

**Distribution Channel and Information Asymmetry: An Empirical Analysis in
Taiwanese Automobile Physical Damage Insurance Market**

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Abstract

This study attempts to further explore the effects of different distribution channels on asymmetric information of both risk type and claim service in Taiwanese automobile physical damage insurance market. Some empirical studies provide the evidence of the presence of moral hazard regarding vehicle physical damage insurance in Taiwan, and they also explain that this problem is caused by the distribution channel of car dealer-owned agent. There are, however, few studies to investigate the relationship between insurance intermediaries and information issue, which is mainly due to difficulty in distinguishing insurance fraud from claims. Even so, the issue between distribution channel and moral hazard is still very important, and further analysis is needed. On the other hand, due to a lack of market transparency and search cost, policyholders have asymmetric information regarding insurers' claim service. Many empirical analyses find that independent agents can help policyholders to get better quality of claim service; nevertheless, it lacks for analyzing through individual-level data of actual insurance policies. Additionally, this subject cannot be analyzed via data from one insurer or few insurers. Due to multiple roles of car dealer-owned agents in Taiwan's automobile insurance market, the relationship between claim service and distribution channel would be a rich and interesting issue. Therefore, this study explores the effects of insurance intermediaries on asymmetric information regarding both risk type and claim service, and uses a unique data set of automobile physical damage insurance from all insurers in Taiwan from 2010 to 2012 policy year. The findings of the current study would help both insurers and insureds to clearly realize the role of insurance intermediaries.

Key Words: distribution channel, information asymmetry, automobile insurance

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1. Introduction

For a long time, the business in automobile insurance market in Taiwan is mainly from channels such as direct writer systems, insurance broker systems, insurance agent systems, and direct response systems, among them, (car dealer-owned) insurance agent systems are the main distribution channel, direct writer systems in the insurance companies are the next, and the direct response systems have the lowest insurance premium, however, it is the least used distribution channel. In addition, automobile insurance was, for a long term, under the control of supervising organization, therefore, product and price from different company was almost not changed, in other words, product homogeneity existed in this market for a long time. Therefore, it seems that insurers can enhance its market share from service quality or other distribution channels except direct writer system.

From the view point of cost efficiency, insurers tend to select the direct writer (or direct response) system for sales due to its lower cost; however, from the view point of risk assessment, insurance agents can provide better risk assessment service, therefore, when insurers select the distribution channel of insurance agent (or insurance broker), usually more risk information assistance can be obtained. According to the empirical analyses from the past literature (for example, Blair and Herndon, 1994; Regan and Tennyson, 1996), when the insurance type is more complicated, the insurer usually will select independent agents, in addition to the cost efficiency consideration, risk assessment function was also the main consideration; on the contrary, when the insurance type is simpler, the exclusive agents were usually selected. As the insurance types of Taiwanese automobile physical damage insurance market are highly homogeneous, at the concept of cost efficiency and risk assessment, it becomes reasonable business source of car dealer-owned insurance agents; nevertheless, practically, the distribution channel of automobile insurance is mostly of diversified distribution channel, and each insurer follows its own market strategy to decide main marketing channel.

Starting from April 2009, third stage rate liberalization was implemented in the insurance industry in Taiwan. After total deregulation of rating control, the competition

in the automobile insurance market became more severe, therefore, insurers should follow different products and competition condition to make different market strategies respectively (Peng et al., 2014). Since the premium income of automobile insurance occupies about 50% of all the property and casualty insurance premium, competition in this line is especially severe, therefore, for insurers, in addition to using product innovation and price competition to enhance its market share, especially, the selection of marketing channel is also one of the important consideration factors.

On the other hand, in the past literature, it was found that serious moral hazard existed in the Taiwanese automobile physical damage insurance market, and all the literature mentioned that the occurrence of moral hazard was highly related to the distribution channel of car dealer-owned insurance agent (Li et al., 2013; Li et al., 2008; Wang, 2006), the salesman of the automobile dealer, in order to seize the insurance business, tended to create excessive unnecessary claims before the termination of the contract. According to statistics on claim payment, the claim payment for automobile insurance occupies more than 60% of all the claim expenses, meanwhile, after the release of the control of insurance rating, this percentage is on a rising trend, in addition to bad loss rate of automobile liability insurance (including compulsory automobile liability insurance), the moral hazard of automobile physical damage insurance is the main cause. Therefore, after the deregulation of rating control, under the more severe competition of the market, the operation result of automobile insurance has important influence on the performance of insurance company. For insurers focusing on the underwriting profit, the information asymmetry issue of automobile insurance is still a non-negligible topic, especially, the issue of asymmetric information derived from marketing channel.

