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World Journal of Social Sciences
Vol. 4. No. 2. July 2014 Issue. Pp. 1-13

Reducing the Risk of Fraud in Financial Market: Psychosocial Drivers and Enactment-Based Perspective

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Operators (fund managers and traders) are regularly involved in fraudulent operations. Their cost amounted to over $40 billion in the last decade. We think that one of the main reasons is related to the nature of interrelations between risk-controllers and operators. Controllers are often too poorly skilled and operators consider themselves as superior human beings and are therefore reluctant to explain themselves. Existing structures encourage this. That is why we propose an approach based on the concept of enactment, which will entail a morphogenesis of structures. This will help operators realize that they are just ordinary people, which will then help them suffer less from their working life. As a result, they will develop careful interrelations, resulting in a lesser risk of fraud. We also provide a tool to measure the quality of these enactments and to perform them: the appropriation scales. Realizing that they are not asked to do extraordinary things, operators will less suffer psychologically and be less tempted to fraud to escape this pain.

Field of Research : Financial markets, Risk management

JEL Codes: G10 General Financial Markets, G23; Institutional Investors, G32 Financial Risk and Risk Management

1 Introduction

Loss due to fraudulent operations amounted to 40 billion equivalent dollars over the past ten years. We might think that particular actions have been undertaken since the recent financial affairs (Iksil, Adoboli, Kerviel, Hubler…), especially in such a context of deep economic and financial crisis. Besides, we cannot be sure that it has not been the case. What we can just notice is that these actions have not proved remarkably effective: because of fraud from operators 20 billion dollars have vanished in the last four years.

It seems that the prevailing mechanisms all have roughly the same origins: a need to recover, an inability to change one's mind when the market turns, too much self-esteem… If those are the true mechanisms, are we equipped to offset them? Do we have the necessary skills and tools?

In this paper, we will show that institutions and organizations (in market finance) may encourage fraud, albeit unwittingly. We then propose an appropriation-related (Dechamp et al. 2006; de Vaujany 2006) or enactment-based (Sutcliffe, Weick & Obstfeld 2009 (2005); Weick 2001 (1977); 2001 (1988); 2009 (2003)) framework which will lead to new relations within organizations. The core of this framework lies in the notion of "cross-

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appropriation", namely someone with peculiar skills (a risk-controller, for example) getting involved in another field of competences strongly connected with their own (operators, for instance). Lastly, we also provide a tool, the appropriation scales, in order to measure and conduct these cross-appropriations.

We are looking for ways to reduce the risk of fraud from operators (traders or fund managers). While the pace of fraud doesn't seem to slow down, the solution, if there is any, might differ from that currently implemented. That is why we are saying that operators and controllers have to work together in a new way, with more cooperation and less opposition, as is mostly the case in financial markets.

While fully consistent with (O.E.C.D. 2010, p. 13): "The aim is to ensure that risk are understood, managed and, when appropriate, communicated", we draw on aspects that have not been part of any study trying to address the risk of fraud in financial market. As wrote Jolls (2007, p. 11), "An enormous literature in modern social psychology explores the cognitive, motivational, and other aspects of implicit, or unconscious, forms of racial or other group-based bias. This literature, however, has not featured significantly in most fields of behavioral economics". We think this study does…

To have a better understanding of our initial view we conducted semi-directive interviews with operators (fund managers and traders). After building this framework and its associated tool we submitted them to controllers in a second wave of semi-directive interviews.

The paper is organized in two parts. We first a review the literature in order to set the frame of the fraud and to understand how fraud and risk control articulate. After having defined the psychosocial environment of financial market's operators, we explain why such fraud can occur. In the second part of this paper, we present our approach, based on enactment, and the tool designed to follow-up the virtuous process of fraud reduction.

2 Literature review

Has we have said, to the best of our knowledge, understanding the risk of fraud from a psychosocial perspective has not been done for now. It might be several reasons for that, amongst them, the fact that operational risk (in which is located the risk of fraud) is a rather new type of risk; that financial markets are reluctant to rely on other-than-rational behaviors (remember that the market efficiency hypothesis postulates rationality (Lardic & Mignon 2006))… But in our opinion, the major fact is that the very vast majority of these studies concentrated on how to capture behavior in order to better guess future asset prices: it had — apparently — much more economic implications… So, even if all the seeds where present to better understand the internal life of market operators (such as Godechot 2005; Dillian 2011; Lewis 2010; Kahneman 2013 (2011) and all the field of the behavioral finance), they have been used in a different purpose from our own.

