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ENHANCING ONLINE DISCLOSURE EFFECTIVENESS

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BETTER POLICIES FOR BETTER LIVES

Foreword

Online disclosures can play a key role in informing consumer decisions. However, cognitive limitations such as information overload, as well as technical ones such as small screen sizes on mobile devices, may limit their effectiveness. Additionally, businesses may sometimes focus on technical compliance with disclosure requirements rather than maximising their effectiveness in informing consumer decisions. This report supports consumer authorities in enhancing disclosure effectiveness by providing i) a systematic overview of key disclosure characteristics; ii) guidance on the effective design of disclosures based on a review of the empirical literature; iii) an overview of overarching challenges to disclosure effectiveness and iv) an overview of possible ways to address them, including possible policy alternatives when disclosures may not be sufficient on their own.

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Note to Delegations:
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Executive Summary

Online disclosures can be an important tool to ensure that consumers are provided with sufficient information to make informed decisions about their transactions online. However, the effectiveness of disclosures remains a key concern for consumer authorities.

This report (i) reviews key disclosure features (Chapter 1); (ii) provides guidance on how to design more effective disclosures, based on empirical evidence (Chapter 2); (iii) discusses challenges to disclosure effectiveness that are difficult to capture in behavioural experiments (Chapter 3); and (iv) suggests ways to address those challenges beyond the design choices discussed in Chapter 2 (Chapter 4). The below summarises key findings.

A range of factors determines disclosure effectiveness and how it should be assessed

Consistent with the 2016 OECD Recommendation on Consumer Protection in E-commerce, "online disclosures should be clear, accurate, easily accessible and conspicuous so that consumers have information sufficient to make an informed decision regarding a transaction". But disclosures arise in a variety of forms and contexts and there is no one-size-fits-all approach to ensuring or measuring their effectiveness. Rather, as discussed in Chapter 1, the following contextual factors need to be considered:

- The policy objective: Does the disclosure aim at *nudging* consumers towards a specific reaction or at providing impartial information without preference for the outcome?
- The potential harm resulting from consumers' failure to notice/understand a disclosure.
- The scope and complexity of the disclosed information.
- The medium or device on which the disclosure appears.
- The timing of the disclosure.
- The characteristics of the targeted consumer group.
- The way choices, if any, are presented to the consumer.

Policy makers should consider all these factors in determining: i) the most effective disclosure design; ii) the most suitable metrics of effectiveness (e.g. notice, comprehension or reaction); and iii) the level of disclosure effectiveness that can be considered a success.

Research suggests several ways to improve disclosure effectiveness

Research in areas such as behavioural economics, communication and computer sciences, linguistics, marketing or psychology highlights various measures that can help to improve disclosure effectiveness. As explained in Chapter 2, the most suitable measures may vary according to the type of disclosure involved. For example:

- For simple disclosures, increasing their *prominence* may sometimes be sufficient.
- For complex and lengthy disclosures, it may be crucial to foster consumer *engagement* with the disclosure and enhance the *structural presentation* of information. For example, signposts (*reading cues*) as to the time required to read the disclosure, its purpose or its most important content can help make consumers more willing to engage with a lengthy online disclosure. Highlighting key terms through summaries or in the form of *Frequently Asked Questions* (FAQs) can enhance consumer understanding.

- Product recalls, data breach notifications and class action notices are different from other types of disclosures. For example, they are not presented to the consumer until after the commercial transaction has been concluded, and typically only arise when something "went wrong". Disclosures in these contexts should help consumers to quickly identify: i) whether the disclosure applies to them, and ii) key benefits and risks associated with action or inaction (e.g. not returning a recalled product).

Information overload, behavioural biases, and misaligned incentives can impede effective disclosure

Information overload and *behavioural biases* can cause consumers to ignore disclosures or impede the effective use of disclosed information in their decision making. In particular, as detailed in Chapter 3, consumers provided with too much or too complex information may disregard it. Behavioural biases, such as present bias, overconfidence, and default bias, may cause consumers to inaccurately weigh the costs, benefits, or other aspects of a transaction.

Furthermore, businesses responsible for making disclosures may not implement disclosures in an effective manner if their *incentives* do not align with the disclosure objective, e.g. when businesses expect losing customers due to the disclosed information.

Finally, online disclosures may lead to *unintended outcomes* if policy makers do not carefully consider how they may be perceived by consumers. Consumers might mistake, for example, neutral information for a warning, focus their attention unduly on disclosed information, rather than other product characteristics, or suffer unpleasant emotional reactions (e.g. fear) to emotional messaging (e.g. graphical representations of risks).

Policy makers should therefore consider the context in which consumers receive disclosures, including how consumers may differ in their use of the disclosed information.

Standardisation and machine readability can enhance disclosure effectiveness and awareness raising campaigns and education can complement disclosure policies

Different disclosure contexts require different strategies to ensure that consumers can make informed decisions. For example, as explained in Chapter 4, providing guidance to businesses may be enough to *ensure disclosure effectiveness* when disclosed information is simple, and business and policy incentives are aligned. When consumers have difficulties recognising disclosures as such, e.g. because of varying formats, but also in the context of extensive disclosures, standardisation can help to enhance disclosure effectiveness. When consumers differ in their needs and capabilities, fostering machine-readable disclosures and information intermediaries can enable better presentation of information.

Complementary measures, such as consumer education and awareness raising campaigns, e.g. regarding basic consumer rights, standard contractual terms or native advertising, can also enhance the effectiveness of online disclosures or reduce the potential for detriment in case disclosures go unnoticed. In some contexts, e.g. when the information consumers would require to make an informed decision is very extensive or complex, or when business and policy incentives are ill-aligned, online disclosures may not be sufficient to achieve a certain policy objective. Policy makers may then want to consider *alternative strategies*, such as direct interventions in the choice architecture, e.g. changing the default option, or performance based regulation, which requires businesses to ensure and demonstrate that consumers are aware of key information, without, however, specifying how this information should be provided to the consumer.

Introduction

For the purposes of this report, online disclosures are understood as any type of information provided to consumers in an online setting, including through e-mail, to enable them to take more informed decisions or protect them from detriment. Such information is typically disclosed to consumers by businesses, often in response to a legal requirement (*mandatory* or *affirmative* disclosures).

Mandatory online disclosures can be an important tool for policy makers. Effective disclosures can assist consumer decision making, by making product comparison easier, increasing transparency and accountability, reducing search costs, helping to prevent disputes, and protecting consumers from deceptive practices (OECD, 2010[1]). They are particularly important in the online environment where consumers have fewer opportunities to physically inspect products before purchasing them, which enhances the risk of information asymmetries between buyer and seller.

Compared to other policy instruments, such as bans of certain products or business practices, online disclosures as a policy tool have the benefit of preserving consumer autonomy in most cases (Howells, 2005[2]). Online disclosure requirements therefore play an important role in a variety of consumer policy issue areas, including e-commerce, product safety, data privacy and financial consumer protection. This report focuses on the following types of online disclosures (more information on each of these disclosure types, including selected examples of related requirements in OECD countries, is provided in Annex A):

- General information to be provided in the context of an e-commerce transaction (e.g. price or billing information, seller information, shipping costs, product incompatibilities)
- Online advertising disclosures
- Personalised pricing disclosures
- Privacy and cookie consent notices
- Disclosures in financial consumer protection
- Data breach notifications
- Product recall notices
- Class action or representative action notices

Recognising that providing more information does not always result in more informed decisions, disclosure effectiveness remains a major concern for policy makers. Legal researchers concur that conventional disclosure requirements often disregarded people's cognitive abilities, literacy levels and/or lack of motivation to engage with information that does not seem to help them achieve a particular goal (e.g. completing a purchase or obtaining access to news content). Commentators also have argued that, although there may be ways to develop disclosures that are useful to consumers, unfortunately, many disclosures are "neither read nor used, […] beyond most people's interest or understanding" (Bar-Gill and Ben-Shahar, 2013[3]) and, "largely ineffective" (Helleringer and Sibony, 2017[4]). In short, there seems to be consensus that businesses and policymakers should develop more effective disclosures, informed by behavioural insights

and other research in areas such as marketing, economics, psychology, computer science, communications and law (FTC, 2016[5]).

The OECD's Recommendation on Consumer Protection in E-commerce (OECD, 2016[6]) provides high-level guidance on ways in which information should be disclosed. It highlights that online disclosures should be "*clear, accurate, easily accessible and conspicuous"* and "*made in plain and easy-to-understand language"* (para 25), so that consumers have information sufficient to make an informed decision regarding a transaction. They should also be made at a relevant time, and in a manner that enables consumers to retain a complete, accurate and durable record of such information. However, the Recommendation does not provide examples of how concepts such as "clear", "conspicuous" or "relevant time" may be understood and applied in practice.[1]

This report aims to provide policy makers with a more systematic, and operational, approach to online disclosure effectiveness *across* different policy areas. It builds upon a rich set of academic and public sector research, including OECD's previous work on online disclosures, which focussed, for example, on behavioural insights (OECD, 2018[7]), product recall effectiveness (OECD, 2020[8]; 2018[9]; 2018[10]), personalised pricing disclosure (OECD, 2021[11]), data breach notifications (Iwaya, Koksal-Oudot and Ronchi, 2021[12]), and financial disclosures (OECD, 2018[13]). In particular,

- It first examines **key disclosure features** (e.g. policy objective, length and complexity, potential for consumer detriment) that can help to evaluate disclosure effectiveness more systematically and independent of particular issue areas. Further, it explains how several of these features can affect how online disclosure effectiveness can be measured and benchmarked (Chapter 1).
- Building upon an extensive review of the literature, the report then provides **specific guidance on how to design more effective disclosures**, highlighting findings for: i) short online disclosures, providing very specific information (e.g. advertising, personalised ranking or pricing), ii) complex disclosures or disclosures containing a lot of information (e.g. privacy notices, financial disclosures or disclosures of key terms and conditions), and iii) product recalls, data breach and class action notices, which differ from other disclosures in important aspects and hence merit a separate treatment (Chapter 2).
- The report then discusses several **challenges related to disclosure effectiveness** that are difficult to capture and account for in behavioural experiments. These include information overload; behavioural biases; a possible lack of business incentives to implement disclosures effectively; varying levels of disclosure effectiveness for different types of consumers (consumer heterogeneity); as well as the potentially unintended consequences of disclosures, e.g. market distortions (Chapter 3).
- Finally, the report offers **guidance on ways to address these challenges** and enhance disclosure effectiveness more broadly. Rather than focussing on specific design choices (as in Chapter 2), this part of the report discusses i) how much guidance to provide to businesses (which can partly address the issue of business incentives), ii) the role of disclosure standardisation and machine readability of disclosures (which can partly address the issue of information overload) and iii) awareness raising campaigns and trainings (which can partly address the issue of consumer heterogeneity) (Chapter 4).

Chapter 1. Disclosure effectiveness: not a one-size-fits-all approach

Online disclosures come in a variety of forms, from a single word ("Ad") in a social media post, to personalised e-mails (e.g. data breach notification) or page-long documents involving complex choices (e.g. privacy policies).

To be effective, they all need to:

- contain the most essential information, and
- be noticeable, direct consumer attention toward them, be comprehensible and be useful in consumer decision making process (FTC, 2016[5]).

In some contexts, policy makers may go further, expecting not only that consumers are able to understand the disclosed information, but actually *react* to the disclosed information in a particular way (e.g. return an unsafe product).