For the insured customer, after purchasing the insurance, whether the insurer can provide good service and claims is the most important part to an insured customer (Query et al., 2007). However, a customer has to face several insurers, and sufficient information is usually difficult to be obtained to judge the level of service quality. Information asymmetry issue of the customers on the insurers is generated. There is another function for the selection of distribution channel, that is, through different distribution channels, information regarding service quality can be provided to the customers to improve such information asymmetry issue.

From the view point of searching cost, some studies had analyzed the factors of existence of different insurance distribution channels (for example, Posey and Yavas, 1995), and found that customer of high searching cost will select to purchase the insurance through independent agent systems, and customer of low searching cost will purchase the insurance through direct writing systems, which showed that independent agents possessed better professional insurance knowledge to assist customers in finding appropriate insurers. Since independent agents have many claim experiences with different insurers, they can provide consultation for the quality of claim service from different insurers, consequently, customer's searching cost can be effectively reduced. In addition, Kim et al. (1996) used loss rate to investigate if difference existed among the claim services of different distribution channels, and it was found that insurance companies adopting independent agent system had higher loss rate, as evidence for claim service. Some studies even proposed that independent agents possessed better claim coordination capability to provide superior service quality (for example, Berger et al., 1997; Barrese et al., 1995; Barrese and Nelson, 1992; Mayers and Smith, 1981). Therefore, from the view point of searching cost and claim coordination capability, there is a certain relationship existed between the distribution channel selected by customers and the claim service quality of insurer.

In general, insurers have information asymmetry of risk level on insured customers, and insured customers have information asymmetry of claim service on insurers, therefore, whether the information issues of both sides will be different due to different insurance distribution channels will be the focus of this study. This study attempts to verify the influences of distribution channels on the information issues of insurers and insured customers respectively through the data of Taiwanese automobile physical damage insurance after the deregulation of premium rating. Moreover, for a long term, the businesses in Taiwanese automobile physical damage insurance market are made by automobile dealers, which play simultaneously the role of providing automobile maintenance and repair service as well as insurance service. Therefore, before the expiration of the contract, unnecessary claim can be carried out easily, as compared to other insurance distribution channels. The differences of information issue (moral hazard) from different distribution channels should still be verified through actual data. Furthermore, it is also interesting if the magnitude of information issue for insurers adopting different distribution channel strategies are different. On the other

hand, whether insured customers, through the selection of distribution channel, can have the searching cost reduced to get better claim service is an important topic of empirical study; meanwhile, whether the relationship between the selection of distribution channel by insured customers and the decision of renewing insurance (or switching to another insurer) is affected by the quality of claim service is a worthy topic to further investigate. Through the analyses in this study, insurers and the insured customers can know more clearly the effect of distribution channels on the operation of automobile insurance.

2. Literature Review and Hypotheses Development

Dionne and Gagné (2002) use the difference of time distribution between claim severity and claim frequency in the coverage period to distinguish different types of information issues caused by replacement cost endorsement. Through automobile theft insurance data, it is found that the occurrences of total loss before the expiration of the endorsement significantly increase, which proves that opportunistic frauds exist in the automobile theft insurance market in Canada. According to this study, Liu et al. (2012) use data of Taiwanese automobile theft insurance to verify the existence of moral hazard, and the result shows that insurance policies with replacement cost endorsement, in the last month before the expiration of the insurance policy, have significantly higher theft rate than those of actual cash value, which is similar to the result of Dionne and Gagné (2002). Poa et al. (2014) use the data of Taiwanese automobile theft insurance to verify opportunistic fraud, and especially, insurance frauds, not like the evidence of Dionne and Gagné (2002), do not occur before the expiration of the policy, instead, those occur in one month after the passing of strong typhoon.

