

# IS COMPULSORY THIRD PARTY MOTOR INSURANCE THE PANACEA FOR THE SOUTH AFRICAN INSURANCE INDUSTRY?

*Elton Zingwevu\**, *Athenia Bongani Sibindi\*\**

## Abstract

Compulsory motor insurance schemes have gained prominence over the years as a policy prescription by governments in their quest to provide a safety net for the protection of consumers and insurers alike. By making as minimum, motor third party insurance compulsory, central government ensures that the burden of providing indemnity is removed from the fiscus and entrusted upon the insurance sector. This also proves to be mutually beneficial to the insurance companies as the risk pool is widened. Sadly South Africa does not have a fully-fledged motor third party compensation scheme but has a variant of such a scheme in the form of the Road Accident Fund. The limitations of this fund are that it only caters for motor third party liability for bodily injury or death and its limits of compensation are relatively low. In this article we demonstrate the need for policy makers in South Africa to reintroduce compulsory motor third party insurance in order to alleviate the burden of funding motor liability from the fiscus as well as to widen the risk pool of insurers.

**Keywords:** Compulsory, Motor insurance, Third Party, Liability, South Africa

\* *University of South Africa, Department of Finance, Risk Management and Banking, P.O Box 392, UNISA, Pretoria 0003*  
Fax: +27 (0) 86-642-6519

Tel: +27(0) 12 -429 4680, +27(0) 76-289-8824

E-mail: [Ezingwe@unisa.ac.za](mailto:Ezingwe@unisa.ac.za)

\*\* *University of South Africa, Department of Finance, Risk Management and Banking, P.O Box 392, UNISA, Pretoria 0003*

Fax: +27 (0) 86-569-8848

Tel: +27(0) 12 -429 3757, +27(0) 78-410-0508

E-mail: [sibinab@unisa.ac.za](mailto:sibinab@unisa.ac.za)

## 1. Introduction

Motor insurance constitutes the bulk of the business that is underwritten by short-term insurance companies. It also represents a source of many claims for the insurance companies. As such this line of business thrives where there is risk diversification and hence the law of large numbers is observed. Most governments in both the developing and developed countries have legislated and provided for compulsory motor insurance. The basic form of such a policy is that it will at least cover liability for third parties in respect of property damage and bodily injury or death.

According to the South Africa Insurance Association (SAIA) (2014), only 35% of the vehicles in South Africa are insured. While SAIA does not give actual numbers, it is evident that the chances that when a person is involved in an accident where more than one part is involved, there is a 65% chance that the other car is uninsured. Uninsured losses are either borne by the insurers or the other party that is uninsured. Skogh (1982) alludes to the tendency by

human beings not to buy insurance where the chances of a loss are low but the size of the loss will be very significant. The 65% uninsured household seems to confirm this behaviour. Cohen and Dehejiah (2004) found that indeed compulsory insurance does achieve its intended goals. These goals are namely; the reduction of uninsured losses and provision of compensation to victims of motor vehicle accidents. Whilst they revealed that a no fault system was associated with an increase in road accident fatalities, in South Africa the statistics show an increase in road fatalities without a compulsory insurance in place. In 2001 the fatal crashes that were experienced were 11201 and in 2010 they stood at 13 967 representing a 24.69% increase in road fatalities. As early as 1919, Carman had shown that the non-existence of compulsory motor third party insurance prejudiced the road users who could not recover or could not afford the legal costs for attorneys.

Birmingham and Brannan (2012) explain the concept of subrogation, which is the basis for insurers to claim from third parties who cause losses. Subrogation is defined generally as the substitution of

one thing for another, or of one person into the place of another with respect to rights, claims, or securities (King 1951). Kimball and Davis (1962) stress on the two basis for subrogation namely; the non-extension of benefits to third party who is not privy to the contract and the concept of indemnity whereby the insured must not lose or benefit from insurance. Rather the insured must be put back to the same financial position that they were prior to the loss. Further, subrogation assists the insured and the insurer to maintain a good loss ratio and thus will improve business performance of the insurers and the insurance industry respectively. In addition compulsory motor insurance is believed to improve the level of care by drivers. With such alarming rates of uninsured vehicles, the right of insurers to recover is taken away or diminished. It is therefore imperative that a solution is sought that would address the issue of increasing road fatalities as well as the very high levels of uninsured losses.

South Africa had compulsory motor insurance from 1942 to 1997 which covered property damage and bodily injury or death. This was replaced by the Road Accident Fund (RAF) which covers bodily injury or death of third parties only. However the cover provided by RAF has proven to be grossly inadequate and hence an alternative funding arrangement has become a policy imperative now more than ever before. In this article we seek to reveal the need to move towards compulsory third party motor insurance. It is our contention that a move towards compulsory motor insurance will not only benefit insurers but it will also assist consumers as well.

The remainder of paper is arranged as follows: the next section reviews the theoretical framework underpinning compulsory third party motor insurance. Section 3 reviews the empirical literature. Section 4 describes the research methodology and presents the empirical results. Section 5 discusses economic and policy implications and then Section 6 concludes.

## 2. Theoretical Framework

Motor insurance essentially comes in three covers namely; comprehensive insurance, third party fire and theft and lastly third party insurance. Under comprehensive insurance, the insured is covered for accidental damage, fire damage as well as third party liability. Comprehensive insurance is an all-encompassing cover, which will cover perils that include accidents, theft, fire, and damage to third party properties. Third party fire and theft excludes own damage (property damage) and covers the rest of the perils that may happen to a motor vehicle. Third party liability insurance, which is the focus of this article, covers legal liability to third parties who are injured or whose property is damaged by an insured. This type of cover can be voluntary which means that

there is law that makes it compulsory. Therefore those who use voluntary liability insurance do so out of a motivation to manage their personal exposure to third parties who may claim from them. Where the cover is compulsory, the state stipulates in a piece of legislation that all road users must have motor liability insurance. In some territories it includes cover for both property and bodily injury whereas in some territories it is only for bodily injury or death. The focus of this paper is on the compulsory motor third party liability insurance.

### 2.1 The Theory of Compulsory Motor Insurance

In determining whether one is liable or not at law, two approaches are used. These are strict liability or negligence based liability. Under strict liability, there is no need to prove negligence. If an individual causes harm to another then they are liable to the other party. Negligence liability requires proof of negligence on the part of the individual that caused the loss. Under a strict liability system, it is obvious that once an individual injures another, they are liable. However with negligence, it is possible that the negligence may not be proven.

