

Preventing Consumers to Spin: Are Upgraded Macroprudential Measures Needed?

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Abstract

In this exploratory article, we enrich the emerging concept of consumer financial spinning in the context of real estate booms. Spinning occurs when markets are filled with avid, sometimes naïve mortgage buyers who become desensitized to risk while responding to marketing “sweetheart deals” (sweeteners) aimed at luring them into buying houses/properties repeatedly. These buyers thus enter into a vicious circle of debt, as demonstrated during the 2007-2009 Global Financial Crisis. We conduct a virtual reality test to see if we can artificially induce such behavior. Based on our bi-angle results, we highlight the role of questionable marketing and legal practices that entice consumer spinning, thus calling for macroprudential measures, given that past and current regulations have missed the opportunity to fully protect consumers in this regard.

Keywords: *Perceived risk; Dysfunctional markets; Debt trap; Risk aversion; Greed; Spinning; Sweeteners.*

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1. Introduction

This paper expands on the emerging concept of consumer financial spinning (CFS – [1, 2]), a behavioral phenomenon assumed to occur when consumers repeat their investments or purchases unthinkingly. More precisely, they disconnect from their initial financial needs, goals, and preferences – a phenomenon reminiscent of the concept of dissociation used in psychology and psychiatry (which often results from a psychological shock [3]). We highlight the fact that CFS has so far gone mostly undetected in the consumer behavior, ethics, and legal literature, and, consequently, in law making and enforcement. This may be surprising, since the link between behaviors, morality, and (at times malevolent) intentions, has long been modeled, and since several studies have underscored the importance of personality as well as that of cultural, industrial, professional, and organizational environments [4].

1.1. A Brief Look at Consumer Financial Spinning

According to emerging hypotheses, CFS involves little or no decision-making, risk assessment, or self-control, as the intellectual numbness consumers experience prevents them from performing any action of significance along these lines. Yet, it does not necessarily entail biases, because biases infer cognitive processes, which, again, are nearly absent in CFS; nor it is a personality trait, as spinning is in part provoked by circumstances and, at times, well-thought-out marketing campaigns. In many instances, certain types of consumers, such as those who are more vulnerable due to a lack of financial education, are more likely to be influenced by circumstances and marketing campaigns and tricks. An example in the US is payday loan schemes where the borrowers are brought to believe they are reimbursing their emergency debt over the months only to shockingly discover they have merely covered extravagant interest charges and administrative fees. The scheme has them spinning a wheel of misfortune against which they have little, if no recourse at all.

One could alternatively argue that CFS is a phenomenon that affects only a portion of the population who possesses inferior intellectual, emotional, and/or behavioral capacities, and thus, does not deserve scholarly or legal attention. However, this would not do justice to the vast majority of buyers and borrowers. The fact that consumers have the means to buy (or can manage to borrow from bankers or alternative venues) suggests that they are at least capable of earning money one way or another. This assumption also ignores the fact that countless individuals have been caught up in spinning processes over the centuries, such as during Tulipomania (Holland, 17th century – [5]) and the Caritas scheme in Romania in the 1990s. Therefore, addressing CFS appears crucial to the well-being of our financial system and to the ethical conduct of malevolent marketers.

1.2. Purpose of this Paper

Research wise, we approach the problem of CFS at a microscopic level, using a laboratory virtual reality (VR) experiment designed to determine whether we could entice the participants to spin, under sets of controlled variables. According to tenets of the data percolation methodology [6], looking at an emerging phenomenon from different angles allows the researcher to provide a clearer, richer, more convincing evidence of its hypothesized existence. Thus, using a VR laboratory experiment, we ask ourselves whether or not it would be possible to lead the participants, instructed to act as consumers of financial products, to ignore their initial financial goals, at least at a minimal level. Our assumption is that this takes place perhaps all the more so when market conditions are irrationally volatile, which occurs at times [7]. The implication of a positive answer to our questioning is worth mentioning. If, employing a simple laboratory VR experiment, we find

participants who appear to be susceptible to CFS, then perhaps this behavioral phenomenon exists at a larger scale, and perhaps it has already been and still is exploited by savvy (perhaps even shrewd) marketers, unbeknownst to consumers and regulators. In other words, this behavior could have infiltrated the US market during the years leading to the 2007-2009 subprime crisis (GFC), which signifies that there may be legal implications involved. This may be reminiscent of the use of subliminal publicity in the 1970s, which led to laws aimed at protecting consumers.

1.3. Paper Overview

In the next section, we show how the emerging concept of CFS may fit into the various models of consumer behavior. Indeed, before we address the legal issues surrounding CFS, we must first tentatively delineate its place in the general consumer behavior theoretical field. One must keep in mind that because the spinning concept is relatively new, all of our analyses are on an exploratory basis and subject to debate, much in line with the very nature of scientific discovery. A noteworthy and crucial fact is that CFS, according to the emerging theory, takes place in dysfunctional markets filled with dysfunctional agents (therefore, in circumstances that may call for legal action). The established framework intricately relates four agents – sellers, buyers, regulations, and toxic products – that participate in creating debt traps from which gullible consumers cannot escape, and which ultimately result in market bubbles and crashes [8, 9]. These toxic financial systems invite consumers to spend their hard-earned income without proper assessment of their initial needs, goals, and preferences, impoverishing themselves by accumulating debt while enriching the sellers. During the GFC market, as an example, would-be investors borrowed money, bought properties, sold them, borrowed again, and repeated this pattern *ad nauseum*, engaging in a vicious circle [10].