On the other hand, through a study different from automobile theft insurance, Wang et al. (2008), in verifying information asymmetry of Taiwanese automobile physical damage insurance market and in the analysis of policy months of insurance contracts, find that the distribution of claim counts shows a smirk pattern, that is, the last policy month shows a higher claim count. Li et al. (2008) use the insurance policy of form A of Taiwanese automobile physical damage insurance as target to verify the triggering of claim increase by unknown perils coverage of automobile physical damage insurance, and the empirical result shows that unknown perils coverage would trigger excess claims from the insureds in the month before the expiration date. Li et al.

(2013) convert the time distribution of the claim data of Taiwanese physical damage insurance from calendar month into policy month, and the result shows that high percentage of before-expiration claim distribution appeared, in the meantime, it is found that the claim payments before the expiration are lower than those of other policy months, and such result is different from the finding of Dionne and Gagné (2002).

By summing up the above literature, it is clear that moral hazards exist in Taiwan's automobile insurance market, especially in the automobile physical damage insurance, and massive before-expiration claims show the information issue. Li et al. (2013), Li et al. (2008), and Wang (2006) further mention that such type of information issue is related to the distribution channel of automobile dealer-owned agent.

Wang et al. (2007) and Hsieh et al. (2014) respectively use the data of automobile physical damage insurance and liability insurance from a single insurer to investigate the relationship between distribution channels and claim occurrences. However, the relationship between distribution channels and information issue (moral hazard) is not further analyzed. Picard and Wang (2015) use the collusion between insureds and claim service providers (automobile dealers) to construct a theoretical model of claim fraud, meanwhile, Taiwan's automobile physical damage insurance data from a single insurer are used to conduct empirical analysis, which further proves that the fraud ratio of insurance purchased through automobile dealer-owned agents is higher than that purchased through other channels. However, information issue might not just exist in automobile dealer-owned agents, the observation to other distribution channels are also necessary. In this study, information issue of different distribution channels is compared to fully understand the situation of information issue, meanwhile, as compared to the data of a single insurer, analysis result based on automobile insurance data of the entire insurance industry is more reliable. Different distribution channel strategies from all insurers can be also further observed so as to compare the difference of information issue and to confirm the influence of marketing channels. Hence, the hypotheses of relationship between insurance distribution channels and before-expiration claims are:

Hypothesis 1: The information issue of before-expiration claims between insurers and insureds is influenced by different insurance distribution channels. Policyholders who are insured through insurance agent system have a higher probability of filing a claim in the month before insurance contract expired.

Hypothesis 1-1: The insurers which adopt insurance agent system as the main channel have higher claim frequencies before insurance contract expiration.

There are lots of literatures related to insurance distribution channels, and some literatures focus on the relationship between factors such as organizational form, asset risk, ownership form, and capital structure, and what kind of distribution channel form is to be adopted by insurers, for example, Baranoff and Sager (2003); Regan and Tzeng (1999); Kim et al. (1996), etc. On the other hand, since independent agent is less cost efficiency, therefore, some literature focusing on the investigation of the reason that independent agents and exclusive agents (or direct writing systems) exist at the same time in the insurance market, and there are two main explanations: product quality hypothesis and market imperfections hypothesis. Product quality hypothesis proposes that because independent agents and exclusive agents can provide different levels of service quality to attract different customers, and independent agents who have higher cost than exclusive agents can satisfy customer of high service demand, for example, Eckardt and R athke-D oppner (2010); Trigo-Gamarra (2008); Regan and Tennyson (1996); Barrese and Nelson (1992), etc. However, the viewpoint of market imperfection hypothesis is not at service quality, and it mainly proposes that due to general existence of information asymmetry, the lack of market transparency, and the different characteristics of distribution channels, independent agents and exclusive agents simultaneously exist in the insurance market, for example, Weiss (1990); Cummins and VanDerhei (1979); Joskow (1973), etc. Since Taiwan's insurance market adopted multi-channel structure, which is different from the insurance distribution channels mentioned by above literature, therefore, for Taiwan's automobile insurance market, there are few discussions about the insurance distribution channels.