Whether or to what degree these requirements can (or need to) be met in practice depends on a specific disclosure context, which is determined by **seven factors**:

- the policy objective targeted by a disclosure
- the potential for consumer detriment
- the scope and complexity of the disclosed information
- the communication media and device used by consumers to access the disclosure
- the timing of the disclosure
- the target audience and the relation between consumer and seller
- the way choices, if any, are presented to the consumer

The following sub-sections discuss each of these factors, highlighting, where relevant, how **they affect**:

- the disclosure design
- the suitable metrics of effectiveness (e.g. notice, comprehension or reaction)
- the level of disclosure effectiveness policy makers can reasonably consider a success (e.g. a product return rate of close to 100% for a faulty airbag)

1.1. Identifying policy objectives: Impartial disclosures or nudges?

The primary objective of most information requirements is to enhance consumer welfare through better informed consumer decisions. However, this overarching objective may encompass more fine-grained policy objectives, ranging from merely raising consumer awareness and understanding (i.e. ***impartial*** **disclosures** as regards actual behavioural outcomes) to those that aim to alter consumer behaviour in a predictable way (i.e. intentional ***nudges***).[2] Taking smoking-related health warnings as an example, Wilkie (1985[14]) and Stewart and Martin (2004[15]) distinguish seven objectives related to disclosure policies:

- **Assert government oversight** ("The government takes the health risks of smoking seriously")

- **Increase awareness** ("The government has determined that smoking is unhealthy")
- **Change consumer beliefs** ("I believe smoking unhealthy")
- **Change personalised consumer beliefs** ("I believe smoking is not good for my health")
- **Change attitudes** ("I don't like smoking")
- **Change behavioural intentions** ("I want to quit smoking")
- **Change actual behaviour** ("I decided to quit smoking").

Many disclosure requirements in the context of an e-commerce transaction (e.g. regarding the price, the seller or consumer rights) are meant to be impartial. They preserve the autonomy of consumers by giving them the necessary information to make the best decisions possible "whatever those may be" (OECD, 2018[7]). Other disclosure types, including product recall notices, data breach notifications or class action notices, aim to alter consumer behaviour in a predictable way (i.e. *nudging*). For example:

OECD's policy guidance on maximising **product recall** effectiveness highlights that in some instances, businesses may, in addition to merely raising awareness, actively prevent consumers from using a recalled and unsafe product (OECD, 2020[16]). Consistent with this guidance, in many jurisdictions, the effectiveness of a product recall is measured against actual product return rates (OECD, 2018[9]). Consumers' awareness and understanding of the disclosure may not be sufficient to guarantee its success.

In the context of **data breach notifications**, the US Federal Trade Commission's (FTC) model letter for notifying individuals whose Social Security numbers have been stolen, explicitly guides individuals on ways to react, suggesting that the affected individuals should place a fraud alert on their credit file and check their credit reports periodically to quickly spot and address possible problems (FTC, 2019[17]).

In the context of **class or representative action notices**, regulations sometimes explicitly associate a specific behavioural consumer response (e.g. filing a claim), with *benefits* (see 4.3.Annex A) and *claim rates* are sometimes used as measure of effectiveness (FTC, 2019[18]).

In the context of **financial disclosures** some disclosure requirements specifically aim to overcome behavioural biases (e.g. default bias) and foster consumer switching. The actual amount of consumer switching or cost savings is then used to assess the success of disclosure manipulations (SERNAC, 2020[19]; FCA, 2015[20]).

Whether an existing disclosure requirement is intended to be impartial with regard to consumer choices, or nudges the consumer towards a particular reaction, can typically be inferred from supporting policy guidance or the criteria that are applied to measure the success of the policy intervention (see Box 1). Similarly, when considering new disclosure requirements, guidance or empirical tests of disclosure effectiveness, **policy makers need to ensure that the envisaged action is well aligned with the initial policy objective**. An explicit discussion of the disclosure objectives can help to determine the need for complementary policy action. In particular, the more the policy objective aims to change actual consumer behaviour in a particular way, the more difficult it may be to achieve the set objective with a disclosure policy alone (Wilkie, 1985[14]).

Box 1. Different metrics of disclosure effectiveness

There are no generally accepted criteria for assessing disclosure effectiveness. However, policy makers and regulators seem to agree that mere compliance with a particular standard regarding form or content is not sufficient to determine effectiveness (Stewart and Martin, 2004[15]).

Potentially more relevant metrics are whether consumers **notice** and **understand** the disclosure (Wojdynski and Evans, 2015[21]), and whether it is **relevant to their decisions** (OECD, 2010[1]). The US FTC, for example, suggests that disclosure effectiveness is determined by the degree to which:

i) disclosures contain the most essential information, and

ii) they are noticeable, direct consumer attention toward them, are comprehensible, and are useful in the consumer decision making process (FTC, 2016[5]).

Annex D and E provide a detailed overview of different metrics that have been used in the **empirical literature** on disclosure effectiveness, including measures linking to notice and attention (e.g. "clicked link to open T&Cs", self-reported readership or recall) and measures focussing on comprehension (e.g. "ad-recognition", "awareness" of personalised pricing, or objective measures of "comprehension").

How much weight consumers attribute to the information in their decision making or whether it ultimately **changes their behaviour**, may or may not be a relevant metric of disclosure effectiveness, depending on the policy objective, and, in particular, whether the aim of the disclosure requirement is merely to provide (impartial) information or to foster a specific behavioural response (nudge).

1.2. Evaluating the potential for consumer detriment

Another factor to be taken into consideration when distinguishing online disclosure types is the nature and level of detriment that can arise when consumers remain unaware of, or fail to react to the disclosed information. Consumer detriment can arise in many forms (OECD, 2014[22]):

- **Personal**: e.g. when an individual consumer experiences a negative outcome relative to a benchmark such as reasonable expectations (e.g.: a consumer purchases an incompatible product because she didn't notice the corresponding warning).[3]
- **Structural**: e.g. when ineffective disclosures impede product comparisons and stifle competition, leading to higher prices for everyone.[4]
- **Hidden**: e.g. when a consumer remains unaware of a potentially better alternative offer (for example because he doesn't recognise an unfavourable clause in an overly complex telephone or financial contract).
- **Apparent:** e.g. when the consumer is injured because he missed a product recall notice.

Potentially more important than the nature of detriment is the **likelihood or level of detriment** consumers may face when a disclosure requirement fails to provide them with sufficient information or does not help to trigger a consumer reaction. For example, while

the detriment may be relatively limited if consumers fail to read every single cookie consent notice in detail, it can be significant when they remain unaware of a serious product safety issue, such as inflammable batteries in electronic devices.

This difference has important implications for what can be considered an **adequate level of disclosure effectiveness**. For example, Stewart and Martin (2004[15]) suggest that the standard for acceptable information exposure "should include recognition of the likely consequences that arise from uninformed consumers".[5] Thus , while in some disclosure contexts (e.g. native advertising) policy makers may be satisfied by a disclosure that is noticed and understood by the *average* consumer (see Box 2), in other contexts (e.g. product safety), more stringent criteria may apply. The American National Standard for Criteria for Safety Symbols (ANSI Z5353.3), for example, requires a recognition rate of at least 85% for safety symbols to be acceptable (FTC, 2016[5]) and, in the context of product recalls, businesses are sometimes encouraged to aim for a return rate of close to 100%.

Box 2. The *average* or *reasonable* consumer standard

While in some contexts (e.g. product safety), explicit online disclosure effectiveness benchmarks have been established (e.g. product return rates), they are often not available for other areas (FTC, 2016[5]). Instead a "reasonable" or "average" consumer standard is sometimes applied to examine whether the consumer's interpretation or reaction to the disclosure is reasonable:

- UCPD (Directive 2005/29/EC, recital 18): "*the Directive takes as a benchmark the average consumer, who is reasonably well-informed and reasonably observant and circumspect, taking into account social, cultural and linguistic factors, as interpreted by the Court of Justice".*
- US FTC Enforcement Policy Statement on Deceptively Formatted Advertisements: "*disclosure's adequacy ultimately will be measured by whether reasonable consumers perceive the ad as advertising*" (FTC, 2015[23]).
- OECD Good Practice Guide on Online Advertising: "*to assess whether the ad is clearly distinguishable as such, it is essential to consider the perspective of the average or reasonable consumer*" (OECD, 2019[24]).

Whether the standard has been met, however, often has to be determined through courts *ex post*. Additional guidance is sometimes provided, highlighting, for example, that a "reasonable" consumer response does not have to be "*shared by a majority of consumers in the relevant class, or by particularly sophisticated consumers*" (FTC, 1983[25]) and that the notion of "average consumer" is understood relative to a *targeted* group.[6] See:

- UCPD (Directive 2005/29/EC): "*Where a commercial practice is specifically aimed at a particular group of consumers, such as children, it is desirable that the impact of the commercial practice be assessed from the perspective of the average member of that group*".
- US FTC Statement on Deception (FTC, 1983[25]): *"When representations or sales practices are targeted to a specific audience, such as children, the elderly, or the terminally ill, the Commission determines the effect of the practice on a reasonable member of that group".*
- US FTC's recent Enforcement Policy Statement on negative option marketing (FTC, 2021[26]): "*When the representation or sales practice targets a specific*

audience, such as children, the elderly, or the terminally ill, 'ordinary consumers' includes reasonable members of that group".

Some authorities have also proposed legislative amendments requiring businesses to test the effectiveness of disclosures in the respective target market and *"to assess how the information is understood and used by consumers, and to take necessary steps to mitigate any problems identified"* (EBA, 2019[27]).

In some disclosure contexts, it may also be useful to consider more concrete metrics and benchmarks of disclosure effectiveness. This is frequently done for disclosure related to consumer health and product safety, but may also be considered for other areas, as was highlighted at a US FTC Disclosure Evaluation Workshop (Cranor, 2016[28]).

1.3. Scope and complexity of disclosures

Online disclosures can vary significantly in terms of scope and complexity. Some related to e-commerce, e.g. disclosures about the price, shipping modalities, or possible age restrictions, are easy to understand and rather short. In contrast, others contain complex, technical and/or lengthy information. For example, *terms of service* (ToS) agreements or the *terms and conditions* (T&Cs) of an online transaction can sometimes contain several thousand words, take hours to read, or require higher education to be fully understood.[7]

Importantly, **there are limits to the amount of information consumers are able or willing to process**, which can limit disclosure effectiveness (see Chapter 4). For example, Bakos, Marotta-Wurgler and Trossen (2014[29]) found that only one or two of every 1000 retail software shoppers accessed the end user license agreement (EULA), and even those who did read only a small part of the agreement. Similarly, a 2021 OECD survey of online shoppers in 13 countries reveals that around 70% of consumers that have faced a problem in e-commerce simply trust the terms and conditions of an online purchase to be acceptable, rather than to actually read them before every online purchase (OECD, 2022[30]).

Accordingly, available policy guidance generally advises against burying important information in *terms and conditions* or similar extensive and complex documents. For example:

- US FTC Dot Com Guidance (FTC, 2013[31]) highlights that necessary disclosures should *not* be relegated to *terms of use* and similar contractual agreements.
- Elshout et al. (2016[32]) point out that the European Court of Justice may not consider information buried in technically drafted T&Cs compliant with disclosure requirements.
- OECD guidance indicates that businesses should not rely on T&Cs to convey important information (OECD, 2018[7]).