In the following section of the paper, we propose a microscopic perspective with a focus on the wheel of misfortune whereby consumers spin, thinking that they are building future wealth, whereas *a contrario*, they are building present debt. After overviewing the GFC and the VR experiment, we address how inviting consumers to spin defies proper ethical (and potentially legal) standards, which the marketing field advocates. We assert that CFS should be subject to macroprudential regulations, as it causes financial harm to consumers at the societal level, worldwide. To take a notorious example besides that of the GFC, in the early 2000s, Enron drove up its stock price by creating the illusion that it was making billions in profits; it proudly advertised that it had been voted the most innovative company six times in a row by Fortune magazine. Yet Enron's actions were eventually exposed as a huge scam that ended up eliminating Andersen from the top five accounting firms in the world (and eventually from the market) because of its involvement through faulty reporting [11]. Using deception as a means of achieving one's goal is not new, and its objective is to make believe in the minds of customers that market risks don't exist. Morally desensitized consumers may lose sight of their initial elusive needs, goals of exuberant wealth, and preferences, and in doing so, build up unsustainable debt and may come to ignore legal standards. We suggest that dysfunctional markets cultivate such behavioral phenomena. In the conclusion, we propose that financial macroprudential regulations should be extended to cover marketing activities with more scrutiny than in the past.

2. The Spinning Model versus Other Consumer Behavior Models

At this point, not enough research has been conducted yet on the newly discovered phenomenon of CFS to ensure its position among the various consumer cognitive and behavioral models in the marketing/consumer behavior fields. According to CFS framework, buyers (or borrowers) engage in buying (or borrowing) behaviors and may initially spin at ever faster speeds in an illusory

attempt to build wealth, abetted by extensive promotional activity [12], seemingly without thinking much. They focus on the mere fact of repeating their purchasing (or investment) behaviors, not to fulfill their initial financial goal, but simply as an automatic response to market conditions. We assume for now that CFS is fostered not only by a lack of internal control over urges to buy, but by external forces, or externalities (also named exogenous variables), including marketing interventions, which can have negative effects, such as bearing hidden social costs [13].

Perhaps the most accurate way to explain CFS is the observation that consumers become mesmerized in an Ericksonian sense [14]. US television reports regularly how consumers rush to stores and frantically buy on the sole premise that, allegedly, the stores offer the best deal in town that day (even though some advertise that they offer the best prices daily). Consumers overbuy, push each other and even fight; they compete with each other for products they do not really need and repeat much the same pattern the following weekend. The classic economic model – now seen as a simplistic but useful analogy, and used extensively over the last two centuries – assumes that consumers are rational, fully informed, and know their preferences. According to the mainstream economy, consumers buy goods and services to maximize personal satisfaction, so that when price promotions take place (a form of sweetener or sweetheart deal) consumers tend to buy more of what they need (and perhaps do not need), and may even buy more expensive substitute products that offer less satisfaction. The works of classical economists and others like Fishbein and Ajzen (Theory of Reasoned Action developed in the 1960s-1970s – [15]) rely heavily on the assumed rational cognitive capacity of consumers and on some form of satisfaction-seeking, which does not fall into the concept of spinning, which is not concerned with satisfaction. Similarly, many consumer theories cannot explain CFS because they rely extensively on rather complex cognitive processes. This includes the health belief model (HBM [16], the heuristic-systematic model (HSM [17]), and the elaboration likelihood model (ELM [18]. It also comprises Alba and Hutchinson's concept of consumer expertise [19], the five-step consumer buying process model (EKB [20]) prospect theory [21], and Bettman, Luce, and Payne's constructive consumer choice processes [22]. But CFS is not a complex cognitive process, quite the contrary.

CFS does not involve bounded rationality either [23], because cognitive and emotional processes have given way to a single conative process [24], that is, a relentless engagement in the wheel of misfortune. Spinning consumers waive the experience of buying [25] for the mere fact of repeating investments or purchases in the seemingly promising marketplace while blindly ignoring warning signs and, we hypothesize, moral (and/or legal) standards (otherwise they would be alert to the malevolent actions of market agents). If anything, they focus solely on maintenance, as described by the last phase of the Stages of Change Theory⁴ [26], i.e., sticking to their course of action, which involves spinning the wheel that eventually reveals itself to be a wheel of misfortune, rather than the expected wheel of fortune. We respectfully posit that some spinning consumers may suffer from mild to severe predictable mental shortcuts that astute financial predators use to their advantage or else encourage [27]. These consumers copycat others⁵, which they consider as a behavioral norm, finding relevance in the mere fact of spinning and nothing else. Subconscious cues, exacerbated by marketing sweeteners, impel them; they live in a fast-driven, one-dimensional emotional state. If anything, they keep spinning because they want to remain consistent, and erroneously think spinning makes them feel better, not realizing that in the not-too-distant future the hidden debt load they are amassing will become unsustainable.

In stark contrast, psychoanalytic theory posits that buying considerable amounts of goods results from subconscious urges, instincts, and desires repressed by social norms. In the case of spinning,

4 The preceding phases being precontemplation, contemplation, preparation, and action.

5 A phenomenon named contagion or herding in behavioral finance.

consumers make an “irrational”⁶ choice to forego sensible decision-making and information-seeking for the mere fact of spinning. If anything, consumer spinning more closely resembles conditioned responses as defined by Ivan Pavlov last century [28]. From this perspective, marketing sweetheart deals (sweeteners) act in a similar way to the food that dog trainers use to ingrain and manipulate repetitive, automatic behavior in dogs⁷. Consumer spinning, as a concept, also pertains more closely to Social Practice Theory (SPT), which addresses routinized behaviors and habits [29]. This theory, however, does not delve into the consequences of debt traps, a key condition to define financial spinning behavior. In the case of CFS, consumers do not operate based on their needs in a Maslovian sense [30], but are rather driven by a reflex of sorts [31], which is eventually supplanted by the mere act of spinning without consideration for the future (a similar concept use in popular culture, lacking proper modeling, is that of a “threadmill to nowhere”). Consumers become too busy spinning to think rationally (and maybe ethically or legally) about the future, weigh up costs and benefits, seek satisfaction, or realize that a debt trap will eventually engulf them. Because satisfaction is no longer a goal for consumer spinners, price sensitivity is reduced [32], if not eradicated, which may in part explain why many consumers kept buying toxic products during the GFC.

