A Lloyd's emerging risk report

The Chinese liability market
Opportunities for growth

Disclaimer

About Lloyd's

Lloyd's is the world's specialist insurance and reinsurance market. Under our globally trusted name, we act as the market's custodian. Backed by diverse global capital and excellent financial ratings, Lloyd's works with a global network to grow the insured world –building resilience of local communities and strengthening global economic growth.

With expertise earned over centuries, Lloyd's is the foundation of the insurance industry and the future of it. Led by expert underwriters and brokers who cover more than 200 territories, the Lloyd's market develops the essential, complex and critical insurance needed to underwrite human progress.

About Nankai University

Nankai University is one of the top universities in China. It is a comprehensive university, which features a balance between the Humanities and the Sciences, a solid foundation and a combination of application and creativity.

Nankai University is one of the pioneers in offering an insurance major in China. It established this insurance major in 1984 for enrollment of postgraduates and then undergraduates in 1985. Nankai University created the pioneer of insurance theory study and risk management and insurance, actuarial education by integrating open and international concepts into insurance education and the development of specialty and discipline. The development of Nankai insurance education and scientific research are in step with the industrial upgrading in the new technology era and the development of international insurance industry. It provides an important sample and reference for the construction and development of insurance majors in other universities in China.

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All numbers in this report are reported in USD (31/12/2019 value) using the exchange rate 1 Yuan (CNY)=0.14361 USD, unless directly reported in CNY.

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Executive summary

This study carried out by Lloyd's, the world's specialist insurance and reinsurance market, and Nankai University explores the features of the current Chinese liability insurance market and its future challenges, opportunities and developments.

The objective of this report is twofold:

- To provide an overview of the China liability market, its legal environment, and existing and future business developments and challenges
- To help insurers to further understand how the liability market in China is evolving, and to highlight potential opportunities to offer existing insurance and develop new ones.

Liability insurance in China has developed over the past 40 years to become one of the major classes of non-life insurance. The premium written in 2019 has reached CNY 75bn (USD 10.8bn). The annual compound growth rate in the past 10 years was 23%. Since 2007 liability insurance has been applied nationwide through various pilot schemes as part of the governments drive to use liability insurance as a risk management tool. Growth seems inevitable as China takes the next steps in supporting adoption through regulations. Insurers operating in the Chinese market will benefit from constantly remaining updated on regulatory change to take advantage of opportunities. With the sheer size of China's market, there is room for insurers to explore. However, the opportunities favor those who are prepared and stay close to the market.

The report identifies four trends driving the growth of the Chinese liability market:

1. Changes in regulation and the legal system
2. The use of insurance as a social governance and risk management tool
3. New technologies
4. Product innovation

The role of the government is key

As with many emerging markets, the Chinese government plays an important role in economic affairs.

New regulations not only can lay the foundation for the development of the insurance market, but also directly impacts business activities as they can mandate the adoption of certain lines of business with positive or negative consequences.

Product opportunities

- There are opportunities for foreign-funded (re)insurers to cooperate with domestic-funded insurance companies to introduce internationally advanced risk management services and use of technology.
- Safety production liability insurance in China is expected to grow year-on-year by an estimated 43% plus. Premiums are expected to reach CNY 4.1bn (USD 589m) in 2020 and there are opportunities for international reinsurers to participate in treaty arrangements for government protection schemes.
- Environmental pollution liability insurance (EPLI) is concentrated in high-risk industries such as mining. Regulatory policy and government promotion have played a key role in expanding this line of business. With a draft bill being introduced for compulsory EPLI, it is expected that the future will see significant growth in EPLI business.
- The market coverage for food safety liability insurance is insufficient, but it is increasing year by year due to the continuous attention of the government in various high-risk areas. In 2017, the claim rate exceeded 70% (Nankai University, 2018).
- Inherent defect insurance has undergone dramatic changes in the legal and insurance landscapes that have laid the foundations for potential development of products over the next few years, especially for the construction sector. The number of infrastructure projects in China and overseas will continue to gradually increase and will need to be insured along with the implementation of the 'One Belt and One Road' policy.
- Product innovation will be key to develop liability further. Cyber, sharing economy, AI and drug safety (clinical trial and life science insurance) are all emerging opportunities in the Chinese liability market. New laws are being introduced surrounding these areas and will lead to opportunities for new product design.

Lloyd’s Insurance Company (China) Limited

After years of providing offshore reinsurance to the Chinese market, Lloyd’s established its first representative office in Beijing in 2000 and established a wholly owned subsidiary in Shanghai – Lloyd’s Reinsurance Company (China) Limited in 2007.

This was then changed to Lloyd’s Insurance Company Limited (Lloyd’s China) as the license was extended by CIRC (now renamed as CBIRC) to include direct non-life insurance in the headquarter of Shanghai in 2010.

Lloyd’s China Beijing Branch was officially opened in February 2015 and under the new branch license, Lloyd’s China can offer non-life insurance business nationwide.

Lloyd’s China can conduct non-life insurance and reinsurance business inside China and international reinsurance as well. Lloyd's China obtained the CIRC's approval in September 2014 to increase registered capital to CNY 1 billion (approx. USD 162.8 million). Lloyd’s China is now in the position to lead on treaties.

Lloyd’s China provides participating Lloyd’s syndicates a platform with which to access the Chinese (re)insurance market via the relevant underwriting division within Lloyd's China. Risks can either be written 100% by one underwriting division or as subscription business to pool underwriting capacity amongst divisions. Access to Lloyd’s underwriters means that Lloyd’s China can offer world-class underwriting expertise in a wide range of business classes.

Currently, there are 35 syndicates managed by 28 managing agents on Lloyd’s China platform (Lloyd’s, 2020).

All the business underwritten by Lloyd’s China is fully protected by the Chain of Security at Lloyd’s; thus Lloyd‘s China enjoys the Lloyd’s market rating of AA- (Fitch Ratings), A+ (Standard & Poor’s) and A (A.M. Best).

The underwriting divisions at Lloyd’s China have wider risk appetites covering both traditional P&C lines and specialty and innovative products. Lloyd’s China, operating as a company, offering tailored collaborative solutions in response to local needs and attracts incremental business opportunities. Lloyd’s China has been growing its business tremendously in the China market over the past decade. In 2017, Lloyd’s China wrote CNY 2.2 billion (USD 338.4 million) in gross premium.

Pooling capacity

Lloyd’s China offers local underwriting expertise and has launched consortia & facilities:

Consortia

- Construction Consortium
- Project Cargo Consortium
- Political Violence Consortium
- Marine War Consortium

Facilities

Terrorism Facility with a maximum capacity of USD 300million.

White labelling

Lloyd’s China develops white-labelling opportunities to connect Lloyd’s expertise on specialities with local networking. Two products have been in place:

- Intellectual Property Liability
- Kidnap & Ransom

BRI risk solutions

Lloyd’s China provides “one-stop” reinsurance solutions for BRI projects covering a bundle of risks including but not limited to Construction, Project Cargo, Political Violence, Personal Accident, Kidnap & Ransom, Surety & Bond, etc.

Visit our underwriting divisions directory to find out what underwriting divisions operate within Lloyd's China.

https://www.lloyds.com/lloyds-around-the-world/asia/china/underwriting-divisions

1. Introduction

Classification of insurance

Liability insurance has developed over the last 70 years to become one of the major classes in the non-life insurance market of China. The classification of liability insurance in this report is based on the "Liability Insurance Statistics System (Trial)" report issued by CIRC in 2016 (Appendix Table 1).

Historical developments

The development process of the Chinese liability insurance market since 1949 can be divided into the following five stages.

Germination period

In the early 1950s, Chinese liability insurance began to appear. At that time, the liability insurance business in China only included motor third-party liability insurance, third-party liability insurance attached to marine and aviation insurance, and a very small amount of public liability insurance.

Due to the planned nature of the economy, towards the end of the 1950s, the liability insurance market in China was suspended along with other insurance businesses in the country as there was no need for commercial insurance, with the only business retained being foreign-related insurance.

Recovery period

In 1979, the domestic insurance business, including liability insurance began to recover. Alongside the rapid development of transportation and the increase of traffic accidents, the volume of domestic motor third-party liability insurance gradually expanded.

Development period

After 1980, state-owned insurance company, PICC established a foreign business department to develop foreign-related insurance business, offering public liability insurance, product liability insurance, employer liability insurance, and professional liability insurance. Public liability insurance was also introduced to the domestic market on pilot basis afterwards.

Opportunity for rapid development

Benefiting from economic growth and the improvement of laws and regulations, the Chinese liability insurance market began to grow, and employer liability insurance, product liability insurance and professional liability insurance products became increasingly available.

Accelerated development

Since 2007, pilots and unified projects testing the application of liability insurance have been carried out nationwide (Appendix Table 2) taking the Chinese liability insurance market into a period of rapid development.

On August 13th, 2014, The State Council issued "Ten New Opinions of the State Council 2014", proposing:

"to play the role of liability insurance to resolve conflicts and disputes[...] to put environmental pollution, food safety, medical liability, medical accidents, internship safety, and campus safety, which are closely related to the public interest, as the focus of liability insurance development, exploring the pilot of compulsory liability insurance..."

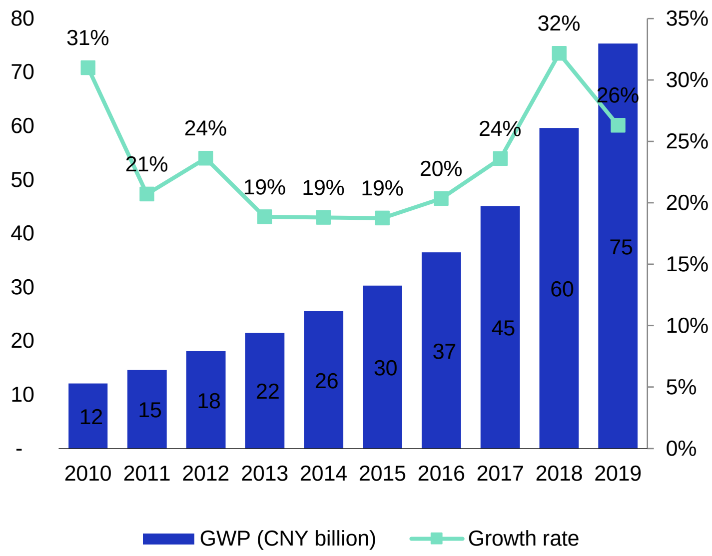
The "Ten New Opinions of the State Council" emphasised the role of liability insurance in social governance and as risk management tool, using insurance as a commercial means to replace some parts of the administrative work carried out by the government and to curb the potential liability that would fall to the government if, for example, a large state-owned suffered a loss.

