

# **UNREGISTERED VEHICLES AND INSURANCE EXPOSURE: IMPLICATIONS FOR RISK MANAGEMENT AMONG ADULT ROAD USERS**

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## **Abstract**

Unregistered vehicles present a growing challenge to road safety, regulatory compliance, and the effectiveness of compulsory motor insurance systems in developing economies. This study examines insurance coverage among unregistered vehicles in Ghana and analyses its implications for risk management among adult road users. Guided by risk management, stakeholder, and behavioural theories, the study adopted a qualitative research design to explore lived experiences and institutional perspectives. Data were collected through purposive, face-to-face interviews with twenty-three key stakeholders, including registered and unregistered vehicle owners, insurance underwriters, garage managers, and officers of the Motor Traffic and Transport Department. Thematic analysis supported by NVivo software revealed four interrelated themes: insurance compliance behaviour, perceived risks associated with unregistered vehicles, enforcement challenges, and stakeholder-specific risk management strategies. The findings show that insurance compliance among unregistered vehicle owners is irregular and largely enforcement-driven, while unregistered vehicles significantly increase financial, legal, and underwriting risks. Weak and inconsistent enforcement further undermines the effectiveness of insurance as a risk transfer mechanism, exacerbating moral hazard and adverse selection. The study concludes that

unregistered vehicles weaken Ghana's compulsory motor insurance framework and expose multiple stakeholders to avoidable losses.

**Keywords:** Unregistered Vehicles; Motor Insurance; Risk Management; Insurance Compliance; Road Safety; Ghana.

## **Introduction**

Unregistered vehicles pose a growing challenge to road safety, legal compliance, and motor insurance systems worldwide (Robinson, 2017; Oppong et al., 2022). Operating a vehicle without valid registration undermines regulatory frameworks designed to ensure accountability, vehicle roadworthiness, and financial protection for road users. The rate of increase in the number of motor vehicles is influenced by a number of factors that vary by country, but majority of them stem from increased productivity, the expansion of human and technological resources, the improvement of living standards, the increasing trend of urbanisation and the resulting mass migration to cities, and finally the emergence of a leisure-oriented way of life in which a private motor vehicle plays a pivotal role (Robinson, 2017). The number of motor vehicles in developing countries has increased tremendously, notably in Ghana as well. The invention of the automobile in the late nineteenth century created a need to protect motorists from the potentially enormous financial loss from operating a vehicle (Onafalujo & Kunle, 2011). Road traffic accidents remain a major public safety and public health concern, particularly in developing economies. Globally, road traffic injuries are among the leading causes of death and injury, a pattern that is also evident in Ghana (World Health Organization (WHO), 2008). Although road crashes cannot be entirely eliminated, evidence indicates that their incidence and severity can be substantially reduced through effective risk management, regulatory compliance, and enforcement interventions (Yayeh, 2003, Afukaar et

al., 2003; Amo & Meirmanov, 2014; Hesse & Ofosu, 2014; Oppong et al., 2022). Road transportation plays a vital role in facilitating access to employment, markets, education, recreation, and healthcare (World Health Organization (WHO), 2009). However, the rapid expansion of road transport has imposed a substantial burden on road users including drivers, pedestrians, cyclists, and passengers through increased road traffic accidents (RTAs), rendering them a major global public health concern. The World Health Organization reports that RTAs were the eighth leading cause of death worldwide and projects that they will become the fifth leading cause of death globally by 2030 (WHO, 2009, 2013b, 2018). Annually, road traffic accidents account for approximately 1.25 million deaths and between 20 and 50 million non-fatal injuries worldwide (WHO, 2009, 2013a, 2015). More recent estimates indicate that road traffic fatalities reached 1.35 million in 2016 (WHO, 2018; Oppong et al., 2022). Motor insurance constitutes a central pillar of road risk management, serving to redistribute financial losses and discourage risky behaviour through underwriting and pricing mechanisms (Ajemunigbohun & Oreshile, 2014). Insurance, unlike any other contract, is a conditional contract that requires the insurer to perform certain duties and obligations before they are indemnified in situations of a loss or damage. One of such obligations is that the vehicle must possess a valid roadworthy certificate, which means that the vehicle must have been registered with the DVLA. Where vehicles are unregistered, insurers may deny coverage, thereby increasing the severity of the exposure for vehicle owners, accident victims, and the wider insurance pool (Rejda & McNamara 2014). According to the National Road Safety Report, a total of 9,626 road traffic crashes were recorded in Ghana between January and August 2025. These incidents involved 16,348 vehicles across all categories, including private vehicles, commercial vehicles, and motorbikes, and resulted in 12,894 casualties, comprising 1,937 fatalities and 10,957 injuries. Comparative analysis indicates a general

deterioration in road safety outcomes over the period. Relative to the same period in 2024, reported crash cases increased by 11.2%, vehicles involved by 11.6%, fatalities by 20.0%, injuries by 10.2%, and pedestrian knockdowns by 8.1%. These trends underscore a significant escalation in both the frequency and severity of road traffic incidents (<https://www.nrsa.gov.gh>).