Veblen’s social-psychological model [33] and Arnould and Thompson’s 2005 Consumer Culture Theory (CCT) [34] both emphasize cultural meaning. *A contrario*, spinning consumers have somewhat forgotten their initial appetite for prestige or exuberance⁸ [35] and its social meaning, often because risk is hidden or ignored [36]. Spinning is not an impulsive behavior, but rather a conditioned behavior that has lost sight of its initial goal (i.e. to build wealth) and the meaning of needs and preferences, and that responds to external stimuli (such as marketing sweeteners), especially advertising, whose influential role on consumer behaviors has long been discussed [37].

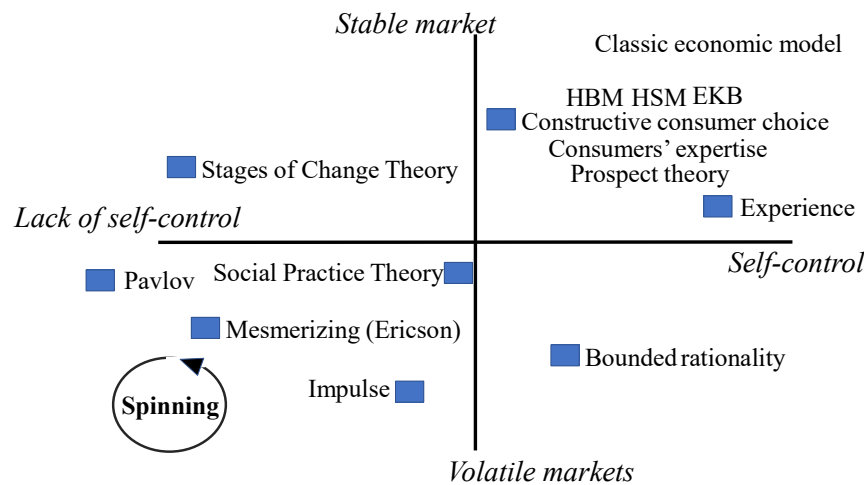
Figure 1 offers a perceptual map along two orthogonal axes that attempts to position consumer spinning versus some well-known consumer behavior theories, without, again, asserting that this is a final say on this positioning effort, as the concept of CFS is still in its infancy.

6 To use the term commonly employed in finance.

7 Dogs constituted the “population sample” that Pavlov used to develop his theory.

8 Another concept regularly used in finance.

Figure 1: A Stylized Positioning Map.



Note: This positioning map is not meant to offer a final say on the various existing or emerging consumer behavior theories. At this point in the discovery of CFS, it is merely an attempt at comparing these theories along two parameters: personal control and market volatility. CFS, unlike most other theories, takes into consideration debt accumulation (the lack of consideration for debt is represented by the small dark rectangles). Also, it is the only framework that is based on cyclicity, represented by the circle with the arrow.

Suffice is to note here that CFS is a framework that is clearly differentiated from the main stream consumer behavior theories and sits at the extreme bottom left of the above-mentioned positioning map, where it appears at first glance that law and order are needed most. Additionally, Figure 1 must be understood while considering debt accumulation, which sets CFS apart from all other consumer behavior theories, as mentioned. The CFS model expands inherently on the role of various sweeteners (such as teaser rates during the GFC [38] aimed at persuading consumers to focus solely on gains while obscuring the danger of the hidden debt trap [39]. Sweeteners (or sweetheart deals) are window-dressing tools that entice consumers to spend more than they can afford [40], leading them towards “irrational exuberance” [35]. In this respect, Gurun, Matvos and Seru, in 2016 [41], convincingly show how television advertising expenses mostly related to predatory mortgages soared nine-fold between Q1 2002 and Q3 2006, a period marked by frantic house purchasing. Between 2004 and 2009, countless consumers rushed to buy multiple properties, acting as if they had transformed overnight into experienced investors, not weighing the pros and cons of their financial decisions, and ignoring their real financial needs [42]. This overconfident behavior permeated many layers of American society. According to 2007 news reports, at that time *financial firms and hedge funds* owned more than \$1 trillion in securities backed by failed subprime mortgages, of which a quarter of a trillion US dollars were dubious [43]. The predicament was due in part to a form of usury employed by shady lenders and to the fact that the US Federal Reserve increased interest rates from approximately 1% to 5% between 2005 and 2008 in an effort to cool down the market. The interest rate hike occurred at a point when many predatory mortgages were at the end of their teaser-rate period, thus forcing borrowers to face sharp spikes in their monthly mortgage payments and/or hefty penalties for failing to meet their financial obligations. Before they knew it, would-be speculators found themselves in a mounting debt trap [44], which resulted in countless delinquencies, foreclosures, and bankruptcies [45]. (Many similar crises have occurred

over the centuries, such as Tulipomania in Holland or, more recently, the unexpected frenzy of Robinhood-Reddit.)

