

Inspirations from EU financial law for privacy protection by information obligations in Active and Assisted Living technologies¹

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Abstract

This paper shows how experiences from the area of EU financial law can be used to strengthen privacy protection in Active and Assisted Living (AAL), by fulfilling information obligations. Firstly, the importance of the information obligation in the fields of law, society, and economics is explained. A reluctance to accept new technology often comes from a lack of understanding thereof. In economics, it is assumed that people make informed choices, and that the main tool for consumer protection is the provision of information (the information paradigm). That is why the law requires us to provide information, sometimes making it a condition of a transaction's validity. Two main EU legal acts vital for computer systems and assistive technology, i.e., the General Data Protection Regulation (GDPR) and the Artificial Intelligence Act (AI Act) proposed by the Commission in 2021, are analysed to identify information obligations: They specify different information obligations, including rules on informed consent, without which several systems and their functions cannot be used. The purpose of the requirement of informed consent is to provide data subjects with tools to protect their privacy, allowing them to decide how their personal data may be processed. The information obligation is similarly applied in the field of consumer protection. In this paper, I suggest verifying the development of regulations concerning consumer protection by information obligation in EU banking and investment law. After the crisis of 2008, a long legal trajectory occurred – from the detailed prospectus, through the simplified prospectus and the Key Investor Information Document (KIIDs), to the current standardised and shorter Key Information Document (KID). Changes were introduced, as a result of behavioural research into people's perceptions and understanding. That experience may be useful in assisting technologies to fulfil the legal information obligations most effectively and, therefore, strengthen data privacy protection.

§ 1. Introduction

Respect for the privacy and protection of personal data in the context of contemporary computer technologies is not only a reflection of noble ethical values upheld by scientists, but

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also the expectation of most users, and, to some extent, a legal requirement². One tool employed to protect privacy is the information obligation. It gives consumers the right to know exactly what they are agreeing to get involved in and how it can impact them, both physically and mentally, but also how their data, including personal data, is going to be processed and what are their relevant rights and obligations. Thanks to that knowledge, individuals can make more conscious, informed, and rational choices. In theory, this should promote more user-friendly, fairer, and more transparent systems, indirectly incentivising the industry to search for such solutions. At the same time, information obligation itself opens up possibilities for transparent data processing.

The provisions of law require providers of services and goods to deliver certain information, but they do not specify in what form this should be done. As a result, the information in question may be unclear and confusing, both for providers and consumers who, consequently, will not be able to use it properly. While the information obligation is often discussed in the context of IT law, data protection law, and financial law, cross-sectoral comparative studies have not been conducted yet. Therefore, it may be beneficial for the development of the computer industry, as well as IT and data protection law, to draw inspiration from another field, with bigger experience with rules concerning product information. There are several reasons to turn to the banking sector for that purpose. After the crisis of 2008, the banking system introduced various measures for consumer protection, also utilizing the information obligation. Similarly to the technological industry, financial products have been subject to various innovations, resulting in new types of products that may be unknown to investors. At the same time, both high-tech and financial systems are considered to be strategic branches of the economy, and, as such, they attract the attention of legislatures, as well as consumers. Moreover, a proper understanding of the nature and functioning of current investment products requires professional, or at least very advanced, economic knowledge. A similar level of expertise is needed to have a profound understanding of computer systems, especially the ones using AI, which is another reason to compare them with financial products.

My goal in this paper is, firstly, to highlight the importance of the information obligation and informed consent in the context of computer systems processing personal data, as well as to analyse the applicable law. Secondly, I will describe the main developments of consumer protection through information, by reference to European banking and investment law. The dogmatic method, with a reference to the relevant case law, will be employed in the first two steps. Thirdly, I will assess whether experiences from financial law may be applied to computer systems processing personal data, by using a comparative legal method and references to the most significant empirical research.

The novelty of this paper is twofold. Firstly, it compares the information obligation in two different areas of law. Comparative studies over the information obligation in banking and financial law and data protection and IT law have not been conducted and disseminated yet. Secondly, although it is widely recognised that the information obligation is a crucial element of protecting the consumer, which includes their privacy, the direct connection between the

² Article 13 of the proposed Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence and amending certain Union legislative acts.

Article 13 and 14 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119, 4.5.2016, p. 1–88.

C. Cakir, Fairness, Accountability, p. 35–37.

information obligation and privacy protection has not been analysed. This paper shows that such research has both theoretical and practical potential.

The focus of this paper is on one particular kind of technology: Active and Assisted Living (AAL) systems. Because they are closely connected to health and care, as well as sensitive personal data, these systems require a high level of technological acceptance; therefore, being properly informed about them is vital. Moreover, most investment products regulated by the European financial law are marketed to individual investors which are also the main target group of AAL solutions. The most significant difference between investment products and AAL systems is in the nature of the potential damage that consumers may suffer. While in the context of banking products, the risk consists mainly in financial loss, a malfunction of an AAL system can cause damage to the health of the user or compromise their privacy. Nevertheless, research shows that all kinds of risk are processed similarly³.

§ 2. The importance of the information obligation in society, economy, and law

The importance of the information obligation is reflected in the provisions of law, but it also stems from its crucial social and economic role. Before moving on to an analysis of the legal significance and framework of the information obligation, it is worth examining it in the context of economic theories and social life.

The information obligation is crucial for the social acceptance of technology. The lack of knowledge about how some systems work makes people less willing to use and accept them⁴. The most common reason for this is not knowing how the system works and what to expect from it. The potential risks are unknown and one cannot properly assess if the potential benefits outweigh, or at least balance out, those risks⁵. Such risks may vary from improper functioning of a system, resulting in a stressful experience for the user, through the user being physically harmed, to causing damage to the property of either the user or some third person. More and more people also perceive the ways their personal data is collected, processed, and passed on, or its possible leak, as a big risk factor⁶. As many computer systems are relatively new, people are not aware of what are their legal rights and obligations. Potential liability or limitations of their rights (i.e., the immediate termination of their contract, in the case of AAL), are considered to be a serious risk. All those fears and sources of distrust towards new technologies may effectively be remedied, or at least mitigated, by ensuring proper information.

The notion of a reasonable and well-informed consumer is one of the cornerstones of classic economics, especially its liberal theories⁷. In the paradigm of a free market, the buyer is aware of different prices and product features and they know what choices will benefit them. Such a well-informed client buys the best quality for the lowest price, can choose more eco-friendly products, or decide not to buy things with undesirable characteristics. Liberal market theories are based on the idea of a rational consumer. As this represents a rather idealised model of reality, one of the ways to support the market is to guarantee proper information to buyers (the information paradigm)⁸. After all, we cannot expect the buyers to be experts. That is why the information obligation is vital, from an economic point of view. More transparent, user-friendly

³ D.R. Holtgrave, E.U. Weber, *Dimensions of Risk*, p. 553–558.

⁴ H. Guner, C. Acarturk, *The use and acceptance*, p. 311–330.

⁵ F.D. Davis, *Perceived usefulness*, p. 319–340.

⁶ M. Ziefle, C. Rucker, A. Holzinger, *Perceived usefulness of assistive*, p. 585–592, 590.

