
An Analysis of the Risk Factors Determining Motor Insurance Premium in a Small Island State: The Case of Malta*

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Abstract:

Purpose: *There is scope to identify the risks presented by vehicles that Maltese insurance companies insure and which they use in the determination of the premium to be charged for motor insurance cover. This, by determining the most significant risk factors and the extent of their impact keeping an open mind to understand whether there are other risk factors, which are not currently being identified in the premium determination process.*

Methodology: *The authors carried out this research by conducting 20 semi-structured interviews with experts in the field of motor insurance. Interviews were terminated when saturation point was achieved, and no further value was gained from additional interviews.*

Findings: *The study revealed that most insurers are still using the traditional rating factors, even though this might not necessarily reflect the risk being insured. Moreover, it was found that although insurers are aware that certain rating factors, such as penalty points and vehicle grouping, can help in improving the risk identification, these are not yet being considered in the current premium calculation. Also, it was found that, Maltese insurers ought to analyse the data from the penalty points system and use telematics and vehicle groupings in order to obtain a better understanding of the risk involved.*

Practical Implications: *The study reflects the fact that Maltese insurers are falling short in the risk identification process, and consequently may not be factoring in all the risks leading to the actual premium composition.*

Keywords: *Risk Factors, Motor Insurance, Private Vehicles, Premium, Malta, Telematics.*

JEL Code: *G22.*

Article type: *Research study.*

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1. Introduction

Insurance involves the risk transfer mechanism of financial losses, as a result of unpredictable events, by an individual to an insurer in return for a premium. Insurance is therefore a means of reducing uncertainty (Insurance Europe, 2012). In insurance, the contract is a tool used to regulate the relationship between the proposer/policyholder and the insurance company/insurer. In such a contract, the insurer promises to indemnify the policyholder in the event any damage, loss, injury or liability suffered or sustained in exchange for a premium payment, subject to the presumption that the policyholder follows and abides by all the terms and conditions prescribed in the contract.

By grouping premiums and insured events into a single pool, the financial impact of an event is shared among the policyholders who contributed to the pool (Insurance Europe, 2012). The law of large numbers and probability (first proven by the Swiss mathematician Jakob Bernoulli in 1713) will determine the probability of an event occurring. This principle is used by insurance companies in order to predict the potential losses and will shed light onto how much premium they should charge in relation to the risk presented. Insurance actuaries analyse historical claims data to determine trends in order to try to predict, as accurately as possible, future events. The law of large numbers states that as the population increases, i.e. as the number or policies issued increases, the more accurate the prediction will be; therefore, the insurance companies will be more confident that the projections that they would have set would be accurate and correct (Insurance Education for Future Leaders).

2. The Development of Motor Insurance in Malta

For many years, the Maltese insurance market was predominantly influenced by British insurance companies that operated on the island either by opening up branches or by appointing local agents. Although these agencies were mainly set up by Maltese businessmen, a substantial part of the actual underwriting and risk calculation was still being carried out by the head offices of the insurance companies mainly in the United Kingdom. Up until the early sixties, motor insurance mainly targeted British military personnel that were stationed in Malta, since Malta was a colony of Great Britain coupled with the fact that only relatively few Maltese people owned motor vehicles (Valletta, 2016).

However, following Malta's independence in 1964, British influence diminished greatly as military personnel started to leave Malta and improving economic conditions meant that many more Maltese were purchasing motor vehicles. Therefore, local policyholders became the largest customer base for motor insurance. The first insurance company under Maltese ownership was set up in 1981 and today we have eight motor insurance companies, five of which under Maltese ownership, that underwrite motor insurance locally (Valletta, 2016). As at end of the first quarter of the year 2019, the Maltese insurance market comprises of a total of

67 insurance undertakings, of which 51 transact non-life business and 8 are domestic insurers. With respect to intermediaries, there are 24 insurance managers, 30 registered agents and 400 tied insurance intermediaries whereas 105 entities broker the business. In terms of insurance premium, this translates into just over a billion euro in gross written premium and just under a billion euro in gross earned premium. Specifically, for motor insurance, the amount of premium generated in 2016 was €266 million in gross written premium and €241 million in gross earned premium for motor insurance liability business. A further €120 million euros in gross premium written and €111 in gross premium earned relates to other premium received from motor insurance business other than liability. Conversely, the industry incurred nearly €191 million euro in third party liability motor claims and over €62 million in claims related to motor other than liability (MFSA, Statistical tables, 2019).

Table 1. Insurance principal statistics

	Motor Insurance Liability	Other Motor Insurance
Gross Premium Written	€266,812,000	€120,080,000
Gross Premium Earned	€241,550,000	€111,667,000
Claims Incurred	€190,723,000	€62,372,000

Source: Adapted from MFSA – Insurance Principals Statistics 2016 General Business (MFSA, Insurance Statistics General Business, 2017).

However, the majority of insurance companies do not operate in the domestic market. The motor insurance premium for insurers operating in the Maltese market for 2018 amounted to €96.9m with 364,964 policies issued.

Table 2. Insurance principal statistics in Malta

Motor Insurance (written in Malta only)	Year 2018	Year 2017
Gross Written Premium	€96,920,704	€88,673,923
Policies issued	364,964	354,583
Average Premium	€265.56	€250.08

Source: Adapted from Motor Statistics 2017-8 (Malta Insurance Association, 2019).

In Malta, motor third party liability insurance is the only type of personal insurance that is compulsory by law. In fact, it is regulated by the Motor Vehicles Insurance (Third-Party Risks) Ordinance (1949) where Article 3 (1) of the Act states that:

“Subject to the provisions of this Ordinance, it shall not be lawful for any person to use or to cause or permit any other person to use a motor vehicle on a road unless there is in force in relation to the user of the vehicle by that person or that other person, as the case may be, such a policy of insurance in respect of third-party risks as complies with the requirements of this Ordinance.”