However, while some disclosures may be unnecessarily complex or extensive,[8] other times information may be:

- **Inherently complex** (e.g. financial disclosures, personalised pricing disclosures) (Jin, Luca and Martin, 2018[33]; OECD, 2021[11]);
- **Perceived as complex** (e.g. relative to the skills of targeted consumers) (Chapter 4);
- **Inherently extensive** (e.g. due to extensive mandated disclosure requirements) (Box 3).

Box 3. More or less information requirements – a policy trade-off

It can be difficult to determine the right amount of information that businesses should be required to provide to consumers:

- On the one hand, anticipating what information consumers need in particular circumstances is hard and can lead to policy makers favouring the adoption of extensive disclosure requirements. **Disclosure requirements may therefore in some contexts be inherently expansive** (Ben-Shahar and Schneider, 2010[34]).
- On the other hand, **consumers can process only a limited amount of information** (Chapter 4). Accordingly, "policy makers should limit the prescriptiveness and extensiveness of disclosure requirements to the minimum necessary" and be wary of exacerbating information overload through new information requirements (OECD, 2018[7]).[9]

Importantly, expansive disclosures can also result from a lack of clear policy guidance on disclosure requirements: if policy makers leave it to businesses, and ultimately the judicial system, to assess whether the information provided is sufficient (see Box 3), businesses, facing uncertainty, may opt for providing more information to avoid falling short of the requirements (Elshout et al., 2016[32]).

Thus, providing *some* guidance to businesses on which information is required and how to present it is key. Art. 13 of the EU GDPR or the OECD's E-commerce Recommendation (see Annex A) take such an approach. Additionally, guidance documents sometimes specify that disclosures should be provided as "simple and straightforward as possible" (FTC, 2013[31]) and written in "plain and easy-to-understand" terms (OECD, 2016[6]), without technical jargon (EBA, 2019[27]), to minimise the risk of information overload resulting from the potentially inherent complexity of the disclosed information.

Personalised pricing is one example of a subject which is inherently complex and about which disclosures can be difficult for consumers to understand. In 2021, the OECD conducted an experiment about the effects of personalised pricing disclosures on consumers (OECD, 2021[11]). The disclosures were part of a relatively simple web design, succinct, substantial in size, seen repeatedly, and accompanied every single personalised price. Even then, most consumers in the study did not even recall seeing them, and any increase in awareness that may have been triggered by the disclosures was not sufficient to induce a significant change in participants' purchasing preferences. However, because disclosure recall varied with the exact wording of the disclosure, it is possible that "participants did see the disclosure but, not being familiar with the concept of online personalised pricing, did not understand what it meant."

The introduction of the EU's General Data Protection Regulation (GDPR) demonstrates how new mandatory disclosure requirements lead to increasingly extensive disclosures: from March 2016 to May 2018, the average text length of the privacy policies of the 6 759 most popular websites in Europe rose from 2 145 words to 3 603 words (Degeling et al., 2019[35]).

1.4. Communication media and devices used

Online disclosures come in different formats (e.g. icons, labels, text, images or audio and video message) and through different communication channels (e.g. embedded in the

website content, as an app notification or per e-mail). Their form depends on the nature of transaction and the media and device consumers typically use to access information. In particular, while mandatory online disclosure requirements and the policy context determine, at least to some degree, the *content* of information to be disclosed, ***how*** **to disclose information to consumers is often up to businesses**.

Part of the reason for this flexibility is that **commercial practices are constantly changing** in the digital transformation, as exemplified by the shift of e-commerce transactions from desktops to small-screen or voice-controlled and other screen-less devices (OECD, 2019[36]; 2019[37]). Effective disclosure implementation therefore requires a continuous realignment with changing devices and business models, something that often may not be easily accomplished by updating regulations. In practice, however, policy makers still have to consider how "the media influence the degree to which consumers attend to, comprehend, and use information" (Stewart and Martin, 2004[15]) and that **not all media and devices may be equally suitable for disclosing information**. Stewart and Martin (2004[15]) argue that *passive media,* like television, where information is provided only briefly and without prior notice, are particularly ineffective. The same concern also applies to video ads on social media. Similarly, tags on Twitter (i.e. text-based hashtags), are difficult to identify because they are not easily distinguishable from other hashtags (EC, 2018[38]). Accordingly:

> *"[b]usinesses should take into account the technological limitations or special characteristics of a device or platform, while providing all necessary information"* (Para 27) and *"enable consumers to retain a […] record of the transaction, in a format compatible with the device or platform that the consumers used to complete the transaction"* (Para 29) *(OECD, 2016[6])*.

Similarly, OECD/G20 guidance on financial consumer protection demands disclosures "*that are clear and simple to understand regardless of the channel of communication*" (OECD, 2018[13]).

Recent work by the OECD on the effectiveness of product recalls (OECD, 2022[39]) further provides examples of how recall information may be presented in different media, including websites and apps. Box 4 illustrates how the US FTC's **clear and conspicuous standard** has evolved since the 1970s, to account for changes in media and devices.

Box 4. The US FTC's Clear and Conspicuous standard applies across media types

The US FTC 1970 *Enforcement Policy Statement in Regard to Clear and Conspicuous Disclosure in Television Advertising* highlighted that (FTC, 1970[40]):

> *"The disclosure should be presented simultaneously in both the audio and video portions of the television advertisement.*
>
> *The video portion of the disclosure must contain letters of sufficient size so that it can be easily seen and read on all television sets, regardless of picture tube size, that are commercially available for the consuming public.*
>
> *The video portion of the disclosure should contain letters of a color or shade that readily contrast with the background. The background should consist of only one color or shade.*
>
> *During the audio portion of the disclosure, no other sounds, including music, should be presented.*
>
> *The video portion of the disclosure should appear on the screen for sufficient duration to enable it to be completely read by the viewer.*
>
> *The audio and video portions of the disclosure should immediately follow the specific sales representation to which they relate, and should be presented each time the representation is presented during the advertisement. In cases where a disclosure is required, but is not linked to a specific representation, it should appear in immediate conjunction with the major sales theme of the advertisement."*

In 2000, the US FTC clarified that the "clear and conspicuous" standard would remain the guiding principle for disclosure presentations in the digital world (FTC, 2000[41]) and that for disclosures (e.g. online ads, T&Cs) to be clear and conspicuous, businesses should consider (Fair, 2014[42]; FTC, 2013[31]):

- **Prominence**: Can the disclosure be noticed? (e.g. font size, contrast, volume, duration)
- **Presentation**: Can the wording and format be easily understood (e.g. technical jargon, length)?
- **Placement**: Is the disclosure where people will look (e.g. position on a webpage)?
- **Proximity**: Is the disclosure near the claim it qualifies (e.g. close to the headline)?

The US FTC further clarified that "clear and conspicuous" should not be understood as a one-size-fits-all approach but as a performance standard. Compliance thus depends on whether consumers notice, read and understand a disclosure. The responsibility to ensure that a disclosure complies with the standard is ultimately with the businesses, who should "*use the tools at their fingertips – [e.g.] text, sound, visuals, contrast, or color […] – to convey information effectively*" (Fair, 2014[42]), taking into account of the various devices and platforms consumers may use to view them (FTC, 2013[31]).

1.5. Timing of disclosures

***When* a disclosure is provided to consumers can have a significant impact on its effectiveness**. For example, an empirical study by the FCA (2015[20]) found that while providing consumers with annual summaries of their current account activities and the related costs (e.g. overdraft charges) had no effect on their behaviour, disclosing the information on a more regular basis (e.g. weekly status reports) or upon automatic triggers (e.g. a low balance alert) significantly enhanced consumers' ability to manage their accounts.

Timing of disclosures can be particularly important in an online environment, where consumers tend to proceed swiftly through a purchase process, facilitated by check boxes and other real-time response features of the user interface (EBA, 2019[27]). Adjerid et al. (2013[43]) demonstrate that introducing a delay as short as 15 seconds between the display of a privacy notice and a consumer's decision to disclose private information can completely mute the notice's impact on the decision. In particular, because consumers in the online environment are often multi-tasking and focusing on many different stimuli at once, even small delays and other diversions can distract them and diminish the salience of a disclosure.

Similarly, **consumers often make contextual decisions**, which should be taken into consideration when determining at what point in time to disclose information. For example, when determining whether to grant an app the permission to access their sensitive (e.g. location) data, consumers typically consider whether this permission is relevant to what they are currently doing on their phone (Wijesekera et al., 2018[44]). Accordingly, the FTC (2013[45]), for example, suggests that mobile platform providers should provide consumers with privacy notices and data access requests just prior to the collection of such information by apps ("just in time").

More generally, **policy guidance typically requires disclosures to be made at a "relevant" or "appropriate" time** (OECD, 2016[6]; EBA, 2019[27]). The relevant time may thereby vary significantly for different types of disclosures. For example, while an advertising disclosure will be of limited value to the consumer if shown after clicking on an ad, more detailed information regarding payment or delivery conditions often become relevant only later in the purchasing process.

A focus on the relevant time thereby does not preclude that **some disclosures may have to be shown repeatedly** to be effective, for example in the context of repeated (e.g. advertising) claims or when the customer journey is lengthy or involves alternative routes (including shortcuts) through the purchase process (FTC, 2013[31]).

At least for some communication media, it can also be important to consider the **duration of the disclosure**. For example, when evaluating whether a visual (e.g. in a video) advertising disclosure is sufficiently clear and conspicuous, the FTC typically considers whether it was displayed long enough for consumers to notice, read and understand it (Box 4; (FTC, 1970[40]; 2013[31])).

Finally, additional "real-world time and motivation constraints" (Issacharoff, 2011[46]) can be relevant when considering the optimal timing, duration and number of repetitions of a disclosure. This includes the risk **of information overload and other behavioural biases**. For example, if consumers are loss averse it may be useful to display disclosures early so that consumers do not cling to an offer based on the first pieces of information they have received (e.g. in the context of drip pricing). Similarly, prompting consumers to decide upon data access rights at every instance an app attempts to access sensitive data may

involve thousands of prompts per day (Wijesekera et al., 2018[44]), which is clearly unfeasible.

