

Prof. Dr. Shu Li*

The Artificial Intelligence Liability Directive, the new Product Liability Directive and their implications for insurance

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Abstract

In September 2022, the European Commission finally issued the long-awaited proposals for the revised Product Liability Directive and the Artificial Intelligence Liability Directive. The aim of such a legal reform is to make sure that the liability framework is compatible with the development of new technologies. This article explores the concrete rules proposed by the two directives and more importantly, it discusses the implications of these proposals for the insurance sector.

Key words: Product Liability Directive, Artificial Intelligence Liability Directive, risks, insurance

1. INTRODUCTION

Our world is now witnessing digitalisation in nearly every sector and production is for sure the domain that is embracing this tendency. Digitalisation has reshaped production tremendously. Mechanical production is no longer the only stage that determines the quality of a product. Instead, safety concerns are also raised, since digital files and systems are increasingly used as safety components, the defect of which can be harmful to end-users. Some of the most recent applications include 3D printing as well as artificial intelligence (AI). For example, automobiles are inclined to be armed with automated functions to assist driving under certain conditions (Li, Faure, 2022). In addition, AI-enabled devices are also widely embedded in many other objects, such as medical devices for the purpose of treatment and diagnosis (Ludvigsen, Shishir, 2022).

What makes digitalisation an even more challenging topic is that the negative impact of digital technologies, especially AI, does not end up with safety concern. Rather, it can touch upon an even broader consideration, which extends to the sphere of fundamental rights (Smuha, 2021). For example, when an AI-driven system is used by employers for the purpose of recruitment, certain vulnerable groups of people may be unfairly excluded (Hunkenschroer, Kriebitz, 2022). In a similar vein, given that AI systems are used for determining the access to specific services, such as loans, certain

* Assistant Professor, Erasmus School of Law, Erasmus University Rotterdam, e-mail: shuli.eur@outlook.com.

groups of people may be discriminated and have to bear a higher barrier in order to gain the loans. Developing and deploying AI for such purposes can thereby greatly disadvantage humans.

The EU authorities have zoomed in the measures to reduce the risks posed by digital technologies, especially those driven by big data and AI. One game changer is the so-called AI Act (European Commission, 2021a), which was proposed by the Commission in April 2021. By establishing the AI Act, all AI systems are anticipated to be subject to certain requirements, which will be consistent with their level of risks. In specific, certain AI systems are considered to pose unacceptable risks. Such risks are linked with applications for the purposes, such as manipulating vulnerabilities, social scoring and real-time biometric identification by the public authorities (European Commission, 2021a, art. 5). In addition to AI systems with acceptable risks, a wide range of applications will be categorised as “high-risk” AI systems. These AI systems are double-edged swords, meaning that their uptake can overall benefit the society, but they are also safety-relevant and can violate fundamental rights if they are abused (European Commission, 2021a, art. 6). To strike a balance, AI systems that are categorised as high-risk are generally not banned from the market, but meanwhile a comprehensive conformity assessment shall be conducted before they are allowed into circulation. Apart from AI systems with unacceptable risks and high risks, there are also many other kinds of AI systems, the use of which will be unlikely to cause safety-relevant issues nor concerns about fundamental rights but may mislead people when they are interacting with machines. For such types of AI systems, a transparency obligation is required (European Commission, 2021a, art. 52). At last, if an AI system does not fall into either of the aforementioned types, it will be freely placed and deployed in the market without ex-ante regulations or assessment.

In a word, the AI Act proposed a comprehensive set of ex-ante rules to minimise the risks of AI. The risk-based approach indicates the determination of EU authorities to deal with the risks posed by AI systems on the one hand, and their concern over not overly restricting innovation on the other. As a result, even if AI systems that are considered to have a high-risk, despite the comprehensive conformity assessment, they in principle are still allowed to be developed and deployed in reality. In other words, from a cost-benefit perspective, the rules proposed for the so-called high-risk AI systems are actually a compromise between the objectives of risk-regulation and welfare enhancement of a technology. Therefore, as long as (high-risk) AI systems are allowed to be placed on the market, they are likely to cause harm from an ex-post perspective (Li, 2023). The harm, as indicated before, can be either safety-relevant or with an implication for fundamental rights.

