The Insurance Sector and the Problem of Asymmetric Information

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Abstract: ***The insurance sector plays an important role in risk management and financial security. However, the existence of asymmetric information between policyholders and insurance companies in the insurance sector poses a significant problem. This means that policyholders have more information about their risk profile and insurers do not have full access to this information. Individuals who benefit from insurance services may engage in risky behaviors due to this information. As a result, the potential for losses for insurance companies and an increase in total risk may occur. Public regulations are needed to minimize the risk of asymmetric information, which is likely to occur in the insurance sector. This study aims to explain the importance of the existence of asymmetric information in the insurance sector by taking into account the aforementioned importance.***

Keywords: Insurance Sector, Asymmetric Information, Public Finance

1. Introduction

In the 1970s and 1980s, researchers focused on the issue of market failure and accordingly, the cause of market failure was stated as informational imperfections. The unsymmetrical distribution of information in the market has been identified as the cause of market failure. (Cowen and Crampton, 2002: 2). Akerlof, Spence and Stiglitz were the first to focus on the negative effects of asymmetric information in markets. In addition, these researchers were awarded the Nobel Prize in Economics in 2001 (Demir, 2015: 35). In economic terms, asymmetric information is when one party has more information than the other and is unfairly advantaged. As a result of unfair advantage, various problems can occur (Samuelson and Marks, 2012: 582).

The problem of asymmetric information may cause various negative effects in the insurance sector. Among these effects is the existence of an unsafe and unfair market structure. However, since the real risk potential of the consumer cannot be determined by insurance companies, there may be a problem that premiums cannot be determined fairly. This may cause individuals with lower risk potential to pay higher premiums. In addition, as a result of this situation, the profitability of insurance companies may be negatively affected due to the inability of insurance companies to accurately determine the risk potential. Another important impact of the asymmetric information problem in the insurance sector is the lack of transparency on the part of consumers to act honestly with the insurance guarantee. In this respect, this study aims to address the asymmetric information problem that may occur in the insurance sector in general terms.

2. Theoretical Framework on Asymmetric Information

The market is recognized as a low-cost access to the right goods and services. This is because the market provides all the necessary information about the benefits and costs between consumers and sellers. However, if this information is not perfect, market failure occurs. Therefore, the fact that buyers and sellers have different information about the characteristics of the product in the market can be stated as asymmetric information. In a market structure where asymmetric information is present, social benefit maximization is distanced. (Blomqvist and Leger, 2005).

Akerlof explained asymmetric information, which is the cause of inefficiency in most markets, with the example of the automobile market. Cars in the second-hand market are grouped as good or bad and the bad ones are named as Lemon. In this case, people buy cars without knowing whether they are good or lemon. Owners of lemons in the market will be willing to sell their cars at the average price, while owners of cars in good condition will not want to sell their cars. This way, the cars on sale will be mostly low-end cars, while cars in good condition will be less available. Buyers will be able to get information about the quality of the vehicle after using it for a certain period of time and will be able to distinguish between good and lemon. In contrast, the seller will have more information about the car than the buyer. In this case, there is asymmetric information between the buyer and the seller. In the second-hand market, good and bad cars are traded at the same price. Bad car owners sell their cars at higher prices, while good car owners sell their cars at lower prices. This creates a moral hazard problem. The problem of adverse selection arises when good cars are excluded and bad cars dominate the market (Akerlof, 1970).

Different sides in the market prevent the optimal distribution of information symmetry. Thus, information symmetry is not achieved between those who have access to information and those who do not. The problem of asymmetric information is realized differently in different markets. Asymmetric information problems can occur in finance, real estate, used cars, insurance and any other market where commercial activities take place. (Çetinkaya, 2012: 49). Thus, it can be said that the problem of asymmetric information can occur in various markets and that it prevents an equal distribution of information among the parties. In the insurance market, it can be stated that the lack of diligence of the person towards the risk of loss or theft of the insured object causes an important problem in the context of asymmetric information.

