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Market monitoring and the detection of market abuses

FinTech frontiers

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ACADEMIC YEAR 2017/2018

## **Acknowledgements**

I would like to thank Dr. Paola Deriu, Head of Cash and Derivatives Market Surveillance Unit, Markets Department, Consob, for the availability and the help provided and, above all, for having transmitted me this passion one year ago.

I would like to express my gratitude to Prof. Paolo Paesani, Head of the Chair of Money and Banking, who, as supervisor, gave me the opportunity of following this passion by accepting the thesis and guiding me with His experience and knowledge in this interesting path.

In the end, I would like to thank my parents and my sweet little sister who have been close to me, supporting me unconditionally in pursuing my aspirations.

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## INTRODUCTION

After the first financial crisis, the Wall Street crash in 1929, the need for a new, stronger relationship among the State and the economy, with the aim of promoting an active macroeconomic policy and of restoring confidence in the financial sector, emerged. It was at this point that the legislators considered appropriate to design a new specific regulation of the financial sector which pursued the policy goals of financial stability and investor protection. In the US Roosevelt introduced controls on banks and on the financial sector, in particular in 1933 it entered into force the Glass-Steagall Act. This provision aimed at limiting the speculation of the financial intermediaries and at preventing the banking panic situations, this separating commercial banks from investment banks and establishing the Federal Deposit Insurance Corporation, FDIC, whose purpose was to guarantee the savers' deposits. The role of the commercial banks became to carry out short-term and low-risk operations, granting credit to households and businesses, while the investment banks operated as intermediaries for high-risk sectors, such as derivatives, over the medium and long term. By separating the two types of banks, the legislator had therefore set itself the objective of preventing that the bankruptcy of the investment bank automatically caused the bankruptcy of the commercial bank. The Glass-Steagall Act has undergone various vicissitudes over the years, from the reunification by the Clinton administration in 1999 of these two types of banks, leaving however in force the FDIC, which led to the crisis of 2008, to the attempt made by the Obama administration, with the introduction of the Volcker Rule, to protect savers by preventing commercial banks from using their savings to carry out trading operations, up to the present day, when the Trump administration set itself the goal of repeal the Volcker Rule so as to strengthen the investment banks. As for the European countries, an emblematic case is represented by Italy which, three years after the Glass-Steagall Act, issued a banking reform that followed the contents of the American Act, distinguishing between credit companies (commercial banks) and credit institutes (investment banks). In 1993, this subdivision was overcome with the issue of the "Consolidated Banking Act".

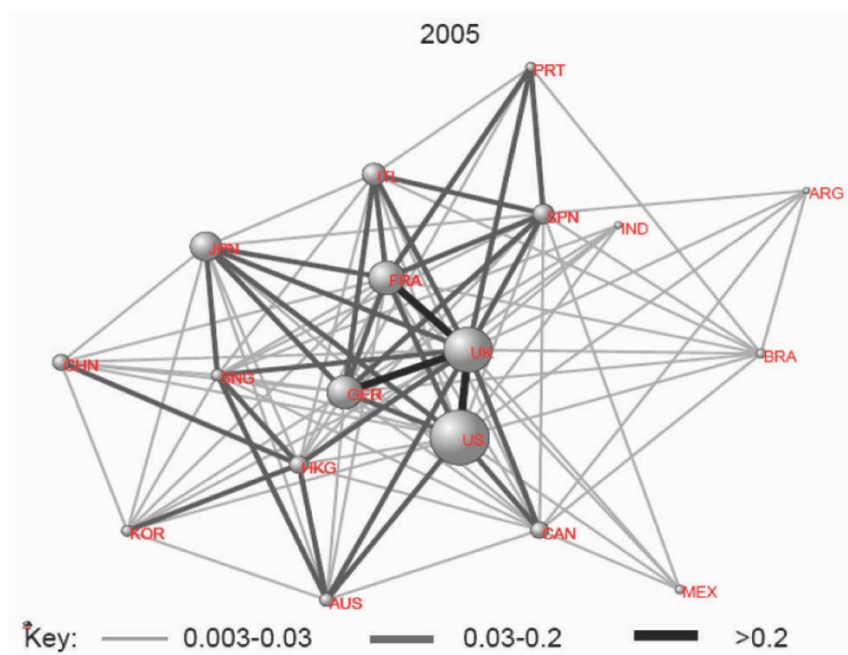
After the unification of European countries, there was an attempt to give a common regulation to the matter however, on May 27, 2015, the European Parliament's Economic and Monetary Affairs Committee expressed its negative opinion on the law proposal presented by the Swedish rapporteur Gunnar Hoekmark, which wanted to separate the two types of banks. Thus, some European countries autonomously decided to adopt measures for their own jurisdictions, for example England, with the “ring fencing”, decided that, starting from January 1, 2019, the major banks should separate the retail banking from the investment banking.

However, the regulation of banks has to be contextualized within a scenario that intends the financial and capital markets as global by nature and therefore it is not possible to avoid considering the so-called systemic risk, and in particular how a crisis or a crash in a single country can trigger a chain effect which impairs also the others. About this, George Papanicolaou of Stanford University conducted a study that he presented in an invited talk at the 2012 SIAM Annual Meeting in Minnesota, USA, in which he highlighted the fact that in each system even seemingly unimportant events are able to spread out and cause a damaging contagion. This idea is expressed in the diagram presented in Figure 1, which shows how each single financial market belonging to a specific country is interconnected with the other financial markets through trade, no matter what its magnitude is. In the diagram the sizes of the spheres represent the magnitudes of the corresponding national financial markets while the thicknesses of the connecting edges represent the volume of traffic between them.<sup>1</sup>

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<sup>1</sup> “Rethinking the Financial Network,” a speech given by Haldane Andrew G., executive director for financial stability, Bank of England, to the Financial Student Association, Amsterdam, April 2009.

**Figure 1** The global financial market in 2005



**Source:** Understanding Systemic Risk in Financial Markets, Case J., SIAM News, Volume 45, Number 10, December 2012

After conducting a study, he concluded that: “(i) a large system is more stable than a small one; (ii) sooner or later, the dread transition will take place; (iii) any increase in the intrinsic stabilization parameter [...] reduces the risk of systemic transition; and (iv) a stronger herding instinct [...] increases systemic risk.”

The causes that can lead to systemic risk are different and among these it is possible to find the stock bubbles and the negative externalities deriving from a bank in financial difficulty. To understand more in depth how the contagion becomes systemic, we take the example of the banking sector. First of all it should be noticed that, despite the importance of the Too Big to Fail banks, the systemic risk is not only due to the size of the institution, but also to the correlation it has with others, in fact even a small-medium size bank can cause a systemic contagion and, more specifically, this can be verified through direct exposure or through the information channel. For what concerns the direct exposure, this occurs because the banks are interconnected with each other through the interbank system, while

the information channel refers to information asymmetries and to the erroneous interpretation of news in the markets. In practice, a systemic contagion can occur because, for example, after a wrongful interpretation of news on a bank, the so-called bank run occurs. This event in itself has no systemic implications up to when the reserves of that institution and those to which it has access through interbank lending are no longer sufficient to cover withdrawal requests. Through the herding effect, not only this bank will not be sufficiently solvent but, due to a chain effect, also the others since their account holders will want to withdraw their savings because they know that the fact that the other bank drew on the interbank fund means less available liquidity also for other banks. This process causes a domino effect that can lead to the collapse of the financial system. Having clarified the importance of systemic risk, it is necessary to consider how the uncertainty impacts on this. In fact, if with respect to the example presented, uncertainty is the source of the panic that leads to the bank run, entering the specific theme of the thesis, and therefore market abuse, we can notice how these can lead to the mispricing of shares: the uncertainty that causes systemic risk will not allow the identification of a unique price for the asset, but an equilibrium range which alters the behavior of the financial system. Regarding algorithmic trading, the matter of the second chapter of the thesis, in the second part of his studies, Papanicolaou focuses on the liquidity, volatility and diversity of the financial markets to analyze the command and control of the systemic risk in this field. He concludes however that today there is not enough research to answer this question and, wondering who could conduct researches, he says that the *“Traders aren’t interested—they’re too busy making money. The banks aren’t interested—they get bailed out whenever they fall prey to risk of any kind. The regulators express interest but lack the necessary resources and know-how. Only academics, in his opinion, possess both the will and the skill to answer such questions.”*

Thus, in order to avoid financial distresses at local and at systemic level, it is fundamental that the agents operate in the markets being in compliance with the law and, in the meanwhile, that the competent authorities monitor that the law is applied at each step of the processes.



Furthermore ethics should guide agents in the financial markets more than the law itself since, if on one hand the law prescribes a set of rules and regulations on how it is appropriate to behave and on the “shall nots”, on the other hand the ethics should arrive where the law fails, they should have a broader breath which comprises all those morally correct principles such as honesty, diligence, respect and fairness that can shed light in situations in which the right thing to do is not prescribed. It is up to investment professionals to behave in such a way that self-interest is placed after the clients’ and the boss’ ones and, above all, they must act in a way that promotes market sustainability and efficiency, conditions that can hold if and only if investors can rely on the fact that markets are transparent, fair and offer the opportunity to be rewarded for the risk faced at the investing time. Anyhow, even though ethics play a crucial role, it is in this framework that it is possible to find the grounds for financial and capital markets regulation.

This thesis poses itself the objective of analyzing market abuses and the evolution that these, together with the regulations that norm them, have had after the introduction of FinTech. For this purpose the first chapter, which gives an introductory framework for the second, presents the different types of market abuse, therefore: insider trading, internal dealing, the unlawful disclosure of inside information and market manipulation, and how these are regulated in the EU from the MAR. It takes into consideration the evolution that the legislation has had since the European countries felt the need of adopting common rules on the subject, up to arrive before the introduction of the FinTech. It is then presented how in Italy the surveillance bodies conduct the monitoring of these operations. In the second chapter, heart of the analysis, are presented the FinTech and the innovations that it entails. More specifically, it is analyzed how its advent impacted on market abuse and, therefore, what is the correlation between the increase in online finance and the occurrence of these latter. In particular arises the doubt on whether FinTech is really leading to a greater degree of operational transparency, thus leaving less room for abuse. For this purpose, it is presented how the US, EU and IT regulations are evolving according to the challenges that online finance presents. In this regard, we analyze two of the innovations that best represent the FinTech evolution, algorithmic trading, with its greater

expression, high frequency trading, and cryptocurrencies, especially bitcoins. In the end US and EU case studies are examined, taking into consideration the ongoing investigations and the sentences already issued, in order to verify which are the most persistent market abuses following the introduction of the FinTech and how they are treated.

## **CHAPTER 1: MARKET MONITORING AND THE DETECTION OF MARKET ABUSES**

### **1.1 MARKET ABUSE CATEGORIES AND DETECTION**

The market abuses are all those behaviors that cause damages to the households who have invested in the financial markets. These abuses can range from the usage of privileged non-public information for personal benefit to the divulgence of false information with the aim of manipulating the prices determination. Within the market abuse categories, it is possible to find: the insider trading, the market manipulation, and the unlawful disclosure of inside information.