Empirical studies further suggest that uninsured and non-compliant vehicles are associated with higher levels of risk-taking behaviour and adverse safety outcomes (Ajemunigbohun et al., 2024; Hossain, 2025). In Ghana, the compulsory motor insurance regime overseen by the National Insurance Commission is intended to protect accident victims and promote responsible driving. However, this framework is undermined by persistent non-compliance with vehicle registration and insurance requirements (Oppong et al., 2022). A significant number of vehicles operate without proper registration, often relying on dealer or DV plates issued by the Driver and Vehicle Licensing Authority (Motor Traffic and Transport Department, 2018). In Ghana, unregistered vehicles may be operated by vehicle manufacturers, motor vehicle testers, traders, prospective dealers, and persons authorised by the DVLA to use DV plates. Although DV plates are intended to facilitate vehicle testing and the transfer of vehicles between sellers and buyers, their misuse poses serious enforcement and risk management challenges. While there is no strict statutory obligation for garages or DV plate vendors to maintain detailed records of plate usage, it is strongly recommended that such records be kept to ensure traceability. Failure to identify the last user of a DV plate during investigations may expose dealers to legal liability. Furthermore, Ghanaian law restricts the use of DV-plated vehicles, including limitations on passenger numbers, with violations subject to police enforcement and sanctions. Despite the prevalence of unregistered vehicles in Ghana, empirical research examining their insurance status and implications for risk management

among adult road users remains limited. This study, therefore, examines insurance coverage among unregistered vehicles and analyses its implications for risk management among adult road users.

## **Literature review**

### **Theoretical literature**

#### *Risk Management Theory*

Risk Management Theory explains how individuals and organisations systematically identify, assess, and respond to potential losses. According to Rejda and McNamara (2017), risk management is a structured process for identifying loss exposures and selecting appropriate techniques to minimise their financial and social impact. The theory outlines four core stages relevant to this study. First, risk identification involves recognising potential loss exposures such as accidents, theft, legal liability, and regulatory sanctions. In the context of unregistered vehicles, these risks are heightened due to limited legal protection and enforcement challenges. Secondly, risk analysis focuses on assessing the frequency and severity of potential losses. Unregistered vehicle owners face a higher likelihood of uncompensated losses, particularly in road traffic accidents involving third parties. Thirdly, risk control entails measures to reduce the likelihood or impact of losses. Rejda and McNamara categorised risk control into risk avoidance and loss control, with the latter including loss prevention and loss reduction strategies such as safe driving practices and compliance with usage restrictions. Finally, risk financing addresses how losses are funded when they occur. Insurance is identified as the primary risk financing mechanism, enabling the transfer of financial risk from the vehicle owner to the insurer. However, unregistered vehicles often face limited insurance options, increasing exposure to financial loss. This theory provides a

relevant framework for analysing how owners of unregistered vehicles manage risk and the role of insurance in mitigating losses, thereby justifying the study's focus on insurance as a key risk management strategy. Earlier scholarship conceptualises risk management as the systematic process through which individuals and organisations identify, assess, and respond to risk exposures. Vaughan and Vaughan (2008) define risk management as encompassing risk identification and evaluation, followed by the selection of appropriate risk control techniques, including risk avoidance, loss prevention, loss reduction, and risk transfer through insurance. In the context of unregistered vehicles, owners face heightened risks including accidents, theft, legal sanctions, and uncompensated losses. Insurance serves as a risk transfer mechanism, enabling vehicle owners to shift financial consequences of loss to insurers (Dorfman, 2010). This theory underpins the study's examination of how unregistered vehicle owners manage risks and the extent to which insurance is utilised as a risk management strategy.