This means that the law requires every person who owns or uses a motor vehicle is required to hold a third-party motor insurance policy. Therefore, whereas in other types of insurance, insurance companies must strive to attract customers, this is not the case in motor insurance third party liability insurance because it is the law that is providing insurers with customers. Furthermore, upon Malta's accession to the European Union in year 2004, the requirements of the Motor Insurance Directives were transposed into the national law and insurers were required to change their motor third party liability cover to be in line with these requirements. Paragraph 3 of the Directive 2009/103/EC of the European parliament and of the council of the 16th September 2009 relating to insurance against civil liability in respect of the use of motor vehicles and the enforcement of the obligation to insure against such liability, states that:

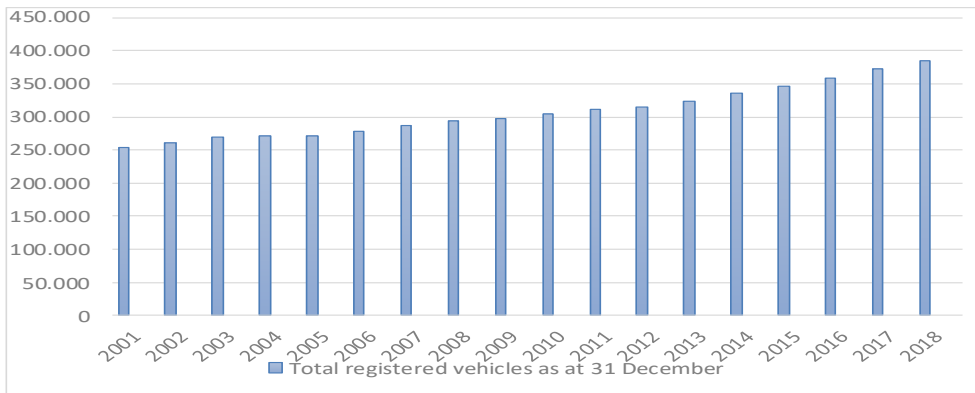
“Each Member State must take all appropriate measures to ensure that civil liability in respect of the use of vehicles normally based in its territory is covered by insurance. The extent of the liability covered and the terms and conditions of the insurance cover are to be determined on the basis of those measures.”

The main objective of the Motor Insurance Directive was to harmonise the legal requirement of motorists to have compulsory third-party liability insurance covering liabilities of traffic accidents occurring in any EU Member States (The European parliament and the council of the European Union, 2009). Therefore, an important exercise for insurance companies is to adequately analyse and measure the risk involved before accepting to insure it. If the insurer fails to make a distinction between the various degrees of risk variation being insured, this may result in a negatively performing motor insurance portfolio. If such a scenario repeats itself often, it can affect the profitability and sustainability of the whole organisation.

3. Significance, Need for the Study and Objectives

According to an article published by NSO on 31st January 2019, the number of vehicles registered in Malta amounted to 385,326 (NSO, 2019). Figure 1 shows that during the past 17 years, the demand for motor vehicles has increased and likewise the demand for motor insurance. This will in turn bring about a commensurate increase in loss exposure.

Since, in Malta, motor insurance companies operate in a highly competitive market, it is challenging for them to try to achieve a balance between valuing the risk profitably (in order to provide an acceptable return on investment) and offering competitive prices that can retain and attract new customers. If the premium charged results to be insufficient in relation to the risk involved, it can result in a technical loss as the cost of claims will ultimately exceed the premium collected. On the other hand, if the premium rates are set too high, it is likely to result in the insurance company being uncompetitive in the market and experiencing loss of business and market share.

Figure 1. Registered Vehicles in Malta between 2001 and 2018

Source: Adapted from NSO, 2019.

Table 1. Motor Premium as a % of total Gross Written Premium in €000

	Atlas	Citadel	Elmo	GasamMamo	Mapfre Middlesea	Total
Motor premium	12,225	5,511	10,105	20,511	31,159	79,511
Total gross written premium	27,929	7,445	16,960	33,803	50,133	148,935
%	43.77%	74.02%	59.58%	60.68%	62.15%	53.39%

Source: Adapted from SFCR of Insurance companies.

Table 2. Motor Underwriting Performance in €000s

	Atlas	Citadel	Elmo	GasamMamo	Mapfre Middlesea	Total
Premium earned	12,225	5,511	10,105	20,511	31,159	79,511
Claims incurred	(7,871)	(3,665)	(7,207)	(11,334)	(21,234)	(51,311)
Expenses	(3,100)	(1,668)	(2,676)	(6,890)	(11,032)	(25,366)
Profit / loss	1,254	178	222	2,287	(1,107)	2,834
$\frac{\text{profit}/(\text{loss})}{\text{Premium earned}} \times 100\%$	10.26%	3.23%	2.20%	11.15%	-3.55%	3.56%

Source: Adapted from SFCR of Insurance companies

Tables 1 and 2 are extracts from the Solvency and Fund Condition Reports (SFCR) of the largest 5 insurance companies in Malta. One can deduce the importance for insurance companies to use the appropriate data for rating premiums.

Table 1 shows that on average, motor insurance premium is 53.39% of the total gross premium received by the largest five Maltese licenced insurance companies. This illustrates the strong and steady business generated from this class of business. Though substantial from the premium side, it is also a class which features frequent and severe losses and therefore these premium figures have to be valued in the context of claims and expenses as demonstrated in Table 2.

Table 2 shows that the five largest Maltese licenced Insurance companies underwrite motor insurance have an average profitability of 3.56%. This shows the importance of underwriting the risks appropriately since a negative technical result on the motor portfolio will contribute to the overall portfolio financial performance. As from 1st December 2017, Transport Malta, the authority responsible to promote and develop the transport sector in Malta, extended its driving licence penalty point system to apply to all drivers and not just new licence holders. This was introduced to encourage motorists to drive safely in an attempt to reduce motor accidents. While motor insurance companies in Malta have been keen to use the penalty points accumulated by a driver as a rating factor, as is done in many other EU countries, this has not yet been possible in practice as they do not have access to the driving licence database.. Currently, therefore no premium distinction is in effect to distinguish drivers accumulating penalty points from others. This could potentially be a risk factor deserving study as to whether such a behaviour characteristic should be taken into consideration also by exploring how this is treated in other countries.

The study may be of interest for industry specialists, who may get a better understanding of how new factors may be integrated with the current factors, in order to arrive at a premium that reflects the risk better. Malta, being a small island state (about 316 km²) and a population of circa 450,000 EU citizens, is one of the six small states within the EU and Eurozone (population of under 3 million). Moreover, the financial services sector is a major pillar of Malta's economy attributed mainly to the advantageous tax regime, a low cost environment, a well-trained and motivated English speaking labour force and an EU-compliant, yet flexible, domicile. The specific features about Malta's financial system and history make this contribution towards this study particularly interesting for other small and larger countries/states within the EU and commonwealth countries (Bezzina *et al.*, 2012; 2014). Ultimately, the use of islands as small scale laboratories for more complex politics, regulations and policies of larger countries has been highlighted by various prominent researchers (Bezzina *et al.*, 2012; 2014, Briguglio, 1995; King, 1993).