#### **1.1.1 INSIDER TRADING**

The phenomenon of the insider trading comprises that set of illicit behaviors which make public reserved information on issuers of financial instruments or of one or more financial securities. The relevance of the insider trading behaviors is in the fact that, if made public, the reserved information could strongly influence financial market, and this is the reason which brought the European Union to the decision of controlling the phenomenon predisposing regulations.

Anyhow the crime of insider trading is not attributable to those who have acquired such information by chance or, for example, due to the fact of being a relative or a cohabitant of the person who is called to answer for the illicit conduct. In order to constitute a crime, the disclosure of privileged information must be circumstantiated and must be specific.

The abuse of privileged information occurs when, for example, information is communicated to third parties without a justified reason, tipping, or when, having confidential information, the possessor recommends others how to operate on a given financial instrument, tuyautage. The prohibition to engage in these behaviors has a dual purpose: on the one hand it prevents abuses by secondary insiders and on the other hand it avoids the risk of bringing into circulation rumors that, although not verifiable, may determine a high volatility of market prices.

Initially, at the European level, the phenomenon of insider trading found many problems in being tackled since most of the Member States did not consider as a problem the fact that transactions based on privileged information could be carried out on financial instruments.

In this regard it is sufficient to say that, when the first directive on insider trading was adopted in 1987, only three countries of the European Union already had their own legislation on the matter: United Kingdom, France and Denmark.

In 1989 the directive 89/592/CEE was issued, and it was the first act with the objective of prohibiting and sanctioning insider trading by trying to define common rules among the Member States. The incisiveness of this directive, however, was not such as to lead to the objectives set, so as to delegate to the individual States the power to introduce in their own legislation more stringent rules, the so called “gold plating”.

Subsequently, in 2003, with the directive 2003/CE, also known as “Market Abuse”, a complete revision and substitution of Directive 89/592/CEE took place. The illicit sanctionable behaviors were enlarged introducing among them the market manipulation, which consists in introducing in the market false information which tend to deceive it.

Among the most recently introduced regulations with the aim of combatting the phenomenon of the insider trading, there is the Regulation (EU) no.596/2004, with which more strict and punctual rules in the regard of the economic operators have been introduced, and Directive 2014/57/UE, with which there is a tendency to harmonize criminal sanctions in the Member States.

In Italy the matter is regulated by the Consolidated Law on Finance, TUF, of the 16<sup>th</sup> of March 2018. Art. 184 of the TUF on the abuse of privileged information<sup>2</sup> states that whoever, as a member of the board of directors, of the management or control bodies, or as a partner of an issuer company or having obtained such information from public or private activities, possess privileged information, is

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<sup>2</sup> Art. 184 TUF, Consolidated Law on Finance, March 16, 2018

punished with the imprisonment from one to six years and with a fine which ranges from 20000 to 3 million euros if he:

- a) Buys, sells or does other operations, directly or indirectly, for itself or for third parties, on financial instruments using the information obtained in one of the ways mentioned above
- b) Communicates that info to others, beyond the sphere of normal business activities, profession, function or of the office
- c) Recommends or induces others to perform one or more of the operations indicated in letter a) on the basis of such info.

The same penalty described above is also applied to whoever commits some of the already mentioned activities thanks to information obtained during the preparation or carrying out of illegal activities. An example of this last case is when someone gets privileged information on prices hacking into a company's system and uses this information for speculative purposes.

Among the most severe penalties imposed for insider trading, we find the American case of the founder of the hedge fund Galleon, Raj Rajaratnam<sup>3</sup>. The latter, accused of having set up a complex structure of informers that between 2003 and 2009 allowed him to collect confidential information throughout which he was able to earn more than 72 million dollars within the same lapse of time, was sentenced to 11 years of imprisonment and to pay a 10 million fine.

Anyhow, according to three new academic studies<sup>4</sup>, the prosecutions inherent to the insider trading hit small financial operators while big insiders still work undisturbed. Some scholars believe that the well-connected insiders made big profits even during the financial crisis<sup>5</sup> while others think that “the entire share-trading system is rigged”<sup>6</sup>. These studies analyze recurring patterns in the data to

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<sup>3</sup> Insider trading: 11 anni di carcere a Raj Rajaratnam. È il caso più grave della storia americana, *Il Sole 24 ORE – Finanza & Mercati*, October 13, 2011

<sup>4</sup> “In the know”, *The Economist*, February 10, 2018

<sup>5</sup> “Political connections and the informativeness of insider traders”, by Jagolinzer Alan D. et al, Rock Center for Corporate Governance at Stanford University, Working Paper 222

<sup>6</sup> “Brokers and order-flow leakage: evidence from fire sales”, by Barbon A. et al, NBER Working Paper 24089, December 2017; and “The Relevance of Broker Networks for Information Diffusion in the Stock Market”, by Marco Di Maggio and others, NBER Working Paper 23522, June 2017

demonstrate that the insider trading is pervasive and give a hint to think about how to treat this phenomenon if, from occasional, it becomes systemic.

### **1.1.2 INTERNAL DEALING**

The term "internal dealing" refers to the purchase and sale of the securities of a listed company by the relevant persons of the company itself: directors, statutory auditors and top managers. Since these persons are important figures within the company, their behavior towards the securities constitutes a sort of orientation for external investors. For example, if these individuals start to buy large amounts of securities, this can be interpreted as a sign that the company is sound and therefore it could be a good investment to buy shares. If, on the other hand, the relevant persons of the company were to start selling, this could be taken by external investors as a sign of weakness in the company, which could lead them to sell the shares they hold. In either case the behavior of these people would end up in influencing the behavior of investors external to the company and, with it, the value of the securities of the company. It is for this reason that, although internal dealing does not constitute a crime in itself, some countries among which Italy and the United States have decided to make it compulsory for these individuals to promptly communicate to the market the sale of the securities of the companies in which they work.

For what concerns Italy, the reference legislation is given by art. 114, paragraph 7 of the Consolidated Law on Finance, TUF, and by articles 152 sexies and following of the Consob Issuers Regulation 11971/99.

In art. 114 paragraph 7 of the TUF, the persons required to report to Consob and to the public are indicated. Among these we find: those who hold at least 10% of the share capital or control the listed issuer, those who carry out transactions involving shares issued by the issuer or other financial

instruments connected to them even if carried out through a third party, the spouse, children, parents and cohabiting relatives.

Consob Issuers Regulation 11971/99 indicates that:

- the obligations established by art.114 paragraph 7 of the TUF for the relevant persons, apply to Italian companies issuing shares traded on Italian or EU regulated markets, to issuers of shares listed on a regulated market that are not located in a state of the Union and having Italy as a Member State of origin, to the purchase, sale, underwriting or exchange of shares or financial instruments linked to the shares;<sup>7</sup>
  
- the deadline for the communication to the CONSOB and for the publication of the operations on the shares and on related financial instruments, carried out by the relevant persons, by persons closely connected to them and by closely related persons, is within the end of the fifteenth day of the month following the one in which the transaction was carried out. The communication to Consob can also be carried out, on behalf of all relevant parties, by the listed issuer. The relevant subjects then have the burden of communicating to the closely related persons the communication obligations pursuant to article 114, paragraph 7 of the TUF.<sup>8</sup>

## **1.2 MARKET ABUSE REGIME**

In the field of illicit behaviors, for what concerns market abuses, the 12<sup>th</sup> of April 2003 the European community issued Directive 2003/6/EC, known as MAD1. The objective of this directive was to promote the correct functioning of the markets within the member states in order to try to reduce or,

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<sup>7</sup> Art. 152 septies

<sup>8</sup> Art. 152 octies

even better, to eliminate their manipulation so to grant the protection of savers and to avoid that the regulations previously in force in the single states could come in conflict one with the other.

In support of Directive 2003/6/EC, a series of second level legislative provisions were issued among which, of particular interest were the directives: 2003/124/EC, 2003/125/EC and 2004/72/EC, which dealt respectively with:

- *“the objective of the disclosure of privileged information to the public and the indication of those behaviors which had to be framed as market manipulation”;*
- *“the indication of the correct presentation of investment recommendations and the communication to the public of the conflicts of interests”;*
- *“the accepted market practices, the definition of privileged information in relation to derivatives on commodities, the establishment of a register of persons having access to privileged information, the notification of transactions carried out by persons exercising managerial responsibilities and the reporting of suspicious transactions”.*<sup>9</sup>

In Italy the MAD1 was implemented with the law n. 62 of 2005, which indicated in Consob the supervisory authority appointed to exercise both the inspection and sanctioning powers.

With Directive 2003/6/EC,<sup>10</sup> known as MAD1, two different types of unlawful behaviors in the field of market abuse were identified: insider trading and market manipulation.

In place of MAD1 and of the directives 2003/124/EC, 2003/125/EC and 2004/72/EC, on July 3, 2016 Regulation (EU) no. 596/2014, known as MAR, Market Abuse Regime, was issued.

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<sup>9</sup> Directives 2003/124/EC, 2003/125/EC, 2004/72/EC

<sup>10</sup> Gazzetta Ufficiale L 096 of 12/04/2003 - pg. 0016 - 0025



In the intentions of European legislator, this regulation had the task of strengthening the 2003 legislation, including in itself both the new markets and the new trading strategies.

In it it is possible to find:

**The exclusion of certain public bodies and central banks from the MAR regulation.** Article 6 of the MAR provides for certain entities of the European Union to be exempted from the rules contained therein, in particular from the management of the monetary policy, from the exchanges and from the public debt since these entities act in the public interest. Among these it is possible to find: Member States, ESCB members, ministries, agencies and vehicle companies of one or more Member States. Article 6 has also delegated to the European Commission the task of identifying central banks and public bodies of third countries to which this exemption should be extended;

**The expansion of the manipulation indicators with respect to MAD 1.** For what regards market abuse the MAR, compared to MAD 1, widened the scope of the rules, dealing not only with the financial instruments admitted at the negotiation on the regulated market and with the ones for which the requests for admission to the negotiation was submitted, but also with those traded in multilateral trading systems, MTF, and in organized trading systems, OTF. The new rules introduced by the MAR then affect the financial instruments that use new technologies, the benchmarks, the emission quotas, the algorithmic and high frequency negotiations. As for the aspect of market manipulation, the MAR included the “*prohibition against attempting to engage in market manipulation. [...] This in order to enable competent authorities to impose sanctions for such attempts*”.<sup>11</sup> The MAR<sup>12</sup> then enumerates those that are the activities and the conducts to be considered as market manipulation, presenting in Annex 1 the indication of a “*non-exhaustive*” list of “*indicators relating to the employment of a fictitious device or any other form of deception or contrivance, and non-exhaustive indicators related to false or misleading signals and to price securing*”. Among the activities which has to be considered

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<sup>11</sup> Regulation (EU) 596/2014 (MAR): Considerations point 41

<sup>12</sup> Regulation (EU) 596/2014 (MAR): art. 12

as market manipulation we can find “*entering into a transaction, placing an order to trade or any other behavior which (i) gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of, a financial instrument, a related spot commodity contract or an auctioned product based on emission allowances*”, or also “*transmitting false or misleading information or providing false or misleading inputs in relation to a benchmark where the person who made the transmission or provided the input knew or ought to have known that it was false or misleading, or any other behavior which manipulates the calculation of a benchmark*” while, among the conducts that we can consider as market manipulation, it is possible to find “*the conduct by a person, or a person acting in collaboration, to secure a dominant position over the supply of or demand for a financial instrument, related spot commodity contracts or auctioned products based on emission allowances which has, or is likely to have, the effect of fixing, directly or indirectly, purchase or sale prices or creates, or is likely to create, other unfair trading condition*”.