In addition, some literatures investigate the difference of risk types of insured customers through selections of insurance distribution channels. Under the assumptions that insurers have information asymmetry to the insured customers and the claim service of independent agents is superior to that of dependent agents, Venezia et al. (1999) utilize a theoretical model to provide a separating equilibrium explanation: through the self-selection of insured customer, high risk insured customers will select independent agents to buy the insurance, and low risk insured customers will select exclusive agents to buy the insurance, which explicates the reason that independent

agents of higher cost can exist in the insurance market. In empirical studies, the concept of screening mechanism hypothesis is provided, that is, the occurrence of claims filed by insureds who purchase insurance through independent agents will be higher than that of insureds who purchase insurance through dependent agents. Using Taiwan's automobile insurance data, Wang et al. (2007) find that the policies from automobile dealer-owned agent have higher claim rate, and the policies from financial organization have lower claim rate. According to the conclusion of Venezia et al. (1999), Hsieh et al. (2014) use automobile liability insurance data in Taiwan to test the screening mechanism hypothesis. For the samples of car age of more than three years, the result shows that high-risk insureds favor the distribution channel of independent agent, and low-risk insureds are on the contrary, which support that under information asymmetry, the selection of distribution channel can be used as risk screening mechanism. Therefore, the following hypotheses distinguish the relationship between claim service and distribution channel:

Hypothesis 2: The information issue of claim service between insurers and insureds is influenced by different insurance distribution channels. Policyholders who are insured through indirect distribution channels (insurance agent system and insurance broker system) have better claim service than those insured through direct distribution channels (direct response system and direct writer system).

Hypothesis 2-1: The insurers which adopt insurance agent system as the main channel have better claim service than other insurers.

In the relationship between renewing contract and claim service, Schlesinger and von der Schulenburg (1993) use questionnaire survey method to investigate the data of customers in purchasing automobile insurance in Germany and verify the decision-making factors for insureds to change insurer, wherein delay in the claim, claim service, non-claim service, and distribution channel are all targets to be investigated, and the results show that searching cost of insurance price, insurer switching cost, and service quality of insurer are all important factors. In addition, Israel (2005) uses automobile insurance data to examine how consumer's learning on claim experiences affect their decision of staying in the same insurer. Li et al. (2014) use Taiwanese automobile physical damage insurance data to investigate the effect of claim delay (negative claim

service quality) on the decision in changing insurer, and the result shows that the longer the claim delays, the higher the possibility for insureds to switch the insurer. For the comprehensive insurance coverage, it is also found that the higher the claim payment, the lower the possibility for insureds to change the insurer. These evidences show that the claim service will affect the insured's contract-renewing decisions. As compared to the analysis of Li et al. (2014), in this study, individual's insurance policy data after the deregulation of rating control are used to further investigate the effect of distribution channels on the claim service, and it can verify the information issue of claim service quality, meanwhile, what the role played by distribution channels in renewing contract (or changing insurer) is investigated. Therefore, the third hypothesis:

Hypothesis 3: The decision of renewing insurance contract from policyholder is influenced by insurance distribution channel and claim service.

3. Data and Methodology

Data

In this study, data adopted are automobile physical damage insurance policies for passenger cars sold by all the insurers in Taiwan from 2010 to 2013, which included two type policies of comprehensive coverage and moving collision coverage. The comprehensive coverage contains a deductible option and covers accidents to the car, including rollover, lightning, fire, explosion, damage from flying objects, and collision. However, the moving coverage is without a deductible and only cover the accident of car-to-car collision.

The data set includes the data of policies and of claims, and all the data can be organized as the data on the policy year of 2010-2012. The policy data include the characteristics of policyholders (gender, age, and marital status), the characteristics of insured vehicles (such as produce year, brand, and exhaust), insurance premium, claim coefficient, deductible type, insured district, distribution channel, and insurance company; moreover, the claim data include the characteristics of drivers (gender, age, and marital status), the date of the accident, the date of claim notification, the date of claim closing, claim payment, and the reason of the accident.

Methodology

First, this study analyzes the effects of different distribution channels on the occurrence of claims before the expiration of the contract, however, considering the endogeneity might exist in distribution channels and claims before expiration date. Therefore, the non-linearity method of Dionne et al. (2001) is referred to in this study, and for the empirical model, two-stage method is adopted for estimation. In the first stage, the selection of distribution channel is conducted with probit models, and estimation models are set as follows:

$$\text{Prob.}(\text{Agent system} = 1|X_1) = \Phi(X_1'\alpha_1) \quad (1)$$

$$\text{Prob.}(\text{Broker system} = 1|X_1) = \Phi(X_1'\alpha_2) \quad (2)$$

$$\text{Prob.}(\text{Direct response system} = 1|X_1) = \Phi(X_1'\alpha_3) \quad (3)$$