The market

Direct

In 2019, the total premium income of liability insurance was CNY 75.3bn (almost USD 11bn), an increase of 26% from 2018 (China Banking and Insurance Regulatory Commission (CBIRC), 2020). The premium income and annual growth rate of liability insurance from 2010 to 2019 can be seen in *Figure 1*.

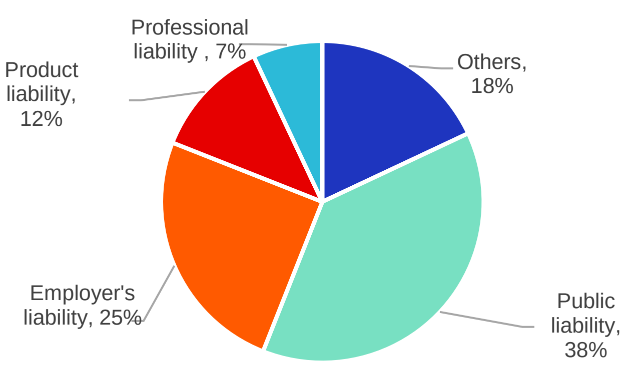
Figure 1: Premium income and annual growth rate of liability insurance (2010-2019)



Source: Yearbook of China's Insurance, 2019

The public liability insurance, employer liability insurance, product liability insurance and professional liability insurance are the main liability insurance businesses. The actual breakdown is not publicly available, but Nankai University has made an estimate in *Figure 2* below based on experts' elicitations.

Figure 2: Breakdown of liability insurance in China



Source: Market practitioners' estimates compiled by Nankai University, 2019

Reinsurance

Much of the liability reinsurance market is underwritten by reinsurers registered in China. In 2018, the total of liability reinsurance premium written by registered reinsurers in China was CNY 7.2bn (USD 1bn) with 88% of that written by way of treaty reinsurance (Yearbook of China's Insurance, 2019). It is worth noting that considerable amount of treaty reinsurance for liability is written through whole account treaties, which makes it difficult for specialist liability insurers to access. There are four domestic-funded reinsurers and six foreign-funded reinsurers, writing P&C reinsurance as onshore reinsurers as at 2019.

Foreign-funded reinsurance companies have the advantages of extended industry data, technology and business experience when providing reinsurance. There are market opportunities for foreign-funded (re)insurers to make available technical and legal services to support liability products and business development of direct insurers, as well as risk management solutions in the Chinese market.

Players

Almost all P&C insurers in China have engaged in liability insurance with the exception of a couple of insurers that are specialised in credit & surety insurance. It is worth noting that all foreign-funded P&C insurers have product offerings in this field. As of 2019, there are 66 domestic-funded P&C insurers, and 22 foreign-funded P&C insurers that write liability insurance within the Chinese market (CBIRC, 2019).

A handful of top players account for majority of the liability business. Nonetheless, the share of the top ten insurers has fallen with their market share falling from 83% in 2013 to 80% in 2018. It has been largely the foreign-funded insurers that have taken that 3% away increasing their share from 7% to 10% in the same period (CBIRC, 2019).

Profitability

Top domestic players like PICC and Ping An have seen underwriting profits of a little more than 3%, while many of the small to medium sized insurers have posted underwriting losses in recent years (PICC, 2019 & Ping An 2019).

More than half of foreign-funded insurers have underwriting profits and as a whole are making underwriting profits, that is estimated to be a little above 2%. The profit-making foreign-funded insurers account for around 70% of the market share in terms of the liability premium income written (Nankai University, 2019).

The legal environment

Since the reform and the 'opening up' in 1978, China has promulgated a series of laws and regulations on civil liability. These constitute the legal basis for the development of Chinese liability insurance.

Liability insurance provides cover for civil damages, including tort liability or specially agreed contractual obligations. The law relating to civil liability has laid out the basis for the development of liability insurance.

The primary laws that define liability for civil compensation are:

- General Provisions of Civil Law of the People's Republic of China
- Tort Law of the People's Republic of China
- Contract Law of the People's Republic of China
- Labour Contract Law of the People's Republic of China
- Product Quality Law of the People's Republic of China
- Consumer Rights Protection Law of the People's Republic of China

The promotion of liability insurance can be found in many of the industry laws and regulations. Developments in the recent years have been listed in Appendix.

Comparison of the legal environment between China and the Anglo-American systems

The legal system in China is based on the civil law system. There are differences in the legal environment between China and the common law countries such as the United Kingdom.

The legal environment is hugely important for the development of liability insurance in China and Anglo-American countries. It could potentially be a source of concern for overseas insurance companies operating, or looking to operate, in China.

Key differences between the two systems include the principle of judicial precedent within the Common Law system, rather than the structured and comprehensive code, encompassing rules and regulations that is used within the Civil Law system.

Neither system is perfect, with Common Law often leading to over-litigation and Civil Law potentially being open different interpretation of each case.

The development of liability insurance depends heavily on how developed the civil liability system is. In general, the degree of development of a civil liability system can be examined by four aspects:

1. Legal awareness of rights protection,
2. Liability legal system,
3. Responsibility traceability mechanism,
4. Litigation mechanism, directly affecting the liability risks that companies and individuals face and the need for liability risk guarantee.

Characteristics of the legal environment

Although the level of awareness has increased over time in China, the level of public awareness relating to liability insurance still has much more space for growth. As a consequence, there is a small number of litigation cases taken to courts within China. Although this means legal fees are lower for insurance companies, it also has a negative effect as less people buy insurance products. This is however changing as regulations developments in China are making more products compulsory to have for certain businesses.

From the perspective of businesses, the evolving supervision system in China and the poor traceability mechanism of civil liability has weakened the operability of Tort Law. In addition, the amount of money or other compensation companies might have to pay for tort liability in China is generally small. At a lower level of litigation, businesses generally prefer to retain liability risk rather than choose to purchase insurance.

In recent years, China has witnessed increased public concern about environmental pollution, food safety and production safety as well a strong development of the digital and sharing economy. Due to changes in society and the economy the government regards liability insurance as an important governance tool, and it encourages companies to use it to transfer risks and improve risk management.

2. Existing business opportunities

After working with Nankai University and the Lloyd's market, five key liability products were identified as providing business opportunities for underwriters already operating in China or thinking about entering this market.

The five existing insurance products are:

1. Safety production liability insurance
2. Environmental pollution liability insurance
3. Food safety liability insurance
4. Inherent defect insurance
5. Litigation property preservation liability insurance

Class developments and regulatory changes are presented first in each section leading to the current regulations in place supporting these products. It is clear that the regulatory environment in China is evolving quickly and this has its benefits and challenges. Certain industries are obliged to buy liability insurance and others have been encouraged, but there are still some grey areas. For example, food safety liability insurance is still weak in terms of regulations, but it is seen to have potential to growth in the next decade.

Analysis of market performance follows the development and regulation sections. This section includes size, distribution, competition and profitability for each product. Distribution gives notions of key regions and players while competition points to key players. Growth potential and constraints then provide an idea of the market environment and potential barriers.

Finally, future developments for each liability products are evaluated, and key insights suggest how each type of product will evolve in the next decade.

Safety production liability

4.1 billion Yuan

forecast premium (2020)

43%

premium year-on-year growth (2017-2018)

<6%

insurance penetration

16 Provinces

have adopted the compulsory SPLI master insurance program

> 70% Loss ratio

according to insurers interviewed by Nankai University

Safety production liability insurance (SPLI), is one of the industry-wide unified insurance projects promoted by the government in recent years. It has been made compulsory in eight high-risk industries; coal mines, non-coal mines, dangerous chemicals, fireworks and firecrackers, transportation, construction, civil explosives, metal smelting, and fishery production . Other industries are also encouraged to purchase SPLI.

SPLI covers personal injury and death compensation of employees, personal injury and death compensation of the public and the third party and property loss compensation, as well as accident rescue and rescue, medical rescue, accident identification, legal proceedings and other expenses.

In general, there is a large domestic capital requirement to be able to bid for the Government's projects, thus the large domestic funded insurance companies account for the majority of SPLI market share, and overseas funded direct insurance companies have not yet fully established themselves in the SPLI market.

2.1 Safety production liability insurance (SPLI)

Development

The development of China's SPLI has gone through four main stages: pilot, promotion, enforcement and system refinement.

Preliminary pilot (2006-2009)

The risk management system of combining security deposit and insurance for production safety was piloted in the mining industry to promote the gradual development of SPLI in high-risk industries.

Promotion (2009-2015)

Since July 2009, the State Administration of Safety Supervision issued the "Guidance Document on Promoting Safety Production Liability Insurance in High-Risk Industries", pilot and promotion projects of SPLI have been conducted in various regions and high-risk industries throughout the country. In August 2014, "the Law of the People's Republic of China on Safety in Production" put forward that the State encourages production and business units to purchase SPLI.

Compulsory implementation (2016)

In 2016, "Opinions of the State Council of the Central Committee of the Communist Party of China on Promoting Reform and Development in the Field of Safety Production" put forward establishing and improving the SPLI system, Implementing compulsory SPLI in high-dangerous industries, which includes mines, dangerous chemicals, fireworks and firecrackers, transportation, construction, civil explosives, metal smelting, fishery production, etc., and giving full play to the functions of insurance participating in risk assessment, control and accident prevention. Since then, the prelude of compulsory implementation of SPLI has been opened.

System refinement (2017-present)

In 2017, the "Measures for the Implementation of SPLI" proposed that "production and business units with high-risk dust operations, high-toxic operations or other serious occupational hazards can purchase occupational-disease-related insurance", "production and business units that have already purchased other types of insurance related to safety production should add to purchase or adjusted to SPLI in order to enhance accident prevention function". Since then, the SPLI has entered the stage of system refinement.

Market performance

Size

Based on Nankai's interviews, the insurance premium in 2017 for SPLI had increased by an estimated 30-40% and the scale of insurance premium has exceeded CNY 1.4 bn (USD 200m). In 2018, the total premium income of SPLI in China exceeded CNY 2bn (USD 288m) (Nankai University, 2018), and the premium growth rate is an estimated 43%.