### **1.2.1 OBLIGATIONS TO COMMUNICATE TO THE PUBLIC PRIVILEGED INFORMATION**

Article 17 par. 4 of the MAR provides that the issuer of financial instruments is compelled to communicate to the public, as soon as possible, the privileged information that regard him, guaranteeing a quick access to it and a complete, correct and timely assessment by the public, keeping it saved in his own website for a period of at least five years. The issuer or the market participant to the emission allowances may delay the disclosure to the public on its own responsibility, in the event that an immediate disclosure would prejudice or could prejudice a legitimate self-interest and, in the meanwhile, probably would not have the effect of misleading the public. This obligation of notification was already included in MAD1 but, with the MAR, it has been extended to issuers of financial instruments traded in MTF and OTF.

Furthermore, the obligation to notify the competent Authority of the delay in communicating to the public is introduced. This must take place immediately after the information has been made public, providing in writing an explanation of the way in which the communication would have or could have prejudiced the interests of the issuer and why the delay did not cause damage to the public.<sup>13</sup> In the event that the issuer is a credit institution or a financial institution they, in order to safeguard the stability of the financial system, may delay, under their responsibility, the disclosure of privileged information to the public.<sup>14</sup> To partial correction of what indicated in the art. 17 par.4 of the MAR, on 1 September 2017, the European Securities and Markets Authority (ESMA), has published new Questions and Answers related to the regulation of the delay in the public disclosure of inside information, clarifying that the notification of the delay to the competent Authority is no longer due if the information loses the price sensitivity requirement. Therefore it will no longer be necessary, if this circumstance occurs, to spread a press release and to inform competent authority, which in Italy is CONSOB, on the reasons for the delay of the disclosure of privileged information to the public.<sup>15</sup>

### **1.2.2 THE (EU) DELEGATED REGULATION N.2016/522**

The MAR, in order to facilitate the uniformity of the market participants' behaviors, has delegated to the European Commission the task of issuing specific delegated acts. The European Commission, in turn, availed itself of the collaboration of the European Securities and Markets Authority, ESMA, to which, as an independent advisory body of the Commission<sup>16</sup>, requested a report containing a technical opinion, which was provided on the 2<sup>nd</sup> of February 2015. Once the ESMA report was acquired on the 17<sup>th</sup> of December 2015, the European Commission issued the (EU) Delegated Regulation no. 2016/522. This Regulation complemented the (EU) Regulation no. 596/2014. In

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<sup>13</sup> Regulation (EU) 596/2014 (MAR): art. 17 par.4

<sup>14</sup> Regulation (EU) 596/2014 (MAR): art. 17 par.5

<sup>15</sup> New ESMA's Q&A on the subject of market abuse – II Sole 24 ORE - Law 24 of 8/11/2017

<sup>16</sup> Regulation (EU) n. 1095/2010

accordance with the requirements of art. 6 of the MAR, in Article 3 of the (EU) Delegated Regulation no. 2016/522, the European Commission identified the public bodies and central banks of thirteen third countries to which extend the exclusion from the MAR; these are: Australia, Brazil, Canada, South Korea, Japan, India, Mexico, Hong Kong Special Administrative Region, Singapore, United States of America, Switzerland and Turkey, central bank of China. With regard to market manipulation indicators, the (EU) Delegated Regulation no. 2016/522 intervened by indicating in the Annex II the manipulation indicators. The Annex is divided into two sections; in the first one the “*indicators of manipulative behavior relating to false or misleading signals and to price securing*”<sup>17</sup> are reported, while the second section contains the “*indicators of manipulative behavior relating to the employment of a fictitious device or any other form of deception or contrivance*”<sup>18</sup>. It should be underlined that the examples shown in the two sections constitute an update and an integration of what has already been clarified during the period in which MAD1 was in force, and that these neither have the exhaustive character of the issues to be considered nor constitute by themselves, in an automatic way, market manipulations. Market operators and authorities must take them into consideration but they do not automatically constitute market abuse. Among the new inclusions, for example, it is possible to find the measures to prevent benchmark manipulation. With reference to the obligations of public disclosure of privileged information as set forth in art. 14 of the MAR, in art. 22 the same MAR provides that “*without prejudice to the competences of the judicial authorities, each Member State shall designate a single administrative competent authority for the purpose of this Regulation. [...] the competent authority shall ensure that the provisions of this Regulation are applied on its territory, regarding all actions carried out on its territory, and actions carried out abroad relating to instruments admitted to trading on a regulated market, for which a request for admission to trading on such market has been made, auctioned on an auction platform or which are traded on an MTF or an OTF or for which a request for admission to trading has been made on an*

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<sup>17</sup> Section A of annex I to (EU) Regulation n. 596/2014

<sup>18</sup> Section B of annex I to (EU) Regulation n. 596/2014

*MTF operating within its territory*”, there was the problem of identifying which would have been the competent Authority in the event that the financial instruments were traded in trading venues of different States. The Delegated Regulation intervened to dissolve the dilemma: “*the single competent authority receiving the notification would be the one with the most interest in market supervision and in avoiding the exercise of discretion by the issuer*”.<sup>19</sup>

After the publication of the (EU) Regulation n. 596/2014, the European Commission, in order to clarify and integrate important aspects of the Regulation, has adopted a series of delegated Regulations, among which we must remember for their importance: the “*Commission Implementing Regulation (EU) 2016/347 of the 10<sup>th</sup> of March 2016, laying down implementing technical standards with regard to the precise format of insider lists and for updating insider lists*”, issued in order to clarify what is indicated in Article 18 of the MAR; Implementing Regulations (EU) 2016/378 and 2016/957 concerning the communication of suspicious orders or transactions; Regulation (EU) 2016/958 concerning the presentation of investment recommendations, supplementing Article 20 of the MAR; Regulations (EU) 2016/959 and 2016/960 concerning market surveys, issued in order to clarify the provisions of Article 11 of the MAR.

### **1.2.3 THE DIRECTIVE 2014/57/EU – MAD 2**

Next to the EU Regulation n. 596/2014 responsible for administrative sanctions relating to the Market Abuse Regulation, on June 12, 2014 the 2014/57/EU directive, also known as MAD 2, was published in the Official Journal of the European Union.

The task of the directive is to establish the minimum norms for criminal sanctions for the abuse of privileged information, in order “*to ensure the integrity of financial markets in the Union and to*

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<sup>19</sup>Delegated Regulation (EU) n. 2016/522: point 17 considerations

*enhance investor protection and confidence in those markets*".<sup>20</sup> In the initial considerations the Directive takes up what was stated in the February 25, 2009 report of the "de Larosière group", a group of high level experts on financial supervision in the European Union, where it indicated the need to standardize the sanctioning regimes of the Member States making them at the same time both severe and dissuasive while on the contrary they resulted weak and heterogeneous. The directive provides for three main types of crimes: the abuse of privileged information, the recommendation or the induction of others to commit the abuse of privileged information; the illicit communication of privileged information; the market manipulation.<sup>21</sup> For what concerns criminal sanctions, the directive distinguishes among natural persons and legal persons. With respect to natural persons, for crimes of abuse of privileged information and market manipulation, the criminal sanction is four years of imprisonment, while for the offense of illicit disclosure of privileged information the punishment is no less than two years of imprisonment.<sup>22</sup> As regards legal persons, the Directive requires Member States to take the necessary measures to enable legal persons to respond in relation to financial market abuse offenses committed for their benefit by any person acting individually or as a member of an organ of the legal person.<sup>23</sup> For the offenses committed by legal entities, the Member States are also allowed to include other sanctions, *such as: "exclusion from entitlement to public benefits or aid; temporary or permanent disqualification from the practice of commercial activities; placing under judicial supervision; judicial winding-up; temporary or permanent closure of establishments which have been used for committing the offence"*.<sup>24</sup> It should be noticed that among the Member States there are two, the United Kingdom and Denmark which, having already established their own criminal regulations on market abuse, have not been asked to adopt MAD 2. For what concerns Italy, the MAD 2 directive has been implemented with art. 11 of the 2014 European delegation law A.C. 3123-A, approved by Parliament on June 30, 2015.

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<sup>20</sup> Art. 1 MAD 2 – Directive 2014/57/EU

<sup>21</sup> Diritto 24, Il Sole 24 ORE, July 1, 2014

<sup>22</sup> Art. 7 MAD 2 – Directive 2014/57/EU

<sup>23</sup> Art. 8 MAD 2 – Directive 2014/57/EU

<sup>24</sup> Art. 9 MAD 2 – Directive 2014/57/EU

## **1.2.4 ADAPTATION OF THE ITALIAN SET OF RULES IN THE FIELD OF MARKET ABUSE REGULATION TO THE PROVISIONS OF REGULATION (EU) N. 596/2014**

With the 2016-2017 European delegation law (Law No. 163/2017), Parliament delegated to the Government the adaptation of the internal legal system to the provisions of Regulation (EU) no. 596/2014 on the Market Abuse Regulation. Following this delegation, the Council of Ministers at its meeting of the 8<sup>th</sup> of August 2018 definitively approved the legislative decree.

The legislative decree:

- designates Consob as the competent administrative authority for the correct application of Regulation (EU) no. 596/2014;
- Extends the scope of application of the powers attributed to CONSOB to all cases of violation of the European regulations on market abuse;
- allows CONSOB to “*request existing registrations relating to telephone conversations, electronic communications and the exchange of data preserved by investment companies, credit institutions or financial institutions*. In carrying out inspections, CONSOB may use statutory auditors or societies of statutory auditing”;
- Allows CONSOB to directly access the data contained in the E.T.N.A. application (National Telephone Directory). This application allows access to fixed and mobile telephony data;
- allows CONSOB to take all necessary measures to ensure the correct information to the public, which must concern, among other things, the correction of false or misleading

information disclosed, imposing to the issuer or to whom disclosed them to issue a declaration of rectification;

- As regards the administrative sanctioning powers, in attributing to the CONSOB those indicated by the MAR, it establishes that it must be taken into account, when the sanctions are imposed, the punitive measures already imposed, providing that the execution of criminal or administrative sanctions that have the same nature is limited to the part exceeding that already performed or discounted.

With reference to this last point, it should be highlighted that the Italian legislation, as also other national legislations of Member States, seems to conflict at least in part with the principle of *ne bis in idem*, from Latin “not twice for the same thing”, defined in art. 50 of the Charter of Fundamental Rights of the European Union. In fact, this article states that “*no one can be prosecuted or convicted of a crime for which he or she has already been acquitted or convicted in the Union following a final criminal sentence in accordance with the law*”. This, according to the European judges, has to be intended as a limitation to a national law that allows to put in place, against an individual, a proceeding which is relative to a pecuniary administrative sanction of criminal nature for unlawful conduct which fall in the field of market manipulation, for which it has already been issued, against the individual, a final criminal conviction for the damage caused to the company. However, it should be observed that the principle of *ne bis in idem* can find a limitation in the mandate of paragraph 1 of article 52 of the Charter of Fundamental Rights of the European Union: “*Any limitation on the exercise of rights and freedoms recognized by this Charter must be provided for by law and must respect the essential content of these rights and freedoms. Subject to the principle of proportionality, limitations may be applied only if they are necessary and effectively meet the general interest objectives recognized by the Union or if they are needed to protect the rights and freedoms of others*”.