3. The Relationship between the Insurance Sector and Asymmetric Information

Regarding the formation of asymmetric information in the insurance market, it is stated as the lack of effort and relaxed behavior of the person towards the risk of loss or theft of the object covered by the insurance. Tumay (2009: 113-114), in his study on ethical hazard in the insurance market, stated that ethical hazard in insurance markets emerges in the form of people making less effort against the risks of damage or theft of the insured thing. Altay ve Darıca (2021) aimed to determine the level of trust and satisfaction of insurance service recipients towards insurance companies in the light of asymmetric information. Within the scope of the study, 417 samples were used. As a result of the study, it was stated that some demographic and personal situations may cause asymmetric information in the insurance sector. Balkı (2021) conducted a multiple regression analysis using the data of 408 policyholders in his study aiming to determine the existence of asymmetric information in the automobile insurance sector in Turkey. The study concludes that there is an asymmetric information problem in the automobile sector and the cost of asymmetric information is borne by policyholders.

Altay (2021) examined the effects of asymmetric information on organizational trust, loyalty and satisfaction in the insurance sector. In this respect, a survey was conducted with 417 customers with insurance policies and structural equation modeling was applied with the data obtained. The study concluded that asymmetric information constitutes a significant problem in the insurance sector. Şimşek (2020) proposed to evaluate the optimal crop yield insurance in the agricultural market using the hierarchical Bayesian approach within the scope of asymmetric information. In this direction, wheat yield data between 1991 and 2016 in Ankara and Konya provinces were used. As a result of the study, different results were obtained on district basis and the premium rates were the lowest for Çorlu district, where the average wheat yield was the highest, and the highest for Cihanbeyli district, where the average yield was the lowest. Daşcı (2018) aims to determine the existence of asymmetric information in private health insurance practices using regression analysis. In this direction, we investigated the special conditions of people who do and do not buy private health insurance in Turkey and whether they have health problems before taking out an insurance policy. As a result of the study, it was stated that individuals' special conditions may have a significant effect on the presence of asymmetric information.

Cohen (2005) examines the relationship between the automobile market and asymmetric information and finds that customers with high insurance coverage are more likely to be associated with accidents. It was also stated that this result was observed in customers with more driving experience. In this respect, it was pointed out that the problem of adverse selection may be more common among drivers with more driving experience. Bilgili and Ecevit (2008) argue that individuals gain purchasing power for health expenditures through health insurance and this may reveal the existence of asymmetric information. An increase in health expenditures may occur due to overutilization of health services by individuals with health insurance. In parallel with this situation, Beşer and Dönmez (2024), in their study conducted in Kütahya province, stated that the health insurance that individuals have may create asymmetric information due to lack of trust and information.

4. Types of Asymmetric Information and It's Evaluation in the Context of Insurance Sector

In the context of asymmetric information, differences in the level of information between the parties arise in the form of moral hazard, adverse selection, principal-agent problem and incomplete markets. Therefore, it is important to clarify the types of asymmetric information in the insurance sector.

4.1 Moral Hazard

Moral hazard can be defined as acting in a manner contrary to the concept of honesty. Moral hazard is the use of one's knowledge to the detriment of others. It is clear that this is not an ethical behavior. An example of moral hazard is when an individual who has a car insurance policy on his car does not obey traffic rules after having a car insurance policy. (Demir, 2015: 36). Although the problem of moral hazard is a post-contractual situation, as can be seen from the example, it arises from a hidden situation. The other side cannot foresee the hidden situation (Şimşek and Karakaş, 2007: 23). Moral hazard is also frequently seen in business life. It occurs when employees do not perform adequately in relation to their work and the employer's interest is harmed as a result. In this respect, in order to prevent and reduce moral hazard, performance-based remuneration links the remuneration element to performance (Yöntem, 2012: 34).

To summarize, moral hazard can be expressed as the situation where one of the parties acts against the concept of honesty and this situation arises after the contract between the parties. The moral hazard problem can be a common problem in the insurance sector. An example of this would be a person who insures his/her car but does not behave as carefully as before after the car insurance. In addition, the fact that a person who has private health insurance does not pay much attention to his/her health after getting insurance shows the problem of moral hazard in the insurance sector.

4.2 Adverse Selection

The notion of adverse selection in relation to asymmetric information was introduced in George Akerlof's 1970 paper *The Market for "Lemons": Quality, Uncertainty and the Market Mechanism*. In his study, Akerlof refers to the situation where one party has more detailed information about used cars than the other party, while the other party is deprived of this information, as information asymmetry. When lemon cars constitute the majority in the market due to asymmetric information, this is referred to as adverse selection. Insider trading, which is related to adverse selection in financial markets, is also important. This involves profiting from financial transactions by providing non-public information from within the firm or organization (Wilkinson, 2005: 15). The state should ensure social order through legal regulations, compensation and criminal proceedings against those who mislead people due to incomplete information (Demir, 2015: 36). Adverse selection refers to the fact that one of the parties has some confidential information prior to the contract (Özbilgi, 2011). In this respect, an example of this situation is when a person with health problems misleads the insurance company by taking out private health insurance.