From the perspective of recovering harm, end-users who are exposed to the negative results of AI systems may wonder whether they can find a way to have their loss sufficiently recovered. This private enforcement concern further raises two issues that should be addressed in private law. Firstly, from a deterrence perspective, whenever harm occurred, what liability rule will apply to which party. Secondly, from a remedy perspective, whenever a party claims suffering harm, which mechanism is available for this party to have their losses recovered. Insurance is considered one of the utmost

mechanisms to compensating victims. In the aftermath of the new Product Liability Directive (hereinafter: PLD) and AI Liability Directive (hereinafter: AILD), it is thereby for the insurance sector's interest how the reform of liability rules would imply for their practice.

This article aims to fill in the gap and make such implications visible. The structure of this article will be as follows. Rightly after introduction, in Section 2, a brief overview of the legislative history of the new PLD and AILD will be provided. Then, in Section 3 and Section 4, the article will respectively explain the most important institutional changes that may be resulted by the new PLD and AILD. In specific, in each section, I will discuss the extent to which liability rules will be changed and what it means for future insurance arrangements. Section 5 will conclude the article.

2. ADAPTING LIABILITY RULES TO AI AND DIGITALISATION: RECENT LEGISLATIVE ACTIVITIES

The EU authorities started an evaluation (European Commission, 2018) of the 1985 Product Liability Directive (Council Directive of 25 July 1985, hereinafter: 1985 PLD) as early as in 2018. They concluded that it was overall still a good fit, but in the meantime they identified that Member States were taking quite different approaches when interpreting specific crucial issues, such as whether software is regarded as a product. In that case, there was an increasing concern that by explaining such issues differently, a legal fragmentation would be resulted, which may further distort the goal of harmonising liability rules for products that had already been set up by the 1985 PLD.

Since then, the EU authorities as well as expert groups started to take serious steps to explore the issue of how to adapt the liability rules in the digital age. For example, in 2020, the Commission delivered a White Paper on Artificial Intelligence (White Paper) (European Commission, 2020a) accompanied by a Report on the safety and liability implications of AI (Report) (European Commission, 2020b). The White Paper pointed out that consumers shall “expect the same level of safety and respect of their rights whether or not a product or a system relies on AI” (European Commission, 2020b, 10). The Expert Group on Liability and New Technologies in their report (European Union, 2019, hereinafter: EG-NTF Report) to some extent took the first step in light of making a proposal with substantive suggestions for adapting the current liability regime to AI and other digital technologies. The EG-NTF Report made it clear that the definition of the “product” should not be limited to tangible ones. Those in a digital form should also be included (European Union, 2019, 42). The Expert Group suggest that producers should be held strictly liable for any flaws in their AI systems. In addition, the EG-NTF Report also indicated that the reform of liability rules will not be limited to the product liability regime. In specific, it proposed that operators—that is, those who deploy and use AI systems—should be held strictly liable if the system has the potential to cause significant harm (European Union, 2019, 39–44). Whether such a proposal would be adapted by domestic law or be further harmonised at the EU level was a matter that policymakers should take into account.

Later in October 2020, the European Parliament delivered a Resolution regarding the civil liability for the operators of AI system (European Parliament resolution of 20 October 2020, hereinafter: EP Resolution). A lot of substantial suggestions laid down in the EG-NTF Report was further developed in the EP Resolution. This was an ambitious motion, since it aimed at replacing the fragmented liability framework provided in national rules with a harmonised liability regime for all operators of AI (European Parliament resolution of 20 October 2020, Recital 12). A distinction of high-risk AI systems and other AI systems was proposed as a criterion to determine the liability for operators: operators of high-risk AI systems would be required to be subject to strict liability, whilst operators of other AI systems would be subject to fault-based rules (European Parliament resolution of 20 October 2020, art. 4). The EP Resolution, however, did not provide a list to explicitly list which kind of AI systems would be categorised as high-risk.

The initiatives abovementioned significantly fostered the legislative debate and procedures within the EU. From 2021, the Commission started a formal legislative initiative of adapting liability rules (European Commission, 2021b), which was followed by a public consultation during October 2021 and January 2022. The aforementioned procedures were finally concluded by the Commission in two proposals. One is the new Product Liability Directive (new PLD – European Commission, 2022a), the objective of which is to adapt liability rules for the accidents caused by defective products to digitalisation and AI. The other is the so-called AI Liability Directive (European Commission, 2022b, hereinafter: AILD), which provides some harmonised rules that will apply to all accidents that are caused by AI-systems.