### *Stakeholder Theory*

Stakeholder Theory, advanced by Freeman (1984), posits that organisations must consider the interests of all parties affected by their operations. In the insurance context, key stakeholders include insurers, insured vehicle owners, third-party road users, regulators, and the state. Motor insurance plays a crucial role in protecting third parties who may suffer injury or property damage due to the use of vehicles, including unregistered ones. Failure by unregistered vehicle owners to obtain adequate insurance exposes other stakeholders to uncompensated losses (Goel et al., 2024). This theory supports the argument that insurance compliance is not merely a private matter but a public and social responsibility (Rejda & McNamara, 2017; Dorfman, 2010).

### *Theory of Planned Behaviour*

The Theory of Planned Behaviour (Ajzen, 1991) explains how attitudes, subjective norms, and perceived behavioural control influence individuals' actions. Applied to motor insurance, vehicle owners' decisions to insure unregistered vehicles depend on their perception of insurance benefits, enforcement of regulations, and social norms regarding compliance. Where enforcement is weak and awareness is low, unregistered vehicle owners may perceive insurance as unnecessary or optional (Dorfman 2010). This theory helps explain low insurance uptake among unregistered vehicle owners and supports the need for education and enforcement.

### **Empirical Literature**

#### *Unregistered Vehicles*

Kerry et al. (2012) examined the prevalence of unregistered vehicles in Queensland, Australia, and found a steady increase in unregistered vehicles over time. The study revealed that owners of unregistered vehicles were more likely to commit traffic offences and be involved in risky driving behaviour. The findings suggest that unregistered vehicles pose significant safety and regulatory challenges. Similarly, studies in developing countries indicate that unregistered vehicles are often associated with weak regulatory enforcement, informal economic activities, and higher exposure to criminal use and accidents (Goel et al., 2024).

#### *Motor Insurance and Risk*

Edosa (2014) studied the role of the motor insurance industry in road safety management in Ethiopia and found that insurance contributes significantly to compensating accident victims and promoting safer driving behaviour. However, limited enforcement and low public awareness constrained its effectiveness. Kitunzi, Helen, and Guma (2016) investigated motorists' awareness of motor third-party insurance in Uganda. Their findings revealed low understanding of insurance rights and obligations among motorists, leading to underutilisation of insurance benefits. The study recommended public education to improve insurance compliance and claims behaviour.

### *Insurance and Risk Management*

Fronsko (2011) argued that effective insurance systems create financial incentives for safer road use. Tooth (2012) further demonstrated that insurance-based interventions, such as premium differentiation and compulsory coverage, reduce road traffic risks and improve compensation outcomes for victims. These studies collectively show that insurance is a vital risk management tool but its effectiveness depends on enforcement, affordability, and awareness. Empirical studies in Ghana have largely concentrated on road safety outcomes, insurance compliance, and regulatory enforcement, with limited attention to unregistered vehicles specifically. Existing research indicates that a substantial proportion of vehicles operate without valid insurance or rely on fake insurance documentation, thereby exposing road users and accident victims to uncompensated losses and undermining the effectiveness of compulsory motor insurance (Touahmia, 2018). The regulatory framework for motor insurance in Ghana has been strengthened in recent years. In particular, Sections 255 and 256 of the Insurance Act, 2021 (Act 1061) reinforce compulsory motor insurance by criminalising the issuance, sale, or use of fake motor insurance policies and empowering enforcement agencies to sanction offenders. These provisions were introduced to address systemic non-compliance and protect third parties from uninsured losses (Touahmia,

2018). Empirical observations, however, suggest that despite these reforms, enforcement gaps and weak compliance persist, especially among vehicles operating outside full registration requirements (Oppong et al., 2022). While the Road Traffic Act, 2004 (Act 683) and the Motor Vehicles (Third Party Insurance) Act, 1958 mandate vehicle registration and compulsory insurance, the interaction between these laws and insurance coverage for unregistered vehicles remains underexplored in empirical research. Existing studies do not sufficiently examine how owners of unregistered vehicles comply with insurance requirements or manage associated risks. This gap in the literature justifies the present study's focus on insurance coverage and risk management among unregistered vehicle owners in Ghana.

#### *Drivers of Unregistered Vehicles and Insurance Non-Compliance*

Empirical studies consistently identify a combination of socio-economic, administrative, and institutional factors as key drivers of non-compliance. These include the cost of vehicle registration and insurance, administrative delays, weak enforcement, and low perceived risk of sanctions (Ackaah & Salifu, 2011; Obeng-Odoom, 2010). In Ghana, administrative inefficiencies at the Driver and Vehicle Licensing Authority (DVLA) and inconsistent enforcement by the Motor Traffic and Transport Department (MTTD) of the Ghana Police Service have been identified as significant barriers to compliance (Obeng-Odoom, 2010). Where enforcement is sporadic, vehicle owners may rationally choose non-compliance, particularly in contexts of economic constraint. This behaviour reflects broader theories of regulatory compliance, which suggest that individuals weigh the costs of compliance against the likelihood and severity of sanctions. Comparative studies from other jurisdictions reinforce these findings, showing that large numbers of vehicles operate without valid registration or insurance due to similar institutional weaknesses and socio-

economic pressures (Zhoa et al., 2012; Goel et al., 2024). The persistence of unregistered vehicles is therefore not merely a legal issue but a systemic governance challenge (Gbenga, 2025).