In their handbook, Polinsky and Shavell (2007) illustrate the implications of the responsibility for injuries under two main approaches namely; unilateral and bi-lateral accidents. Unilateral accidents approach assumes that only the injurers can reduce the level of risk by taking care. They show that both under strict liability and negligence liability, the injurer has an incentive to take optimal care since they will seek to reduce their expenditure on their duty of care. The following variables are used to denote the total expected costs.

$$\text{Total Expected Costs} = x + p(x)h$$

Where  $x$  = expenditure on care

$P(x)$  = probability of an accident that causes harm  $h$

$h$  = harm

Assume that  $x^*$  = Optimal  $x$

If strict liability is assumed, the injurer will seek to minimize the level of total expenses. However  $x$  is always equal to  $h$  and thus they seek to minimise  $x^*$ .

In Skogh (1982) an almost similar model is presented which states that the injurer is assumed to be the one that is in control and expected to reduce the possibility of loss. He mentions a concept of costless bargaining where both victims and the injurers will sign an unenforceable contract to compensate each other. While that approach can make sense, it is close to impossible for each motorist to enter into such contracts with each and every motorist. This then justifies the involvement of an external regulator.

With negligence liability, the injurer is faced with a situation where his level of care is denoted by . If the level of care is below the optimal level, the injurer will be liable. However if the level of care is above the optimal, the injurer will not be liable. Thus it can be seen that either way the injurer has an incentive to be careful. While Polinsky and Shavell (2007) present a bilateral approach that shows the optimal level when both the injurer and the victim are taking care, they do not explain the factors behind the level of care. However according to Li, Liu and Peng (2012), the income of consumers and their risk aversion do have an impact on their level of care. Higher income consumers tend to be risk averse and therefore exercise more caution in their driving. The high income earners tend to purchase more liability insurance since it is unrelated to the value of the cars while older and female policyholders also bought more liability cover.

In the bi-lateral approach, they also suggest that both the victim and the injurer will seek an optimal level of care where they will not be held liable for damages. Brown (1973) cited in Polinsky and Shavell (2007) also concurs that under both the strict liability and negligence liability rules, the injurer and the victim will exercise optimal care. It is interesting to note that while Polinsky and Shavell (2007) revealed that it is possible to reach an optimal level under the negligence rule, Skogh (1982) brings another fact related to that. The injurer may do just enough to avoid negligence without being optimal. O'Connell (1978) hailed the introduction of the no fault system as the answer to the problems associated with the fault system which included high costs per vehicle as well as compensating fewer victims. O'Connell and Joost 1986 upheld the same benefits of no-fault insurance. Li, Liu and Peng (2012) found out that when a consumer purchases a bundle of insurance with higher damage cover and lower liability cover, there was a higher possibility of them putting a damage claim. They do not however show the impact of liability insurance on accident. They however found that in Taiwan a higher damage cover and a higher liability cover resulted in lower claims making these customers eligible for even lower premium rates. Thus higher liability cover reduces the loss ratio. Li, Liu and Peng (2012) did not however reveal the impact of compulsory insurance on the loss ratio since they were considering the use of bundled insurance where both damage and liability cover are purchased. In Taiwan however the insured will only claim under voluntary insurance if the loss exceeds the compulsory limit. This might result in underestimated claims. On the other hand, Bermudez and Karlis (2011) found out that urban driving and experience above five years decreased the possibility of third party claims. Younger drivers and women drivers also increased expected claims in Madrid and Catalonia.

While Polinsky and Shavell (2007) state that under strict liability, the level of care are optimally controlled, they state that there is no liability rule that can induce optimal behaviour. The type of legal system used does thus not influence the level of responsibility. This view is also upheld in Skogh (1982) where it is stated that tort liability cannot prevent accidents. Tomeski (2012) shows that compulsory motor insurance is one of the most important and most sought after product in developing countries. As of 2008 European Union companies participating in compulsory motor insurance had significant gross written premium increases with the total liability insurance contributing 30% of the premium for all classes in Europe.

Whilst the purchase of damage insurance will lead to the purchase of liability insurance, the purchase of liability insurance does not lead to the purchase of damage insurance ( Li, Liu and Peng , 2012). Further they contend that uninsured drivers are more likely to be injured in a crash. They go on to observe that liability insurance reduces the financial costs associated with accidents. This may however lead to an increase in fatalities. Further to this they discovered that the loss ratio where there was higher damage cover was lower than where there was a higher liability cover. Commenting on how to price the liability cover, Tomeski (2012) says that the price must be determined based on supply and demand. He further suggests that a lower limit price must be set to safeguard the solvency of the insurers. Kiyak and Pranckeviciute (2014) mention compulsory insurance as an important factor when pricing motor insurance. Keaton and Kwerel (1984) cited in Jost (1996), expose the concept of limited liability for negligent drivers as a result of compulsory insurance. Whatever loss they will cause will be covered despite the circumstances. Essentially this discourages optimal behaviour on the policyholders.

Jost (1996) observes that under compulsory motor insurance insurers have no ways of monitoring the behaviour of the consumers. The same argument was raised by Cohen and Dehejia (2004) when they indicated that a no-fault system for compulsory insurance will lead to more fatalities on the road since the financial consequences of the losses are reduced by compulsory insurance. Thus moral hazard is increased. They however admit that compulsory insurance achieves its intended goal of reducing the number of uninsured losses and thus victims get compensation. Faure (2006) also highlights the moral risk issue. He also argues that if it is not managed then third party motor insurance will create more problems than solutions.

## 2.2 Alternative Approaches to Managing the Motor Liability Risk

Polinsky and Shavell (2007) refer to taxation and regulation as alternatives to managing the negative activities such as motor liability. They strongly uphold the non-involvement of the government in liability insurance as it may remove some of the incentives that come with conventional insurance. Skogh (1982) observes that in most countries there was a move towards all-inclusive publicly financed programmes. The downside to an all-inclusive programme is also echoed by Skogh (1982). He further indicates that the public programmes are normally accompanied by measures to reduce accidents. While Skogh (2007) points to the disadvantages of government involvement in compulsory insurance, he alludes to the fact that the public agencies can ensure smooth, uniform and compensation processes. One of the lacking areas in literature is that there has been limited work on comparing the use of compulsory insurance and other punitive measures such as taxes and fines.