Although insurers currently make use of different factors in order to evaluate the risk, these factors have remained largely the same for a number of years, even though some of the respondents feel that such factors are no longer that relevant and are not always able to generate a fair premium. The success of identifying and using the correct rating factors for generating the correct premiums for motor insurance will ensure profitability and success of the motor insurance market which, as noted

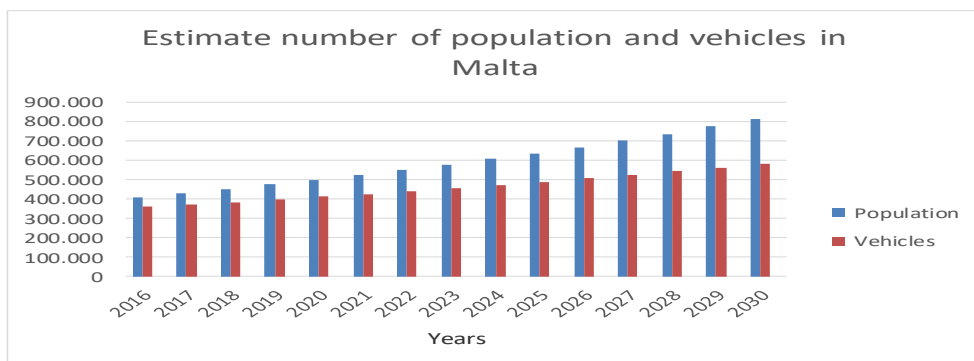
above, is the largest portion of the insurance portfolio in Malta. Hence the objectives of this paper are to determine the:

- factors currently influencing the determination of insurance premiums charged by insurance companies in Malta;
- factors that may influence the determination of insurance premiums charged by insurance companies in the near future, due to changes in environment, trends, innovations etc.

4. The Rationale of the Study

The steady growth in the number of vehicles in Malta has had a direct influence on the motor insurance market since it not only contributes to its growth, but also affects the cost of claims as more accidents are incident. In a study conducted by David Marinelli in 2018 called ‘Unsustainable Malta – The Road to Hell’ he estimates that, *ceteris paribus*, by 2030, registered motor vehicles in Malta will surpass 580,000. In 12 years’ time, motor vehicles in Malta will increase approximately by 222,000 which is a considerable 62% increase. Marinelli is basing this assumption using the average growth rate of vehicles in Malta on the previous years extrapolated into the future (Marinelli, 2018). This statistical forecast will place more pressure on local insurance companies to ensure that their motor portfolio remains profitable, riding on all possible rating information that is available.

Figure 2. Estimate of Population and Motor Vehicles Increase in Malta



Source: Adapted from *Unsustainable Malta – The Road to Hell*, Marinelli 2018

According to Booth *et al.* the main components of insurance premium are made up of the degree of risk associated with the policyholder; the insured vehicle; expenses incurred in the administration of the business; safety/contingency loading and contribution towards profit (Booth *et al.*, 2004). Moreover the Malta Insurance Association, (MIA) deems the factors that influence the motor insurance premium as the type of cover required, the vehicle insured, the age of the driver and the past

driving history of the driver (Malta Insurance Association, 2018). Insurers take into consideration the insured vehicle because a powerful, expensive vehicle will cost more in terms of spare parts and repairs (Malta Financial Services Authority, 2018). It is therefrom derived that in order to assess the risk imposed by the type of vehicle insured, insurance companies make use of the certain characteristics such as the value of the vehicle, the age of the vehicle and the performance of the vehicle.

Insurers use the sum insured as a basis for their premium calculation, but this in itself does not truly reflect the risk as it bears only a small degree of correlation to the repair costs of the vehicle. As the vehicle gets older, it starts to depreciate, resulting in the decrease of its value, likewise the premium charged also decreases. With regards to the total loss risk, this proportionate decrease is commensurate since if the vehicle is considered as total loss, the insurer will pay less as the vehicle depreciates. However, in reality, total losses are a very small minority of insurance claims paid by the insurers. In fact, the majority of the claims incurred involve repair damages and these costs do not decrease to any substantial degree over time. When they do decrease after a few years of the vehicle's life, this is mainly because insurers can utilise non-original parts or second-hand parts for repairs, which can have a positive effect on the claims cost, as it does bring down the costs to repair the vehicle, but otherwise the costs to repair will remain the same or increase due to the increase in labour costs and the effects of inflation (Valletta, 2016).

Another factor Maltese motor insurance use is the power and speed of the vehicle as this has a direct correlation to the likelihood of an accident. In order to measure the performance of the vehicle, insurers use the engine cubic capacity (cc) of the vehicle as a rating factor since it has a direct effect on the power output of the engine. As the volume of the air increases, the fuel system proportionately increases allowing the corresponding quantity of fuel to be injected into the engine. As the amount of fuel increases so will the power output (Shirish, 2018). This generally means that the larger the engine size, the more powerful the vehicle is, presenting a higher risk. However this is not always true as due to improvements and developments in the design and manufacture of vehicle engines, vehicles are being built in such a way that even though they are equipped with a relatively small engine, they can still outperform other vehicles with a relatively larger engine (Valletta, 2016).

Insurers, conscious of such phenomenon, are considering also factors other than just the engine cc, such as the vehicle's power-to-weight ratio or its brake horsepower (bhp) in order to better assess the performance of the vehicle, as this may not always be directly reflected in the engine size. The power-to-weight ratio is calculated by dividing the engine cubic capacity by the weight of the vehicle. The significance of the power-to-weight ratio is that since the result is a relative figure, it allows for comparing and assessing the different performance for different vehicles (Suleiman, 2018). On the other hand, the brake horsepower is also a relevant measure since it considers the horsepower of an engine measured by the degree of resistance offered by a brake, representing the useful power that a machine can develop.

Apart from factors relating to the vehicle itself, the other major factor that affects the premium of motor insurance is the driver's age and experience. To quantify the risk presented by the driver is more complex as it encompasses age, driving experience, accident and motoring conviction history, together with the temperament and character of the individual and the perception to risk (Valletta, 2016).

According to the Association of British Insurers, the age group between 66 and 70 years would pay an average premium of £260, whereas, between 18 to 20 years would pay an average premium of £930, which is four times as much (Association of British Insurers). This is attributable to the lack of experience, as young drivers may not be able to accurately perceive hazards, control the vehicle and make appropriate decisions on the road (World Health Organisation, 2007). Another reason that is normally cited to be the cause why young drivers are considered high risk, has to do with the fact that "adolescence is a period of transition, during which young drivers seek to assert themselves while also being involved with peers and the search for excitement and adventure" (Valletta, 2016). High level of 'sensation-seeking' behaviour among young adults leads young people to seek new situations and experiences, hence the increased behavioural hazard (World Health Organisation, 2007). Peer pressure can also have an effect on youths and their driving and (World Health Organisation, 2007) figures have shown that young drivers who use vehicles for pleasure purposes tend to drive faster, some doing so under the influence of alcohol or drugs (Valletta, 2016).