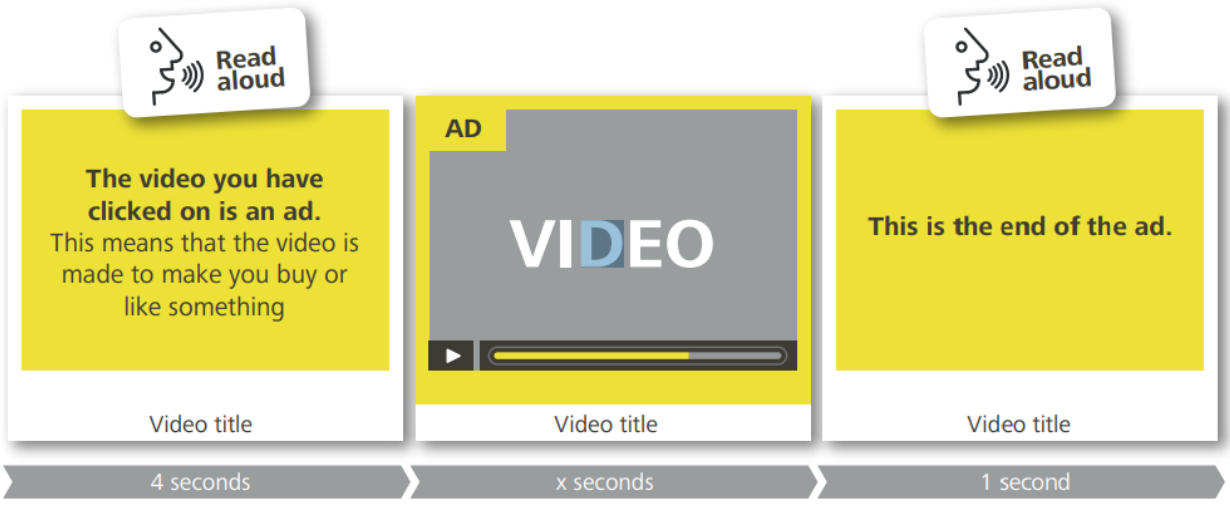
1.6. The target audience and relationship between consumer and seller

Some disclosure types are narrowly targeted at a specific group of consumers and online disclosures may need to take different forms (e.g. format, formulation) depending on **consumer characteristics** such as the age, education or known vulnerabilities of the targeted group (see also Box 2). The OECD's E-commerce Recommendation (OECD, 2016[6]) recognises this, suggesting that, when considering how best to afford consumers with transparent and effective protection:

> *"Governments and stakeholders should work together to achieve such protection and determine what changes may be necessary to address the special circumstances of e-commerce, including for children and vulnerable or disadvantaged consumers. In so doing, they should take into account the insights from information and behavioural economics.* (Para 2)*"*

Recent OECD guidance on online advertising highlights that businesses advertising to children or other vulnerable groups should ensure that their advertising is easily identifiable as such by those groups (OECD, 2019[24]). For example, Figure 1 illustrates a disclosure designed specifically for children. In a study, children who were shown this disclosure, which included a yellow introduction and voice over, displayed increased ability to correctly identify commercial content relative to children shown a more standard disclosure without those modifications. Annex B describes the study in more detail.

Figure 1. Native advertising disclosure targeted at children



Note: Video advertising disclosure co-created with children from age 6-12. For more details on the underlying behavioural study, see Annex B.
Source: KFST (2021[47])

Similarly, in the context of financial consumer protection, it is considered a good practice for financial service providers to tailor information provided to the specific groups of consumers who form the target market, taking into account their needs, knowledge and experience, including their financial capability (OECD, 2018[13]).

Besides the characteristics of the targeted consumer group, the **existence of a pre-established consumer-seller relationship** can also be an important determinant of disclosure effectiveness. For example, product recall notices or data breach notifications are often targeted at consumers that had previously engaged with the disclosing seller or manufacturer. In this case, existing customer data may allow the business to target individual consumers directly, using personalised messages or specific communication channels, e.g. app alerts, e-mail or SMS.[10] As discussed in Chapter 4 personalised targeting can be particularly effective in disclosing information.

1.7. The way choices, if any, are presented to the consumer

Online disclosures can be distinguished according to the type of choice, if any, they present to the consumer. In many cases, this choice remains **implicit**. For example, a consumer's consent to the conditions of a purchase (e.g. price or shipping costs) is typically inferred from her decision to conclude the transaction. In other contexts, online disclosures are directly linked to a request for **explicit** consumer consent.[11] For example, the EU GDPR (Recital 32) requires consent to be "a clear affirmative act", establishing an "informed" indication of the data subject's agreement to the processing of personal data. Similarly, the US *Restore Online Shoppers' Confidence Act*[12] requires "post-transaction" third-party sellers in e-commerce to clearly disclose all material terms of the information and to obtain the consumer's express informed consent before charging any of her financial accounts.

How choices in disclosures are presented to the consumer can have an important impact on consumer behaviour. For example, Utz et al. (2019[48]) show that small manipulations in the presentation of choices related to cookie consent notices can have a significant impact on whether and how people interact with the disclosures. In particular, their findings suggest that users who are provided with a binary choice to accept tracking in accordance with the disclosed terms tend to be significantly more willing to accept cookies than users who are asked to accept the use of cookies for each category or company individually. Similarly, highlighting or preselecting options to *nudge* consumers towards certain choices can have a significant impact on the choices users make (see Chapter 3. and (OECD, forthcoming[49]) for more details).

A particular choice outcome can itself sometimes be part of the policy objective and hence a key element of disclosure effectiveness (see Box 1). In addition, the example about the presentation of choices in cookie consent notices provided above illustrates that the same informational content may cause different consumer reactions, depending on how the related choices are presented. This raises the question of the extent to which the resulting consumer decision was actually "informed" by the disclosed information, rather than driven by the presentation of choices. The presentation of choices therefore directly links to the question of disclosure effectiveness even in cases where policy makers have no preference with regard to the particular choice outcome, such as whether the consumer consents, or not, to a cookie.

Chapter 2. Designing more effective disclosures – findings from empirical studies

Policy makers, regulators and behavioural insight experts are increasingly engaging in empirical testing to develop guidance on the design of effective disclosures. This chapter provides a review of the literature in this area, building on previous OECD work (OECD, 2018[7]); it offers a toolkit of empirically tested design alternatives that can help to enhance disclosure effectiveness. The discussion is divided into three parts, focussing on:

- *short* online disclosures with *a narrow scope*, such as disclosures of native advertising, personalised rankings or personalised pricing.
- disclosures with an *extended scope* or a *higher complexity* of the disclosed information, including terms and conditions, privacy notices and financial disclosures.
- three specific disclosure types: i) data breach notifications, ii) product recall notices, and iii) class (or representative) action notices.

More details, including on the underlying experimental design and visual examples of the tested disclosures are discussed in Annexes B and C. These shed light on the context and limitations of the highlighted findings and are structured by policy area. Details on the different metrics used to assess disclosure effectiveness, and the minimum and maximum levels of effectiveness achieved (which can serve as a benchmark for future empirical tests) are summarised in Annexes D and E.[13]

Following the literature (e.g. (Seizov, Wulf and Luzak, 2018[50])), the sub-sections rely on the findings from different academic fields, including behavioural economics, communication and computer sciences, linguistics, marketing or psychology. They consider different determinants of disclosure effectiveness, including i) the *salience* or *prominence* of the disclosure relative to other content (e.g. placement or timing), ii) the *structural presentation* of information (e.g. summaries, visual signposts) or iii) the disclosure *content* (e.g. terminology, length, simplicity, framing).

2.1. Simple online disclosures with narrow scope

Table 1 provides a summary of findings from the empirical literature on measures to enhance the effectiveness of simple online disclosures: those that provide specific information, only require a couple of words, don't take up much space (e.g. on a website), and are simple to communicate. For each measure, the table highlights whether and under what conditions a measure can be considered effective. Annex B provides more details.

Table 1. Enhancing the effectiveness of simple disclosures – Summary

Additional discussion of these studies, along with visual examples of the disclosures, is available in Annex B.

Measure	*Effective?*	*Literature*
Visual Salience or Prominence		
Prominent fonts (large, bold, colour)	Yes	Confirmed in (Amazeen and Wojdynski, 2018[51]; Hyman et al., 2018[52]; EC, 2018[38]; KFST, 2021[53]).

Text box effect (e.g. around the word "Ad")	Yes	Confirmed in (FTC, 2017[54]; Amazeen and Wojdynski, 2018[51]; EC, 2018[38]; Hyman et al., 2018[52]; ACM, 2021[55]; KFST, 2021[53]; 2021[47]).
Visual frame around the critical content (e.g. the Ad itself)	Yes (conditional)	If the disclosure is not sufficiently salient, adding a frame around key content may not enhance effectiveness (EC, 2018[38]). However, if the disclosure is salient, adding a frame can further increase salience (FTC, 2017[54]). KFST (2021[47]) confirms the effectiveness of visual frames for video formats.
Conspicuous Position	Yes (conditional)	While a conspicuous position can help to enhance salience (FTC, 2017[54]; ACM, 2021[55]), evidence is mixed on where the most conspicuous position is. Wojdynski and Evans (2015[21]) suggest, in native advertising, that a position that breaks the content somewhere in the middle is most effective, and warn that readers might ignore anything above the headline. KFST (2021[47]) find no significant difference between disclosures placed above or below an ad (image format). KFST (2021[53]) suggest, in the context of paid rankings, that the disclosure should be close to the product name.
Content and Wording		
Short and clear	Yes	A short label that uses direct, concrete terms significantly enhances consumer understanding. In the case of native advertising or paid rankings, labels that include the term "paid" (e.g. ad, position, offer) or "advertising" are most effective, followed by "courtesy of" or "sponsored" (e.g. content). Terms like "partner content", "presented by", "brand voice", "promoted", or "recommended" seem to be less effective (Wojdynski and Evans, 2015[21]; FTC, 2017[54]; Amazeen and Wojdynski, 2018[51]; EC, 2018[38]; Hyman et al., 2018[52]; ACM, 2021[55]; KFST, 2021[47]; 2021[53]; Peer and Shilian, 2021[56]).
Standardisation	Yes*	Several labels used for the same information can be confusing. Repeated and recognizable labels are more effective (KFST, 2021[47]).
Identifying the sponsoring business	Yes	Identifying the sponsoring business, either by adding a company logo (Amazeen and Wojdynski, 2018[51]) or the name of the company (Peer and Shilian, 2021[56]) can help consumers identify commercial intent.
Providing more detailed explanation	Mixed evidence	While extensive explanations can sometimes be helpful (OECD, 2021[11]), explanatory notes may often be overlooked, in particular if not conspicuously placed or only accessible through clicking on a link or icon (ACM, 2021[55]; KFST, 2021[53]). They can be effective if the link is explicit as to the type of additional information provided (e.g. "excluding booking fees") and placed closely to where the information is needed (e.g. directly below the price) (ACM, 2021[55]).
Using icons instead of text	Mixed evidence	Several studies seem to suggest that the use of a symbol or icon (e.g. "i"), which links to more information, is often not enough to enhance consumer interaction with the disclosure. This is particularly true if the icons are non-intuitive (ACM, 2021[55]; KFST, 2021[53]). Self-explanatory labels seem to be preferable. Table 2 provides more evidence on the effectiveness on icons.
Other		
Using multiple channels (e.g. visual and audio)	Yes (conditional)	In a multimedia context, providing several modalities of the disclosure (e.g. text, audio, visual) can be beneficial (KFST, 2021[47]). However, it seems important to ensure that the used channels are not competing with other content transmitted using the same mode in order to limit the risk of information overload (Evans and Hoy, 2016[57]).

Source: OECD elaborations based on Annex B. * Based only on a single study.

2.2. Complex or extensive online disclosures

Table 2 provides a summary of findings from the empirical literature on how to enhance the effectiveness of online disclosures that are extensive in scope, entail complex

information or involve different consumer choices. Annex C provides more details; Annex E provides an overview of different metrics employed and the levels of disclosure effectiveness achieved.

Table 2. Enhancing the effectiveness of extensive or complex disclosures – Summary

Additional discussion of these studies, along with visual examples of the disclosures, is available in Annex C.

