? Why sanctioning financial crimes?

Securities markets are regulated so that investors, from large institutional to retail investors, have access to quality information prior to and after any investment (Black, 2000). This arrangement sets the base for investors' trust. Trust is formed by the *ex-ante* belief that one's counterpart will suffer consequences for opportunistic or fraudulent behavior (Dupont and Karpoff, 2020). Enforcement also aims to provide incentives for market participants' compliance with the law, by detecting breaches, sanctioning violators, and setting example. Violation of securities laws can have severe consequences, as it is one of the six possible

[7] The scope is more restricted than in Karpoff and Lott (1993): 1) fraud of stakeholders (by cheating on implicit or explicit contracts with suppliers, employees, franchisees, or customers); 2) fraud of government (by cheating on contracts with a government agency); 3) financial reporting fraud (by mispresenting the firm's financial condition); and 4) regulatory violations (by violating regulations enforced by federal agencies, mostly financial services agencies).

[8] The others being: antitrust, contract, environmental, intellectual property, labor, product liability, personal injury, and civil rights.

causes of corporate failures (Soltani, 2014). In that sense, the legal system is fundamental to investors' protection (La Porta et al., 2006) by impacting two pillars of Becker's (1968) model: the intensity of enforcement will raise the probability of being caught and the expected subsequent publishment. Hence, enforcement contributes to deter future crimes and to set example.

Enforcement is always country-specific and can be characterized by various dimensions that we summarize in Table 1. Financial regulations can be enforced either by one single financial supervisory agency, or by several bodies for example at the federal, province, or state levels, or depending on the sector with splits between banks, insurance companies, auditing or asset management firms, etc. Enforcement can also rely more on informal discussions and administrative guidance (such as in France, the U.K., and Japan), or on formal legal actions against wrongdoers (in common law countries like in the U.S.). Additionally, enforcement standards evolve along time. Each country has its own enforcement mix, with different weights given to public (higher in civil law countries like France) or private (conversely higher in common law countries) enforcement, and by difference to self-regulation of the market (Djankov et al., 2008). A long-lived academic debate – at the intersection between accounting, finance, law, and economics – investigates the costs and benefits of public *versus* private enforcement, with proponents on both sides. Both enforcement styles could be more supportive of financial market development, public enforcement being supported by Jackson and Roe (2009) and Johnston and Petacchi (2017) amid others, and private enforcement by Becker and Stigler (1974), La Porta et al. (2006), Djankov et al. (2008), and Bai et al. (2010). Public enforcement is supported by the existence of externalities, by economy-wide cost savings, by public-regarding and expert-in-their-domains policymakers, by the possibility to cooperate with defendants (Choi and Pritchard, 2016), and by criminal, financial, and reputational penalties that deter wrongdoings. But public enforcement is degraded by the difficulties of implementation of securities regulations. Public enforcers have mixed-to-low incentives (Scholz, 1984): resource constraints, difficult access to information, low competences compared to the industry, corruption and collusion with the industry, and political influence.[9] Conversely, private enforcement actions could be brought by well-informed actors with well-aligned incentives. But, in parallel, private enforcement is subject to collective action and free-rider effects among dispersed investors, to slow and inept judiciaries, to lawyers' rent-seeking (costly litigation for investors,

[9] This challenge is much more salient in the U.S. where "the largest financial firms enjoy an unprecedented degree of political protection because of political contributions", as stressed in Mayer et al. (2014).

commitment problems), to less information than enforcers (Choi and Pritchard, 2016), and to insufficient private monetary penalties.

In France, enforcement aims at protecting investors according to two rulebooks to which all market participants are subjected: the Monetary and Financial Code and the Rulebook of the AMF. In this respect, our analysis brings up-to-date observations on public enforcement over the long timespan and along five regulatory reforms.[10] By detecting and sanctioning financial crimes, the AMF targets to set example, to compensate for past misdeeds, and to deter future financial crimes to escape from being stigmatized. Sanctions form part of the jurisprudence. Enforcement contributes to the guarantees to investors and might contribute to allure investments. It is also key to stress that only the most serious breaches end with settlement or sanction procedures. The vast majority of the breaches are undetected or dealt with bilaterally and confidentially between the AMF and regulated entities.

2.3.Costs of detected financial crimes

Shareholders' wealth can be harmed by the (alleged or sanctioned) misconduct itself, over the violation period, for example when top managers share and/or use insider information at their expense (see Figure 1). Regulatory fines and compensations will add up as part of the direct costs of fraud, together with the legal fees along years-long procedures (Dechow et al., 1996; Palmrose et al., 2004) and the subsequent adjustments (for example a negative impact on profits of an accounting restatement). Indirect costs may also penalize investors (Zeidan, 2013; Gatzert, 2015) due to lower cash flows expectations (with respect to clients), and higher costs of doing business (with respect to suppliers, business partners, human resource management) and of capital (*e.g.* downgraded forecasts, risk premia, rating, higher funding costs). The cumulated cost of indirect spillovers is commonly called "reputational penalty", as described by Engelen and van Essen (2011). This reputational penalty can be proxied by deducting direct costs from the abnormal market reactions following the publication of the financial crime, typically estimated using an event study methodology (Karpoff and Lott, 1993; Cummins et al., 2006; Karpoff et al., 2008; Armour et al., 2017). It reflects revised

[10] The AMF was created by the *Loi de Sécurité Financière* n° 2003-706 of August 1st, 2003. Its attributions were reformed on five occasions: 1) *Loi de Modernisation de l'Economie* n° 2008-776 of August 4th, 2008 ; 2) *Loi de Régulation Bancaire et Financière* n° 2010-1249 of October 22nd, 2010; 3) *Loi réformant le système de répression des abus de marché* n°2016-819 of June 21st, 2016 ; 4) *Loi relative à la transparence, à la lutte contre la corruption et à la modernisation de la vie économique* n° 2016-1691 (IV Art. 42-46) of Decembre 9th, 2016 ; and 5) Loi PACTE (*Plan d'Action pour la Croissance et la Transformation des Entreprises*) n°2019-486 of May 22nd, 2019.

expectations regarding future cash flows of investors, top management, and related parties involved (Karpoff et al., 2008; Armour et al., 2017). In that sense, financial markets represent an enforcement channel inducing companies to behave responsibly (Engelen, 2011). Reputational penalties complement enforcement as a tool to deter financial crimes, contrary to, for example, foreign bribery or environmental violations (Karpoff, 2012, 2020).

2.4. Who are the parties at stake in financial crimes?

White-collar crimes can be committed by individuals, managers, or employees. Still, the firms are frequently held responsible, rather than (or together with) the managers or employees (Choi and Pritchard, 2016). When the top management of a firm (or some of its employees) cheated on investors by sharing or using insider information, was unable to comply with its professional obligations, or manipulated share prices, shareholders are legitimate to question the professionalism and business ethic of the firm, its managers and employees. This justifies a reputational penalty (Karpoff and Lott, 1993). In our sample of AMF sanction decisions, several natural or legal persons are typically involved in the alleged breaches (2.8 on average) and sanctioned (2.1). In 52% of the sanctions, the top management of the firm is investigated, ending being frequently sanctioned (46%).[11] The investigated firms were, by declining order of importance, listed firms, asset management firms, private firms, foreign firms, and auditing firms.

Different parties can be hit by second round effects of financial crimes: related parties to the offender (investors, employees, customers, suppliers), or third parties (market participants, the public, etc.). This field of the literature concurs in a significantly higher reputational cost of wrongdoings against related parties than against third parties (for the U.S.: Alexander, 1999; Karpoff et al., 2008; Murphy et al., 2009; Tibbs et al., 2011; for the U.K.: Armour et al., 2017; for France, de Batz, 2020a). Additionally, financial crimes can be committed at the expense of other firms (so-called "victims" in the rest of the article), typically when a person manipulates others' stock prices, uses insider information, or divulgates false information. Such victims of financial crimes were involved in 24% of the AMF sanctions (based on the sanction reports). Their reputation might have also been damaged subsequently to the sanction publication (de Batz, 2020b).