$$\text{Prob.}(\text{Direct writer system} = 1|X_1) = \Phi(X_1'\alpha_4) \quad (4)$$

where *Agent system* is a dummy variable that equal 1 if the contract is insured through the insurance agent and 0 otherwise; *Broker system* is a dummy variable that equal 1 if the contract is insured through the insurance broker and 0 otherwise; *Direct response system* is a dummy variable that equal 1 if the contract is insured through the customer directly to the insurer and 0 otherwise; *Direct writer system* is a dummy variable that equal 1 if the contract is insured through the salesman of an insurer and 0 otherwise; X_1 is a set of all other explanatory variables, which are mainly risk classification variables of automobile physical damage insurance, including the demographic characteristics of the policyholder (such as age, gender, and claim coefficient) and the characteristics of the vehicle (such as car age, exhaust, and car model), in addition, other control variables (such as deductible, insured district, insurer, and policy year). From the estimation results of probit regressions (equations (1)-(4), estimations of distribution channel can be obtained respectively:

$$\text{Prob.}(\widehat{\text{Agent system}} = 1|X_1), \text{ Prob.}(\widehat{\text{Broker system}} = 1|X_1),$$

$$\text{Prob.}(\widehat{\text{Direct response system}} = 1|X_1), \text{ and } \text{Prob.}(\widehat{\text{Direct writer system}} = 1|X_1).$$

In the second stage, the occurrence of claims before the expiration of the contract is the explained variable to be conducted probit regression, and estimation model is set as follows:

$$\begin{aligned}
& \text{Prob. } (Claim12 = 1 | \text{Agent system}, \text{Broker system}, \text{Direct response system}, \\
& \text{Prob. } (\widehat{\text{Agent system}} = 1 | X_1), \text{Prob. } (\widehat{\text{Broker system}} = 1 | X_1), \\
& \text{Prob. } (\widehat{\text{Direct response system}} = 1 | X_1), \text{Prob. } (\widehat{\text{Direct writer system}} = 1 | X_1), X_2) \\
& = \Phi(\beta_1 \text{Agent system} + \beta_2 \text{Broker system} + \beta_3 \text{Direct response system} + \\
& \beta_4 \text{Prob. } (\widehat{\text{Agent system}} = 1 | X_1) + \beta_5 \text{Prob. } (\widehat{\text{Broker system}} = 1 | X_1) + \\
& \beta_6 \text{Prob. } (\widehat{\text{Direct response system}} = 1 | X_1) + \\
& \beta_7 \text{Prob. } (\widehat{\text{Direct writer system}} = 1 | X_1) + X_2' \beta_8) \tag{5}
\end{aligned}$$

where *Claim12* is a dummy variable that equal 1 if the claim is filed in the month before the expiration date of contract and 0 otherwise. For each type of distribution channel, the direct writer system is used as reference group. Through magnitude and significance of estimation coefficients ($\beta_1, \beta_2, \beta_3$) of three distribution channels, the effects of different distribution channels on moral hazard can be realized.

This study also further examines the difference in information asymmetry (moral hazard) between the insurers adopting car dealer-owned agents as the main distribution channel and other insurers, and empirical model is set as follows:

$$\text{Prob. } (Claim12) = \beta_0 + \beta_1 \text{Agent main channel insurer} + \beta_2 X_3 \tag{6}$$

where *Agent main channel* is a dummy variable that equal 1 if the insurer adopts car dealer-owned agents as the main distribution channel and 0 otherwise. Through the direction and significance of estimation coefficient β_1 , the difference caused by the selection of distribution channel on the information issue (moral hazard) in the insurer can be more clearly understood.

Next, the analysis is conducted on the differences in the claim service quality for different distribution channels, meanwhile, the concept of claim service quality of Li et al. (2014) and Query et al. (2007) is referred to. The claim days from the start of claim filed to the end of claim payed are used as reverse measurement of the service quality, and the shorter the claim days, the better the claim service quality. In addition, Kim et al. (1996) consider that the capability of claim coordination is different for each type of distribution channel. The loss ratio is used to explain the service quality of the insurer, and higher loss ratio means better claim service. Therefore, in this study, claim amount and loss ratio are adopted as proxy variables of claim service quality. Based on these three proxy variables, insurance contracts with claims are used for regression analysis,

and the empirical model is set as follows:

$$\begin{aligned} Deal\ days\ (or\ Claim\ payment,\ Loss\ ratio) &= \gamma_0 + \gamma_1 Agent\ system + \\ &\gamma_2 Broker\ system + \gamma_3 Direct\ response\ system + X'\gamma_4 + \varepsilon \end{aligned} \quad (7)$$

where *Deal days* is the days during the period of dealing with the claim; *Claim payment* is the claim amount of the contract; *Loss ratio* is the loss ratio of the contract; *X* is a set of all other explanatory variables; ε is the error item. The estimations of regression models are conducted respectively on three explained variables, through the magnitude and significance of estimation coefficients ($\gamma_1, \gamma_2, \gamma_3$) of three distribution channels, the differences of the effects of distribution channels on the claim service can be examined, meanwhile, the information issue of claim service quality for customer perspective can be verified.

The effect of insurers adopting different main distribution channels on claim services is also examined, and the empirical model is set as follows:

$$\begin{aligned} Deal\ days\ (or\ Claim\ payment,\ Loss\ ratio) &= \beta_0 + \\ &\beta_1 Agent\ main\ channel\ insurer + \beta_2 X_3 \end{aligned} \quad (8)$$

In addition, in order to further understand if claim service and different distribution channels have influence on the decision of renewing contract from the insured, insurance contracts with claims and with repurchasing insurance in the next policy year are conducted with probit regression analysis, and the empirical model is set as follows:

$$\begin{aligned} Prob.\ (Renew = 1 \mid Deal\ days\ (or\ Claim\ payment,\ Loss\ ratio), \\ Agent\ system,\ Broker\ system,\ Direct\ response\ system,\ X) = \\ \Phi(\pi_1 Deal\ days\ (or\ Claim\ payment,\ Loss\ ratio)) + \pi_2 Agent\ system + \\ \pi_3 Broker\ system + \pi_4 Direct\ response\ system + X'\pi_5 \end{aligned} \quad (9)$$

where *Renew* is a dummy variable that equal 1 if the insured renewed the contract in the next policy year with the same insurer and 0 otherwise. Through the estimation coefficient, π_1 , the effect of claim service on the renewing decision of the insured can be confirmed, and estimation coefficients, π_2, π_3, π_4 , can display the effects of different distribution channels on claim service. Furthermore, this study will also apply the interaction items between claim service and different distribution channels to examine the effects of claim service on the renewing contract of the insured for different

distribution channels.

4. Expected Results

In the first part of this study, the total insurance contract samples are used to analyze the relationship between the selection of distribution channel and moral hazard, meanwhile, it is verified that seriously excess claims before expiration in Taiwanese automobile physical damage insurance market are related to distribution channels, which is mentioned in the past studies. The differences of the existence of moral hazard among different distribution channels can be understood. Furthermore, the difference of the existence of moral hazard between the insurers applying different distribution channel strategies can be also verified. These results can be provided to the insurers to realize the operation risk generated by the decision of distribution channel, which is very useful for making marketing strategy of distribution channel. In the second part of this study, through the insurance contract samples with claims, the analysis of the relationship between claim service and distribution channel is conducted, and the existence of information asymmetry of service quality can be confirmed. On the other hand, the effect of such information issue on the decision of renewing insurance policy for the insureds can be verified. It can let the insureds understand the impact of distribution channel on claim service, and let the insurers understand the claim factors of the decision of renewing insurance policy from the insureds. All these analyses can investigate information asymmetry from the viewpoints of both insurer and insured, and the empirical results can be used as reference for making the decision of distribution channel.

Through the valuable automobile physical damage insurance data of the entire insurers in Taiwan, the operation risks caused by information issues can be actually reflected. After rate liberalization, under more competitive environment, the insurers can control the operation risks to improve efficiency. Therefore, if more information can be effectively disclosed to control the situation of information asymmetry, it will be very helpful to the entire automobile insurance market in Taiwan.

Next, for the information issue in Taiwan's automobile physical damage insurance, many studies focus on the risk factors, and there are few studies conducting analyses on the distribution channel. It is different to the past studies that this study investigates the information asymmetry of service quality for insured customer's viewpoint. In

addition, since the data include all the insurers, it can be used to observe the behavior of the insured to continue purchasing insurance contract and to change the insurer. Especially, this study can examine the relationship between service quality and contract renewal (or switching insurer) behavior.

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