Measure	*Effective?*	*Literature*
Content and Wording		
Adding a reading time cue	Yes	Increases percentage of people accessing (e.g. click link to open) the disclosure. Confirmed in Elshout et al. (2016[32]) and BIT (2019[58]).
"Last chance to read" cue	Yes	Increases percentage of accessing (e.g. click link to open). Confirmed in ACM (2021[55]) and BIT (2019[58]).
Personalised message	Yes*	Increases percentage of people accessing (e.g. click link to open) the disclosure and enhances comprehension. Confirmed in BIT (2019[58])
Simplification of text (e.g. shortening sentences, using simpler terms)	Yes* (conditional)	Confirmed for low-education participants in BIT (2019[58]).
Provide context or benchmarks to numerical information	Yes (conditional)	Confirmed in the context of financial disclosures (e.g. borrowing cost scenarios in dollar terms, comparison of borrowing costs with other financial products) (Bertrand and Morse, 2011[59]; SERNAC, 2020[19]; SERNAC, 2021[60]).
Adding guidance on next steps consumers can take	Yes (conditional)	Confirmed in the context of financial disclosures for the addition of a step-by-step guide to find best alternative contract (SERNAC, 2020[19]). Effects may be less pronounced if the information provided is more loosely linked to the task at hand (e.g. providing a saving planner rather than a step-by-step guide) (SERNAC, 2020[19]).
Changing the message framing (e.g. in terms of benefits or risks)	No*	Tested but not confirmed in Gluck et al. (2016[61]) in the context of a privacy policy (providing the reasons for certain practices or highlighting risks).
Presentation		
Showing T&Cs in a scrollable textbox (rather than as a long textblock)	Yes*	Confirmed in BIT (2019[58]).
Displaying key terms as FAQs	Yes	Confirmed in BIT (2019[58]) and in the literature on financial disclosures (Hogarth and Merry, 2011[62]).
Showing the disclosure at the right time	Yes	In the context of a privacy notice for a mobile app, Balebako et al. (2015[63]) find that **timing** the disclosure such that it is shown in the context of using the app (e.g. at start or during use) leads to higher recall of the notice content than showing it in the app store, i.e. before the app is downloaded. In the context of privacy notices for a price comparison website, BIT (2019[58]) find that showing bits of the privacy policy in **pop-ups** that appear when consumers are filling out the corresponding fields in a form also leads to higher comprehension.
Providing a summary table or examples of important terms	Mixed (conditional)	Effectiveness of summary tables confirmed in KFST (2018[64]) (in combination with icons) and BIT (2019[58]) for comprehension of *highlighted* terms. Also confirmed in ACM (2021[55]) (not specified whether comprehension relates to highlighted or non-highlighted terms). However, according to BIT (2019[58]) comprehension of terms *not highlighted* in the summary table may be reduced. Similarly to summary tables, BIT (2019[58]) highlight that providing examples may

		enhance the comprehension of the exemplified terms, while comprehension of non-exemplified terms may be reduced.
Using icons to highlight key elements	Mixed (conditional)	Gluck et al. (2016[61]) test several different formats (e.g. icons, bullets, table) of a short-form privacy policy but find no significant effects on awareness. BIT (2019[58]) provide evidence in the context of short-version (excerpts) of T&Cs (Experiment 1) and privacy policies (Experiment 3), suggesting that **icons** can be effective. However, they also find that in the context of longer disclosures (e.g. a full privacy policy), icons can reduce comprehension by aggravating information overload (Experiment 4). A simple addition of emojis also delivered no significant results. SERNAC (2021[60]) find, in the context of credit card statements, that a warning symbol, highlighting possible extra fees for incomplete repayment, can significantly enhance consumers' understanding of these fees and lead to better decisions.
Using icons to represent different types of choice (e.g.)	Mixed*	In the context of privacy choices, Habib et al. (2021[65]) suggest that icons, and accompanying captions, vary significantly in their effectiveness of conveying available choices and should be properly tested. For general privacy choices, they find that a color neutral *Stylised Toggle* (see Figure A.C.6 in the Annex) works best in combination with a straightforward text, such as "Privacy Choices" or "Privacy Options". Their findings also suggest that complex concepts (e.g. "opt-out", rather than a simply "choice") are more difficult to iconize and can lead to confusion. Particular care has to be taken when combining colors that are associated with a particular meaning (e.g. red or green) with negative phrasings (e.g. "Do Not Sell My Data"), as possible double-negative interpretations may confuse consumers.
Adding layers to a short-form summary	No*	In the context of short-version privacy policies, BIT (2019[58]) find that **layering** summaries, i.e. making them expandable, reduces comprehension compared to a simple summary paragraph that can be read completely without the need to engage in additional action (clicking on a link) to access the remainder of the information (Experiment 3).
Visualising complex terms	No*	No statistically significant effect on comprehension for the use of a slider to present cancellation costs in BIT (2019[58])

Source: OECD elaborations based on Annex C. * Based only on a single study.

2.3. Comparative analysis: Product recall, data breach, and class action notices

This sub-section summarises main findings from the literature on product recall notices, data breach notifications and class action notifications, highlighting common threads but also differences. Compared to the previous two sub-sections, empirical evidence in all three areas is currently limited. This may be explained by specificity of the underlying consumer policy context, which is difficult to emulate in a hypothetical setting. In particular, product recall notices, data breach notifications and class action notices often:

- become relevant long after the commercial transaction itself has taken place;
- arise in the unforeseen and, presumably, rare case that something "went wrong";
- are associated with significant potential for consumer detriment (including injury or death);
- require effective communication of risks and urgency;
- aim to nudge consumers towards a particular action (e.g. password change, product return).

In all three policy areas consumers are further often facing a clear ***trade-off*** between the costs associated with reacting to the disclosure (e.g. changing a password, filing a claim or

returning a product) and the benefits (e.g. limiting the risks of an identity theft or unsafe product or benefitting from monetary compensation). Because consumers' assessment of this trade-off can be seriously affected by behavioural biases (e.g. present bias, see Chapter 3) it is of critical importance that the elements of the trade-off are clearly stated (see below).

Several stakeholders are currently working on enhancing the evidence base for policy guidance in all three areas and the following findings are based on this growing body of work (EC, 2021[66]; EDPS, 2018[67]; FTC, 2019[17]; 2019[18]; Iwaya, Koksal-Oudot and Ronchi, 2021[12]; OECD, 2020[8]; 2018[9]; 2018[10]).

2.3.1. What to disclose

For each of the three disclosure types, there are three informational elements that should be disclosed. These three elements are particularly relevant because they clarify the trade-off that consumers face in the light of the disclosed information:

- Information that helps consumers to determine **whether the disclosure applies** to them;
- Information regarding possible **risks or benefits** associated with the underlying situation;
- Information regarding **concrete steps** consumers can take to avoid risks or obtain benefits;

Additionally, it can sometimes be useful to require the disclosing entities to provide contact details that enable consumers to obtain further help or information if needed.

In line with this, OECD guidance in the context of **product recall notices** (OECD, 2020[8]), for example, suggests that information should: i) describe the recalled product, including a clear and high quality image and key product identifiers; ii) identify the product safety issue and risk faced by consumers in the context of product recalls; iii) provide simple instructions on how consumers can participate in a recall, including the actions they may take to update, return or dispose a recalled product. Additionally, contact details for further information are to be provided.

Similarly, in the context of **data breach notifications**, EU guidance (EDPS, 2018[67]) suggests that disclosures should: i) describe the nature of the personal data breach; ii) describe the likely risks associated with the personal data breach; and iii) provide recommendations as to how affected individuals can protect themselves from possible adverse consequences. Additionally, the contact details of the Data Protection Officer are to be provided. Related FTC guidance (FTC, 2019[17]) also suggests that the breached organisation should clearly describe what they know about the compromise (including the type of information stolen and how thieves may have used it) and inform affected individuals about the steps they can take to reduce chances that their data will be misused. However, there is no explicit requirement to highlight possible risks for the consumer.

Finally, in the context of **class or representative actions**, recent EU regulation [Preamble of Directive EU/2020/1828] highlights, e.g., that the concerned consumers should, among other things, be provided with: i) a description of the group of consumers concerned; ii) the possible or actual legal consequences of the action; and iii) the necessary steps to be taken by the consumers concerned in order to benefit from the injunctive measures, redress measures or the approved settlements.

2.3.2. Disclosures should be clear, concise and simply laid out

Many of the general principles of effective disclosures discussed in the previous sections of the report also hold for product recall notices, data breach notifications and class action notifications:

- The OECD Product Safety Recommendation highlights that businesses should provide consumers with "**clear, accurate and easy-to-understand information**" (OECD, 2020[16]).
- EU guidance on data breach notifications highlights that the content of the notification should be using "**clear and plain language**" (EDPS, 2018[67]).
- The US Federal Rule of Civil Procedure on Class actions ("Rule 23") also specifies that notices to class members must be **clear and concise** and use **plain, easily understood language**.

Focus group testing in the context product recall notices further suggests that consumers respond positively to **clearly-laid-out notices**, signposting them to the risk, what to do to avoid the risk, and what the next steps were (EC, 2021[66]). This is partly confirmed by the FTC's empirical work on class action notifications, suggesting that shortened and **simplified** notifications were more effective in conveying to consumers what steps they should take (FTC, 2019[18]).

However, the FTC's findings also suggest that a long-format e-mail, containing formal and legal writing, can sometimes enhance consumers' understanding of the nature of the e-mail, while simpler formats and easier-to-understand language may induce **mistrust**. Similarly, the presence of a court seal in the e-mail body has been found to slightly improve respondents understanding of the nature of the e-mail, the refund process, as well as the likelihood of receiving a refund, and diminished the percentage of respondents mistaking the notice for advertisement (FTC, 2019[18]). The relevance of these findings may be limited to the more technical, legal nature of class action notifications.

2.3.3. Disclosures should effectively communicate risks and benefits

Potential **consumer risks** should be clearly communicated. For example, OECD guidance on product recalls suggests that the risk faced by the consumer using the recalled product need to be identified, "**avoiding verbose and mixed messages**" (OECD, 2020[8]).

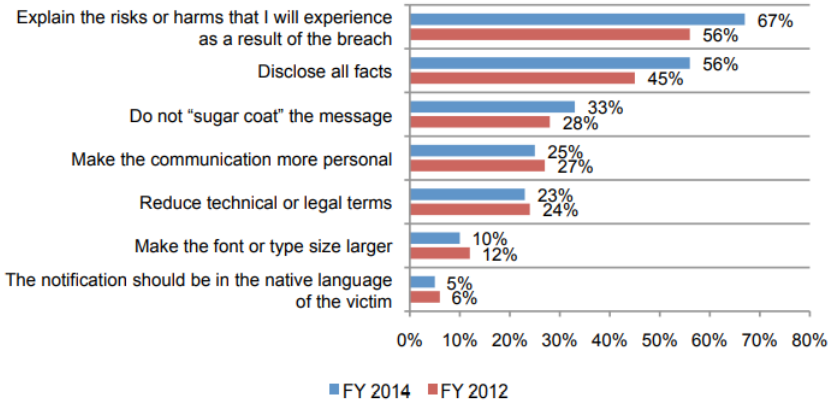
- Words like "**urgent**", "**recall alert**" and "**danger**" seem to be particularly effective, whereas vague language, such as 'precautionary', 'discretionary' or 'voluntary', despite still being frequently used in a number of product recalls, may confuse consumers and downplay product risks (EC, 2021[66]; Cowley and Wogalter, 2008[68]).
- The **title** of recall notices should give consumers a **sense of urgency and severity** (OECD, 2018[9]). Urgency and risks can also be communicated visually, e.g. using **colours or warning symbols** (Figure 2). A recent experiment further suggests that **pictorial** risk representations can enhance emotional reactions to a product recall. However, an effect on the likelihood or timeliness of a consumer response has not been confirmed (BEIS, 2020[69]).

