Chapter 1

Summary of the Dissertation

"We are in the golden age of fraud."

Jim Chanos, Kynikos Associates, Financial Times 24/07/2020.

Beyond the speculations about the consecutive waves of Covid, 2020 will be reminded for one of the most notorious failures of a listed firm, due to a massive accounting fraud: the German payment fintech Wirecard. The firm, with 30 subsidiaries in 26 countries, joined the prestigious DAX index just two years before. The spillovers of the billion-euro fraud range from the arrest of top managers to suspicion of auditors, politicians, and regulatory authorities (BaFin, European Commission, and ESMA), as suggested the Financial Times headline "Why was Frankfurt so blind for so long?"[1] Such a failure serves as a reminder of the relevance of financial markets regulation, oversight, and enforcement, in order to protect investors and to encourage compliance with regulations.

Research on the relationship between the publication of financial misconducts and financial performance for corporates has continuously grown, as illustrated by the recent in-depth literature reviews undergone by Amiram et al. (2018) and Liu and Yawson (2020). It is fueling regulatory debates on how to enforce more efficiently financial regulations.

Some specificities of white-collar crimes must be accounted for and support the relevance of this dissertation. Firstly, contrary to many other crimes, they are committed by employees and not by the companies. Still, most frequently, the firms are held responsible (Choi and Pritchard, 2016), justifying market corrections following their publications. Secondly, echoing Becker (1968),[2] a limited share of white-collar crimes is detected (by regulators, analysts, shareholders, stockholders, external auditors, etc.), with an unknown and low probability. Alawadhi et al. (2020) assess that more than a fourth of the Compusat-listed firms

[1] 21, June 2020.

[2] 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.

engaged in accounting frauds, but only 3.5% of such financial mis-presentations were eventually caught and sanctioned.[3] The knowledge on frauds is based on those detected. Amiram et al. (2018; p. 737) 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." Finally, acting legally can turn into an economic disadvantage for a firm and/or its management (Hawley, 1991, Aupperle et al., 1985). In fact, the costs for abiding the law can stand for an economic disadvantage compared to its competitors/peers. Put it differently, echoing Becker (1968), the expected costs for being sanctioned (fines, litigation costs, reputational penalties, impact on clients and suppliers, HR consequences, etc.) can be lower than the benefits from cheating the law (higher returns on assets, lower risks of doing business, etc.). All in all, it is relevant to enlarge the scope of the existing literature by investigating an overlooked country (France) and by meta-analyzing the existing literature to confirm the relevance of the conclusions of individual studies.

This dissertation focusses on the following financial misconducts, consistent with academic, practitioner, and policy literature: insider trading, price manipulation, dissemination of false information (of which accounting fraud),[4] and any breach to financial regulations. This scope of white-collar crimes is supported by the literature which demonstrated that, amid all corporate crimes, financial crimes trigger the strongest market reactions, and subsequently impact most corporate reputations (Engelen, 2011; Karpoff, 2012, 2020). They can be alleged, investigated, or sanctioned crimes. Corporate frauds can be detected *via* several webs: through the classical corporate governance players (regulators, external auditors, financial analysts), as well as through a large network of people interacting with the firms (shareholders, stakeholders, employees, journalists, whistleblowers, etc.). When detected, they can lead to enforcement or stock exchange procedures, lawsuits, class actions, or accounting restatements depending on the jurisdictions and on the parties at stake.

Overall, the goal of this dissertation is to deliver three original and complementary contributions to the literature on the spillovers of financial crimes to contribute to ongoing debates in financial markets oversight and securities law enforcement: how enforcement can support financial market developments and protect investors? These articles should offer some guidance on future policy markers' decisions by explaining market perceptions of their actions

[3] The authors based their estimates on all U.S. SEC and Department of Justice enforcement actions, over the period 1978 to 2017.

