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Notes on the epistemology
of fraud



Carlos Pimenta; Óscar Afonso



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e Gestão de Fraude

>> **FICHA TÉCNICA****NOTES ON THE EPISTEMOLOGY OF FRAUD**

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OBEGEF – Observatório de Economia e Gestão de Fraude

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>> ÍNDICE

I. Introduction	6
1. The fraud in the science	6
2. The fraud today	7
3. Structure of the text	7
II. Multidimensional phenomena	9
4. The concept of fraud	9
5. Splits and readings	10
III. Reality and Ignorance	14
6. The fraud reality	14
7. Trends of evolution	15
8. Insufficient training	16
9. Insufficient research	17
IV. Interconnecting spheres of knowledge	19
10. Interdisciplinarity: object and methodology	19
11. Difficulties	21
12. The project de research	22
V. Conclusion	24
13. Institutionalization of the project	24
Bibliography	25

>> RESUMO

Fraude, economia não-observada, branqueamento de capitais, descoesão social e degenerescência ética são partes do mesmo processo. Precisamos de compreender o processo total da fraude. Esta não é uma excrescência social, mas um elemento integrante da sociedade atual e um elemento constitutivo das relações sociais. A atual crise que vivemos confirma a importância da análise criminológica das fraudes que estão na sua origem e que são reveladas durante a crise. Recordando Sutherland, que chamou a atenção para o significado social dos crimes de colarinho branco, os acontecimentos recentes mostram a importância de combater e prevenir a fraude económico-financeira. O sucesso deste objetivo depende fortemente do conhecimento que dela tenhamos assim como das técnicas ao nosso dispor. Neste trabalho cognitivo há duas dinâmicas particularmente relevantes, para além da especialização das ciências e das técnicas: (i) a análise simultânea de todas as variáveis do processo de fraude como um todo; (ii) a interdisciplinaridade entre ciências suscetíveis de tratar essas variáveis, de as incluir nos seus objetos científicos. Atualmente essas dinâmicas ainda são débeis. Nós defendemos, em primeiro lugar, a criação gradual de uma nova interdisciplinaridade para estudar cientificamente a fraude e, em segundo lugar, a integração das cinco áreas anteriormente referidas (fraude, economia não-observada, branqueamento de capitais, descoesão social e degenerescência ética). A estreita relação da fraude com o crime organizado internacional requer uma resposta global e integrada, que não existe. A nossa proposta epistemológica pode ser um contributo para superar essas limitações..

Palavras-chave: Fraude; complexidade; interdisciplinaridade.

>> ABSTRACT

Fraud, non-observed economy, money laundering, social decohesion and ethical degeneration are part of the same process. We need to understand the total process of fraud. This is not a social excrescence, but an integral element of the present society and an assumed element of social relations. The nowadays great crisis in which we live confirmed the importance of the criminological analysis of the frauds that are at their origin and that are discovered during the crisis. Bearing in mind Sutherland, who pays attention to the social significance of white collar crimes, the recent events show the importance of fighting and preventing economic-financial fraud. The success of this intent depends strongly on the knowledge that we have of it and also on the techniques that are at our disposal. In this cognitive effort, two simultaneous dynamics should be stressed, beyond the specialization in science and techniques: (i) the simultaneous analysis of the variables of the total process of fraud; (ii) the interdisciplinarity between sciences with either similar or closely-related scientific objects. Both dynamics still show great weaknesses. We argue: firstly, the gradual creation of a new interdisciplinary science to study fraud, in a broad sense; secondly, we consider that the new knowledge should develop the scientific object, integrating the five areas referred to above (fraud, non-observed economy, money laundering, social decohesion and ethical degeneration). The close association of fraud with international organized crime requires a global, integrated response, which is still not available. Our epistemological proposal can be a contribution to overcoming these limitations.

key words: *Fraud; complexity; interdisciplinarity.*

>> I. INTRODUCTION

1. *The fraud in the science*

When in 1939 Edwin Sutherland created the concept of “white collar criminality” (1940) and identified it “as a crime committed by a person of respectability and high social status in the course of his occupation” (1983, 7), he was underpinning fraud as the theme of the then-young field of Criminology and as a social problem to be studied. He effectively recognized the importance of this matter when he noted that “the financial cost of white collar crime is probability several times as great as the financial cost of all the crimes which are customarily regarded as the «crime problem»” (1983, 9), which are echoed “in politics” and “violate trust and therefore create distrust, and this lowers social morale and produces social disorganization on a large scale” (1983, 10). A reality that is self-reproduced because it is rooted in society itself, as he explained with his theory of differential association.