3. Detection channels of financial crimes

[11] Chief executive officer, managing director, chairman, chairman or members of the Management Board/Board of Directors, founders, chief financial officers, majority shareholder.

In the section, we thrive to investigate which parties contribute to detect financial crimes and what is at stake to possibly improve the detection mechanisms and hence to reduce the partial observability of crimes, based on takeaways from a French retrospective.

3.1.Key role of the AMF: market surveillance and supervision of regulated entities

The so-called Data and Markets Department carries a pivotal role in the AMF: it oversees continuously the market surveillance, to detect abnormal trends in the markets and possibly alleged financial crimes, either in terms of trends or of frequency of orders.[12] This market surveillance is mostly computerized, complemented with artificial intelligence and big data technologies. 8,000 warnings were generated by the big data platform in 2019. The efficiency of the market surveillance is constrained by a scissor effect.

On the one hand, crime detection is becoming harder due to the combination of factors: 1) financial products are becoming increasingly sophisticated and complex; 2) the speed of transactions is rising with the High Frequency Trading (HFT) and the algorithmic trading; and 3) information channels and the volume of news increased dramatically over the last two decades, to the point that more and more research investigates the consequences of information overload (Ripken, 2006). Beyond notorious flash crashes such as in the U.S. on May 6th, 2010 (Kirilenko et al., 2017), the literature is not conclusive regarding the impact of HFT on price manipulations (Aitken et al., 2015). The complexity of financial products – which can be used to try and circumvent financial regulations – was illustrated by a highly publicized sanction due to the misuse of total return swaps leading to the communication of false information (SAN-2011-02).

On the other hand, regulators are tied by long legal procedures and strongly budgetary constrained, which make it challenging to say the least to keep pace with the fast-innovating industry. How to reform rapidly to some extent outdated regulations to catch up with new commercialization channels and new investment opportunities, for example crypto-assets and non-fungible tokens? Or how to attract and retain competences as well as to fund large investments needed in soft- and hard-wares to catch up with regulated persons? A very salient example is the long-and-still-debated impact of HFT and algorithm trading on the price discovery and efficiency (Brogaard et al., 2014). It is worth stressing that two sanctions involved price manipulations subsequent to algorithmic trading (SAN-2015-20) and to high frequency trading involving flickering orders (SAN-2016-11). The complexity of these two

[12] https://www.amf-france.org/en/amf/our-organization/our-governance

procedures is illustrated by their length from the breach until the sanction (6.5 years), significant longer than the average (4.2 years).

In addition to the Data and Markets Department, two other departments supervise specific populations of regulated entities and might detect alleged breaches to financial regulations: 1) the corporate finance and corporate accounting department,[12] by monitoring periodic financial publications of listed firms and their interpretation of the accounting standards principles (IFRS), and 2) the asset management department. As a first step, bilateral communication and search for remedies are privileged when alleged breach(es) are detected, possibly followed by enforcement procedures if no solution is found. It is interesting to stress that it was explicitly mentioned in the sanction reports that 22% of the sanction decisions involved firms in poor financial conditions, which might push in some cases border-line behaviors.

Over the period under review, the great majority of the sanction decisions were originally detected by the AMF oversight of markets and market participants or, in a few cases, signaled by other regulatory authorities, and in particular the Bank of France, which is jointly in charge of the supervision of financial institutions. 16% of the sanction involved financial institutions. Hence, the AMF is the key engine of fraud detection, pleading for investments to support the efficiency of their market surveillance.

3.2.Other stakeholders marginally contribute to fraud detection

A wide range of stakeholders monitors financial markets and consequently contribute to detecting financial crimes: auditing firms, which should play a role in the prevention and the detecting of financial crimes (Francis, 2004), stock exchanges, clients, institutional investors (Chung et al., 2012), financial analysts (Yu, 2008), and employees (Dyck et al., 2010). A thousand external alerts were sent to the AMF in 2019.

Beyond a few high-profile failures (in particular in the U.S.), we know little about the role of auditing firms in the detection of frauds or about the general level of the audit quality. Feroz et al. (1991) assessed that 20% of the U.S. SEC enforcement actions involved a failure of the auditors to detect their client's fraud potential. In that sense, it is interesting to note that, in France, auditors contributed to the detection of financial crimes over the period under review, but not very frequently. They raised concerns regarding the accounts of firms before the launch of the enforcement procedures in 5% of the decisions. Additionally, if the auditing firms and/or the auditors were on some occasions investigated for breaches to their duties (5.7% of the decisions), most frequently for certifying inaccurate financial statements, these

procedures concluded in the end that they were guilty of the alleged financial crimes in less than a third of those cases (1.5% of the decisions).

Finally, other market participants signaled to the AMF alleged breaches to financial regulation in 3.6% of the decisions: (former) clients, (minority) investors, individuals, and former employees.

3.3. Whistleblowers

Violations of securities laws can be identified and documented by whistleblowers, making the enforcement more efficient in terms of timing and understanding of the frauds. As stressed by the U.S. SEC, whistleblowing has major assets for enforcers and investors in that it "minimize(s) the harm to investors, better preserve(s) the integrity of the United States' capital markets, and more swiftly hold(s) accountable those responsible for unlawful conduct".[13] The Office of the Whistleblower was established by the U.S. Congress mid-2010, in Section 922 of the Dodd-Frank Act. Still, whistleblowers need protection, which was formalized with subsequent financial compensations in the U.S., South Korea,[14] and Lithuania[15]. In the U.S., to encourage whistleblowers and compensate for the consequences, this Office of the Whistleblower awarded approximately 1.2 billion USD to 236 persons since the enforcement of the awards in 2012 (ranging from 10% to 30% of the over-1-million-USD fines collected, with a record 114 million USD granted in October 2020).[16] The U.K. enforced the Public Interest Disclosure Act in 1998[17] which aims at providing protection to "workers" making disclosures in the public interest and at allowing such individuals to claim compensation for victimization following such disclosures.

The European Union took another stance: protecting whistleblowers without financial compensation, in order to avoid a shift to a denunciation society.[18] The AMF formalized whistleblowing in 2018 but only offers professional guarantees and confidentiality.[19] To date, it is impossible to assess the magnitude and the spillovers of whistleblowing on enforcement, as the AMF argues that the safeguards against breaching professional secrecy and confidentiality rules impede any communication. 72 reports from whistleblowers would have

[13] https://www.sec.gov/whistleblower

[14] https://www.acrc.go.kr/en/board.do?command=searchDetail&method=searchDetailViewInc&menuId=020501&boardNum=67072

[15] https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/267de1c2a9b911eb98ccba226c8a14d7?jfwid=-15hio16ale.

[16] https://www.sec.gov/news/press-release/2021-177

[17] https://www.legislation.gov.uk/ukpga/1998/23/contents

[18] EU Directive (2019/1937) on the protection of persons who report breaches of Union law.

[19] https://www.amf-france.org/fr/reglementation/doctrine/doc-2018-13

been done over the first two years following its formalization and no information is available regarding the consequences (investigation, sanction, etc.).[20] Still, given the length of the procedures (2.9 years on average, see Figure 1), the prosecution of breaches identified by whistleblowers could soon be brought to the AMF enforcement committee.