⁷ H. Beales, R. Craswell, S. Salop, *The efficient regulation*, p. 513.

⁸ S. Grundmann, W. Kerber, S. Weatherill, *Party Autonomy*, p. 3–38.

information would allow clients to choose the providers of fairer, more accountable, and potentially more sustainable systems, regardless of their hypothetically higher prices⁹.

One of the main principles of law is that people make decisions they are responsible for. In criminal law, being insufficiently or wrongly informed about the facts or the relevant laws may render a person not guilty. Also, in civil law, it may make an action void. In consumer protection law, the provision of proper information about a product is one of the main obligations of a seller, and to be misled by false, incomplete, or improperly given information is one of the most common offences. In the field of data protection and IT law, the information obligation is crucial. The transparency provided by the information obligation is seen as one of the tools through which we can ensure fairness and protect privacy, but it is also a safeguard for fair competition. The most relevant EU acts concerning computer systems, including AAL technologies, are: Regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation GDPR), and the proposed Artificial Intelligence Act (AI Act). The rules concerning the information obligation featured in these legal acts are going to be presented herein, as they show the importance of that obligation in EU law.

§ 3. The information obligation in GDPR and the AI Act

I. GDPR

General Data Protection Regulation applies to those computer systems which process personal data. Under the Regulation personal data is any information relating to an identified or identifiable natural person (art. 4(1)). It includes their name, identification number, address, but also location data, online identifiers, and all data that, when collected together, makes it possible to identify the person it applies to. Processing is defined in GDPR as any operation or set of operations that are performed on personal data – in particular, its collection, recording, structuring, storage (art. 4(2)). Since those definitions are very broad, the scope of GDPR is wide. All assistive technologies are potentially covered by this regulation and have to follow its rules¹⁰. Data subjects (people whose data is being processed) have various rights, including the right to be informed, which entails the information obligation for data controllers (the system providers)¹¹.

The first obligation is to inform people that their personal data is being processed (Article 13 and 14 of GDPR). This obligation consists in two parts. Firstly, the data subject should be informed about:

- 1) the data controller, including their identity, contact details, and their representative;
- 2) the contact details of the data protection officer;
- 3) the purpose of data processing and its legal basis;
- 4) the recipients or the categories of recipients of the relevant personal data (Article 13(1) and 14(1)).

⁹ *N. Moloney*, How to Protect, p. 47–48.

¹⁰ *M. Söderqvist*, Privacy concerns in Ambient.

¹¹ *M. Rhahla, T. Abdellatif, R. Attia, W. Berrayana*, A GDPR Controller, p. 170–173.

If the legal basis for the processing of personal data is a legitimate interest pursued by the controller or by a third party (Article 6 (1)(f)), the controller is obliged to disclose that interest to the data subject (Article 13 (1)(d) and Article 14 (2)(b)). Moreover, if the data controller intends to transfer personal data to a third country or an international organisation, data subjects should be informed about that fact, as well as about the appropriate or suitable safeguards, and how to access them (Article 13(1)(f) and Article 14 (1)(f)).

The importance of the information obligation is evidenced in the timeframe within which it must be fulfilled. Where personal data is collected from the data subject, the information shall be given „at the time when personal data is obtained” (Article 13(1)). It is significant that the EU legislature wanted to prohibit any form of data retention that data subjects would be unaware of. Therefore, even when the provisions of law do not specify when the data subject should be informed if data is not obtained from them, but from a third party, it is more than justified to claim that it should happen immediately or without an undue delay.

In addition to the aforementioned information obligation, the data controller needs to also provide other types of information. This refers to information which is „necessary to ensure fair and transparent processing” (Article 13(2) and 14(2)). In that way, information obligation is explicitly connected with fairness and transparency. The data subject should be informed about:

- 1) the period for which the personal data will be stored or the criteria to determine that period;
- 2) the right to request access to data, rectification, or erasure, as well as restriction of the processing of personal data, and the right to object to processing;
- 3) if the processing is based on the consent of the data subject – the right to withdraw the consent;
- 4) the right to lodge a complaint with a supervisory authority;
- 5) the existence of automated decision-making, including profiling, meaningful information about the logic involved, as well as the significance and the envisaged consequences of such processing (Article 13(2) and 14(2)).

Where personal data has not been obtained from the data subject, the information obligation requires also to inform them about the source from which the data originated and whether it came from publicly accessible sources (Article 14 (2)(f)). The data subject themselves can ask anyone whether they are processing the data subject’s personal data and, if they are, the data subject must receive all the information mentioned above (Article 15 (1)). It gives data subjects the right to verify whether the information obligation was fulfilled and to check whether a given organization is using their personal data.

The information obligation towards data subjects appears also in the event of a personal data breach (Article 34 (1)). The relevant information must be provided if the breach „is likely to result in a high risk to the rights and freedoms of natural persons”. It can mean a leak of passwords or medical data, but also videos and pictures, especially vital in AAL systems. The information must be provided „without undue delay” and it must „describe in clear and plain language the nature of the personal data breach”, as well as the measures undertaken by the controller (Article 31 (2)). This norm emphasises the importance of the intelligibility of the information given and highlights that the provider of the system is not only obliged to deliver

data to the data subject¹² – they also have the duty to make the communication understandable for the user.

The importance of the intelligibility of communication is expressed in Article 12 of GDPR and in recital 60. This requirement consists in two elements. The first one concerns the form in which the information is given, which should be „concise, transparent, intelligible and easily accessible” (Article 12(1)). The second condition is linked to the language, which must be clear and plain. The appropriate provisions of law do not specify what „clear and plain” language means. Based on the last part of the first sentence of Article 12(1), which states that intelligibility is a duty „in particular, for any information addressed specifically to a child”, one may conclude, that the information provider should adapt the language of communication to the perception level of the target group. It can mean different communication with professional and with non-professional users. But also – taking into consideration local customs.

An important, if not central¹³, concept in GDPR, linked to the information obligation, is consent. Whenever consent is mentioned, it means „any freely given, specific, informed and unambiguous indication of the data subject’s wishes” (Article 4(11)). If the consent is not informed, it is void – which may have very serious consequences, as consent is one of the bases for the lawfulness of processing personal data (Article 6(1)(a)). The explicit consent to processing data for specified purposes is one of the few conditions that derogate the general prohibition to process special categories of personal data – which includes data concerning health, genetic and biometric data, and data one’s racial or ethnic origin (Article 9(1) and 9(2)(a)). All those types of data may be crucial to the effective work of AAL systems. As the burden of proof in the matter of consent lies on the data controller¹⁴, it is extended to prove that the information obligation was fulfilled. In other words, without delivering proper information to users, providers of AAL systems cannot obtain valid consent of data subjects to process their data and provide them with AAL technologies.

To conclude, the essence of the information obligation under GDPR is „that the controller is to provide the data subject with information relating to all the circumstances surrounding the data processing, in an intelligible and easily accessible form, using clear and plain language, allowing the data subject to be aware of, inter alia, the type of data to be processed, the identity of the controller, the period and procedures for that processing and the purposes of the processing”¹⁵.