Distribution

The regional distribution of SPLI business corresponds directly to the distribution of heavy industry and the mining industry. 16 Provinces have now adopted the compulsory SPLI system. Among them, Hunan, Hubei, Guangdong, Jiangsu provinces and Beijing City were the top five when ranked by SPLI premium income (China Emergency Management News, 2019), with each of them exceeding CNY 200m (USD 28m) in terms of premium income (Nankai University, 2018).

Profitability

The scope of indemnity from the cover includes not only personal injury for employees and the third party, but also fees, costs and relevant expenses spent in accident rescue, medical aid and legal proceedings, which increases claim costs.

An accident prevention fee is normally required that is used to promote safe production training, safety evaluations and accident prevention schemes. The accident prevention fee in Beijing is 12% of the premium received.

In 2017, the loss ratio of one major insurer exceeded 70% (Nankai University, 2018). The combined ratio of SPLI for insurers is higher compared with employer's liability and general public liability. This is due to high concentrations of the product in high-risk industries such as mining, which means that the claims are often more frequent and more severe.

Competition

Domestic-funded insurers with close connections with industry regulators/associations and local governments have an advantage in gaining business. Big insurers with large capital base and sufficient service staff are more likely to win the bidding for master policy arrangement for particular groups of companies.

Co-insurance with multiple insurers is common in large projects, which would involve a bidding process. In addition to the large capital requirement, in order to successfully bid for a government protection plan, an insurer must be willing to carry out additional duties like risk management and accident mitigation, as well as work closely with the government throughout.

Growth

Drivers

The largest driver is the regulatory initiatives that are designed to improve safety at workplace and reduce disputes.

The government is continually issuing new legislation and policies that provide support for the rapid development of SPLI. As well as the strong support, some provinces have now established a mandatory SPLI system.

One of the benefits of the new legislation, the "Implementation Measures on SPLI" (2017), was that it proposed that even if a company had purchased another type of insurance to manage its safety production risk, it should either replace it with SPLI or add SPLI to the policy to enhance their coverage.

Constraints

Despite high level policy encouragement, it still lacks detailed rules in law in terms of required liability coverages, limits and exclusions when compared to overseas SPLI markets.

Further, there is overlap in coverage among some of the most common commercial liability products including SPLI, employer's liability, public liability and accidental injury insurance. Moreover, companies that are not required by law to purchase SPLI typically do not buy it.

Future developments

In China, there is significant potential for SPLI to grow and develop. Firstly, with the nature of the high-risk industries that currently purchase SPLI, safety accidents are rising. So are the loss amounts. As a result, companies are more likely to use insurance to mitigate their risks, beyond the legally required limits and coverage.

The current penetration rate is less than 6% (Nankai University, 2018), with opportunity for this class of liability insurance to grow as the year-on-year growth rate is expected to remain more than 43%. According to Nankai's research premiums are expected to reach CNY 4.1bn by 2020 while there is also a good opportunity for international reinsurers to participate in treaty arrangements for these government protection schemes.

As China's government takes a harder stance on production safety, a total of 63,000 companies have been shut down and rectified, 31,000 have been shut down and banned, and 3,543 people have been investigated for criminal responsibility (National Safety Production Inspection Press Conference, 2017).

China's safety in production has entered a stage of strong supervision and implementation. Under the new supervision framework of the Ministry of Emergency Management, all safety production fields will focus on responsible implementation, law and order, reform and innovation, accident prevention, infrastructure construction and team building. Strong promotion at the national regulatory level will create a good environment for the development of SPLI and help to improve the quality of underwriting.

The domestic-funded insurers in the market have advantages in terms of local knowledge, relations and workforce. However, majority of them have less experiences and technology know-how to provide first-class services, as opposed to their foreign peers.

Thus, there are and will be opportunities for foreign-funded (re)insurers to cooperate with domestic-funded insurers to introduce internationally advanced risk management technologies and experience to provide industry risk solutions and earn rewards.

Environmental pollution liability

300 million Yuan
premium income (2017)

25%
premium year-on-year growth rate (2018)

2.2% – 8%
insurance penetration rate

28 Provinces
have companies who purchase EPLI cover

90%
of the EPLI market is made up of three domestic insurers

Environmental pollution liability insurance (EPLI) covers the insured's civil compensation liability including the compensation for bodily injury, death and property damage to the public for the occurrence of pollution damage accidents caused by negligence or violation of laws and regulations.

There are several common EPLI extensions including: theft and robbery liability, mental damage liability, own site cleaning costs, natural disaster liability, special agreement on environmental pollution liability accidents, over-compensation special agreement and vehicle pollution liability.

A key difference between common EPLI policies written in London and China is that the latter does not cover progressive pollution and biodiversity damage. On the other hand, common London market exclusions for any loss of or damage to the delivered goods, means of transport, voluntary redevelopment and investigation costs are not listed in China's EPLI.

At the moment EPLI is still concentrated in high-risk industries, and the penetration rate is relatively low. With the introduction of the "Compulsory EPLI", other industries where pollution is involved will be covered in the future.

2.2 Environmental pollution liability insurance (EPLI)

Development

In the early 1990s, China began to pilot EPLI policies. The development of EPLI in China can be divided into three stages: germination stage, promotion stage and high-speed development stage. Each stage has its own characteristics.

Germination period (1990s-2005)

EPLI was introduced to a few cities in the 1990s in order to accommodate the development of international trade and shipping. The product was mainly offered in Dalian, Shenyang, Changchun, Jilin, in the Northeastern provinces that were the bases of industrial industries. It only covered oil pollution. The development was slow, with low demand from the state-owned companies and low priority from insurers.

Promotion period (2006-2011)

In this period, policies supporting the development of EPLI were released one after another, with more provinces in the southern China began to explore the EPLI pilot work. Key highlights include:

In 2006, the "Ten Opinions of the State Council" put forward the idea of "developing environmental pollution liability insurance by means of market operation, policy guidance, government promotion and legislative compulsion".

In 2007, the State Council published the "'11th Five-Year' Plan for National Environmental Protection" and the "Guiding Opinions on Environmental Pollution Liability Insurance". The State Environmental Protection Administration and the former CIRC put forward that, a preliminary environmental liability insurance system in line with China's developing conditions should be established during the "11th Five-Year Plan", and three types of high-risk companies should be piloted first, thus starting the prelude of the nationwide pilot work of EPLI.

In 2008, the Ministry of Environmental Protection of China decided to establish EPLI pilot projects in Jiangsu, Hunan, Chongqing, Shenzhen, Ningbo and Shenyang. From November 1, 2008, China's first marine pollution liability insurance was formally implemented in Jiangsu Province. Four domestic insurance companies formed a co-insurance body.

In 2011, the "'12th Five-Year' Plan for National Environmental Protection" issued by the State Council pointed out that during the '12th Five-Year' Plan period, China will improve the environmental liability insurance system, study and establish compulsory liability insurance system for companies with high environmental risk such as heavy metal emissions.

High-speed development period (2012 - present)

In 2012, there were already more than 2,000 companies purchasing EPLI, and the sum insured of the EPLI reached CNY 20bn (USD 2.9bn) (Hexun.com, 2013). In 2013, 18 provinces, autonomous regions and municipalities such as Shanxi and Dalian city have 24,000 companies that purchased EPLI. The sum insured reached a total of CNY 56.8bn (USD 8.2bn), claims payment for the year across 174 companies amounted to CNY 20.46m (USD 2.9m).

In January 2013, the Ministry of Environmental Protection and the CIRC jointly issued "Guidelines on the Pilot Work of Compulsory EPLI", which provided guidance to aligning with the best practices.

In 2014, China's new Environmental Protection Law explicitly proposed that "The state encourages companies to purchase EPLI". In the same year, the State Council issued the New "Ten Articles of the State" on the development of insurance industry, pointing out that strengthening the development model of liability insurance under the guidance of the government, market operation and legislative protection, focus on the development of liability insurance in the fields of environmental pollution, food safety and medical liability which are closely related to public interests. Exploring the pilot project of compulsory liability insurance. It has played an important role in promoting the compulsory development of EPLI.

In 2017, the "Guiding Opinions on the Construction of a Green Financial System" issued jointly by the seven ministries of the People's Bank of China, the Ministry of Finance, the National Development and Reform Commission, the Ministry of Environmental Protection, the Banking Regulatory Commission, the Securities Regulatory Commission and the CIRC referred to "developing green insurance and promoting the formulation and revision of relevant laws and administrative regulations on compulsory liability insurance for environmental pollution in accordance with procedures". The Ministry of Environmental Protection, together with the CIRC drafted the "Scheme of Compulsory Liability Insurance for Environmental Pollution". The CIRC published the notice of "Public solicitation of opinions on the Administrative Measures for Compulsory Liability Insurance for Environmental Pollution (Draft for soliciting opinions)", which has put compulsory EPLI on the agenda.

In May 2018, the Ministry of Ecology and Environment of China deliberated and approved in principle the "Draft Measures for Compulsory EPLI Management".

Market performance

Insureds mainly distribute in the central, southern and south-eastern coastal provinces of China. Among them, Jiangsu Province has the greatest number accounting for nearly one third of the total number of insureds in the entire country.

Profitability

In 2017, EPLI provided CNY 30.6bn (USD 4.4bn) risk protection for more than 16,000 companies with a premium income of CNY 315m (USD 45.2m) (china-insurance.com, 2018).

The average premium rate was around 1.5% in 2013 and 2014. Nevertheless, the average rate was reduced to 1.03% in 2017 (Yicai.com,2019) .The paid claims ratio against premium was less than 10%, which is very low (Policy Research Center for the Environment and Economy, Ministry of Ecology and Environment of the People's Republic of China, 2019).

Distribution

In China, the development of EPLI business depends on "government promotion, market participation", which means that insurance companies obtain EPLI business through government promotion and guidance to the companies for purchasing EPLI. Insurance brokers are normally needed in order to coordinate the insureds and the insurers.

The government bodies select insurance brokers from those that have intention and expertise. The insurance broker selected, will choose the panel of insurers through bidding. The leader of the panel will work with other insurers to provide coverage to all the companies that fall into the scope of the compulsory insurance.

Competition

The top 3 domestic-funded insurers account for more than 90% of the Chinese EPLI market (Nankai University, 2018). Many P&C insurers participate as co-insurers.

Growth

Drivers

Firstly, across China the total amount of industrial wastewater discharge is continuing to increase year on year and is still the highest globally (National Database, National Bureau of Statistics of China, 2018).