If, at the time, fraud was an important social fact, it has become so much more some decades later in the form of various types, with disparate manifestations, increasing repercussions and complexity as a result of globalization. The two last decades of the 20th century and the early years of the 21st century bring fraud to the forefront.

Several sciences have increasingly assumed fraud as a topic of study. Firstly, Law, since it should anchor social relations in legal standards and fight against fraudulent behaviour. Then, Criminology and other sciences have to apply their knowledge to fight against and prevent fraud: Risk Analysis and Internal Control function as a specialization of Management against fraudulent behaviour; non-observed Economy assumes itself as a field of study of Economics; Auditing, a traditional instrument to detect irregularities in the operation and accounting reports of institutions, specializes in Forensic Accounting; Psychology analyses the behaviour of “communities of fraudsters”, Forensic Sciences have to include the proof of economic-financial fraud in their field of work; Systems Analysis has to strongly respond to security issues. In short, a first trend was a specialization within the existing sciences and techniques.

A second trend was being forged at the same time based on the intersection of fields or spheres of knowledge. Taking the company as the focal point, Management, – action and reflection, positive and normative, aiming to optimize the resources of the institutions – will generate Fraud Management, the meeting point of diverse spheres of knowledge and practices, such as

Accounting, Auditing, Law, Criminal Investigation, Mathematics and Psychology. The interdisciplinarity is weak, but institutionalized and operational, as shown by the deployment of the international association, ACFE – Association of Certified Fraud Examiners (ACFE 2012), and other similar institutions.

2. The fraud today

It has long been known that frauds are complex and that “la fraude est devenue un enjeu de la sécurité de l’État [fraud has become a challenge to the security of the State]” (Pons and Berche 2009, 13). The resolutions of international institutions and bilateral and multilateral agreements on fraud or some of its manifestations (e.g., corruption and tax fraud) uphold this. It is also a common observation that “le fraudeur est un professionnel [the defrauder is a professional] and that “la fraude s’enrichit dans un monde complexe [fraud enriches in a complex world]” (2009, 17). More and more sectors are being affected by fraud and the interconnection between autonomous, yet closely related, realities increases (e.g., types of black-market economy, fraud, money laundering, corruption, financing of election campaigns). Society is more aware that there is a relation between the quality of life of communities and the ability to prevent and fight against fraud.

The recent subprime crisis, the slump of which we are still experiencing, has put many of these aspects in the spotlight. Whereas the concealed nature of fraud reduced its visibility, despite the many warnings, the violent crisis and the intensity and nature of fraud has brought this matter to the forefront. Some authors, especially Gayraud (2011; Gayraud and Thual 2012), explain the systemic relationship between crises, international organised crime and frauds. Several authors, economists (Kindleberger and Aliber 2011; Galbraith 1990) and others (de Saint Victor 2012; Ernst-Vintila et al. 2010) have shown that the “economic-financial” crises should increasingly be studied by other social sciences, and that to overcome the crisis, one has to fight against conflicts of interest, fraud and crime, as well as state deregulation.

3. Structure of the text

The first following section (II) specifies the meaning of fraud, which is required due to the polysemy of the term, the variety of involved components and the use of a wider definition in this work. Moreover fraud unfolds in multiple manifestations that reflect layer diversity of manifestation (individual, institutional and social) and of implementation processes. This brief analysis highlights the hypothesis that we are facing a complex phenomenon. In the second section (III) emerges the difference between the strong importance of the theme for the life of the worldwide society in nowadays and the low

priority assigned to it in teaching and research, which stresses the need for further scientific work in this area. Finally, the last section (IV) presents a proposal so that the required impulse of scientific research on fraud will be done in new ways, assuming the complexity of the phenomenon, the link between the various layers and the involved interdisciplinarity. It is specified a proposal that is relevant to the action, realistic and achievable, despite the expected difficulties.

>> II. MULTIDIMENSIONAL PHENOMENA

4. *The concept of fraud*

Everyone agrees that armed robbery is not a fraud. Things are indeed what they seem. There is no pretense. The same can be said of the production and trafficking of drugs. If activities are prohibited by law, they must be done covertly, but no attempt is made to make drugs seem to be what they are not. In these two situations, as in many others, it is easy to say that these activities (in this case, illegal) cannot be classified as fraud.