II. The proposed AI Act

The Artificial Intelligence Act (AI Act) is a proposed Regulation of the European Parliament and the Council laying down harmonised rules on artificial intelligence and amending certain Union legislative acts. Proposed by the Commission on April 21, 2021, it has a chance to become law in 2023, as the usual legislative procedure in the EU takes around 2 years. The final version may differ from the shape it has now, but the proposal shows the adopted approach, and it can help to understand the role the information obligation plays in EU law.

¹² S.Y. Esayas, *Breach Notification Requirements*, p. 323.

¹³ AG Szpunar Opinion in Planet49 (C-673/17, EU:C:2019:246), point 57 et seq.

¹⁴ Wyr. TSUE z 11.11.2020 r., C 61/19, *Orange România SA v. Autoritatea Națională de Supraveghere a Prelucrării Datelor cu Caracter Personal* (ANSPDCP), ECLI:EU:C:2020:901, point 42.

¹⁵ Ibid.

The proposal defines an AI system as „a software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with” (Article 3(1)). Annex I is rather short and general, containing the following techniques and approaches:

- 1) machine learning which uses a wide variety of methods, including deep learning;
- 2) logic-and knowledge-based approaches, including knowledge representation, inductive (logic) programming, knowledge bases, inference and deductive engines, (symbolic) reasoning and expert systems;
- 3) statistical approaches, Bayesian estimation, search, and optimization methods.

The Act adopts a risk-based approach, classifying different AI systems as unacceptable, high risk, and low or minimal risk¹⁶. The first ones are prohibited and listed in Article 5(1). Prohibited are systems that, beyond a person’s consciousness, materially distort a person’s behaviour and may cause harm, discriminatory systems, any form of „social credits” given by authorities, and the real-time remote biometric identification in publicly accessible spaces for law enforcement.

Information obligation is the most important for high-risk systems. Those systems are safety components of products or products themselves, they are covered by the EU legislation listed in Annex II, and they are required to undergo a third-party conformity assessment (Article 6(1)) or they are listed in Annex III (Article 6(2)). Whether AAL systems would be considered as high-risk systems depends on if they are classified as medical devices (Annex II, section A, point 11), or will be added to Annex III, which is a proposed competence of the Commission (Article 7). There are strong arguments to consider AAL systems as medical devices, as their purpose is the diagnosis, monitoring, and alleviation of a disability (Article 2(1) of the Medical Device Regulation)¹⁷.

In order to provide fairness and transparency, Article 13 of the AI Act sets up two obligations: the obligation of transparency of the AI system, and the information obligation. The obligation of transparency requires that users must be able to interpret the system’s output and use it appropriately (Article 13(1)). The information obligation is similar to the relevant obligations in GDPR. All high-risk AI systems must be accompanied with instructions for use, and include:

- 1) the identity and contact details of the provider and an authorised representative (if applicable);
- 2) the characteristics, capabilities, and limitations of the system’s performance, including:
 - a) its purpose,
 - b) the level of accuracy and cybersecurity, against which the system has been tested,
 - c) known or foreseeable situations in which the system may lead to the risks to the health or fundamental rights,

¹⁶ European Commission, Explanatory Memorandum, No 5.2.2.

¹⁷ Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (Dz.Urz. UE L z 2017 r. Nr 117, s. 1).

A. Ake-Kob et al., State of the art, p. 24–25.

- d) system's performance, as regards the persons on which the system is intended to be used,
- e) specifications for the input data and data used for training and testing;
- 3) the changes to the high-risk AI system and its performance which have been pre-determined by the provider at the moment of the initial conformity assessment, if any;
- 4) human oversight measures;
- 5) the expected lifetime of the system and the necessary maintenance and care measures (Article 13(3)).

The information has to be given in a concise, complete, correct, and clear way that is accessible and comprehensible to users (Article 13(2)).

Another aspect of the information obligation is the requirement to inform users that they are dealing with an AI system (Article 52). That requirement exists when the AI system is intended to interact with a natural person, recognise emotions, use biometric categorisation, or generate or manipulate an image, sound, or video, creating a so-called deep-fake. The user has to be informed that they are being exposed to such a system. The content of the relevant information is not specified; however, it is reasonable to extend the requirement of clarity and intelligibility on the provider.

The conformity of the AI system with the EU rules shall be communicated through the CE marking (Article 49). For high-risk systems, the CE marking „shall be affixed visibly, legibly, and indelibly” (Article 49(1)), to ensure that consumers are aware that they are going to use a system that is riskier, but also complies with EU law.

§ 4. The information obligation in EU financial regulations

The information obligation is an important element of consumer protection in European banking and investment law. It comes from the aforementioned assumption in economics that people tend to make rational decisions, for which they need information, especially about potential risks. The informational imbalance which exists between non-professional investors and financial institutions that have access to data and hire analytics may be solved or mitigated through the information obligation. For that reason, after the financial crisis of 2008, a significant development occurred also in terms of that component of consumer protection. In this part of the article, the short history of EU's response to the crisis will be presented, followed by an analysis of how the information obligation has been developed in subsequently required documents.

I. Historical background

The current banking and financial law of the EU arised from the reforms proposed in the de Larosi re Report prepared to explain the financial crisis of that time¹⁸. Some of the main sources of the crisis identified in the report were: the lack of supervision, inefficient information flow between competent authorities, and the lack of cross-sectoral measures. To solve those problems, the reforms focused on:

- 1) coordination between national and EU authorities, and

¹⁸ *J. de Larosi re* and others, Report by the High.

- 2) coordination between micro and macro-prudential supervision,
- 3) inter-sectoral coordination¹⁹.

An important shift also occurred in the protection of users of financial products. Supervision and (prior) authorisation of financial products, best execution rules, rules on conflict of interests, and reporting obligations were supplemented with additional information and advice duties, as well as mandatory warnings²⁰. This led to the change in semantics – from the notion of an „investor” to the concept of a „consumer of financial products”, which implies that the investor, especially an individual and non-professional one, is a consumer²¹. This creates a protection duty for the European Union, as consumer protection is one of EU’s competencies and political missions and it is a crucial subject-matter of the approximation of laws within the Common Market²². The mechanism of protection through the information obligation works differently in regard to different financial products, since, for a long-time, financial regulations were typically sector-specific or even product-specific²³. However, the Regulation on key information documents for Packaged Retail and Insurance-based Investment Products (the PRIIPs Regulation)²⁴, adopted in 2014, is the first EU regulation taking a cross-sectoral approach. As indicated in the title, the information obligation is the key concern of the Regulation. To understand its importance, the analysis of the information obligation under the PRIIPs Regulation will come together with its equivalents, mandatory for financial products under other EU acts.

II. The prospectus

The prospectus, published when securities are offered to the public, is one of the most traditional documents containing information for investors. The first EU act regulating this matter was the Prospectus Directive of 1989²⁵. The newest legal act regulating the issuing of a prospectus is the Prospectus Regulation of 2017²⁶, the latest amendments to which were introduced in April 2021²⁷. The Regulation „lays down requirement for the drawing up, approval and distribution of the prospectus to be published when securities are offered to the public or

¹⁹ W.-G. Ringe, L. Morais, D. Ramos, *A Holistic Approach*, p. 408.

²⁰ M.-D. Weinberger, *Scope of Protection*, p. 292.