Due to these factors young drivers are regularly charged a substantially higher premium and higher policy excesses. In spite of this they still present a challenge to insurers to be able to insure such drivers profitably. Insurers have sought ways to make the premium for young drivers more affordable by reducing the risk of an accident using technology known as telematics. This is defined by PC Magazine as "the convergence of telecommunications and information processing, the term later evolved to refer to automation in automobiles. GPS navigation, integrated hands-free cell phones, wireless communications and automatic driving assistance systems all come under the telematics umbrella" (PC Mag, 2018).

Telematics insurance, which is sometimes also referred to as Usage-Based Car Insurance (UBI), is based on how one drives, when and where one drives. If the driver is deemed to be a 'safe driver' then the insurance will be considerably lower (Singh, 2017). Therefore, the main advantage of telematics insurance is that the premium of motor insurance is becoming cheaper for those drivers who can show that they are safer than others (Paramalingam & Farrugia, 2017).

The benefit of telematics insurance is that rather than relying on statistics generated from historical data, the premium becomes more individualistic and real-time since it is mainly based on the recent driving behaviour of the policyholder (Paramalingam & Farrugia, 2017). The information that is being transmitted from the vehicle is

providing insurers with a better understanding of how the policyholder drives and behaves, thus enabling insurers to better assess the risk (Insurance Europe, 2019).

Moreover, during an accident, the telematics device in the vehicle will register important data such as the speed, direction and angle of vehicle collision which can help the determine the circumstances of an accident, whilst also quantifying the damages incurred in order to reduce the number of fraudulent claims. (Paramalingam & Farrugia, 2017). This in turn will improve the time taken to handle claims, providing a speedier settlement (Insurance Europe, 2019) also assisting in reducing expenses.

Another advantage for the insurance companies is that since the telematics insurance is rewarding the policyholder with a lower premium in exchange for safer driving, this type of insurance is attracting people who feel confident that they pertain to the safe category (Intelligent Mechatronic Systems, 2018). It is helping insurance companies to separate between ‘good and bad risks’. Due to the fact that policyholders are being monitored, they may be encouraged to drive more carefully which will ultimately lead to a reduction in road accidents (Paramalingam & Farrugia, 2017).

Despite all these benefits, one major drawback of telematics insurance relates to privacy issues especially due to the recent introduction of General Data Protection Regulations at an EU level because through these devices, insurers are able to track the movement of the policyholders and gather information which may be deemed to be sensitive (Paramalingam & Farrugia, 2017). Insurers should continue to develop new applications and services in order to stimulate competition, whilst keeping in mind the privacy of the policyholders and to make sure that their data are being stored in a safe and secured location (Insurance Europe, 2019).

A driver’s claims history is considered by motor insurers as another important rating factor. If a driver has a negative claims history, a higher premium is usually payable. Sometimes, insurers may even decide to restrict the policy cover to third party only, or not to insure the driver at all if they feel that the likelihood of a claim is very high.

On the other hand, ‘No Claims Discount’ (NCD) is given out by insurance companies to reward good driving behaviour. It is a discount that is applied on the premium, depending on the number of years for which the policyholder has not lodged a claim (Citadel insurance, 2018).

The purpose for which a vehicle is used is considered to influence the degree of risk. Insurers make a distinction between a vehicle which is used for social, domestic and pleasure purposes or one used for commercial purposes (such as for rental, or the carriage of goods or fee-paying passengers). Personal motor insurance covers the policyholder for using the vehicle for personal leisure purposes and for work

commute, whereas, commercial motor insurance is designed for business owners or companies that use vehicles in the course of conducting business (Foundation Insurance Group, 2014). The risks presented by a driver who uses a vehicle for personal purposes are different for someone who makes use of his/her vehicle for working purposes such as operating a taxi service, or a travelling salesperson. This is due to the fact that the more frequently the vehicle is in use, the higher it is exposed to the risk of being involved in an accident (Valletta, 2016).

Insurers need to collect a premium that not only covers the risk but also the operational expenses they incur. In Malta, expenses make up an average of 31.9% of the total gross premium written by the top five insurance companies (Valletta, 2016). Expenses can be categorised as either variable or fixed. The difference between these classifications is that whereas variable costs fluctuate according to the volume of business transacted (for instance reinsurance costs or commissions payable to agents/brokers), fixed costs do not (for instance salaries, marketing expenses, depreciation expense, etc).

Insurers strive to exercise control over expenses to keep wastage as low as possible and to improve efficiency (General Insurance Convention, 1982). One approach to achieve this is by taking the gross written premium of one class of insurance and divide it by the total gross written premium of all classes of insurance earned by the company (General Insurance Convention, 1982). Although such method is fast and easy to allocate the company's expenses to each class of business, it is not a true representative of how the expenses are being incurred by the company, because such apportionment does not always reflect actual resource usage accurately by each class of insurance (Business Case, 2018).

One of the key challenges for insurance organisations is to understand how their infrastructure resources are consumed (Barrett, 2007). Therefore, accountants working with insurance companies, through the use of cost drivers, will allocate general overheads to each class of insurance in a systematic way, to make sure that each class is being allocated its fair share of expenses.

The Activity Based Costing method is widely used since it provides a more detailed cost per unit (or in this case the cost per insurance policy issued), which will help top level management in their decision making when deciding upon strategies in order to improve the competitiveness of insurance companies and to do so, management needs a good understanding of the drivers that are generating the costs so that more controls are put into place thus improving the overall profitability of the insurance company. Nevertheless, the Activity Based Costing method has its downfalls. Due to the complexity of its method, the benefits obtained might not exceed the costs incurred to have such a system and for certain activities, the general overhead costs cannot be contributed to a specific cost driver (Kaplan Financial Knowledge Bank, 2018).

Venter concluded that contingency loading serves two purposes in the premium calculation. First it aids solvency by absorbing some degree of fluctuation in loss experience, and secondly it provides suitable average return to the underwriter (Venter, 1979). Therefore, insurance companies cater for a contingency loading in order to make up for underestimating the frequency or severity of claims, and a percentage is reserved for this purpose. All these risk factors need to be considered in the context of other external forces such as the general market environment in which insurance companies compete and customer reaction towards price elasticity.

When deriving pricing strategies, insurance companies need to compare both the chargeable premium and the services offered with what their competitors are presenting to make sure that the premium is competitive. Also, motor insurers need to take into consideration the strategic objectives of the company because within the whole motor insurance market, insurance companies might want to target certain niches, as in the case of young drivers (aged between 18 to 24) or drivers aged 65 and over (Valletta, 2016).