### *Impact of Unregistered Vehicles on Insurance Exposure and Risk Management*

The literature further demonstrates that unregistered vehicles significantly increase insurance exposure and undermine effective risk management. Motor insurance relies on accurate vehicle identification and registration data to support underwriting, premium pricing, and claims settlement (Fronsko, 2011). When vehicles are unregistered, insurers face difficulties in verifying ownership, assessing risk, and enforcing policy conditions (Robinson, 2017). Studies indicate that uninsured or unregistered drivers are more likely to engage in risky driving behaviour, increasing the probability of accidents and financial losses (Ajemunigbohun et al., 2024). This behaviour contributes to moral hazard, whereby individuals who are not properly insured have reduced incentives to act cautiously (Arrow, 1971). As a result, compliant road users and insurers may bear the indirect costs of non-compliance through higher premiums and uncompensated claims. In Ghana, the effectiveness of motor insurance as a risk management tool is further constrained by weak coordination among regulatory institutions, including the DVLA, the National Insurance Commission (NIC), and the Ghana Police Service (Akotey et al., 2013; Obeng-Odoom, 2010). The absence of integrated databases and real-time verification systems allows unregistered and uninsured vehicles to circulate within the transport system, undermining the indemnity principle upon which motor insurance is based (Robinson, 2017).

## **Methodology**

The study adopted a qualitative research design to gain an in-depth understanding of insurance coverage, risk exposure, and risk management practices associated with registered and unregistered vehicles in Ghana. A qualitative approach was considered appropriate because it allows exploration of participants' experiences, perceptions, and practices in their real-life context, which quantitative methods alone cannot adequately capture. The study population comprised key stakeholders involved in motor vehicle use, insurance regulation, and enforcement in Ghana. The respondents included vehicle owners, garage managers, underwriters, and Motor Traffic and Transport Department (MTTD) Police officers with relevant knowledge and experience in vehicle registration and insurance compliance. The study engaged a purposively selected sample of twenty-three (23) respondents, comprising four registered vehicle owners, four unregistered vehicle owners, five garage managers, five insurance underwriters, and five officers of the Motor Traffic and Transport Department (MTTD). These participant categories were chosen to capture complementary perspectives on vehicle use, insurance underwriting, informal vehicle operations, and regulatory enforcement. Face-to-face interviews lasting approximately 30 - 40 minutes were conducted and continued until data saturation was reached, evidenced by the absence of new themes in successive interviews. This confirmed that the sample size was sufficient to ensure the depth, credibility, and robustness of the qualitative analysis.

### **Data Analysis**

The data generated from the face-to-face interviews were analysed using thematic analysis supported by NVivo qualitative data analysis software. NVivo was employed to facilitate systematic data management, coding, and retrieval, ensuring transparency and analytical rigour

throughout the process. This approach enabled me to closely engage with participants' narratives while maintaining an organised and auditable analytical process. All interviews were audio-recorded with participants' consent and transcribed verbatim. The transcripts were imported into NVivo, where I conducted repeated readings to familiarise myself with the data. Initial open coding was performed by assigning nodes to meaningful segments of text that captured recurring ideas, perceptions, and experiences related to insurance coverage, risk exposure, and risk management practices. As coding progressed, related nodes were reviewed, compared, and merged into broader categories. These categories were subsequently refined into key themes reflecting issues such as insurance compliance behaviour, perceived risks associated with unregistered vehicles, enforcement challenges, and stakeholder-specific risk management strategies. NVivo's query and comparison functions were used to examine similarities and differences across respondent groups, including vehicle owners, garage managers, underwriters, and MTTD officers. Analytical rigour was enhanced through triangulation across stakeholder categories and continuous reference to the original transcripts to ensure that interpretations remained grounded in the data. Data saturation informed the analytical process, as no new themes emerged in later interviews, confirming the adequacy and depth of the dataset. The final themes were interpreted in relation to the study objectives and relevant literature to provide a nuanced and context-specific understanding of insurance and risk management practices in Ghana.