These alternatives are the ones suggested by Skogh (1982). Use of punishments and taxes are the alternatives that he brings. A typical tax might be a tax on cars, petrol or roads which might reduce traffic. The weakness of that approach is that it ignores driver behaviour and road conditions. Fines on the other hand are more deterrent than the tax system due to their stochastic nature. They can be differentiated according to the level of negligence. Skogh (1982) continues to say that the cost of differentiating taxes can be exorbitant. Tomeski (2012) similarly argues that the regulation of a price by the state is aimed at keeping it at a level affordable by many so as to reduce the level of the uninsured vehicles. Fair prices are however difficult to establish due to lack of reliable data. He further advocates for liberalization of insurance markets to ensure efficient risk assessment, selection and pricing. Liberalized markets he argues will lead to more careful and responsible users.

An important formula is also supplied by Tomeski (2012). This formula is for determining the risk premium and is given below:

$$\text{Risk Premium} = \frac{\text{Expected cost of claims}}{\text{Number of contracts}}$$

One can observe that when the pool gets bigger, the statistical accuracy of the rates will improve and the risk premium will be lower. However if the risk increases, the insurers will have no option but to increase the premiums.

## 2.3 The Advantages of Compulsory Third Party Motor Insurance

Several benefits have been cited by various authors. Polinsky and Shavell (2007) stated that the use of compulsory motor insurance is an incentive for optimal care under a negligence liability system. With strict liability, the picture is different. The victims also take care. Thus both the injurer and the victim will exercise optimal care. Skogh (1982) argues that under the negligence system, the injurer may do just enough but not optimal care to avoid liability. According to Li et al (2012), bundling higher liability and higher damage cover drove down the claims experience and resultantly lowered premiums. However they also show that while liability insurance reduces financial costs associated with accidents, it resulted in increased fatalities. Skogh (1982) echoed the same benefit of reduced accidents.

In EU in 2008, 30% of gross premiums came from compulsory motor insurance (Tomeski, 2012). Further he confirms that in developing countries, compulsory motor insurance is the most sought after cover. He goes on to suggest that a competitive market rather than a state-run facility. The logic being that a competitive market will instil discipline among drivers through the pricing system. Bao and Gu (2014) add to the list of the benefits of compulsory insurance when they stated that the compulsory insurance system was aimed at offering timely and effective medical treatment to victims. This would result in eased financial burdens. Compulsory insurance helps protect victims against the insolvency of the injurer (Faure, 2006).

## 3. Empirical Literature Review

In this section we review the motor insuring arrangements of both the developed countries and the developing countries and end by focusing on the status quo in South Africa.

### 3.1 Motor Insurance in the Developed Countries

#### 3.1.1 Compulsory Third Party Motor Insurance in Turkey

Gonulal (2009) cites several developing countries that have compulsory motor insurance and the benefits that they have derived. For illustration purposes we will discuss Turkey. Positive achievements have been realized in Turkey as a result of the introduction of compulsory motor insurance. "After many years of work, Turkey has moved to MTPL insurance in which insurance companies, insurance agents, and the supervisory authority cooperate. The goal of this new order is to reduce the number of fake policies, to increase the penetration of insurance, and to enable

the agencies to be useful to the system rather than harmful”, writes Gonulal (2009).

The problems cited by Gonulal (2009) which Turkey experienced before the introduction of a central database are listed as follows:

- High percentage of uninsured vehicles
- Incorrect application of the bonus-malus system
- No uniform claims history
- Unrecorded policies and fraud (loss of premiums)
- Organized fraud
- Poor competitive practices including price dumping
- Manual issuance of policies
- Lack of uniform data
- Drain on the guarantee fund
- Loss of tax revenue
- Bankruptcy of some insurance companies.

It is confirmed that most of these problems have disappeared and the others are on the decline.

### 3.1.2 Compulsory Third Party Motor Insurance in Japan

It is compulsory to have motor insurance in Japan. The cover is only for death, bodily injury and medical expenses. Thus property damage is excluded. In addition to this, the cover under the compulsory insurance is not too generous. Thus voluntary insurance is necessary in protecting against the huge liability that might arise not only due to death or bodily injury but also from loss of property by third parties.

Compulsory automobile liability is organised as a form of social insurance: premiums are subject to a gross rate tariff intended to produce a break-even underwriting result; all insurers participate in a reinsurance pool and most claims are negotiated on behalf of the industry by the General Insurance Rating Organisation of Japan.

Voluntary motor premium volumes fell by 5.6% between 2000 and 2009. This decline, which is expected to be a long-term feature of the market, was mainly the result of population ageing, which has reduced the proportion of highly rated young drivers and increased the average level of no claim bonus. There has been a reversal of this trend since 2010, however, partly because of an increase in new car purchases and partly because of increasing premium rates, particularly for accident-prone elderly drivers. Rate increases still tend to lag behind losses, however, with the result that the combined operating ratio has been above 100% every year since 2007. A new no claim bonus system reduced claim frequency in 2013, though the effect of this may be negated by planned increases in consumption tax in 2014-15 which will increase repair and distribution costs. The mandatory cover is known as compulsory automobile liability insurance (CALI) and only applies to third party bodily injury. The *Automobile Liability Security Law* specifies the maximum limits of insurers' liability in respect of death, each of 14 specified grades of permanent disability and other injury. The current limits, which apply to each and every accident and claimant, were last revised on 1 April 2002 and are currently as follows:

**Table 1.** The insurers' maximum limits of liability for motor accidents

Injury	Limit (JPY mn)
Death	30.00
First grade permanent disability requiring constant nursing care	40.00
First grade permanent disability other than the above	30.00
Second grade permanent disability requiring intermittent nursing care	30.00
Second grade permanent disability other than the above	25.90
14th grade permanent disability	0.75
Other bodily injury	1.20

Source: Axco Global Statistics / Industry Associations and Regulatory Bodies

Voluntary motor policies provide a wide range of optional covers including own vehicle damage (excluding earthquake), theft, third party bodily injury in excess of the CALI limits, third party property damage, self-incurred personal accident, uninsured motorists, passengers' personal accident, personal injury protection, legal expenses etc. Victims of uninsured or untraced drivers are entitled to receive compensation from a government compensation plan which is funded by a levy on CALI premiums.

### 3.1.3 Compulsory Third Party Motor Insurance in America

All states except New Hampshire have a compulsory insurance system. The cover under these systems includes death, bodily injury, medical expenses and damage to property. The cover appears to vary from one state to the other. What stands out in America is that the existence of compulsory insurance has not removed the problem of uninsured cars. In addition there are problems that arise when a vehicle comes from a state where the cover is not compulsory and causes harm to a car from a regulated state. Despite having compulsory insurance, uninsured losses still happen. In a research by the National Association of Independent Insurers (now

known as PCI), it was found that compulsory insurance was not the most effective way of reducing the problem of uninsured motor vehicles. States with compulsory insurance were found to have higher rates of uninsured vehicles when compared to New Hampshire, which has no compulsory insurance.

