

# ***Research Progress of Information Asymmetry in Recent Ten Years***

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**Abstract:** The assumption of information is the basis of all basic financial ideas (net present value, portfolio theory, capital structure and option pricing). The assumption of information is often inseparable from information asymmetry. Information asymmetry is a rich and diverse content, which can be connected with many fields. Asymmetric information may hurt sellers with more information and superior products, such as agent problems. Research at home and abroad shows that information asymmetry will cause many problems, but there is a lack of specific research evidence. In recent ten years, information asymmetry has had a great impact on both business society and daily life.

This article reviews the relevant literature and summarizes the phenomenon of information asymmetry at home and abroad in the recent ten years, so as to increase the understanding of information asymmetry and lay a foundation for the trend prediction of information asymmetry in different environments in the future.

**Keywords:** Information, Asymmetry, Asymmetric.

## **1. Introduction**

The study of information asymmetry has a great impact on today's life. For example, the privatization of state-owned enterprises can reduce the cost of information asymmetry, so as to reduce the cost of capital and improve economic efficiency. There can be topics about information asymmetry in agricultural and forestry environment design policy, disclosure policy, monetary transmission policy, dividend policy, etc. In recent years, there are many research results on information asymmetry in corporate governance and daily ethics, but there is a lack of summary. Therefore, this paper analyzes, compares and summarizes the common points and opportunities of information asymmetry by telling about marriage, privacy, morality and corporate threats in business life, insurance market, international food trade, money payment and supply chain in daily life, and puts forward conjectures about the impact of information asymmetry in the future.

## **2. Information Asymmetry in Daily Life**

### **2.1. Information asymmetry in marriage**

Friedberg and Stern used data on people's evaluation of choices other than marriage and their belief in spouse choice to show several characteristics of asymmetric information and bargaining [1]. Mar-

ried couples argue about whether they are happy or not, which provides new evidence for bargaining.

However, there is no specific measure for the evidence of arguing about their own happiness, so we need to use data to estimate the degree of inefficiency of the model and quantify the information on inequality. There is no perfect information between husband and wife. The divorce rate has risen because of lack of care and asymmetric information. If loving couples have limited information, omniscient planners can easily speculate on the speed of divorce. In contrast, a number of planners perform poorly when deciding to divorce. The author found two important characteristics of marriage - information asymmetry and the public service of interdependence. It is still difficult to identify these two key characteristics in most interpersonal relationships, because the degree of "love" is difficult to be determined in detail. While research can justify the inclusion of "love" from an economic point of view, it provides special limitations on married life.

## **2.2. The Impact of Information Asymmetry on Online Privacy**

The personal information of billions of users is collected, managed and stored by the Internet based on cloud computing. It is only limited by lengthy and lengthy special protocols. Most cloud services try to meet the requirements of notification and needed by asking users to subscribe contracts. There are privacy policies (PPS) and terms of service (TOS) agreements. This consent way is one of the few moments when users get a clear condition sharing information with protecting privacy, but in some cases, this condition is not a right condition. Users agree to provide most likes to the service, or they choose not to take advantage of the service. Many people who click the consent button do not read privacy documents carefully at all [2]. If you read these documents, you may not be able to understand the contents of privacy documents. Although users choose not to read strategy saves a lot of time, there is considerable information asymmetry users with service providers in terms of gathering and processing. In the awareness and opinion section, the statistics offer clear indication of information asymmetry in service providers in the disclosure of the content of the contrast. This information asymmetry challenges the arrangement and voluntariness of informed consent to online privacy arrangements. Lacking informed consent, expressive sign and consent may not be obtained, and the privacy irony will continue.

As the information asymmetry including users with cloud service people can not be solved and not using fair information practices, the number and severity of online privacy problems may increase in the next few years.

## **2.3. Information Asymmetry under the Moral Problems of Daily Behavior**

There is an asymmetry between your doctor and your situation that may lead to moral problems (medical ethics is full of such situations). There may be information asymmetry related to morality. For example, your doctor may use your lack of medical knowledge to test you for dangerous drugs, or open expensive or unnecessary drugs sold by pharmaceutical companies in which she has a commercial interest or stock. The same is true for your auto mechanic or someone who repairs your bike. They all have knowledge you may not have. Therefore, they can take advantage of this moral asymmetry to benefit themselves, such as charging you more, which will lead to the distrust of the served person and even aggravate the problem of the served person. For example, patients feel that the hospital doctors are liars and do not go to see a doctor. If they delay the treatment of the disease because they do not see a doctor in time, they will bring greater losses to the patients.