Therefore, as reported in the Legislative Decree endorsed by the Council of Ministers during the meeting of the 8<sup>th</sup> of August 2018: *“according to the European Court of Justice, cumulation of criminal and administrative sanctions can be provided for if strictly necessary for the achievement of the objective, which consists in protecting the integrity of financial markets of the Union and public trust in financial instruments”*.

### **1.3 CONSOB’S ROLE AND ITS COOPERATIONS AT NATIONAL LEVEL**

In Italy it is Consob, Commissione Nazionale per le Società e la Borsa, the financial services authority which ensures that financial market participants behave in a correct and transparent way, which discloses to the investors complete and accurate information regarding listed companies, which ascertains if anomalous trends in trading securities takes place and that, in case, sanctions the monitored entities.

Established by the law of the 7<sup>th</sup> of June 1974, n.216 and based in Rome and Milan, it is an independent administrative authority, endowed with legal personality and full autonomy. At a national level it cooperates<sup>25</sup> with both public and nonpublic authorities; in particular the national cooperation occurs with regulatory authorities and market bodies with the aim of organizing the Italian financial market. Among the public authorities with which Consob cooperates, there is the Ministry of the Economy and Finance to which, at first it presents the proposals of sanctions for corporate officers belonging to the companies it supervises, and then it gives an opinion on the Ministry’s regulation. In carrying out its job, Consob also co-works with Bank of Italy, Covip<sup>26</sup> and Ivass<sup>27</sup>, with which it shares information that are useful for the supervision of the intermediaries and

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<sup>25</sup> <http://www.consob.it/web/consob-and-its-activities/cooperation>

<sup>26</sup> Covip, Commissione di Vigilanza sui Fondi Pensione, is a public body which deals with the regulation and control of the Italian complementary pension market

<sup>27</sup> Ivass, Istituto per la vigilanza sulle assicurazioni, is an independent administrative authority that oversees the Italian insurance market so to grant its stability and the consumers’ protection

to which it gives its opinion or agreement about measures that fall under the field of securities intermediation pertaining to those other authorities. Other than Bank of Italy, Covip and Ivass, Consob cooperates also with market bodies, trade associations and judicial authorities. It both supervises and cooperates with market bodies, in particular they work together to grant favorable conditions to the good functioning and development of the securities markets. In order to carry on its regulatory functions, Consob consults and cooperates with trade associations. Regarding what concerns judicial authorities, it communicates them criminally relevant information in its possess so to permit them to initiate a prosecution based on already assessed grounds.

The second section of this chapter is going to present how Consob carries out the surveillance and the real time market monitoring.

#### **1.4 SURVEILLANCE AND REAL TIME MARKET MONITORING**

Under Consob's supervision, fall many different trading venues, which belong both to regulated markets, to multilateral trading facilities, to systematic internalisers and to OTC, over the counter, markets.

Between the regulated markets which can be found within Borsa Italiana, there are: MTA, "mercato telematico azionario", which is one of the four departments of Borsa Italiana in which are traded options, convertible bonds and warrants listed in the stock exchange; SeDex, which are securitized derivatives; ETFplus, which comprises both ETF and ETC; MOT, which regards the fixed income; IDEM about derivatives and MIV about the investment vehicles.

Under the multilateral trading facilities, we have AIMItalia, which is the market of Borsa Italiana devoted to the small and medium size enterprises, SMEs, which want to invest in their growth; and ExtraMOT, which is Borsa Italiana's multilateral system of negotiation, MTF, for bond instruments.

Among the systematic internalisers it is possible to find shares, Fineco Bank S.p.A. and other financial instruments.

Other regulated markets which fall under MTS, “Mercato Telematico all’ingrosso dei Titoli di Stato”, instead of under Borsa Italiana, are wholesale market for government bond such as MTS, and wholesale market for government bonds via internet, such as Bondvision, which “*is a regulated and secure multidealer-to-client trading platform for government bonds and credit*”<sup>28</sup>; and corporate bonds such as Mts Corporate, which is a retailer regulated market of the non-governative bonds emitted by international authorities participated by states.

Multilateral trading facilities are respectively: in the MTS, the Bond Vision Corporate; in the euro TLX, which is a company<sup>29</sup> that organizes and manages the multilateral negotiation system EuroTLX, created for the need of nonprofessional operators, the Euro TLX; in the Hi-MTF, which is the “Mercato Telematico dei Fondi”, an alternative to the traditional exchanges which is strictly regulated, the Hi-MTF and the Hi-MTF Orden Driven; in the e-MID, the unique electronic interbank market for the deposits in US and EU, the E-MIDER and the E-MIDER Repo.

The surveillance of suspicious operations takes place at real time and, if necessary, in subsequent periods, time T+1, and it is performed through software.

The real time monitoring is carried out through the ATS | BROKER software, which is useful to get an idea of the market movements and dynamics in real time. It helps for deferred surveillance since it allows, trough the understanding market trends, to have an idea of how the market will move.

Real time market monitoring relies also on indicators such as intraday price movements, long and short positions in comparison to daily trading and volatility calls. Anyhow, since they are not stored, at the end of the day all data are unloaded and cannot be used any longer in the following days.

The monitoring at time T+1 takes place both regularly and on demand. The regular monitoring happens the following day and relies on an alert analysis, while the on demand one requires a longer

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<sup>28</sup> <https://www.mtsmarkets.com/products/mts-bondvision>

<sup>29</sup> [https://it.wikipedia.org/wiki/EuroTLX\\_SIM](https://it.wikipedia.org/wiki/EuroTLX_SIM)

process due to the time needed to analyze the retrieved data. T+1 monitoring is carried out through SAS (Statistical Analysis System) and SQL software, which allow respectively to insert, search and manage data on which it is possible to carry out statistical and mathematical analysis with annexed graphs and reports and to create, manipulate and query the database. Thanks to this software it is possible to check the official price and the total volume of transactions regarding a specific stock, the aggregate market shares and information on linked derivatives. The market platforms presented at the beginning of this section, such as MOT, MTA, IDEM, ETF and SEDEX, allow a fast, detailed and flexible extraction of the data, which can be monitored thanks to alerts on patterns and scenarios.

A method that is often used to monitor at time T+1 is the “aggregate market share”, which analyzes the relation between the traded volume and the position: long, short and flat. Usually long positions imply high volumes while middle volume regard moderate short positions. Only little trading ends in flat position.

## CHAPTER 2: FINTECH FRONTIERS

### 2.1 AN INTRODUCTION TO FINTECH

The economic sector, thanks to the great technological innovations of recent years, is evolving with what we could define the FinTech specialization.

As stated by the Financial Stability Board, FSB, in 2017 “*FinTech is defined as technology-enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on the provision of financial services*”.<sup>30</sup>

Today we can consider ourselves at the dawn of this new world phenomenon which is starting to overturn the banking and financial markets in the broadest sense of the term, similarly to what happened with the first industrial revolution but, in this case, we technically speak of revolution 4.0. For mere historical truth it is appropriate to specify that, already in 1993, Citicorp, today known as Citigroup, for the first time used the term “Fintech” to define its project called “Financial Service Consortium”, able to enhance cooperation in the financial sector.

The expansion of technology, of the internet and of the mobile devices, together with the fall of confidence in the traditional way of doing finance and banking following the financial crisis of 2008, led all those employees who worked in the banking sector and who were fired in that situation to decide to contribute to the growth of the FinTech phenomenon. Given the background of these experts, they started their job by revolutionizing the way in which the purchases are paid, the investing methods and how to obtain loans and insurances, InsurTec; in order to understand this big change, it is sufficient to think about how the way we pay and book a trip, a car insurance or we do a bank transfers have changed.

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<sup>30</sup> Consob, Quaderni FinTech, “Lo sviluppo del FinTech – Opportunità e rischi per l’industria finanziaria nell’era digitale”, C. Schena, A. Tonda, C. Arlotta, G. Potenza, Prefazione alla collana dedicata al FinTech a cura di G. D’Agostino e P. Munafò, marzo 2018

The European Parliament dealt with FinTech in the resolution called "on Fintech: the influence of technology on the future of the financial sector"<sup>31</sup>, where it said that “*FinTech should be understood as finance enabled by or provided via new technologies, affecting the whole financial sector in all its components, from banking to insurance, pension funds, investment advice, payment services and market infrastructures*” carried out to an ever greater extent from alternative entities such as start-ups or the giants of technology.

Among the FinTech services it is possible to find:<sup>32</sup>

1. For credit the **crowdfunding**.

It refers to a new way that the finance makes available to the whole community to raise funds through public invitation. This allows two opposing needs to meet, the one of raising capital for those who have projects to be implemented, whether they are physical persons or companies, with the one of whom wants to invest. In order to achieve this goal platforms that use internet are employed.

Among the typologies of crowdfunding it is possible to find:

- **Donation based**: does not provide any kind of benefit for the supporters, for this reason it is mainly used in fundraising campaigns for charity.
- **Equity based**: in this case, a shareholding in the company is bought, thus acquiring patrimonial and administrative rights.
- **Invoice trading**: here an online platforms is used by individual enterprises or a block of them to cede the produced credits to finance themselves

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<sup>31</sup> European Parliament, Committee on Economic and Monetary Affairs, Rapporteur: Cora van Nieuwenhuizen, Report April 28, 2017

<sup>32</sup> The source of this taxonomy is “Fintech in Italia – Indagine conoscitiva sull’adozione delle innovazioni tecnologiche applicate ai servizi finanziari”, Bank of Italy, December 2017

## 2. PAYMENT AND PAYMENT SERVICES

- **Instant payments and peer-to-peer payments:** electronic payments generally made with mobile devices that allow the involved private individuals to immediately dispose of the money exchanged.
- **Payment services:** following the Directive EU 2015/2366, also known as PSD 2 (Payment Services Directive 2), issued by the European Parliament and the Council of November 25, 2015 on payment services in the internal market, which entered into force on January 12, 2016 and is applied from January 13, 2018; these are regulated by the Financial Conduct Authority. The AISP<sup>33</sup> and PISP<sup>34</sup> services may be offered both by banks and other companies and must always have the explicit consent of the interested party.
- **Peer-to-peer lending:** it is a system that allows you to offer personal loans to individuals or small businesses without the intermediation of credit institutions. The first platforms were born in the UK, Zopa, and in the US, Prosper. The platforms that offer this service are for-profit companies that operate on their own or on behalf of banks, so those who want to receive a loan must submit an application attaching all the required documents and, after the examination of the same, it will be assigned to the applicant a risk rating credit and, based on this, the conditions for accessing the credit will be set. The platform will manage relations among the parties and, as established by the Budget Law 2018, also those vis-à-vis the tax authorities by applying a fixed withholding tax equal to 26% on the income deriving from the transaction in question.

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<sup>33</sup> AISP (Account Information Service Provider): allows you to view all bank accounts in one online or mobile position using an app. Among their services there are also those to help you in planning purchases based on prices and on your budget.