3. THE NEW PLD AND ITS IMPLICATION FOR THE INSURANCE SECTOR

The new PLD has made tremendous changes regarding certain key concepts, such as product, producer, defect and damage. These changes will have great implications for insurance arrangements.

3.1. Key updates of the new PLD

Firstly, the scope of the product has been greatly expanded. According to the current 1985 PLD, product shall refer to “all movables” (Council Directive of 25 July 1985, art. 2). Considering the time when the 1985 PLD was established, it could not estimate that production would be heavily influenced by digitalisation and thereby, it failed to explicitly clarify whether a digital good per se or integrated into a movable can be defined as a product. As digitalisation kept disrupting production, there is a drastic need to explain such an issue at the EU level to avoid any legal fragmentation. The new PLD took the chance to clarify this issue by proposing that “product includes electricity, digital manufacturing files and software” (European Commission, 2022a, art. 4(1)). The new PLD proposal further explained the “digital manufacturing files” by including “digital version or digital template” (European Commission, 2022a, art. 4(2)). In this regard, 3D printing will be considered as a “product”. This not only applies

to its ultimate physical product but also to its computer-aided designing (CAD) file. What remains unclear from the new definition of the product, however, is the extent of “software”. According to the Explanatory Memorandum of the new PLD, the preferred option for addressing the scope of product is not to define all types of software as the product. Instead, software that is defined as product should only extend to the one that may result in safety issues. In other words, a wide range of software which may generate implications for fundamental rights will not be regarded as the product defined by the new PLD. For instance, AI systems that may result in data protection breaches or discrimination will not be categorised as products. However, the dichotomy between safety-relevant software and software with implications for fundamental rights is not clearly reflected in the definition of “product” given by the new PLD.

Secondly, the new PLD revised the scope of damage to some extent. According to the incumbent 1985 PLD, damage only refers to “death or personal injuries” and “property loss with a lower threshold of 500 Euros” (Council Directive of 25 July 1985, art. 9). In contrast, the new PLD extends the scope of damage to some extent. Firstly, “medically recognised harm to psychological health” is qualified as damage (European Commission, 2022a, art. 4(6)(a)). In addition, “loss or corruption of data” is qualified as damage (European Commission, 2022a, art. 4(6)(c)). Furthermore, there is no longer a threshold for claiming the property loss.

Thirdly, the new PLD refined the allocation of liability among the parties along the supply chain. According to the incumbent PLD, “producer” shall be liable for damage caused by a defective product (Council Directive of 25 July 1985, art. 3(1)). The scope of producer includes the manufacturer of the finished product, the one of raw materials and components as well as importers. Downstream parties, such as suppliers, will in principle be subject to fault-based rules, unless no producers can be identified. The new PLD does not significantly deviate from this logic, but it reshapes the liability allocation in consistent with the digital transformation. Similar to the existing rules, the manufacturer of a defective product or component shall be strictly liable, if damage was caused by the defect of their product or component (European Commission, 2022a, art. 7(a)). What should be noted is that, due to the extension of the scope of producers, these so-called manufacturers will also include the developers of digital manufacturing files as well as software. One challenge of holding developers accountable would be witnessed in an open-access context, where a software or standalone AI system can be developed by a large number of people around the world. In that case, which can be ubiquitous in the era of digitalisation, all these parties would in principle be jointly and severally liable. As will be shortly discussed in the next subsection, however, this can provide some arduous implications for insurance arrangements. In line with the current PLD, the importer and the authorised representative of the aforementioned manufacturers shall be strictly liable in the new PLD, given that manufacturers are located outside the EU.

Fourthly, the new PLD brought some new features when it comes to the identification of defects. Compared with the current PLD, the new PLD further clarifies that the product would be considered defective, if the harm was caused by the lack of updates which are still under the control of the provider (European Commission,

2022a, art. 10(2)). In other words, the defectiveness may be claimed along the lifecycle of a product, as long as the provider is still responsible for the necessary updates or upgrades of the product.

Last but not least, what makes the new PLD even more special lies in that the provider of an online marketplace, which allows “consumers to conclude distance contracts with traders and that is not a manufacturer, importer or distributor”, may be subject to strict product liability, if it presents the product in a way that leads an “average and reasonably well-informed” consumer to believe that the product is provided by the online platform. In this scenario, the rules provided by Article 6(3) of the Digital Service Act (DSA) will no longer be a basis to exempt online platforms from bearing the liability. In addition to the provider of online marketplace, any party who modifies a product in a way which can be considered substantial and is outside the control of the original manufacturer shall be regarded as a manufacturer and be subject to strict liability. In this sense, parties who provide repair services, as well as those who engage in circular economy, may be exposed to strict liability, provided that their repair on a specific product is substantial.