According to numerous academics, the GFC state of affairs may be blamed on some sellers of predatory mortgages⁹ who, “devoted years to perfect their act” ([35] p. 76) and who had become experts at fooling naïve buyers. They used predatory, toxic mortgages with terms and conditions specifically conceived to harm borrowers [46], with their interests overriding the interests of most market stakeholders [47], in violation of principles by which markets act for the benefit of all [48]. Shiller in 2005 [35] demonstrated this overall phenomenon by comparing Los Angeles and Milwaukee, whereby the frenzy of hyped Hollywood culture spread nationwide, including to areas that had so far been left unscathed. In this culture of vultures [37, 49], a combination of opportunism, accounting, financial and legal opacity designed by financial, legal and marketing gurus, and overwhelmingly complex financial schemes, encouraged overconfidence [50], oversight [51] and deceit amongst consumers [52] thus nurturing unbridled greed and, consequently, spinning¹⁰. Mesly in 2021 [2] provides an analysis of the GFC comparing key trends related to debt accumulation, default rates, house prices, advertising expenses, and lobbying that convincingly illustrate the dysfunctionality of the US market and potential for CFS back in 2002-2009.

3. Testing Consumer Financial Spinning with Virtual Reality

Having recognized that the consumer financial spinning may have taken place in the US market during the years 2002 to 2009, and eager to verify it further, we opted for an exploratory research using VR. Evidently, we could not go back in time to test the hypothesis of consumer financial spinning during the GFC, nor could we legally set up a real market scheme aimed at luring consumers into spinning. Rather, we followed in the footsteps of an initial study that detected CFS in a laboratory environment using functional magnetic resonance imaging (fMRI) technology and replicating market conditions under strictly controlled variables [1]. In the present study, we opted for a similar setup, whereby participants were invited to perform a financial task while subjected to flashing images of a threatening creature (a snake in the 2020 study, a T-Rex-like monster in this VR experiment) aimed at inducing fear or a sense of risk. Virtual reality (VR) is a powerful, contemporary technology that creates virtual environments in which participants are immersed [53]. These carefully designed environments resemble a video game. VR is used by modern marketing research firms because of its ability to test and observe prospective consumers’ reactions to products while being able to control the virtual environment variables. This control permits to detect more precisely what drives consumers’ choices and decision to buy. While sparingly used by academics at the present time, it promises to become an important analytical tool in the future, as it is nowadays for the treatment of obsessive-compulsive disorders for example [54]. Although costly, VR is increasingly used in industrial marketing research to test consumer behaviors when developing prototypes (home décor, for example), and it offers great potential for dynamic marketing studies.

VR uses advanced computer programming and behavioral interfaces (a joystick or wand and VR glasses) to simulate the chosen three-dimensional environment in real time. Participants enter what the researchers of this study casually call the “cube”, which is a closed 2.5x2.5 square meter room in

9 We are careful not to generalize or assume that all market agents act balefully. Our study concerns a portion of the overall population.

10 We refer to the three consumer misdemeanors, consisting of overconfidence, oversight, and lies (deceit), as the Dark Financial Triangle (DFT). This is, of course, not the sole prerogative of buyers, as it applies to all market agents, including sellers and unethical regulators.

which every surface (the four walls, ceiling, and floor) displays part of the chosen environment (Figure 2).

Figure 2: *The VR Cube.*



Note: We can see the projector on the left side, with a window each for the three primary colors. This particular device projects its image directly to the wall in front of it, which the participant sees once locked inside the cube.

The participants are immersed in an intense sensorimotor channel aimed at stimulating the senses, and are prevented from exposure to other sources of sensory stimulation in the physical environment (for example, external noise), while some behavioral responses, such as spinning, are intentionally triggered. Immersion is known to offer a convincing sense of reality and is used to treat anxiety disorders such as phobias, social anxiety, and post-traumatic stress disorder [55].

The primary goal of our research was to assess whether we could entice the participants to spin while immersed in a financial scenario. While this would not prove that CFS exists and that it can be generalized as a concept, the mere fact of establishing that one or more participants display spinning patterns would constitute solid justification for further research.

3.1. The Scenario

We had a professional artist design a three-dimensional monster based on characteristics found to be repulsive to the majority of people: T-Rex look, snake eyes, gluey texture, growling voice, sharp teeth, and so forth. The researchers designed the environment, which was as follows: upon entering a bar, the participant (always using the joystick to move around) faces a series of round tables around which a few patrons are sitting drinking beer. On the left is the counter where a barman serves drinks and discusses with customers. The participant is instructed to go to the far end of the bar where people are playing on slot machines. On the far-left side, the participant gets to talk (through the VR headset) with a man who pretends to be a smart financial advisor, but who can only be seen from the back, as he keeps playing on the slot machine. The financial advisor invites the participant to tour the bar once more and collect the five envelopes that he will find if he pays sufficient attention, as they flash up randomly. There is bar music and chattering in the background

to augment the sense of reality. From this point, the participant must act on his own volition, and decide how and where to navigate to collect the targeted envelopes, which he has been led to believe contain money. He must collect all five envelopes to redeem the money from the barman at the end, within a limited time of ten minutes. The participants only discover as they move around that some envelopes, far from containing redeemable coupons for money, contain a bill that puts them in debt; they also soon discover the random appearance of a frightening monster that acts and sounds vicious, but which then quickly disappears.