In the following sections, we define what "fraud" means and how the regulator expected it to be addressed. We then describe the psychosocial environment of operators and show that operators are institutionally misdirected.

2.1 Defining fraud

In this research we use the broad sense of the word "fraud", following the conclusions of the Basel Committee. This committee made the point that fraudulent operations are not restricted to forbidden actions but are also a matter of governance (B.C.B.S 2010a).

We distinguish between two kinds of rogue operators. The first relies on prohibited and hidden actions taken by the operator while the second relies on actions that would be prohibited if the embedded risk were correctly disclosed. The first category includes Kerviel (loss of $7 billion for Société Générale); Hubler (loss of $9 billion for Morgan Stanley) belongs to the second one. In the first case a lawsuit was filed by the company against Kerviel while in the second one an arrangement was found between both parties in which Hubler left the company with a couple of million dollars… But in both cases, parties were abused, even if Hubler's responsibility seems less clear. For Lewis (2010, p. 234), what Hubler was involved in was a concealed Ponzi Scheme…

That is why we consider all intentional operations as fraudulent

- that have been explicitly forbidden by any local (decreed by the organization) or global (belonging to the industry) rule (Kerviel case);
- that would have been explicitly forbidden if all the stakeholders had had a clear understanding of the embedded risk (Hubler case).

This is consistent with Akerlof and Shiller's view (Akerlof & Shiller 2013, p. 54) for which, even if some of these actions were not illegal strictly speaking, they were hugely immoral.

2.2 Risk control and risk of fraud

Operational risk management has regularly been less funded than other aspects of risk management. Perhaps, as Jezzini puts it (2005), because no money is offered in exchange for managing this risk. Nevertheless, organizations have to actively manage it if they want to lessen the risk of bankruptcy. Yet more important than that, regulators have to be sure that this risk is properly managed to avoid systemic effects, like those we have seen recently (E.B.A. 2009; 2010a; O.E.C.D. 2010; S.S.G. 2009; B.C.B.S 2010b; A.M.F. 2010). But because such awareness is relatively recent we can point out a few risk factors:

1) Operational risk management is a recent discipline. As such, it has suffered from a problem of definition. In particular, not everyone agrees on the reputation risk. As a matter of fact, for Gautier-Gaillard and Pratlong (2011, p. 283) this is not a risk to be managed as such because if you manage all your risks properly, you will save your reputation. Despite possible definition problems, we can find a way of reducing the risk of fraud because this risk is clearly identified. We are told to behave proactively in order to anticipate this risk (E.B.A. 2010b, p. 6), which is why we propose to focus on the cause of comportments in this work;
2) In spite of the numerous attempts to master this risk, it has not been stopped, not even reduced if we consider how many billion dollars were lost in the last 4 years. If this risk cannot be suppressed, it can be controlled, and, as we are told, "It should be fully understood by regulators and other standard setters that effective risk management is not about eliminating risk taking, which is a fundamental driving force in business and entrepreneurship. The aim is to ensure that risks are understood, managed and, when appropriate, communicated." (O.E.C.D. 2010, p. 13). If the fraud is partly due to psychological suffering, having more and more quantitative controls will have no effect;
3) There are many ways of reducing this risk of fraud. If financial institutions have primarily favoured qualitative methodologies, today we have come back to qualitative valuations. Controllers have proven to be insufficiently educated (Janand 2011); organizations at least need to be sure that controls are to be done by well-trained people. It is very

comfortable to deploy quantitative systems and to hide behind figures, especially when you do not have a very precise idea of what is going on… Operators are highly critical of controllers, so this is not only a question of control accuracy, but it also aims to give more legitimacy to controllers. Our approach goes explicitly in this direction.

4) We can also see that there is a deliberate will not to control some “star operators” (B.C.B.S 2006, p. 14). That is often where the fraudulent spiral originates, and organizations need to dispel any idea that operators may pertain to myth. This will contribute to weakening the star system and to alleviating operators’ suffering (Tuckett 2011, p. 169);
5) Managing operational risk now provides a way to immediately save money because it permits to reduce equity capital (the required provision diminishes). Regulators now allow qualitative methods to measure operational risk, even coupled with quantitative ones (B.C.B.S 2006; 2009; E.B.A. 2006; 2009). Our approach is therefore also financially attractive;
6) In a report regarding financial stability the International Monetary Fund (I.M.F. 2007) shows that even if quantitative models are all different, when markets are stressed they make it worse because they force behaviors in the same way. This is a very well known phenomenon (institutional isomorphism) shown by DiMaggio and Powell (1983). As our approach is rather qualitative, it is not concerned by this effect.