## **Findings**

The analysis of the interview data was guided by four analytical objectives: to examine insurance compliance behaviour, to assess stakeholders' perceptions of risks associated with unregistered vehicles, to explore challenges in enforcement, and to identify stakeholder-specific risk

management strategies. Direct participant quotations are used to illustrate the lived experiences and perspectives of the various stakeholder groups. The study identifies the following extracts as illustrative of the data used to address the first research objective. Insurance compliance differed markedly between registered and unregistered vehicle owners. Owners of registered vehicles generally demonstrated greater awareness and adherence to compulsory motor insurance requirements.

Once the car is registered, you know you cannot drive without insurance because if anything happens, you will be held responsible.

*Registered Vehicle Owner, female*

In contrast, unregistered vehicle owners reported irregular compliance, often influenced by cost and enforcement pressures.

I know insurance is important, but since the car is not fully registered, [...] I only insure it when I hear the police are checking.

*Unregistered Vehicle Owner, male*

Insurance underwriters confirmed the persistence of partial and fake compliance within the system.

Some clients only want insurance to pass a checkpoint [...] they are not interested in proper coverage.

*Insurance Underwriter, female*

Garage managers similarly observed that compliance was often treated as secondary to vehicle operability.

Most customers care more about fixing the engine than sorting insurance issues.

*Garage Manager, male*

The second objective of the study examines stakeholders' perceptions of the risks associated with the use of unregistered vehicles. Participants across all respondent groups consistently acknowledged that unregistered vehicles pose heightened risks, particularly financial and legal risks in the event of road traffic accidents.

If you cause an accident with an unregistered car, [...] everything is on you, hospital bills, repairs, police issues.

*Unregistered Vehicle Owner, male*

Insurance underwriters emphasised the underwriting and claims risks associated with undocumented vehicles.

[...] without proper registration details, it becomes difficult to assess risk or even trace vehicles after claims.

*Insurance Underwriter, male*

An officer of the Motor Transport and Traffic Directorate (MTTD) of the Ghana Police Service highlighted broader public safety concerns.

[...] unregistered vehicles are harder to track and sometimes linked to reckless driving.

*MTTD Officer, female*

Garage managers also expressed concern about liability exposure.

When an unregistered vehicle is involved in an accident, the garage can be dragged into issues we didn't cause.

*Garage Manager, male*

The third objective of the study explores the challenges associated with enforcing vehicle registration and insurance laws. Despite the existence of an adequate legal framework, participants, particularly MTTD officers, highlighted persistent logistical and operational constraints that hinder effective enforcement.

The laws are there, [...] but we don't have enough personnel or logistics to enforce them consistently.

*MTTD Officer, male*

Vehicle owners perceived enforcement as irregular, which weakened deterrence.

Sometimes you can drive for months without being stopped, so people take chances.

*Unregistered Vehicle Owner, male*

Underwriters noted that enforcement gaps encouraged fraudulent practices.

[...] weak enforcement allows fake insurance to survive in the system.

*Insurance Underwriter, male*

The fourth objective of the study focuses on the risk management strategies adopted by different stakeholder groups. Findings indicate that approaches varied across stakeholders, with registered vehicle owners relying primarily on insurance as a formal risk transfer mechanism.

Insurance gives me peace of mind because I know I won't pay everything myself.

*Registered Vehicle Owner, female*

Unregistered vehicle owners tended to rely on informal and avoidance-based strategies.

I avoid busy roads and don't drive at night to reduce my risk.

*Unregistered Vehicle Owner, female*

Garage managers adopted precautionary measures to limit exposure.

For cars without insurance, we insist on upfront payment before working on them.

*Garage Manager, male*

Underwriters and MTTD officers focused on institutional controls.

We now demand stricter documentation before issuing policies.

*Insurance Underwriter, male*

Our main strategy is road checks, education, and sanctions to deter non-compliance.

*MTTD Officer, male*

Overall, stakeholders consistently recognised insurance as a central risk management instrument, but its practical effectiveness is weakened by widespread non-compliance, enforcement limitations, and the prevalence of unregistered vehicles.