This simple scenario attempts to replicate a market situation with a minimal number of variables, all carefully controlled, filmed and recorded by the main frame VR computer. The quest for the envelopes is associated with greed (or to a lesser degree, a drive to earn money), the envelopes containing a bill act as an unsuspected debt, and the monster, of course, acts as a surprise/fear element (the market risk), while the financier playing the slot machine acts as a person that the participant thought could be trusted. The idea of this game was to see if we could get the participants to lose track of their initial goal of collecting all five envelopes because they find themselves distracted, or worse disoriented, by the fear factor. If the participants do indeed lose track and start wandering around without clear purpose, we assume that they would exhibit patterns of consumer financial spinning. As previously explained, we are merely interested in finding further potential evidence of this behavior, as it is far too early to expand on this novel theory without conducting this kind of testing. Evidently, VR presents the great advantage that the researchers can control most, if not all variables of interest, and that the entire experience can be filmed and recorded (the computer even records the response time on the joystick).

3.2. Participants

We tested the VR set up with dozens of salespeople from various car dealerships who had been the subject of the doctoral thesis by one of the authors of this article. Once convinced the VR set up was working as per our expectations, we asked a class of 35 of our university marketing students to participate. They were on average age of 24, half female and half male (remember that our study does not concern sociodemographic profiling but simply enticing spinning). A short discussion was held with each participant with a licensed psychologist to determine whether he/she suffered or might suffer from claustrophobia, snake aversion (the monster is reptilian by design), or other such forms of anxiety, as per the university ethical standards we followed, generally recognized in similar research under the label "minimal risk". The following exclusion criteria were applied: 1) an existing or potential diagnosis of anxiety in its various forms; 2) a chronic disorder of any sort (physical or psychological); 3) a physical condition that contraindicated participation in the experiment, such as a visual disorder or epilepsy.

3.3. Procedures

The financial scenario was created by one of the researchers of this paper and programmed by an independent programmer, retained by the university's VR laboratory. Upon arrival, participants (all adults) were asked to read and sign a standard consent form. The experimentation was held in a rather informal manner, since participation was optional for the sake of explaining the benefits of VR in an advanced marketing course at university level. Unsurprisingly, all students were eager to participate. To increase the stress on participants, each student entering the cube was aware that "outside" the rest of the group of students and the professor were watching them on a separate screen as they traveled around the bar in search of money put in five different envelopes (although the group of students could not visualize or hear what the participant was seeing and hearing). There were no course notes assigned to this exercise. The exact duration of the stay inside the cube

varied depending on the participants' ability to explore the virtual environment and their reaction to the threatening stimulus – the reptilian monster. Most participants completed their venture within the allocated ten-minute time frame.

3.4. Instruments

The trained psychologist who assisted with the initial interview was of course well acquainted with the bible of psychiatry, namely, the DSM-V [3]. The researchers and the trained psychologist made a subjective measurement of anxiety, keeping in mind that the experiment was carried out within the context of a classroom, and not for the purpose of treating a mental ailment. As such, we felt, in agreement with the university rules, that there was no need to administer the various anxiety tests that are commonly administered to would-be patients, such as the State-Trait Anxiety Inventory (STAI) or the State Anxiety Subscale, which attempt to detect subjective symptoms of anxiety, especially in VR environments [56]. For the same reasons, we did not administer the Immersive Tendencies Questionnaire, commonly employed when using VR for medical treatments or experimentations [57], nor the Simulator Sickness Questionnaire [58], as the students were young, healthy, and free to leave the cube at any time. During the experimentation, we abstained from making an advanced data recording of such information as heart rates¹¹, as this was not needed and our budget limited the allocated time and data collection. All of these advanced measurements were reserved for more extensive research should our exploratory results justify such experimental efforts and expense.

3.5. Material

More precisely, the cube is a wireless immersion chamber with six projected surfaces located at a Canadian University (Figure 2). The back wall is mounted on rails and forms a door through which participants enter and exit the cube. Each wall receives images projected by a Viztek 1 projector (modified from Electrohome Marquee 8500) located some three meters away that offers 225 ANSI lumens in 1280 × 1024 @ 100 Hz resolution, creating a seamless active stereoscopic effect inside the cube. The latter responds to a wireless keyboard through a cluster of six computers linked up to a master computer, all running the software Virtool VPPublisher Unlimited 5.0, with the following specifications: Intel® Core 2 Quad Q6600@2.40GHz with 4 GB of RAM, NVidia® Quadro FX 5500G frame-locked graphics card with 1024 MB of VRAM, an Intel® D975XBX2 motherboard, and Windows® XP Pro 32 Bit Service Pack 2. The system's library uses OpenGL 2.0 Stereo. The master computer contains a Creative® SoundBlaster X-Fi sound card. The computer network, linked in a cluster by a Cysco® Systems Catalyst 2950 100MBITs/s switch, contains an IS-900 VET Intersense® wireless inertial tracking sensor with the virtual environment on VRPN 7.18 using a Pentium 4 3.20 GHz CPU with 512 MB of RAM. Participants wore wireless 3D glasses (NuVision®), as well as wireless headphones and a microphone (in case they needed to communicate with the researcher, for example to ask for clarification or to request to stop the immersion). Participants navigated through the virtual environment using an Intersense wireless joystick (a wand).

Students entered the cube one by one and were informed when their time was up by one of the researchers through their headphones.

11 Done during VR therapeutic sessions using a Polar® T31 heart rate transmitter belt coded to a 256 Hz frequency, worn below the chest under clothing, and equipped with sensors connected to the computer using a wireless Tele-Infiniti Compact Flash T9600 interface.

4. Results

Clearly, our experiment was a far cry from the type of environment typical of the GFC; but it did not need be complicated, quite the contrary. By keeping control of a minimal number of variables, we could simplify our analysis and offer a clearer view of the phenomenon of consumer financial spinning, as per the tenets of the data percolation methodology. The main findings from our exploratory study are as follows.

