

Car insurance fraud: The role of vehicle repair workshops

Macedo, AM, Viana Cardoso, C, Marques Neto, JS & Amaral da Costa Brás da Cunha, C

Author post-print (accepted) deposited by Coventry University's Repository

Original citation & hyperlink:

Macedo, AM, Viana Cardoso, C, Marques Neto, JS & Amaral da Costa Brás da Cunha, C 2021, 'Car insurance fraud: The role of vehicle repair workshops', International Journal of Law, Crime and Justice, vol. 65, 100456.
<https://dx.doi.org/10.1016/j.ijlcj.2021.100456>

DOI 10.1016/j.ijlcj.2021.100456

ISSN 1756-0616

Publisher: Elsevier

© 2021, Elsevier. Licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International

<http://creativecommons.org/licenses/by-nc-nd/4.0/>

Copyright © and Moral Rights are retained by the author(s) and/ or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This item cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

This document is the author's post-print version, incorporating any revisions agreed during the peer-review process. Some differences between the published version and this version may remain and you are advised to consult the published version if you wish to cite from it.

Car insurance fraud: the role of vehicle repair workshops

1. Introduction

Following the 2008 economic and social crisis that affected Europe, criminality related to the insurance sector appears to have risen (Fligstein and Roehrkasse, 2016). Despite fraud being considered a relatively invisible crime, difficult to detect and quantify (Sparrow, 2008), it has significant financial, societal and humanitarian costs (Palasinski, 2009).

Insurance fraud pose a risk to the insurance company's profit since financial sustainability implies loss sharing. In this context, the cost inherent to fraud activities leads to a higher cost of the insurance premium paid by the policyholder (Pimenta, 2009; Viaene et al., 2007). This is a consequence of the insurance company distributional risk system: the demand for accumulation of liquid assets (monetary) to pay losses resulting from claims related to vehicle accidents of which some are fraudulent (ACFE, 2009).

Car insurance claims go through various stages from reporting to completion and involve three key authors: the policyholder, the insurance company and the vehicle repair workshop. While there is a wide range of research focusing on the first two (as pointed out by, e.g., Lesch and Brinkmann, 2011), the role of vehicle repair workshops has been overlooked with no academic research looking at its dynamics and role so far (Ericson et al., 2000; Gil, 2008; Liberty Seguros, 2019). Yet, there is a need to study its role because the collusion between policyholders and the vehicle repair workshops make fraud easier to undertake and harder for the insurers to detect and so perpetuating the negative impact of fraud in the insurance sector and their users (Dong-ling and Jun, 2010; Picard and Wang, 2015).

Therefore, the objective of this paper is to further the knowledge of the vehicle repair workshops' role within car insurance fraud in order to allow an enhanced understanding of the fraud dynamics taking place in this environment and highlight the evidence this offers

to better prevent them in the future. Consequently, this article is split into four main sections. The first offers a comprehensive overview of car insurance fraud through a brief and critical analysis of the most relevant literature published so far on the research topic. The second section describes the methodology used to gather data from the Portuguese context, including the research design, sampling technique, data collection (through semi-structured interviews) and analysis strategies. The third part presents this study's findings with the fourth and final section bringing together a discussion of the findings and relating them to the literature, main conclusions and limitations, and suggestions for further research on the topic.

2. Literature review

Since the end of the 80s, fraud has become a problem for insurance companies, mainly due to the exponential increase of car insurance fraud (Francisco, 2014), with initial systematic studies of car insurance claims published in the US in the 90s (Derrig, 2002). Indeed, in order to understand the phenomenon of car insurance fraud, it is important to take into consideration what insurance is (see Tracy and Fox (1989) study for further information on assessing the influence of insurance coverage). Insurance is a 'contractual relationship in which the insurer agrees with an insurance purchaser or policyholder, upon payment of a premium, to make monetary provision to cover, after a formal claim has been filed by a (first or third-party) claimant party, the loss of an insurable interest due to one or more future, well-defined, but uncertain events' (Viaene and Dedene, 2004: 314). All parties are always legally required to act in good faith and to reciprocally disclose all material information known to them which is relevant to the incident where an insurance claim is submitted. A lack of good faith does not, however, imply fraud (Viaene and Dedene, 2004).

2.1. Defining fraud

There are several definitions that aim to explain what fraud is and its classification depends on various criteria (Pimenta, 2009), ranging from the formal and legal, to the more practical and associated with the industry applications (Lesch and Byars, 2008). Therefore,

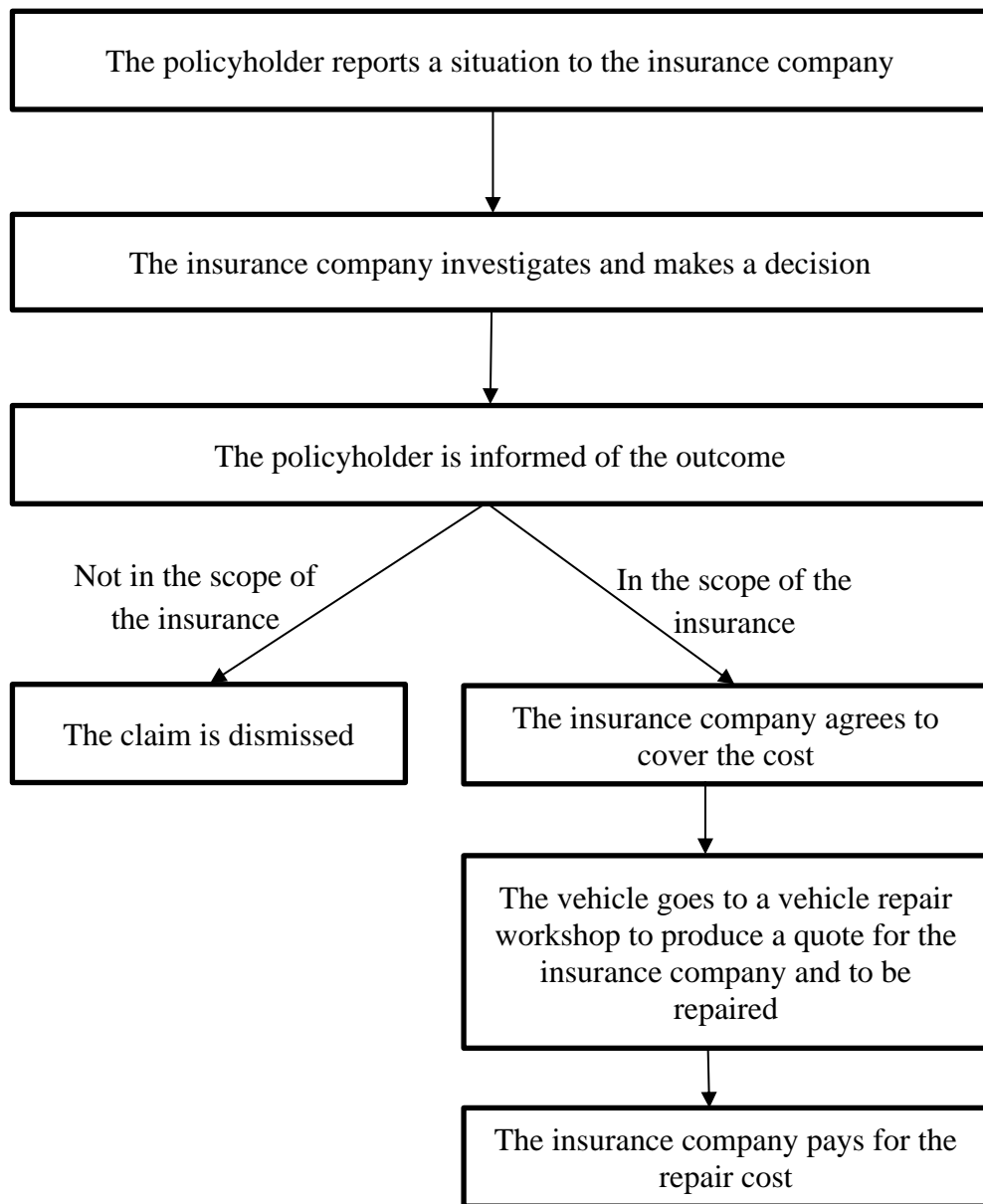
there is a wide divergence about what constitutes such an offense (Wells, 2007). According to Pimenta and Afonso (2012), fraud is an intentional act committed by an individual or a group, perpetrated through deception, which effectively or potentially causes a benefit to someone or harm to others and violates the law or good social practices. In fact, fraud should be considered as part of social relations and a process instead of an isolated act.