While affordability has been cited as an important determinant of whether one will buy insurance or not, there were contradicting facts in some states where the premiums were believed to be lowest. While the states are not discarding compulsory insurance, they are including extra measures to complement the system. Among these measures are registration of foreign drivers, no-pay no-play approaches, establishment of unsatisfied judgments funds, creation of databases and electronic checks. All these seek to close the gaps that remain unclosed albeit the presence of compulsory insurance.

### **3.2 Motor Insurance in the Developing Countries**

#### **3.3.1 Compulsory Third Party Motor Insurance in Nigeria**

In Nigeria Section 65 of the Insurance Act 2003 regulates compulsory insurance. Under this Act, there is provision for compensation to third parties who suffer bodily injury. A safety net called Motor Accident Victims Insurance Compensation Scheme (MAVICS). This facility enables compensation to third parties injured by uninsured cars or unidentified vehicles. This is unlike the Road Accident Fund in South Africa which caters for all bodily injury that is suffered on the roads despite the car being identified or not. The World Bank (2013) records that the MAVICS has improved the third party liability cover in Nigeria. This report highlights the importance of consumer protection with regard to the cost of intermediation. Further it states that compulsory insurance enforcement is suboptimal despite the active efforts by government to grow the insurance sector.

#### **3.3.2 Compulsory Third Party Motor Insurance in Brazil**

Compulsory insurance has been in existence in Brazil since 1974. The cover is linked to licensing in that one obtains it at the same time when one is renewing their motor license. It is a condition for licensing. Thus it is unavoidable. The events covered by the compulsory insurance in Brazil closely mirrors the ones covered by the Road Accident Fund in South Africa. It covers death, permanent disability and medical plus supplementary expenses. Whereas in South Africa the premiums are paid in the form of a fuel tax, in Brazil it is paid for together with the licensing fees. Both ways ensure minimal evasion by road users. It must be noted that the Brazilian system pays whether the driver was at fault or not. There is no need to prove fault. Thus all accidents are covered. This ensures faster settlement of claims and reduces administration work. As discussed earlier on, this system is believed to have its advantages such as both parties taking care are experienced. However according to Gonulal (2009), these advantages are lost

since either way there will be compensation. On the other hand, the downside of a negligence system where the driver may do just enough to avoid accidents are reduced.

#### **3.2.3 Compulsory Third Party Motor Insurance in Zambia**

Zambia has a unique type of arrangement where private insurance companies provide the compulsory insurance, which is a requirement of the Road Traffic Act. Whereas in other countries it only provides only for death, permanent disability and medical expenses, in Zambia property damage is also incorporated. In addition to this whereas in the conventional third party insurance, the insured's family and insured are excluded, in the Zambian case they are included in the cover. Upon entering Zambia foreign vehicles are required to purchase compulsory insurance at the border. When this cover was introduced in Zambia, it was viewed as a form of a tax and drivers viewed it negatively. However it must be noted that while that may look like the case, motor insurance does not only ease the burden that the government has towards victims, it also eases the personal liability that individuals would carry.

### **3.3 Compulsory Motor Insurance in South Africa**

Prior to 1997 compulsory insurance was governed by the following legislation: Motor Vehicle Insurance Act 1942 (Act No. 29 of 1942, Compulsory Motor Vehicle Insurance Act, 1972 (Act No. 56 of 1972), Motor Vehicle Accident Act, 1986 (Act No. 84 of 1986); and Multilateral Motor Vehicle Accidents Fund Act, 1989 (Act No. 93 of 1989). While the reasons for discontinuing with compulsory motor insurance are not publicly available, it appears that affordability by the public was one of the issues. On 1 May 1997 South Africa introduced the Road Accident Fund (RAF). In the following section we summarise the operation and limitations of this fund.

#### **3.3.1 The Road Accident Fund**

The RAF is responsible for providing compulsory social insurance cover to all users of South African roads; to rehabilitate and compensate persons injured as a result of the negligent driving of motor; and to actively promote the safe use of all South African roads. Section 3 of the RAF Act stipulates that "the object of the Fund shall be the payment of compensation in accordance with this Act for loss or damage wrongfully caused by the driving of a motor vehicle". The fund only caters for bodily injury or death to third parties as a result of driving the vehicle. Property damage falls outside the scope of this fund. Where the offender does not have motor insurance, the victim may have no recourse if the injurer has no financial capacity to meet the damages. It is noteworthy that where the definition of driving is not met by the circumstances, the fund will not respond. Further, this fund excludes cover where the wrongdoer is not legally liable for the injury. If the wrongdoer is not legally liable RAF is also not liable. In addition the

fund has statutory exclusions. These relate to cover under the Compensation for Occupational Injuries and Diseases Act (COIDA). Military vehicles are also not included.

#### 4. Research Methodology

In this article we make use of descriptive statistics to investigate the developments in the motor vehicle population and motor vehicle crashes in South Africa.

##### 4.1. An overview of key metrics in Motor Insurance in South Africa

The number of registered vehicles in South Africa has grown in leaps and bounds over the years from roughly three million in 1980 to roughly nine million in 2009. The trends are depicted in Table 2 and Figure 1a. The highest growth rate in the population of registered vehicles coincided with the dawn of independence in 1994. The number of registered vehicles grew from 490 million vehicles in 1993 to roughly 530 million vehicles in 1994. In percentage terms the growth rate was roughly nine per cent (Refer to Figure 1b). This is explicable in terms of that the majority of financial liberalization and hence more and more blacks became eligible for credit to finance the purchases of motor cars. The growth rate in registered motor vehicles also took a

knocking during the period corresponding with the financial crises (2007-2009). It declined from a high of roughly seven per cent recorded in 2006 to a low of roughly three per cent in 2008.

The number of unroadworthy vehicles that are licenced increased from roughly 170 thousand in 2001 to roughly 410 thousand in 2010. The highest increase in the number of unroadworthy vehicles was recorded between 2005 and 2009. In 2005 there were nearly 195 thousand unroadworthy motor vehicles on South African roads, yet the number shot up to nearly 430 thousand motor vehicles in 2009 (Refer to Table 3 and Figure 2 )

The number of fatal crashes increased from roughly 12 thousand in 2001 to a highest of roughly 16 thousand in 2006. The number of fatalities increased from around 11 thousand in 2001 to roughly 16 thousand in 2006 (Refer to Figure 3). The rand cost of fatal accidents to the South African economy rose from roughly eight billion rands in 2002 to roughly 14 billion rands in 2010 (See Figure 4).