2.3 The environment of operators

The notion of *ego* is essential to our question. We think that operators can have a strong *ego* just because their working environment encourages it. This strong *ego* may raise ego-defenses in a wrong way, which can lead to fraudulent operations.

2.3.1 Defining and measuring operator’s *ego*

The *ego* of people with an operational activity is usually not considered as a potential threat because it is often subordinated to organizational culture, and in case *ego*-defenses will be activated in an inappropriate way, it will rarely be headed for a disaster. All is different in financial markets: not only are operators able to expose themselves to huge risks (far more than their company’s capital), but the organization itself (and the structures around operators) also promotes individualistic behaviors. The culture of the organization is partly focused on operators: to have the best results, the best performances and to attract money, they try to hire the best operators and this is part of their communication. They have to develop their own image in a sense that matches the myth. Operators are then involved in this game where the best of them are seen and treated like stars. They are then engaged in a vicious circle in which they must always do better to reach the pinnacle of glory which is also required by financial companies as a way to always better perform (Cramer & Jones 2008; Galbraith 2008 (1989); 1993; Godechot 2005; Kindleberger & Aliber 2005; Lacoste 2009).

We have used Judge’s 12-item core self-evaluations scale (Judge et al. 2003) to assess the ego of operators. Each item is valued from 1 to 5, so the overall score is between 12 and 60, where 60 shows a very high ego. We ran the corresponding questionnaire online through 40 operators. The scores were averaging 43 with a deviation of 8, which means that some operators have a very strong ego (11 of them have a score higher than 50, 3 having a score higher than 55). This is not a problem in itself, maybe operators need a string ego to perform, but a strong ego mobilizes string ego-defense mechanism in which you can find denial, rationalization… (Cramer 2009)

2.3.2 Operators are involved in a myth

Eliade wrote that myths tell incredible, but real stories. Because of their exceptional character these stories involve exceptionally talented people, “Supernatural Beings” as Eliade (1963, p. 30) wrote. In his sociological study of financial markets (2005) Godechot also reckons that traders are considered as belonging to a myth. In fact, some of them have built huge fortunes from scratch, as is chanted throughout a book (Schwager 2006) that was successfully reedited over 20 years “[Trading] is one of the very few ways in which an individual can start with a relatively small bankroll and actually become a multimillionaire.” (Schwager 2006, p. x).

Galbraith (1993, p. 17) show how “the investing public is fascinated and captured by the great financial mind” of operators and Ormerod (1999, p. 19) speaks ironically of them as of “Masters of the Universe”…

2.3.3 Emotional finance

Tuckett and Taffler (Tuckett & Taffler 2003) have set up a new field in the sector: emotional finance. They show (Tuckett 2011) that, mostly for institutional reasons, operators are living in a divided state. Many points drive operators to this splitting of the self: they have to “invent” a (a macro and micro-economic) story in which they will trade, they have to deal with irreconcilable horizons, they are exposed to information asymmetry, they are in a dependent ambivalent object relationship with assets, they are asked to over-perform… As a result, the psychological picture of operators is complex: they are institutionally driven to create their own reality and are living in a divided state.

Putting things together, operators might enroll in a potential explosive situation. Because of their will to become a hero, to be part of the myth, they might be tempted to expose themselves to a considerable risk. This is facilitated by the fact that they are more or less living in their own neo-reality (Braconnier 2010; Roussillon et al. 2007) and have a strong opinion on their own capacities. Operators are exposed to high self-esteem and are prone to invoke *ego*-defenses abnormally when things go wrong, which can lead to fraud. Because they are living in a world of their own, operators are only partially aware of the gravity of their fault, and are therefore all the more exposed to this risk…

3 Approach description

Avoiding fraud is not a question of computation; it is rather a question of fullness. Computations help to track ongoing frauds in trying to detect abnormal trades, unauthorized positions… and are, as such, also part of the process. But, we assess that we can have a proactive approach to prevent fraud in addressing the points we just saw.

For this, we propose to mobilize the notion of appropriation and their attached perspectives to understand how people are considering their own activity. We draw upon this concept of appropriation — or enactment — the notion of cross-appropriation, which can be viewed as an endeavor to enact commonalities between operators and controllers.