Wells (2007: 18) opts for a more general definition: ‘any crime to obtain profit, using deception as the main modus operandi’. Nevertheless, they all commonly highlight the loss to the victim and deception. Through an analysis of the law, Wells (2007) found four general elements that must be present for a fraud to occur: 1) a false material declaration; 2) knowledge by the offender that the statement was false at the time it was made; 3) victim’s belief that the false statement is truthful; and 4) damage resulted from the false declaration.

2.2. Characterising car insurance fraud

Car insurance fraud is part of a multi-layered phenomenon which includes various actors (insurance company, accident claim expert, policyholder, and vehicle repair workshop) in a process (see diagram 1).

Diagram 1 - Overview of the process from the point a claim is opened until it is solved or dismissed



It also involves different types of fraud at different levels, from those relatively minor to those unquestionably serious ones (Gill and Randall, 2015). The most common types of fraud perpetrated in this context include: vehicle abandonment; lack of insurance before an accident; undue repair to the vehicle (based on an exaggerated claim); car smuggling; ghost vehicle status (when the insured vehicle does not exist); change of vehicle identification documents; accident simulation; multiple contracts with several insurance companies (which could also be related to duplicate claims for the same injury); damage exploitation; data omission or incorrect data reported; and false declaration of theft/robbery (Association of Certified Fraud Examiners, 2009; Button and Brooks, 2016; Button et al., 2017; Derrig, 2002).

2.3. Consumer insurance fraud

Some researchers have sought to profile fraudsters (focusing on policyholders) using official records retained by agencies or by assessing outputs from investigatory interviews with those subsequently found guilty of fraud (Gill and Randall, 2015). An important finding is that meta-analytic results suggest either weak or null relationships between age, gender and education level, and unethical choices: demographics add nothing to the explanation of either unethical intention or unethical behaviour (Kish-Gephart, et al., 2010). Nevertheless, Vale (2012) identified the policyholder's age as a significant factor – the average age for the claimant was significantly lower in the population of fraudulent claims than in the legitimate ones in the context of Portuguese claims. He also indicated that not admitting fault in the accident that led to the claim was also considered an overall suspicious factor, as well as paying premiums semi-annually instead of annually. Nevertheless, the higher the number of years since the policy was signed, the lower the association with fraudulent claims.

Moreover, Button et al. (2017) interviewed those who had been involved in insurance fraud to understand their motivations, consideration of the strategies to prevent and detect them and their modus operandi, amongst others. The authors concluded that those illegal acts were perceived as a simple opportunity to secure additional payment and viewed as harmless or as borderline criminality. To further understand this, Button et al. (2017) highlighted the importance of the Fraud Triangle framework (Cressey, 1953) which explains

the rationalization process of individual fraudulent behaviour. It postulates three conditions that are usually present when fraud occurs. The first vertex of the triangle represents pressure (a financial need that induces an individual to commit fraud); the second vertex represents a perceived opportunity (ability to defraud without being caught); and the third vertex symbolizes rationalization (personal justifications to commit fraud). Gill (2005) expands upon this framework and considers that personal pressure could manifest itself not just financially, but also in psychological and social ways, and as a result of pressure, opportunity and rationalisation. In accordance with this, the practice of an act of a fraudulent nature is always preceded by a decision-making process on the part of the author. A final decision is derived from the evaluation they make on certain aspects of the moment when contextualized. A proxy equation, its outcome depends on the dynamics of the three variables that comprise it: pressures, opportunities and rationalization (Cressey, 1953).

The Rational Choice theory clarifies that all decisions ‘exhibit a measure of rationality, albeit constrained by limits of time and ability and the availability of relevant information’ (Cornish and Clarke, 2014: 1). According to traditional economic theories of crime, an individual deciding on whether to commit fraud will compare the potential gains with the costs of submitting the claim and potential penalties if the fraudulent claim is detected. Given these costs and benefits, if the probability of success is sufficiently high, the fraudulent claim will be submitted (Allingham and Sandmo, 1972; Becker, 1969; Srinivasan, 1973, cit. in Tennyson, 1997). Cornish and Clarke (2014) also highlight that choices can be biased due to individual priorities, preferences and level of information. Understanding the impact on society implies denying the possibility of an immediate pleasure (e.g. any monetary gain from fraud). This view of fraud could account for high rates of eventual fraud in insurance. One reason for deciding to proceed with a fraud is that the likelihood of fraud detection and the severity of penalties are also low despite the economic and social cost. According to Button et al. (2017) fraudsters believe that the police are not interested in this type of crime and the insurance industry lack the skills to detect offenders. This is a direct consequence of two facts: on the one hand, insurance fraud is rarely prosecuted; and on the other hand, insurance companies seem to still pay claims that they suspect of being somewhat fraudulent (Tennyson, 1997).

On the other hand, Lesch and Brinkmann (2011) consider that insurance fraud/abuse arises from moral hazard and that is the reason why studies of public morals and attitudes addressing honesty, claimant behaviour and level of tolerance towards illegitimate practices are relevant. An individual's attitudes toward insurance fraud depends upon the ethical, social or cultural environment of fraud as well as attitudes toward insurance institutions. Tolerant attitudes towards fraud will be expressed more often by individuals who have negative perceptions of insurance institutions. In turn, this enhances consumers' willingness to commit fraud. Therefore, the insurance working practices and the views of them in society contributes to the fraud problem (Maio, 2013; Tennyson, 1997). Maio (2013) also found that there is a higher level of tolerance towards fraudulent acts if they are seen as more prevalent and accepted by the social relations that individuals are engaged with.

In addition, the acceptability of fraud by the policyholders lowers the social stigma, which in turn affects the likelihood of fraud occurrence due to the perceived benefits and reduced costs. Consumer surveys have revealed a wide acceptance of fraudulent practices and a belief that such practices are common (Tennyson, 1997). Still, opportunistic frauds (e.g. making a claim related to a car crash, using their car insurance to do so) are more tolerated than the planned or organized ones (Maio, 2013). However, Dehghanpour and Rezvani (2015) revealed that unethical insurance customers consider the nature of insurance fraud in a negative light, even though they continue to submit exaggerated/false claims. Ultimately, according to Button et al.'s study (2017), it is the pressure from family and friends that plays a part in some people's involvement in 'cash-for-crash' fraud. Techniques, such as neutralization (Sykes and Matza, 1957), are crucial to the justification process of committing fraud in those cases. Sometimes there is indifference towards the victim, with some of them considering insurance fraud as a victimless crime or not even a crime at all (Ribeiro et al., 2019); other times, it is a way to do justice, since the insurance industry would be considered unscrupulous and evil. Overall, consumers commit fraudulent acts because of self-deception, justifying their acts (Dehghanpour and Rezvani, 2015; Farashah and Estelami, 2014; Maio, 2013; Ribeiro et al., 2019).

Goosse, et al. (2016) used data drawn from the second round of the European Social Survey to also statistically analyse the relationship between various values and insurance fraud. They found hedonism has a strong relationship with committing insurance fraud, with

a 76.75% increased chance of having committed insurance fraud for each unit increase on the hedonism scale. Hedonism relates to a gratification for oneself and relates to ‘self-enhancement’ and ‘openness to change’ (as opposed to, for instance, conformity, universalism and security). Thus, it is important to capitalize on the moral foundations of the customers and their beliefs, informing consumers about the negative consequences of insurance fraud and reinforcing that these acts are unethical (Farashah and Estelami, 2014).

Understanding public perceptions on fraud is crucial to prevent fraudulent behaviour, as well as considering individual differences in moral standards and attitudes toward fraudulent behaviours, taking into account social, cultural and macrosocial contexts (Ribeiro et al., 2019). Rationalization is not a constant variable and some situational factors influence moral awareness, causing differing conclusions about the incident (Ishida, et al., 2016). Nevertheless, research has largely focused on consumer insureds. No systematic models of the process from dyadic viewpoints (consumer-insured or adjuster, dual construction) on a dynamic basis have been advanced. Thus, the exchange and interplay of the actors to this process remain largely unstudied (Lesch and Brinkmann, 2011). Only recently, researchers have begun to identify other contributing factors, such as the regulatory and judicial posture, and organizational rules, when considering institutional factors impinging on the disposition of alleged fraudulent insurance claims (Lesch and Brinkmann, 2011; Lesch and Byars, 2008). In fact, insurance fraud is a multidimensional phenomenon, requiring a holistic perspective (Farashah and Estelami, 2014). As stated by Tennyson (2008: 1181) insurance fraud arises from the interaction of motivations and circumstances, influenced by ‘morality, opportunity, social norms and institutional context’. For this matter, it is important to consider Game Theory, since it analyses the strategic behaviours that parties adopt in order to achieve a certain goal. Their actions are based on their expectations about the other party’s behaviour. For instance, when both parties (such as, the vehicle repair workshop and the policyholder) cooperate in fraudulent behaviours, both can benefit from them; but if one of them does not, neither of them will benefit and both risk being caught (D’Arcy et al., 2010; Nash, 1951; Sousa, 2013).