<sup>34</sup> PISP (Payment Initiation Service Provider): allows you to pay directly with the bank account without using any type of credit or debit card.

### 3. AUTOMATED SERVICES FOR THE CLIENT – ASSET MANAGEMENT MANAGED WITH ALGORITHMS

- **The robo-advisors:** they are platforms that automate the investments consultancy by using financial algorithms and digitizing the management of savings. They are mainly addressed to families and people and portfolio management, in addition to being offered at significantly lower costs, is customizable, efficient and with a greater degree of transparency, an aspect much appreciated by investors after 2008.
- **Bots or chatbots:** it is a software that is able to simulate a conversation with human beings. It is implied that we are talking about artificial intelligence, then a robot or hologram that answers questions on pre-established topics. In finance it is used to identify customer questions or requests, as well as to manage online transactions or mobile banking transactions.

### 4. DLT AND SMART CONTRACTS

- **Distributed Ledger Technology, DLT:** to understand the purpose of this technology, it must be specified that the term “ledger” refers to a register containing all the accounting shares of a company. Being data, they have followed the evolution of the technology, thus they were immediately archived, transformed into databases and made accessible by several individuals simultaneously and, with cryptography, they can be used for the authentication of transactions.
- **Smart contract:** it is a contract made objective and invariable by computer language and cryptography, thus it draws its strength from the certainty that the program will execute perfectly as decided by the parties at the time of subscription. These features make it applicable both in the scope of transactions with virtual currencies and in distributed ledger.



## 5. VIRTUAL CURRENCIES

Virtual currencies are units of account that travel on the network. They do not belong to any country therefore no one has the physical counter value, nevertheless they can be transferred, exchanged and used for purchases. They are basically divided into two categories:

- **"Convertible" or "open"** when it can be exchanged for a legal currency, such as euro and dollars, and the exchange rate is established in real time by means of dedicated platforms.
- **Closed or non-convertible** when it cannot be exchanged for any legal currency and can only be used in circumscribed areas.

## 6. ALGOTRADING

Trading activity relying on an algorithm which determines: whether to submit an order, its characteristics and the management of an already submitted order. This activity can be carried out with a null or almost null human intervention.

## 7. TECHNOLOGIES AND SUPPORT SERVICES

- **Big data:** this term refers to a large volume of inhomogeneous data that arrive in various ways to the company. This information taken individually has no value but analyzed correctly, through statistical analysis, regressions and other tools is transformed into a valuable source which enable the company to take the best possible decisions.
- **Artificial intelligence:** is a branch of information technology that allows you to program and design systems, both hardware and software, capable of conferring to the machines characteristics that are typically considered as human, such as the ability to calculate, to recognize abstract data, social values and cognitive capabilities. Machine learning is a branch of artificial intelligence where the software, after analyzing the

data, evaluates their characteristics and autonomously matches the results and starts to carry out activities for which it had not been programmed, such as elaborating forecasts.

- **Cloud computing:** it must be able to allow the user to request services autonomously, with both mobile and server devices. The resources must be organized dynamically to respond to multiple users' requests and the services rendered to them must be monitored, controlled and transparent.

There are three kinds of cloud computing services:

- Software as a Service, SaaS: provides online software services such as Word, Excel and e-mail.
  - Platform as a Service, PaaS: provides the appropriate infrastructure to develop, test and distribute applications, providing businesses with data processing and saving in databases services or archives such as google or .net platforms.
  - Infrastructure as a Service, IaaS: this virtual environment enables the buyer to provide his services autonomously.
- **Open banking:** allows the sharing of data between the various players in the banking system; it is subject to customer authorization. All of this was made possible thanks to the European Directive PSD2, Payment Services Directive 2, which obliged the banks to open the APIs, Application Program Interface, to third-party companies of the fintech, thus creating more competition.
  - **Internet of things, IOT:** makes it remotely manageable, by means of specific technologies such as sensors and actuators connected via internet, using networks of calculation systems, actions related to objects and machines.

## 2.2 FINTECH AND MARKET ABUSES

This section has the objective of analyzing which is the correlation between FinTech and market abuses, in particular it is going to investigate whether, due to transparency, market abuses diminish as the online finance increases. Thus we start from the assumption that, theoretically, with the increase of the online financial sector transparency should increase as well, and then we investigate whether this is true or not and how does this impact on market abuses; hence if a supposed greater transparency leads to a reduction in market abuses. In order to do this, we analyze the development of two of the best representatives of the development of FinTech, the algorithmic trading, and in particular high frequency trading, and cryptocurrencies, afterwards we relate them to market abuses so to understand if FinTech really permits to fight them or still leaves a floor for the abuses.

### 2.2.1 WHAT ARE ALGORITHMIC TRADING AND HIGH FREQUENCY TRADING, HFT

Algorithmic trading, also known as algo trading *“is a negotiation method based on the use of algorithms and, generally, very complex computer programs, which collects and processes information and market data in real time and automatically starts orders (of sale or purchase of financial instruments) on the various trading platforms”*.<sup>35</sup>

The algorithm analyzes huge amounts of data, which differ from algorithm to algorithm but that generally include the analysis of time series, volatility, volumes traded, news released by newspapers..., in order to identify the financial instrument in which it is better to invest, the quantity to invest, the price and timing. Peculiarity of this new way of looking at finance is to deal with transactions that are carried out completely automatically; we could in fact compare this activity with the one of an airplane that proceeds with the autopilot, in which all the decisions are taken by this but, nevertheless, still remains the possibility for the pilot to control the device.

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<sup>35</sup> Translation of Consob’s definition of algorithmic trading given in: <http://www.consob.it/web/investor-education/mercati-finanziari>

In order to be carried out, this kind of activity requires huge investments, from the cost of the necessary devices, hardware and software, to the quality of the internet connection, the platform used, and the skills and knowledge of the developers of the algorithms; all needs that do not give to everyone the chance to enter this world. Moreover, it should be considered that this new way of investing generally involves the execution of a large volume of transactions, therefore it is often attributable to institutional investors.

Another way of operating in the financial markets is the so-called “high frequency trading”, HFT. It is more recent than algo trading and it can be considered as a more advanced and more specific sub-category of it. HFT is basically a more advanced kind of algorithmic trading in that it is carried out at high frequency, however it is possible to find a more detailed definition of this activity in MiFID II, directive 2014/65 / EU, in which in article 4 the European legislator defines it as “*an algorithmic trading technique characterized by:*

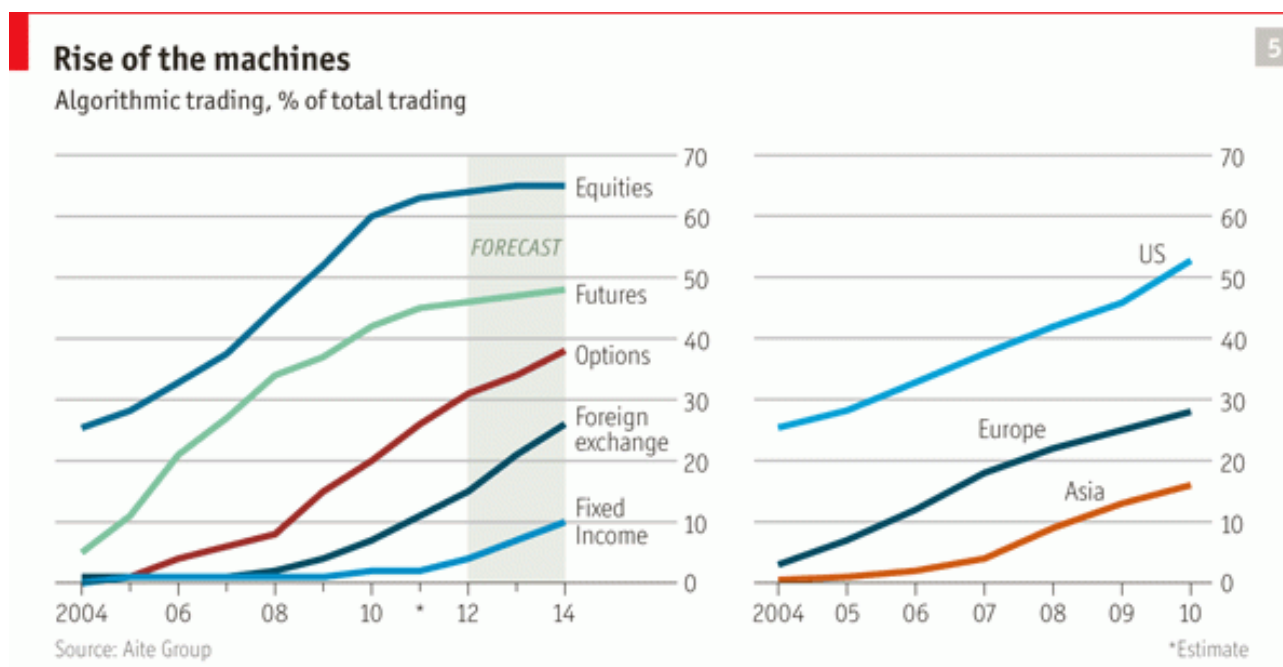
- (a) infrastructure intended to minimise network and other types of latencies, including at least one of the following facilities for algorithmic order entry: co-location, proximity hosting or high-speed direct electronic access;*
- (b) system-determination of order initiation, generation, routing or execution without human intervention for individual trades or orders; and*
- (c) high message intraday rates which constitute orders, quotes or cancellations”.*

The main difference that distinguishes HFT from algo trading is that those who practice the former one usually perform a large amount of transactions throughout the day and then conclude, in most cases, with flat positions at the end of the day, hence with the closure of all open positions. The same cannot be said of algorithmic trading where, in most cases, positions are held open for several days, weeks or even for a month.

Although the HFT is a new sector in which, despite the numerous studies<sup>36</sup> that are carried out, there are still many areas of shade, it is anyhow possible to identify some numbers presented by Consob, such as:

- The number of orders that can be sent to trading platforms within a second, which is even more than 5,000;
- The volume of the exchanges which, according to the data presented in a study by the European Securities Market Authority, ESMA, is estimated to present an average that ranges from 24% and 43% depending on the considered country's stock exchange. In particular, according to the data presented in the Consob Report for the year 2016 of March 31, 2017, almost 30% of the values traded on the electronic stock market of Borsa Italiana in 2016 are attributable to transactions conducted by means of HFT, data in increase if compared to the amounts of the previous years, when it stood at 28.7% in 2015 and 25.4% in 2014.

**Figure 2** Rise of the Algorithmic trading from 2004 to 2014



**Source:** Aite Group, <https://themarketmogul.com/algorithmic-algo-trading/2>.

<sup>36</sup> Quaderni di finanza, The impact of high-frequency trading on volatility, Evidence from the Italian market, V. Caivano, Consob, n. 80 March 2015

Here above are presented two graphs that show the evolution of algorithmic trading over the years. The graph on the left shows how the various financial products underwent a substantial growth over the years which go from 2004 to 2014. It can be seen that this progressive growth is constant for all the financial instruments for the period 2004 - 2012, while for fixed income, Foreign Exchange and Options continues until 2014, and for equities and futures slows down considerably, entering a stabilization phase, in fact we see that the lines tend to be almost horizontal. It should be noticed that however these two products are those that have reached the highest percentage levels, about 49% futures and 65% equities. The graph on the right shows the percentage increase in algorithmic trading operations in the USA, Europe and Asia in the period which ranges from 2004 to 2010. We see that there is a considerable percentage growth in all the three continents taken into consideration and that it is in the USA that the highest level is reached, with over 50% of algorithmic trading operations, although it should be noticed that already in 2004 a level of approximately 26% was reached.