It is easy to say what is not fraud, but harder to say what is. This is why there is a myriad of definitions with many commonalities, but various nuances and differences (Pimenta 2009, 11-16)

However, there is ample room for consensus. For example, if in a company there is asset misappropriation without the company being aware of it, having evaded records and controls, it is a fraud. The same can be said of tax evasion by creating shell companies and issuing false invoices. Swindling is also not what it seems. Many other situations have the particular feature of involving deception: rigging election results, selling fake works of art, disseminating counterfeit currency, tampering with management data in a political organization in order to reveal non-existent financial efficiency, using personal data of others obtained by electronic means. In corruption, too, results are forged in a covert manner.

Many other situations are dubious. Is counterfeiting a fraud? Is selling fish that is illegally caught a fraud?

Let us drop the borderline cases.

Although there are many cases of fraud, and they are part of common knowledge terminology, in connection with this work, we are interested in economic-financial fraud, which generates benefits or harms income and wealth.

Thus, we can say that fraud is any intentional act by persons, individual or collective, perpetrated with deception that causes, effective or potentially, advantages for someone or damage to others and which violate either good social practices or the law.

This definition, which we will adopt in the scope of this analysis, casts two doubts that need to be clearly addressed.

Why “effective or potentially”? The intention of this dual reference is to cover those situations in which information was falsified but did not result in

either benefits or harm because the agreed situation did not take place (e.g., false information on an illness when filling out a health insurance policy).

Why “good social practices or the law”? Why add the diffuse sense of “good social practices” to the positive quality of the law? Firstly, the subjectivity of the classification is not only present in these “social practices”. The law also provides for them, for example, the case of substantiated factual evidence that is not conducive to a judicial ruling for formal reasons; the fact that many frauds are victimless crimes (from a legal standpoint), not resulting in legal proceedings; and the existence of social and institutional leniency in regard to a conduct that infringes the rules of law, but “which everyone does”. Secondly, there is no reason for handling on an equal footing different, materially identical situation because the State deliberately or inadvertently did not legislate properly. A typical example are tax havens – which in 2010 soaked up between US\$21 x 10¹² and \$32 x 10¹² of global private wealth (Henry 2012) –, and at the same time many laws are created to prevent tax evasion, and a vast majority of citizens have no access to these mechanisms. Thirdly, changes in social representations, ideologies and ethical concepts over the cycles are particularly interesting for the studies we propose elsewhere in this paper.

5. Splits and readings

A frequent mistake made when studying fraud is to consider it as an isolated act, as a relationship between an individual and wealth, ignoring that all frauds are a social relationship and are part of a vaster process, whether from a social standpoint, in general, or economic and criminological standpoint, in particular.

We will later analyze some aspects of this fraudulent process. Our major concern here will be to accurately define some of the terms used.

We are still a long way from having full knowledge of fraud to be able to categorically label it as a complex process and to measure the value of complexity even less. We can, however, categorically state that it does not have a single cause, that it can be viewed in a lot of ways (multidimensionality), and that it has at the same time many reference elements (multireferentiality), necessary, but not sufficient, features of complexity.

Fraud depends on individual behaviour, on interpersonal relationships and on institutional contexts. It depends on the institutions (e.g., State, market, companies, family), on its existence and functioning. It depends on social representations, risk perception and related emotions, and on the collective feeling in relation to ethical behaviour. It depends on the interpenetration between what is legal and what is illegal: “il n'existe plus deux mondes

parallèles, le légal et l'illégal, mais un monde des affaires de plus en plus pénétré par le crime organisé [there are no longer two parallel worlds, the legal and the illegal, but a world of business which is increasingly penetrated by organized crime]" (Véry and Monnet 2008, 180). These logical findings have been confirmed by some empirical studies on some types of more measurable frauds: perception of corruption, tax evasion.

We far from understand the multiplicity of perspectives and views, but we can choose *non-observed economy* to reflect the macro-dimension of society and economic activity, *social decohesion* to observe the interpersonal and inter-institutional relationships, and *ethical degeneration* to express individual options, obviously inserted in a society.

What we call ethical degeneration is the social weakening of the effective moral norms, which are not uniform in a society, differ by community, and sometimes are stable over long periods of time and sometimes change in short periods of time (Katz 2011, 39-57; Polanyi 2000).

If there are difficulties in objectively examining the development of moral norms, this can be partly overcome by using quantifiable indicators as the social representations: "en générale, les représentations inspirent et encadrent les conduites humaines [generally speaking, representations inspire and frame human conduct]" (Ernst-Vintila et al. 2010, 517).

We have to admit there may be a positive relationship between fraud, particularly economic-financial fraud, and ethical degeneration.