2.4. Organizational environment

One of the major difficulties in detecting fraud is the identification of illicit practices by an insurance company (Pimenta, 2009). The imprecision of the measurement of the number of attempts of fraudulent acts, as a consequence of the methodological weaknesses of studies, contributes to a lack of understanding of this phenomenon (Derrig, 2002). Therefore, insurance companies have started tackling this issue by employing specialized officers to analyse the data and deliver training and professional courses, and investing in research to explore the sophisticated indicators of fraud (Button and Brooks, 2016; Ericson et al., 2000; Gil, 2008). Nowadays, the use of investigation and detection systems is available to insurance companies, through which they signal to customers that cases of fraud will be detected and prosecuted by force of law (Farashah and Estelami, 2014). Nevertheless, according to Graham, et al. (2015), training is also important, and it should emphasize ethical conduct in the workplace for all employees. In fact, educational institutions and organizations have important roles to play in providing opportunities for growth and an environment conducive to ethical behaviour (Trevino, 1986). Managers should clearly communicate their endorsement of the value of morality to job applicants and recruit employees who have a relatively high level of moral identity. They should also highlight the importance of ethical values and integrate ethical expectations into employee-organization relationships (Wang et al., 2019).

Kish-Gephart, et al. (2010) also studied individual, moral issues and organizational and environmental characteristics that could influence unethical choices. Considering individual characteristics, the authors found that individuals who obey authority figures' unethical directives or act merely to avoid punishment, who manipulate others to orchestrate their own gain, who fail to see the connection between their actions and outcomes (i.e., have an external locus of control), or who believe that ethical choices are driven by circumstance (i.e., hold a relativistic moral philosophy) are more likely to make unethical choices at work. As for moral issue characteristics, Kish-Gephart, et al. (2010) indicated that if means exist to highlight moral intensity features in organizational decision making, unethical choices might be more frequently suppressed; which means that unethical behaviour may be reduced if employees learn to associate potential unethical behaviour with severe, well-defined harm to a familiar or recognizable victim similar to the actor. Also, organizations may be able to prevent unethical behaviour by making behavioural norms more prominent and clearly

defined. On the other hand, the organizational environment can influence individual-level unethical choices. Egoistic climates are more likely to encourage unethical choices but a climate that focuses employees' attention on the well-being of multiple stakeholders or on following rules that protect the company and others has a reverse relationship with unethical choices. Thus, a strong ethical culture that clearly communicates the range of acceptable and unacceptable behaviour is associated with fewer unethical decisions in the workplace.

Nevertheless, the growing realization of the cost of insurance fraud to insurers and consumers (as they pay higher premiums), the involvement of organized crime and the consequences of some types of fraud (which might include injuries) have been contributing to a shift on the paradigm of policing these crimes, from a shallow to a deep policing (Button and Brooks, 2016). Initially with shallow policing, the deviant acts had either a repudiation of claim, refusal of insurance cover or the consequent higher premium applied. Whereas, the tendency now, with deep policing, is for the deviant acts to be pursued for criminal prosecution, at least in some countries such as England, Wales and the USA (Button and Brooks, 2016; Lesch and Brinkmann, 2011). Still, the formal separation between private insurance companies and the police is being preserved via the ways in which these actors are governed and govern, how they position themselves, and in their practices and claims of authority (Stenström, 2019).

In the USA, solutions were also focused on consumer education and actions to raise awareness of illegitimate/unethical consumer behaviour (Lesch and Brinkmann, 2011). This might be an accurate possible solution, since some fraudsters see their actions as being "deserved" or "performed to restore justice". Such action would be able to demystify the unfairness of procedures, high payments or negative opinions on institutions, which are important arguments to justify fraudulent acts (Ribeiro, et al., 2019).

In summary, while public perceptions and policyholders' rationale have been the most researched areas, the lack of systematic research in Portugal (and in most countries) concerning car insurance fraud, along with the limited number of experts in this area, is still reflected, for example, by the lack of data related to the role of vehicle repair workshops in the fraud process. A scenario that highlights the need for further research. Thus, it is critical to understand the circumstances that may motivate individuals working in this environment

to commit fraud, in order to detect and prevent it. As agents in a multi-layered process, they may have the potential to perpetrate or prevent fraud just the same as any other involved actor. Therefore, the objective of this paper is to further the knowledge of the vehicle repair workshops' role within car insurance fraud in order to allow an enhanced understanding of the fraud dynamics taking place in this environment and highlight the evidence this offers to better prevent them in the future.

3. Methodology

This is a qualitative and exploratory study, this being the most suitable method for an initial investigation on a subject overlooked to date (Fortin, 2009). Semi-structured interviews were carried out to explore the role of vehicle repair workshops in the dynamics of car accidents under insurance fraud. The method adopted entailed face-to-face interviews conducted on a door-to-door sample of garages due to: i) the size of the sample; (ii) the readiness of data; and iii) the persuasiveness of the direct contact.

A number of measures were taken to ensure reliability and validity of the chosen method. Concerns included ensuring the clarity of the questions and minimising social desirability. Consequently, a pre-test was administered to assess the questions and to ensure that they were clear and understood similarly by different people (Bryman, 2016). In addition, it was also intended to determine the most appropriate way of conducting the interview to allow the participant to express themselves most freely on the suggested topics. The pre-test was administered face-to-face to two people. As a result of the pre-test administration, the interview was optimised through such means as rephrasing some longer questions and simplifying the vocabulary for clarity. To ensure participants would be comfortable to share their answers, it was important to make clear the purposes of the research and that the researchers were collecting data as part of an academic study rather than, for instance, on behalf of an insurance company, due to the nature of the topic. To this end, the presentation of the study to potential participants included transparency concerning the research aim (to analyse the role of vehicle repair workshops in vehicle insurance fraud), the rationale for conducting the research (e.g. lack of knowledge), the affiliation of the researchers, data collection method (voice recorded interviews), storage arrangements and

potential outputs. These were all explained verbally as part of the initial approach to each vehicle repair workshop as well as within the consent form.

Concerning social desirability, at the beginning of the interview, the individuals signed a consent form that also guaranteed their anonymity and data confidentiality. The researchers also highlighted that there were no right or wrong answers to any of the questions. This approach enabled and encouraged the participants to answer truthfully, as they understood they would not be publicly judged. It also helped them to recognize that any response was acceptable, thereby reducing the chances of them offering a socially acceptable answer rather than their true views. During the interviews, it was perceived that some participants did not regard fraudulent claims as illegal and spoke widely and in detail about their views. Therefore, in these cases, the researchers considered participant bias was not present and that they were truthful to their own views. The semi-structured interviews were recorded and addressed the topics shown in Table 1.

Table 1 – Interview topics and examples of questions

<i>Topic</i>	<i>Sample question</i>
Sample description (job position of the respondent; number of years working in the vehicle repair workshop; number of workshop staff)	‘How long have you been working in this garage/workshop?’
Repair process description (to explore the dynamics from the point a claim is made until end of the repair)	‘What are the steps taken from your acknowledgement of a claim until it is closed?’
Repairs and services requested due to claims	‘What kind of repairs do you usually do in these situations and what are the costs?’
Opinions regarding variables that could influence the chance of committing fraud (repairs costs, size of the vehicle repair workshop and changes over the time)	‘Do you think these [fraudulent] acts used to happen more often before nowadays or it has been the same?’

Exploration of respondents' personal and interpersonal experiences within vehicle insurance fraud (cases, benefits, report and so on)	'Have you ever had a situation in which the description in the claim as to what happened did not match the repairs requested? Could you please give examples?'
---	--

3.1. Sample

The selected sample was non-probabilistic for convenience due to the researchers' geographical limitation to the Oporto city area, Portugal. Therefore, the results could potentially not be representative of other cities or countries. Nevertheless, all vehicle repair workshops within the Oporto city area (Portugal) were identified from an online database (Yellow Pages). This was found to be a quick search method that would not affect the reliability of the sample selection given all vehicle repair workshops have a phone number for their business.