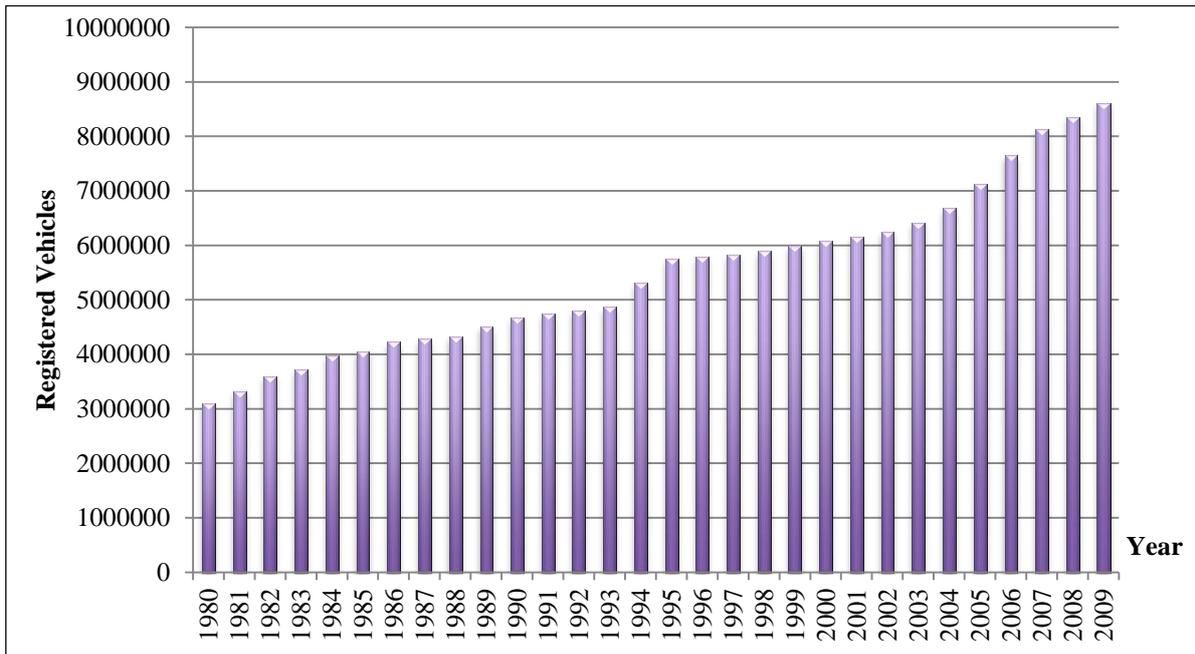
The number of road accidents increased from around 320 thousand in 1980 to a highest of roughly 520 thousand in 1996 (See Table 4 below). The incidence of road traffic accidents has tapered off to an average of eight per cent from a high of roughly 11 per cent in 1981. This remains high (Refer to Figure 5).

**Table 2.** The number of registered motor vehicles in South Africa

YEAR	NUMBER OF REGISTERED VEHICLES	PERCENTAGE INCREASE %
1980	3102437	1,1
1981	3319453	7,0
1982	3600559	8,5
1983	3732021	3,7
1984	3968228	6,3
1985	4056558	2,2
1986	4228523	4,2
1987	4285333	1,3
1988	4317082	0,7
1989	4511088	4,5
1990	4667794	3,5
1991	4752564	1,8
1992	4811587	1,2
1993	4870609	1,2
1994	5314411	9,1
1995	5750147	8,2
1996	5793038	0,7
1997	5832525	0,7
1998	5902758	1,2
1999	5992057	1,5
2000	6074201	1,4
2001	6159679	1,4
2002	6245392	1,4
2003	6417484	2,8
2004	6677239	4,0
2005	7128791	6,8
2006	7653044	7,4
2007	8133723	6,3
2008	8357564	2,8
2009	8600031	2,9

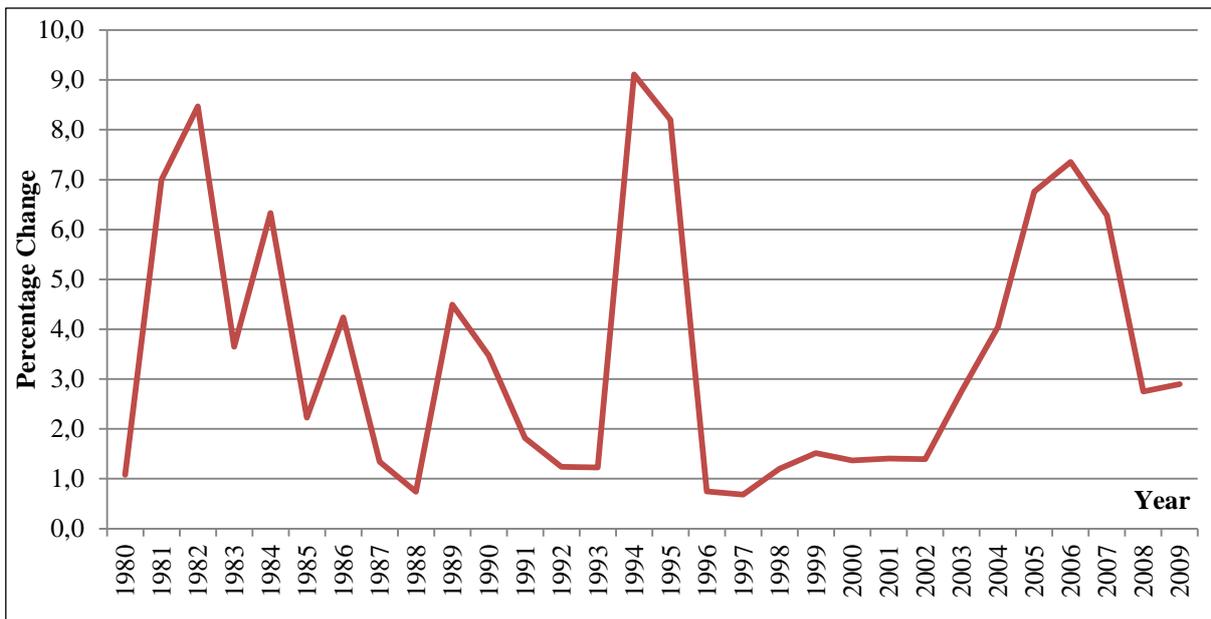
Source: authors' own compilation, data from RTMC (various reports)