4.1. Male versus Female Participants

Most participants managed to complete the task of collecting the five envelopes within ten minutes. Post-experiment discussions (debrief) with the students did not expand significantly on the fact that the virtual financial adviser had tricked them by promising money inside the envelopes, when in fact some contained, disappointingly, bills that caused them to incur a debt. The most noticeable reaction was the surprise expressed by the participants when the mean-looking raptor-like monster appeared randomly. Most men reacted by laughing, and only a couple delayed their project of collecting the envelopes as a result of being temporarily startled. A few men laughed quite loudly and had fun with the monster, almost as if they were ready for a fight. In stark contrast, the majority of the women, despite suspecting something was going on inside the cube (participants never knew in advance that they would see a virtual monster ready to attack them), were startled, or even froze for a few seconds. None of the women actually laughed at the monster. All female participants but one finished the task at hand (collecting the envelopes), but some had to request more time (about two minutes more on average). We had to prepare to see such a difference in behavior based on gender, and certainly this deserves further studies.

4.2. A Case of Spinning

Among the 35 participants, one particularly stood out, whom we name Katie. She was a female in her mid-twenties who had attended a few marketing courses with one of the professors who authored this paper and thus had known him for two years. Besides being a university student at the (Canadian) bachelor level, she worked part-time in marketing for a large institution based in Canada. She was a 28-year old, disciplined, smart, and efficient student, and the mother of a seven-year old. No symptoms of anxiety were detected during the preliminary interview. Despite this, Katie was strongly affected by the random, elusive appearances of the virtual monster. She soon lost track of the objective of collecting money and started to navigate in the bar with no clear path that could be understood by any of us, researchers and other students alike. She even managed to get out the bar and ventured into the virtual street for a while, before reentering the bar (which surprised the researchers). Needless to say, she had passed the ten-minute deadline by that time, and, as she acknowledged during the post-briefing of the experiment, she could hear that the other students were laughing and making fun of her. Using her microphone and back in the bar, Katie asked for more time, which the researchers granted. This was to no avail; upon re-touring the bar, Katie tried to go and see the financial adviser at the end of the bar, but he would not talk to her and kept playing on the slot machine, upon which Katie came back into the main room, not even seeing the envelopes that appeared for her to pick up.

The researcher had to convince Katie to end the experiment, despite the fact that she had not completed the task after nearly half hour of trying. In the ensuing debriefing session, she clarified that she had been troubled by the monster, which scared her, and then by the unfamiliar surrounding (the bar and streets). The fact that she could hear the other students laugh and that she knew her time had passed convinced her that she *had* to finish the experiment, yet she could not

focus enough to collect the envelopes. To the researchers, this one participant seemed to confirm the possibility that CFS may be a behavior worth investigating. Clearly, Katie lost track of the initial goal and wandered around the virtual environment without a clear goal or sense of completion. One can imagine how an inexperienced investor, excited by a booming market, would act much the same; he/she would not try to understand its intricacies, go with the flow, and invest blindly, in fear of missing a great opportunity.

5. Discussion and Macroprudential Concerns

Our experiment using VR suggests that it may be possible, for a small sample of the population, to cause enough distraction (for example, fear by means of a virtual monster, and perhaps envy and embarrassment by means of wanting to complete the task to align with the rest of the population), to alter behavior. Fear (of the monster, or, in the marketplace, of not entering a booming market on time) and incentives (the initial fun originally associated with the experiment; or, in the marketplace, subprime loans and promotional gifts coupled with heavy advertising) could be factors, and gender is certainly an element to consider in future research. Perhaps these sorts of strong sentiments (for example, fear, excitement) exist among would-be investors, especially when they are inexperienced and the market becomes too much for them to handle (in this regard, it is known that the best poker players are not only excellent at probabilities, but also at managing their emotions to keep as cool-looking as possible). By insisting on staying in the experiment, Katie accumulated a debt of time, so to speak, knowing that she was delaying the whole classroom, to the point that the researchers had to put an end to her experiment despite the fact that she had not collected the five envelopes. Initially, the researchers gave her no instructions past the initial pointers, so that she was left to herself to decide what to do. She “spun endlessly” inside the bar and even outside of it, losing energy but never accessing the anticipated gains locked inside the envelopes. Katie was troubled by the experiment, and this alone convinced the researchers that future research should be conducted in a more formal manner.

Connecting this result with our assumption that the GFC contained its load of spinning consumers, it seems counterintuitive that consumers would engage voluntarily in the behavior of financial spinning, which disconnects them from their initial financial needs, goals, and preferences. There has to be something that entices them to deviate from a wise purchasing path towards an automatic response, whereby they become numb and resourceless, thus making them perfect victims for predators-sellers¹². We advance the idea that markets tainted by moral hazard [59] and weak regulations [60] not only instigate crises, but also generate the conditions that trigger CFS. The moral hazard represents a risk similar to the randomly appearing reptile-like monster in our VR experiment [61]. Perhaps being locked in a single, monotonous effort, such as spinning within a market wheel of (misleading) fortune, gives a sense of security that blinds consumers to the existence of underlying unsustainable debt [62].