This process produced a list of 74 possible vehicle repair workshops. After excluding duplicates (n=4) and those permanently closed (n=27), the number was reduced to 43. Since 23 did not wish to participate due to apprehension or lack of time, the final sample consisted of 20 vehicle repair workshops agreeing to take part in the study. At each vehicle repair workshop, either one owner or an employee was interviewed face-to-face. A total of 14 owners and 6 employees were interviewed. The researchers opted for owners if they were present, if not, an employee who was responsible for looking after the operations of the business in the absence of the owner was considered to be the alternative as they described themselves as being the ones 'in charge' and fully aware of the workings of the vehicle repair workshop (a manager). Each voice recorded, semi-structured interview had an average length of 30 minutes and were all carried out in January 2014.

Therefore, the sample distribution was considered to be similar to the distribution of the automotive sector in Portugal¹ through analysis of their sizes. The participant vehicle repair workshops were categorised as micro (less than 10 employees), small (between 11 and 50 employees) and medium (between 15 and 250 employees) companies (Commission

Recommendation of May 6th, 2003). In line with this, the final sample was distributed as follows: 15 micro, 4 small and 1 medium organization.

3.2. Data analysis

The data collected from the interviews were transcribed verbatim. The transcription offered the opportunity to familiarise and reflect on the data, which is the first step of thematic analysis. After all interviews were transcribed, these were again read closely while listening to the recording to double check nothing was missed. The coding process involved two encoders analysing the transcript line by line, and attribute codes. Once all data was 'coded' and each code had a close fit to the data, the next step consisted of identifying the emerging themes and their relationship within the context they arose (Caulfield and Hill, 2018). This step allowed us to reduce the volume of detail while maintaining the same level of complexity. It focused on working with the notes made at the previous step rather than working directly with the whole transcript. Identifying emergent themes required a local focus on chunks of transcript whilst keeping in mind the overall picture gained during the previous steps. Essentially, fragmenting the transcripts and reorganising the data. This involved drawing together commentary and interpretations, and then mapping these into meaningful clusters, in other words, themes (Bryman, 2016; Morris, 2015). Themes that represented similar or parallel understandings were placed together at this stage, becoming subordinate themes (groups), and a label then given to each group (Caulfield and Hill, 2018). After data analysis (the findings section of this article), the information was compared, interpreted and discussed, also in relation to the literature, to achieve the answers to the research question (the discussion section of this article).

4. Findings

This research revealed fraud within vehicle repair workshops could involve, or even be initiated by, one or all three key actors: the vehicle repair workshop, the vehicle owner (policyholder) and the accident claim expert. This section is organised into three parts to reflect each theme that emerged related to the role of the vehicle repair workshop: fraud

committed by the vehicle repair workshop responding to the needs of the client (vehicle owner); fraud committed by the vehicle repair workshop solely for financial gain; and the potential for fraud prevention. The main findings are outlined in Table 2.

Table 2 – Themes and main findings

<i>Themes</i>	<i>Subtheme</i>	<i>Main findings</i>
Fraud committed by the vehicle repair workshop responding to the needs of the client (see section 4.1)	The clients (vehicle owner)	<ul style="list-style-type: none"> • No differences according to age, gender nor socio-economic status • Usually regular customers (45%) instead of new ones
	Approach	<ul style="list-style-type: none"> • Direct fraud more common (95%) than indirect fraud • Vehicle repair workshop can detect fraud • Satisfy fraudulent requests (50%)
	Perception	<ul style="list-style-type: none"> • Relationship with the vehicle's owner can influence how these situations are perceived
	Types of fraudulent acts	<ul style="list-style-type: none"> • Inclusion of pre-existing damages (mentioned most often, 75%) • Exchange of parts (15%) • Repair of alternative damages (60%) • No repair (25%)
	Benefits	<ul style="list-style-type: none"> • Customer (vehicle owner) loyalty, monetary (65%)

Fraud committed solely for financial gain (see section 4.2)	Types of fraudulent acts	<ul style="list-style-type: none"> Without the vehicle owners' knowledge (10%): repair instead of replacing parts or superficial repair instead of a full repair With the vehicle owners' knowledge (5%): staged accidents or renting parts
	Benefits	<ul style="list-style-type: none"> Financial only
Potential for fraud prevention (see section 4.3)	Responsibility	<ul style="list-style-type: none"> Belief that it is not their responsibility to prevent (55%) Nor report the fraud attempts/acts (85%)
	Types of strategies	<ul style="list-style-type: none"> They can refuse to cooperate with the fraud attempts (45%), motivated by ethical concerns, fear of being caught Preventive methods (or that increase difficulty of perpetration): inspections (15%), budget associated with the repair (35%) and technology (5%)

4.1 Fraud committed by the auto repair shop responding to the needs of the client

This theme refers to fraud scenarios that were initiated by the workshops' clients, that is, the vehicle owners. It looks into the approach taken, how this was perceived by the workshops, types of fraudulent acts and their benefits.

4.1.1. The clients (vehicle owners)

Interviewees believed there was no specific type of customers involved in fraud (according to gender, age nor socio-economic status) as any could fit the profile:

'Age varies a lot, goes from young ones to those much older.'

(Micro-sized vehicle repair workshop 11)

‘All sorts, some with more money and others with less.’

(Small-sized vehicle repair workshop 10)

‘Age varies a lot, goes from young ones to those much older.’

(Micro-sized vehicle repair workshop 11)

‘All sorts, some with more money and others with less.’

(Small-sized vehicle repair workshop 10)

The majority of interviewees (n=18; 90%) said the vehicle owner usually tried to commit fraud when an opportunity arose, and this seemed to be a growing tendency:

‘People think that it is easy, the company is involved so ‘let’s get some profit.’

(Micro-sized vehicle repair workshop 1)

‘It is more often now [the attempt to commit fraud].’

(Micro-sized vehicle repair workshop 18)

When questioned if the customers involved in these practices were mostly regular or new ones, nine interviewees (45%) said regular customers:

‘Usually they are known to the house, they have been coming here for many years.’

(Micro-sized vehicle repair workshop 6)

Seven (35%) revealed that the involved customer was a new one, three (15%) assumed both new and regular customers tried to do it, while one (5%) was unsure.

4.1.2. Approach

A total of 19 interviewees (95%) revealed they have previously been candidly asked to participate in an act of fraud (direct perpetration), especially when the vehicle owner was known to them:

‘Regular customers are the ones who speak out freely.’

(Micro-sized vehicle repair workshop 7)

‘He had pre-existing damage on the left taillight and the main damage was on the right side of the car... He wanted me to prove that [all damage was due to the accident].’

(Micro-sized vehicle repair workshop 8)

While 14 (70%) revealed vehicle owners have tried to mislead them by means of being vague or ambiguous in the accident report and/or describing a scenario that did not match the real accident (indirect perpetration) - the latter being the most frequent form of fraud attempt they encountered. Nevertheless, the interviewees believed they could detect fraud attempts due to their professional knowledge:

‘Basically what happens is that the damage was here and back there is also damaged. One look at the car and it has no basis.’

(Micro-sized vehicle repair workshop 16)

When participants were asked whether the vehicles’ owners admitted or denied those fraudulent actions after trying to mislead them, nine (45%) disclosed they admitted their intentions on the first contact with the vehicle repair workshop:

‘They [vehicle owners] have to be as honest as possible, otherwise they don’t get what they want.’

(Micro-sized vehicle repair workshop 17)

While one interviewee (5%) said that a vehicle owner only admitted to fraud after initiating contact with the insurance company/accident claim expert, six (30%) revealed the vehicle owner continued to deny committing (or attempting) fraud after initiating contact with them. These vehicle repair workshops admitted they could challenge these customers to force them to admit they were trying to commit fraud, if necessary. Another interviewee (5%) felt that it was not their responsibility to confront the customer, as that was the role of the insurance company:

‘The customer continues telling us the car was like that and we only have to believe it.’

(Small-sized vehicle repair workshop 2)

A total of 5 interviewees (25%) mentioned that, in some cases, it is the accident claim expert himself who accepts or proposes the fraudulent repair to avoid tensions or confrontations with the vehicle repair workshop and/or the vehicles' owners:

'They are complaining, "It's also this" and the accident claim expert starts laughing and says, "Ok! I'll increase the budget a little bit to include that because it's not that much anyway". They help to avoid quarrels and problems.'