## **Discussion of findings**

This section discusses the study's findings in relation to existing theoretical and empirical literature, organised around the four major themes that emerged from the analysis: insurance compliance behaviour, perceived risks associated with unregistered vehicles, enforcement challenges, and stakeholder-specific risk management strategies. The discussion contextualises the study's findings within the wider discourse on motor insurance, risk management, and regulatory compliance in Ghana and comparable jurisdictions. The findings reveal a marked divergence in insurance compliance behaviour between registered and unregistered vehicle owners. Registered vehicle owners demonstrated higher awareness of compulsory motor insurance requirements and a stronger inclination toward compliance, while unregistered vehicle owners exhibited sporadic and situational compliance, often driven by fear of enforcement rather than risk awareness. This

finding is consistent with prior studies indicating that compliance is closely linked to formal registration status and perceived regulatory visibility (Kitunzi et al., 2016; Oppong et al., 2022).

From a theoretical perspective, this behaviour aligns with the Theory of Planned Behaviour, which posits that compliance decisions are influenced by attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). Where unregistered vehicle owners perceive enforcement as weak and social norms tolerant of non-compliance, insurance is viewed as optional rather than mandatory. Similar patterns have been observed in Uganda and Ethiopia, where low awareness and inconsistent enforcement undermine insurance uptake (Edosa, 2014; Kitunzi et al., 2016). The findings also corroborate Ghana-specific literature identifying fake and partial insurance compliance as a persistent challenge within the compulsory insurance regime (Akotey et al., 2013; Obeng-Odoom, 2010). Despite legislative reforms under the Insurance Act, 2021 (Act 1061), the continued existence of checkpoint-driven compliance suggests that legal reforms alone are insufficient without effective enforcement and public education (Oppong et al., 2022). Across all stakeholder groups, unregistered vehicles were perceived as posing heightened financial, legal, and safety risks. Unregistered vehicle owners acknowledged their vulnerability to uncompensated losses in the event of accidents, while insurance underwriters highlighted difficulties in underwriting, claims verification, and vehicle traceability. These findings reinforce Risk Management Theory, which emphasises that unmitigated risks increase both the frequency and severity of losses (Goel et al., 2024; Rejda & McNamara, 2017; Vaughan & Vaughan, 2008).

The increased exposure associated with unregistered vehicles undermines the fundamental principles of insurance, particularly risk pooling and indemnity. Without reliable registration data, insurers are unable to accurately assess risk or enforce policy conditions, thereby increasing

adverse selection and moral hazard (Arrow, 1971; Fronsco, 2011; Rejda & McNamara, 2017). Empirical studies similarly demonstrate that uninsured and unregistered drivers are more likely to engage in risky driving behaviour, contributing disproportionately to accident rates and financial losses (Ajemunigbohun et al., 2024). In the Ghanaian context, these risks extend beyond insurers to third-party road users, who may be left without compensation following accidents involving unregistered or uninsured vehicles. This finding supports Stakeholder Theory, which views insurance compliance as a collective responsibility with broader social implications (Freeman, 1984). Failure by unregistered vehicle owners to insure their vehicles therefore imposes external costs on innocent road users and the state (Oppong et al., 2022). The study identifies enforcement challenges as a central factor sustaining non-compliance. Although respondents acknowledged the existence of an adequate legal framework under the Road Traffic Act, 2004 (Act 683) and the Motor Vehicles (Third Party Insurance) Act, 1958, enforcement was widely perceived as inconsistent and resource-constrained. This finding mirrors earlier studies in Ghana, which attribute non-compliance to weak institutional capacity and fragmented enforcement mechanisms (Obeng-Odoom, 2010; Akotey et al., 2013; Robinson 2017). The perception of irregular enforcement reduces the deterrent effect of sanctions and encourages rational non-compliance, particularly among economically constrained vehicle owners. This aligns with regulatory compliance theory, which suggests that individuals weigh the cost of compliance against the likelihood of detection and punishment (Ackaah & Salifu, 2011). Comparable evidence from other developing economies similarly links weak enforcement to widespread use of unregistered and uninsured vehicles (Zhoa et al., 2012; Robinson, 2017; Gbenga, 2025). Despite recent reforms criminalising fake insurance under Act 1061, the findings suggest that enforcement gaps persist, especially for vehicles operating under DV plates and informal arrangements. The absence of