²¹ P.-H. Conac, *La nouvelle réglementation*, p. 506.

²² Articles 4, 12, 114 and 169 TFEU.

²³ C. Veerle, *Product Information for Banking*, p. 303.

²⁴ Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs), OJ L 352, p. 1.

²⁵ Council Directive 89/298/EEC of 17 April 1989 coordinating the requirements for the drawing-up, scrutiny and distribution of the prospectus to be published when transferable securities are offered to the public, OJ L 124, 05/05/1989, 0008 – 0015.

²⁶ Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/EC, OJ L 168, 30.6.2017, p. 12–82.

²⁷ Commission Delegated Regulation (EU) 2021/528 of 16 December 2020 supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council as regards the minimum information content of the document to be published for a prospectus exemption in connection with a takeover by means of an exchange offer, a merger or a division, OJ L 106, 26.3.2021, p. 32–46.

admitted to trading on a regulated market” (Article 1(1)), but only for transferable securities (Article 2(a)), such as shares in companies or bonds or other forms of securitised debt²⁸.

The main aim of the prospectus is to provide a potential investor with „necessary information” to make „an informed assessment” (Article 6(1)) and, in conclusion, an informed decision about acquiring securities. The provided information shall sufficiently inform the investor about:

- 1) the assets and liabilities, profits and losses, financial position, and prospects of the issuer and of any guarantor;
- 2) the rights attaching to the securities;
- 3) the reasons for the issuance and its impact on the issuer (Article 6(1)).

The final format of the prospectus and the schedules defining the specific information to be included in the prospectus were left for the Commission to regulate in the delegated act (Article 13(1)). The Commission decided that the prospectus has to have four parts:

- 1) a table of contents;
- 2) a summary;
- 3) the risk factors;
- 4) other information, referred to in the Annexes²⁹.

There are 29 Annexes, covering a wide range of different information. Annex 1 specifies what information shall be included in the prospectus. An interesting part of the prospectus is its summary, which shall provide „the key information that investors need, in order to understand the nature and the risk of the issuer, the guarantor, and the securities” (Article 7 (1) Prospectus Regulation). Its maximum length is seven pages of A4-sized paper when printed, it must be presented and laid out in a way that is easy to read, and it must be written in a language and a style that facilitates the understanding of the relevant information (Article 7(3)).

The prospectus may not be as useful for consumer protection as the legislature had planned. The main reason for that is the fact that the prospectus contains too much information³⁰. The information overload, i.e., providing more information than the consumer expects and can read, results in rational ignorance – the individual decides that the costs of reading the document are higher than the potential benefits³¹. Moreover, the differences in structure and content of the prospectuses of different products render said prospectuses unhelpful in comparing offers³².

III. The simplified prospectus

In response to the limited usefulness of the prospectus in informing consumers, the simplified prospectus was introduced by the Directive on undertakings for collective investment

²⁸ „Transferable securities” are defined in point 44 of Article 4(1) of Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast), OJ L 173, 12.6.2014, p. 349–496.

²⁹ Commission Delegated Regulation (EU) 2019/980 of 14 March 2019 supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council as regards the format, content, scrutiny and approval of the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Commission Regulation (EC) No 809/2004. OJ L 166 21.6.2019, p. 26.

³⁰ R. Deaves, C. Dine, W. Horton, Research Study., p. 306.

³¹ T. Paredes, Blinded by the light, p. 417.

³² V. Colaert, Product Information for Banking, p. 304.

in transferable securities (the UCITS III Directive)³³. The simplified prospectus was to be published together with the full prospectus, an annual report for each financial year, and a half-yearly report covering the first six months of the financial year (Article 27(1)). It was pre-contractual information that had to be offered free of charge (Article 33(1)). The simplified prospectus was supposed to contain „in summary form, the key information” (Article 28(3)) necessary to make an informed judgement of the proposed investment, and, in particular, of the risks attached thereto (Article 28(1)). That information included:

- 1) a brief presentation of the UCITS – including the place of registration/incorporation on the undertaking, the management company, and the expected period of existence;
- 2) investment information – a short definition of the UCITS’ objectives, an investment policy, and a brief assessment of the fund's risk profile, the historical performance, and a profile of the typical investor;
- 3) economic information – tax regime, commissions, and other possible fees;
- 4) commercial information – how to buy and sell units, dividends;
- 5) additional information – how the full prospectus and the annual and half-yearly reports may be obtained free of charge, the competent authority, and an indication of the contact point³⁴.

The main idea behind the simplified prospectus was to facilitate the transfer of information, by providing a shorter and simpler document to potential investors. However, the simplified prospectus has been criticised because it was often too lengthy³⁵ and hardly comparable, due to its different format³⁶.

IV. The Key Investment Information Document – KIID

The simplified prospectus was replaced with the Key Investor Information Document (KIID) by the UCITS IV³⁷. That document aims to inform investors about the essential characteristics of the UCITS concerned, so that they can understand the nature and the risks of the investment product that is being offered to them and, consequently, make investment decisions on an informed basis (Article 78(2)). The KIID should contain the following elements:

- 1) identification of the UCITS and of the competent authority of the UCITS;
- 2) a short description of its investment objectives and investment policy;
- 3) past-performance presentation or, where relevant, performance scenarios;
- 4) the costs and associated charges; and

³³ Directive 2001/107/EC of the European Parliament and of the Council of 21 January 2002 amending Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) with a view to regulating management companies and simplified prospectuses, OJ L 41, 13.2.2002, p. 20–34.

³⁴ Annex I, Schedule C to the UCITS III Directive.

³⁵ European Commission, Impact assessment of the legislative proposal amending the UCITS Directive (SEC(2008) 2263) p. 12.

³⁶ K. Anderberg, J. Brescia, UCITS IV: reforms, p. 102.

³⁷ Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS), OJ L 302, 17.11.2009, p. 32–96.

- 5) the risk/reward profile of the investment, including appropriate guidance and warnings in relation to the risks associated with investments in the relevant UCITS (Article 78(3)).

The KIID should be drawn up in the form of a single document (Article 78(6)) „written in a concise manner and in non-technical language”, in a common format allowing for comparison (Article 78(5)). For that purpose, the Commission was obliged to adopt a delegated act defining the detailed and exhaustive content and the specific details of the format and presentation of KIIDs (Article 78(7)). In such a delegated act (the Commission Regulation)³⁸, besides the specification of the content (Article 4, articles 7–21), the presentation, language, and length of the KIID are regulated. The font and size of characters should make the document easy to read (Article 5(1)(a)). The language should be „clear, succinct and comprehensible”, as well as free of technical terms and jargon (Article 5(1)(b)). The KIID should consist of no more than two pages of A4-sized paper when printed (Article 6) and must be titled „Key investor information” (Article 4(2)). A “synthetic risk and reward indicator”, that expresses the riskiness of the fund, is given to the KIID on a numeric scale from 1 to 7, and it is supplemented with a narrative explanation (Article 8–9 and Annex I).

The introduction of the KIID aims to overcome the problem of information overload by implementing the concept of a short document with a particular structure. It allows consumers to compare different products offered to them and make more informed decisions. However, the scope of the UCITS IV is limited and does not cover other types of investment products. As a result, consumers may encounter obstacles, if they want to compare products different in terms of their legal nature, but the same in terms of their economic objective³⁹.