(Micro-sized vehicle repair workshop 3)

Vehicle repair workshops were also more likely to collude with fraud attempts if the accident claim expert collaborated. This widens the collusion and disperses the responsibility by involving all direct agents within the claim process:

'If the expert accepts it, then I'll do the same.'

(Micro-sized vehicle repair workshop 4)

Only nine respondents (45%) indicated that they would not accept such requests, with 10 (50%) admitting satisfying the clients' wishes when the costs were perceived to be insubstantial, or they charged the customer instead of committing fraud:

'When I can add it [other damage] to the accident reported to the insurance company, I repair it.'

(Micro-sized vehicle repair workshop 11)

'It happened before [trying to commit fraud] but then [they] ended up paying for it.'

(Medium-sized vehicle repair workshop 2)

4.1.3. Perception of the requests

Participants felt that vehicle owners perceive fraud to be easy, and their perception of the fraudulent request depended on the familiarity between the vehicle repair workshop and the vehicle owner. When there was greater familiarity, that is, the vehicle owner was a regular customer, 10 interviewees (50%) perceived the fraudulent behaviours as an attempt to take advantage of the insurance company without malice. For example, the vehicle owner

would not be aware of the insurance terms and conditions and believed that it was acceptable to do the (fraudulent) repair:

‘The regular customers can do that, [they are] not aware of how things work. It is not like they are a bandit.’

(Micro-sized vehicle repair workshop 1)

When there was less familiarity between the two parties, that is, one time only customers, eight respondents (40%) considered the policyholder or the insurance claim expert who tried to commit fraud, lacked respect and honesty:

‘People who only come here once or speak with others and think here it’s easy to do it.’

(Micro-sized vehicle repair workshop 1)

‘The parachutists [new clients attempting fraud], I try to get rid of them. They are of no interest to the vehicle repair workshop, they are of no interest to anyone because they are opportunistic people. They try to take advantage of the situation and that’s dishonest.’

(Micro-sized vehicle repair workshop 3)

4.1.4. Types of fraudulent acts

The interviewees were asked to identify all types of fraudulent strategies when responding to the needs of the vehicle owner. Four types of fraudulent act were identified:

(a) *Inclusion of pre-existing damages* was referred to by 15 (75%) interviewees.

‘They [the clients] want to repair the vehicle at the insurance company’s expense and still want to receive money or make other repairs at the company's costs.’

(Micro-sized vehicle repair workshop 3)

(b) *Exchange of parts* was mentioned by three respondents (15%) as less frequent than the inclusion of pre-existing damages.

‘We put this piece - which is often not new - in the car and, since the client renounced this new part, he will receive the equivalent price in cash. So, he will have the car part for half the price. But this is not fraud, it is perfectly normal, everybody does this if you do not mind not having a completely new part.’

(Micro-sized vehicle repair workshop 8)

(c) *Repair of alternative damages* was mentioned by 12 interviewees (60%). In this case, the customer used the insurance to repair pre-existing damages instead of the ones reported on the accident claim. This varies from the first type, the inclusion of pre-existing damages, because it does not repair the reported damages.

‘He came here and said, “See if you can take it [budget given] from there [damage from the accident] and put it here”.’

(Micro-sized vehicle repair workshop 6)

(d) *No damage repair* was alluded to by five respondents (25%). This refers to situations where the vehicle owner receives the financial compensation and then chooses not to repair the damage:

‘Sometimes they don’t even have to spend anything! They [the insurance company] give him money. From that moment on the insurance company no longer have any say on that matter’

(Small-sized vehicle repair workshop 13)

4.1.5. *Benefits of fraud*

The participants were asked if and how the vehicle repair workshop might benefit from fraudulent claims. This is a relevant point as the potential benefits are weighed up against the potential repercussions when deciding on any course of action, according to the theories explored earlier. From the responses given it appears the vehicle owner gets everything fixed without having to pay for the service while the vehicle repair workshop retains the vehicle owner’s confidence and loyalty:

‘To keep the client and to make them happy’

(Micro-sized vehicle repair workshop 6)

4.2. Fraud committed solely for financial gain

Another type of scenario is when the vehicle repair workshop, on their own initiative, commits fraud solely for financial gain. In this case, the vehicle owner may or may not be aware of the situation but the key aim is still financial gain:

‘To earn more money (...) without doing anything.’

(Micro-sized vehicle repair workshop 1)

4.2.1. Types of fraudulent acts

The interviewees revealed four types of acts, two types carried out without the knowledge of the vehicle owner and two types with their cooperation. The former scenario, mentioned by two interviewees (10%), relates to repairing the damaged area instead of replacing it with a new part or carrying out superficial repairs in order to create the impression of a full repair or placing a second-hand part on the damaged car (less expensive) instead of a new one (exchange of parts):

‘For example, the insurance company pays for a new door and what’s there is a used one, and the client thinks it’s new. The one taking advantage is the vehicle repair workshop.’

(Micro-sized vehicle repair workshop 1)

Whereas for the latter scenario, one respondent (5%) reported staged road traffic accidents as another fraud strategy. This is where accidents are organised and planned by the auto vehicle repair workshops in collaboration with the vehicle’s owners in order to collect money from the insurance companies. A slightly different scenario, reported by one of the respondents (5%) revealed the existence of ‘organised vehicle repair workshops’ that rent parts to vehicle owners, who, using those parts, try to perpetrate fraud by simulating damages from an accident that never took place:

‘The vehicle repair workshops swap broken/faulty pieces between them. What for? “Look tomorrow I’ll have an inspection, don’t you have a piece like that I can put in the car?” For instance, airbags, broken lights... and people rent them!’

(Micro-sized vehicle repair workshop 11)

4.3. Potential for fraud prevention

This theme related to whether the vehicle repair workshops perceived themselves as having responsibility for and a role in fraud prevention, as well as what preventative strategies would reduce fraud occurrences within vehicle repair workshops.

4.3.1. Responsibility to prevent and report

A total of nine interviewees (45%) believed that vehicle repair workshops had a clear responsibility to enhance vehicle owners’ awareness that fraudulent actions are unacceptable in order to achieve transparency and maintain legal working practices:

‘Auto repair shops should try to make the clients aware that this is a crime and that we cannot do this.’

(Micro-sized vehicle repair workshop 15)

On the other hand, 11 individuals (55%) did not believe that it was their role to act as an active agent in insurance fraud prevention, instead feeling it was the responsibility of both the vehicle owner and the insurance company:

‘That [responsibility] is not ours. That is between the client and the insurance company.’

(Small-sized vehicle repair workshop 2)

‘The vehicle repair workshop has no way to help.’

(Micro-sized vehicle repair workshop 6)

In addition, 17 interviewees (85%) considered it was not the workshops’ responsibility to report fraud as either there would be no reason to do so or because that job would be role

of the accident claim expert. There were four (20%) interviewees who stated that they would report it but only to the insurance company, as it was not perceived to be a police matter:

‘We have to report to the insurance company. It should not go to that area [i.e. a report to the police].’

(Medium-sized vehicle repair workshop 9)

4.3.2. Preventative strategies

Motivations for refusing to commit fraud, even when an opportunity to do so presented itself, included ethical concerns and fear of being caught by the insurance company or the accident claim expert:

‘We don’t take a risk. This kind of information goes from one company to another.’

(Micro-sized auto repair shop 7)

Nevertheless, it was highlighted that smaller vehicle repair workshops were at greater vulnerability, in particular, a reduced ability to decline participation when approached by one of the other actors (vehicle owner/accident claim expert) due to the other potential costs this may carry (e.g.: losing the vehicle owner as a regular client). Although only one interviewee (5%) believed fraud occurred more often in smaller vehicle repair workshops, the other respondents (95%) believed it occurred regardless of the size:

‘I’ve been in larger ones and that happens in any vehicle repair workshop.’

(Micro-sized vehicle repair workshop 3)

That being said, the relevance of keeping regular clients may be important to all vehicle repair workshops, and the risk of being caught must be predicted to outweigh the benefits of participation. Therefore, enhancing prevention of fraud is necessary across all sectors. Three of the participants (15%) believed that every time an opportunity to commit fraud presented itself, any individual involved in the process would endeavour to secure the utmost benefit from it, and the accident claim experts tended to help:

‘There is always someone who tries to obtain the maximum profit.’