Those who operate in the world of the HFT are individuals or entities which are heterogeneous, however most of them are characterized by common peculiarities such as, for example, the preference for highly liquid securities, which allow them to invest and disinvest in a very short time thanks to the wide market in which they move, the very recurring cancellation of the orders executed, the speed in executing the transactions, as well as the avant-garde of the technologies required to perform this activity.

Also in this case, as in that of the algorithmic trading, great importance is attributed to the hardware and software employed by the operators but, regarding HFT, not only optical fiber transmission technologies, that allow to operate almost at the speed of light, are used, but also particular importance is attributed to the location of the devices, which should be located as close as possible to the trading platforms, so called “co-location”, so that the data are transferred over an even minor lapse of time.

We will now analyze the risks these practices entail and which market abuses they are able to cause.

## **2.2.2 RISKS ENTAILED IN SUCH PRACTICES AND MARKET ABUSES WHICH CAN DERIVE FROM THEM**

The great size that the phenomenon of HFT and, more generally, of algorithmic trading, is having in recent years, has led many scholars to analyze the event and to try to understand which risks could result from the increase in speed with which trading is done.<sup>37</sup>

The main risk caused by the development of HFQ is that the prices arising on the financial markets may, in first place, be very volatile and, secondly, do not reflect the fundamental value of the financial asset. Recall that the mechanism of price formation within the financial markets entails that these are determined by the intersection of demand and supply orders for the assets, and that also the timing in which these operations have to be carried out plays a crucial role. In this way we understand how prices are the litmus test for the expectations and the information contained in this market. Prices therefore play a key role in this process and their, even momentary, alteration can have important implications on the market. In particular, for what concerns the HFT, the problem arises when many high frequency traders engage in closely related strategies and this is because, since they move large volumes of capital and moreover they do it at high speeds, they could, as algorithms often operate one in response of the others, influence each other, magnifying the effect of a particular operative position. More specifically, to worry are the downward spirals that may arise when, either due to a behavior in response of the conduct of the other algorithms or due to a malfunctioning of the high frequency traders' hardware, they start to mass sell the same assets, causing an important decrease in their prices which alters the state of integrity of the market, the correct pricing of assets and puts at risk the interests of other investors.

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<sup>37</sup>For further information, please refer to the study: Questioni di Economia e Finanza (Occasional Paper), High Frequency Trading: una panoramica, Alfonso Puorro, Bank of Italy Eurosystem, n. 198, September 2013

A clear example of this is represented by the "flash crash" that took place on the US markets on the 10<sup>th</sup> of May 2010, when high frequency traders amplified the fall in prices which, in a few minutes, led to the collapse of the Dow Jones index of over 10%, which then recovered during the same day.

**Figure 3** Dow Jones index crash, May 6, 2010



Source: <https://www.tradingfacile.eu/blog/flash-crash-piu-famosi-della-storia/>

According to the reports of the SEC, Securities and Exchange Commission, the chain reaction of high frequency traders' algorithms, that operated following one the other's trend, led to a "hot potato trading" which dragged the index in a downward spiral.

Even if it is true that the HFT increases liquidity in the markets, liquidity that in some cases is considered as "ghost liquidity" because in the event of particular conditions vanishes in a few seconds, to worry is also the frequency with which orders are canceled and this is because in this way the volatility of securities increases, possibly causing anomalous prices fluctuations and a resulting mispricing. Therefore, it is obvious that the operations carried out with HFT have a high order-to-trade ratio:

$$\text{OTR} = (\text{ordered volume}) / (\text{volume limit}) \quad (1)$$



In the end, both the algo trading and the HFT are able to commit market abuses, in particular they can manipulate the market by practicing the so-called "information manipulation", ie the placing of orders that alter the natural process of prices determination.

In addition to the problem of information manipulation, HFT also leaves room to problems of accessibility that can be found in information asymmetry. In fact the high frequency traders can perform operations of flash trading that allow a possible gain deriving from the pre-emption that they have, even for a few milliseconds, to process an order before it is sent by the ECN, Electronic Communications Network, to the markets on which the NBBO, National Best Bid and Offer, is present.

In the opinion of the writer, these trading methods undermine also another rule that lies beneath the functioning of financial markets, the anonymity of exchanges because, although it is true that other operators are not aware of the counterpart in the operations, however it is possible to understand which operations are performed by an algorithm and therefore, knowing that this operates on the basis of an analysis that relies on multiple parameters, this could influence the investment choices of other operators.

It should be remembered that the anonymity of exchanges is guaranteed in order to facilitate the correct realization of the exchanges, thus avoiding the slowing down of the process and preventing the reconsideration of some transactions after having become aware of who is on the other side.

The next section aims at analyzing how this phenomenon is regulated in Europe and in the US and whether these regulations are efficient or not.

### 2.2.3 EU AND US REGULATIONS ON MARKET ABUSES PRACTICED WITH ALGOTRADING OR HFT

In theory, the introduction and the development of online finance should have increased transparency levels, leading to a reduction in the market abuses however, as we have seen, even in this case, manipulative behaviors are always possible. In the following section the EU and US regulation about algorithmic trading will be introduced.

#### EU REGULATION

In Europe, although as previously mentioned the regulations are still in an implementation phase, at the moment it is in force the Directive 2014/65/EU, also known as MiFID II, Markets in Financial Instruments Directive II, which presents a common normative framework for all Member States which has to be implemented nationally.

First, the MiFID II gives a definition of algorithmic trading: *“means trading in financial instruments where a computer algorithm automatically determines individual parameters of orders such as whether to initiate the order, the timing, price or quantity of the order or how to manage the order after its submission, with limited or no human intervention, and does not include any system that is only used for the purpose of routing orders to one or more trading venues or for the processing of orders involving no determination of any trading parameters or for the confirmation of orders or the post-trade processing of executed transactions”*<sup>38</sup> and a definition of “high frequency algorithmic trading technique”.<sup>39</sup>

Below, in article 17, it is possible to find the specifications related to the algorithmic trading, where it is clarified that the MiFID II Directive is applied both to individuals who carry out these activities

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<sup>38</sup> Art. 4, letter 39, MiFID II – Directive 2014/65/EU

<sup>39</sup> Art. 4, letter 40, MiFID II, please look at the definition already presented in “What are algorithmic trading and high frequency trading, HFT

on their own account and to those who perform them with the title of investment company. With regard to investment companies, these have the following specific obligations:

- Obligation to notify to the competent authorities the usage of algo trading
- Obligation to notify the nature of the strategies used
- Obligation to notify the trading parameters and the limits of the system in use
- To prearrange a control system that guarantees the resilience of the trading systems
- To prevent the sending of incorrect orders
- To provide continuity arrangements to address the failure of the algo trading system.

Further specifications are presented for the HFT companies, which must record all the operations performed, the cancellations and the quotations, so as to be able to show them to the competent authorities in case of verification by the latter.<sup>40</sup>

On May 16, 2018, the Council of Ministers preliminarily approved a draft of legislative decree aimed at adapting the Italian norms to the MAR regulation no. 596/2014, in which market manipulation also extends to the negotiations that are carried out by algorithms and HFT.

Furthermore, the aforementioned Decree assigns to Consob the task of checking the correct application of the regulation, as well as the powers to: administratively sanction in case of violation of the provisions, create suitable devices to signal possible or actual violations, and to decide the methods to be used to communicate the taken decisions.

## **US REGULATION**

The Commodities and Futures Trading Commission, CFTC, in order to reduce the risks, increase transparency and improve the regulation of automatic trading on Debt Capital Markets, DCM, which

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<sup>40</sup> Art.17, 1-3, Directive 2014/65/EU

are those regulated exchange platforms in which also retail investors can operate, has been working for some years on the drafting of new regulations.

On November 24, 2015, the CFTC presented a law proposal, the “Regulation Automated Trading”, Reg AT, in which it intervened on some high frequency practices. The aim was to update the trading practices in light of the evolution that this had had and of the transition from the open outcry market, pit trading, to e-commerce one. In the regulation:

- The possibility of minimizing interruptions and operating problems, whether due to automatic trading or to the malfunctioning of the algorithms used, is analyzed;
- Risk control is required for stock offices and platforms, for large financial companies and for companies that trade on their own account in stock exchanges;
- There is the expectation of registering the owners of high frequency software, beneficiaries of a direct electronic access which allows the trader to trade securities using the Market Participant Identifier (MPID).

In the regulation a series of risks caused by the algorithmic trading are then listed. Among these, in addition to the operational risk due to the malfunctioning of the algorithms, there are, among others:

- The liquidity risk of the market caused by abrupt changes in trading strategies;
- The risk of using illicit practices such as spoofing;
- The risk of market shocks caused by incorrect orders that intervene on different markets.

Always in 2015, the Securities and Exchange Commission, SEC, set up the registration requirement for certain high-frequency broker-dealers in the Financial Industry Authority, FINRA, the supervisory authority of the US financial system. For the recording purposes, an analysis of the broker - dealer is carried out and then communication obligations relating to internal procedures are imposed.

During the 114<sup>th</sup> Congress of the United States of America, ended on January 3, 2017, concerns about the fact that the spread of high frequency trading would have led to an ever-increasing speed, complexity and fragility of the market were expressed. This resulted in laying the grounds for the development of the Consolidated Audit Trade, CAT, which was supposed to monitor and surveil trading activity, including automatic trading, in real time. It also discussed the strategies that the Commodities and Futures Trading Commission, CFTC, and the Securities and Exchange Commission, SEC, should have adopted in order to preserve the market from the risks that high frequency trading entailed.

On the 21<sup>st</sup> of July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act was enacted. Among the goals that the Obama administration set with this law, there was to modify the American financial mechanisms in order to improve consumer protection.

The Dodd-Frank Wall Street Reform and Consumer Protection Act was one of the topics of the election campaign of the new president of the United States Donald Trump. In his electoral program, Trump proposed a substantial revision of some of the reforms introduced by Barack Obama, his predecessor to the White House. In particular Trump has placed his attention on two important points of the Dodd-Frank Wall Street Reform: the Volcker Rule and derivative instruments, which provided that:

- **The Volcker Rule.** This rule prevents commercial banks from using the savings of their customers to carry out trading operations which could potentially endanger the capital of their customers. This rule, by removing financial resources from this type of banks, limits its high frequency trading operations;
- **The derivative instruments.** Regarding this type of tools, the Obama administration reform decided that the SEC and the CFTC would have acquired specific skills. The SEC had been given the task of supervising "security-based swaps", contracts based on a single financial instrument or on a single loan or on a limited ceiling of underlying securities. The task of monitoring the remaining swap varieties was instead assigned to the CFTC. The purpose of

the reform in operating these two different attributions was to guarantee the market transparency. It is not yet known how the president Trump wants to intervene on derivatives, however the purpose of this intervention is to provide financial institutions with more freedom to maneuver, allowing them to take greater risks.