[4] Insider trading, price manipulation, and dissemination of false information are called "market abuses" under the European Market Abuse Directive (MAD 2003/6/EC) and Regulation on market abuse (MAR 596/2014).

and decisions from a specific to a general perspective. In a nutshell, the three articles comprising this dissertation express my strong believe that regulatory authorities' voice can be credible to the markets and hence foster responsible behaviors. Sanctions may also be efficiently complemented by regulatory communication (for example by naming and shaming wrongdoings), which will trigger reputational sanctions at a lower cost (Karpoff and Lott, 1993). By doing so, regulators also reinforce financial education of market participants.

On the one hand, the dissertation investigates, over the next two chapters, the specificities of an overlooked code law country, which has been sanctioning for decades financial misconducts: France and more specifically the sanctions of the French Financial Market Authority (AMF). This includes the market perceptions of the AMF sanction decisions made against listed firms (chapter 2). Complementarily, chapter 3 investigates how the same market reacts to the fact that a listed firm, which was the victim of a regulatory breach, is being avenged, or put it differently that its past executioner(s) is (are) sanctioned by the AMF. On the other hand, the last chapter of the dissertation (chapter 4) broadens the perspective by meta-analyzing an exhaustive set of event studies assessing how financial markets react to the publication of intentional financial crimes committed by listed firms. This meta-analysis enables to benchmark the French results with 16 other jurisdictions, over a long time span (1965-2018).

The three chapters are based on the event study methodology, originally outlined in Ball and Brown (1968) and Fama et al. (1969). The underlying hypothesis behind the market reactions to the publication of financial misconducts is grounded in the semi-strong efficient market hypothesis (Fama, 1970): all the publicly available information (in this dissertation the publication of financial misconducts) should be fully and immediately incorporated into prices. This methodology is widely recognized in the economic and financial literature as an efficient tool to analyze abnormal market reactions to unanticipated news (MacKinlay, 1997). Furthermore, event studies evade the issue of endogeneity and are quite unambiguous with regards to the causal direction of the relationship (Endrikat, 2016). The nature of financial misconducts also means that the sample only contains "bad" news that are priced-in more rapidly than "good" news (Taffler et al., 2004). The event study methodology is particularly relevant for the scope of financial crimes as the event dates are precisely known and are most often communicated *via* official channels. This also facilitates the search for confounding events and their avoidance. Additionally, all three chapters of the dissertation focus on short-term event windows as Kothari and Warner (1997) and Bhagat and Romano (2002), amid others, raised serious concerns about the specification and explanatory power of an event study

with long-term event windows. The key reason is that the signal-to-noise ratio greatly worsens as the time distance from the event date becomes larger. The further from the event, the more likely other confounding events might interfere with the investigated event.

More precisely, chapters 2 and 3 exploit a unique and exhaustive dataset comprising all the sanction decisions made by the AMF since its creation in 2003 (until late 2016 and 2018 respectively). The high level of granularity and regulatory information shared by the AMF contribute to the originality of the studies and support the relevance of the results. The event study methodology investigates for abnormal returns around the dates of the milestones of AMF enforcement procedures.

The results of chapter 2 stress that the confidentiality of the early stages of enforcement procedures is respected by the investigated firm(s) and by the AMF given the lack of significant abnormal returns. They also demonstrate that the French financial markets react negatively to the news of a sanction and its publication. Still, reactions are limited in absolute and relative terms, both compared to past studies and in terms of reputational penalty, as larger firms would gain from being sanctioned. These results question the severity of the verdict (in particular the levied financial penalties for larger firms) and, more broadly, the credibility of the regulator when enforcing the financial laws. Some parameters trigger stronger reactions, but not the most straightforward such as the cash fine or behavioral sanction. The results echo the reputation for leniency of sanctions (scarce procedures, lax verdicts, low fines, ending neglected by analysts and investors), despite consecutive regulatory tightenings and long procedures. They question the efficiency of enforcement as set over the last sixteen years. The following policy recommendations can be made, under the assumption that a credible and efficient enforcement should be priced in by the markets: 1) more communication from the regulator along the enforcement process, as done by the U.S. SEC, to help market participants better and more rapidly assimilate the information on the misconducts being investigated and as a tool to educate and set example (“name and shame”, as enforced in the U.K.); 2) more severe and less frequent sanctions (significantly higher fines, closer to the legal maximum, and more disciplinary sanctions), in particular for larger firms, if the regulator believes that the credibility of a sanction should be measured in the market reactions, as happens in the U.S. for example; and 3) more sanctions of individuals (top managers in particular), in order to reinforce accountability and encourage best practices.