**Figure 1a.** The number of registered vehicles in South Africa



Source: authors' own compilation, data from RTMC (various reports)

**Figure 1b.** The annual percentage change in the number of registered vehicles in South Africa



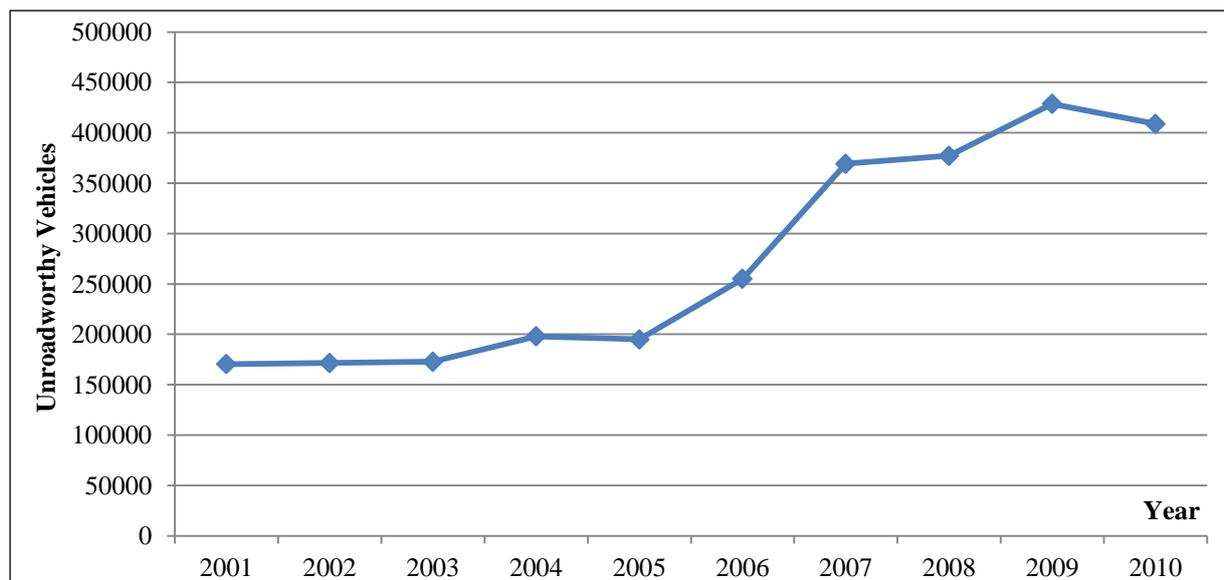
Source: authors' own compilation, data from RTMC (various reports)

Table 3. Key metrics in measuring trends in motor accidents

Year	Number Of Unroadworthy Vehicles	Number Of Fatal Crashes	Number Of Fatalities	Estimated Cost Of Fatal Crashes / Zar
2001	170462	11514	11201	9 581 917 744
2002	171625	10239	12354	8 020 240 000
2003	172833	10471	12635	8 893 730 000
2004	197924	11614	14125	9 985 970 000
2005	194926	14908	14135	10 032 800 000
2006	255099	16474	15419	12 950 000 000
2007	369291	15612	14920	13 112 000 000
2008	377105	14169	13769	12 687 110 000
2009	428714	10857	13768	13 385 580 000
2010	408815	10837	13967	13 579 052 576

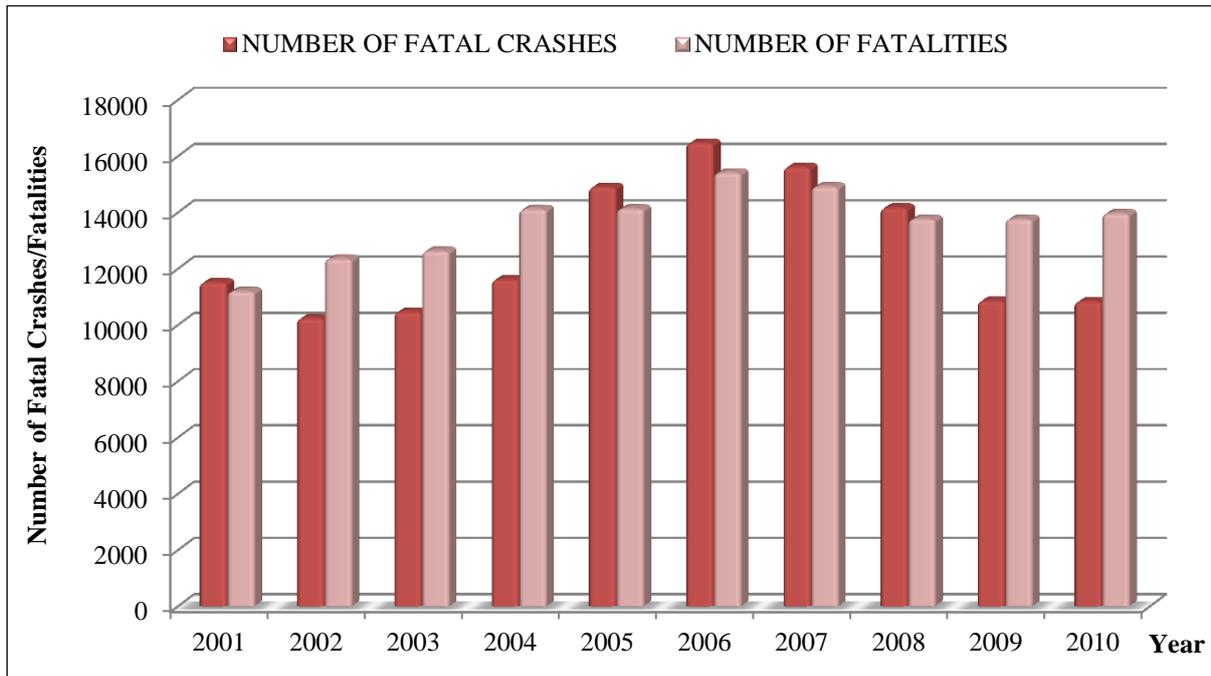
Source: authors' own compilation, data from RTMC (various reports)