### **3. Information asymmetry in business society**

#### **3.1. The Impact of Information Asymmetry on the Tendency of Existing Enterprises to Occupy to Restrictive Cost when Facing the Threat of Admission**

Restrictive pricing strategy refers to existing companies using lower prices to send their low-cost signals to potential competitors [3]. If the signal is valid, potential entrants realize that if entrants enter, they will can price them to exit the market. There is a famous paper by Milgrom and Roberts, the author shows this plan is effective just when the contestant does not be aware of the real cost of the incumbent [4]. They formalize this intuitive model. The conditions described by the contestants do not know the current cost information, and there will be asymmetric information.

Robert studied the impact of asymmetric information on the tendency of existing companies to participate in restricted pricing in the face of entry threats [5]. He concluded from information economics that in the case of information asymmetry, existing enterprises can consume prices to respond to pass in advance. He proposed two possible situations of information asymmetry: possible competitors come outside the primary business and existing companies are fellows of R & D alliances. However, he studied the cost of the American chain TV business to present that when the relationship between the existing cable TV system and possible entrants is characterized by information asymmetry, the pricing model of the existing cable TV system is consistent with the limited pricing. Information asymmetry between companies may provide chances to participate in planned deeds. Especially, employees accepting the admission of companies in other business can use asymmetric data to control costs. R & D or other business alliances offer a lot of advantages. Though, a possible pricing is that the connect of these groups offers an information beckon to possible applicants, which may decrease the facility to participate in restricted costs.

#### **3.2. The Influence of Information Asymmetry in the Insurance Market**

How to distinguish contrary range with moral risk is a hard and central problem in insurance economics. Theoretically, the insurance market is very vulnerable to the problem of information asymmetry. However, empirical research does not provide consistent support for this premise. This situation can be attributed to two factors. On the one hand, due to the different market structures and market development, the performance of information asymmetry is also different in different markets. Instead, practical analysis is hindered by data defects and organizational drawbacks.

Once decades, researchers have occasionally obtained the claim data of insurance companies at the policyholder level, so that they can empirically test the being of asymmetric information. Unluckily, the marks of these learning are not consistent. Puelz and Snow et al discovered that there is information asymmetry in several insurance markets through the proof of the positive connections including insurance coverage. In addition, Finkelstein and McGarry, Fang et al. and Gan et al. found facts asymmetry after considering the heterogeneity of insurance request [6-8].

In the current work, Gao et al. conducted an empirical study on the different parts of hostile choice, ex-ante moral danger and ex-post moral danger in China's auto insurance market [9]. Their econometric way bears that information asymmetry has a expressive crash on the chance of claims (but has no impact on the severity of claims).

In the case of asymmetric information, a amount of vital guesses is the positive correlation including risk with coverage. Therefore, the cost based on population aging actuarial fairness will bring losses to the insurance seller.

If the life settlement company and the policyholder have the same (symmetrical) information and the conditions of the policyholder, the life settlement company relies on its best estimate of the life expectancy of the policyholder to obtain an actuarial fair quotation. On the contrary, if the infor-

mation is asymmetric, a rational life settlement company will not directly use (unconditional) life expectancy for pricing.

The influence of asymmetric information on quotation is different, which depends on the choice of different parameters. If policyholders get little usefulness in their being insurance agreements and the price of resolution agreements is high, the impact of space facts on cost may be tiny. Though, if the policyholder is about to retain her plan, if the cost is invalid, or if she could resolve on different time, information asymmetry can greatly involve the balance quotation fee.

### **3.3. The influence of Information Asymmetry on International Grain Trade**

Information asymmetry is a common phenomenon in the international grain trade. The main sources of asymmetric information come in the supplier (place of departure or silo), the consumer (Agricultural enterprise at the export port) and the importer (Agricultural enterprise or processing enterprise at the entry/destination port).

In the research related to information uncertainty, it is often the first to determine the existence of information asymmetry. Generally speaking, in the soybean trading system, there are three situations that can strengthen the survival of facts asymmetry including buyers with sellers: (1) straight indication of soybean trait; (2) Tortuous sign of soybean protein and necessary amino acid (EAA) content; (3) Incentive for the seller (or buyer) to make false statements about soybean quality in order to obtain higher profits.

Lakkakula et al. use the unique characteristics of blockchain Technology (hereinafter referred to as blockchain) to prove that it can reduce the information asymmetry between sellers / buyers / importers in the morsel and oil trade [10]. Blockchain is a handed out ledger that employs encryption and invariance features between different participants in the blockchain network (seller/buyer/importer, etc.) to stop retroactive change of record best [10]. The unique characteristics of blockchain - distributed database, invariance and secure transaction - enable the protein quality of soybeans to be known simultaneously by all (complete) participants in the network, thus reducing information asymmetry.

On account of the doubt of realization trait. Taking advantage of blockchains for these deals will have the influence of reducing this information asymmetry. It combines the unique characteristics of blockchain - shared out database, invariance and safe transaction - so that the protein properly of soybean can be known by all (complete) participants of the network at the same time, thus reducing information asymmetry.