As China has increased its investment in finding solutions to managing pollution and urban environmentally-focused infrastructure construction, many companies may begin to find themselves liable for damages that previously may not have come back to them, this changing landscape is therefore providing a basis for promoting the purchase of EPLI.

Additionally, as businesses continue to grow and become both more productive and profitable, they may begin to pay more attention to the amount of their turnover that is allocated to both risk transfer generally, and more specifically their risk management strategies with regards to environmental damage.

Constraints

The extensive economic growth mode of "high exploitation, high input, high consumption, high pollution, low utilization, low output, low quality and low benefit" is still the main economic development mode in China. However, it is difficult to eliminate the production capacity of backward industries such as high-energy, material consumption and high-polluting industries, and to restructure and reform the economy.

Many Government departments and companies lack green innovation consciousness and many businesses have a weak understanding of their responsibility to society instead focusing on their own interests. There are also shortcomings in the legal frameworks that define EPLI.

The development of EPLI lacks a unified legal framework and there are many controversies in practice. For example, in the "Environmental Protection Law", there is an advocacy clause that is a suggestion. Furthermore, the relevant legal provisions on defining environmental pollution liability are scattered between numerous publications, and there exist inconsistencies and imperfections between them.

Future developments

At present, the majority of EPLI is concentrated in high-risk industries. The penetration into other industries is low, hence providing a potential business opportunity.

Investment in environmental pollution control is low in China. EPLI can help narrow the gaps in investment. According to the development of the environmental protection industry in developed countries, when the proportion of investment in environmental pollution control to GDP reaches 1%-1.5%, the trend of environmental deterioration can be controlled; but only when the proportion reaches 3%, the environmental quality can be significantly improved (Chyxx.com, 2017). China's total investment in environmental pollution control reached 1.84% in 2010, but there is still a considerable gap from the 3% standard.

The vast majority of funds for environmental pollution control are born by the government. However, the financial adequacy and efficiency of government are in question, amid the worsening environment. EPLI can relieve the pressure of government and make better use of the funds collected. Moreover, new risks and new demands will emerge, which in turn will create opportunities.

Food safety liability

100 million Yuan
annual premium income (2018)

25%
of total FSLI premium written by state-owned insurer PICC P&C

<10%
insurance purchase rate

<30%
claims ratio (according to domestic insurers interviewed by Nankai University)

6%-8%
underwriting profit according to one major domestic insurer

Food Safety Liability (FSLI) provides coverage for businesses engaged in food production and business operations, who will be liable for any compensation due to any defects in their food products that cause personal injury or property damage to consumers in the process of consumption.

At present, local governments require enterprises to buy the insurance in the pilot areas of Chinese FSLI, while in other areas, enterprises can voluntarily choose whether to buy FSLI.

1999
First introduced by insurer PICC P&C.

2009
First officially endorsed by the government in the “Food Safety Act of China” (2009)

2012
The State Council of China put forward the idea of a pilot project for a “compulsory FSLI system”

2015
In January, the Food Safety Office of the State Council issued the “Guidelines on the pilot work of FSLI” to encourage local governments to carry out pilot projects.

2018
In April, the state “encourages food production and marketing enterprises to purchase FSLI”.

2.3 Food safety liability insurance (FSLI)

Development

FSLI was first introduced in 1999. Its development has been slow until it was officially established as a key component of the government's "Food Safety Act of China" in 2009.

On February 28, 2009, "Food Safety Act of China" (2009) was enacted and came into effect on June 1 of the same year. The publication of this act enhances the risk awareness of companies in food production, transportation, warehousing and distribution, thus promoting the increase of demand for purchasing FSLI, and laying the legal foundation for P&C companies to begin selling FSLI.

The "Emergency Plan for National Food Safety Accidents" that was published on October 5, 2011, stipulates: "the insurance institutions should promptly carry out the work of handling the insurance for emergency rescuers and settling claims for the insured after the occurrence of food safety accidents." (Article 6.1)

In 2012, the State Council of China issued the "Decision of the State Council on Strengthening Food Safety", which put forward an important action point of "actively carrying out the pilot project of compulsory FSLI system."

In January 2015, the Food Safety Office of the State Council, the Food and Drug Administration and CIRC jointly issued the "Guidelines on the pilot work of FSLI" to encourage local governments to carry out pilot work on FSLI and explore how to expand the pilot schemes of FSLI into mainstream food safety work, and to make purchasing FSLI easier for businesses.

In April 2015, the "Food Safety Act of China" (revised), said that "the state encourages food production and marketing companies to purchase FSLI." At present and in the future, food liability insurance is gradually becoming a powerful weapon for the government to control food safety issues.

Market performance

Profitability

According to Nankai's research as of 2018, the purchase rate of Chinese FSLI remains low, with interviewees estimating less than 10% insurance penetration into this area, and the premium income accounts for a very low proportion of the total premium income of the liability market. In 2018, the total premium income of FSLI reached around CNY 100m (USD 14.3m).

The interviews carried out by Nankai highlighted that the typical premium rate has been at between 1% and 3%. The top domestic-funded insurer for FSLI accounting for half of the total premium income in 2017.

Currently, FSLI insured are usually operating in the food development industry, global food trade, grain and oil, agricultural products, catering companies and other related industries.

However, it is important to note, small and medium-sized companies (SMEs), which account for more than 90% of the total number of food companies operating in China, do not generally purchase FSLI, offering an opportunity for insurers.

The claim rate of FSLI is typically not high and on the whole, it is a profitable class, Nankai estimated at having less than 30% nationwide, with the majority of claims coming from large fast-food chain companies. It is estimated by insurance companies interviewed by Nankai that the underwriting profit of FSLI business is between 6% and 8% (Nankai University, 2018).

Competition

At present, the FSLI in China is in the exploratory stage and has not yet formed into a mature market. Overall, large and mature companies that have the spare capital to invest in these pilot schemes and on new products are more competitive than small and medium-sized emerging companies.

Among all domestic-funded companies, PICC P&C, as the leader of liability insurance market, leads innovation of FSLI products.

Generally, foreign companies have considerable experience when it comes to FSLI. However, the market competitiveness of foreign companies in this area is far less than that of Chinese companies. At present, especially at although the pilot compulsory implementation of FSLI has been carried out in China, many companies do not want to pay for this expense, but they have to abide by the compulsory policy. Therefore, they will choose domestic-funded companies with cheaper products rather than foreign companies with advanced services.

Distribution
Affected by the rapid development of the take-out industry driven by “Third-Party Payment” in China, FSLI has recently begun to sell through online in addition to traditional distribution channels.

Growth

Drivers
A subsidiary of a large domestic insurer combined blockchain technology with edible chicken. In the project named “Step by Step Chicken” (Financial Times, 2018), every chicken can be seen by consumers from its birth to being slaughtered which ensures the quality of the chicken and a transparent process. The emergence of such technology might reduce the occurrence of food safety accidents, thus affect the sales and claims of FSLI.

In addition, insurance companies may design new insurance products based on these technologies like the parametric products discussed in the Lloyd’s report *Triggering Innovation* published in 2019. Emerging technologies could threaten their markets if insurance companies stop improving. It can be said that the next stage of FSLI competition will focus on emerging technology competition.

Constraints
Food safety risk is not a standard risk because of its latent and complex characteristics. Hence, the products for food safety normally need to be tailor-made with thorough understanding of client’s processes and risk points. Furthermore, the claims service will have to be provided swiftly. These could pose challenges for insurance companies.

Future developments

Market trends
At present, Nankai estimates the scale of FSLI premium to rapidly increase while the profit margin of the market does not generally exceed 10%. The core of the development of the national market lies in the promotion by the government and the implementation of new technology. In the future, it will become the developing trend for property insurance companies to enhance their competitiveness through innovating products and risk management services.

Product demand
At the present stage, the market coverage of FSLI is insufficient, but the market scale is increasing year by year so there is a great room for demand to rise. This is mainly reflected in the continuous attention of the government and the transformation of government functions in various high-risk areas.

Taking Shanghai and Beijing as examples, the opening up of the demand and the development of products for FSLI in these two cities are just an example for the future of the market nationwide and the beginning of a trend, aiming at solving the long-troubled food safety problems of the government in key areas through FSLI.

Products
On one hand, the upward trend of FSLI business is related to the growth of foodborne disease events, examples being Bird Flu and Swine Flu. The protection of FSLI for companies, customers and governments is gradually becoming more recognised by society and as the Chinese people pay more and more attention to their own health and safety, the development of the FSLI will be forced to keep up.

In addition to the government support factors and the impetus brought by the development of science and technology, innovative ways of selling FSLI will develop.

For example, in Zhejiang, where the FSLI business has developed well, multiple entities under insured the same insurance policy but with individual limits and deductibles, much like a line slip arrangement in London.

Competition
Foreign-funded insurance companies and reinsurers with more advanced development experience could play their own advantages, seize the opportunity and participate effectively in the future development of FSLI.

The advanced risk and services knowledge carried by foreign-funded insurance companies can help them to obtain development opportunities like participating in the large local government schemes.

The emerging risks identification ability, decision-making ability and cognition level in the development of the FSLI are all needed in the future stage of FSLI in China. Thus, reinsurers in the international market can play an important role in quality control and policy-suggestions or advice.

Law and policy
In the future, it is expected that China will continue to promote compulsory implementation of FSLI through legislation and policies as the legal provisions relating to FSLI in the "Food Safety Law of the People's Republic of China" become more and more specific.

In parallel, people's awareness of their own health rights and interests is also growing with the increasing health awareness of Chinese people. The sense of liability risk will gradually awaken paving the road for future development.

Inherent defect insurance

700 million Yuan

annual premium income for Shanghai alone

10 Year

long-tail liability limit

3.6 billion Yuan exposure

across 20 large infrastructure projects in more than 10 countries written from Shanghai

6%

domestic markets writing inherent defect insurance

The Inherent Defect Insurance (IDI) in China's liability insurance market is used as construction project quality insurance or construction project inherent defects insurance. The insured under an IDI policy are the construction project undertakers, generally including: construction units, design units, etc.

The IDI can be divided into two parts: the physical loss insurance and the ten-year liability insurance. Under the physical loss insurance, which belongs to the first party insurance, the insured is the owner and developer of the construction; under the ten-year liability insurance, which is a third-party liability insurance, the insured is the construction and design unit.