Promoting cross-appropriation will help operators to share “ordinary” things with “ordinary” people (controllers). One effect of enactment is the creation of sense, thus, in creating sense jointly with controllers, operators will consider themselves as more ordinary people resulting in fewer egos and less will to join Mont Olympus.

3.1 The notion of appropriation

This notion is still blurred despite its importance, says Giraud (2009, p. 277). Thus, she gives a general definition of it: “It signifies […] two things: (I) a utilization in line with the prescriber’s intention; (ii) a local modification space where users can adapt this utilization to their specific context, including drifting away from the initial prescription. This is precisely the articulation between these two dimensions that defines appropriation” (2009, p. 278).

Vaujany has developed a synthetic view of this notion and describes its dynamics, inspired from the adaptive structuration theory (DeSanctis & Poole 1994) with regard to the dynamics of it, and from the morphogenetic approach (Archer 1995; 2003) when it comes to the description of the articulation between structures and actions. For Vaujany, in order to understand appropriation we need to mobilize three interdependent perspectives: a rational one, a psycho-cognitive one and a socio-political one (de Vaujany 2006, p. 114). He also distinguishes between three qualities of appropriation: “Legitimation” (no appropriation: the system is usable but not used), “Assimilation” (basic appropriation: the system is used in a prescriptive way) and “Appropriation” (enactment, the possibilities of the system are internalized by users so they can manage to work the system to their profound — and changing — needs).

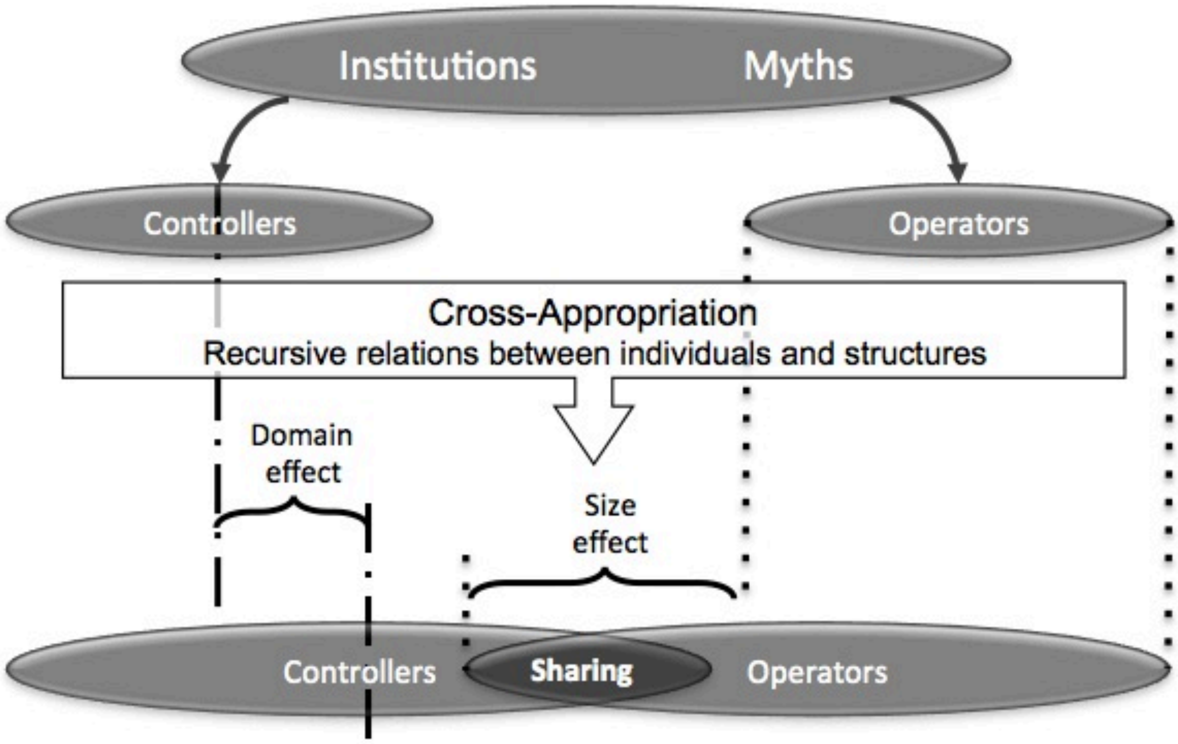
The latter refers to the deep individual process contributing to the development of personal identity (Jouët 2000). Weick calls this *enactment*, and enactment “might serve as the basis for an ideology of crisis prevention and management” (Weick 2001 (1988), p. 234). He defines ideology as “a relatively coherent set of beliefs that bind people together and explain their worlds in terms of cause-and-effect relations” (Weick 2001 (1988), p. 234). Enactment is a pillar of sensemaking, which in turn enables the development of respectful interactions (between individuals, an operator and a controller, for example). That can lead to heedful interrelations (between groups, e.g. a group of operators and a group of controllers). All of that will lessen the risk of fraud (Weick 2009, pp. 154, p. 207).