What we call social decohesion are the disruptions of consensus, and combined actions of life and its reproduction. This is a general term to refer to a wide variety of situations of relationships between people, individual and groups, institutional procedures, ideologies, beliefs and feelings. Several studies have demonstrated a relationship between the Hofstede indicators (<http://geert-hofstede.com>) and certain types of fraud, between levels of social cohesion and probability of fraud, between social notions of time and fraudulent practices.

Because

"intuitivamente percebemos que uma sociedade atomizada, em que as pessoas estão afastadas umas das outras, em que não comunicam nem se agregam, não pode funcionar tão bem como outra sociedade em que os cidadãos desenvolvem laços comunitários, participam na vida pública, e se associam para os mais diversos fins desde os desportivos e recreativos, aos sindicais ou políticos [intuitively, we understand that an atomised society, where people are distanced from each other, in which they do not communicate or gather together, cannot function as well as another society in which the citizens develop community ties, participate in public

life, and gather for a range of purposes, from sports and recreational events, to unionistic or political ones]" (Almeida 2011, 9), sociologists have used, to gain deeper insights into fraud, particularly for the analysis of corruption (Sousa (Org.) 2009, 93-125), the concept of negative social capital, quantifiable.

We have to admit there may be a positive relationship between social decohesion and fraud, in general, and economic and financial fraud, in particular.

Adopting the terminology of the OECD (2002), the non-observed economy is all economic activities not considered in the aggregate national accounts. This difference between economic activities and national accounts result from the characteristics of the activities.

There is a strong identity between underground economy and fraud. By definition, it is essentially tax fraud, assuming the definition of fraud presented before. For this reason, we can say that there is a close relationship between underground economy and economic and financial fraud, in that they have a common share and because an environment of greater tax evasion increases the probability of there being other types of fraud.

In its diversity, illegal economy (Napoleoni 2009) is rarely a fraud, yet there is a close relationship between its variation and the dimension of economic and financial frauds. As we have mentioned, there are different borderlines. Firstly, because it reflects a certain level of permissibility and control of the activities prohibited by law and, secondly, because some illegal activities contribute directly to some frauds, including corruption and money laundering. Finally, because there is a close relationship between these activities and international organized crime, on the one hand, and between the latter and the fraud processes. In some periods of history, the international crime, including mafias, is specialized only in some illegal activities, but not today. Drug trafficking supports the current international economic crime (Queloz 2002; Cretin 2007; Gayraud and Thual 2012), but it is an activity among many.

The relationship between fraud and informal economy is much more elusive. It depends on the situation. It can either indicate types of occupational fraud, as a means to increase social cohesion, or show the overlapping of different modes of production that result from stabilizer social customs.

Finally, some words on *money laundering*. Regardless of its possible particulars and different legal definitions (Silva et al. 2009), we can say that is the social concealment of the origin of economic values (Braguês 2009).

The reference to this category in the terminological accuracy of components making up the fraud process is different from the ones before. Money laundering is a phase in the circulation of wealth and income associated to

fraud and non-observed economy. There are feedback effects between money laundering and fraud, and this is relevant in the concept of complexity.

From the normative point of view, there is today an association between terrorism and money laundering. This is a highly controversial relationship (Kane and Wall 2004; Vittori 2004; Dupuis-Danon 2005), both because of the amounts involved and of the actual financing forms of terrorism. Some authors (Gayraud) uphold that this is a fictitious relationship that led only to a diversion of resources in the fight against fraud. Nevertheless, we cannot deny the close relationship between non-observed economy and fraud, on the one hand, and money laundering, on the other hand. Similarly, the States have, over the years, made life easier for money laundering by setting up tax havens, implementing deregulation and free movement.

In short, fraud is a multidimensional and multireferential social process with feedback effects. Its integrated reading alone can provide us with a more accurate contextualized understanding of the phenomenon. The intersection of spheres of knowledge is a prelude to a more effective fight in the prevention and detection of fraud.

>> III. REALITY AND IGNORANCE

6. The fraud reality

We can say that fraud has always existed. Historical references prove it. However, since fraud is a process of social relationships, we cannot establish a continuity that supersedes the periods of continuing social dynamics and does not take into account the disruptions in social organization.

Even though Adam Smith and many of his followers did not establish a relationship between businesses and fraud – if he has some concerns regarding the deterioration of social behaviours those concerns are related to the workers (Walraevens 2011; Smith 1983) – such a relationship was always present in capitalism. It changed its shape with capitalism and assumed new dimensions and features with the financialization of the economy after the 1980s, at a time when neoliberal theses and the abandonment of controls and regulation were strengthened.

While this is not the place to present a history of fraud, in particular, and of the categories previously associated to it, it is nonetheless important to recall some data that show the relevance of this reality today. The inventory is not exhaustive, which would be impossible to do, but it does show some of the most significant references.