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The third chapter exploits the same dataset using an event study to assess how the French financial markets interpret the fact that a listed firm (so called "the victim") is avenged by the AMF, when the latter sanctions past financial misconducts which were committed at the victim's expense (most frequently its stocks). The results demonstrate that, on average, victims experience substantial negative abnormal returns after the sanction, to some extent significant. This reputational sanction for being associated with a sanction decision is larger than the abnormal returns for sanctioned firms estimated in Chapter 2. Victims are named then shamed by the market, despite being avenged by the regulator. Hence, naming victims in sanctions implies a double punishment of victims, as the firms already suffered during the violation period. Alternatively, sanctions could reveal victims' weaknesses worth sanctioning for. Additionally, victims are more penalized when the market manipulator is sanctioned for the transmission of insider trading, is acquitted or anonymized in the sanction report, or appeals the decision. It demonstrates a market failure as victims are not properly differentiated from wrongdoers or signals weaknesses of the former victims, which possibly enabled the breach to be committed. The markets also incorporate the information content of the decision and of the parties at stake. All in all, those results plead for an anonymization of all victims, to protect them from potentially being stigmatized when their past executioner(s) is (are) sanctioned, for naming and shaming market manipulators, as an alternative efficient enforcement tool to sanctions, and for investments in financial education and pedagogy to limit misunderstanding of regulatory decisions.

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Finally, the purpose of the last chapter is to broaden the perspective by examining how the publication of intentional financial crimes committed by listed firms is interpreted by financial markets, using a systematic and quantitative review of the existing empirical studies. It is also a way to put the French results of chapter 2 into perspective, compared with other jurisdictions. More specifically, chapter 4 is a meta-regression analysis investigating the extent

and the nature of market reactions to the publication of intentional financial crimes committed by listed firms. The survey is comprised of 111 studies, published between 1978 and 2020, with a total of 439 estimates of event studies from more than 30,000 intentional financial crimes. This meta-analysis is unique in that it covers the offsets of the publication of financial crimes (either before or after being sanctioned), to the widest possible extent in terms of misconducts, types of enforcement procedures, information channels, and geographies by comprising all available literature until May 1, 2020. 17 countries (American, Asian, and European) are comprised within the sample, though the U.S. is by far the most frequent, given the size of the market, the greater transparency of enforcers, and its culture more prone to procedures than other jurisdictions. The relevance of the meta-analysis also steams from the scope which is limited to one methodology: event studies. The latter include a directly available and comparable estimated effect: the abnormal returns following the financial crime publication. The significance of abnormal returns is supported by three factors. Firstly, the event dates are precisely known, most frequently communicated *via* official channels (which also facilitates the search for confounding events). Secondly, the sample is homogeneous with only "bad" news regarding the firms. Thirdly, the sample only comprises short-term event windows, which are the most economically significant and free of confounding events.

The first result of the meta-analysis is that average abnormal returns calculated from this empirical literature are affected by a significant negative publication selection bias. Still, after controlling for this bias, the meta-analysis indicates that financial crimes imply statistically significant negative abnormal returns, but to a lower extent than initially thought. This evidence suggests an informational effect of the publication of financial crimes: returns of listed firms contract, on average, by -1.15% *per* day over the average three-day event window surrounding the news. Finally, the MRA results demonstrate that crimes committed in the U.S. (and in common law countries more generally), and accounting frauds are particularly informational to market participants. This meta-analysis demonstrates how markets react rapidly to any negative news regarding the ethics of listed firms, in particular to an allegation of financial crime. Consequently, enforcers can efficiently use communication and transparency *vis-à-vis* markets participants to serve as a cheaper alternative to sanctions.