### **3.4. The Impact of Asymmetric Information on Patents, Products and Payments**

The investment motivation and information asymmetry of both sides on patent intensity may act for both obvious breach cases and clear effectiveness examples. When the asymmetry between the two sides is low, the marketplace competition is weak and the scale is small, reverse payment usually increases consumers' surplus. Asymmetric information about obvious power means that reconciliation is not constantly possible, so supplementary general asset due to reverse payment can eventually lead to litigation. Lemus and Temnyalov show that in the absence of asymmetric information, subsequent products can lead to litigation and may have a vague impact on delay [11].

### **3.5. The Influence of Information Asymmetry on Supply Chain**

Because the entities located in the continuous stage of the supply chain are repeatedly related to changed companies, there will be asymmetric information and differing points between these objects. For example, sellers may have private information about request forecasts for concluding products, as well as their branded sales information and first-hand market experience taking care of

customers. Similarly, providers may grasp private information about the skill and robustness of their creations, or information about their existing and possible opponents in the related market.

Egri and Vancza demonstrated a sum plot to coordinate an asymmetric supply chain by providing correct incentives for buyers and suppliers to allocate their private information on request forecasts [12].

Yang et al. extended the news supplier model to a vertically related multi-layer news supplier structure, and discussed the crash of request doubt and asymmetric information on the best list (and/or cost) decision-making and efficiency at all levels of the supply chain [13]. The asymmetric information in the continuous stage of the supply chain successfully hands on the influence of downstream market doubt and delivery time to the previous stage of the supply chain, so as to form a multi-layer system of vertically related news supplier problems. For industries with lead time and asymmetric information in various consecutive landing stages of the supply chain, upstream enterprises must take in the market states faced by steeply linked downstream enterprises in order to more reliably predict downstream demand, and it is imperative to create spur compatibility mechanism to promote effective information sharing between steeply connected objects.

## **4. Commonalities and Opportunities of Asymmetric Information**

### **4.1. Opportunities of Asymmetric Information**

Information asymmetry between companies may provide chances to participate in planned achievement. Employees accepting the ticket of Companies in other industries may use asymmetric information to restrict cost. R & D or other business alliances offer lots of advantages. Though, a possible pricing is that the connection of these group provides an information motion to possible applicants, which may decrease the capacity to participate in restricted cost.

Asymmetric information can help the supply chain become a vertically related multi-layer system to solve problems. For industries with lead time and asymmetric information in various consecutive stages of the supply chain, upstream enterprises must learn the market forms faced by plumb related downstream enterprises in order to more reliably predict downstream demand, and it is chief to invent motivation compatibility mechanism to promote effective information sharing between sheer associated units.

### **4.2. Commonalities of Asymmetric Information**

After comparing the impact of information asymmetry, it is not difficult to find that the impact caused by information asymmetry often has no specific measurement standard, and it is difficult to judge accurately and concretely, such as arguing about their own happiness and love, so it is best to use the data model to reduce the low efficiency of research.

The empirical analysis of information asymmetry is often hindered by data defects and method limitations. Due to the different market structures and market development, the performance of information asymmetry in different markets is also different. Therefore, we can not judge the impact of information asymmetry in other markets only by the impact of information asymmetry in one market, so we need personalized analysis very much.

## **5. Conjecture on the Impact of Information Asymmetry in the Future**

In this era of COVID-19, there may be moral problems caused by information asymmetry. For example, in some countries, education is not widespread. Many people do not receive a good education, resulting in low cognition. They may refuse or fail to vaccinate in time. They will feel that doctors and hospitals have deceived them into taking experimental tools or receiving more money.



If we want to investigate this kind of phenomenon, we need to analyze it concretely and concretely. We should not collect all the information content that can express asymmetric information, then we can find data models and quantify methods to improve the efficiency of research. This can contribute to the in-depth study of COVID-19.

## 6. Conclusion

Through the research of information asymmetry in recent ten years, this paper summarizes that the impact of information asymmetry can create strategic opportunities for enterprises and produce a model structure to solve problems. However, it is difficult to find a specific trace standard for the impact of asymmetric information, which is often regarded as a vague concept. If you want to deeply study the impact of asymmetric information and get a relatively accurate conclusion, you need to make more field visits to collect data to prevent the unexpected interference of external factors from causing collection errors.

The limitation of this paper is that the number of articles is limited, and some common points and opportunities of asymmetric information may not be found. Future research can consider improving on the basis of this paper to draw more accurate conclusions. This paper is of great reference value to those who want to preliminarily understand the impact of asymmetric information on daily life and business society in the recent ten years. It can save them the time of searching articles and contribute to the understanding and application of asymmetric information.

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