#### **2.2.4 FINTECH: BITCOIN (R)EVOLUTION**

The arrival on the financial markets of platforms managed by artificial intelligence algorithms, electronic payment systems and cryptocurrencies, are imposing to countries, governments and central banks to face a new way of interpreting the world of finance, where the technology, in a relatively short period of time, is changing the traditional way of operating.

Among the most important innovations, there is the creation of cryptocurrencies. Regarding the development of this type of currencies, among which the most famous is the bitcoin, it is possible to say that they found good grounds for expansion in those countries that presented highly uncertain economic conditions, with high monetary devaluation rates and an unstable political situation, such as Venezuela; but this is true only in part. In fact, there are countries such as Denmark and Sweden, which are not affected by adverse economic and political conditions, which are considering to introduce digital currencies issued by Sovereign States in order to lower transaction costs while ensuring the nominal value of the currency, thing that bitcoins do not guarantee.

There are countries in which bitcoin was introduced as a legal currency in 2017, among these we find Japan where, thanks to machines that permit their usage, bitcoins can be used even to make purchases in the supermarkets. However it must be said that, at least for the moment, the part of the population that uses this means of payment is still small, and that in most cases those who buy bitcoins do so in the hope that their value will increase significantly in a relatively short time, situation that actually took place until 2017. The intent of the Japanese legislator is to push the population towards the non

cash society, managing in the future to replace the cash yen with the electronic yen issued on a blockchain platform, this in order to be able to move quickly and safely the capital, even from one country to another, paying relatively low commission costs.

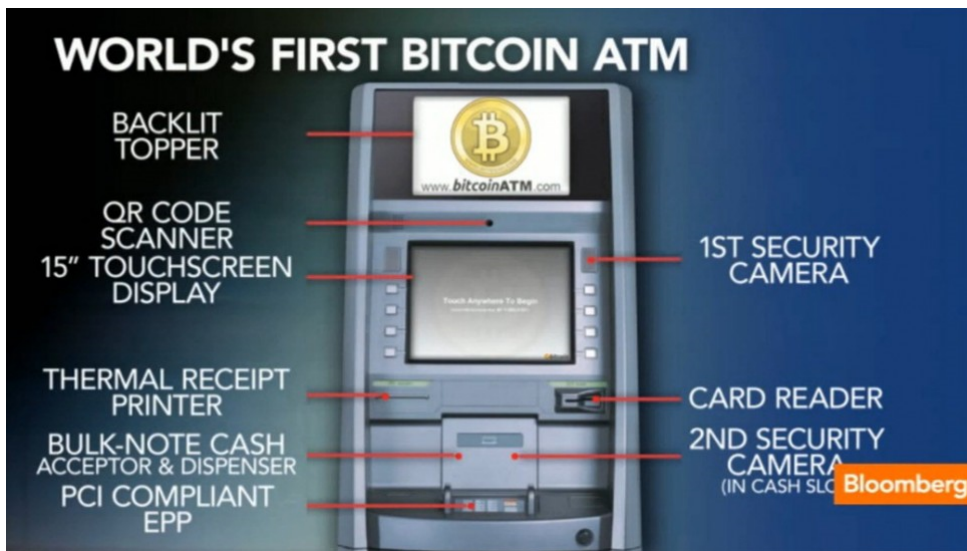
For what concerns Italy, the Head of the Bank of Italy's Markets and Payment Systems Department, Paolo Marullo Reedtz, in an interview<sup>41</sup> released in July 2017, expressed the opinion that it would be good to have a digital currency issued by the Central Bank because this would have positive effects on the rate of adjustment of interest rates. Afterwards, analyzing the phenomenon of cryptocurrencies in circulation today, he highlighted the negative aspects, including the fact that they were established in non-regulated environments, that the operations are irreversible, that the parties operating in these markets are anonymous and that they remain as such, that being an unregulated market there is not the right to have the conversion of these cryptocurrencies into legal currency and that due to the fact that it does not operate in regulated markets, the user can face losses due to the potential strong fluctuations in the conversion rate.

Following the spread of cryptocurrencies in the world, it is not difficult today to find real ATMs that allow you to buy or sell them. It is indeed possible, just to give some examples, to find these devices in cities such as Helsinki, Vancouver and Seattle. It is also possible to find these ATMs in some Italian cities including: Milan, Turin, Florence and Genoa.

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<sup>41</sup> Rivoluzione fintech: cos'è e perchè ci riguarda da vicino, Rai 1, trasmissione CODICE la vita è digitale, 28/7/2017

**Figure 4** World's first bitcoin ATM



**Source:** la Repubblica.it, Bitcoin, arrivano i bancomat, February 18, 2014

The reverse trend instead has been adopted by Singapore, where the spread of electronic money seems to still arouse suspicion, in fact here cash payments are preferred. Even the local authorities, while considering that the cryptocurrency could have positive implications and interesting applications, believe that the technology of the blockchain is not cheap and fast at the moment.

### **2.2.5 BITCOIN: THE US INVESTIGATES**

The one that until December 2017 had seemed an unstoppable race towards the increase in the value of the cryptocurrencies, for example bringing the value of bitcoin close to 20 thousand dollars, with increases in value of 1400%, already from the first months of 2018 began to undergo a progressive and unstoppable inversion of tendency, arriving at losing the 70% of its value by the end of June, reaching 5,800 dollars.

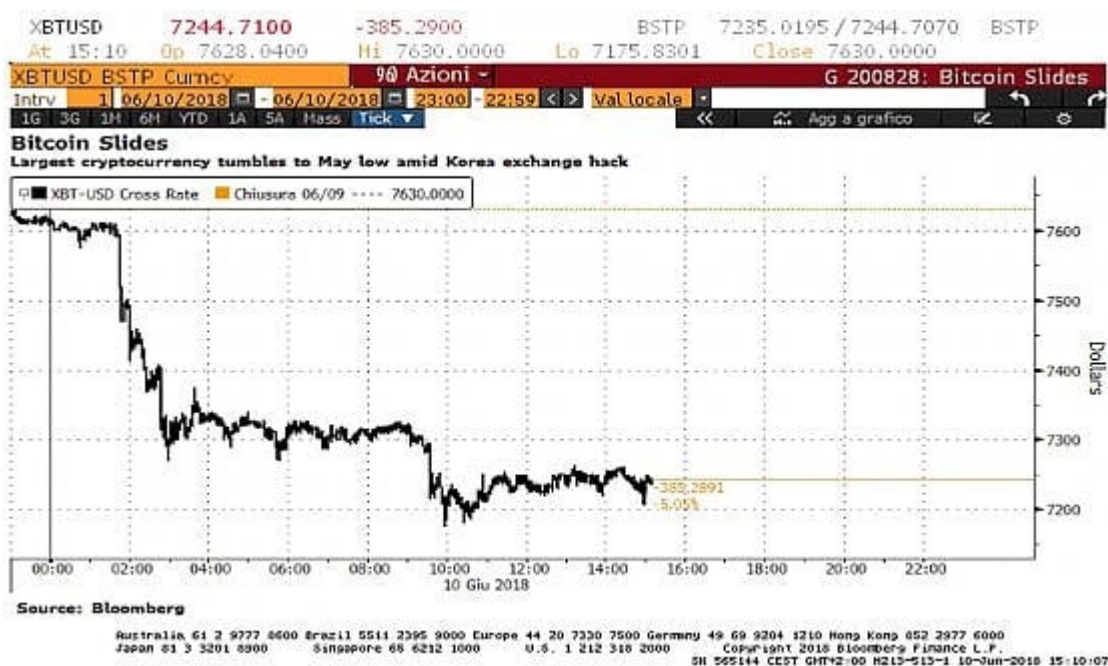
Among the reasons attributed to this loss of value, we find the decrease in investor confidence, caused by the idea that the environment in which they were working was not so sure. This was partly due to what happened in South Korea and Japan.



Indeed in South Korea, the Exchange platform Conrail had suffered a hacking of its systems, which led the platform to admit that it was able to safely place only 70% of the cryptocurrencies, leaving doubts about the possibility of recovering the remaining 30%, quota for which an investigation is underway.

In Japan then the hacking of the online cryptocurrencies exchange platform Coincheck caused a loss of 58 billion yen, equivalent to more than 430 million dollars, determining the intervention of the Financial Services Supervisory Authority. This state of uncertainty led many countries to turn on a light on the problems related to the use of cryptocurrencies, from the risk of money laundering, to the use for the transfer of large capital for terrorist purposes, and to market abuses.

**Figure 5** South Korea's Conrail Exchange, September 6, 2018 stock exchange collapse



**Source:** la Repubblica.it, Economia & Finanza con Bloomberg, June 10, 2018

Among these countries we find China, which first decided to prohibit the exchange of virtual coins and then, in July 2018, to lay the foundations for a regulation of the matter. The G20 group, in the meeting held in Argentina on the 21<sup>st</sup> and the 22<sup>nd</sup> of July 2018, also tackled these issues. From the meetings, it arose that the cryptocurrencies are not a risk for the financial stability; at the same time,

however, the Financial Action Task Force, FATF, was invited to illustrate how anti-money laundering rules apply to crypto activities.

## **2.2.6 CRYPTOCURRENCIES AND PRICES MANIPULATION: TWO US CASES**

The collapse of the value of the cryptocurrencies, which started in the early months of 2018, led the Department of Justice, DOJ, of the United States to ask itself whether the prices of the cryptocurrencies had increased so much in the course of 2017 due to markets manipulation operations put in place by the traders.

In order to verify the validity of this hypothesis the DOJ, in collaboration with the Commodities and Futures Trading Commission, CFTC, the markets' regulator responsible for all trading operations that take place on US soil, including derivatives linked to the crypto currencies, has opened a criminal investigation which moves in parallel to another investigation opened by the Securities and Exchange Regulatory Commission, SEC, on the "Initial Coin Offering", ICO, operations with which the start-ups provide cryptocurrencies to investors in order to allow them to participate in projects. The investigation is aimed at verifying if they tried to influence the markets with illegal trading activities in order to alter the prices of cryptocurrencies. The crimes we try to verify are:

- The **"spoofing"**, in which some operators enter and cancel orders in the market to induce other operators to believe that there is an uptrend or a bearish trend, thought which will lead them to buy or sell their cryptocurrencies, thus causing the inflation or the collapse of the value;
- The **"wash trading"**, in which a trader with the aim of cheating the other market participants acquires and sells his own cryptocurrencies. In doing so he will make investors artificially believe that there is an increase in buying and selling activities, hence attracting them and manipulating the price

## 1) THE BITIFINEX – TETHER CASE

Regarding bitcoins, they are John Griffin, a professor of finance at the University of Texas, and his student Amin Shams to raise the level of attention on probable market abuse.<sup>42</sup> It provides the hypothesis that the increase in the value of cryptocurrencies was caused by market manipulation by one or more people using the Bitifinex site, a global cryptocurrency exchange platform. This document highlighted that:

- Bitifinex used the cryptocurrency Tether, belonging to the same owners of the Bitifinex platform, to put in place in the market a false request of bitcoin and other cryptocurrencies, with the aim of keeping the price high when the request of the same was almost steady on other exchanges;
- From surveys carried out on the platform using algorithms, it turned out that a significant amount of the increase in the value of bitcoins in 2017 had occurred a few hours after the exchange of considerable quantities of Tether;
- That in concomitance with the fact that in 2018 no operations were carried out on the Bitifinex platform, using the Tether cryptocurrency, no price fluctuations of bitcoins occurred;
- That the possibility of the US Department of Justice, DOJ, to investigate is reduced to the minimum since the Bitifinex platform is based in the Virgin Islands. Anyhow, in December 2017 the DOJ, having a suspicion of a possible price manipulation, sued the Bitifinex platform and the Thether company.