(Micro-sized vehicle repair workshop 3)

Where the accident claim expert had less experience in the field, the difficulty in committing insurance fraud was increased as they were considered to be more controlled by their employer. Vehicle repair workshops indicated that if they were to be caught, insurance companies would cease to send any further vehicles to them due to being flagged for fraudulent actions. Existing inspection protocols were identified as one potential method to prevent fraud, however these were deemed to be ineffective:

‘The vehicle repair workshops are the ones who do it [fraud]. Could be supervision... but that already exists.’

(Micro-sized vehicle repair workshop 12)

Seven respondents (35%) believed that the budget given by the insurance company limited the opportunity for vehicle repair workshops to commit fraud. However, accidents with major damages facilitated the inclusion of additional repairs (fraud), except when it was only the substitution of a single part, since such costs are set by the insurance company in advance:

‘Even if we want to stretch the budget a little, it is not possible, because they [insurance companies] have stipulated everything in advance.’

(Micro-sized vehicle repair workshop 3)

The use of technology, such as photography for example, as a control mechanism was also mentioned as a potential barrier to commit fraud:

‘Years ago, it was very easy, because there were no photos. Nowadays people take photos of everything through all angles here and there to compare.’

(Micro-sized vehicle repair workshop 1)

However, the possibility of fraud was believed to still exist, with only one respondent (5%) considering it to be impossible.

5. Discussion

This study has revealed that vehicle insurance fraud is a multi-level crime involving a dynamic interaction between three key stakeholders: the vehicle repair workshop; the vehicle owner; and the accident claim expert.

5.1. Perpetration of fraud

Concerning the perpetration of fraud, the results of this research revealed a duality in vehicle repair workshops: fraud committed to respond to the needs of the client (vehicle owner) *versus* fraud for financial gain.

Fraud scenarios in the vehicle repair workshop environment are mainly initiated at the client's request and so acceptance is based on responding to their needs. The most common type of fraud reported was the inclusion of pre-existing damages and the repair of alternative damages. These are also mentioned in literature as the most common contexts (Association of Certified Fraud Examiners, 2009; Button and Brooks, 2016; Button et al., 2017; Derrig, 2002). These types of fraud are mainly opportunistic, which supports existing evidence identifying opportunist or mild fraud as the most prevalent type (Niemi, 1995; Tennyson, 2008; Viaene and Dedene, 2004). According to Dodd's typology (2000), fraudsters are opportunistic as they may initially not want to commit fraud but decide to explore an opportunity that arises. While this category may fit, fraudulent behaviours are perceived to be an increasingly frequent practice. This supports Fligstein and Roehrkasse' (2016) findings, which highlighted the rise in insurance fraud since the European socio-economic crisis of 2008. In Portugal, this lasted until 2014. Insurance fraud has been found to rise as a result of global recession (Bradford, 2009; Fligstein and Roehrkasse, 2016). The global impact of COVID-19 may extend this crisis, although it is currently too soon to tell.

In addition to macro influences, it is also important to analyse decisions to request or commit fraud at an organisational and individual level. The vehicle owners initiating fraudulent requests to the vehicle repair workshops included within this research, do not fit a particular profile, reflecting the findings of Kish-Gephart, et al. (2010). Instead, they face a pressure (such as a financial need and/or the desire to fix their vehicle) and are presented with an opportunity (ability to defraud an insurance claim). Their decision to proceed with the request to the vehicle repair workshop is made through a process of rationalization, with

participants believing this was either legal or harmless. This aligns with Cressey's theoretical model (1953) and Button et al. (2017) findings that such acts were on the border of criminality and represented a harmless opportunity to secure additional payment.

However, this research revealed that vehicle repair workshops do not always perceive such requests to be harmless or naive. This understanding is mediated by the relationship they hold with the vehicle owner. Regular clients making such requests are perceived as common, harmless and/or arising from lack of knowledge of insurance terms. Whereas a new client attempting fraud lacks a bond with the workshop and is invariably perceived in a negative light. This bond seems relevant to the workshops' decision to perpetrate fraud. Firstly, they do not seem to construct the insurance company to be their client, even though it is the insurance company that is financially liable. This seems to be due to the fact the vehicle owner is already a regular customer, a person they frequently meet and to whom they carry out services for. Consequently, even when an insurance claim is involved, the vehicle owner is prioritised as the customer. In colluding with fraud, the vehicle repair workshop fosters the relationship with the vehicle owner, thereby securing their future, ongoing custom. This links with Gill's (2005) findings highlighting how vehicle repair workshop culture acts as a facilitator to fraud. The vehicle repair workshops – like many other companies – follow a client-orientated culture. This means they place 'the customer at the centre of the strategic and operational thinking of the organization' which generally leads to a competitive advantage among enterprises through a positive customer experience, as well as trust and loyalty from the customer (Révillion, 2003: 2). Therefore, their priority is the vehicle owner because that is whom they perceive to be the principal customer. This decision making also aligns with Game Theory: when both parties cooperate, both can benefit (D'Arcy et al., 2010; Nash, 1951; Sousa, 2013). The vehicle repair workshops are faced with a pressure to satisfy their regular client, which outweighs the pressure to satisfy new clients, even though they may be making the same request.

The insurance claim experts also play an important role in the vehicle repair workshops analysis of their opportunity to satisfy the vehicle owner, given the experts would be the ones who may be able to identify fraud and report it to the insurance company. The risk of being caught is perceived by the vehicle repair workshops as negligible when the expert agrees to cooperate, particularly in regard to low cost repairs. The assertion that fraud

is more likely to occur when the perceived benefits outweigh the likelihood of being caught are reflected in research by Cornish and Clarke (2014).

On the other hand, fraud committed solely for financial gain reveals a different dynamic and key motivation. While the previous scenario may still involve a financial gain *and* client satisfaction, at times financial gain is the *sole* motivator. This involves planned actions, such as staged road accidents initiated by the vehicle repair workshops. These were mentioned less frequently by participants and this type of fraud represents a small fraction of claims (see Niemi, 1995; Tennyson, 2008; Viaene and Dedene, 2004) possibly due to lower tolerance to planned / organised fraud in comparison to opportunist fraud (Maio (2013).

These scenarios may take place with or without the knowledge of the vehicle owner. Cooperation between the vehicle repair workshops and the vehicle owner leads to mutual financial benefit (D'Arcy et al., 2010; Nash, 1951; Sousa, 2013). On the other hand, repairing the damaged area instead of replacing it with a new part or carrying out superficial repairs in order to create the impression of a full repair is contrary to what was agreed by the insurance company and also what the vehicle owner expected, and benefits fewer parties. Here, the sole motivation of the vehicle repair workshop is financial and/or hedonism (gratification for one-self), as found by Goossen et al. (2016) as an important factor to commit fraud. In these situations, the client-oriented culture seems to fade (Gill, 2005; Révillion, 2003) as the vehicle repair workshops would only be seeking financial benefits for itself. Similarly, if such practices were to be uncovered, the costs to the vehicle repair workshop would be higher too, not only would they lose the trust of the insurance company but also a client. Therefore, a client-oriented culture, while prone to encourage cooperation with the vehicle owner, may also discourage solo fraudulent practices and explain why such types of fraud are less common.

Overall, vehicle repair workshops perceive the principal risk of fraud to be insurance companies' refusing to send any further vehicles to them for repair. But, as highlighted by Sparrow (2008), fraud is very difficult to detect. Part of this may be influenced by the assistance of the insurance claim expert, as revealed by participants. Therefore, the perpetration of fraud continues to exist while benefits are perceived to outweigh the potential costs.

5.2. Fraud prevention

This research reveals that just under half of the interviewees felt that vehicle repair workshops have a role in preventing fraud. While others highlighted how vehicle repair workshops are unlikely to assist with fraud prevention because they are key to its perpetration. In addition, none of the interviewees considered reporting it to the authorities, suggesting that they perceive this type of fraud to be harmless, borderline criminality. This reveals that although they are well-informed about fraudulent practices and their professional knowledge enables them to detect attempts at fraud, the context and wider consequences of this crime may not be clearly understood. Therefore, the first recommendation emerging from this paper is to raise awareness of car insurance fraud. The cost of fraud to insurance companies is not widely reported as this may generate negative publicity and could attract less opportunistic fraudsters. In fact, from a cost-benefit point of view, many insurers believe that it is cheaper to pay fraudulent claims than to investigate them due to the enormous challenges and high level of resources required (Insurance Europe, 2013). However, this overlooks the need for the public to be aware of the cost of fraud to themselves and society besides not acknowledging it contributes to people believe they are free from punishment/above the law (Parodi, 2008). Company transparency, along with an effort to raise awareness and generate public assistance to prevent such crime may help reduce fraudulent practices.