According to ACFE data, occupational fraud against companies represents, in the USA, between 5% and 7% of their revenues (ACFE 2012, 2010, 2008, 1996, 2006, 2004, 2002). It may be higher in many other countries. The World Bank estimates that corruption of members linked to the State is of about 1×10^{12} dollars, 1.6% of the world GDP in 2010. To this must be added bribery in international business transactions (OECD / World Bank 2012) and corruption in sports. We have elsewhere referred to the estimated amounts in tax havens. Money laundering of criminal origin represented 1.6×10^{12} dollars in 2009 (UNODC 2010). The average shadow economy in EU countries is estimated at 18.4% of GDP this year (Schneider 2012).

If we were to include illegal economy, which is impossible to calculate, it would strengthen the catastrophic image that the previous numbers already bring to mind. We will only mention that the estimated profits from transnational organized crime are of about 35×10^{10} dollars a year (Gayraud and Thual 2012, 155).

7. Trends of evolution

To this must be added the costs underlying all these illegal activities: prevention costs and the costs of the consequences of these situations.

As evidenced by several empirical studies on corruption, we know that fraud negatively impacts on domestic investment, foreign investment and the product, government expenses and the quality of public services, competition, international trade, employability and wages. It challenges the key values of society and democracy itself. Fraud in the financial business and tax fraud underlie the current sovereign debt crisis in the EU.

However, the consequences of fraud, in particular, and economic crime are much wider-ranging. Firstly, fraud, economic crime and some criminogenic behaviour in the USA have strongly contributed to the current international economic-financial crisis. Gayraud (2011) shows it clearly, postulating the thesis that all economic-financial crises are political crises, and that crime is always present. Basing his considerations on some important economists, which we will refer to ahead, he shows that:

“L’environnement criminogène qui a conduit d’abord à la crise des caisses d’épargne, puis au *subprime* peut se résumer en trois mots: dérégulation, désupervision, décriminalisation. Ces trois D sont au cœur de la crise [The criminogenic environment which led to the crisis of the savings banks, first and to subprime afterwards, can be summed up in three words: deregulation, de-supervision and decriminalization. These are the three Ds at the core of the crisis]” (2011, 230).

With this conflict of interest-filled context, the speculative business environment in which “les bénéfiques sont privatisés et les pertes socialisées [the profits are privatized and the losses socialized]”, the asymmetry of information and the misselling (the ethically questionable practice of a salesperson misrepresenting or misleading an investor about the characteristics of a product or service) (2011, 203-205) the frauds have grown exponentially, detonating the international financial crisis.

Secondly, the context mentioned above, the difficulties facing the companies and States, the restrictive policies with privatization packages and the divestiture of State sovereignty pave the way for capital of criminal origin to penetrate the legal companies, for a greater influence of international economic crime in the business world and in political control (de Saint Victor 2012; Gayraud and Thual 2012).

These penetrations are done in myriad ways, sometimes to solve cash-flow problems and, at the same time or subsequently, to participate in companies until they are controlled. These crime capital penetrations buy out privatized, often strategic companies. They support and fund electoral campaigns, cor-

rupt, use offshores, control new and small States without authority, as well as kleptocratic countries. Moreover, they “manage human resources” outsider the world of crime that may be of use in the future.

The experience of economic management of mafias in some countries and sectors is a micro-view of the dangers that such a control of the business by economic criminality poses to the future of mankind. Europe is in nowadays a particularly sensitive region (Gayraud 2012; Napoleoni 2009).

Thirdly, the progression of organized economic crime and the generalization of fraud are cumulative. The tendency to deteriorate is done in many ways, but we will limit ourselves to metaphorically recalling Gresham's law: “le mauvais capitalisme chasse le bon capitalisme; les mauvais capitalistes chassent les bons capitalistes [The bad capitalism remove the good capitalism; the bad capitalists remove the good capitalists]” (Gayraud 2011, 229).

If a company is not open to corruption in a public tender for a major work and another company is, who is more like to grown economically? If these two companies want to export to a country where corruption is a prerequisite for penetration, who is more like to have any chance? Is a company meets its tax obligations and another company evades them, which one is more like to show a higher profit rate? If a company promotes industrial espionage, will it be more likely to attract the new market share or the company that suffers industrial espionage? If a company grappling with cash-flow problems has to turn to credit and another company resorts to money laundering, which company will have less costs in obtaining cash? In short, those behaving contrary to the “good trade practices” are the most likely to win over the competition and expand their business.