V. The Key Information Document – KID

The Key Information Document (KID), introduced by the Regulation on key information documents for Packaged Retail and Insurance-based Investment Products (the PRIIPs Regulation)⁴⁰, marked a clear change in the approach to financial regulation. It was the first EU regulation taking a cross-sectoral approach, as its scope is not defined in terms of the sector to which a given product belongs. The Regulation targets all „packaged”, complex products which can be sold to a retail public and which have the same economic purpose (investment) – such as structured deposits, structured securities, investment funds, and insurance-based investment products. For them, a standardised pre-contractual document, KID, is introduced (Article 5 and 6 (1)).

The form and content of the KID are determined by the Regulation. It should be drawn up as a short document of a maximum of three pages of A4-sized paper when printed and written in a way that promotes comparability (Article 6 (4)). The KID should „be clearly expressed and written in a language and a style that communicates in a way that facilitates the understanding

³⁸ Commission Regulation (EU) No 583/2010 of 1 July 2010 implementing Directive 2009/65/EC of the European Parliament and of the Council as regards key investor information and conditions to be met when providing key investor information or the prospectus in a durable medium other than paper or by means of a website, OJ L 176, 10.7.2010, p. 1–15.

³⁹ V. Colaert, *Building Blocks of Investor Protection*, p. 229–233.

⁴⁰ Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs), OJ L 352, 9.12.2014, p. 1–23.

of the information” (Article 6 (4I)), as well as focus on the key information that retail investors need (Article 6 (4)(b)). It must be visibly titled „Key Information Document” (Article 8 (1)).

The KID shall contain the following information:

- 1) the name of the product, the identity and contact details of the provider, and information about the competent authority;
- 2) if applicable, an alert: „You are about to purchase a product that is not simple and may be difficult to understand”;
- 3) the nature and main features of the products;
- 4) a brief description of the risk-reward profile, with a summary risk indicator, supplemented by a narrative explanation and the possible maximum loss of invested capital;
- 5) a brief description of what happens if the provider is unable to pay out;
- 6) costs and their character;
- 7) the possibility to take money out early (Article 8 (3)).

The main aim of such a form and content is to improve the quality of investor information⁴¹, and, therefore, improve the comparability of financial products⁴². The EU legislature considers understanding packaged products to be the most challenging because of their layered structure⁴³. For that reason, it was necessary to introduce a clear, understandable, and comparable form for the informational document. The second goal, mentioned in the Recital 6 to the PRIIPs Regulation, was to cover multiple types of products with similar features, regardless of their form or construction⁴⁴. That horizontal approach is an innovation in EU law, as financial regulations are usually sectoral⁴⁵. In terms of its scope, the regulation shifts focus from nature to the function or features.

The content and form of the KID have been inspired by the research over KIID⁴⁶, and an elaborate consumer testing study⁴⁷. They showed consumers’ preference towards short documents with clearly divided sections that include narrative explanations and examples of potential benefits and losses. A standardised layout, the presentation of information, and visual indicators facilitate the absorption of information⁴⁸.

The KID is on its way to becoming the dominant type of information document in financial services in Europe. Since the January 1, 2022, it replaced the KIID for the products

⁴¹ European Commission, Explanatory Memorandum to the Proposal COM(2012), 2012, no. 8–9. Joint Committee of the European Supervisory Authorities, Final draft regulatory technical standards, JC/2016/21, p. 6.

⁴² See: Recitals 1, 6 and 17 to the PRIIPs Regulation; Joint Committee of the European Supervisory Authorities, Final draft regulatory technical standards, p. 6. Consumer Markets Scoreboard SEC(2010)1257 of the European Commission, Making Markets Work for Consumers, Brussels 2010.

⁴³ V. Colaert, *Product Information for Banking*, p. 306.

⁴⁴ Recital 6 to the PRIIPs Regulation.

⁴⁵ V. Colaert, *European Banking, Securities and Insurance Law*, p. 1583.

⁴⁶ IFF Research and YouGov, *UCITS Disclosure Testing – Research Report*, 2009.

⁴⁷ London Economics, Ipsos, *Consumer testing study of the possible new format and content for retail disclosures of packaged retail and insurance-based investment products – Final Report. MARKT/2014/060/G for the implementation of the Framework Contract no EAHC-2011-CP-01*, London 2015, https://ec.europa.eu/info/sites/default/files/consumer-testing-study-2015_en.pdf.

⁴⁸ A. Lusardi *et al*, *Visual Tools and Narratives*, p. 301.

covered by the UCITS⁴⁹. The PRIIPs Regulation will cover four families of products: investment funds, life insurance policies with an investment element, structured products, and structured deposits (Recital 6 of the PRIIPs Regulation). „Simple” products will still remain outside of its scope, which may be seen as a missed opportunity⁵⁰.

It is hardly possible to evaluate the effectiveness of the KID. The introduction of that document was preceded by behavioural research and a consumer testing study. However, the pandemic of Covid-19 and the transition period for the UCITS’s products, which lasted till the end of 2021, made it impossible to fully assess the results of this innovative, horizontal approach. Nevertheless, the KID is the newest attempt in EU financial law to regulate the information obligation – to protect consumers and guarantee fairness and transparency.

VI. National initiatives for non-textual information

It is worth mentioning that several countries attempted to introduce the information obligation in a non-textual form. In 2007, the Dutch legislature introduced a „financial leaflet” („financiële bijsluiter”) for complex financial products, with a risk label indicating the riskiness of the product in a visual manner⁵¹. The label was depicting a man carrying a box with a scale showing whether the risk is very low, medium, or very high. The man was bent over, proportionally to the risk.

Figure 1: The Dutch risk label. Source: <https://www.banken.nl/nieuws/21136/overheid-verwacht-teveel-van-financiele-bijsluiters>



In Belgium, a risk label inspired by the European energy label was intended to be introduced by a Royal Decree of April 25, 2014⁵².

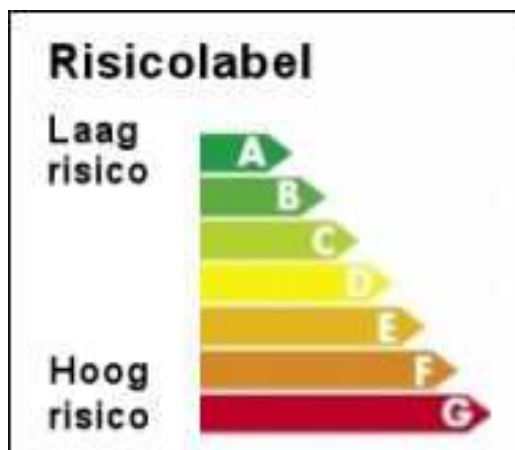
⁴⁹ Art. 32 (1) PRIIPs Regulation, amended by the art. 17 (1) Regulation (EU) 2019/1156 of the European Parliament and of the Council of 20 June 2019 on facilitating cross-border distribution of collective investment undertakings and amending Regulations (EU) No 345/2013, (EU) No 346/2013 and (EU) No 1286/2014, OJ L 188, 12.7.2019, p. 55–66. The initial term of 31st December 2019 was extended in order „to evaluate the use of the PRIIPs KID, before requiring the UCITS Directive industry to change to a new type of information documents”, as Colaert wrote. See: V. Colaert, *Product Information for Banking*, p. 307.