It is very likely, even if it is not possible to have the certainty, that the investigations that the DOJ is carrying out together with the Commodities and Futures Trading Commission, CFTC, about the

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<sup>42</sup> Is Bitcoin Really Un-Tethered?, Griffin John M. et Shams A., University of Texas at Austin – Department of Finance, June 13, 2018

possible market abuse that occurred in the cryptocurrencies market in 2017 also invest the above presented case.

## **2) THE EXCHANGE PLATFORMS CASE: BITSTAMP, COINBASE, itBIT, KRAKEN**

In June 2018, the Wall Street Journal reported the news that, from anonymous sources in his possession, he had learned that the Commodities and Futures Trading Commission, CFTC, was investigating on a cryptocurrencies market manipulation carried out by four exchange platforms: Bitstamp, Coinbase, itBit and Kraken in the field of distortion of the prices of the futures in the Chicago Mercantile Exchange, CME.

The CFTC's investigation was in parallel with the one carried out by the DOJ on probable manipulations of the cryptocurrencies market described in the previous case. The four exchanges had refused to provide the market for future CMEs with the required data on outstanding or withdrawn orders, their volume, the identity of the operators, and the schedules of the individual negotiations of bitcoin futures. These data were acquired by a third-party company situated in London. Based on this information, it is assumed that the crime that the CFTC is investigating in this case is the one of "spoofing".

### **2.3 CASES OF ONLINE MARKET ABUSES IN UK AND EU**

#### **2.3.1 UK ONLINE MARKET ABUSE CASE**

##### **CASE: FCA – Michael Coscia on Commodities Futures**

## **PEOPLE INVOLVED:**

Suspect: Michael Coscia

Supervisory board: FCA (Financial Conduct Authority)

## **FACTS:**

Mr. Coscia has been an expert market operator in the last 25 years and he is not a member of the ICE, ICE Futures Europe, a Recognized Investment Exchange, or an approved person, but traded from the US through a service offered by a stock broker which allowed him to place orders directly on the order book. This provision concerns the transactions carried out by Mr. Coscia himself from an account owned by him.

Mr. Coscia, between September 6, 2011 and October 18, 2011, has negotiated the following products on ICE:

- Brent (Brent Crude Futures);
- Gas Oil (diesel oil futures);
- WTI (Western Texas Intermediate Crude Futures).

For this purpose, he used an automated algorithm program designed by him, which allows to place purchase and sale orders at a speed of milliseconds. The use of this means by Mr. Coscia allowed him to place orders at a frequency and speed to represent an activity of HFT.

Mr. Coscia operated in two ways:

- Purchase mode:
  - Entering a purchase order for a small lot at the best offer price;
  - Insertion of different sales orders for large lots at a distance of milliseconds and each at a better price.

After that these orders were inserted, the other potential sellers started to sell at a better price and, at that time, the sales orders entered by the program were canceled, while the purchase order ended at a better price.

- Sale mode:

- Entering a sales order for a small lot (like the one previously purchased), at the best offer price;
- Entering several purchase orders for large lots, at a distance of milliseconds and each at a better price.

The FCA believes that the inclusion of large purchase orders has led other operators to believe that there was a huge demand for the product, pushing them to buy at a higher price.

In this case, Mr. Coscia cancels the purchase orders, while he concludes the order of sale at a higher price than he would have obtained without entering the purchase orders of large lots.

According to the FCA, this activity has produced an alteration of the market due to a misleading picture of the demand and supply of the traded products.

Mr. Coscia repeated this model of trading hundreds of times every day and, from the statistics, it was found that among all orders, always placed in large quantities and in a few milliseconds, transactions of large entities concluded and not canceled were small.

Mr. Coscia, despite not always having a net profit at the end of the day, has made profits manipulating the market to the detriment of other participants. The total net profits that he made during the period in which he used his system can be summarized as indicated in the table below, prepared by the FCA for the purposes of the trial. It reports the total profits and losses that Mr. Coscia realized during the period under investigation. From the analysis of the table it is possible to notice how the operations carried out, although constituting market abuse, not always led to profits.

**Figure 6** Total profits and losses realized by Mr. Coscia in the period of the disputes

<b>Product</b>	<b>Gain /Net loss (USD)</b>
Brent	217.510
Gas Oil	- 9.350
WTI	71.760
Total net profit	279.920

**Source:** Supervisory Board: FCA (Financial Conduct Authority)

### **CONCLUSIONS:**

The FCA believes that, during the offending period, Mr. Coscia influenced the market practicing the so called "layering" and contravening Article 118 of The Financial Services and Markets Act 2000. For this it imposes him a financial penalty of \$ 903.176, approximately £ 597.993 (30% discount because he agreed to settle at an early stage of the investigation) according to the policy agreed in the DEPP which regularizes these issues from 6 March 2010.<sup>43</sup>

### **2.3.2 EU ONLINE MARKET ABUSE CASE**

**CASE: Mr. Manuel Jose Gaboleiro Silva Matos<sup>44</sup>**

### **PEOPLE INVOLVED:**

Suspect: Manuel Jose Gaboleiro Silva Matos

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<sup>43</sup> All the information is taken from FCA relative case

<sup>44</sup> All the information is taken from AMF relative case

Supervisory board: 1ère section de la Commission des sanctions de l’Autorité des marchés financiers,  
AMF

**FACTS:**

Mr. Matos, of Portuguese nationality and resident in Portugal, since 2007 has carried out on his own account daily trading activities, mainly on Euronext.

He managed his orders through the electronic trading platforms of Banco Electronico de Serviço Total, Banco Best, and Banco de Investimento Global.

Due to unusual activities by Banco Best on several French securities of the Euronext Paris market, the General Secretary of the AMF started to investigate on the following securities: EUROPLASMA, MEDASYS, GROUPE PARTOUCHE, ST DUPONT, CIBOX INTER@CTIV, RODRIGUEZ GROUP, AVENIR TELECOM, HI MEDIA, RECYLEX S.A., AVANQUEST SOFTWARE, KEYRUS, CYBERGUN, NEOVACS, HUBWOO, DIAXONHIT, VALNEVA SE, HYBRIGENICS, METABOLIC EXPLORER, CATANA GROUP, INNATE PHARMA, AUPLATA, HOLOSFIND, ATARI REGPT, DEINOVE, VISIOMED GROUP, MPI, INTRASENSE, THEOLIA RGPT, HERACLES, DELTA DRONE, ORCO PROPERTY GRP.

Mr. Matos is criticized for not having refrained from manipulating the trading of the 31 securities, which were the subject of the investigation that went from the 11<sup>th</sup> of November 2013 to the 29<sup>th</sup> of September 2015, violating Articles 631-1 and 631-2 of the General Rules of the AMF.

Mr. Matos was criticized for having placed significant amounts of sales orders on the market that were canceled five minutes after the issue. This behavior led other operators to believe that there was an extensive sales activity in the market, convincing them to place their orders in a bearish logic, which was then exploited by Matos to place purchase orders at attractive prices.



The same technique was used to convince the other operators to enter the market with bullish purchase orders, so as to be able to intervene in countertendency by selling his own securities when the prices had reached convenient values. The volume of these operations carried out by Mr. Matos was weighed by the controlling body and valued at around 33% of the entire amount traded by the other operators. Mr. Matos argued the competence of the Sanctions Commission, since he was resident in Portugal and the operations were carried out on Portuguese banks' platforms.

This complaint, pursuant to Article 621-15 (II) of the Monetary and Financial Code, was rejected because, in this case, the dispute concerned 31 securities negotiated on the regulated market Euronext Paris, therefore, the sanctions Commission was territorially competent.

Mr. Matos appealed itself to the "ne bis in idem" principle, declaring that he had already been investigated for market manipulation in Portugal, and that he had agreed to a pecuniary fine of 12,000 euros.

He believed that, having already been prosecuted for the same violation in criminal proceedings, he could not be subjected to an administrative procedure, Article 4 of Protocol No. 7 of the Convention for the Protection of Human Rights and Fundamental Freedoms and Articles 54 to 58 of Chapter III of Title III of the Convention implementing the Schengen Agreement.

Since the facts subjected to the sanction referred to a different period, this complaint was also rejected, therefore the prohibition of cumulation of criminal proceedings and sanctions was not applicable.

## **CONCLUSIONS:**

The following sanctions were established:

- € 400,000 pecuniary fine against Manuel Jose Gaboleiro Silva Matos;
- publication of the judgment on the website of the Autorité des marchés financiers.

## CONCLUSIONS

Considering the research conducted on market abuse and the evolution they underwent with the introduction of FinTech, it is possible to present the conclusions to which the analysis brought. As FinTech changes financial intermediation and trading, investors are confronted with new opportunities and risks, which call existing regulation into question. Regulatory Authorities find themselves at the point in which regulations need to be updated so as to be able to sanction new possible ways of engaging in illicit practices. In fact, those who practices financial activities through FinTech does not have to be advantaged with respect to those who, carrying them out in the traditional way, have to be in compliance with the already established rules. However it is important that the legislation does not damage the development of FinTech and that it is implemented by all Member States of the European Union, so that these create a safer and more stable market. Even though the researches have been conducted in various environments, institutional and non-institutional, at present there are not enough data to be able to run a regression which shows the degree of correlation among the introduction of FinTech and the increase or decrease of market abuse this because, being still a frontier, it is not possible to find data on the subject because these, whether existent, are not yet of public domain. In addition, the size of the data is still insufficient to conduct a study which can have a scientific validity, also because often the cases require years of investigation and because the legislation, as already clarified, is not yet fully implemented to be able to sanction the crimes committed with the new technologies. In any case, from the study carried out on the sentenced cases found through Consob, it emerged that the abuses which occur with higher frequency are mostly due to market manipulation through algo trading. In this regard it should be noticed that in the US the same phenomenon with the same procedures is occurring, even though in the cases analyzed they are still in the preliminary investigation phase.

Based on this evidence, it is possible to conclude that the ways to practice market abuse increased after the introduction of algo trading and, more specifically, of the high frequency trading. However,

in the absence of data, this does not allow us to conclude that the abuses have increased because the fact that the ways of practicing them are augmented does not strictly imply their increase, indeed it could simply be that the way of realizing them has changed. With regard to the transparency that should derive from the fact that it is all traceable, it is not believed that clearness has increased in the trading field since, even before the advent of the algo trading, the accounts were associated with the owner instead, with regard to cryptocurrencies, it is possible to assert that a blurred market has been created, and that this has left room for hacking on which governments are still investigating. Therefore it is possible to state that the kinds of crimes committed mostly fall in the sphere of algo trading and hacking and that the regulation on the subject, although young and under development and implementation, such as MiFID II, as it is possible to notice from the presented cases, is going in the right direction.

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