Admittedly, the “misbehaving” company runs the risk of being penalized for an unlawful act, which can end a successful career. This is a fact. However, having taken place in white-collar crime territory (Santos 2001) these hazards are smaller. If economic-crimes were to be decriminalized, the amount to be returned would always be a small part of what was earned. All we would have to do is to include it as a business risk. The analysis of money-related convictions in the USA in the past thirty years proves it.

8. Insufficient training

Training about the nature, detection and prevention of fraud should be in place just by reason of its social relevance. Unfortunately, this is not the case:

“Economists receive no training about fraud risk, incidence, or mechanisms (beyond the conventional wisdom that it was trivial, a distraction during the debacle). Lawyers receive no fraud training. (...) The average

new accountant receives no meaningful training about fraud and no training at all about control fraud" (Black 2005, 247).

The same can be said in relation to the directly correlated facts already mentioned. For economists, honesty is in *ceteris paribus*. The economic reality is not a part of the social (Polanyi 2000) and they do not examine whether markets are self-regulated or not. They admit they are. It is, therefore, not surprising that the social representations presented by management students defend the *status quo* (Ernst-Vintila et al. 2010, 521).

9. Insufficient research

Research on the problems of fraud also seems to be far off the relevance of the phenomenon¹.

Having selected the twenty-four keywords related to fraud, corruption and bribery, money laundering, non-observed economy, tax evasion, cyber fraud, to refer to specific cases of fraud that we have examined so far, and criminology, a general term, we realize that between 2000 and 2011 there were 9715 articles registered in the Scopus database that contain at least one of the keywords. This number has increased year after year, from 377 in 2000 to 1411 in 2011. The two journals with more articles are the *Journal of Business Ethics* (176) and *Crime Law and Social Change* (145). By nationality of authors, the USA (34.2%), the United Kingdom (12.1%) and Australia (4.2%) represent more than half of the articles.

Discipline	Ranking	# Journals	Min (%)	Max (%)
Accounting	Top	3	0.8	3.4%
	Middle	-	-	-
Economy	Top	3	0.3	0.5
	Middle	3	1.0	2.3
Management	Top	3	0.5	1.4
	Middle	3	1.3	1.7
Law	Top	3	0.7	2.6
	Middle	3	0.0	6.2
Anthropology	Top	2	0.0	2.1
	Middle	3	0.0	0.5
Geography	Top	3	0.0	0.5
	Middle	2	0.0	0.2
Psychology	Top	3	0.0	2.0
	Middle	4	0.0	1.7

¹ Empirical data in this section was collected by Aurora Teixeira, to whom we are grateful. The interpretation of the data is of our responsibility.

Above is the result of a more detailed analysis by disciplines (Economy, Management, Psychology, Anthropology, Geography, Accounting and Law) and by journals in top or intermediate positions in the ranking: percentage of articles that mention at least one of the keywords in relation to the total number of articles published by disciplines and level of journals.

Criminology journals have much higher percentages (between 0.8% and 50%), but the use of general keywords means that this information is not comparable with the remaining disciplines.

In short, whereas fraud is a social reality of great concern, educational and research institutions underestimate and ignore it, particularly those that are responsible for training technical members who will be more likely to take positions that require an ethical attitude, to promote the detection and prevention of fraud.

Whereas international economic criminality has a worldwide decision-making center and conditions that facilitate criminal cooperation, the institutions likely to fight against it are predominantly split by countries, referring to the tree but ignoring the forest. Experts are hived-off in their specific areas, treated in a disciplinary way. Research into fraud as a wholly social phenomenon is very incipient and education is not training new staff properly. Moreover, totally different terminologies used to interpret the same reality hinder a common understanding.

Although universities and other research institutions are not responsible for overcoming some of these segmentations, they are nevertheless responsible for addressing the study and disseminating it in a professional and integrated manner.

>> IV. INTERCONNECTING SPHERES OF KNOWLEDGE

10. Interdisciplinarity: object and methodology

From what we have said above, we can easily conclude that the study, prevention and fight against fraud are too fragmented compared to the need to fight for a more ethical society. This fragmentation finds more unity within fraudulent people and institutions, and in permissive and boosting factors of the fraud.

A study more unified and complete of the fraud process is a significant contribution to reducing the said fragmentation on two complementary levels. Firstly, it would increase scientific knowledge and strengthen unity within a scientific community often dispersed and hived-off. Additionally, it would increase the likelihood of a more appropriate public opinion, all the more so when the media serve the cause. Secondly, it would provide tools for analysis and action to enhance the capacity for detection and prevention. This prevention must be understood in a micro and macro-social sense. This epistemological work is highly pragmatic.