⁵⁰ V. Colaert, *European Banking, Securities and Insurance Law*, p. 1599.

⁵¹ Art. 65 and following of the Decree of 12 October 2006 concerning rules on conduct of business supervision for financial institutions (Besluit Gedragstoezicht financiële ondernemingen Wft).

⁵² Royal Decree of 25 April 2014 approving the FSMA Regulation concerning the technical requirements of the risk label, Belgian Official Gazette 12 June 2014, 44567.

Figure 2: The Belgian risk label. Source: <https://www.verhybel.be/risicolabel-11891/>



Both labels were replaced by KIDs, after the PRIIPS Regulation was adopted. The Belgian one was never used, as the entry into force of the Royal Decree introducing it was postponed *sine die*⁵³. It is an interesting example of a very different approach to the information obligation, going more into the direction of simplification and intelligibility. The introduction of labels did not mean that consumers were denied the necessary information, as labels were delivered alongside more comprehensive information documents.

§ 5. Application of experiences from financial regulations to information obligation for AAL

I. Inspirations from financial law

The continuously evolving regulations concerning the information obligation in the financial sector may be a source of inspiration for regulating similar matters in the area of computer systems, including AAL. The experience of consumer protection by provision of information in the financial sector is longer than that in the area of data privacy, and more statistical data is available for scholars and legislators to analyse. What is more, various forms of information provision have been tested and the information paradigm has been critically approached. The analysis provided in this paper shows at least six inspirations from financial law that may be useful in regulating technologies.

- 1) The focus on understanding information has become more and more crucial in the approach adopted by the EU legislature. While the information paradigm still seems to be one of the central concepts, information overload and rational ignorance are taken into account, which leads to establishing the understandability principle. The first component of it is the preference toward short information which gives the consumer a basic understanding of the product they are going to buy⁵⁴. The second element is the language

⁵³ Royal Decree of 2 June 2015, Belgian Official Gazette of 10 June 2015.

⁵⁴ European Commission, Initial orientations of possible adjustments;

of communication, which should avoid technical terms and jargon, use examples, and deploy a narrative style⁵⁵. Therefore, the purpose of the information obligation is not only to deliver information, but also to deliver it in a way that the average person to whom the product is offered may understand it.

- 2) The UCITS IV and the PRIIPs Regulation, as well as the delegated acts based on them, define not only the content of the information document, but also its form. A standardised and easily readable layout serves two purposes. Firstly, the format should facilitate the readability of the document, so that the consumer is not lost after a few lines – which, according to research, was often the case with the prospectus⁵⁶. Secondly, similarly structured information about various products allows consumers to compare them, especially in terms of potential risks and benefits, and choose the most suitable one for them. That is vital also for AAL systems which may have different intrusiveness into privacy, process personal data differently, and vary in the risk for the security of personal data.
- 3) Thanks to the horizontal approach adopted in the PRIIPs, the information obligation for products with similar economic features is regulated in one way, despite the different legal nature of products. Consumers are able to compare various products better when they are described in a similar way. The horizontal approach focuses on the function, not the nature, and adopts the perspective of the client who is searching for the product to answer their needs. GDPR and the AI Act are constructed similarly – they cover different products or situations connected by a feature distinguished by the legislature. Such products or situations are very often perceived by users or data subjects as similar. However, the information obligation is different for AI systems of different risk levels, which may make it harder for the consumer to compare various products and their impact on privacy. Harmonised rules for the content and form of the information document could allow potential users of AAL systems to make a more considered and informed decision.
- 4) The PRIIPs' KID was constructed based on behavioural research and consumer testing. Thanks to that, the format with the highest effectiveness was chosen. Sociological research concerning people's experience with the information obligation in data protection, AI, and computer technologies in general, as well as their expectations and preferences in that area, should be studied more carefully. Proposing more effective rules is a task for both legal scholars and legislators, but also for the industry, as very often – within the current legal framework – it is possible to adjust the form of communicating with consumers.
- 5) Graphic or numeral labels, providing the most general information, seem to be a wrongly abandoned idea. They supply very simplified information about just one feature of the product (i.e., risk) – but for consumers, it is the form easiest to understand⁵⁷. Moreover, they almost always „read” graphic or numeric labels, while many parts of text are skipped⁵⁸. Because of their features, labels cannot be sufficient to fulfil the information obligation, but they may be a crucial part of it. Supplemented with additional information, they may allow consumers to make the very first selection and reject products above some

European Commission, Exposure Draft, Initial orientations for discussion.

⁵⁵ V. Colaert, *The Regulation of PRIIPs*, p. 217.

⁵⁶ OECD, *Improving Financial Literacy*.

L. Klapper, A. Lusardi, P. van Oudheusden, *Financial Literacy Around the World*.

⁵⁷ London School of Economics and Ipsos, p. 110.

⁵⁸ *Ibid.*, p. 111–113.

risk level or, in the context of AAL systems, some level of personal data retention or transferring personal data to external servers. That, by design, makes labels and graphic signs perfect tools for ensuring privacy.

- 6) One of the most significant problems linked to the aforementioned simplified forms and focus on understanding is the dichotomy between understandability and accuracy. Simplification and avoidance of technical terms can make a document more understandable for an average consumer, but it also results in lacking some information and using a somewhat metaphorical language⁵⁹. It may lead to a situation where consumers understand the provided information, but, because of the lack of its accuracy, their understanding of the product (or processing of personal data, or the nature of the leak thereof) is missing. It raises not only a question of whether the informational obligation was fulfilled, but also the issue of liability⁶⁰. That problem should be an object of further, interdisciplinary research.

The implementation of presented inspiration should not need new legislation. Most of them may be applied by the providers of AAL systems (or AI systems and computer systems in general), as the provisions of law applicable to them do not require any special format for the information obligation. They are also always allowed to provide additional, more simplified documents, or even labels, alongside the documents required by law. Recital 60 to GDPR explicitly states that the information required by law „may be provided in combination with standardised icons, in order to give in an easily visible, intelligible and clearly legible manner, a meaningful overview”. However, it creates extra burdens and costs⁶¹ that cannot be overlooked. Therefore, when revising GDPR, as well as during the legislative procedure concerning the AI Act, the EU legislature should consider introducing simplified information, possibly in a graphic or numeric form.

II. Perspectives of further research

To formulate more precise conclusions *de lege ferenda*, further research is required. Such further studies should take into account the outcomes of behavioural, psychological, cognitive, and sociological research. They ought to be supplemented with the work of computer scientists, to identify technologically possible and optimal solutions. Such interdisciplinary research would allow proposing legal regulations concerning information obligations, that are efficient and effective. Moreover, no research has been conducted in terms of the measures already introduced by the providers of AAL systems (and AI systems in general) to standardise the form and content of information. Without a doubt, the experience and effort of the industry should be taken into account when drafting legal solutions.