3.4.Spillovers from other financial crimes

Given the globalized nature of financial markets, large foreign financial scandals can also hit French market participants, which can end up being sanctioned for lack of diligence in their duties regarding those financial crimes. Two notorious U.S. financial scandals led to sanctioned breaches by the AMF: the Madoff investment scandal, with the Ponzi scheme revelation in late 2008, and the 2008 subprime crisis. On three occasions, asset management firms were sanctioned due to the positions they took in *Bernard L. Madoff Investment Securities* (SAN-2011-17, SAN-2011-18, and SAN-2012-15). The subprime crisis was also echoed by sanction decisions, in one case due to insider trading of a top manager exploiting information on the spillovers of the subprime crisis on his bank (SAN-2010-17) and the second one due to the liquidity repercussions of the crisis on money market funds (SAN-2009-25).

3.5.The media: a watchdog?

The media can be perceived by investors as a watchdog (Miller, 2006), which credibility is *a priori* supported by no conflict of interest and more independent sources of information than analysts and corporations (Kothari et al., 2009). Dyck et al. (2010) and Miller (2006) stress how the press helps uncover accounting frauds, by rebroadcasting information from other sources, or by uncovering frauds after investigations. In some countries, typically the U.S., a great part of the financial crimes sanctioned by the SEC was – in advance – revealed by the media. This is not the case in France where only two – though significant – sanction procedures were initiated by investigation articles uncovering alleged financial crimes (SAN-2010-18 and SAN-2017-07). Firstly, in November 2008, a front-page article in *La Tribune* alleged that a bank lost more than a billion euros due to losses on proprietary trading over the previous month.[21] This allegation was denied by the bank on the very same day but led the AMF to initiate an investigation regarding the financial information published by the bank.

[20] https://www.forbes.fr/finance/lanceur-dalertes-quel-impact-dans-le-secteur-financier/

[21] https://www.latribune.fr/journal/archives/edition-du-1211/65184/natixis-a-perdu-unmilliard-deuros-sur-les-marches.html

The bank was, in the end, dismissed from charges in 2010. Seven years later, in May 2015, *Mediapart* published an investigation challenging the business ethic of the asset management branch of the same bank.[22] This article alleged mis-selling of financial products to unsophisticated investors, echoing other U.S. scandals like the Goldman Sachs Abacus synthetic CDOs in the early stages of the subprime crisis. In the end, the AMF Enforcement Committee charged the bank with the highest-ever fine (35 million euros). The appeal of the decision led to a significant reduction in the fine to 20 million euros, still a record high back then.

Conversely, the business ethic of the media was on some occasions questioned by the AMF enforcement committee, as any allegation of financial crime needs to be duly documented not to become synonym of false information. One is accountable for its opinions, though the freedom of speech and the principle of confidentiality of sources should not be violated. The AMF sanctioned a publishing director due to the non-disclosure of his conflicts of interests when publishing investment recommendations on a stock which he was exposed to (SAN-2014-04). Additionally, four sanctions reminded the need for high standards of ethic of journalists (whatever their outlets and nationalities) and of their employers. For the first time, in January 2010, the AMF sanctioned an individual for spreading false or misleading information on a listed firm on the Internet (boursica.com) (SAN-2010-01). In 2012, two bloggers were sanctioned for spreading false information on a French bank regarding its leverage (Tier 1 ratio) and for fueling rumors regarding its solvency in the middle of the sovereign debt crisis (SAN-2012-24). More recently, a global U.S. media and a journalist were respectively sanctioned for the diffusion of false information (fake financial press releases regarding a massive accounting restatement) impacting the price formation (SAN-2019-17) and for communicating inside information to key contacts on market rumors regarding two take-over bids (in 2011 and 2012), ahead of the publication of the news in the *Daily Mail* and precising market rumors (SAN-2018-13). Subsequently to this decision, the Court of Appeal of Paris requested for a preliminary ruling to the European Court of Justice in July 2020 on whether the information of the forthcoming publication of an article relaying market rumors can be considered as inside information, and consequently be subjected to insider dealing regulations?

4. Punishment of financial crimes

[22] https://www.mediapart.fr/journal/economie/300515/des-millions-d-epargnants-ont-ete-leses-par-natixis-asset-management?onglet=full

4.1. Sanction"s"

The rationales for punishing financial crimes are that only serious – as opposed to "trivial" – detected financial misconducts are sanctioned, and that such sanctions contribute to deter future misconducts and will set example (Guy and Pany, 1997; Karpoff et al., 2017; Liu and Yawson, 2020). However, sanctions imposed on financial institutions might also increase a systemic risk in the industry via spillover effects (Brož and Kočenda, 2022). Serious frauds assume the existence of deliberate or "intentional" dishonesty or deceit (Sievers and Sofilkanitsch, 2019), which would cause market participants (shareholders, stakeholders, analysts, etc.) to alter their opinion of the firm. Otherwise, they are unintentional errors, which can be corrected.[23] The punishment of financial crimes is comprised of a country- and breach-specific mix of procedures: public enforcement (by regulators such as the AMF), private enforcement (lawsuits, settlements, etc.), and public-imposed sanctions following the publication of intentional financial crimes (by the market for listed firms, by investors for asset management firms, by employers against the defendants, etc.), proportional to the misdeeds, so-called "reputational penalty" after Karpoff and Lott (1993).

4.2. Financial crimes punishment in France

Financial crimes could be sanctioned through administrative (by the AMF) and criminal (by the National Financial Prosecutor) prosecutions until mid-2016. Criminal prosecutions can entail fines as for administrative prosecutions, but also imprisonment sentences and seizures. Ever since, alleged financial crimes go through a referral process between the AMF and the National Financial Prosecutor, subsequently to the enforcement of the *non bis in idem* principle in Europe. Consequently, no legal action can be instituted twice for the same cause of action, which is equivalent to the double jeopardy doctrine in common law jurisdictions.

Two types of administrative procedures can punish the most serious financial crimes falling within the sphere of competence of the AMF: sanctions or settlements (since 2012). There is only a limited number of decisions made by the AMF *per* year (22 sanctions and 9 settlements, see Figure 3) for two main reasons: firstly, most of the detected breaches, deemed less serious, are delt with bilaterally between the AMF and the person(s) involved,

[23] Errors can result, for example, from the enforcement of new accounting standards (IFRS, U.S. GAAP for example), a modification in the consolidation perimeter (in the aftermath of stock splits, M&As, or divestitures for example), or presentation issues (due to changes of the accounting periods, or changes in business segment definitions for example). Hennes et al. (2008) found that 24% of the restatements in the U.S. filed between 2002 and 2005 were intentional frauds, and not errors. Unintentional errors are unlikely to send a comparable message to the market (Hennes et al., 2008).[23] Lev et al. (2007) demonstrated that restatements involving admitted fraud have considerably more adverse implications for investors than non-fraud restatements.

and secondly, the detection rate is low (and unknown). Since a peak in 2009, the number of published sanctions *per* year has been declining, a trend which has been partly compensated by settlements.[24]

Sanctions are comprised of three parameters: 1) cash fines (1 million euros on average since 2003), paid to the French Treasury or to the guarantee fund to which the professional belongs, 2) behavioral sanctions (warning, blame, or ban from activity, respectively used in 17%, 12% and 6% of the decisions since 2003), and 3) the publication of the decision. Sanction decisions can be (partly) ex ante anonymized, if the publication of the decision is likely to cause serious and disproportionate damages to the incriminated person, or could seriously disrupt the financial system stability or ongoing enforcement procedures. Until 2018, ex post anonymizations were decided at the discretion of the Chairman of the Enforcement Committee. Since then, the rule has been formalized, with a right to oblivion for any personal information included in sanction reports after five years.