3.2. Implications for and challenges to the insurance sector

Although the new proposal for revising the PLD is considered a necessary step to adapt liability rules to the digital world and the circular economy, it may provide some difficult lessons for the insurance sector. Some legal uncertainties remain in the aftermath of the new PLD. These uncertainties can pose difficulties when insurers are estimating the scale of risks and designing liability insurance products. Several issues deserve further discussion.

To start with, the scope of product is still unclear and inconsistent. While the intention of the new PLD is to extend the scope of product to safety-relevant software, it fails to make it clear in the legal text. In this regard, it is ambiguous by reading the provisions of the new PLD whether only safety-relevant software is included or other software with fundamental rights implications will also be included. From a horizontal perspective, it is not easy for policymakers to draw a clear line to list which products will exclusively generate safety-relevant risks and which ones will exclusively generate risks to fundamental rights. Even within the scope of safety-relevant software, as many scholars also discussed, whether specific types of software (such as SaaS) are included is not clearly answered by the new PLD (European Law Institute, 2023). In this sense, it raises uncertainty when it comes to determining the scope of strict product liability. For software providers, they may also be unaware of whether they will be subject to strict liability or fault-based liability, which further influences their decision on whether or not to purchase liability insurance.

What is more, the new changes regarding “damage” can have some difficult implications for the insurance sector. For instance, the inclusion of ‘medically recognised harm to psychological health’ is not conceptually explicit. Whether there is a common ground for explaining this medical recognition is not given by the PLD. If such a criterion is decided by Member States, we can anticipate that there would be

a divergence across Member States, which may lead to the coverage of psychological damage resulted by AI different across the EU. In addition, the inclusion of medically recognised harm to psychological health may generate insurability issues at the domestic level. From an insurability perspective, what insurers actually care about is not whether a risk is medically recognised or not. Instead, it is whether such a risk is mathematically calculable or not. Furthermore, the fact that psychological harm can be long-term and implicit indicates that it would be difficult for insurers to decide the scale of risks. A recognition of such harm without providing an explicit interpretation of its criterion would lead insurers to bear more uncertainties.

Another issue accompanied by the expanding scope of damage lies in data loss or corruption that is not exclusively used for professional purposes. In this sense, considering the fact that PLD serves as a law to protect the rights and interests of consumers, only the loss and corruption of the data which is strongly related with private purposes and personal interests would be recoverable by the PLD. While the initiation of recovering such data is well appreciated, considering data has indeed been a valuable asset for individuals, it poses some extra challenges to insurers. Like what has been discussed in the previous paragraph about psychological harm, data loss or corruption is also a kind of immaterial loss which cannot be tagged with an objective price. In other words, different people may evaluate the loss of data quite differently. The weight of personal feeling as well as functional utility that a person place on similar data can be largely different and subjective. As a result, when concluding an insurance contract, it would be extremely difficult for insurers to estimate the scale of such a loss. We can estimate that such a debate may end up with a solution of capping the insurance coverage on data-related losses. This solution, however, may not fully recover the 'immaterial' loss of consumers, who may pursue other risk-shifting mechanisms.

Moreover, remember that software and AI systems can be delivered on an open-source basis, meaning that there is not a centralised manufacturer, who can be linked with a stable registered business or a representative in the EU, it would be extremely difficult for victims to claim their losses. If they are lucky, and they can identify one or several parties who contributed to the software or standalone AI systems, they may claim all the losses from these parties in a lawsuit. From an insurance perspective, these tortfeasors may further choose to sue other parties to make sure that their compensation is only proportionate to their contribution to that software or AI system. However, whether they have the chance to identify other tortfeasors would be questionable. Therefore, the existence of joint and several liability together with the so-called judgement-proof problem can further make an insurer to take more compensation responsibility, which should be shared by many others.

Also, the fact that parties engaging in services such as repairing would also bring challenges to insurers. They need to carefully design the terms for parties in the circular economy, the purpose of which is to make sure that they can understand what specific kinds of activities these parties can engage in and which may be defined by national rules as the substantial modification. Since substantial modification may further incur strict liability, insurers are willing to know precisely the scale of risks that would be shifted to them.