Further comparative studies on consumer/user protection through the information obligation in various sectors may be beneficial. AAL systems could be considered to be medical devices – therefore, the comparison between the information obligation and medical law could be especially justified. Another argument for that is the fact that, in both areas, sensitive data (related to the health condition of an individual) is being processed. Also, the concern about the privacy of one’s health-related information may be in the centre of individual’s interests. Medical law has a well-established tradition of determining liability for negligence, both in terms of the

⁵⁹ Ibid., p. 49.

⁶⁰ T. Van Dyck, *De geharmoniseerde*, p. 78. V. Colaert, *Building Blocks of Investor Protection*, p. 231.

⁶¹ L. Enriques, S. Gilotta, *Disclosure and Financial Market Regulation*, p. 539.

information obligation and privacy protection, which may be useful for IT and data protection law. In that regard, also contract law is an important point of reference. What may be analysed is the impact of the relevant information on the validity of the contract, but also on the liability for potential damages, including *culpa in contrahendo*.

A less obvious and more theoretical comparison may concern human rights. Freedom of expression, guaranteed by Article 10(1) of the European Convention on Human Rights⁶² and Article 11(1) of the Charter of the Fundamental Rights of the EU⁶³, includes the right „to receive and impart information”. The understanding of that right in the context of marketed AI systems and AI in general, its scope, and the margin of appreciation that Member States of the Convention or the EU have for it, may have serious practical consequences in the future.

Complex interdisciplinary studies will be needed to propose labels or graphic communication for AAL systems. Potential risks are very diverse. The specific risks for data privacy depend on what data is being gathered and how and where it is being stored and processed. Other risks may be linked to healthcare and liability. The nature of all those risks is very different than the nature of risks concerning financial products. In the case of investment, the main risk financial loss. For AAL systems, the main risks concern a person’s physical, mental, and informational integrity. Some damages may be hardly compensable. Therefore, it is a challenge to design a comprehensive, yet understandable scale.

§ 6. Conclusions

The information obligation is considered to be significant for providing proper protection of individuals, both in computer systems and in financial products. This opinion is linked to the information paradigm, supported by behavioural and statistical research. In financial regulations, the content and the form of the information document are regulated, to ensure provision of information in an understandable form, which allows for comparison of products with similar features. It results in simplification of information, but shorter documents (the KID) come alongside longer and more detailed ones (the prospectus). Numerical indicators of some features, such as risk, are applied to provide key information in the most intelligible and clear way.

Those experiences from the area of investment products may be applied to computer and AI systems, including AAL technologies. Focusing on the informative effectiveness does not require changes in the provisions of law, but it is possible under the current legal regime. It is the responsibility of the industry to determine how to issue effective communications to their consumers and, in that way, fulfil their informational obligation. The EU legislature should consider introducing rules concerning the form in which information is presented, that has to be delivered to the data subject under GDPR and to the user of the AI system under the proposed AI Act. Further research is needed to establish whether such an intervention is needed, and to determine how to shape the rules in question. It would make the perception of information easier, and, therefore, support privacy protection. The past experiences of EU financial law history and the results of research in social sciences may be a valuable source of inspiration for those endeavours.

⁶² Council of Europe, European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14, 4 November 1950.

⁶³ Charter of Fundamental Rights of the European Union, OJ C 326, 26.10.2012, p. 391–407.

REFERENCES

Legal acts

1. Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence and amending certain Union legislative acts. COM/2021/206 final.
2. Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). OJ L 119, 4.5.2016, 1–88.
3. Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC. OJ L 117, 5.5.2017, 1–175.
4. Consolidated version of the Treaty on the Functioning of the European Union. OJ C 326, 26.10.2012, 47–390.
5. Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs). OJ L 352, 9.12.2014, p. 1–23.
6. Council Directive 89/298/EEC of 17 April 1989 coordinating the requirements for the drawing-up, scrutiny and distribution of the prospectus to be published when transferable securities are offered to the public. OJ L 124, 05/05/1989, 0008 – 0015.
7. Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017 on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Directive 2003/71/EC. OJ L 168, 30.6.2017, 12–82.
8. Commission Delegated Regulation (EU) 2021/528 of 16 December 2020 supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council as regards the minimum information content of the document to be published for a prospectus exemption in connection with a takeover by means of an exchange offer, a merger or a division. OJ L 106, 26.3.2021, 32–46.
9. Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast). OJ L 173, 12.6.2014, 349–496.
10. Commission Delegated Regulation (EU) 2019/980 of 14 March 2019 supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council as regards the format, content, scrutiny and approval of the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market, and repealing Commission Regulation (EC) No 809/2004. OJ L 166 21.6.2019, 26.
11. Directive 2001/107/EC of the European Parliament and of the Council of 21 January 2002 amending Council Directive 85/611/EEC on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) with a view to regulating management companies and simplified prospectuses. OJ L 41, 13.2.2002, 20–34.
12. Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS). OJ L 302, 17.11.2009, 32–96.
13. Commission Regulation (EU) No 583/2010 of 1 July 2010 implementing Directive 2009/65/EC of the European Parliament and of the Council as regards key investor information and conditions to be met when providing key investor information or the prospectus in a durable medium other than paper or by means of a website. OJ L 176, 10.7.2010, 1–15.
14. Regulation (EU) No 1286/2014 of the European Parliament and of the Council of 26 November 2014 on key information documents for packaged retail and insurance-based investment products (PRIIPs). OJ L 352, 9.12.2014, 1–23.
15. Regulation (EU) 2019/1156 of the European Parliament and of the Council of 20 June 2019 on facilitating cross-border distribution of collective investment undertakings and amending Regulations (EU) No 345/2013, (EU) No 346/2013 and (EU) No 1286/2014. OJ L 188, 12.7.2019, 55–66.
16. Decree of 12 October 2006 concerning rules on conduct of business supervision for financial institutions (Besluit Gedragstoezicht financiële ondernemingen Wft). Bulletin of Acts, Orders and Decrees of the Kingdom of the Netherlands, 2006, 506.
17. Royal Decree of 25 April 2014 approving the FSMA Regulation concerning the technical requirements of the risk label. Belgian Official Gazette 12 June 2014, 44567.

18. Royal Decree of 2 June 2015 amending a Royal Decree of 25 April 2014 approving the FSMA Regulation concerning the technical requirements of the risk label. Belgian Official Gazette of 10 June 2015, 33925.
19. Council of Europe, European Convention for the Protection of Human Rights and Fundamental Freedoms, as amended by Protocols Nos. 11 and 14, 4 November 1950, ETS 5. Retrieved January 10, 2022 from <https://www.refworld.org/docid/3ae6b3b04.html>.
20. Charter of Fundamental Rights of the European Union. OJ C 326, 26.10.2012, 391–407.

Case law

1. Orange România SA v Autoritatea Națională de Supraveghere a Prelucrării Datelor cu Caracter Personal (ANSPDCP). C-61/19, ECLI:EU:C:2020:901.