This interconnection between fields of knowledge does not arise spontaneously. Counter-trends are greater than those for the start-up of such a venture, despite some positive developments, as we have already mentioned.

We propose that there are three key vectors in such a project.

Firstly, the focus of study is economic-financial fraud as a systemic element of the entire social reality.

When doing science, the focus of study is not the ontological reality, but an epistemological construction thereof, maintaining relationship ties as strong as the literalness and realism of the study to be undertaken (Pimenta 2012, Chap. III). In our case, the core of the object of study is *economic-financial fraud as a process*. A social process that only assumes a real meaning when part of a whole (Godin 1997) that reproduces itself.

Every economic-financial fraud reflects, within its specificity, the entire social reality of which it is an integral element: the mode of production and its organization, social-political structure, various social representations, existing ethical and philosophical concepts, and structure of individual and institutional social relationships. In its specificity, every fraud is unique. At a given historical moment, every fraud, as a reflection of the social whole, shares common patterns with other frauds.

Whereas the process of economic-financial fraud is a limiting factor of the object of study, its entirety (as a fraud, as a crime) expands it. The two ensuing vectors, and the methodology of the project, help pinpoint this tension.

Secondly, we need to articulate in a structured whole the micro and macro dimensions of the economic-financial fraud process, taking into account at least the non-observed economy, the money laundering, the social decohesion and the ethical degeneration.

What has been said about these various groups shows that we face parts of the process that makes up the economic-financial fraud. Whereas it allows us to address the individual, institutional and social dimensions, always present in every event. It also sheds light on the circulation of income and wealth upstream and downstream the fraud, in a strict sense.

There is a very good chance that the actual investigation into fraud in the contexts we have identified needs to consider other moments in the process, but these are sufficient and limit the starting point, which is a crucial moment for interconnections among spheres of knowledge.

Thirdly, the two vectors mentioned are only feasible if an interdisciplinary dynamics is in place. The integration of individual, institutional and social aspects, including economic and political, requires the contributions of various disciplines: Psychology, Social Psychology, Anthropology, Sociology, Economics, Management, Political Science and Law. Since fraud is a type of crime and is strongly linked to a "criminogenic society" (Dias and Andrade 1997), the contribution of Criminology is invaluable. Since the scientific object should reflect the ontological reality and the reading should be integrated and evolutionary, the presence of History is indispensable. According to some authors (Gayraud and Thual 2012), the association of fraud to organized crime and the importance of territory in its characterization would further the involvement of Geography.

The dark figure of crime of this phenomenon, the pretense involving it, the proof that a fraud exists long before it comes to light, if it ever does, makes it difficult to quantify them, yet they are important as shown by various general works (Schneider 2004; Blanc et al. 2008) and specific works (Torgo and Lopes 2011; Gonçalves 2010; Schneider 2008; Del Monte and Papagni 2007). Mathematics is an auxiliary science that has to be present.

An analysis that integrates the individual and the social in an interconnected way requires, today, the use of tools such as the Social Network Analysis (Knoke and Yang 2008). The use of computer networks in the pursuit of fraud also requires specialists with expertise in this area, particularly in Systems Security.

A small final clarification is required. Why consider economic-financial fraud as the object of study and not fraud, which seems to be a more integrating epistemological reality? The difficulties that accompany the processes of interconnecting disciplinary, scientific and philosophical spheres of knowledge suggest that the object should be strongly delineated. Fraud is a too broad a concept. The experience accumulated in the cyclical dynamics of economy and society suggests a methodology strictly associated to the economic-financial fraud.

11. Difficulties

Despite its increasing relevance, interdisciplinary difficulties are well known.

The main interdisciplinary difficulty probably lies in the fact that it unsettles the established powers. The hiving-off of every scientist in their disciplinary area and, within it, in a specific theme, is a relatively consolidated situation, a controlling set of social relationships, a certain position in the teaching or research institution to which it belongs. It allows a certain social recognition, possibly mediatization. This hiving-off and recognition facilitate access to funding. The participation in an interdisciplinary project is a risk to that stability, all the more so because final results are more uncertain and new competition has to be tackled.

It is essentially for this reason that institutions with a vast “geographical density” of disciplines and varied themes are, at the same time, so defensive and retroactive in relation to interdisciplinarity.

To this difficulty in correlating powers is added the greatest uncertainty of an interdisciplinary project. All those who have specialized in ethical problems are aware of a possible range of research topics and are likely to add information to some of them. The same applies to whoever studies the deviating behaviour or dynamics of investment in the economic cycle. When such scientists gather around the process of economic-financial fraud, the horizon of outcomes is yet to be built. At the outset, the joy of findings can be huge, but maybe shadowed by major risks.