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References

Alawadhi, A., Karpoff, J. M., Koski, J. L., & Martin, G. S. (2020). The Prevalence and Costs of Financial Misrepresentation. *Available at SSRN 3532053*.

Amiram, D., Bozanic, Z., Cox, J. D., Dupont, Q., Karpoff, J. M., & Sloan, R. (2018). Financial Reporting Fraud and Other Forms of Misconduct: A Multidisciplinary Review of the Literature. *Review of Accounting Studies*, 23(2), 732-783.

Armour, J., Mayer, C., & Polo, A. (2017). Regulatory Sanctions and Reputational Damage in Financial Markets. *Journal of Financial and Quantitative Analysis*, 52(4), 1429-1448.

Ball, R., & Brown, P. (1968). An empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 6(2), 159-178.

Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76, 169-217.

Bhagat, S., & Romano, R. (2002). Event Studies and the Law: Part I: Technique and Corporate Litigation. *American Law and Economics Review*, 4(1), 141-168.

Choi, S. J., & Pritchard, A. C. (2016). SEC Investigations and Securities Class Actions: An Empirical Comparison. *Journal of Empirical Legal Studies*, 13(1), 27-49.

Endrikat, J. (2016). Market Reactions to Corporate Environmental Performance Related Events: A Meta-Analytic Consolidation of the Empirical Evidence. *Journal of Business Ethics*, 138(3), 535-548.

Engelen, P.J. (2011). Legal *versus* Reputational Penalties in Deterring Corporate Misconduct. In M. Ugur & D. Sunderland (Eds.), Does Economic Governance Matter?: Governance Institutions and Outcomes, 71-94.

Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance*, 25(2), 383-417.

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*, 10(1), 1-21.

Karpoff, J.M., (2012). Does Reputation Work to Discipline Corporate Misconduct?. In Barnett, M. L., & Pollock, T. G. (Eds.). (2012). The Oxford Handbook of Corporate Reputation. Oxford University Press, Chapter 18.

Karpoff, J. M. (2020). Financial Fraud and Reputational Capital. In Corruption and Fraud in Financial Markets: Malpractice, Misconduct and Manipulation, Chapter 6, pp. 153-177.

Karpoff, J.M., Lee, D.S., & Martin, G.S. (2008). The Cost to Firms of Cooking the Books. *Journal of Financial and Quantitative Analysis*, 43(3), 581-612

Karpoff, J.M., & Lott, J.R. (1993). Reputational Penalty Firms Bear from Committing Criminal Fraud. *Journal of Law & Economics*, 36(2), 757-802.

Kothari, S. P., & Warner, J. B. (1997). Measuring Long-Horizon Security Price Performance. *Journal of Financial Economics*, 43(3), 301-339.

Liu, C., & Yawson, A. (2020). Financial Misconduct and Market-Based Penalties. Corruption and Fraud. In C. Alexander, & D. Cumming (Eds.), Handbook Corruption and Fraud in Financial Markets: Malpractice, Misconduct and Manipulation Chapter 4, 65-120.

Liang, H., and L. Renneboog (2017). On the Foundations of Corporate Social Responsibility. *The Journal of Finance*, 72(2), 853-910.

MacKinlay, A. C. (1997). Event Studies in Economics and Finance. *Journal of Economic Literature*, 35(1), 13-39.

Taffler, R. J., Lu, J., & Kausar, A. (2004). In Denial? Stock Market Underreaction to Going-Concern Audit Report Disclosures. *Journal of Accounting and Economics*, 38, 263-296.