Figure 2. ACCC's Recall Advertisement Template

Source: ACCC (2015[70])

As shown by the results from surveys on consumer perceptions of data breach notifications, a **clear communication of risks** also seems to be **in line with consumer preferences**. Consumers rank the explanation of possible risks or harms resulting from a data breach as the most important element of breached organisations' communication strategy (Figure 3). Consumers also prefer to have "all facts disclosed" and don't like messages to be "sugar-coated" (Ponemon Institute, 2014[71]).

Figure 3. Consumer preferences with regard to Data Breach Notifications



Note: "What could the organization do to improve the communication?" Two responses permitted per respondent. N = 797 (2014 Survey)
Source: Ponemon Institute (2014[71])

Research on risk communication further suggests that **providing quantitative information** can help consumers to assess the involved risk and to put it into context (Baron, 2004[72]). However, the UK's Working Group on Product Recalls and Safety also highlights that providing risk information can also have counterproductive effects if the risk is considered low (e.g. "Risk X has occurred in one of ten thousand cases") (BEIS, 2017[73]). The FTC further warns that explicitly stating the refund amount in the subject

line of a class action notice can in some cases lead consumers to mistake the notice for advertising (FTC, 2019[18]).

Finally, and as discussed in more detail in Chapter 3, the effectiveness of a particular **message framing**, may depend on a particular consumer's level of attachment to the product or seller in question (Seo and Park, 2019[74]).

2.3.4. Disclosures should help consumers take action

Reducing the perceived cost of taking action can enhance disclosure effectiveness:

- Empirical analysis on class action notices shows that noticeable, easy-to-find claim forms can yield significantly higher claim rates and that **streamlining the instructions** for filing a claim can improve consumer understanding of the claims process (FTC, 2019[18]).
- EC guidance on product recalls similarly suggests that operators should make it less burdensome for consumers to participate in a recall, offering **quick and simple processes** and limit the financial (e.g. shipping) costs of participation (EC, 2021[66]).
- OECD guidance on recall effectiveness warns that consumers may disengage if the proposed remedy is impractical or inconvenient and suggests that businesses may **consider providing incentives**, e.g. discounts or vouchers, to motivate consumer participation (OECD, 2020[16]).[14] Similarly, FTC guidance on data breach notifications suggests that breached organisations may consider offering remedies, such as free credit monitoring, identity theft protection or identity restoration services, particularly when financial data was exposed (FTC, 2019[17]).

The latter seems to be **in line with consumer preferences**, which ranked the offer of free credit monitoring or similar services to ensure that lost data are not misused second (64%) among the actions they would recommend organisations to take after a breach, right after ensuring that a similar breach cannot occur in the future (68%) and before an immediate notification of consumers or providing financial compensation for the inconveniences suffered (Ablon et al., 2016[75]).

2.3.5. Disclosure should be made using direct communication through multiple channels and take advantage of new technology options where possible

If feasible, **direct communication** with affected consumers seems to be **most effective**. This is confirmed, for example, by empirical research on product recall effectiveness. This research suggests that respondents were not only more likely to direct their attention towards a recall notice when it was sent by e-mail rather than posted via a general banner ad (25% vs. 17%) but that they also took action more often upon reading it (72% vs. 31%). This is partly explained by a **better targeting** of affected consumers, which minimises *recall fatigue* (EC, 2021[66]).[15] In line with this, the recent EU Directive on representative actions (EU/2020/1828), for example, also suggests that consumers should be informed individually where appropriate (Article 13).

However, less personal means of communication, such as a general recall notice on a manufacturer or seller's website, still seem to be used more frequently overall (EC, 2021[66]). To increase use of direct communications, the OECD Product Safety Recommendation (OECD, 2020[16]) suggests **fostering businesses' use of "mechanisms and tools […] to identify and contact those consumers affected by a recall** without delay". The accompanying guidance document proposes to **encourage convenient product registration** (OECD, 2020[8]). This seems particularly relevant in the context of

vulnerable consumers or low value products, where the number of product registrations typically remains low (EC, 2021[66]). In the context of class action notices, US courts are further increasingly approving **individual notice through e-mail**, which reduces costs and increases efficiency compared to more traditional means of direct communication, such as conventional letters and postcards (FTC, 2019[18]).

Where personal contact details of affected individuals are not available, **use of different media** to disclose information is recommended. For example, class action notices in the United States have appeared in magazines, newspapers, television, and radio and, increasingly, through banner and pop-up advertisements (FTC, 2019[18]). Similarly, in the case of data breach notifications, guidance by the US FTC suggests using letters, websites, and toll-free numbers to communicate with people whose information may have been compromised. Extensive public relations campaigns, including press releases and other news media notifications, should also be considered if contact information for affected individuals is unavailable (FTC, 2019[17]). In the context of product recall notices, the OECD is further currently working on specific guidance for a better presentation of recall notices in different types of media, including websites and apps (OECD, 2022[39]).

Where possible, businesses may also consider **using other technological means** to reach consumers. For example, in the case of Samsung's recall of the Galaxy Note 7, 23 million recall alerts and push notifications were sent directly to customers via their mobile device. Additionally, a software update was implemented in some countries to reduce the battery capacity of the phones that were still in consumers' hands. Through Samsung's direct and sustained consumer communication programme, 90% of the affected phones were returned to the company within four months and a further 7% within 7 months (OECD, 2018[10]). Similarly, in the context of a major data breach, Yahoo in 2014 forced all of the affected users to change their passwords and invalidated unencrypted security questions (The New York Times, 2016[76]).

2.3.6. Timing matters

Disclosure requirements, including those established by the OECD Product Safety Recommendation (OECD, 2020[16]) or in Directive EU/2020/1828 on representative actions, further suggest that **information should be provided to the consumer in a *timely* manner**. Timing may be particularly important when the potential for consumer detriment from inactivity is high. In particular, providing consumers with timely information about a product recall can be key to removing dangerous products from the market, preventing product related injuries (OECD, 2018[9]). Similarly, US FTC guidance on data breach notifications suggests that if consumers are *quickly* notified that their personal data has been compromised, they may be still be able to take steps that reduce the chances that their information will be misused (FTC, 2019[18]).

This is **in line with consumer preferences**: according to the results from a survey, 63% of consumers highlighted that businesses should *immediately* notify them when a data breach has occurred (Ablon et al., 2016[75]). However, the US FTC in this context also warns that **businesses should consult with law enforcement authorities** regarding the timing of a data breach notification, to avoid interference with ongoing investigations (FTC, 2019[18]).

2.3.7. Consistency and standards should be encouraged

Guidance on product recall effectiveness also highlights the importance of globally agreed practices to **promote international consistency and facilitate swift global action** (EC, 2021[66]; OECD, 2020[8]; BEIS, 2017[73]). EC (2021[66]) in particular highlights that "having a standardised template for the recall notice might allow consumers to engage more easily".

The same argument likely holds for other online disclosures, including data breach notifications. Data security experts have highlighted more **uniform notification requirements** as "perhaps the most pressing issue" (Hoofnagle, 2007[77]) – not only to enhance consumer engagement, but also to avoid a false sense of security for consumers who haven't received a notification at the same time as others and to facilitate the collection of information regarding data breaches by data protection authorities (Iwaya, Koksal-Oudot and Ronchi, 2021[12]).

Chapter 3. Challenges: Information overload, behavioural biases, and business incentives can undermine disclosure effectiveness

Previous OECD work has looked into improving online disclosures with behavioural insights (OECD, 2018[7]), highlighting, in particular, that consumers can be subject to information overload and other behavioural biases impacting their ability to process disclosures. The work also indicates that some businesses may lack incentives to enhance disclosure effectiveness or implement disclosures in misleading ways, so that consumers make decisions they may not have made if fully aware of the disclosure content. This chapter provides a brief overview of the main challenges to disclosure effectiveness, including also policy challenges arising in the context of consumer heterogeneity and the unintended consequences of effective disclosures.

3.1. Information overload and the accumulation problem

As highlighted in previous OECD work (OECD, 2018[7]), consumers use many sources of information when making purchase decisions, especially in the online world. However, when provided with **too much or complex information (*information overload*)**, consumers process information more selectively and rely on heuristic "rules of thumb" in their decision making process. Online disclosures may thus be ignored, or may amplify information overload and distract consumers from other relevant information (FTC, 2016[5]).

While the problem of information overload is, in a narrow sense, one of *processing capacity* (Miller, 1956[78]), the literature also highlights that **consumers are *time-constrained*** and hence need to balance the benefits and costs of taking an additional piece of information into consideration. Sometimes, the **choice to discard information can be a rational and efficient consumer response**, particularly for long and complex disclosures (Crawford et al., 2021[79]; Helleringer and Sibony, 2017[4]; Elshout et al., 2016[32]). The practical implications of both limitations, processing capacity and time constraints, are almost identical. Thus, "time-pressured consumers are likely to make key decisions by i) limiting searches; ii) deferring to an intermediary for advice; iii) employing a rule of thumb (i.e. a heuristic technique); or iv) forgoing making a purchasing decision because of the effort that would be required to properly research and evaluate a proposition." (OECD, 2010[1])

Online disclosures are at a particular risk of being disregarded, especially if they are lengthy or complex, because consumers may consider reading them as an obstacle to achieving their primary goal, e.g. to complete a purchase or access a website (Stewart and Martin, 2004[15]; Obar and Oeldorf-Hirsch, 2018[80]). This is particularly the case when consumers don't see an alternative to accepting the disclosed information in order to proceed towards their original goal (Ben-Shahar, 2009[81]).

Previous OECD work (OECD, 2018[7]) thus recommends that **policy makers should be wary of exacerbating information overload** when setting mandatory disclosure requirements, bearing in mind the context of the disclosure and the most suitable time for consumers to receive the additional information. It is further important to recognise that **information overload can also arise when consumers are confronted with too many disclosures**.

On the one hand, consumers may become ***habituated*** when they **encounter the same or similar online disclosures repeatedly** (e.g. cookie consent banners or certain warnings). In particular when they believe that nothing new is to be learned from the disclosure, they

may then decide to focus their attention elsewhere (FTC, 2016[5]). On the other hand, consumers may face an ***accumulation problem***,[16] when the **total number of (possibly different) disclosures becomes too large** (Ben-Shahar and Schneider, 2010[34]).

For example, Obar and Oeldorf-Hirsch (2018[80]) present evidence suggesting that consumers tend to skip privacy policies and terms of services not only because they are extensive or complex, but also because there are too many such disclosures online and consumers don't have time to read them each time they visit a website. Additionally, a consumer purchasing a product from an online platform may, in this single transaction, encounter many different types of disclosures, regarding for example: the platform's conditions of use and privacy policies; paid ads or rankings; information about the vendor, the price, or shipping costs; the vendor's sales terms and conditions; and possible usage restrictions or safety warnings regarding the product of interest. All these disclosures are competing with other information that may seem more relevant to the consumer, such as product reviews or vendor ratings.

Ben-Shahar and Schneider (2010[34]) highlight:

> *"Lawmakers evaluate disclosure mandates issue-by-issue, but in disclosees' lives, each disclosure competes for their time and attention with other disclosures, with their investigations into unmandated knowledge, and with everything they do besides collecting information and making decisions (like working, playing, and living with their families). One disclosure by itself may seem trivial, but en masse disclosures are overwhelming."*

The **accumulation problem is difficult to detect** and account for, because, unlike information overload resulting from extensive or complex disclosures, it depends on the complexity of a consumer's *actual* information environment and hence is difficult to assess in laboratory experiments, which typically consider individual disclosures in isolation. Additionally, and as highlighted by Ben-Shahar and Schneider (2010[34]), **individual disclosure requirements are often considered issue-by-issue**, often involving different agencies or jurisdictions.