The legal basis of IDI is mainly formed by the *Building Law of the People's Republic of China* (*Building* Law) , *Regulations of the People's Republic of China on Quality Management of Construction Projects* (Construction Projects) formulated by the *Building* Law and other relevant laws or regulations.

In accordance with the relevant laws and regulations mentioned above, construction, survey, design, construction and engineering supervision units shall be liable for the quality of construction projects according to law.

2.4 Inherent defect insurance (IDI)

Development

In recent years, the IDI market in China has undergone dramatic changes in the legal and insurance environments, which have laid the foundations to develop new products over the next few years.

Firstly, The Building Law was passed through the 28th Session of the Standing Committee of the Eighth National People's Congress on November 1, 1997 and came into effect on March 1, 1998.

On January 10, 2000, the "Regulations on Quality Management of Construction Projects" which were issued by the State Council are in accordance with the relevant legal provisions of the Building Law. It involves the quality responsibility and obligation of the construction unit, the quality responsibility and obligation of the exploration and design unit. Quality Responsibility and Obligation of Construction Unit, Quality and Obligation of Engineering Supervision Unit and Construction Project Quality warranty, supervision and management and other legal provisions

The former Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD) and CIRC jointly issued the "Opinions on Promoting Quality Insurance Work for Construction Projects" (Aug. 2005), marking the official landing of construction project quality insurance in China. PICC P&C took the lead in piloting projects in 14 cities including Beijing, Shanghai and Xiamen, and various localities have also issued relevant policy documents to promote IDI.

In 2011, The Building Law got revised and has been in force since July 1, 2011. It covers building permits, contracting, supervision of construction projects, management of construction safety production and construction projects, quality management, legal liability, etc.

Take Shanghai as an example, the initiative to develop IDI started in 2012. The pilot IDI project was launched in 2016, which was supervised by the Municipal Housing Construction Committee of Shanghai, Shanghai Financial Office and CIRC Shanghai Bureau.

The latest edition of the “Regulations on Quality Management of Construction Projects” in 2018 focus on the contents of Engineering quality, and to discuss the various aspects of Engineering in the Regulations on Engineering Quality Management. The quality requirements are made for the items. In addition, for technicians, architects and inspectors. All must meet the requirements and regulations.

Market performance

Profitability

Based on the Nankai research the premium rate of IDI is usually at 1% - 2% of the construction cost. Presently, the claim rate for IDI is not high, around 10% of annual premium income. However, this data can be taken with a pinch of salt as a reference, since the IDI pilot project is still in its infancy in China and the warranty period for most IDI products is generally 10 years.

Size

The size of the IDI is expanding rapidly, though market wide statistics are not available. It is estimated to reach CNY 40bn (USD 5.8bn), once the pilot projects in a few cities are rolled out to the rest of the country (Security Times, 2018).

The IDI business in Shanghai is one of the most developed IDI markets in China, the market size is above CNY 700m (USD 100.5m) in terms of premium income in the first eleven months of 2018 (Insurance Association of China, 2018). The expansion of the IDI market in Shenzhen has been very fast, although the IDI project was only started at the end of 2017.

In August 2018, the Shenzhen Futian District Government invested in IDI procurement bidding which marks the official launch of the Shenzhen Government's infrastructure IDI project.

In addition to domestic market, IDI also provides insurance protection to Chinese overseas infrastructure construction projects. In the first half of 2017, there was a total exposure of CNY 3.6 bn (USD 517m) for IDI in Shanghai which relates to 20 infrastructure projects in more than 10 countries including Tanzania, Congo, Bangladesh and Peru (CIRC, Shanghai Bureau, 2018).

Competition

As one of the products that is closely related to the regulatory policies, larger insurers have an advantage in acquiring and servicing this business line. In Shanghai, PICC, CPPIC, and Ping An are the leading insurers, with another 10 insurers providing capacity as followers.

Foreign-funded insurers that have technical know-how and expertise will be able to find their place in the market, once the market becomes more mature and larger in size.

Distribution

IDI insurance is normally arranged by the local governments establishing pilot programme. A panel of insurers is selected through bidding process. The lead insurer is the one who will coordinate with all the stakeholders.

Insurance brokers may be involved in the process sometimes, either appointed by the government to manage the insurance programme or approached by insurers to assist with the co-insurance and/or reinsurance placements.

Growth

Drivers

As the government has strengthened the quality labelling and standard requirements for construction projects, the risk awareness and insurance demand of construction companies have been significantly improved.

In particular, IDI, which has been developing in China's liability insurance market for more than ten years, has had good momentum in development since 2016, which can be attributed to the promotion of relevant policies issued by the government.

At present, China's economy is in the period of transformation, upgrading quality and efficiency enhancement. In order to meet the needs of national economic construction, social development and people's livelihood, the new, rebuilt and expanded construction projects in various fields will change, creating a big potential demand for purchasing IDI.

Moreover, the risk awareness of companies in various related fields participating in construction projects is gradually improving, which has become one of the driving forces for the development of IDI.

Constraints

Although the contract law stipulates the developer's liability for guaranteeing the quality defects of the construction project, the time limit of liability is not consistent with the liability period of the IDI.

Other legal defects will affect the smooth development of IDI, for example, differences between local and central regulations show that there is no uniform standard for stipulating the warranty obligations of various parties involved in a construction project at present.

Due to the specialty of construction, insurers need to employ an independent risk management institution, if they want to make an accurate assessment of the risk of the construction project.

However, according to the existing regulations in China, each institution involved in the quality supervision of construction projects can only be responsible for one stage of the project.

The Chinese government has not implemented a mandatory insurance system for IDI, and many companies are not clear about the consequences of the possible construction quality problems they may face, so at the moment it is difficult to generate active insurance demand.

Future development

In view of the increasing demand of IDI market, the insurance company's own ability of insurance and risk management must be continuously improved, and IDI will continue to develop in an upward trend. Based on the information obtained by Nankai University, many insurance companies have treated IDI as one of the most important developing products.

Market

The number of infrastructure projects in China and overseas will continue to gradually increase and the demand for IDI will emerge, especially with the implementation of the 'One Belt and One Road' initiative.

The Chinese government has issued a number of policy documents to support the development of IDI since 2016, and the government's promotion is an important incentive for the development of IDI.

In terms of direct insurance business, foreign-funded companies have more experience and technological advantages, while domestic-funded companies have more advantages in their extensive operating networks. Depending on the company's network size, foreign-funded companies may not be able to cover such a wide geographical area and access clients.

However, in the current trend of growth in the development of IDI, foreign property insurance companies also have great opportunities to obtain insurance business, and there will be more opportunities to cooperate with domestic-funded companies.

Chinese reinsurance companies play a very important role in the promotion of IDI.

Products

One of the key aspects of the implementation of IDI is better quality control throughout the construction process. Insurance companies will generally choose a technical inspection service (TIS) independent of the construction and design parties to carry out quality control and risk control in all aspects of the project implementation, evaluate the potential defect risk and propose solutions.

Previously, in China's IDI model, insurance companies would only intervene before the start of the project, while insurance companies in other countries typically would not only intervene before the start of the project, but also conduct surveys during the progress of the project, tracking and preventing the risk situation of the insured project.

Now, China's insurance companies have begun to pay attention to improving risk management ability by drawing lessons from foreign experience. There are some property insurance companies starting to set up their own TIS centres, it will not only save the extra expenses of hiring professional TIS institutions, but also enrich their offering of IDI products and attract customers.

On the other hand, it will help to reduce the occurrence of quality risk accidents and losses, which will have a positive impact on the policyholders' awareness of risk.

Therefore, it can be expected that in the future, the IDI including TIS services will become the mainstream. The quality risk control and management of construction projects in China's liability insurance market will continue to improve and more insurance companies will shift their focus of development from pursuing the growth of premium scale to pursuing the improvement of their own insurance technology and quality service.

Litigation property preservation liability

1.5billion Yuan

annual premium income (2017)

4%

of the Chinese liability market is made up of LPPLI

50%

claims ratio (2018)

2.17%

rise in civil contract disputes in China (2018)

1%

average market premium rate (2018)

The litigation property preservation liability insurance (LPPLI) covers the liability risk of a party who, in the course of litigation, causes direct financial losses to the defendant due to the wrongful application for litigation preservation.

In China, prior to filing a lawsuit, the involved parties must provide a financial guarantee for the property which is to be preserved as well as potentially having to provide a guarantee in relation to the application for property preservation. Traditional methods of this guarantee, like letters of guarantee from commercial banks or providing your own capital often fall short and fail to meet the standards of judicial practice and so a new mechanism has emerged – “Litigation Property Preservation Liability” to cover this requirement.

When the property preservation error causes the defendant to suffer the loss, the insurer shall be liable for the compensation for the loss determined by the effective judgment of the court. LPPLI covers litigant negligence or fault liability risk.

2.5 Litigation property preservation liability insurance (LPPLI)

Development

In 2013, a local insurer took the lead in launching the first LPPLI product, underwriting 41 policies in Yunnan Province and achieving premium income of CNY 2.2m (USD 0.316m) for a total sum insured of CNY 176m (USD 25.8m) (Hualv.com, 2019).

Following the successful promotion of LPPLI products by other domestic markets in 2015, several insurance companies successively launched LPPLI products in the second half of that year.

Hunan Provincial Higher People's Court introduced the insurance mechanism in the lawsuit in 2015 and since then, courts across China have introduced the insurance mechanism in litigation preservation.

Market performance

Size

According to Nankai's research, the premium scale of LPPLI has expanded rapidly since it was launched in 2013, growing from CNY 20m (USD 2.9m) to CNY 1.5bn (USD 215.4m) in 2017.

Experts' interviews revealed that the premium scale expanded more than ten times in 2014. After doubling growth in 2015 and 2016, premium growth has slowed significantly in 2017 as new entrants obtaining premiums increase competition and lower prices.

According to Nankai's research the premium income of Chinese LPPLI accounted for just 4% of total premium income of Chinese liability insurance in 2017, and it is expected that this proportion will continue to rise in the future. Premiums in economically developed provinces are much higher than in less developed ones, with large domestic-funded insurers taking the largest market share.

Profitability

The premium rate of LPPLI in China has been dropping sharply since 2015. With the premium rate dropping sharply (CPCU International Ambassador, 2018) and the limit of indemnity increasing, the profitability of insurance companies has been declining continuously.

Since 2015, the market competition has intensified, and the premium rate has been significantly reduced. It is reported that the average market premium rate of LPPLI has continued to decline sharply in 2018. At present many underwriters interviewed by Nankai are concerned that premiums are seriously insufficient.