Sanction procedures as undergone by the AMF are confidential until the Enforcement Committee hearings (see Figure 2), for the sake of the presumption of innocence of the defendant(s). Defendants are not even named before the hearings (*i.e.* trials), even though hearings are open to the public. Typically, journalists attend the hearings and frequently publish articles in the aftermath. Still, on a few occasions, there were some leakages of information to the press during the confidential phase of enforcement. For example, a very notorious example is the former head of investment banking of a bank who used insider information (the knowledge of the new internal model of credit risk) amid the subprime crises (SAN-2010-17). He leaked confidential information on the ongoing procedure and alleged that he would be cleared from charges, which drove him in the end to resign before the sanction was made.

Settlements have been offered to defendants since 2012 as an alternative procedure for lighter though serious breaches, in part to speed up procedures. Beyond cash fines (155,000 euros on average since 2012), the verdict is specific in that it involves remedial measures but no guilt recognition nor recourse for appeal. Hence, settlements might be a way of escaping responsibility for one's action by paying a fine and enforcing remedy measures.

Finally, since 2010, the AMF has been issuing "alerts" (so-called *mise en garde*) regarding some unauthorized entities, some unrealistic investment products, or some illegal

[24] The Covid has to be accounted for in 2020-2021. Still, Cumming et al. (2021) estimated that traders, employed in a UK investment bank, are less likely to commit trading misconducts (insider trading and price manipulation) when working from home, using data from the internal bank's supervisory systems.

activities such as boiling room or pyramid schemes.[25] A total of 194 alerts were issued until late 2021 (16 *per* year on average), mostly targeting foreign (68%) firm(s) (89%), offering high-yield investment opportunities through a webpage (79%), without being dully authorized (87%). 42% of the alerts were updates of AMF blacklists of risky companies for investors regarding forex, binary options, miscellaneous assets (such as diamonds, art, or containers), and crypto-assets since 2018.[26] Frequently, the misdeeds were detected by investors, who warned the AMF. Such misdeeds were subsequently transmitted to the National Financial Prosecutor. In that sense, the AMF names and shames entities or misconducts rapidly and at a low cost to protect investors. The ultimate goal is to impose a stigma on wrongdoers by penalizing their reputations, and to promote and shape higher-standard social norms. Still, these alerts (synonym of a light-touch enforcement) question the information transmission to investors. To what extent do investors access and account for the AMF alerts? Are they efficiently damaging reputations, when some entities were repeatedly named in alerts? The actions brought before the Paris regional court (*Tribunal de Grande Instance*) by the AMF since 2014 appear more efficient in obtaining court orders blocking access to these illegal websites.

4.2. Allegation, acquittal, and innocence

Part of the literature investigates market reactions to alleged and/or condemned financial crimes, along the consecutive steps of enforcement (see the graphical illustration in Figure 2 for France). Most frequently, alleged frauds are revealed by newspaper articles, or by an official corporate or regulatory communication. Feroz et al. (1991) and Pritchard and Ferris (2001) conclude that the very first hint of a financial crime triggers the most important and significant abnormal market reaction, even when compared to the sanction publication itself. Solomon and Soltes (2019; p. 1) underline the difference between "not guilty" and "innocent" for the markets: "even when no charges are ultimately brought [after SEC financial fraud investigations], firms that voluntarily disclose an investigation have significant negative returns, underperforming non-sanctioned firms that stayed silent by 12.7% for a year after the investigation begins."

Regarding market reactions to AMF enforcement procedures, the literature stressed the following: 1) no insider information is leaked to the market before the Enforcement Committee hearings, except in exceptional cases (de Batz, 2020a), demonstrating no breach of

[25] https://www.amf-france.org/fr/listing_format/format-du-contenu/mise-en-garde
[26] https://www.amf-france.org/en/warnings/warnings-and-blacklists

confidentiality along the enforcement procedures; 2) markets react statistically significantly and negatively to sanction decisions (Constant, 2013; de Batz, 2020a; Kirat and Rezaee, 2019); but 3) not to acquittal decisions (de Batz, 2020a). Over the period under review, as stressed in section 3.5, only two crimes alleged in the media ended sanctioned by the AMF, assorted with very high fines. For that reason, in France, it is not possible to disentangle the reputation cost of being accused of a fraud from the subsequent sanction decision.

5. Challenges echoing history of enforcement

Enforcement as conducted by the AMF appears credible to market participants. A measurable indicator of this credibility is the AMF's identity thefts to deceive investors: seven "alerts" have been issued since 2010 by the AMF regarding individuals or firms pretending working for the AMF or using the "AMF" name.[27] Another indicator of the AMF's credibility is the high confirmation rate of decisions in appeal (71%), with a high rate of appeals (46%), as illustrates Figure 4. Still, consolidating one's credibility in a rapidly evolving environment is a challenge faced by all enforcers. This section strives to stress some forward-looking challenges in terms of credibility based on the history of French sanctions of financial crimes.

5.1. Multiple concomitant challenges to enforcement: react quickly, transparently, severely but proportionally and independently

Regulatory authorities need to react in the most appropriate and timely manner. Precipitated reactions might waste constrained means by initiating irrelevant procedures. Conversely, prescription limits and up-to-date example-setting plead to speed up procedures, by limiting to the lag between the crime and its sanction. Part of the acquittal decisions (8.5% of the sanctions over the period under review) were justified by procedural irregularities or prescription limits, which do not acquit the investigated entity (for example SAN-2012-03). Hence, the information content conveyed by an acquittal decision is not straightforward, as acquittals do not always mean innocence. The French financial law was tightened in 2019 with this regard, when the prescription limit was raised from 3 to 6 years (as for criminal laws), supported by the length of procedures.[28] The AMF starts, on average, enforcement procedures 1.3 years after the beginning of the breach (see Figure 5, Panel A), and, in 35% of the procedures, the breach(es) was(ere) still ongoing after the launch of the enforcement

[27] https://www.amf-france.org/en/warnings

[28] Article L. 621-15 I of the Monetary and Financial Code; Law n°2019-486 regarding growth and transformation of firms (so-called PACTE).

procedure. On average, 4.2 years elapse from the beginning of the breach until it is sanctioned (see Figure 5, Panel A). The great heterogeneity in financial crimes and defendants leads to very different procedures following the same milestones (see Figure 2). As stressed by Kalmenovitz (2021; p. 4745), "in reality not all actions are born equal". Some alleged complex regulatory breaches might need more time, people, and efforts to document. In other cases, the legal forces enacted by the defendant(s) might greatly slow down and complexify procedures. On average (see Figure 5, Panel B), procedures last 2.9 years, ranging from 254 days up to 9 years. Over the period under review, procedures became longer, from 2.5 years in 2005 up to 3.4 years in 2021, despite a much quicker publication of the decision in the aftermath of the Enforcement Committee hearings (Figure 5, Panel C). Additionally, appeals contribute greatly to longer procedures (by 1.9 years, see Figure 5, Panel D). Decisions of the Enforcement Committee can be appealed by the defendant(s) and/or by the chairman of the AMF to three different courts (Court of Appeal of Paris, Court of Cassation, and Priority question on constitutionality). Finally, it is striking to note that the length of settlement procedures is shorter (2.3 years since 2012), as expected given their nature and the targeted crimes, but it is rising steadily and tends to converge with the length of sanctions (3.0 and 3.4 years respectively in 2021), in contradiction with its initial goal of offering shorter and cheaper procedures (see Figure 6).

How to sanction to support enforcers' credibility? Market participants should know (and fear) the likely consequences from being caught cheating on the law. Sanctions must be severe enough to be treated as a cost of doing business. In practice, it is critical to bear in mind the imperfect knowledge about the probability of being caught and the magnitude of fines. Still, cash fines are the key, tangible, and immediately comparable determinant of the seriousness of sanctioned breaches. They can be complemented with a reputational penalty imposed by the market on returns (if the decision is not anonymized), particularly significant in Anglo-Saxon countries (Karpoff and Lott, 1993; Armour et al., 2017).