Stewart and Martin (2004[15]) therefore highlight the **need for regulatory coordination**:[17]

> *"Regulatory focus on a single piece of information for a single product ignores the broader information environment in which consumers purchase and use products. The burden of coordination is not unique to advertisers; it must also be shared by regulators."*

The EBA's proposals for a review of the EU Directive on Distance Marketing of Consumer Financial Services (Directive 2002/65/EC) seems to confirm that enhanced regulatory **coordination remains a challenge** in some areas (EBA, 2019[27]):

> *"The disclosure requirements in the DMFSD should be reviewed for potential overlaps and/or inconsistencies with disclosure requirements in other, product–specific Directives and Regulations applicable in the EU, such as those governing payment services, payment accounts, or mortgage credit."*

Consumer protection **authorities should regularly review potential overlaps or inconsistencies in regulatory disclosure requirements**. Importantly, a lack of coordination may well result in unforeseen trade-offs, in particular when different disclosures that are provided to the consumer in close proximity (space or time) to each other compete for the consumer's attention. For example, even a well-designed personalised pricing disclosure may be easily overlooked in the presence of a relatively more salient health warning. Accordingly, the **salience or prominence of a disclosure needs to be considered *relative* to the salience of other disclosures** to ensure that both

will get sufficiently noticed.[18] **A/B testing**, which takes into consideration the full complexity of consumers' information environment, provides a promising ways to approach the accumulation problem empirically.

3.2. Behavioural biases

Behavioural biases can limit online disclosure effectiveness and, in their presence, even simple disclosures with a narrow scope, presented in isolation, may not help consumers to take more informed decisions (OECD, 2018[7]; 2018[13]; 2020[8]). **Consumers facing information overload are particularly susceptible to behavioural biases** (Tversky and Kahneman, 1974[82]).

OECD (2018[7]) provides a detailed overview of how behavioural biases can affect disclosure effectiveness. Examples include:

- Consumers who are ***present biased*** and ***myopic*** (short sighted) may overestimate the short-term costs of carefully considering privacy choices before signing-up to a social media platform and underestimate the possible long-term risks associated with an uninformed choice. They may also be prone to disregard fine-print regarding the possible future follow-up costs of an online subscription, focussing too much on the immediate benefits.
- Consumers who are ***overconfident*** or underestimate smaller probabilities (***probability neglect***) may fail to react to product recalls or data breach notifications because they underestimate the risks of product malfunctioning or identity theft. They may also be more likely to simply accept the disclosed contract terms of an online purchase without reading them, assuming they will be acceptable.
- Consumers who are susceptible to the ***endowment effect*** overestimate the costs of "loosing" again what they have already had in their possession and may therefore be hesitant to return a product in response to a product recall. They may also stick with a "special" offer, even after previously undisclosed add-on costs (e.g. drip pricing) have rendered it relatively unattractive by the time they reach the final step of the purchase.
- Consumers often also have an inherent tendency to *choose not to choose* (***inertia*** or ***default bias***), which leads them to accept default settings (e.g. cookie consent) without much thought.
- Consumers are also influenced by how information is presented (***framing***), so that different formulations of the same disclosure may invoke different reactions. Similarly, consumers tend to ***anchor*** their reaction to a disclosure around the most salient contextual information (e.g. the display of a higher comparison price) and are prone to ***priming effects***, e.g. based on publicity they have been exposed to. ***Social and cultural norms*** can also impact consumer's perception of and reaction to online disclosures.

Businesses may directly benefit from these biases, for example, when *overconfident* consumers fail to notice unfavourable contract conditions; fail to cancel a free trial subscription in time, due to *inertia*; or simply accept an unfavourable condition because it was pre-selected (*default bias*).

When behavioural biases interfere too strongly with the impact of disclosures, or businesses have been found to take advantage of them, **governments sometimes intervene**, complementing disclosure requirements with outright bans of certain practices (see also Chapter 4). For example:[19]

- Due to the *default bias*, **pre-checked boxes**, e.g. in the context of cookie consent notices, have been ruled invalid in the EU through the Directive 2002/58/EC on privacy and electronic communications and Regulation 2016/679 (GDPR).[20] Similarly, **negative option marketing**, where sellers interpret a customer's failure to take an affirmative action, either to reject an offer or cancel an agreement, as assent to be charged for goods and services have been challenged in the US (FTC, 2009[83]; 2021[26]).
- Because consumers are known to suffer from an *endowment effect*, many jurisdictions have implemented or are considering bans of tactics such as **drip pricing** (e.g. the Consumer Rights Directive 2011/83/EU) or **bait advertising** (e.g. Title 16 of the US Code of Federal Regulations, §238), which prey on consumers' unwillingness to let go of seemingly good offer price.

3.3. Business incentives

In most cases, **businesses are ultimately responsible for designing and implementing disclosures**. For example, the Danish Marketing Practices Act §6(4), which implements the EU's Unfair Commercial Practices Directive, specifies that it is up to the individual trader to choose how to disclose commercial intent, as long as this is judged as being sufficiently clear to an average consumer of the expected target group (KFST, 2021[47]).

Often, this is the most efficient solution, because businesses can test disclosure effectiveness more easily (e.g. through A/B testing) and may have clear incentives to ensure that online disclosures are effective. Jin, Luca and Martin (2018[33]) highlight that:

> *"If consumers are sufficiently sceptical about firms that use complex disclosures and account for this in their decision-making process, then firms that offer better terms or higher-quality products will want to present this information as clearly and simply as possible to prevent themselves from being mistaken for worse firms."*

Previous OECD research (OECD, 2018[7]) notes, for example, that consumers are more inclined to disclose personal information when privacy policies are perceived to be fair, i.e. when consumers know why and how their information is being collected and are able to control how it will be used (Culnan and Armstrong, 1999[84]). Helberger (2013[85]) provides concrete examples of efforts by some online businesses to develop consumer-friendly privacy disclosures. As discussed above, some businesses have likewise been quite innovative in using technology to enhance recall effectiveness (see Chapter 2). Accordingly, OECD guidance (OECD, 2018[7]) suggests that **policymakers should limit the prescriptiveness of mandated disclosure requirements** to the minimum necessary, which is especially true **if business and policy interests are well aligned**.

However, in other instances online businesses may have fewer incentives to maximise disclosure effectiveness or cannot easily do so. For example,

- if the number of mandatory (general or sector-specific) disclosure requirements becomes very large, the **cost of enhancing the effectiveness of each individual disclosure may become prohibitive**, forcing businesses to concentrate on compliance rather than on efficient communication (OECD, 2018[7]).
- if the content of the **disclosed information is associated with significant costs for the disclosing entity**, incentives to disclose effectively may be limited. For example, Kamiya et al. (2018[86]) find that businesses that between 2005 and 2017 reported a cyberattack involving the exposure of personal data to the Privacy Rights Clearinghouse (PRC) encountered an average loss in stock value of around

USD 495 million during the three-day window around the announcement.[21] They also find declining sales growth for the three years after the attack, a decrease in credit ratings, an increase in the probability of bankruptcy and an increase in cash flow volatility. Accordingly, the authors note that "*managers of targets that are not subject to […] mandatory disclosure requirements are likely to have greater incentives to withhold the bad news…*"

The **example of native advertising** is particularly enlightening in this context given that the very effectiveness of such marketing practice may hinge on consumers *not* being able to recognise the offered content as advertising (Wojdynski and Golan, 2016[87]). In line with the Persuasion Knowledge Model (PKM), several empirical studies summarised in Amazeen and Wojdynski (2018[51]) suggest that when sponsored content is recognised as a persuasive message attempt, it may not only lower consumers' evaluation of the message content and their willingness to purchase the advertised products, but also their appreciation of the advertised brand and the publisher. This has direct implications for the willingness of advertisers and publishers to implement disclosure requirements in an *effective* manner. For example, while Amazeen and Muddiman (2017[88]) found a statistically significant negative effect of ad recognition on attitudes towards the brand, the effect is muted for native ads that were not recognised as such, despite being labelled.[22] This may explain why some publishers apparently have tried to make native advertising disclosures *less* noticeable in an attempt to appease advertisers.[23]

There is extensive literature on business incentives to *obfuscate* information:

- In particular, a number of **theoretical studies** suggest that businesses may have incentives to obfuscate information when at least some consumers are myopic, face costs of obtaining information (e.g. including time constraints) or are limited regarding the amount of information they can process (i.e. overload) (Ellison, 2005[89]; Carlin, 2006[90]; Gabaix and Laibson, 2006[91]; Spiegler, 2006[92]; Armstrong and Vickers, 2012[93]; Persson, 2018[94]). For example, when a business is mandated to disclose hidden, undesirable features of its product, it may have an incentive to hide these features by adding irrelevant product features to the disclosure in an attempt to induce information overload (Persson, 2018[94]). Importantly, **obfuscation can remain an equilibrium outcome even in highly competitive markets** (Gabaix and Laibson, 2006[91]).
- In the **empirical literature**, the **benefits of obfuscating information** for firms have been **documented in the context of pricing disclosures**, such as the shipping and handling costs on e-commerce platforms (Brown, Hossain and Morgan, 2010[95]). More generally, Jin, Luca and Martin (2018[33]) use an experiment to show that **strategic incentives to obfuscate disclosures can arise when consumers**, while assessing complex information, **make systematic mistakes** (e.g. when they are naive with regard to disclosers' strategic use of complexity or overconfident with regard to their own ability to process complex information). Finally, Elshout et al. (2016[32]) provide evidence from a consumer survey suggesting that **consumers who have not read the T&Cs often refrain from undertaking actions against the trader** when later facing a problem due to the contents of the T&Cs. According to the authors, this may partly explain why firms still rely on complex T&Cs, despite explicit policy guidance to avoid them.