5. Methodology

To carry out this study and attain the objectives twenty semi-structured interviews with experts in the field of motor insurance (i.e. purposive and snowball sampling) were carried out. Interviews were conducted until saturation point was achieved and no further value was gained from further interviews. The Interviews consisted of seven statements/questions to which participants were requested to answer according to a 5-point Likert scale ranging from 1 - 'Strongly Agree' to 5 - 'Strongly Disagree' or to which participants were required to provide an opinion or explain further.

All interviews were carried out either face-to-face or using the phone and skype. The open-ended answers were later transcribed into one Microsoft Word® document and analysed using the thematic approach, while the closed-ended answers were put in Microsoft Excel® and later into SPSS® to enable further analysis.

6. Results and Discussion

6.1 Current Rating Factors

Sixty per cent of the respondents strongly agree or agree that the main premium rating factors that are adopted by members of Malta Insurance Association are adequate to correctly reflect the risk, these being: the type of policy; the type of vehicle insured; the age of the driver; the past claims history of the driver and the use of the vehicle. On the other hand, twenty per cent disagree and another twenty per cent remained neutral.

Respondents consider these factors to be the traditional rating factors and agreed that the above factors are still used to calculate the premium today. However, other rating

factors are also being used in order to better analyse the risk involved and to generate a fair premium. Other rating factors that are considered relevant by respondents include: the repair costs, technological advances, vehicle body material and parts, geographical location, availability of reinsurance, driving experience, driver occupation, past criminal history, medical condition of driver, mileage of the vehicle, vehicle modification, past profitability of insurance company and competition.

The most prominent rating factors used by insurers that respondents identified were; repair costs, vehicle's technological equipment and the geographic location. Many of these rating factors are however not supported by any statistical analysis of claims data but are based mostly on risk perception, anecdotal information or the past experience of the underwriter with specific cases.

6.2 Repair Costs, Technological Advancement and Body Material

Insurers give great importance to repair costs when rating risks. In fact, half of the respondents specifically noted potential repair costs of the vehicle as being one of the main rating factors.

Thirty per cent of the respondents highlighted that the motor insurance industry has lately experienced a rapid increase in the average repair costs and that it is expected to remain on the increase in the future, notwithstanding the government incentive to scrap and buy new and the limited availability of spare parts and increased rates charged by repairers. In fact, on the latter point, interviewees noted that organisations representing repairers have been constantly pressuring insurers to increase the hourly repair rate that has remained unchanged for some years. If the hourly repair rate were to be increased for instance by €1 per hour and the average repair job took 15 hours to complete, then insurers would have to pay €15 more for each repair job. When this amounts to thousands of repair jobs every year that €15 increase will amount to hundreds of thousands of increased costs. Ultimately, this cost will be passed on to the policyholders by increasing the premium.

Moreover, the same respondents noted that more complex and sophisticated vehicles are being imported into our market. While this sometimes enables insurers to use technological advances in the vehicle to determine better the risk factors, and their many safety features can reduce the frequency and severity of accidents, there is also a negative impact being the higher cost of repairs that these vehicles attract. The interviewees also highlighted that in the past, the most common used vehicles imported into Malta were Japanese imports whereas more recently, insurers are experiencing an increase in the number of vehicles imported from Europe and the UK. In this respect although insurance companies charged the same premium based on the same sums insured, the repair costs for a UK import generally exceeds that related to a Japanese vehicle.

Also, whereas in the past, such sophisticated technological equipment was normally reserved for high-end vehicles, nowadays, it is standard that new vehicles are being equipped with modern technology such as Advanced Driver-Assistance Systems. This also augmented repair costs for insurers.

Due to the increased complexity and advanced technological features in modern vehicles, repairers are taking more time to repair vehicles, not to mention the limited expertise in this field and the increase in the cost of spare parts. In fact, one respondent made a remark on vehicles that have aluminium or carbon fibre panels as opposed to the traditional steel panels, and noted that in some cases the only way to repair such vehicles was to ship them abroad, thus, incurring transportation costs, which are added considerably to the overall claims cost.

Lastly, another interviewee remarked that due to the variety of vehicles, local agents do not generally have retain adequate stock levels for crash parts such as doors, bumpers and lights, and these would need to be shipped in from abroad, sometimes using rapid shipments which increase costs. Insurance company companies are often facing the difficult choice paying for a rental car for the period in which a claimant's car is unusable as it awaits repairs to commence or pay extra to expedite the delivery of parts.

6.3 Geographic Location and Availability of Reinsurance

One respondent said that statistics show that drivers in Gozo tend to be better drivers than their counterparts in Malta since statistics show that the accident frequency in Gozo is lower than that in Malta, therefore, a discount for vehicles in Gozo is merited. This could be due to a number of reasons, such as the fact that the population of vehicles in Gozo is lower than that in Malta and the distance travelled are shorter as well, Gozo's size being only 67 km².

Another respondent said that as a result of the use of telematics devices in vehicles, the locations in which the vehicle is used can be better monitored and assessed, in which case the premium can be more accurately priced according to location. On the other hand, two respondents said that the geographic location will only have a bearing on the premium if the vehicle is going to be driven overseas. While in Malta, the limits of indemnity required by law for any accident are €1.2 million for property damage and €6.07 million for body injuries, these can be considerably higher in other EU states. For instance, if the vehicle is driven in France or the UK and an accident occurs there, policies are required to provide unlimited liability for personal injuries. In fact, one of the respondents felt that the element of premium required to cover third-party liability is insufficient in such cases, since the insurance company is receiving a relatively small amount of premium, while it is exposed to the potential of a very expensive claim. One must also keep in mind that repair costs and the compensation awarded by courts for personal injuries tend to be substantially lower in Malta when compared to many EU states.

The insurer is therefore very cognisant of the importance to have in place proper and adequate reinsurance protection against such high value liability claims which can exceed the €6 million limit in Malta. There is no doubt that the cost of such reinsurance also has a relative impact on the premiums that Maltese insurers need to charge for motor insurance risks.

6.4 Driving Experience, Driver Occupation, Past Criminal Offence and Medical Condition

Forty percent of the respondents felt that information about the age and past claims history of the driver is not always sufficient to fully assess the risk imposed by the driver. Two respondents noted that apart from the age, driving experience is also an important factor to consider. One respondent said that when a telematics device is fitted in the insured vehicle, the insurer can better analyse the driving behaviour of the driver through information like for example, driving time, driving speed and the frequency of sudden braking.

One respondent noted that the driver's occupation should be considered as a risk factor whereas others (60%) noted that past criminal history of the driver should be considered if it relates to driving violations such as driving under the influence of alcohol or reckless driving. Based on past criminal history of the driver, insurers insert very strict clauses or can even refuse to insure the person. Forty percent of the respondents noted that medical condition of the driver is also used as a rating factor especially if such a condition is chronic and can affect the driving behaviour of the policyholder.