In France, cash fines are hardly predictable and said to be limited. Additionally, the reputational spillovers are much more limited than in the Anglo-Saxon universe (de Batz, 2020a; Kirat and Rezaee, 2019), but would also penalize past victims (de Batz, 2020b). Still, and conversely to the U.S. Sentencing Commission which introduced in 1991 sentencing guidelines,[29] there is neither binding rule nor transparent guidelines on how to value fines,

[29] https://www.ussc.gov/guidelines/archive/1991-federal-sentencing-guidelines-manual

despite long-lived debates as illustrated by the Nocquet's report in 2013.[30] The AMF Enforcement Committee follows two general objective and – to some extent – contradictory principles: 1) the time consistency (coherence between decisions along time), and 2) the legal maximums (raised on three occasions since 2003 along regulatory tightenings).[31,10] The specificities of the breach(es) and respondent(s) are also accounted for, at the discretion of the members of the Enforcement Committee: the seriousness and duration of the breach(es), the magnitude of the obtained gains or advantages, the quality and degree of involvement of the person(s) involved, the financial situation of the defendant, the losses suffered by third parties as a result of the breach(es), the degree of cooperation along the procedure, recidivism, and remedial changes implemented.[32] The gains or advantages obtained from the breach(es) are crucial to set a fine, but their valuation and meaningfulness (for larger firms) are challenging. Consequently, the proportionalism of some verdicts was questioned. For example, it can be complex to say the least to exhaustively value profits drawn by the chairman of the multinational from the dissemination of false information (SAN-2004-16).

If there is a critical need for time-consistency to support the fairness and credibility of the sanctions, the rising maximum thresholds along time must be – and were to some extent – reflected into the verdicts to be credible. It is interesting to observe a persistent upwards trend of average cash fines (see Figure 7, Panel A and B), even when excluding the two record-high decisions on banks with cumulated fines of 35 million and 37 million euros (respectively SAN-2017-07 and SAN-2021-14).[33] On average, sanctions close to quadrupled compared to the early 2000s.

Finally, a subsequent challenge regarding the efficacy of sanctions and settlements relates to the enforcement of the sentence: the collection of fines, by the French Treasury (most frequently) or by the guarantee fund to which the professional belongs, and the enforcement of the bans from activity. Such enforcement can be particularly challenging when the verdict sets a high fine against a foreign natural person, such as the 14-million-euro fine set in 2013 on a Lebanese trader for insider trading during a taker-over bid (SAN-2013-

[30] https://www.amf-france.org/fr/actualites-publications/publications/rapports-etudes-et-analyses/rapport-sur-le-prononce-lexecution-de-la-sanction-et-le-post-sentenciel

[31] Fines can amount up to 100 million euros for market abuses committed by regulated professionals (or 10 times any benefit derived from the breach if this can be determined, or 15% of the yearly turnover) and up to 15 million euros with regards to natural persons (managers, employees, etc.) placed under the authority or acting in the name and on behalf of regulated professionals (or ten times the amount of the benefit derived from the breach if this can be determined).

[32] Monetary and Financial Code, Section 5, Art. L621-15 III ter.

[33] The fine for SAN-2017-07 was revised down to 20 million euros in appeal by the State Council in 2019. The sanction SAN-2021-14 was appealed…

22). The chairman of the AMF stressed in October 2020 "the difficulty in certain cases in recovering the cash fines and the defendants' impoverishment along sanction procedures".[34]

Who to sanction to support enforcers' credibility? This question is particularly relevant for larger (insured) firms and/or their top managers. In fact, the reputational penalty of sanctions on larger firms is much more limited than on smaller firms (de Batz, 2020a). Sanctioning the management of a firm stresses their direct responsibility and accountability, for example by communicating exact and sincere financial information, and their business ethic, for example by not using insider information to make profits. Two notorious sanctions illustrate that even the largest firms must communicate sincerely regarding their objectives, for example along merger and acquisition processes (SAN-2011-02 and SAN-2013-15). Another key element to bear in mind is that, during investigations of financial frauds, potential defendants can benefit from the protection of top-tier corporate attorneys and lawyers, with means by far exceeding the constrained budget of enforcers. This will end up dampening the probability of success of the procedure. The complexity to file charges against high-level managers was illustrated in the U.S. in the aftermath of the subprime mortgage crisis. It was partly accounted for by the lack of resources and political will to prosecute either systematically important financial institutions or their leaders (Mayer et al., 2014).

5.2. Acting independently from any external pressure

The Enforcement Committee is statutorily independent from the AMF, which is an independent public authority. Complementarily, it is worth stressing that the chairman of the AMF is named by Presidential decree, which could question the *de facto* independence of enforcement. De Batz (2020a) concluded that abnormal market reactions subsequent to sanctions of listed firms are not influenced significantly by the chairmen of the AMF or by the chairmen of the Enforcement Committee. Still, the tight (and typically French) connections between large corporations, the State, and the media regularly fuel suspicions of biases of some highly mediatized decisions. The most notorious was SAN-2009-33 against a multinational manufacturer, highly politically connected. In fact, the AMF alleged insider trading and communication of false information in a context of major production delays justifying the publication of a significant profit warning. The three mother companies of the manufacturer and numerous (17) top managers were in the end cleared from charges by the Enforcement Committee, which was a discredit of the AMF. There were also repeated

[34] https://www.amf-france.org/fr/actualites-publications/prises-de-parole/13e-colloque-de-la-commission-des-sanctions-de-lamf-discours-de-cloture-de-robert-ophele-president

information leakages along this enforcement procedure. The initial internal confidential report addressed to the Board of the AMF was leaked to one of the top financial journals (*Le Figaro*) in October 2007.[35] A semester later, in April 2008, the final report was again leaked to another media, *Mediapart*. The AMF had to communicate more than regarding any other sanction and suffered various types of pressure, illustrated for example by the direct communication by the firm to every member of the AMF board before their decision, a first time in history, or allegedly by foreign governments, given the multinational and partly State-owned nature of the firm. This led the chairman of the AMF to state that "there will be a before and an after".[36]

A milestone for the international credibility of the AMF enforcement was reached in 2016 with the judgement of European Court of Human Rights.[37] In fact, the Court considered unanimously that there was no reason to doubt the Enforcement Committee's and its rapporteur's independence from the other AMF bodies regarding a sanction for failing to comply with the rules on the period of cover for the short selling of stocks under a capital-raising program for a French listed firm (SAN-2008-21). The judgement also concluded that the applicable law at the relevant time was sufficiently foreseeable for the applicants to have known that their professional responsibility could be engaged if they purchased stock exchange rights without reasonably foreseeable cover right up to the end of the subscription period.