Successful prevention strategies must ensure fraud is not perceived as an ‘alternative action’ (Wikström et al., 2011). A client-oriented culture may discourage solo fraudulent practices and enhance the perceived costs however, it is less clear how fraud linked to satisfying clients’ needs could be reduced. A potential measure may be to reduce vehicle owners’ requests to the vehicle repair workshop in first place. To this end, Portugal could pursue an awareness campaign strategy to reduce vehicle owner naivety around vehicle insurance fraud, similar to the USA strategy (Lesch and Brinkmann, 2011). Also, transparency may increase the perception of fairness, which in turn could reduce the likelihood of fraud acceptance. If vehicle owners and vehicle repair workshops believe the insurance companies are not profiting at their expense, but instead providing a fair service

relative to the payment given (premium and policy cost), then their propensity for attempting to commit fraud could be reduced (Tseng et al., 2014).

Accepting attitudes toward insurance fraud therefore appears to be related primarily to factors which determine the general social fabric rather than perceptions of particular insurance institutions themselves. While improving the image of the insurance industry in the eyes of consumers will have significant effects on attitudes toward fraud at the margins, this paper indicates that attitudes regarding honesty and good faith must also be changed if the perceived acceptability of insurance fraud is to be reduced (Tennyson, 1997; Viaene and Dedene, 2004).

Other technical measures, such as budget limits provided by the insurance company also appear to help to reduce the scope for fraud. This was perceived by interviewees as a successful measure, except for accidents involving major damages. In addition, technology, such as photography, supports a more accurate budget. Written damage descriptions, composed by one of the actors involved, depends on their intentions and subjectivity, while photography provides a more objective record for insurance companies to analyse. In addition, deadlines for the presentation of repair receipts (or, failing that, restitution of damages) proving the expense of the amount received as compensation would: inhibit the overestimation of damages, since the service provider must then declare such values; inhibit tax evasion and illicit enrichment; as well as inhibit frauds that are intended to simply pocket the money without repairing or repurchasing the parts. This type of measures may, depending on the cases, be established by law or become part of the so-called 'injunctory contractual measures' (Parodi, 2008). They may also limit the opportunity for the insurance claim expert to cooperate with fraudulent requests. In fact, interviewees revealed that new experts are more 'controlled' by insurance companies. While the nature of this control is unclear, the literature review revealed insurance companies have started tackling this issue by employing specialized officers to analyse the data and deliver training via professional courses (Ericson, et al. 2000) which emphasise ethical conduct and clarify behavioural norms (Graham, et al., 2015; Kish-Gephart, et al., 2010).

5.3. Limitations of this study

Considering the size of the sample, conducting face-to-face interviews presented an added value to maximize the information made available. However, since this study explores such a sensitive topic and, ultimately, a criminal behaviour, it was expected that the interviewee responses could have been influenced by social desirability bias, which could potentially compromise the validity of the interviews. As described in the methodology, some measures were taken to prevent this. Nevertheless, a limitation of this study is the non-probabilistic sample, which strongly limits the possibility of generalising the results to all vehicle repair workshops, so they must be interpreted with caution and circumscribed in this context. In addition, more than half of the vehicle repair workshops refused to participate (23 out of 43). While the reason provided was lack of time, the sensitive nature of the topic may have also influenced such decision.

6. Conclusion

This study explores the role of vehicle repair workshops in vehicle insurance fraud and how they might contribute to reduce or perpetrate this type of crime, which has been an overlooked research area, particularly in Portugal. It has illustrated that there are fraudulent car insurance practices in which vehicle repair workshops actively participate in fraud (either to satisfy the client's wishes or solely for financial gain) and do not consider that these acts should be reported. However, increasing honesty and transparency between the various parties, and raising awareness of the true figures and consequences of car insurance fraud, may have the potential to reduce the amount of fraudulent practices within this environment. A better informed cost-benefit analysis and the attitudes towards these fraudulent activities are key factors for such decisions.

Preventing and detecting insurance fraud should be a key priority for the insurance companies but also for society because it is not a victimless crime. This type of crime requires a multi-dimensional action towards all actors involved in order to combat the phenomenon of car insurance fraud. It seems crucial to appeal to all circles of interest: the vehicle repair workshops, the insurers, the insured / policyholders, the legislator, the courts, the police, and the academic and scientific community.

Intervention on a particular phenomenon also depends, to a large extent, on the scientific knowledge held about that reality (Agra, 2007). The main strength of this study is that it offers new and invaluable knowledge that has not been systematically explored before. Although, it is evident that further research is needed. Foremost, it should be investigated if there are any situations in which vehicle repair workshops would not have the opportunity to participate in the perpetuation or prevention of fraud. In addition, research into the specific bond between vehicle repair workshops and their clients, as well as the bond between the accident claim experts and the insurance company could be considered. Additionally, potential follow-up studies could include a replication of this qualitative inquiry, focusing on a different sample population – possibly insurers, front-line claims representatives, fraud investigators, and solicitors/barristers who specialise in fraud– to achieve a better understanding of the perspectives of the various actors in the fraud process. In turn, a better understanding enables the creation of better prevention strategies.

Funding declaration

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

None.

Acknowledgements

We thank Dr. Amadeu Recasens i Brunet for his guidance and valuable support during the preliminary phase of our research. We also thank Dr. Stephanie Kewley, Dr. Brian Moss and Dr Tim Turner for their comments on initial versions of this article, guidance and advice. We are also grateful to the two anonymous reviewers for their helpful comments.

Notes

¹According to Banco de Portugal (Central Bank of the Portuguese Republic) (2016), the vehicle sector is largely made up of micro enterprises (89.3%), followed by small and medium enterprises (10.3%) and large companies (0.4%).

References

- Agra, C., 2007. Podemos Medir a Criminalidade e a Segurança? [Can we measure criminality and security?]. Congresso de Cidadania. 227-234.
- Association of Certified Fraud Examiners (ACFE), 2009. Insurance Fraud Handbook. Association of Certified Fraud Examiners, Texas.
- Banco de Portugal (Central Bank of the Portuguese Republic), 2019. Home. <https://www.bportugal.pt/> (accessed 10 February 2020).
- Becker, G.S., 1969. Crime and Punishment: An Economic Approach. *Journal of Political Economy*. 77, 169-217.
- Bradford, M., 2009. Insurance fraud on the rise as result of global recession. *Business Insurance*. 43(11), 14–14.
- Bryman, A., 2016. *Social research methods*, fifth ed. Oxford University Press, Oxford.
- Button, M., and Brooks, G., 2016. From ‘shallow’ to ‘deep’ policing: ‘crash-for-cash’ insurance fraud investigation in England and Wales and the need for greater regulation. *Policing and Society*. 26/2, 210-229.
- Button, M., Brooks, G., Lewis, C., and Aleem, A., 2017. Just about everybody doing the business? Explaining ‘cash-for-crash’ insurance fraud in the United Kingdom. *Australian & New Zealand Journal of Criminology*. 50/2, 176-194.
- Caulfield, L. and Hill, J., 2018. *Criminological research for beginners: A student’s guide*. Routledge: Abingdon, UK.
- Commission Recommendation of 6 May 2003 Concerning the Definition of Micro, Small and Medium-Sized Enterprises (notified under document number C(2003) 1422), Official Journal L 124 , 20/05/2003 P. 0036 - 0041. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003H0361&from=EN> (accessed 20 February 2020).