integrated databases among the Driver and Vehicle Licensing Authority (DVLA), National Insurance Commission (NIC), and Motor Traffic and Transport Department of the Ghana Police Service (MTTD) further weakens monitoring and accountability, enabling unregistered vehicles to circulate with minimal risk of detection (Oppong et al., 2022). The findings demonstrate that stakeholders adopt distinct risk management strategies shaped by their roles and exposure. Registered vehicle owners rely primarily on insurance as a formal risk transfer mechanism, consistent with Risk Management Theory's emphasis on insurance as a core risk financing technique (Rejda & McNamara, 2017). In contrast, unregistered vehicle owners favour informal risk control strategies, such as route avoidance and limited vehicle use, reflecting loss avoidance rather than risk transfer. Garage managers and insurance underwriters adopt precautionary and control-oriented strategies to minimise exposure, including upfront payments and stricter documentation requirements. These strategies highlight the spillover effects of non-compliance, where private actors are forced to compensate for regulatory weaknesses through self-protective measures. Similar adaptive behaviours have been documented in other developing contexts characterised by weak enforcement (Fronsko, 2011; Tooth, 2012). From an institutional standpoint, MTTD officers emphasised enforcement and sanctions as primary risk control tools yet acknowledged logistical limitations. This disconnect between regulatory intent and operational capacity undermines the effectiveness of insurance as a comprehensive risk management instrument (Rejda & McNamara, 2017). Consequently, the risk transfer function of motor insurance remains incomplete, exposing insurers, vehicle owners, and third parties to avoidable losses (Dorfman, 2010; Oppong et al., 2022; Goel et al., 2024).

## **Conclusion**

This study examined insurance coverage among unregistered vehicles in Ghana and analysed its implications for risk management among adult road users. Using a qualitative interpretivist approach, the study drew on perspectives from vehicle owners, insurance underwriters, garage managers, and enforcement officials to provide an in-depth and context-specific understanding of how unregistered vehicle use interacts with compulsory motor insurance and risk management practices. The findings demonstrate that unregistered vehicles significantly undermine the effectiveness of Ghana's compulsory motor insurance regime. Insurance compliance among unregistered vehicle owners is largely irregular and enforcement-driven rather than risk-informed, reflecting limited awareness, weak deterrence, and economic constraints. As a result, insurance is often treated as a temporary or symbolic requirement rather than a genuine risk transfer mechanism. This behaviour exposes vehicle owners to substantial financial and legal risks while simultaneously increasing insurers' underwriting and claims exposure. The study further establishes that unregistered vehicles exacerbate insurance exposure by complicating risk assessment, claims verification, and accountability. In the absence of reliable registration data, insurers face heightened uncertainty, adverse selection, and moral hazard, while accident victims risk delayed or denied compensation. These outcomes undermine the core insurance principles of risk pooling and indemnity, thereby weakening motor insurance as a tool for effective risk management and road safety. Enforcement challenges emerged as a critical structural constraint. Although Ghana possesses an adequate legal framework governing vehicle registration and compulsory insurance, inconsistent enforcement, limited institutional capacity, and weak inter-agency coordination continue to sustain non-compliance. The persistence of unregistered vehicles, including those operating under misused DV plates, highlights the gap between regulatory intent and practical implementation. This disconnect reduces the deterrent effect of sanctions and

encourages opportunistic behaviour among non-compliant road users. Finally, the study shows that stakeholders adopt differentiated risk management strategies in response to systemic weaknesses. While registered vehicle owners rely on insurance as a formal risk financing mechanism, unregistered vehicle owners resort to informal risk avoidance strategies that provide limited protection. Insurance underwriters, garage managers, and enforcement agencies employ precautionary and control-based measures to limit exposure, effectively shifting the burden of risk management from the regulatory system to individual actors. Overall, the study concludes that unregistered vehicles pose a significant threat to effective risk management within Ghana's motor insurance system. Addressing this challenge requires more than statutory reform; it necessitates improved enforcement consistency, enhanced public education on insurance and registration requirements, and stronger institutional coordination among regulatory bodies. Strengthening these measures is essential to reducing insurance exposure, protecting third-party road users, and enhancing the overall effectiveness of Ghana's compulsory motor insurance framework.

## **Implications of the Study**

### *Theoretical Implications*

This study makes several important contributions to theory in the areas of risk management, insurance compliance, and regulatory governance. First, by focusing specifically on unregistered vehicles, the study extends Risk Management Theory beyond its traditional application to formally insured assets. The findings indicate that the presence of unregistered vehicles significantly undermines the effectiveness of insurance as a risk transfer mechanism, increasing exposure to loss, moral hazard, and the likelihood of adverse selection. This underscores the interdependence