3.2 Presentation of the approach

Structures surrounding operators and controllers have scarcely evolved: operators are still suffering, and increasingly so, from their divided state, as Tuckett (2011) claims, and are tempted to see themselves as “Supernatural Beings” (Eliade 1963). Relationships between operators and controllers are tricky and the poor quality of cross-appropriations is unlikely to make structures change.

Our proposal, as Weick puts it (2001 (1993)), is to develop a new way for operator to interrelate with controllers. Skills must be enhanced in two directions: an acquisition of new competences and a reorientation towards each other’s jobs. That’s what we call “cross-appropriation”. Cross-appropriation can be represented as follows:

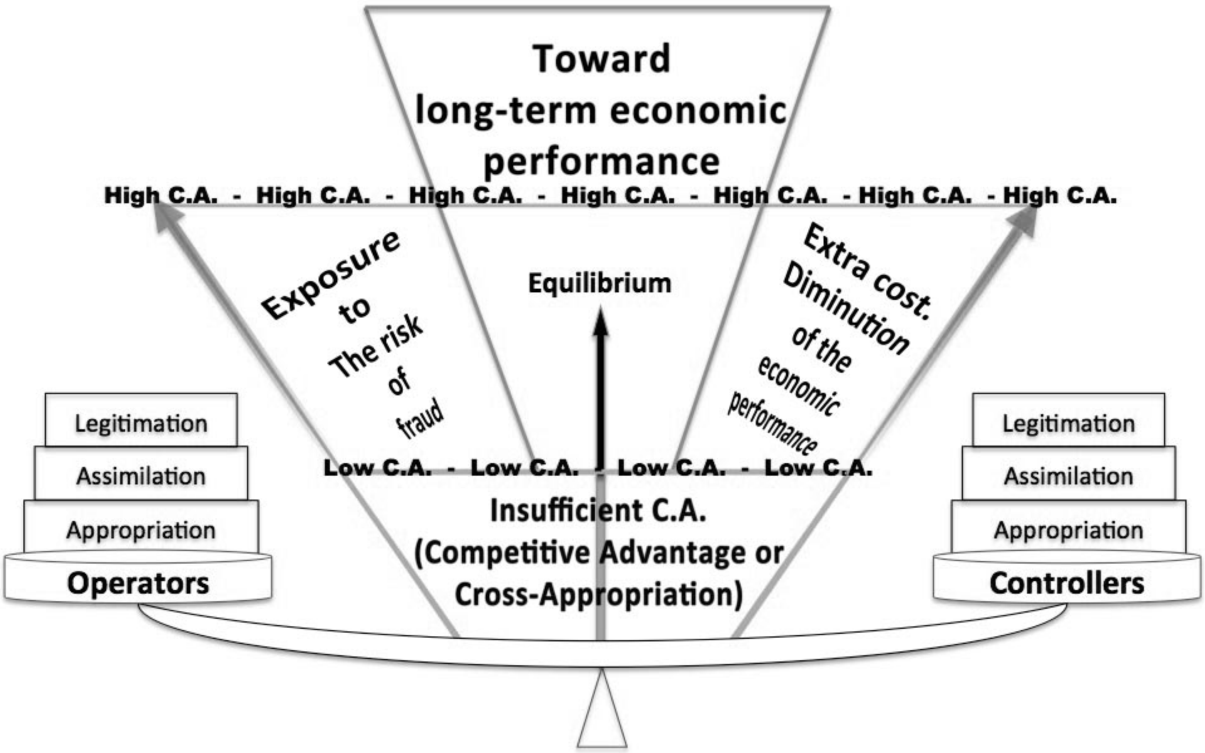
Figure 1: Cross-Appropriation



This figure presents analogies with Weick's thinking: in order to move from respectful interactions to heedful interrelations, he says that we have to "shift the […] domain and size of [our] ignorance" (Weick 2001 (1998), pp. 370-371).