The altered concept of defect would also raise some challenges for the insurance sector. As defect is not only restricted to the one that has already existed before circulation, but its identification also lasts in the aftermath of circulation, the risk of a product would be decided in an incremental manner. In this regard, insurers should develop skills to factor such costs into calculations when concluding an insurance contract.

Last but not least, there is concern relating to mandatory liability insurance, which was finally not embedded in the new PLD, but raised wide discussion during the policymaking process. The EG-NTF Report proposed that mandatory liability insurance is necessary, especially when it comes to those AI systems that can pose high risks to the society (European Union, 2019, 61–62). Such a suggestion was not adopted in the new PLD, which means that the decision of purchasing liability insurance will not be mandated by tort law. Instead, it will still be a choice left to manufacturers as well as other relevant parties. From an insurance perspective, this arrangement may be more compatible with the current situation and make insurers relieved. To explain it, although the society will lose a chance to tackle the potential judgement-proof problem via mandatory liability insurance, the adverse selection and moral hazard problems will not be further worsened at the moment.

4. THE AILD AND ITS IMPLICATION FOR THE INSURANCE SECTOR

Unlike the new PLD, the reform provided by which is based on existing rules, the AILD sets up a new harmonised regime with a specific focus on the damage caused by AI systems.

It should be noted that, compared with the EP Resolution and EG-NTF Report, the AILD is very conservative. In specific, the goal of the current version of the AILD is not to harmonise the liability rules as the EP Resolution suggested. It does not provide mandate rules to require Member States to apply strict liability to certain contexts while apply fault-based rules in others. Instead, the AILD only aims to remove the burden-proof obstacles that can prevent victims of AI systems from smoothly claiming their losses.

As proposed by the AILD, the measures to lessen the proof of burden undertaken by victims are twofold. Firstly, the AILD set up rules and conditions for disclosing necessary information to (potential) claimants (European Commission, 2022b, art. 3). By doing so, these parties are expected to hold more information to decide whether to file a claim before the court or to support their claim against the tortfeasors. Secondly, the AILD provides for the rules for rebuttable presumptions of the causal link (European Commission, 2022b, art. 4). Due to the opacity of the decision-making by AI, it can be difficult for victims to establish a causal link in certain cases between damage and fault. By making the proof of causal link rebuttably presumed, victims may encounter fewer obstacles without suffering the burden of penetrating “black box”.

Therefore, according to the current version of the AILD, considering its focus on procedural matters, we expect that it would have little influence on the substance of domestic liability rules in the short run, as a result of which the insurance sector may

perceive little pressure to adapt their undertaking policy at the current stage. However, in the long run, considering the fact that Member States may establish quite different rules for AI-related harm, a divergence can be observed across the EU. For example, for the same product that is driven by the same AI-system, the liability for its users can be explained quite differently from one country to another. In that case, insurance companies may have to alter their policies in accordance with this fragmented legal landscape.

In actual, according to the policy options implied by the AILD, a staged approach is preferred in order to adapt the liability landscape to the challenges posed by AI. In specific, it consists of two stages: the first stage only comprises the measures to ease the burden of proof for victims, which is the focus of the current version of the AILD; the second would be more substantial, since it would attempt to harmonise the strict liability for the use of AI with a particular risk profile. We have no idea when this second stage will be fulfilled, since it depends not only on our understanding of the risk-profile of AI systems but also on the timeline when different Member States are ready to coordinate and agree with each other regarding the differences existing in their domestic law. If this second stage, however, is something finally on the table, stakeholders in the insurance sector shall take steps to think about issues around liability insurance.

5. FINAL REMARKS

To conclude, this article centers on two issues. First, it illustrates how the newly proposed directives, i.e. the new PLD and the AILD, will transform the current landscape of liability rules. Second, it pays a closer attention to the impact of these two directives, with a specific interest to look at how the transformed rules will raise concerns and challenges to stakeholders in the insurance sector. In brief, the AILD is expected to have little impact on the insurance sector at the current stage, since its goal in the short run is to set up necessary rules for the purpose of easing the proof of burden borne by the victim. What will have more substantial implications for insurers, however, is the new PLD. The fact that products will consist of software, that damage will further cover medically recognised psychological harm and data loss, and that defect will extend to the post sale process will tremendously extend the scope of liability as determined by the current PLD. This article argues that the outcome of such transformations can lead to legal uncertainties, serving as the obstacles for insurers when concluding liability insurance contract with developers and users of digital technologies and AI systems.

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