While our study contains noteworthy limitations (further research is clearly needed to assess the gender gap in particular; the VR was a vastly simplified version of the market), it points in the direction of market dysfunctionality. We can learn from our assumptions about the behavioral dynamics characterizing the GFC (macroscopic analysis) and from the results of our VR experiment (microscopic analysis). During the subprime crisis, large banks and organizations the likes of the government-sponsored enterprises Fannie Mae and Freddie Mac (in the US) had the means, credibility, and power to impose their view on naïve and overly ambitious consumers that money was easily granted and that risk was negligible. The macroprudential measures that followed the GFC (notably through the Basel III negotiations) did recognize this state of affairs, and barely

¹² As a reminder, psychological disassociation is usually caused by a trauma.

addressed the marketing aspect of the abuse that took place in worldwide markets (and its legal implications). These measures mostly involved accounting intervention in the form of a radical overhaul of global capital and liquidity standards. Certainly, such regulatory steps have significantly improved the quality of banks' capital and control of systemic risk [63]. However, they do not deal with the fact that banks can use a variety of marketing sweeteners to attract avid or even well-informed customers into their toxic, labyrinthine financial webs. They do not address the fact that thousands of would-be investors may have experienced the same kind of discomfort as Katie in a far less threatening environment. The upgraded macroprudential regulations that have followed many crises, including the Great Depression and the GFC, have all addressed only a portion of the problems that have tainted markets the world over, discounting the impact of marketing sweeteners, for example. If anything, past macroprudential policies have been designed to protect the banking system and make it stable and safe [64], but not to protect consumers, even though consumers are fifty percent of the equation that links consumers to sellers or lenders. Current macroprudential tools focus largely on controlling the activities of banks on the inside, but neglect their relational activities with consumers [65].

Banks, given their custodial role as guardians of their clients' hard-earned money, should not only ensure that their behaviors are ethically sound on the inside (through accounting control systems, for example), but also on the outside, for example, in the way they communicate information about their loans, mortgages, and other financial services through the entire communication chain. This is not to say that banks do not have control mechanisms in place to transmit information to their clients. The Australian Banking Association [66], to take only one example (among countless), relies on its *Code of Practice*, which is approved by the Australian Securities and Investments Commission, and which clearly emphasizes the interest of its clients, promising trust, confidentiality, integrity, service, transparency and accountability. However, this *Code* is not part of a macroprudential effort at controlling the marketing tactics that engender consumer spinning. If anything, the *Code* applies to banking services, that is, to the relationship between banking staff and clients, not to the marketing efforts that pervade the "external" (exogenous) market. One could envision a situation in which the *Code* would appear to be respected, and yet where banks would continue to promote toxic products in the media because such products had not yet been declared toxic, judged to be misleading by regulatory authorities, or proven to cause financial harm to customers. Furthermore, the Australian control mechanism that is in place to ensure proper implementation of the *Code* belongs to the Banking Code Compliance Committee (BCCC), which excludes customers or external macroprudential entities, who hence have no voice [67]. This means that there is a remote possibility that market forces might put enough pressure on the system to stop turning a blind eye on misdemeanors. BCCC claims to have discretionary sanctioning powers, such as ([67], p. 55), "requiring the bank to rectify or take corrective action on the breach identified; requiring a bank to undertake a compliance review of our remediation actions; requiring a bank to undertake a staff training program on the *Code*."

None of these measures, however, address moral hazard in full or deal with mischievous marketing and advertising efforts, not to mention encouraging consumers to spin. None of them establish a measuring procedure that would scale punishment against dysfunctional behaviors that boost CFS, which is probably the worst predicament in which customers can find themselves. Indeed, in the case of spinning, customers are not aware of their doomed situation, as opposed, for example, to a personal bankruptcy, where at least they have an opportunity to deal with the problem at hand. More generally, self-enforced codes of ethics could be susceptible to moral hazard, in particular since they are not regularly reviewed to take into account any innovative financial products and procedures designed to get around them. Turning our attention to the US market, the same lack of macroprudential control prevails. The American Banking Association [68]

also has a *Code of Ethics*, which “emphasizes the conduct, competency, knowledge, professionalism, integrity, objectivity, and responsibility of each person.” Again, the *Code* certification program highlights the responsibility of individuals, and not the bank’s overarching responsibility within society with respect to marketing and advertising endeavors. In a discussion on improving the ethics of the banking sector, Cowton in 2002 [69] proposed three measures of ethical conduct:

“Integrity is important to generate the trust necessary for any banking system to flourish; responsibility highlights contemporary banks’ need to take into account the consequences of their lending policies; and affinity refers to a way in which depositors and borrowers can be brought closer together than they are in conventional western banking.” (p. 7).

This summarizes the objectives of the various codes of ethics that banks put forth in promoting their businesses. Yet again, none of these measures address CFS; they could even feed into it. One can imagine a situation similar to that which prevailed during the years leading up to the GFC, whereby lax regulations made it possible to promote and encouraged predatory mortgages, based on the argument that it was in the best interest of customers who had long been deprived of the opportunity to buy a house¹³. Another piece of evidence of the limitations inherent to policies and regulations at the company, local, state (in the US), and government levels relates to the RIPO 105 shenanigan used during the GFC. Repo 105 was the name given to an accounting maneuver set up by Lehman Brothers’ (which filed for bankruptcy in 2008 as a result of the GFC) allowing it to appear to reduce its leverage by temporarily paying down liabilities, thus tampering with its published balance sheet only to borrow after its publication and repurchase its original assets. This was done using an international network that involved British interests. Hence, as demonstrated, despite their well-advertised and self-proclaimed good intentions, banks can find ways to ultimately act to the detriment of their clients, both institutional and individual [70].