**Figure 2.** The number of unroadworthy but licensed vehicles in South Africa



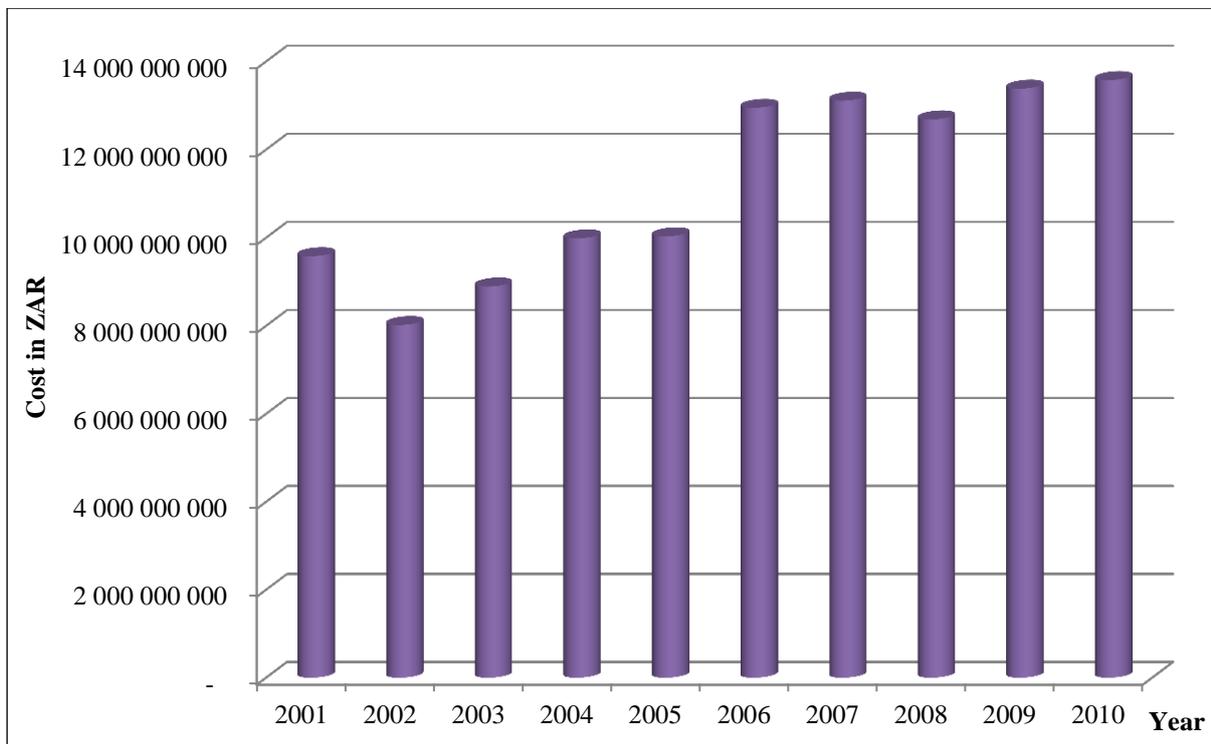
Source: authors' own compilation, data from RTMC (various reports)

**Figure 3.** The number of fatal crashes and fatalities (deaths) recorded in South Africa



Source: authors' own compilation, data from RTMC (various reports)

**Figure 4.** The Rand cost of fatal crashes in South Africa

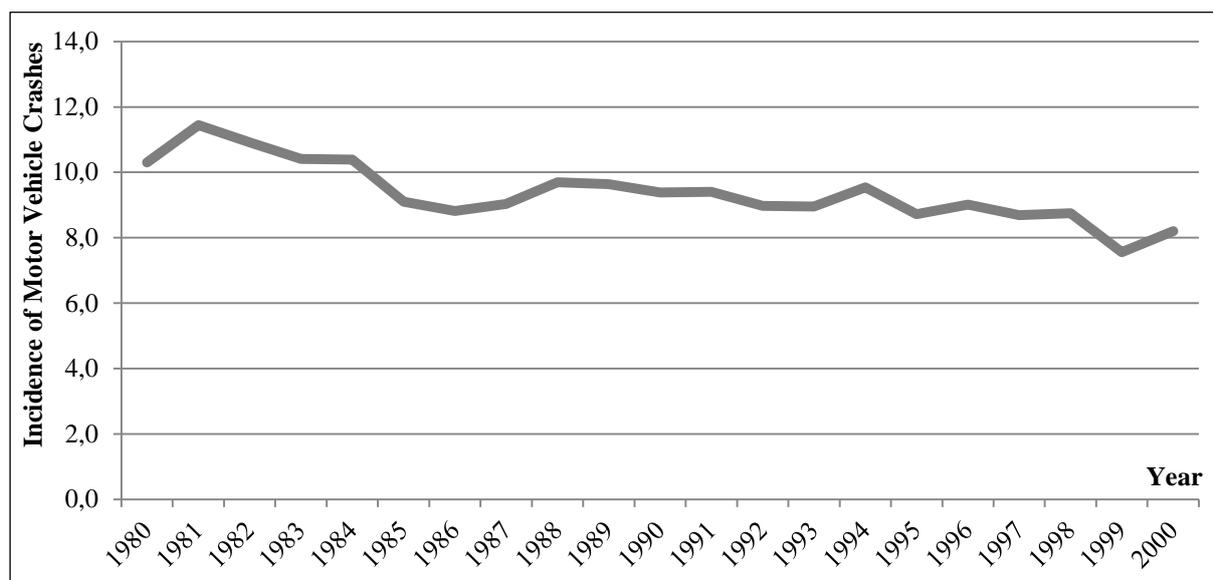


Source: authors' own compilation, data from RTMC (various reports)

**Table 4.** The incidence of motor vehicle crashes in South Africa

Year	Number Of Registered Vehicles	Number Of Road Traffic Crashes	Incidence Of Crashes/ %
1980	3 102 437	319507	10,3
1981	3 319 453	379852	11,4
1982	3 600 560	392971	10,9
1983	3 732 021	388599	10,4
1984	3 968 228	412097	10,4
1985	4 056 558	369185	9,1
1986	4 228 523	372667	8,8
1987	4 285 333	387148	9,0
1988	4 317 082	418483	9,7
1989	4 511 088	434935	9,6
1990	4 616 398	433287	9,4
1991	4 727 007	444541	9,4
1992	4 786 079	429485	9,0
1993	4 845 151	434029	9,0
1994	4 904 223	467997	9,5
1995	5 733 497	500233	8,7
1996	5 776 424	520774	9,0
1997	5 819 351	505988	8,7
1998	5 850 566	511605	8,7
1999	5 992 057	452915	7,6
2000	6 074 201	498222	8,2

Source: authors' own compilation, data from RTMC (various reports)

**Figure 5.** The incidence of motor vehicle crashes in South Africa

Source: authors' own compilation, data from RTMC (various reports)

## 5. Economic and Policy Implications

The cost of motor vehicle accidents remains very high in South Africa. We have shown that the cost of fatal motor vehicle crashes averages 14 billion rands to the economy. Further the incidence of motor vehicle crashes averages eight per cent in recent years. From a macroeconomic perspective, the cost of motor vehicle accidents could be mutilating economic growth. Rather than invest in productive areas of the economy, the South African government is brought upon to bear the economic costs of motor vehicle accidents as it currently subsidises the Road Accident Fund.