6.5 Vehicle Modification, Profitability and Mileage

Two interviewees noted that in the proposal form, insurers are particularly interested in knowing about modifications carried out on the vehicle that enhances its performance. As mentioned earlier, apart from the engine's cubic capacity, insurers also use the power-to-weight ratio and the brake horsepower as rating factors. These determine better the real performance of the vehicle and the associated risk. Twenty percent of the respondents noted that mileage has an influence on rating as the more time the vehicle is being driven the higher is the exposure to the risk of an accident.

One interviewee highlighted the importance of using data of past profitability of certain segments of the motor portfolio when determining the premium. For example, if vehicles worth €30,000 with a 2000cc engine had a negative claims history, vehicles in this segment are charged more than the other groups, either by loading the premium, imposing strict conditions or increasing the level of the excess.

However, another respondent strongly feels that the main factor which really dictates the premium charged, is the level of price competition in the market. Until a few years ago, motor insurers tended to be less selective and accepted most risks while

charging relatively lower premiums in order to obtain a higher market share as motor was considered to be a profitable class of business. Negative market claims experience however forced insurers to change this approach and adopt more stringent underwriting which dictates that the premium to charge must be commensurate with the corresponding risk/s.

6.6 The Penalty Points System

All respondents agreed that in the future, the penalty points accumulated by a driver should be taken in consideration when calculating the premium. In fact, it was reported that the Malta Insurance Association had entered in discussions with Transport Malta, in order for insurers to be able to independently verify the points accumulated by each driver applying for cover, while respecting the data protection regulations and privacy rights.

Two potential models of collecting the information about penalty points had been identified, (a) direct access to Transport Malta's database with the driver's express consent or (b) relying on the disclosure made by the driver at the proposal stage. All respondents agreed that ideally, insurers should have direct access to the database and access the information directly in order to avoid the potential under-reporting by drivers via the traditional proposal form. The latter model could lead to moral hazard and adverse selection since the policyholder might not wish to disclose adverse information in an attempt to obtain better rates.

Respondents noted that since driving behaviour is a very strong risk factor, penalty points can help insurers decide whether to insure a person or not. They remarked that the penalty points system will indicate accurately a driver's level of driving quality and consideration to road safety and is therefore highly relevant in assessing the risk presented for insurance cover. Insurers have an interest in conveying a strong message that irresponsible driving brings about punitive effects through the payment of an increased premium or insurance declinature.

However, two respondents disagree, since they feel that insurers have a duty to protect the individual's privacy, therefore, the right to access such information has to be limited in some way and should only be granted at the time when the policy is issued or at renewal. The respondents argued that access should only be provided when there are changes to the policy, such as for example when a driver is added to the policy.

Thirty percent of the respondents said that when signing the proposal form, the policyholders would expressly consent to the insurer checking the licence status and the penalty points, if any, accumulated. Three respondents claimed that if a person does not give this consent, it is likely that the policyholder has something to hide and thus they were likely to refuse to insure.

Another issue which was raised was the fact that there were many cases where the insured vehicle would also be driven by persons other than the policyholder. Many policies allow this as insurers normally grant cover on an “open driving” basis, for instance “any authorised driver aged 25 years and over” being the most common restriction. One respondent noted that the policyholder should be obliged at proposal stage to declare who the other regular drivers were and the insurer should have the right, if such declaration is made, to be also informed about the penalty points accumulated by these other drivers.

6.7 The Emergence of Telematics Insurance in Malta

Only two insurance companies currently offer a telematics-based insurance policy and these are targeted at young drivers aged between 18 and 25. The idea is to offer an affordable insurance solution to young drivers while influencing their driving positively to reduce the risk of an accident. All respondents noted that due to the high premium, young drivers had traditionally their vehicle in the name of a parent, in order to benefit from the NCD that the parent would have earned. This meant that the premium being charged was not truly reflective of the risks as the vehicle’s main user was the young driver and not the parent who had earned the NCD. Also, the young driver would not be earning an NCD over time and when eventually he or she insured a vehicle in his/her own name they would not benefit from any NCD that was earned.

Therefore, the idea behind the introduction of telematics-based motor insurance in Malta, was to enable young drivers to benefit from the positive driving experience they earn themselves. Young drivers can be able to insure their vehicle in their own name, benefiting from an initial 65% discount which in many cases is equivalent to the NCD that their parent would have earned. Provided that there are no claims, the discount allowed for the telematics device decreases, whilst the NCD starts to increase, however the total discount will still be equal to 65% throughout this time.

All respondents agreed that with the introduction of telematics, insurers were able to assess the ‘good risk’ from the ‘bad risk’ while drivers were strongly motivated to drive more carefully and safely and avoid over speeding. The data received from the telematics device, helps insurers to clearly identify and reward those drivers who showed good driving behaviour. With the telematics device, insurers can charge a fairer premium commensurate to the risks involved. Moreover, thirty percent of the respondents mentioned that the telematics device data can be advantageously used to provide a better overview of an accident in case of a claim. It can be very important to determine liability where this is disputed and can help ease the recovery of accident costs paid by the insurer from the responsible party or the insurer via subrogation. Furthermore, four respondents noted that the Global Positioning System (GPS) device attached to the telematics device provides another advantage since it helps to track the location of the vehicle in case it is stolen.

Two respondents however had an opposing view and felt that telematics data does not really provide insurers with any advantage since it is expensive to maintain and statistics are evident in showing that that drivers under the age of 21 are involved in 54% of the accidents in Malta.

On the other hand, six respondents highlighted that telematics-based insurance should be accessible for all drivers and not just for young drivers, since whilst it is a fact that drivers aged between 18 and 25 that are involved in most accidents, the same could be said for other drivers over 25 years causing very expensive claims too. To the question regarding whether telematics insurance should become mandatory for young drivers, there was a wide variation of responses, with ten agreeing, two remaining neutral and eight disagreeing. Respondents who agreed with the statement said that “insurers will realise that those who opt out, will be the ones who tend to be the ‘bad risks’ and if insurers find that there are particular groups which are problematic in terms of claims experience, then insurers should make telematics mandatory for them as well, if it means having less accidents on the road or better profitability margins for insurance companies”. On the other hand, the interviewees who disagreed with the statement stated that. “the introduction of telematics insurance is a commercial decision for each insurance company to take and should not be imposed”.

Notwithstanding the mixed responses, insurers will probably be forced to use data generated by telematics devices as more vehicles are likely to be equipped with them as a standard in the near future. This data can really help insurers not only in assessing the risk, but also in offering a much faster assessment of claims since data/video evidence can quickly determine the degree of fault or otherwise.

Consequently, if more insurers use telematics insurance it can lead to more ‘individualised underwriting’ because the premium will not only be calculated on the traditional risk factors but also on the characteristics of the particular policyholders’ driving habits.