5.3. Encouraging best practices and healthy financial markets

Well-regulated and functioning financial markets contribute to their attractiveness. In that sense, enforcers have a major forward-looking role to play. Beyond the market abuses, they also contribute to guarantee the ethics of business to market participants, for example by fighting against money laundry and against financing of terrorism or weapons. It is interesting to note that three sanction decisions targeted asset management firms which did not comply

[35] https://www.lefigaro.fr/societes-francaises/2007/10/04/04010-20071004ARTFIG90077-eads_de_nouveau_dans_la_tourmente.php

[36] https://www.lefigaro.fr/societes/2009/12/18/04015-20091218ARTFIG00424-jouyet-il-y-aura-pour-l-amf-un-avant-eads-et-un-apres-.php

[37] Affaire X et Y c. France, n° 48158/11: https://hudoc.echr.coe.int/eng#{%22fulltext%22:[%22amf%202016%22],%22documentcollectionid2%22:[%22GRANDCHAMBER%22,%22CHAMBER%22],%22itemid%22:[%22001-165754%22]}

with the enforced rules regarding the fight against money laundering and terrorist financing (SAN-2009-22, SAN-2021-05, and SAN-2021-17).[38]

5.4. Keeping up with the industry: technological, legal, and financial innovations

Enforcement is constantly challenged by financial innovation. It results in an "increasing complexity involved in financial market transactions as a result of rapid technological, legal, and financial innovation and an ever-widening menu of financial products" (Reurink, 2018; p. 1292). In the meantime, "an influx of unsophisticated, gullible participants in the financial marketplace", frequently with a video-game mindset, complexifies market surveillance (Reurink, 2018; p. 1292). This emergence of neo-brokers has been fostered by the emergence of cheap and easy-to-use trading platforms, online chat rooms and social networks, and aggressive online marketing, which allures newcomers with attractive promises of returns and fuels herd behaviors, in a context of historically low interest rates in Western economies. The most notorious example happened in the U.S. with the massive trades on *Gamestop* in 2021, when individual investors were massively using complex financial instruments to speculate against hedge funds. The multiplication of channels of communication mechanically complexifies the supervision. The AMF recently sanctioned a Polish company which advertised improperly in European standards using banner and *Google* adds (SAN-2021-16). This globalization trend of market participants underlines the key role that European Securities and Markets Authority (ESMA) has to play to guarantee a level playing field across Europe. In that sense, the repository of sanctions made in Europe, under the different regulations and directives, is very promising and calls for additional investigations.[39]

This complexity seems to be gaining traction with the combined effects of computer trading, of globalized markets, and of new (unregulated) investment vehicles with unregulated underlying assets (such as fungible and non-fungible tokens). Enforcers have to adapt proportionally and quickly to such innovations to protect investors but are constrained by long legal and administrative processes, by limited means compared to the industry (computer, engineers, data, etc.), by the extraterritoriality of most of the new players, and by the regulatory loopholes (new products might not fall into their rulebooks), etc. This stresses the need to invest in enforcement (salaries, equipment, perspectives, etc.) in order to keep up with

[38] The fifth Money-Laundering European Directive (n° 2018/843) has been transposed into the French law early 2020. https://www.amf-france.org/en/professionals/management-companies/decrypt-regulation/money-laudering-1

[39] https://registers.esma.europa.eu/publication/searchSanction

the industry, to be able to attract top players from the industry, and to contribute to regulate better their peers.

Since early 2018, the AMF has been a pro-active player regarding crypto-assets, by participating in the international, European, and French taskforces to set a general regulatory framework, by advising investors regarding their specific risks, and by regularly updating a list of websites of unauthorized companies proposing atypical investments (in particular in asset assets) without being authorized to do so. For the first time in history, in November 2021, a sanction mentioned "crypto-currencies" (SAN-2021-16). The sanctioned investment firm breached the law when offering to its clients, on its website, contracts for difference (CFD) with Bitcoin and crypto-currencies as underlying assets.

5.5. International level playing for globalized financial markets

Sanctions of French persons are long and complex procedures. The complexity is even greater when pursuing foreign natural or legal persons acting cross-market and cross-products. Enforcement procedures involving foreigners last a year longer than procedures involving French persons (3.9 and 2.8 years respectively). Such sanctions on foreigners have been enabled by the increasing international cooperation and exchange of information agreements. The AMF has formalized 71 bilateral Memorandum of Understanding with 36 countries since 1992.[40] This was illustrated by the two sanctions of an asset management firm (the U.S. head company and its British subsidiary, both regulated by the U.S. SEC and the U.K FCA) in 2014 (SAN-2014-03 for insider trading) and in 2020 (SAN-2020-04, for late, false and incomplete communication and obstruction) for fines of respectively 16 and 20 million euros. These sanctions are the 3rd and 5th largest ever set by the AMF but only amounted to less than 0.1% of the assets under management of the defendants. These decisions were appealed for and the first one was already confirmed. Over the period under review, the share of procedures targeting foreign persons has been rising significantly (see Figure 8), reflecting the globalization of financial markets, in particular within the European Union with a convergence of regulations and easier exports of financial services thanks to the European financial passport. This was illustrated by the sanction of a Polish investment firm which used its passport to mis-sell financial products in France (SAN-2021-16).

[40] By alphabetical order: Australia, Bahamas, Bermuda, Brazil, British Virgin Islands, Canada, Cayman Islands, China, Czechia, Egypt, Guernsey, Hong Kong, India, Isle of Man, Israel, Japan, Jersey, Lithuania, Malaysia, Mauritius, Morocco, New Zealand, North Macedonia, Poland, Qatar, Russia, Singapore, South Africa, South Korea, Switzerland, Thailand, Turkey, United Arab Emirates, U.K., U.S.A., and Vietnam.

In the shorter term, another complementary tool at enforcers' disposal regarding misdeeds of foreign market participants are the *alerts*. They enable raising concerns regarding a market participant at a low cost, but also possibly with a lower echo. On average, since 2010, 68% of the 194 alerts which were issued targeted foreigners.

Finally, a critical aspect of enforcement to guarantee healthy and competitive financial markets and to enhance investor protection is the level playing field between jurisdictions for a competitive financial sector that rewards the more efficient business models and avoids the risks of regulatory fragmentation. In that sense, the European convergence initiated in 2015 towards high standards with the Single Rulebook for European financial markets should contribute to attract investments. In late November 2021, the European Commission stressed that the finalization of a Capital Market Union as a key priority, to foster European attractiveness and to finance post-covid growth and the ecological and digital transitions. A convergence in oversight of financial markets and enforcement might avoid regulatory arbitrage, with relocation of activities in a race-to-the-bottom enabled by the European passport of financial products, fragmentation with diverging interpretation and enforcement of rules to support the attractiveness and competitiveness of some countries vis-à-vis others, and in the end forum shopping. Still, the developments in the U.K. will have to be carefully monitored in the future.

6. Concluding remarks

This article is both a retrospective and a prospective analysis on financial crimes, based on a comprehensive and close-to-two-decade-long history of French enforcement actions. Comprehensiveness is the best one can do to circumvent the partial observability of fraud. Three main levers at the French Financial Market Authority's disposal are analyzed: sanctions, settlements, and alerts. The last two levers were introduced respectively in 2012 and 2010, as a way to ease enforcement and to speed up regulatory communication with market participants. Conversely, some steps have been taken towards less transparency, with the retroactive anonymization of a large share of sanctions. This makes the exhaustive dataset on which this article is based all the more valuable. Decisions appear to have gained in severity along time – echoing consecutive regulatory reforms which reinforced AMF's powers– at the expense of longer prosecutions.

This work also digs into the rising complexity of information acquisition from an enforcement perspective. Beyond the diversity of market participants to supervise, from traders and shareholders to analysts and journalists, technological, legal, and financial

innovations, and the internationalization of financial markets further challenge enforcement. This results in increasingly sophisticated, complex, and quick financial transactions, in a diversification of market participants, and in an explosion of the volume of information spread through more and more different channels. Enforcers' credibility needs to be supported with investments (technology, human resources, and communication) in order to keep up with the industry and to efficiently deter financial crimes. Up-to-date, timely and commensurate regulatory reforms are also crucial for a sound financing of economic growth without dampening the attractiveness of a stock exchange.