Finally, there is a set of epistemological difficulties, namely the fact that it is impossible for every scientist to properly know in advance some of the sciences involved, the weight of a previous disciplinary reading that delimits the “consciousness possible” when interconnecting different fields of knowledge, the difficulty in understanding the participants since they are marked by profound terminological differences, resistance to changing reference paradigms. Quite apart from the existence of some disciplinary paradigms

which tend to invade and dominate other sciences as the History (Godin 2003, 8) and the Economics (Maki 2009).

These are difficulties, not deterrents. They are risks, but also the possibility of breakthroughs, the ultimate aim of every scientist. The project design can minimize some of the difficulties.

12. *The project de research*

Economic cycles are a traditional theme of Economics. Even in the strict field of that science it is common to consider parameters reportable to Social Psychology, as Keynes does (Keynes 2010). Almost all authors focus their attention on economic variables, but they recognized that there are “exogenous variables” that also influence the process (Schumpeter 2008, 13). Some of these exogenous variables are all the more important in some models, such as the analysis of the relationship between the “economic cycle” and the “political cycle”, the political-economic cycles.

Frauds also appear here and there, virtually by accident, in various works – see, for example, Schumpeter (2008, 154), but they also figure prominently in other works. For example, Galbraith (1990), who “reviews the great speculative episodes of the last three centuries. As already observed, common features recur” (12), and points to the extreme brevity of the financial memory:

In consequence, financial disaster is quickly forgotten. In further consequence, when the same or closely similar circumstances occur again, sometimes in only a few years, they are hailed by a new, often youthful, and always supremely self-confident generation as a brilliantly innovative discovery in the financial and larger economic world. There can be few fields of human endeavour in which history counts for so little as in the world of finance. Past experience, to the extent that it is part of memory at all, is dismissed as the primitive refuge of those who do not have the insight to appreciate the incredible wonders of the present. (13)

He adds a second factor “contributing to speculative euphoria and programmed collapse is the specious association of money and intelligence” (13). A set of clichés and false associations means that “*financial genius is before the fall*” (17).

Kindleberger and Aliber (2011), for example, dedicate chapter 7 (in the 2005 edition, this issue had not yet emerged) to fraud: “Bernie Madoff: frauds, swindles, and the credit cycle”. The interconnection between cycle and fraud is significant:

“Swindles, fraudulent behaviour, defalcations, and elaborate hustles are part of a life in market economies (121). Corrupt behaviour is part of virtually every economy. The number of transactions that appear to overstep

both moral and legal norms increases in euphoric periods (123). Fraudulent behaviour increases in economic booms" (141).

"Reduced regulation" (127) also contributes to this situation.

In short, Economics and Criminology are already drawing closer as regards the relationship between social cycle and economic-financial fraud, which is a good starting point for interdisciplinary work, given the importance assumed by these disciplines in the project.

However, the intersection points are not limited to this. Regardless of the causes, phases and nature of the economic cycle, crisis plays a central role. The use and meaning of the concept of crisis are different depending on the social science, even though they converge in some points. In all sciences, it means a breakdown; in all sciences, terminology overlaps; and all sciences can use similar analytical tools. This is what accounts for the widespread use of the Catastrophe Theory.

Moreover, sweeping political, economic, criminological, ideological and ethical changes have occurred for short periods of time during the economic-social cycles. They are a good testing ground for inventorying events that may be an interdisciplinary field of study.

In short, the causal relationships between economic-social cycle and economic-financial fraud, based on the assumption that we are dealing with a complex reality, is a good key objective for our proposed project.

A close relationship between Criminology, Law, Economics and History, cloaked unpretentiously as collective learning, seems to be a good backbone for an array of other social sciences, already mentioned above.

>> V. CONCLUSION

13. Institutionalization of the project

Our proposal is to broaden our knowledge and understanding of economic-financial fraud to increasingly operationalize the fight against it. To this end, we opted for linking the macro and micro readings and dealt with fraud as a social process interconnected with many other dynamics.

Interdisciplinarity, which does not detract from specialization, on the contrary, is how it should be pursued. The delimitation of the object of study and the understanding that there is, at least at the outset, a hard core of disciplines involved may reduce the difficulties of the project.

There are many ways one can do this. However, they all have to be assumed by the institutions, inevitably international institutions and, in respect to operation, rely on the formation of networks of interconnected spheres of knowledge.

Interconnecting this institutionalization with an educational project may give it consistency.

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