We have already alluded to the inefficacy of the Road Accident Fund in that it is only limited to motor third party liability for bodily injury and death and excludes property damage of third parties. We thus wish to proffer policy advice, namely that, the South African government needs to promulgate laws that make motor third party policies mandatory. The benefits of such an arrangement will be very immense to the economy. Firstly such an arrangement will drive down the price of motor insurance due to economies of scale experienced and hence unlock the value of motor insurance to the short-term insurance industry. This will ensure that this line of business becomes profitable to the short-term insurers as well. Secondly such funds (premiums) will be invested in the productive sectors of the economy and hence stimulate economic activity. This will ensure that the short-term insurance industry plays a critical role in intermediation, savings and resource mobilisation (Sibindi and Godi, 2014).

There are two policy options that we would like to proffer. The first option is that the government maintains the Road Accident Fund which in its current format only covers third party liability for bodily injury and death. It will then have to legislate for compulsory third party motor insurance in respect of third party property damage, which is the cover for the actual damage of third party motor vehicles or their property occasioned by motor accidents. The alternative policy proposition is that the government dissolves the Road Accident Fund and promulgates laws that make full motor third party insurance mandatory. In this variant of motor third party insurance, the insurance policy will respond for both property damage as well as liability for bodily injury and death of third parties. However we are inclined to recommend the first option as it will be easier to operationalize and will not result in any job losses.

## 6. Conclusion

In this article we sought to demonstrate the impelling need to reintroduce motor third party insurance in South Africa. We have demonstrated that the cost of accidents to the fiscus remain relatively high at around 14 billion rands in 2010. Moreover the

number of insured vehicles remains very low, at a paltry figure of roughly 35 per cent. This has pushed up the price of motor insurance. As such it is imperative for the South African government to reintroduce mandatory third party insurance to alleviate these challenges. Indeed compulsory third party insurance is the panacea for the short-term insurance industry as it will broaden the premium base and hence improve the performance of the motor book of business.

## References

1. Bao, L. and Gu, Z. (2014), "A Study of the Deficit of the Third Party Liability Compulsory Insurance of Motor Vehicle", *Accounting and Finance Research*, vol. 3, no. 1, pp. p116.
2. Bermúdez, L. and Karlis, D. (2011), "Bayesian multivariate Poisson models for insurance ratemaking", *Insurance: Mathematics and Economics*, vol. 48, no. 2, pp. 226-236.
3. Bermingham, V. and Brennan, C. (2012), *Tort law directions*, Oxford University Press.
4. Carman, E.C. 1919, "Is a Motor Vehicle Accident Compensation Act Advisable", *Minn.L.Rev.*, vol. 4, pp. 1.
5. Cohen, A. and Dehejia, R. (2004), "The Effect of Automobile Insurance and Accident Liability Laws on Traffic Fatalities", *Journal of Law & Economics.*, vol. 47, pp. 357.
6. Faure, M.G. (2006), "Economic Criteria for Compulsory Insurance\*", *The Geneva Papers on Risk and Insurance-Issues and Practice*, vol. 31, no. 1, pp. 149-168.
7. Gonulal, SO. (2009), "Compulsory Motor Third-Party liability Insurance in Developing Countries", World Bank.
8. Jost, P. (1996), "Limited liability and the requirement to purchase insurance", *International Review of Law and Economics*, vol. 16, no. 2, pp. 259-276.
9. Keeton, W.R. and Kwerel, E. (1984), "Externalities in automobile insurance and the underinsured driver problem", *Journal of Law and Economics*, pp. 149-179.
10. Kimball, S.L. & Davis, D.A. 1962, "The Extension of Insurance Subrogation", *Michigan law review*, , pp. 841-872.
11. King, C.G. 1951, "Subrogation Under Contracts Insuring Property", *Tex.L.Rev.*, vol. 30, pp. 62.
12. Kiyak, D. and Pranckevičiūtė, L. (2014), "Comparative analysis of insurance products prices in Lithuania", *Regional Formation and Development Studies*, pp. 61.
13. Li, C., Liu, C. and Peng, S. (2013), "Bundled automobile insurance coverage and accidents", *Accident Analysis & Prevention*, vol. 50, no. 1, pp. 64-72.
14. O'Connell, J. 1978, "Harnessing the Liability Lottery: Elective First-Party No-Fault Insurance Financed by Third-Party Tort Claims", *Wash.ULQ*, , pp. 693.
15. O'Connell, J. & Joost, R.H. 1986, "Giving Motorists a Choice Between Fault and No-Fault Insurance", *Virginia Law Review*, , pp. 61-89.
16. Polinsky, A.M. and Shavell, S. (2007), *Handbook of law and economics*, Elsevier.

17. Road Traffic Management Corporation, (2001). Annual Report
18. Road Traffic Management Corporation, (2005). Annual Report
19. Road Traffic Management Corporation, (2008). Annual Report
20. Road Traffic Management Corporation, (2010). Annual Report
21. Shavell, S. (2007) "Chapter 2 Liability for Accidents" in *Handbook of Law and Economics* Elsevier, pp. 139-182.
22. Sibindi, A.B. and Godi, N.J. (2014) "Insurance sector development and economic growth: Evidence from South Africa", *Corporate Ownership & Control*, vol.11, no.4, pp. 530-538.
23. Skogh, G. (1982), "Public insurance and accident prevention", *International Review of Law and Economics*, vol. 2, no. 1, pp. 67-80.
24. Tomeski, B. (2012), "Development of Motor Third Party Liability Insurance Market in Terms of Changing Regulation", *Procedia - Social and Behavioral Sciences*, vol. 44, no. 1, pp. 200-209.
25. World Bank, (2013), "Insurance Core Principles Detailed Assessment of Observance", World Bank.