To conduct these appropriations, we first have to define where we want them to be. We do so by bringing into relief the organization's weaknesses (with respect to the goals to be reached) so that the reduction of these weaknesses may play an active role towards heedful interrelations. We call such factors the Perceived Critical Factors (P.C.F.). At the level of definition, we set the rules that will permit to assess the quality of appropriation of each P.C.F. When they are all defined, we assess them and report the evaluations in the purpose-built tools: the appropriation scales.

Figure 2: Appropriation scales



Our hypothesis is that a well-balanced appropriation scales with a good quality of cross-appropriations refers to an organization with heedful interrelations and is, as such, less vulnerable to the risk of fraud.

All other things being equal, appropriating one's own environment generates specific abilities that are difficult to imitate (de Vaujany 2008; Weick 2001 (1998)), as it is a very intimate process (Jouët 2000). This approach will then not only lead to less fraud but also to competitive advantage (Barney 1991). This is measured by the size of the arrow. If, for example, the quality of appropriation of all PCF is "Legitimation", we can guess that the organization spend a lot to have usable systems that are not used. In that case, the C.A. (competitive advantage or cross-appropriation) is too low and the organization is rather developing a competitive disadvantage. The organization starts creating such a C.A. when systems are, on average, used as initially intended, on a prescriptive manner, that is, if (for example) the quality of appropriation of all PCF is "Assimilation". If all the PCF are enacted, if then, users can derive systems so to meet their needs, the C.A. is at its highest because the organization has created a sustained competitive advantage as stated by resource theory (Barney 1991; Depeyre 2005) as appropriation (the resource):

- creates value as it allow people in the organization to work efficiently;
- is rare because profoundly depending on people;
- is hard to imitate as it is relying on people and their internalization of the system;
- is hard to substitute for the same reasons;
- is dynamic as enactment is a never-ending process.

3.3 Implementation

The first stage is to set the team composed with controllers and operators. Once this is done, we try to understand in which complex systems operators and controllers are situated. For this, we propose to build cognitive maps. Because these maps are subjective views of reality, we rebuild them until subjectivity has dramatically reduced. We then rely both on these maps and on the initial gaps (between the first maps and the final ones) to build PCF.

Once all the PCF are determined, we do our initial calculation of the scales, which gives the overall risk. From this, we draw the roadmap and improve the scales in an iterative way (scales calculation, roadmap, scales calculation…) until the scales is balanced.

This is summarized in the following table:

Table 1: Evaluation methodology

Subjective knowledge of process and roles	Cognitive maps	Semi-directive interviews. One map per people
Knowing the complex system in which are individuals	With concrete action systems and power games (Crozier & Friedberg 1992) and cooperation Morphogenetic approach (Archer 1995), internal conversations (Archer 2003), ego-ecology (Zavalloni 2007)	Analyzing differences Analyzing relationships between structures and actions. Analyzing personal and collective dynamics
Verifying the global coherence	With a peculiar look at relationships between operators and controllers Cognitive maps are based on a discursive consciousness (Giddens 2005 (1987)) and then can be only part of the truth	Careful reading of previous collection
Determining and implementing PCF	Drive organization towards wisdom and mindfulness (Weick 2009; Sutcliffe, Weick & Obstfeld 2009 (2005)). Encouraging new attitudes (Alter 2010; Caillé 2009; Weick 2009) within the respect of an equitable world (Rawls 2008; Sen 2009)	With the same people and the maps previously done
Evaluating the cross-appropriation gap	Setting-up the scales parameters and proceeding of the initial computation	Deploying PCF
Driving appropriations	With peculiar focus on the weak side of the scales (Weick 2009)	From the previous evaluation

4 Conclusion

At the end of his book about emotional finance, Tuckett (2011) gives some ideas on how structures in a financial environment might evolve. He says in particular that the way economics is taught must change. It is necessary to explain how financial markets work and not, as is the case, how they should work. He says that it is important to take on board the importance of the psycho-sociological aspect of such environments.

What we propose is in line with that position: we find it necessary that operators see their job differently, as a normal one, of a less supernatural essence… Therefore, they will be less tempted to behave as Heroes and controllers will consider them as normal individuals. Hence, they could more easily develop heedful interrelations and reduce the risk of fraud.

We have shown the whole process to risk managers in some financial institutions and their feedback is mostly very positive. They are aware that something else than computation has to be done. Unfortunately, we know that a clear limitation of this work is that it as not been implemented yet. We are actively working on it.

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