In fact, all respondents agreed that this is a fairer method of charging premium to policyholders, based on ‘real’ risk although this is not always a solution and may be seriously flawed as the actual main driver of the vehicle may not always be the policyholder and most telematics devices currently in use cannot distinguish between different drivers.

6.8 Grouping Vehicles by the Risk Presented

Seven respondents felt that the performance of the vehicle and the sum insured of the vehicle were sufficient risk factors in themselves to charge an appropriate premium, while two respondents agreed whilst one remained neutral. As noted earlier many insurers also use repair costs as a factor when assessing the vehicle risk.

In the UK, the Association of British Insurers (ABI) together with Thatcham Research grouped together vehicles according to the risk presented by the respective vehicle class. This is based on information derived from the assessment of a vehicle including the ease of vehicle repair and the level of security.

Eight respondents agreed that the system used by Thatcham is more accurate to reflect the risk presented by a vehicle. Some insurers stated that talks with the Malta Insurance Association had been taking place in order to introduce a similar system in Malta by adapting the UK one. However, some insurers pointed out that insurers cannot simply adopt the UK vehicle grouping system, but should carry out an evaluation of vehicle groups and adapt them according to the circumstances in Malta, which may be different from those in the UK. In fact, one respondent said that insurance companies will adjust the groupings by taking into consideration the historical claims performance of such vehicles in Malta. However, this was not a solution for new vehicles entering the market. Other factors that need to be considered are the availability and prices of parts in Malta as compared to the UK

7. Concluding Remarks

The motor insurance industry operates on the fundamental principle of calculated risk, determining rates by predicting the likelihood of a loss. The interviews produced meaningful results and proposed prospective lines of action that may be adopted by insurers. It is evident that motor insurers need to start making use of more relevant factors when assessing the risks. Insurers ought to start using the penalty points system as part as it will help them to assess further the risk presented by policyholders. Furthermore, insurance companies should be given access to information regarding the suspension of the driving license because as noted by interviewees, they could run the risk of insuring a person even though the licence has been suspended.

Moreover, most of the respondents acknowledge that the use of telematics data through which drivers (especially young drivers) are adequately monitored should influence the premium charged. This system, together with the penalty point system in conjunction with the existing NCD will surely improve the accuracy and effectiveness of the existing practice of underwriting motor risks. In order to maximise the full potential, both the underwriting and the claims departments ought to have access to telematics data so that they can understand the risk factors and variables. This in turn, will enable them to evaluate risk based on each individual's driving behaviour. These variables include, but are not limited to, inclinations toward driving practices, trip characteristics, the current condition of the vehicle and the location of vehicle, among others. Applying the appropriate technologies and analytical tools to acquire and evaluate driving data, requires resources and costs, however the benefits accrued are huge in attracting better risks, reducing claims costs, enhancing customer loyalty and adding value to motor insurance.

The Thatcham vehicle grouping model for insurance purposes is one which could be closely looked at locally since this replaces the use of engine cc in classifying the vehicles on that basis of power, and takes into consideration various risk factors such as the value of the vehicle and the potential repair costs, among others. This exercise can be replicated in Malta if insurers implement these changes in a collective manner allowing the respective insurers to adjust the groups according to their own historical claims experience and knowledge of the different vehicle risk factors. As the Maltese motor insurance industry develops, insurers must remain abreast with changes in the motor vehicle world, where technological advances are bringing both opportunities and threats. Insurers face rising costs and new untested repair practices however on the other hand they are much better equipped in the assessment of the risks by technological the advances made

Insurers strive to be competitive especially in the business of motor insurance where profit margins tend to be narrow and the risk of generating a technical underwriting loss are traditionally very high. Competitiveness can benefit from insurers charging the most appropriate premium to cover the risk posed, while on the other hand being sensitive to other factors external to the standard rating formula such as economic factors and market forces. On the other hand, consumers benefit from competition in the insurance market by way of lower premiums and drivers are encouraged to reduce risk wherever they can, through safer driving behaviour. So nowadays, not only will risk pricing allow insurers to set a premium that reflects the likelihood of a claim and the probable size of that claim, but also reflecting safe driving and appropriate driving habit. This benefits the insured in terms of lower or discounted premium payments and also benefits the insurer in the widening of the motor insurance portfolio making possible the insuring of risks which otherwise would not be insurable.

From the above analysis, it can be concluded that it is important for insurance companies to charge a premium that corresponds with the risk using all available sources. The case in Malta warrants the looking into changing the old established criteria of premium rating criteria. Incorrect pricing of motor insurance can have a significant impact on the performance and solvency of the insurance company.

References:

- Association of British Insurers. (n.d.). Age and motor insurance. Retrieved October 14, 2018, from <https://www.abi.org.uk/products-and-issues/choosing-the-right-insurance/motor-insurance/age-and-motor-insurance/>.
- Barrett, R. 2007. Activity-based costing: Innovative methods to decrease costs and increase profitability. Retrieved October 14, 2018, from <http://www.jiops.com/10/2007/activity-based-costing-innovative-methods-to-decrease-costs-and-increase-profitability/>.
- Bezzina, F. and Grima, S. 2012. Exploring factors affecting the proper use of derivatives: an empirical study with active users and controllers of derivatives. *Managerial Finance*, Vol. 38. No. 4, 414-434.