As well as reduced premiums, LPPLI'S limit of indemnity has been continuously increasing.

The LPPLI business underwritten in 2015 and 2016 has been continuously reporting large claims. According to Nankai's research, there have been around 10 reported claims in the range of around CNY 100m (USD 14.4m) with these larger claims mainly coming from the property preservation in the case of "equity disputes", which is not necessarily related to whether the subject matter of the preserved property is the equity itself.

These reported major cases have led to the ultimate claim ratio of LPPLI rose from 20% in 2017 to around 50% in 2018 (CPCU International Ambassador, 2018). The profitability has fallen sharply.

However, the profitability of LPPLI operated by foreign-funded insurance companies is higher than that of domestic-funded ones because, according to Nankai's interviews, foreign-funded insurance companies generally have smaller, more selective portfolios.

Competition

According to the research carried out by Nankai University, LPPLI has a high market concentration, with most of the business concentrated within domestic-funded insurance companies. For example, the premium scale of PICC P&C accounted for half of the total premium of Chinese LPPLI in 2017 (Nankai University, 2017).

Several leading foreign-funded insurance companies in China are already reducing the scale of their LPPLI business, since the profit margin of the business has not met the requirements of their companies.

Distribution

The main distribution channels of LPPLI are direct sales and agency service. At present, the distributional channels for the majority of insurance companies are basically through courts, law firms and a small number of construction engineering companies. The distribution is limited, and the expansion of existing channels has also proven to be difficult (PICC Fujian Branch, 2018).

Growth

Drivers

There is a relatively comprehensive legal system relating to LPPLI, mostly arising from regulation published by the Supreme People's Court, which form the national legal framework that establishes the legal status of LPPLI.

Further, the number of civil contract disputes is increasing year by year.

Constraints

Firstly, as premium rate continues to fall sharply, the long tail risks of LPPLI cannot be ignored. Since the introduction of LPPLI in 2013, the average market premium rate has continued to decline sharply.

Many insurers believe that LPPLI is the so-called "profit insurance", since the insurer may not receive any relatively large loss notice in the short term. It seems that there is no risk, which leads to rising fees and declining rates.

Second, there is some debate concerning that whether insurance premium is included in litigation costs. There is uncertainty whether the defendant should pay insurance premium of LPPLI and currently according to the judgment documents already published, the court does not support the plaintiff's claim that the defendant should bear the insurance premium.

Some courts held that insurance premium was not necessary for the realisation of claims, while others held that there was no legal basis for advocating that the defendant should bear them.

There is also some discussion concerning whether the cost of litigation should be covered by the insurance companies. The commonly used market wordingsdo not bear the costs of the insured, but some insurance companies stipulate in LPPLI contracts that the insured and the respondent shall also be liable for the lawsuit costs of the litigation incurred by wrong application of property preservation and other necessary and reasonable expenses paid with the prior written consent of the insurer.

Insurance companies stipulate that the indemnity limit of such expenses shall not exceed a certain proportion of the indemnity. However, many do not indicate whether the cost is included in the policy compensation limit.

Future developments

Products

The Supreme Court of China has provided legal support for LPPLI, and although the premium growth rate of LPPLI has slowed down and the premium rate has continued to decline, the status of LPPLI in litigation preservation guarantee has been established by the Supreme Court of China, courts around the country will generally accept insurance guarantee.

However, according to the documents supporting LPPLI issued by local courts, local courts are more willing to support large domestic-funded P&C insurance companies to underwrite LPPLI. As a result, there will be more growth opportunities for large domestic-funded insurers than for foreign-funded insurers and smaller domestic-funded insurers in the coming years.

This is due to domestic insurers having a national network of offices, more domestically based capital behind them and the fact that the government generally, has some control over the management or the strategy of these companies.

In the future, there will be more demand of LPPLI because the number of civil litigations is increasing with the improvement of Chinese citizens' and companies' legal awareness. Considering that the litigation property preservation liability risk is long tailed, the profitability of LPPLI business depends on whether insurers can manage the legal risk.

Regulation

The development of relevant laws and regulations supporting the development of China's liability insurance is expected to continue to follow the theme that has emerged under the framework of laws and regulations at the national level and that local courts are expected to formulate local characteristics according to the actual situation in the region, providing both opportunities and risks for foreign-funded insurers.

3. Emerging business opportunities

Following the analysis of developments and opportunities for existing liability products in the Chinese market, this report looks at five emerging areas that could result in the creation of new risk transfer solutions in the liability space. These are:

1. Cyber insurance
2. Insurance for the sharing economy
3. Artificial intelligence insurance
4. Drug safety, clinical trial, and life science insurance
5. First batch of key new material application insurance.

3.1 Cyber insurance

Background

According to the Cybersecurity Law of China, the network operator, in the course of operation, shall bear civil liability for the damage caused to others. Network operator is the main body that bears the risk of cyber safety liability. Network operator includes network owners, network administrators, and network service providers.

Chapter III and IV of Cybersecurity Law of China provides that a network operator has the duty to maintain the safety of network operation and data Article 74 provides that those who violate the provisions of this Law and cause damage to others shall bear civil liability according to law.

Cyber insurance has been available in China since 2015 and their demand has increased over time.

First, China has a large cyber market and a large number of network operators. More than 50,000 internet companies have been established in China, including; e-commerce, culture and entertainment, education and finance services between 2013 and 2017 (x.itunes123.com, 2018). The service provided by the network operators covers a wide range of people. The number of Internet users in China had reached 854 million by June 2019.

Second, China's network operator faces increased risk of compensation liability due to cyber security incidents.

According to a survey by China Internet Network Information Center (CNNIC 2019), 44.4% of net users have encountered cyber security problems in the past six months. The problem of information leakage was the highest, accounting for 27.3%. There is hence space for a product encompassing intangible assets and cyber.

Thirdly, some Chinese companies are subject to international law in overseas markets. The European Union's General Data Protection Regulation (GDPR), which came into effect in May 2018, will stimulate demand for cyber insurance from companies that have European exposure.

Growth potential

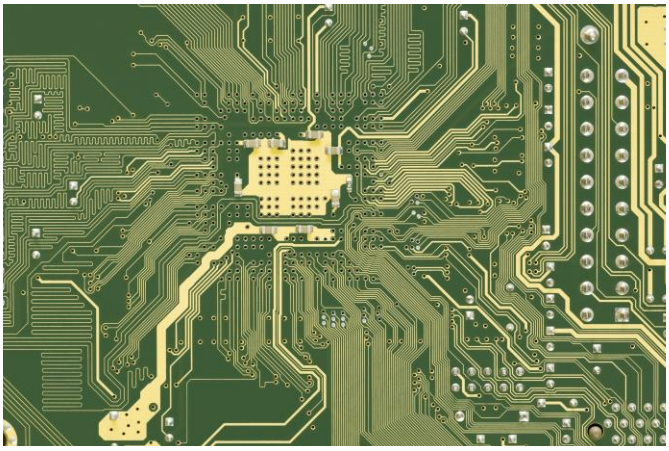
At present, China's cyber insurance market is small, with potential to grow.

In the first year after the Cybersecurity Law took effect, the number of successful legal cases for the investigation of tort liability of network operators was small, and the amount of compensation was also relatively low. In 2018, there were bee only 3 civil adjudications in Wolters Kluwer's legal database. The compensation amounts of network operators are CNY 40,000 (USD 5745), CNY 20,000 (USD 2872) and CNY 29,800 (USD 4279) respectively (Wolters Kluwer, 2019).

Further, many Chinese companies don't pay sufficient attention to network data security. Unlike the technology, finance, media and other companies who pay more attention to data security, most companies in other industries are more contemptuous of network data security.

The development of e-commerce will also drive the development of cyber insurance. As consumers increasingly buy online, platform security will play a very important role. Moreover, disputes between manufactures, delivery companies and customers might rise. More liability insurance products will have to be designed to manage these disputes. Examples include return shipping expense insurance, delivery service liability, and account security insurance.

On the other hand, there are overlaps between the scope of cyber insurance and other products. For example, the product liability insurance of data switching exchange purchased by some hardware manufacturer covers the compensation liability for data loss. The professional liability insurance for cyber security officers may also cover some liability.



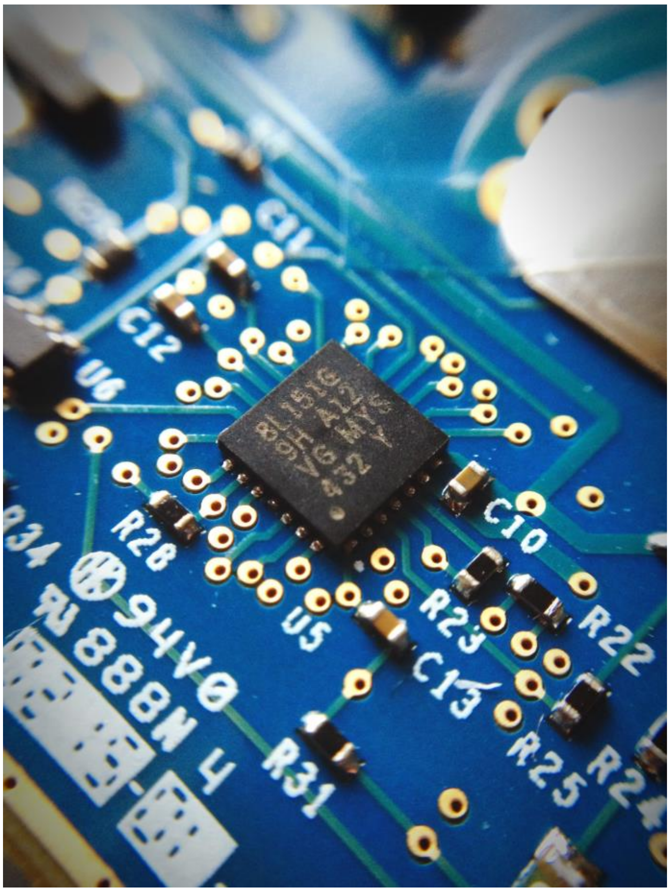
Future development

As the market matures, demand for cyber insurance will increase.

Foreign-funded insurers have more operating experiences in their home country. They are more experienced and technically more advanced, though the domestic-funded insurers are gradually tapping into the market.

Foreign-funded companies will encounter challenges in offering cyber insurance to state-owned companies, which may have concerns about sharing data.