4.3. Principal-Agent Problem

The owner, who exercises his/her authority through his/her representative, cannot effectively control the activities of the firm and has to bear high costs (Jensen and Mechling, 1976: 308). In the context of principal-agent theory, the individual or institution tends to maximize its own self-interest. This will lead to conflicts of interest between the principal and the agent (Wilkinson, 2005: 36). Principal-agent problems may arise between firm managers and lenders. The lenders to the firm take into account the existing risk level of the firm. Managers may invest in riskier projects. As a result, both the firm's operating risk and financial risk may increase with new debt. As a result of high-risk projects, in the event of a possible return, the owners of the firm may benefit, while in the event of a possible loss, the lenders will also be affected along with the owners of the firm (Jensen and Mechling, 1976). In this case, agents are likely to act in line with their opportunities. Table 1 presents the principal-agent model.

Table 1: Principal-Agent Model in the Insurance Sector

Principal	Agent	Special Information of the Agent	
		Secret Action	Secret Information
Insurance policy	Insurance buyer	Risky move	Previous situation

Source: (Nicholson ve Synder, 2010)

The principal-agent problem is based on the fact that one party to the contract has more information than the other. Insurance companies do not want high-risk individuals to pretend to be low risk and enter into contracts with low premiums (Antonioni and Flynn, 2011: 330).

4.4. Incomplete Markets

Most markets are characterized by failures due to asymmetric information. In addition to the second-hand car market exemplified by Akerlof in his study, asymmetric information can also lead to disruptions in the insurance and finance sectors. In the financial sector, where the problem of asymmetric information can be observed, the role of financial intermediaries in financial markets is important. This is because the borrower has more effective information about the potential return and risk of its investment than the lender. The other party does not have effective information. This situation is characterized by asymmetric information. In this stage, adverse selection occurs before borrowing, while moral hazard occurs after borrowing (Mishkin, 2004: 32).

Failures due to asymmetric information problems can be observed in all markets. For example, the situation between a child who wants to buy a toy containing carcinogenic substances and a toy seller, and the situation between a person who wants to buy a lemon car and a lemon car seller can be related to each other. As a result, moral hazard and adverse selection phenomena occur regardless of the market. However, the situation in the banking deposit system is characterized by a multilateral structure consisting of banks, depositors, supervisors and politicians. In this multilateral contract, the risk taker, cost bearer and beneficiary can change (Müslümov and Aras, 2004).

5. Conclusion and Recommendations

The problem of asymmetric information is the disruption of market equilibrium and the loss of market efficiency. In fact, it can also be expressed as one of the parties in the economic relationship having more information than the other party. In this respect, the problem of asymmetric information in the insurance sector is a fundamental reason that undermines the efficiency and security of the sector. A review of the international literature on the insurance sector and the problem of asymmetric information reveals that asymmetric information is recognized as an important problem in the sector. Therefore, public regulations will play an important role in solving the asymmetric information problem. In addition, making the insurance sector transparent and accountable by introducing stricter audits will be critical for ensuring an environment of trust. The second important issue in solving the problem of asymmetric information in the insurance sector is to ensure that policies are transparent and understandable. Clear policy terms and conditions that enable consumers to better understand their rights and responsibilities may be effective in reducing the problem of asymmetric information. In this way, trust and fair competition between the parties can be ensured.

Another suggestion to reduce the asymmetric information problem that may occur in the insurance sector can be stated as the use of technology. The use of advanced technologies such as artificial intelligence technology and big data analytics, which have been developing in recent years, will be able to more accurately identify the risk profiles of insurance applicants. Thus, insurance companies will be able to identify risk potentials more accurately. In conclusion, asymmetric information is recognized as an important problem in the insurance sector. However, technological advances, activation of policy conditions and public regulations may contribute to the creation of a secure market conditions.

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Paper ID: SR24407152447 DOI: https://dx.doi.org/10.21275/SR24407152447