The “too big to fail” economic posture advocated by the US government during the years 2000s gave *carte blanche* to malevolent financiers who felt they could misbehave without dire consequences [71]. Goldman Sachs, as an example, was one of the key actors in the crisis, playing both ends of it (boom and bust) to earn hefty profits, and ending up, through the Paulson Plan, pocketing billions of dollars partly diverted into outrageous bonuses for some of its traders [72]¹⁴. Certainly, the “too big to fail” problem has been dealt with through important regulations since the end of the GFC, notably with the *Volcker Rule*, part of the *Dodd-Frank Wall Street Reform and Consumer Protection Act* in the US, which was enacted in 2010. This *Act* led to the creation of the Consumer Financial Protection Bureau (CFPB) devised to protect consumers against abuses related to credit cards, mortgages, and various financial products. There is no doubt that this initiative has helped to provide more stability and better consumer protection, but it does not have an overarching hold on marketing endeavors meant to induce spinning, including those activated by interpersonal interactions (such as, during the GFC, house buyers who turned into house flippers). In the worst-case scenario, spinning consumers, caught in their wheel of misfortune, would not even realize that they could find help in these institutions.

A final piece of evidence in favor of stronger macroprudential intervention aimed at controlling or silencing CFS stems from the network effect. In the US, for example, there are only a handful of accounting and credit rating firms, and investment banks. The government connects with the Federal Reserve, which connects with investors, mortgage lenders and consumers; investors

13 In the US, this trend of encouraging home-buying dates back to the years after the Great Depression and hence has a long history.

14 None of the recommendations in that report address malevolent marketing tricks, and obviously, none address the phenomenon of CFS.

connect with investment banks and mortgage lenders, and the latter connect, of course, with consumers (whose spinning or potential spinning is absent from all existing codes and regulations). This short, closed, specialized and interconnected circuitry [73] causes peer pressure, may incite its members to want to protect each other, possibly by bending the rules, and may even encourage a denial of (possibly legal) responsibility [74].

6. Conclusion

The concept of CFS opens up a new field of research on consumer behavior and marketing and raises ethical and legal considerations. In both domains, this phenomenon appears to be a lacuna in the literature, although there is evidence of its existence, if only by analyzing the GFC. We have positioned consumer financial spinning by defining it in two perceptual maps which indicate that it fills a gap in the field of consumer behavior.

Markets, ostensibly managed by ineffective regulations (including with respect to marketing and advertising), create the conditions for unruly behaviors, which tend to exacerbate greed and lower the barriers to perceived risk [75, 76], especially when powerful groups dominate the market [77]¹⁵.

6.1. Future Research

If we recognize that consumer financial spinning took place during the GFC, we must acknowledge that its ethical and legal components deserve due consideration given the appalling effect on the (global) market, including severe and long-lasting unemployment (with nearly 9 million jobs lost) [78], leading to reduced consumer purchasing power [79]. We hence propose the following: P1: Research should be conducted to better define the ins and outs of consumer financial spinning; P2: A review of current legislations should be carried out to examine whether they indeed address the risk of consumer financial spinning and to provide the means to remedy this market dysfunctionality; and P3: An examination should be undertaken of potential, vulnerable economic areas of consumer activity where financial spinning could develop (such as student loans and international fund transfers), including in various markets worldwide. Because institutional development can contribute to social welfare [80], this effort seems mandatory if it can lead to the proper design, use, implementation and control of macro-regulations. We suggest that this must be done in a broad sense given that CFS involves a vast array of means and actors, including lenders, brokers, marketing firms, and international networks.

6.2. Implications for Regulators and Businesses

Under the assumptions made in the spinning framework, financial crises may be the result of an interplay between five market forces (four market agents and household/institutional debt), and, psychologically speaking, between greed and perceived risk (risk aversion) (wanting the get the five envelopes and facing the monster). New crises will likely develop, for example, concerning

15 Five large accounting firms (Deloitte Touche Tohmatsu (DTT), Ernst and Young (E&Y), KPMG and PricewaterhouseCoopers (PwC)); the five largest investment banks (Goldman Sachs, Lehmann Brothers – before its demise, Morgan Stanley, Bear Stearns and Merrill Lynch); three subsidiaries of large financial conglomerates: Bank of America, Citigroup, Wells Fargo, and JPMorgan Chase; the three main credit card firms (American Express, MasterCard, and Visa); a limited number of insurance companies like AIG; three big rating agencies (Standard and Poor's, Moody's and Fitch); a limited number of government entities: the Federal Reserve, the SEC, the Federal mortgage associations Fannie Mae and Freddie Mac; and a handful of large firms such as Alliance Capital, Fidelity, and Vanguard. Overall, roughly 20 firms account for approximately 80% of financial sector assets in the US.

student loans in the US, because it is human nature to fear, and more precisely, to be greedy and to brave risk, especially in the presence of sweeteners. As such, it seems justified that regulations should target not only interest rates and toxic products, but also the way clever companies advertise and promote them, for example, with spinning-inducing sweetheart deals or maneuvers. We postulate that ethical, legal, and effective financial policies must protect consumers and simultaneously take into account the role of marketing sweeteners and their potential to create market turbulences and inculcate spinning behavior. Governments are concerned about controlling debt, including household debt, because they depend on tax revenues. This may be a matter of urgency, as, according to some authors, clever lobbyists, companies, and government regulators conspire at times to encourage greed and hide risks, with the result that illiquidity spirals and crises develop [81] (Adrian *et al.*, 2017).

Practitioners can benefit from our viewpoint. Indeed, there is a downside to recruiting and training employees who are merely driven by short-term profits based, for example, on commission work. Employees who take into consideration the long-term well-being of clients are more likely to foster a more positive image of their professional environment, which should be conducive to more sales and greater consumer loyalty. Consumers should not be treated as mere clueless individuals fed on the sweetener of elusive quick profits designed to hide real risks. Marketers should instead treat their clients respectfully to maintain healthy, long-term relationships, and the law should ensure this happens.

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