Similar to the situation in some other lines of business, providing cyber insurance through cooperation with domestic-funded insurers by way of reinsurance or co-insurance may be preferred approach, seeking win-win solutions for all the parties concerned.



3.2 Insurance for the sharing economy

Background

2018 China's Sharing Economy Development Annual Report introduces the concept, key development areas and future development trends of sharing economy (State Information Centre, Internet Society of China, 2018).

Sharing economy refers an economic model based of peer-to-peer (P2P) based activity of acquiring, providing, or sharing access to goods and services. Such activities utilise modern information technology such as platforms that connect buyers and sellers, are characterised by collaboration, and decentralized resources that meet diversified needs.

The report divides the sharing economy into six key development areas: transportation, housing, sharing finance, knowledge and skills, living services and productive capacity.

The report also forecasts trends in the sharing economy. In the future, the development of sharing economy will gradually move towards standardisation. Agriculture, education, health care and pensions are expected to become new sectors of development for the sharing economy. The promotion of the social credit system and the integration with the sharing economy will increase.

Risks

In the report *Sharing risks, Sharing Rewards: Who Should Bear the Risk in The Sharing Economy,* Lloyd's commissioned a survey to learn about how US, UK and Chinese participants in the sharing economy perceive and manage risks.

According to the survey findings, insurance is a potential growth driver for the sharing economy. Compared with American and British consumers, a larger number of Chinese consumers think that platform providers should provide insurance protection for them.

Sharing economy companies generally bear the risk of cyber safety liability. Insurers can provide them with cyber insurance products. Most of the companies in the sharing economy use modern information technologies to provide transaction information on a platform and hold a large amount of data. According to the Cyber Safety Law of China, these companies generally bear the risk of cyber safety responsibility.

Second, sharing economy platforms may face liability risk in the process of providing the product or service.

As sharing economy companies provide physical products, they will bear the risk of civil compensation liability for injuries to innocent third parties caused by product quality and management problems. For example, bicycle-sharing companies, the owner and manager of the bikes bears the risk of tort liability due to the quality and parking management of bicycles in accordance with article 43 of the Product Quality Law of China and article 6, article 41, article 42 and article 44 of the Tort Law of China.

Aiming at these liability risks, insurers can provide product quality liability insurance and other related insurance products for sharing economy companies.

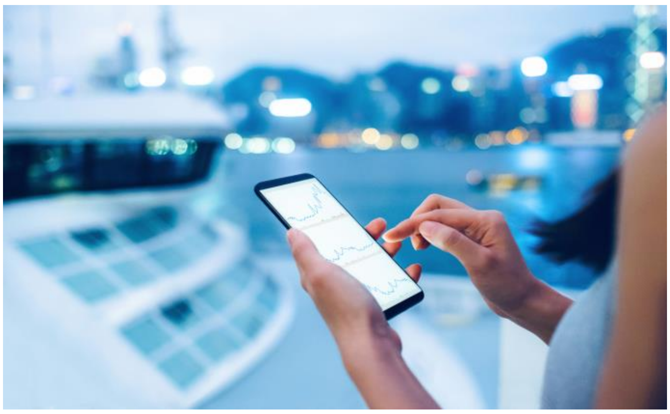
Who provides services through shared economic platforms may face relevant liability risks. For example, in the field of sharing medical care, along with the rise of online diagnosis and the implementation of the policy that doctors can work in multiple organisations, doctors have moved from staff of government affiliated institutions to independent contractors, and the traditional liability insurance shared by hospitals and doctors cannot cover the risks that doctors encounter when practicing on online platforms and other medical institutions. This requires insurers to offer new liability insurance products for doctors involved in the sharing medical field.

Future development

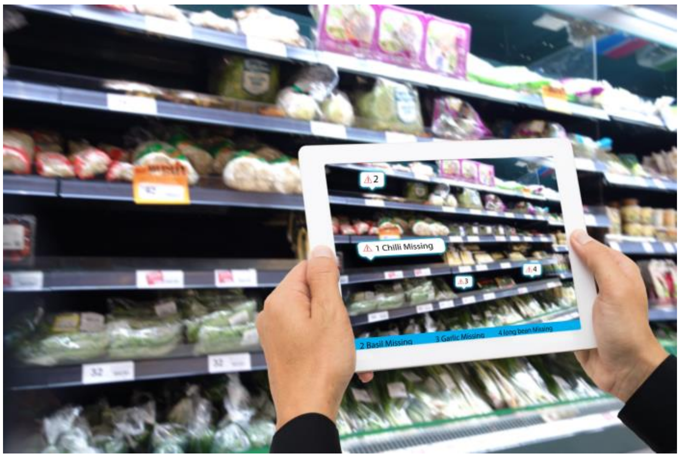
The sharing economy industry is growing fast, and the number of users is expanding rapidly. The "2018 China's Sharing Economy Development Annual Report" shows that the volume of transactions in China's sharing economy market was about CNY 4. 9tr (USD 703.7bn), up 47. 2% from the previous year.

Based on the rapid development of the sharing economy, there will be more development space for related liability insurance in the future, and some domestic-funded companies may have more development advantages because of better understanding of the local market.

As sharing economies in China have their own characteristics, foreign-funded companies need to fully understand the situation of Chinese market when carrying out product innovation.



3.3 Insurance for artificial intelligence



Background

Artificial Intelligence (AI) is a multi-disciplinary scientific and technological concept. These disciplines can be grouped into six areas: computer vision, natural language understanding and communication, cognition and reasoning, game and ethics, robotics and machine learning (blog.csdn.net, 2018). The development of AI technologies will bring new products to mankind due to their ethics, transparency, liability, safety and security risks.

Liability risks

The producers and sellers of AI products bear the risk of product quality and safety liability. The new products produced by AI technology have more characteristics of high technology, automation and less artificial operation. Therefore, the damage to a third-party person caused by AI technology is more likely to be caused by quality problems of the products themselves.

In such cases, the producers and sellers shall be liable for the safety of AI products according to the regulations of Tort Law of China and Product Quality Law of China.

Liability insurance in the field of AI is mainly manifested as product quality and safety liability insurance based on various AI products. Currently, there is already product quality and safety liability insurance in China's liability insurance market specially provided for the field of AI.

In December 2018, the international department of a large domestic-funded P&C insurance company underwrote a robot product liability insurance for a Tianjin company making automation equipment, providing this company with risk protection of personal injury or direct property loss caused by the machine's products to a third party worth CNY 100m (USD 14.3m). This cover improved the company's competitiveness and promoted the sales of its products.

This is the first example of a business insured after the launch of the robot product liability insurance developed by a large domestic-funded P&C insurance company. The successful implementation of this insurance product is of great significance for the development of liability insurance in the field of artificial intelligence in China. Future development

There are good prospects for Liability insurance in the AI field in the future.

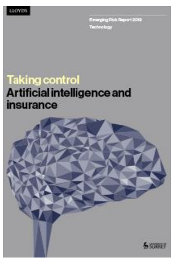
MIIT issued "The Three-Year Action Plan For Promoting The Development Of A New Generation Of Artificial Intelligence Industries (2018-2020)". It is estimated that by 2020, the core industry of AI will exceed CNY 150bn (USD 21.5bn), and the relevant industry will exceed CNY 1tr (USD 143.6bn).

In December 2017, a driverless bus in Shenzhen officially hit the road, marking the first time in China and the first time in the world an autonomous bus has been piloted on an open road (sohu.com, 2018). The city Changsha, partnered with the tech company Baidu and released China's first autonomous bus line and 'robotaxi' service with 46 autonomous taxis operating in September 2019 (Dai, 2019). After the success of the autonomous bus line other cities (Beijing, Wuhan and Pingtan) have begun to introduce them. Industry insiders believe that the launch of the line means "smart bus" projects will increase and in the next decade will be introduced across China and globally.

The proportion of traditional auto insurance in China's property insurance market is large, and the development of China's self-driving technology is fast. The traditional auto insurance will no longer be applicable if autonomous vehicles are popularized, and there will be demand for relevant liability insurance products, with the regulation likely making the production companies of autonomous vehicles liable for any accidents.

In the future, other fields related to AI will also generate the demand for liability insurance products in addition to self-driving.

In the international market, some insurers have already begun to innovate with their insurance products in response to IBM Watson's medical liability for errors in radiology. London is by far the most common market for this kind of customised insurance, with a handful of US insurers also offering it.



Lloyd's report *Taking control: artificial intelligence and insurance* gives more information about the global AI landscape, risk areas and insurance opportunities .

3.4 Drug safety, clinical trial and life science insurance

Background

The Drug safety liability insurance (DSLI) in Chinese liability insurance market mainly includes Drug clinical trial liability insurance and Drug quality safety liability insurance. The insured in both types of insurance are pharmaceutical companies. At present, China's DSLI market is relatively small, and there are few Drug companies that buy this insurance product.

After the trial of Marketing Authorization Holder (MAH) system in May 2016, there have been two types of commercial insurance products that provide important insurance guarantees for drugs in the clinical trial stage, production and the circulation stages. These are; clinical trial liability insurance (CTLI) and life science comprehensive liability insurance (LSCLI).

The laws and regulations related to Drug Safety, Clinical Trial and Life Science Comprehensive Liability Insurance include the Drug Administration Law of the People's Republic of China, the Drug Production Quality Management Regulations, and the Drug Business Quality Management Regulations.

From experts' interviews, drug companies think that the premium, priced between 0.2% and 0.5% of sales, is too high. The fact that the insurance product usually encompasses all the drugs produced by the company is also difficult for drug companies to accept.

The clinical trial liability insurance and life science comprehensive liability insurance developed with the trial of the MAH system. The MAH system has now become policy and was incorporated into The Drug Administration Law in August 2019 (National Medical Products Administration, 2019).

The MAH system evolving from its pilot to policy stage indicates the growing need for DSLI in China. It encourages the development of the market with the likely hood of a growing number of drug companies operating within China. It further encourages the adoption of both clinical trial liability insurance and life science comprehensive liability insurance which are incorporated in to the MAH system.