between regulatory compliance and the functioning of insurance markets, an area that has received limited empirical attention in existing literature. Second, the study enriches the application of the Theory of Planned Behaviour within the motor insurance context by illustrating how weak enforcement and permissive social norms shape insurance decisions among unregistered vehicle owners. The findings suggest that attitudes toward insurance are not solely determined by risk awareness but are strongly influenced by perceived enforcement intensity and behavioural control. This highlights the need for theoretical models of insurance behaviour in developing economies to more explicitly incorporate institutional and enforcement variables. Third, the study contributes to Stakeholder Theory by empirically demonstrating that insurance non-compliance among unregistered vehicle owners generates negative externalities for multiple stakeholders, including insurers, third-party road users, garage operators, and the state. Insurance compliance is therefore reaffirmed as a collective and societal obligation rather than a purely private contractual matter. By evidencing how risks are redistributed across stakeholders when formal mechanisms fail, the study deepens theoretical understanding of shared risk governance in road transport systems. Overall, the study provides a context-specific theoretical contribution by integrating risk management, behavioural, and stakeholder perspectives to explain insurance exposure arising from unregistered vehicle use in developing economies.

### *Managerial Implications*

From a managerial and policy perspective, the findings have significant implications for regulators, insurers, enforcement agencies, and road safety stakeholders in Ghana. For policymakers and regulators, the study highlights the need to move beyond legislative reforms toward consistent and coordinated enforcement. Although Ghana's legal framework on vehicle

registration and compulsory motor insurance is adequate, weak enforcement undermines compliance. Strengthening operational capacity within enforcement agencies, particularly the Motor Traffic and Transport Department (MTTD), and improving inter-agency coordination among the Driver and Vehicle Licensing Authority (DVLA), National Insurance Commission (NIC), and the Ghana Police Service are critical. The development of integrated digital databases for vehicle registration and insurance verification would significantly reduce opportunities for non-compliance and fraud. The findings also suggest the importance of public education and behavioural change interventions. Regulatory authorities and insurers should invest in sustained public awareness campaigns that clearly communicate the legal, financial, and social consequences of operating unregistered and uninsured vehicles. Such interventions should emphasize insurance as a risk management tool rather than a checkpoint requirement, thereby shifting compliance from enforcement-driven to risk-informed behaviour. For insurance managers and practitioners, the study underscores the need for enhanced underwriting and documentation controls. Insurers should strengthen verification procedures, particularly for vehicles operating under temporary or DV plate arrangements, to minimise underwriting and claims exposure. Product innovation, such as short-term or conditional insurance products linked to registration completion, may also improve compliance while managing risk. Garage managers and vehicle dealers also have a role to play in reducing systemic risk. The findings suggest that clearer regulatory guidelines and accountability mechanisms regarding DV plate usage and vehicle transfers would reduce liability exposure and improve traceability within the vehicle value chain. At a broader policy level, addressing unregistered vehicle use should be integrated into Ghana's national road safety and risk management strategy. Reducing the prevalence of unregistered and uninsured vehicles would not only enhance insurance market stability but also improve compensation outcomes for accident

victims and strengthen public confidence in the motor insurance system. In sum, the study's managerial and policy implications point to the need for a holistic approach that combines enforcement, education, institutional coordination, and market-based solutions to reduce insurance exposure and improve risk management outcomes in Ghana's road transport sector.

### **Limitations of the study**

This study has certain limitations that should be considered when interpreting the findings. First, the qualitative research design and purposive sampling approach, while suitable for in-depth exploration, limit the statistical generalisability of the results beyond the study context. The findings therefore provide analytical insights rather than population-wide conclusions. Second, the study relied on self-reported interview data, which may be subject to recall bias or social desirability bias, particularly given the sensitivity of issues relating to insurance compliance and unregistered vehicle use. Although triangulation across stakeholder groups enhanced credibility, some subjectivity remains inherent. Third, the study is context-specific, focusing solely on Ghana. Differences in regulatory frameworks and enforcement capacity across jurisdictions may limit the direct applicability of the findings elsewhere. Finally, the absence of quantitative accident and insurance claims data restricts the ability to assess the magnitude of insurance exposure associated with unregistered vehicles. Future studies incorporating mixed methods could provide a more comprehensive assessment.

### **Implications for future research**

Future research could build on this study by adopting quantitative or mixed-methods approaches to estimate the prevalence and financial impact of unregistered and uninsured vehicles using accident, claims, and enforcement data. Such approaches would enhance empirical generalisation and deepen understanding of insurance exposure. Comparative studies across regions within Ghana or similar jurisdictions would help assess how differences in enforcement capacity, institutional coordination, and regulatory design influence compliance behaviour. Further research could also explore the behavioural drivers of insurance compliance, including risk perception, enforcement visibility, social norms, and affordability. Also, expanding the range of stakeholders studied, including accident victims and commercial transport operators, would provide a more comprehensive understanding of systemic risk within the motor insurance framework.

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