Documents and reports

1. European Commission. Explanatory Memorandum for the Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence and amending certain Union legislative acts. COM/2021/206 final.
2. J de Larosière and others, Report by the High Level Group on financial supervision in the EU, Brussels 2009, http://ec.europa.eu/info/system/files/de_larosiere_report_en.pdf.
3. European Commission. 2008. Impact assessment of the legislative proposal amending the UCITS Directive. SEC(2008) 2264.
4. European Commission, Explanatory Memorandum to the Proposal COM(2012).
5. Joint Committee of the European Supervisory Authorities. 2016. Final draft regulatory technical standards. JC/2016/21.
6. Consumer Markets Scoreboard SEC(2010)1257 of the European Commission. 2010. Making Markets Work for Consumers.
7. IFF Research and YouGov. 2009. UCITS Disclosure Testing - Research Report.
8. London Economics, and Ipsos. 2015. Consumer testing study of the possible new format and content for retail disclosures of packaged retail and insurance-based investment products – Final Report. MARKT/2014/060/G for the implementation of the Framework Contract no EAHC-2011-CP-01. Retrieved January 10, 2022 from https://ec.europa.eu/info/sites/default/files/consumer-testing-study-2015_en.pdf.
9. European Commission. 2007. Initial orientations of possible adjustments to UCITS Directive (85/611/EEC) – Overview of key features. http://ec.europa.eu/finance/investment/docs/ucits-directive/overviewexposure_en.pdf.
10. European Commission. 2007. Exposure Draft, Initial orientations for discussion on possible adjustments to the UCITS Directive - 5. Simplified prospectus – Investor Disclosure Regime http://ec.europa.eu/finance/investment/docs/ucits-directive/prospectusexposure_en.pdf.
11. OECD. 2005. Improving Financial Literacy: Analysis of Issues and Policies.
12. L. Klapper, A. Lusardi A., P. van Oudheusden, Financial Literacy Around the World: Insights from the Standard & Poor's Ratings Services Global Financial Literacy Survey, 2015, https://gflec.org/wp-content/uploads/2015/11/3313-Finlit_Report_FINAL-5.11.16.pdf?x73794.

Literature

1. C. Cakir, Fairness, Accountability and Transparency – Trust in AI and Machine Learning [in:] The LegalTech Book, eds S.A. Bhatti, S. Chishti, A. Datto, D. Indjic, New Delhi 2020, <https://doi.org/10.1002/9781119708063.ch9>.
2. D.R. Holtgrave, E.U. Weber, Dimensions of Risk Perception for Financial and Health Risks, Risk Analysis 1993, vol. 13, <https://doi.org/10.1111/j.1539-6924.1993.tb00014.x>.
3. H. Guner, C. Acarturk, The use and acceptance of ICT by senior citizens: a comparison of technology acceptance model (TAM) for elderly and young adults, Univ Access Inf Soc 2020, vol. 19.
4. F.D. Davis, Perceived usefulness, perceived ease of use and user acceptance of information technology, MIS Quarterly 1989, vol. 13(3).
5. M. Ziefle, C. Rucker, A. Holzinger, Perceived usefulness of assistive technologies and electronic services for ambient assisted living, [in:] 2011 5th International Conference on Pervasive Computing Technologies

- for Healthcare (PervasiveHealth) and Workshops, 2011, <https://ieeexplore.ieee.org/xpl/conhome/6030000/proceeding>.
6. H. Beales, R. Craswell, S. Salop, The efficient regulation of consumer information, *Journal of Law and Economics* 1981.
 7. S. Grundmann, W. Kerber, S. Weatherill, Party Autonomy and the Role of Information in the Internal Market – an Overview, [in:] *Party Autonomy and the Role of Information in the Internal Market*, eds S. Grundmann, W. Kerber, S. Weatherill, Berlin, Boston 2012, p. 3-38.
 8. N. Moloney, *How to Protect Investors. Lessons from the EC and the UK*, Cambridge 2010.
 9. M. Söderqvist, *Privacy concerns in Ambient Assisted Living systems for home environments*, Stockholm 2019, <http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-252700>.
 10. M. Rhahla, T. Abdellatif, R. Attia, W. Berrayana, A GDPR Controller for IoT Systems: Application to e-Health, [in:] *2019 IEEE 28th International Conference on Enabling Technologies: Infrastructure for Collaborative Enterprises (WETICE)*, Naples 2019.
 11. S.Y. Esayas, Breach Notification Requirements Under the European Union Legal Framework: Convergence, Conflicts, and Complexity in Compliance, *The John Marshall Journal of Information Technology & Privacy Law* 2014, vol. 31 (3), p. 323.
 12. M. Szpunar, AG Szpunar Opinion in Planet49. C-673/17, EU:C:2019:246.
 13. A. Ake-Kob et al., *State of the art on ethical, legal, and social issues linked to audio- and video-based AAL solutions*, Brussels 2021.
 14. W-G. Ringe, L. Morais, D. Ramos, A Holistic Approach to the Institutional Architecture of Financial Supervision and Regulation in the EU, [in:] *European Financial Regulation: Levelling the Cross-Sectoral Playing Field*, eds. V. Colaert, D. Busch, T. Incalza, Oxford 2019.
 15. M-D. Weinberger, Scope of Protection: Is there a Ground for a Single Criterion?, [in:] *European Financial Regulation: Levelling the Cross-Sectoral Playing Field*.
 16. P-H. Conac, La nouvelle réglementation des produits financiers dans l'Union européenne: une révolution dangereuse, [in:] *Mélanges en l'honneur de Jean-Jacques Daigre*, eds. P. Pailier, A-c. Rouand, M. Roussille, Paris 2017.
 17. C. Veerle, Product Information for Banking, Investment and Insurance Products, [in:] *European Financial Regulation: Levelling the Cross-Sectoral Playing Field*, eds. V. Colaert, D. Busch, T. Incalza, Oxford 2019.
 18. R. Deaves, C. Dine, W. Horton, *Research Study. How Are Investment Decisions Made?*, 2006, [http://www.tfmsl.ca/docs/V2\(3\)%20Deaves.pdf](http://www.tfmsl.ca/docs/V2(3)%20Deaves.pdf).
 19. T. Paredes, Blinded by the light: information overload and its consequences for securities regulation, *Washington University Law Quarterly* 2003, vol. 81.
 20. K. Anderberg, J. Brescia, UCITS IV: reforms to the UCITS Directive adopted by the European Parliament, *Euromoney's International Investment and Securitisation Review* 2009.
 21. V Colaert, Building Blocks of Investor Protection: Ever expanding regulation tightens its grip, *Journal of European Consumer and Market Law* 2017.
 22. V. Colaert, *European Banking, Securities and Insurance Law: Cutting through Sectoral Lines*, *Common market Law Review* 2015, vol. 52.
 23. A. Lusardi et al, Visual Tools and Narratives: New Ways to Improve Financial Literacy, *Journal of Pension Economics and Finance* 2017, vol. 16, <https://doi.org/10.1017/S1474747215000323>.
 24. V. Colaert, The Regulation of PRIIPs: Great Ambitions, Insurmountable Challenges?, *Journal of Financial Regulation* 2016.
 25. T. Van Dyck, *De geharmoniseerde prospectusplicht*, Brugge 2010.
 26. L. Enriques, S. Gilotta, *Disclosure and Financial Market Regulation*, [in:] *The Oxford Handbook of Financial Regulation*, eds. N. Moloney, E. Ferran, J. Paige, Oxford 2015.