Future development

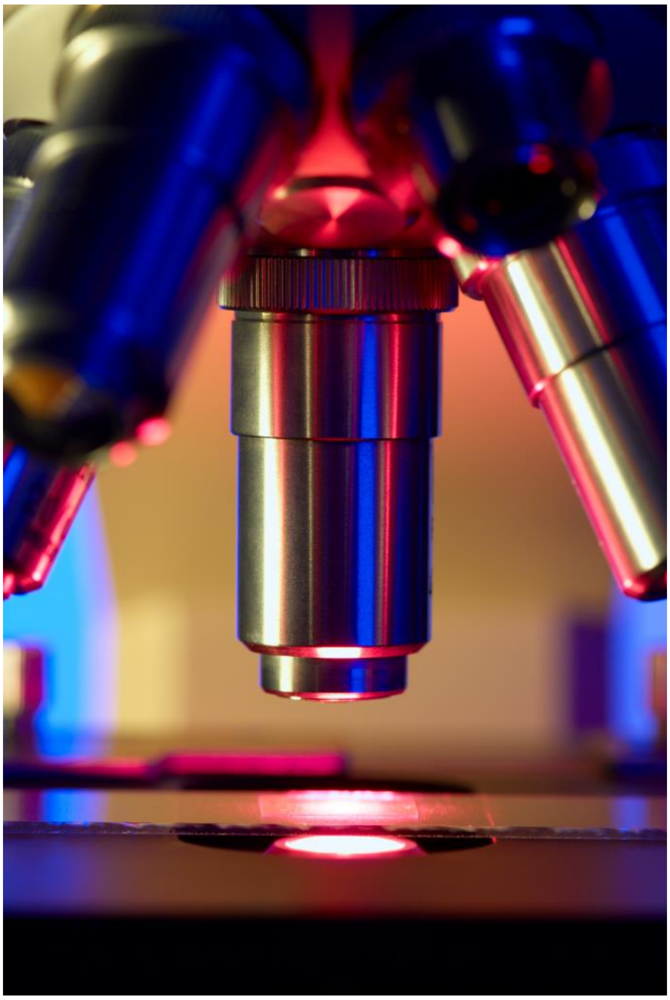
Drug Safety, Clinical Trial And Life Science Comprehensive Liability Insurance has development potential in the future due to the promotion of national policies.

For example, the incorporation of the MAH system into policy will stimulate the continued development of clinical trial liability insurance and life science comprehensive liability insurance.

Some local governments have also launched policies to boost the development of the pharmaceutical industries by helping them to get risk protections. Premium subsidy policy, as one of the means of financial support, is widely included in the medical industry policies issued in order to encourage medical companies to gradually adopt the risk guarantee mechanism of commercial insurance (sohu.com, 2018). The premium subsidy in Shanghai for MAH related companies could be as high as 50% of the premium (sohu.com, 2018).

The competitive advantage of foreign-funded companies in the field of Drug Safety, Clinical Trial And Life Science Comprehensive Liability Insurance is mainly reflected in the refined product design based on the characteristics of different industries.

For example, one foreign-funded insurance company in Shanghai provides DSLI separately for the life science industry, including clinical trial stage and post-marketing stage. However, the number of DSLI separately for this industry is very limited in the whole market.

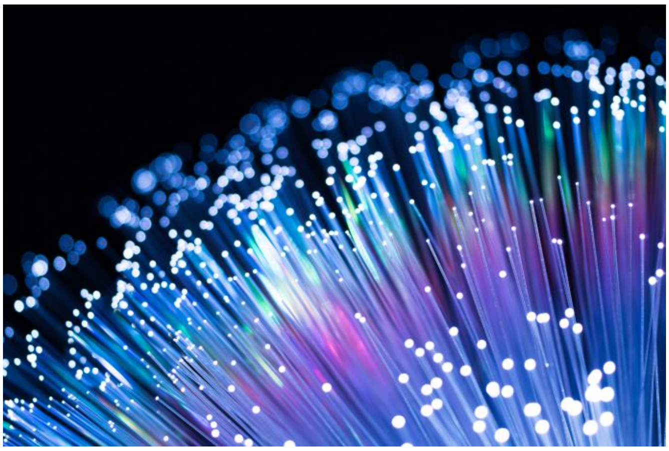


3.5 First batch of key new material application insurance

Background

In China, the first batch of key new material application insurance (FBKNMAI) is an innovative comprehensive insurance product that mainly covers quality risk and liability risk. The insured of this insurance product is the first batch of new material producers.

The development of FBKNMAI started in 2017. The MIIT released a public notice - “Guidance Catalogue For The Application Of Key New Materials" (2018 edition) in September 2018 . There are total of 166 key new materials listed in it, that include key materials for emerging industries such as smart grid, wind power generation, nuclear power, photovoltaic and new energy vehicles.



Future development

MIIT, MOF and CIRC issued "The Notice On Carrying Out FBKNMAI Compensation Mechanism Pilot Work" on September 13, 2017.

The limits of the insurance are based on the amount of the contract and the amount of liability loss that may result from the defect product.

The government provides subsidies for the insurance, with subjectivities below –

- Limit of coverage not exceeding five times of the contract value
- Premium rate not exceeding 3%
- Subsidised amount not exceeding CNY 500m (USD 71.8m)

With "Made in China 2025" putting forward the strategic goal of becoming a powerful manufacturing country, the State has issued a series of policies to promote the development of new materials industry.

With the development of the new material industry and the promotion of national policies, liability insurance will have greater development potential.

"The Notice On Carrying Out FBKNMAI Compensation Mechanism Pilot Work" stipulates that qualified insureds can apply for a central financial premium subsidy of 80% of the annual premium. A high proportion of financial subsidies may give rise to insurance sales.

At present, the current pilot companies are the three-top domestic-funded insurers, PICC, Ping An, and CPPIC. They normally buy reinsurance to mitigate their risks, which provides opportunities for other insurers and reinsurers that have the appetite for this line of business.

4. Conclusions

The Chinese liability insurance has room for development with new regulations changing the landscape and new products opening the doors to insurers that have the ambition and resources to succeed.

Traditional lines of business have been developing rapidly, catching up with the more developed markets. Furthermore, China is developing specific risk transfer areas, creating new opportunities that have not been seen in overseas markets.

In this research we have identified four trends driving the growth of the Chinese liability market:

1. Changes in regulation and the legal system
2. The use of insurance as a social governance and risk management tool
3. New technologies
4. Product innovation

China's insurance market is rapidly changing in response to constant new local demands and a dynamic risk landscape. We've already seen new products emerging, such as return shipping insurance for goods and professional indemnity for workers delivering goods in the sharing economy, due to the development of new businesses. Opportunities will favour those who are prepared to stay close to the market and keep up with trends.

Appendix

Table 1: Liability Insurance Classification according to the Liability Insurance Statistics System by CIRC

Employer liability category	**Employer Liability Insurance**	
	Safety Production Liability Insurance	
Public liability category	General Public Liability Insurance	Campus Liability Insurance
	Fire Public Liability Insurance	Food Safety Liability Insurance
	Road Passenger Carrier Liability	Elevator Liability Insurance
	Environmental Pollution Liability	Travel Agency Liability Insurance
	Logistics Liability Insurance	
Professional liability category	Medical Liability Insurance	Directors and Officers Liability Insurance
Product liability category	Product Liability Insurance	Inherent defect Insurance
	Product Quality and Safety Liability	Major Equipment (first set) Insurance
Other Liability Insurance	Extended Auto Warranty Insurance	Litigation Property Protection Liability Insurance
	Home Appliance Extended Warranty Insurance	Return-freight Insurance
Emerging liability Insurance	Cyber Security Liability Insurance	Liability Insurance in AI
	Liability Insurance in Sharing Economy	Drug Safety Liability Insurance
	The First Batch of Key New Material Application Insurance	

Source: CIRC, 2016

Table 2: The development timeline of Chinese major liability insurance lines since 2006

Before 2006	The main liability lines were products liability, employers' liability, and public liability; Carrier liability, travel agency liability, environmental pollution liability, physician and hospital liability lines were developing. .
2007	Medical malpractice insurance was implemented nationwide. Successively safety production liability insurance pilot projects were carried out along with environmental pollution liability insurance pilot projects.
2008	Zhejiang Province was first to carry out the liability insurance for employers of shipping companies; oil tankers and chemical tankers that sail, park and operate in the waters of Jiangsu Province and it also implemented ship pollution liability insurance.
2009	The National Travel Agency Liability Insurance Unified Demonstration Project was launched and the internship liability insurance pilot project for vocational college students started
2010	The medical malpractice insurance unified project was launched.
2011	The national internship liability insurance unified demonstration project for vocational college students started.
2012	PICC took the lead in launching school bus carrier liability insurance and Yunnan Province launched the litigation property preservation liability insurance pilot.
2013	18 provinces (autonomous regions and municipalities) such as Shanxi Province and Dalian City implemented mandatory environmental pollution liability insurance pilots.
2014-2015	Pilots of food safety liability insurance were carried out in many cities and provinces across the country (such as Shandong and Hubei Province as well as Ningbo City). Suzhou City launched the Major equipment (first set) insurance pilot. Regional unified projects included employer liability, environmental pollution liability, safety production liability, campus liability, medical malpractice insurance and other liability insurance in Zhejiang, Chongqing, Hunan, Hubei, Henan, Shaanxi, Shandong and others.
2016-2017	Cyber safety liability insurance emerged in 2016; a pilot for new material liability insurance was launched in 2017.

Source: compiled by Nankai University, 2019

Table 3: Recent developments in the legal framework of liability insurance in China

October 2008	**Fire Protection Law of the People's Republic of China**	The State encourages and guides public gathering places and companies that produce, store, transport and sell inflammable and explosive dangerous goods to buy fire public liability insurance; encourages insurance companies to cover fire public liability insurance.
December 2012	**Law of the People's Republic of China on the Protection of the Rights and Interests of the Elderly**	The State encourages pension institutions to buy liability insurance and encourages insurance companies to cover liability insurance.
April 2013	**The Tourism Law of the People's Republic of China**	The state implements a liability insurance system for operators such as travel agencies, accommodation, tourist transportation, and high-risk tourism projects stipulated in Article 47 of this Law according to the degree of risk of tourism activities.
June 2013	**Special Equipment Safety Law of the People's Republic of China**	The State encourages insuring special equipment safety liability insurance
April 2014	**Environmental Protection Law of the People's Republic of China**	The State encourages insuring environmental pollution liability insurance.
August 2014	**Work Safety Law of the People's Republic of China**	The State encourages production and business units to buy safety production liability insurance.
April 2015	**Food Safety Law of the People's Republic of China**	The State encourages food production and operation companies to participate in food safety liability insurance.

Source: compiled by Nankai University, 2019

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