- Cornish, D., Clarke, R., 2014. *The Reasoning Criminal: Rational Choice Perspectives on Offending*. Transaction Publishers, New Jersey.
- Cressey, D., 1953. *Other People's Money*. Patterson Smith, New Jersey.
- D'Arcy, S., Derrig, R., Weisberg, H., 2010. The Economics of Insurance Fraud Investigation: Evidence of Nash Equilibrium. *Casualty Actuarial Society*. 4/2, 170-190.
- Dehghanpour, A., Rezvani, Z., 2015. The profile of unethical insurance customers: a European perspective. *International Journal of Bank Marketing*. 33/3, 298-315.
- Derrig, R. A., 2002. Insurance Fraud. *The Journal of Risk and Insurance*. 69/3, 271-287.
- Dodd, N.J., 2000. The Psychology of Fraud, in Canter D.V., Alison, L.J. (Eds.), *Profiling Property Crimes*. Ashgate, Farnham, pp. 211-231.
- Dong-ling, W., Jun, X., 2010. The Analysis of Preventive Measures Against Motor Insurance Frauds: Based on the Perspective of Motor Insurance Practices. *Insurance Studies*. 2.
- Ericson, R., Barry, D., Doyle, D., 2000. The Moral Hazards of Neo-Liberalism: Lessons from the Private Insurance Industry. *Economy and Society*. 29/4, 532-558.
- European Insurance and Reinsurance Federation, 2013. *The Impact of Insurance Fraud*. <http://www.insuranceeurope.eu/sites/default/files/attachments/The%20impact%20of%20insurance%20fraud.pdf> (accessed 20 February 2020).
- Farashah, A. D., Estelami, H., 2014. The interplay of external punishment and internal rewards: An exploratory study of insurance fraud. *Journal of Financial Services Marketing*. 19, 253-264
- Fligstein, N., Roehrkasse, A., 2016. The Causes of Fraud in the Financial Crisis of 2007 to 2009: Evidence from the Mortgage-Backed Securities Industry. *American Sociological Review*. 81/4, 617-643.
- Fortin, M.F., 2009. *Fundamentos e Etapas do Processo de Investigação [Foundations and Stages of the Research Process]*. Lusodidacta, Loures (Portugal).
- Francisco, C.M.F., 2014. Utilização de redes para a detecção de casos de fraude em apólices de seguro automóvel: Caso de estudo em seguradoras portuguesas [Use of networks for the detection of fraud within car insurance: Case Study of Portuguese insurance

- companies]. <https://run.unl.pt/bitstream/10362/14533/1/TEGI0354.pdf> (accessed 7 June 2020).
- Gil, R., 2008. A Fraude nos Seguros: Lutando pela Transparência' [Insurance Fraud: Fighting for Transparency]. APS Notícias. 22, 14-15.
- Gill, M., 2005. Learning from Fraudsters. Provtiviti Group, California.
- Gill, M., Randall, A., 2015. Insurance Fraudsters. Insurance Law Journal, USA, 4/3.
- Goossen M., Sevä, I.J., Larsson, D., 2016. Basic Human Values and White-Collar Crime: Findings from Europe. European Journal of Criminology. 13/4, 434-452.
- Graham, K. A., Ziegert, J., Capitano, J., 2015. The Effect of Leadership Style, Framing, and Promotion Regulatory Focus on Unethical Pro-Organizational Behavior. Journal of Business Ethics. 126, 423-436.
- Insurance Europe, 2013. The Impact of Insurance Fraud. <https://www.insuranceeurope.eu/sites/default/files/attachments/The%20impact%20of%20insurance%20fraud.pdf> (accessed 21 January 2020).
- Ishida, C., Chang, W., Taylor, S., 2016. Moral intensity, moral awareness and ethical predispositions: The case of insurance fraud. Journal of Financial Services Marketing. 21, 4-18.
- Kish-Gephart, J. J., Harrison, D. A., Treviño, L. K., 2010. Bad Apples, Bad Cases, and Bad Barrels: Meta-Analytic Evidence About Sources of Unethical Decisions at Work. Journal of Applied Psychology. 95/1, 1-31.
- Lesch, W. C., Brinkmann, J., 2011. Consumer insurance fraud/abuse as co-creation and co-responsibility: a new paradigm. Journal of Business Ethics. 103/1, 17-32.
- Lesch, W. C., Byars, B., 2008. Consumer insurance fraud in the US property-casualty industry. Journal of Financial Crime. 15/4, 411-431.
- Liberty Seguros, 2019. Legal information. <https://www.libertyseguros.pt/Conteudo/info-Legal/page-65> (accessed 12 January 2020).
- Maio, L.S.C.G.C., 2013. Fraude nos seguros: A tolerância à fraude no seguro automóvel [Insurance fraud: Tolerance of auto insurance fraud]. Master dissertation, University of Porto, Porto, Portugal. <https://repositorioaberto.up.pt/bitstream/10216/69868/2/24918.pdf> (accessed 12 January 2020).

- Morris, A., 2015. A practical introduction to in-depth interviewing. Sage: London.
- Nash, J., 1951. Non-Cooperative Games. *The Annals of Mathematics*. 54/2, 286-295.
- Niemi, H., 1995. Insurance Fraud. *Journal on Criminal Policy & Research*. 3/1, 48-71.
- Palasinski, M., 2009. Testing Assumptions about Naivety in Insurance Fraud. *Psychology, Crime & Law*. 15/6, 547-553.
- Parodi, L., 2008. Manual das Fraudes [Fraud Manual]. Brasport, Brasil.
- Picard, P., Wang, K. C., 2015. Insurance fraud through collusion between policyholders and car dealers: Theory and empirical evidence. In *World Risk and Insurance Economics Congress*.
https://www.institutdesactuaires.com/global/gene/link.php?doc_id=1527&fg=1
(accessed 12 June 2020).
- Pimenta, C., 2009. Esboço de Quantificação da Fraude em Portugal [Fraud Quantification Sketch from Portugal]. Edições Húmus, Braga (Portugal).
- Pimenta, C., Afonso, Ó., 2012. Notes on the Epistemology of Fraud. Edições Húmus, Braga (Portugal).
- Révillion, A.S.P., 2003. Inter-relações entre Orientação para o Cliente, Cultura Organizacional e Cultura Nacional: Proposta de um Modelo' [Interrelations Between Customer Orientation, Organizational Culture And National Culture: Proposal for a Model]. *Revista de Ciências da Administração*. 5/10, 1-19.
- Ribeiro, R., Silva, B., Pimenta, C., Poeschl, G., 2019. Why do consumers perpetrate fraudulent behaviors in insurance?. *Crime, Law and Social Change*. 1-25.
- Sousa, P., 2013. 'Contributos da Economia e da Teoria dos Jogos para a Discussão sobre a Prevenção da Evasão Fiscal' [Economics and the Game Theory Contributions to the Prevention of Tax Evasion], in Teixeira G. and Cunha, A. (Eds.), *III Congresso de Direito Fiscal [III Congress of Tax Law]*, 329-351. Vida Económica, Porto (Portugal).
- Sparrow, M.K., 2008. Fraud in the U.S. Health-Care System: Exposing the Vulnerabilities of Automated Payments Systems. *Social Research*. 75/4, 1151-1180.
- Stenström, A., 2019. The limits of the decentred state: the case of policing insurance claims fraud. *The British journal of sociology*. 70(1), 339-355.

- Tennyson, S., 1997. Economic Institutions and Individual Ethics: A Study of Consumer Attitudes Toward Insurance Fraud. *Journal of Economic Behaviour & Organisation*. 32, 247-265.
- Tennyson, S., 2008. 'Moral, Social, and Economic Dimensions of Insurance Claims Fraud. *Social Research*. 75/4, 1181-1204.
- Tracy, P.E., Fox, J.L., 1989. A Field Experiment on Insurance Fraud in Auto Body Repair. *Criminology*. 27(3), 589-603. DOI: 10.1111/j.1745-9125.1989.tb01047.x
- Trevino, L. K., 1986. Ethical decision-making in organizations: A person-situation interactionist model. *Academy of Management Review*. 11(3), 601–617. DOI: 10.2307/258313.
- Tseng, L., Kang, Y., Chung, C., 2014. Understanding the Roles of Loss-Premium Comparisons and Insurance Coverage in Customer Acceptance of Insurance Claim Frauds. *Journal of Financial Crime*. 21/3, 321-335.
- Vale, J.B., 2012. Using Data Mining to Predict Automobile Insurance Fraud. M.Sc. Thesis. Portuguese Catholic University.
- Viaene, S., Dedene, G., 2004. Insurance Fraud: Issues and Challenges. *The Geneva Papers on Risk and Insurance*. 29/2, 313-333.
- Viaene, S., Ayuso, M., Guillen, M., Gheel, D., Dedene, G., 2007. Strategies for Detecting Fraudulent Claims in the Automobile Insurance Industry. *European Journal of Operational Research*. 176, 565-583.
- Wang, T., Long, L., Zhang, Y., He, W., 2019. A Social Exchange Perspective of Employee–Organization Relationships and Employee Unethical Pro-organizational Behavior: The Moderating Role of Individual Moral Identity. *Journal of Business Ethics*. 159 (2), 473-489.
- Wells, J., 2007. *Manual da Fraude na Empresa: Prevenção e Detecção* [Manual of Fraud in Enterprises: Prevention and Detection]. Almedina, Coimbra (Portugal).
- Wikström, P.H., Tseloni, A., Karlis, D., 2011. Do People Comply with the Law Because They Fear Getting Caught?. *European Journal of Criminology*. 8/5, 401-420.