- Bezzina, F., Grima, S., Mamo, J. 2014. Risk Management practices adopted by financial firms in Malta. *Managerial Finance*, Vol. 40, No. 6, 587-612.
- Booth, P., Chadburn, R., Haberman, S., James, D., Khorasane, Z., Plumb, R.H., Rickayzen, B. 2004. *Modern Actuarial Theory and Practice* (2nd ed.). New York.
- Briguglio, L. 1995. Small island developing states and their economic vulnerabilities. *World Development*, Vol. 23, No. 9, 1615-1632.
- Business Case. 2018. Cost Allocation and Cost Apportionment . Retrieved October 14, 2018, from <https://www.business-case-analysis.com/cost-allocation.html>.
- Citadel insurance. 2018. Frequently Asked Questions. Retrieved October 14, 2018, from <https://www.citadelplc.com/en/car-insurance-faqs>.
- Foundation Insurance Group. 2014. What is The Difference Between Personal and Commercial Auto Insurance? If You're Self-Employed and Use Your Personal Car for Work, Do You Need Commercial Auto Insurance? Retrieved October 14, 2018, from <https://www.foundationinsurancegroup.com/what-is-the-difference-between-personal-and-commercial-auto-insurance-if-youre-self-employed-and-use-your-personal-car-for-work-do-you-need-commercial-auto-insurance/>.
- General Insurance Convention. 1982. General Insurance Expenses.
- Insurance Education for Future Leaders. (n.d.). Law of Large Numbers. Retrieved October 14, 2018, from <https://www.investprogram.org/students/insurance-in-real-life/law-of-large-numbers>.
- Insurance Europe. 2012. How insurance works.
- Insurance Europe. 2019. Access to in-vehicle data can maximise the benefits consumers gain from motor insurance. Brussels: Insurance Europe.
- Intelligent Mechatronic Systems. 2018. The Future Trends of Usage Based Insurance and Telematics. Retrieved October 14, 2018, from Intellimec: <https://www.intellimec.com/insights/usage-based-insurance-trends>
- Kaplan Financial Knowledge Bank. 2018. Activity Based Costing (ABC). Retrieved October 14, 2018, from Kaplan Financial Knowledge Bank: [http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/Activity%20Based%20Costing%20\(ABC\).aspx](http://kfknowledgebank.kaplan.co.uk/KFKB/Wiki%20Pages/Activity%20Based%20Costing%20(ABC).aspx).
- King, R. 1993. The geographical fascination of islands. In Lockhart, D.G., Drakakis-Smith, D. and Schembri, J. (Eds), *The Development Process in Small Island States*, Routledge, London, 13-37.
- Malta Financial Services Authority. 2018. Your Insurance Premium. Retrieved October 14, 2018, from <https://mymoneybox.mfsa.com.mt/consumer-advice/insurance/motor-insurance/your-insurance-premium>.
- Malta Insurance Association. 2018. Products. Retrieved October 14, 2018, from <https://maltainsurance.org/products/#>.
- Marinelli, D. 2018. Unsustainable Malta – The Road to Hell. Retrieved 11 02, 2018, from <https://www.davidmarinelli.net/blog/unsustainable-malta-the-road-to-hell/>
- MFSA. 2017. Insurance Statistics General Business. Retrieved from Insurance Principals Statistics 2016: <https://www.mfsa.mt/wp-content/uploads/2019/01/2016-Insurance-Statistics-General-Business-.pdf>.
- MFSA. 2019. Statistical tables. Retrieved from Statistical Tables: 1st Quarter 2019: <https://www.mfsa.mt/wp-content/uploads/2019/04/01.-Statistical-Tables-1st-Quarter-2019-Final.pdf>.
- NSO. 201. Motor Vehicles: Q4/2018. (015/2019), 8.

Paramalingam, R., Farrugia, K. 2017. Telematics Car Insurance. Retrieved October 14, 2018, from <https://home.kpmg.com/mt/en/home/insights/2017/03/telematics-car-insurance.html>.

Shirish. 2018. Engine Capacity (CC): What Is Engine’s Capacity / Volume / Displacement? Retrieved October 15, 2018, from <https://carbiketech.com/engine-capacity-cc/>.

Singh, S. 2017. The Future Of Car Insurance: Digital, Predictive and Usage-Based. Retrieved 10 14, 2018, from <https://www.forbes.com/sites/sarwantsingh/2017/02/24/the-future-of-car-insurance-digital-predictive-and-usage-based/#4596512a52fb>.

Suleiman, A. 2018. How to Calculate Power-to-Weight Ratio. Retrieved March 23, 2019, from <https://itstillruns.com/calculate-power-weight-ratio-7508419.html>.

Valletta, F. 2016. Underwriting Pricing. Underwriting. Malta.

Venter, G.G. 1979. Profit/Contingency Loadings and Surplus: ruin and return implications. Virginia: Casualty Actuarial Society Discussion Paper Program.

World Health Organisation. 2007. Youth and Road Safety.

Laws and Regulations

- The Laws of Malta 1947, Chapter 104.
- Motor vehicles Insurance (Third-Party risks) Ordinance, Malta.
- The European Parliament and the Council of the European Union, 2009. Directive 2009/103/EC of the European Parliament and of the Council of 16 September 2009 relating to insurance against civil liability in respect of the use of motor vehicles, and the enforcement of the obligation to insure against such liability. Directive Edition. European Union.

Appendix:

Interview Schedule:

1. The main factors influencing the calculation of the Motor Insurance Premium are 1) the type of policy, 2) the type of vehicle insured, 3) the age of the driver 4) the past history of the driver (NCD) and 5) Insurers also consider the use of the vehicle (private or business use) as another important rating factor.

a) We feel that these rating factors generate a fair premium for the risk

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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b) Our company also use other risk factors when calculating the premium

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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c) These rating factors are still relevant today

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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d) If you disagree with the above statements, what new rating factors that influence the risk calculation and consequently the premium, should be considered?

2. On 1st December 2017, Transport Malta introduced the penalty points system on driving licences in order “to influence and improve driver behaviour and address the unacceptable levels of death and serious injury on our roads.”

- a) If this is not currently one of the risk factors used by insurance companies, do you think that in the future, the penalty points should be considered when calculating the premium and if so why?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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b) If the penalty points do become part of the risk factor, how would it work best? Would you prefer a system where the insurer has access to the database (with the client's consent and in line with data protection regulations) and obtain the information directly at underwriting stage, or one where you rely on full disclosure by the client? Please explain the reasons for your preference.

3. In recent years, we have seen the introduction of Telematics insurance, which locally is mainly targeted at young drivers aged between 18 and 25.

a) In your opinion, why should insurance companies offer a telematics-based insurance policy? Please explain the reasons why insurance companies should offer or not offer such a product. Should this be considered as a rating factor?

b) Insurers should make Telematics insurance mandatory for young drivers, and eventually even for all drivers

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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c) Technology such as telematics will be increasingly used by insurance companies in the near future.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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d) The use of telematics as a rating factor in motor insurers would mean 'individualised underwriting', where a driver will be charged not just according to the vehicle that he owns, but also according to the quality of his/her driving and his habits and behaviour. Do you consider this fair in terms of calculating premiums and do you believe it is doable?

4. With regards to the risk presented by the vehicle itself (ignoring moral hazards), insurers in Malta are using engine size (cubic capacity) and value (for non-Third Party policies) to calculate the premium.

a) Although, the value and premium of an aging vehicle becomes lower, the repair costs remain the same or increase due to inflation. How do you explain this in terms of premium rating factors?

b) We believe that rating systems used in other European countries where vehicles are grouped according to the level of risk they present for insurance purposes, are more accurate in reflecting the level of risk in the premium.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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c) Do you believe that insurance companies will start adopting such a system and if so, what are the main challenges in doing this?

6) Incorrect pricing of motor insurance will have an impact on the performance and solvency of insurance companies

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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7) a) Insurance companies or industry in general should invest further in creating a more accurate pricing system for motor insurance?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
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b) What would be the benefit of such an investment?