This descriptive synthesis of history of enforcement calls for complementary work. Firstly, it would be interesting to exploit the data to address partial observability, for example using capture-recapture methods (Ormosi, 2014). Additionally, this article should be challenged by a similar work from a European perspective in order to get results based on regional comparisons, in a context of convergence of regulations. To do so, it would be very interesting to dig into the ESMA data.

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Table 1: Enforcement in France *Versus* Other Jurisdictions

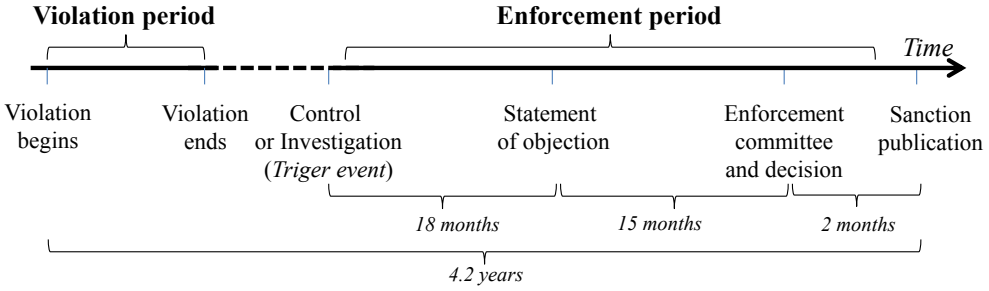
Table 1 compares the main features of securities law enforcement in France with three other main countries: the U.S., China, and the UK. Each country has its own enforcement mix, with different weights given to public (higher in code-law countries like France) or private (higher in common-law countries, typically the U.S.) enforcement and to self-regulation of the market (Djankov et al., 2008). Enforcement can also rely more on informal discussions and administrative guidance (like in France), or on formal legal actions against wrongdoers (like in the U.S.). Financial regulations can be enforced by either several bodies (at different levels of government such as federal, province, or state levels or depending on the sector with splits between banks, insurance companies, etc.) or one single financial supervisory agency.

	France	**U.S.**	**China**	**UK**
Securities regulator	*Autorité des Marchés Financiers* (AMF since 2003)	Securities and Exchange Commission (SEC)	China Securities Regulatory Commission (CSRC)	Financial Conduct Authority (FCA, FSA until 2012)
Civil actions can be taken by the securities regulator	Yes	Yes	No	Yes
Major types of sanction	Warning, blame, prohibition and suspension from activity, financial penalties	Cease and desist orders, suspension or revocation of broker-dealer and investment advisor registrations, censures, bars from association with the securities industry, monetary penalties and disgorgements	Warning, fines, disgorgement of illegal gains, banning of market entry, rectification notice, regulatory concern and letter of warning, public statements and regulatory interview	Variation/cancellation /refusal of authorization/approva l/permissions, financial penalties, public censure, prohibition and suspension
Most frequent type of sanction	Monetary penalties	Monetary penalties	Non-monetary penalties	Non-monetary penalties
Possibility of class actions	No	Yes	Yes	No
Regulatory communication before sanction	No	Yes	No	No
Settlements	Yes (since 2012)	Yes	Yes (mediations)	Yes
Type of law	Code	Common	Code	Common
Legal origins	French	English	Socialist	English

Source: Authors.

Figure 1: Average Timeline of Enforcement Procedures

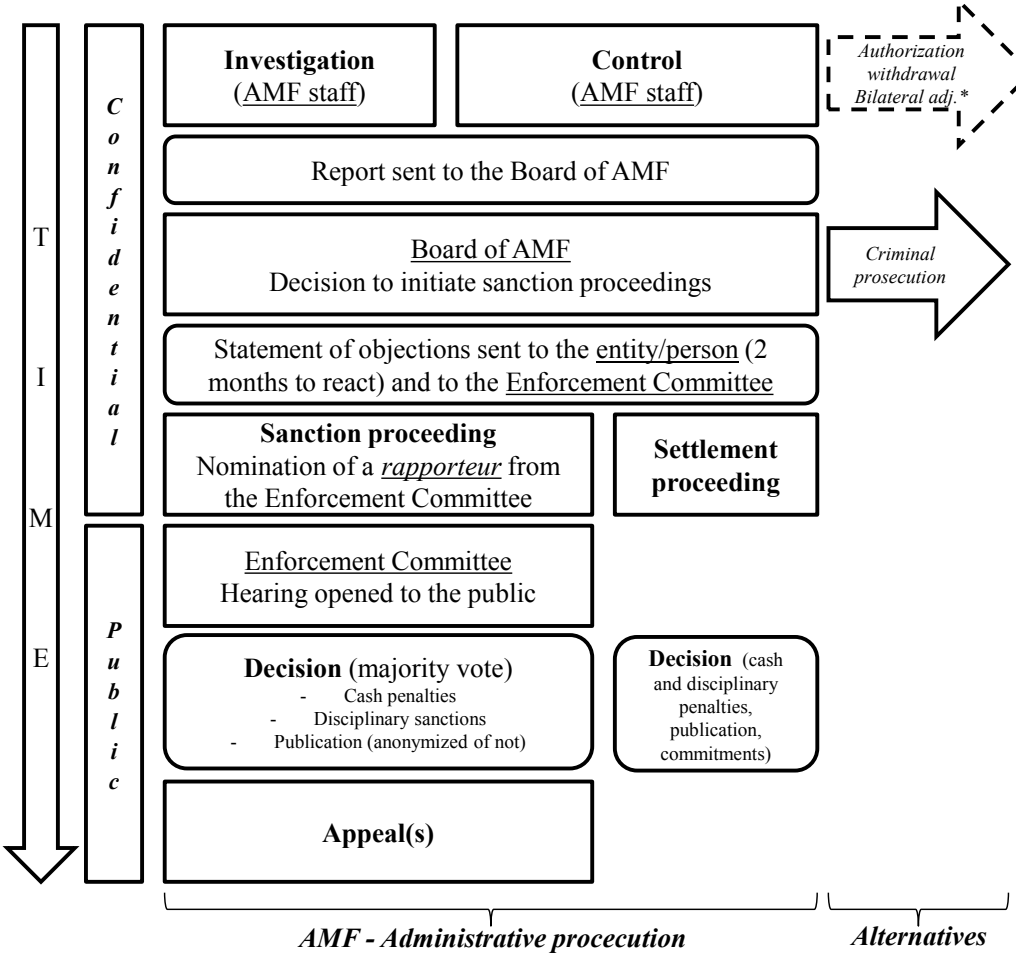
This figure shows the typical succession of events from the violation period until the enforcement procedure, ending with a verdict. The lengths are averages, when the dates were included in the sanction reports or shared by the AMF. In 35% of the cases, the violation period overlaps the enforcement period for example when a control detected breaches to professional obligations which were not yet addressed.



Source: Authors

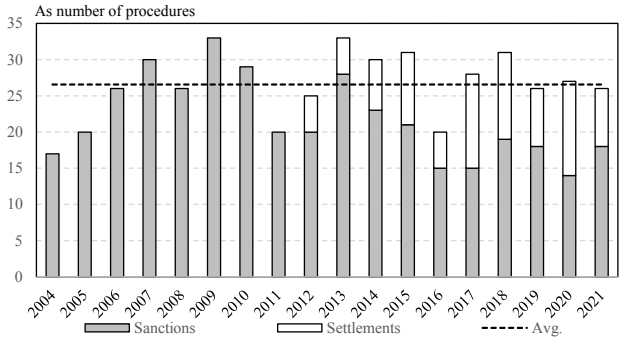
Figure 2: Main Steps of Enforcement Procedures

Figure 2 presents a simplified view of the consecutive steps of prosecution for financial crimes as enforced by the AMF from the launch of an investigation (for alleged market abuses) or a control (compliance with one's professional obligations as a regulated person) until possible appeals toward three courts (Court of Appeal of Paris, Court of Cassation, and Priority question on constitutionality). Still, the majority of alleged financial crimes, deemed less severe, are delt with bilaterally between the AMF and the incriminated persons, to implement remedials or by withdrawing professional authorizations. Since 2016, the AMF and the National Financial Prosecutor decide jointly for every financial crimes between administrative and criminal prosecutions.



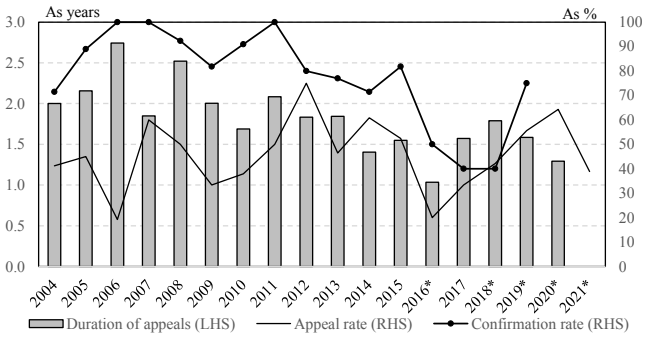
Source: Authors

Figure 3. Number of Sanctions and Settlements *per* Year



Source: AMF, Authors' calculations (based on the publication year of the decision).

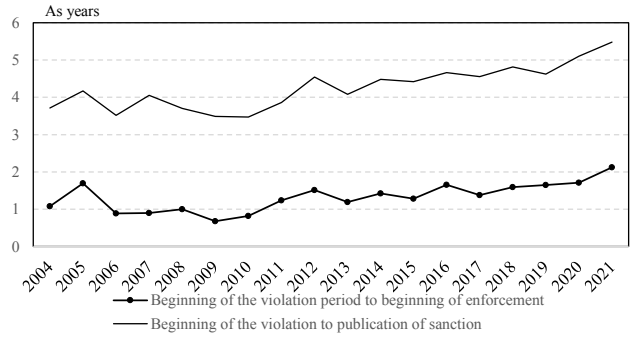
Figure 4. Characteristics of Appeals



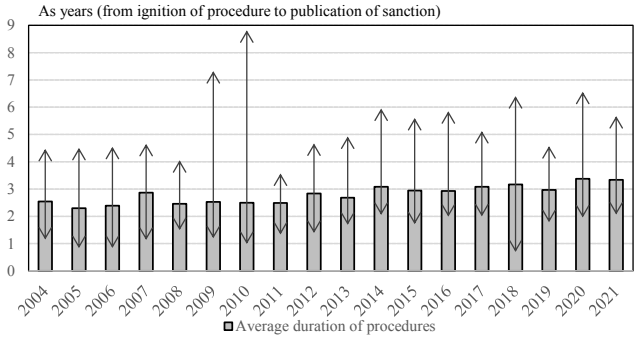
*Source: AMF, Authors' calculations (based on the publication year of the decision) * As available in 06/01/2022.*

Figure 5. Length of Sanction Procedures

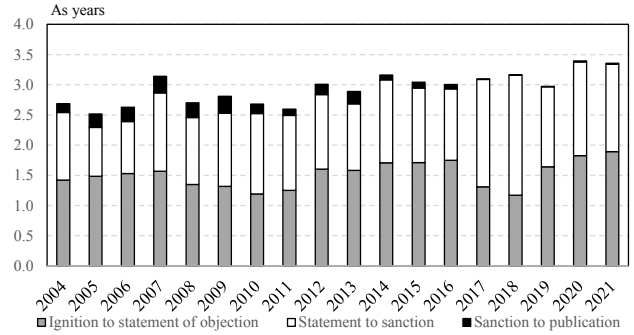
Panel A. Duration since the Beginning of the Violation *per* Year



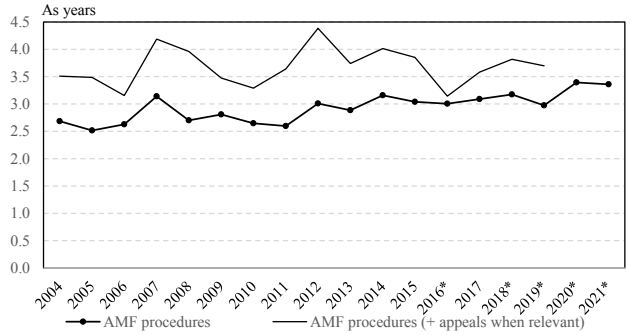
Panel B. Average, Maximum, and Minimum Durations of Procedures *per* Year



Panel C. Average Duration of Each Steps of Sanction Procedures *per* Year

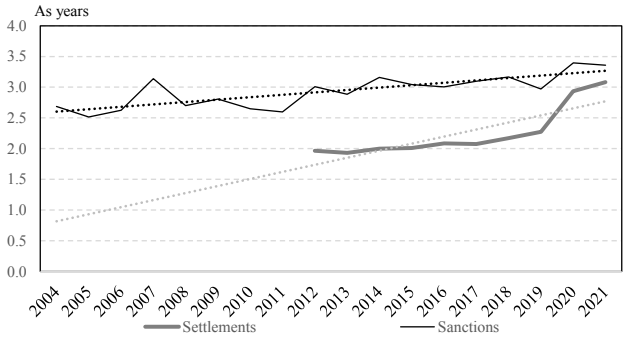


Panel D. Total Durations of Procedures *per* Year



Source: AMF, Authors' calculations (based on the publication year of the decision).

Figure 6. Average Length of AMF Procedures *per* Year: Comparison Between Sanctions and Settlements

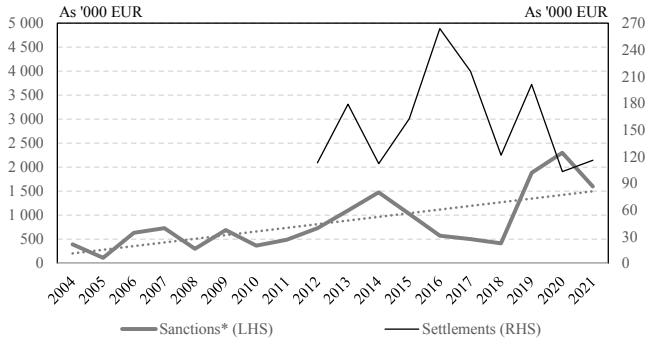


Source: AMF, Authors' calculations (based on the publication year of the decision, as available on 06/01/2022)

Figure 7. Average Fines *per* Year for Sanctions and Settlements

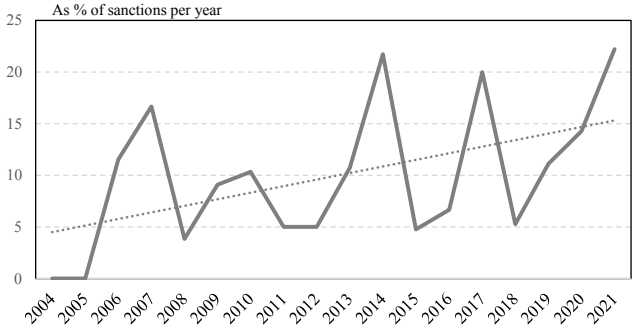
Panel A. Full sample of sanctions and settlements

Panel B. Excluding the two record sanctions[**]



*Source: AMF, Authors' calculations (based on the publication year of the decision, as available on 07/12/2021). * If sanctioned (*i.e. *excluding acquittals). ** Cash fines above 30 million EUR, SAN-2017-07 and SAN-2021-14.*

Figure 8. Foreign Sanctioned Persons



Source: AMF, Authors' calculations (based on the publication year of the decision).