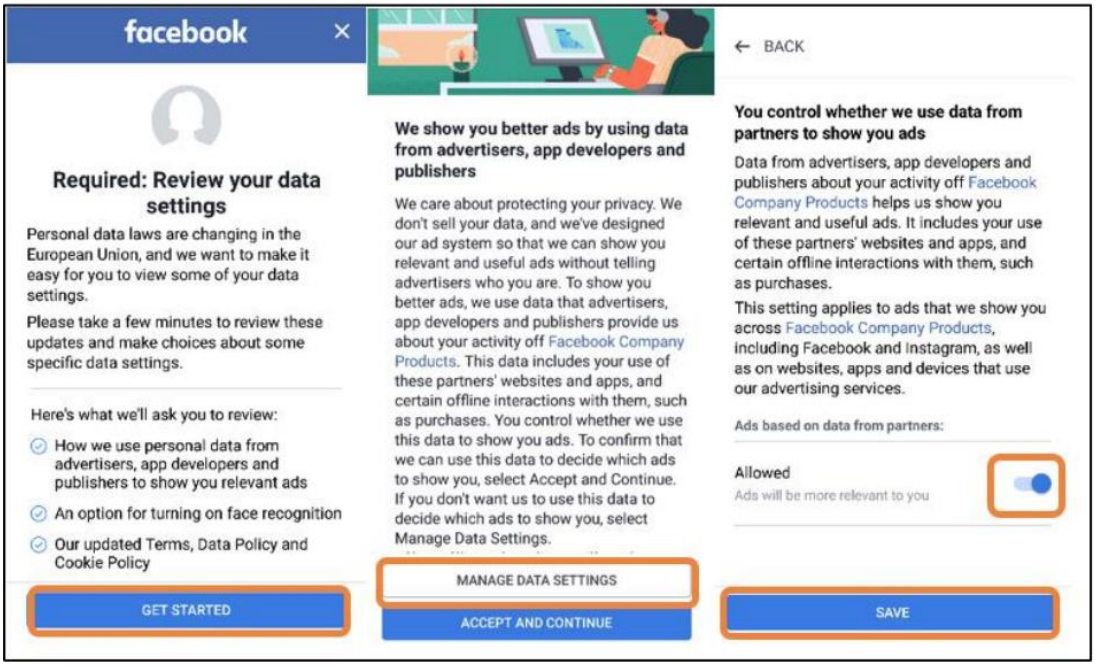
The discussion of business incentives in the context of online disclosures closely **links to the policy discussion on *dark commercial patterns* online**, i.e. business practices employing elements of digital choice architecture, in particular in online user interfaces, that subvert or impair consumer autonomy, decision-making or choice. They often deceive,

coerce or manipulate consumers and are likely to cause direct or indirect consumer detriment in various ways, though it may be difficult or impossible to measure such detriment in many instances (OECD, forthcoming[49]). Examples of dark patterns that are directly related to online disclosures include:

- *Disguised ads* (see discussion of native advertising above).
- *Hidden costs*, where a new, additional, and often unusually high charge is added just before a consumer is about to complete a purchase (this includes *drip pricing*, e.g. on hotel booking websites (Sullivan, 2017[96])).
- *Obstruction* related dark patterns, which create obstacles to certain consumer actions. For example, Figure 4, taken from a study of the Norwegian Consumer Council (Forbrukerrådet, 2018[97]), shows a privacy notice that nudges users towards privacy intrusive options.

In some online disclosure contexts, dark patterns are very frequent. For example, in a random sample of 1 000 privacy consent notices, Utz et al. (2019[48]) found that more than half (57.4%) exhibited interface design to steer website users towards accepting privacy-unfriendly options. They also seem to be **very successful in undermining informed consumer choice.** For example, using a field experiment, Nouwens (2020[98]) find that removing the *reject all* button from the first page of a personal data collection content notice increased the likelihood of user consenting to the data collection by 22-23 percentage points.

Figure 4. Asymmetric choices in privacy disclosures



Notes: Example taken from a study of the Norwegian Consumer Council.
Source: Forbrukerrådet (2018[97])

As highlighted above, considering business incentives may be particularly important in contexts where consumers are known to make systematic mistakes (e.g. due to behavioural biases). Policy makers may then need to consider possible countermeasures, some of which

will be discussed in Chapter 4 and, in more detail, in the OECD's parallel work stream on dark commercial patterns online (OECD, forthcoming[49]).

3.4. Heterogeneous consumers

Consumers differ in their information needs but also capabilities (e.g. financial literacy) to use disclosed information in their decision making. As long as the targeted consumer group is clearly defined (e.g. advertising for toys), policy makers and businesses should and can take these differences into account when devising online disclosures (see Box 2 and Figure 1). However, in some cases it can be more difficult to determine the likely disclosure recipient and refine its presentation accordingly. For example, children today can access a wide range of online content and, in the absence of payment authentication and parental control, even make purchases without the knowledge or consent of their parents (OECD, 2021[99]). Accordingly, policy makers may need to consider how online disclosure effectiveness interacts with consumer heterogeneity, even beyond the definition of a specific target audience.

Consumers' ability to understand online disclosures, and to use them in their decision making, may vary, for example, depending on **socio-economic characteristics.** For example:

- Ben-Shahar and Schneider (2010[34]) highlight that disclosure effectiveness may be particularly low for individuals with low **income** or low **education**.
- In the context of native advertising disclosures, Amazeen and Wojdynski (2018[51]) and EC (2018[38]) confirm that advertising recognition for a given disclosure increases with education. They also confirm a significant effect of **age** on advertising recognition, though the direction of the effect is different in the two studies. Results from the EC study further suggests an increase in **experience**, here in the use of a given social media platform, increases ad recognition.
- In the context of financial products, **income** or **financial literacy** have been found to be important determinants of disclosure effectiveness (SERNAC, 2020[19]).

It has also been argued that **consumers' attitudes, beliefs and motivation** can be important determinants of disclosure effectiveness. For example:

- Stewart and Martin (2004[15]) highlight that consumers differ with respect to their **goals and preferences** and that these differences have a significant impact on their use of information.
- The FTC highlights that consumers may require more persuasive messaging if the disclosed information conflicts with the consumer's **existing beliefs** (FTC, 2016[5]).
- The previous discussion on behavioural biases suggests that **overconfident** consumers may be more likely to underestimate the risk associated with continued use of a recalled product.

More generally, **Prospect Theory** (Kahneman and Tversky, 1979[100]) suggests that the optimal framing of a message (e.g. in terms of gains or losses) may depend on the consumer's **personal *reference point*** (e.g. prior beliefs, expectations). Seo and Park (2019[74]) provide an example of how prospect theory can help predict disclosure effectiveness in the context of privacy related notifications.

Optimally, therefore, the framing of a message should be contingent on the specific situation of each individual consumer. Accordingly, previous OECD guidance (OECD,

2018[7]) acknowledges that **online disclosures could be made more effective if personalised**.[24] However, it also highlights that the implementation of personalised online disclosures is not straightforward and may raise new policy challenges, e.g. related to privacy and discrimination.

3.5. Unintended consequences

As discussed above, **online disclosures may sometimes**, intentionally or unintentionally, ***nudge*** **consumers toward certain behavioural reactions**. For example, Bar-Gill (2019[101]) cite evidence suggesting that:

- the introduction of nutrition labels has led to a significant relative decrease in sales of salad dressing with higher fat content, and
- the mandated disclosure of restaurants' hygiene scores in Los Angeles led to a significant shift in revenues from C-grade to A-grade restaurants.

According to Bar-Gill (2019[101]) the observable effects of disclosures on actual consumer behaviour entail significant responsibilities for **policy makers**, who **need to ensure that their interventions do not result in market distortions and inefficiencies**. In particular:[25]

- **Consumers may draw false inferences** from a disclosure. For example, evidence from a behavioural experiment on online personalised pricing disclosures reveals that even supposedly neutral disclosure framings (e.g. that the price would be "appropriate" or "the same as offered to others") were associated with higher purchase (compared to the no-disclosure scenario), because consumers somehow *perceived* personalisation to be in their interest (van Boom et al., 2020[102]).
- **Disclosing one information dimension may increase its *relative salience*** and diminish **that** of others**.** For example, Chapter 2 highlighted that adding a summary table to enhance consumer understanding of key terms and conditions can diminish consumers' understanding of other terms not highlighted in the summary table (see (BIT, 2019[58])).[26]
- **Disclosures may trigger an emotional response** and in the process distort an informed consumer decision. While it is difficult to provide examples of situations where this has led to actual problems, Bar-Gill (2019[101]) highlights that provoking an intuitive response becomes inherently more paternalistic than simply providing information. He also suggests that emotional messaging can involve emotional costs for the consumer (e.g. disgust or fear) that need to be accounted for. For example, in April 2021 the US CPSC released a video on YouTube, illustrating the possible harms for children resulting from the use of an unsafe home-training device with footage from an actual accident. The possible emotional cost for viewers is highlighted by the fact that access to the video is age-restricted and a warning clearly suggests that the content "may be inappropriate for some users".[27]

Chapter 4. Policy options to improve disclosure effectiveness

There is growing recognition that requiring businesses to disclose information to consumers is often not sufficient (Fletcher, 2019[103]). As discussed in Chapter 3, one of the key challenges is the limited ability of consumers to process information and use it in their decision making. In particular, consumers face information overload, process information under the influence of behavioural biases, and may not have the agency or ability to use the disclosed information in their decision making (e.g. due to a lack of financial literacy). Additionally, businesses may in some cases lack incentives or means to disclose information in an effective way or may obfuscate required disclosures. Policy makers may consider several options to address these challenges:

- Foster improved presentation of online disclosures
- Complement disclosure policies with other measures
- Identify alternative policy measures

4.1. Fostering improved presentation of online disclosures

Many consumer authorities have issued **guiding principles** to help businesses understand the determinants of effective disclosures. Examples include the UK's *transparency* and *prominence* standard, requiring consumer contracts to include plain, intelligible and legible language (where written), and to be brought to the (average) consumer's attention (Fletcher, 2019[103]) or the US FTC's *clear and conspicuous* standard (see Box 4). As previously noted, similar guidance is entailed in the OECD's E-commerce Recommendation (OECD, 2016[6]).

Consumer authorities offering such guidance should **take into consideration behavioural insights** and should test recommendations empirically, for example through experiments, surveys or focus group testing. **Periodic reviews** of such guidance can also be useful to ensure it remains future proof. The UK's Financial Conduct Authority, for example, in 2016 engaged in a "Smarter Consumer Communications" initiative to assess the fitness-for-purpose of regulatory requirements in the digital age and to update existing guidance for more targeted, proportionate and customer-centric disclosures (OECD, 2018[13]).

A critical question is how detailed the guidance should be. For example, while in some cases high-level principles, such as '*clear and concise'* may be sufficient, in others, more detailed guidance or concrete examples may be needed, such as in advertising contexts where businesses may have limited incentives to ensure disclosure effectiveness (FTC, 2013[31]). The challenge for policy makers is to find the **right balance between** providing **sufficient guidance**, ensuring that businesses know what is expected from them, **and not being overly prescriptive**, allowing for flexible adjustments to changing technologies and business models. It is therefore advisable for policy makers to **involve businesses** and other stakeholders directly when developing policy guidance. Both the US FTC and the EC, for example, have done this in the past (FTC, 2013[45]; EC, 2019[104]).

In some areas, it can also be useful to **foster disclosure standardisation**. For example, in the advertising context Amazeen and Wojdynski (2018[51]) highlight that a lack of disclosure standardisation complicates consumer ability to recognise an ad. Campbell and Grimm (2018[105]) agree and suggest that one of the most effective changes the US FTC could make regarding native advertising is recommending a single disclosure design, relying, for example, on a standard disclosure symbol, colours or shadings.

Recent empirical evidence confirms that standardised disclosures significantly improve consumer awareness and understanding of commercial content and increase the likelihood that consumers can identify it on social media (KFST, 2021[47]). The Israel Consumer Protection and Fair Trade Authority (CPFTA) has therefore recently changed its practices and, as of 2021, requires all online marketers to use the same standardised terminology ("Advertisements by [company]"). In particular, the CPFTA highlights that the use of only one set of standard disclosure terms could facilitate efficient recognition and learning among consumers (Peer and Shilian, 2021[56]). Importantly, standardisation of key disclosure elements does not necessarily preclude modifications that allow a flexible use in different settings (e.g. across different media) (Campbell and Grimm, 2018[105]).

Disclosure standardisation can be particularly relevant for extensive disclosures. For example, commenting on Australia's insurance policy disclosure regime, consumer organisations have highlighted that inconsistent use of key terms can undermine the disclosure process and product comparability, which is problematic if key definitions are hidden in a lengthy document (ERC, 2017[106]). Standardised, simplified and clearly structured tables, summarising key information could address these concerns. Examples include the Schumer box in the context of credit card agreements, or proposals for standardised short-form privacy notices (Gluck et al., 2016[61]; BIT, 2019[107]). As an alternative, researchers have recently proposed the introduction of standardised privacy *levels* that consumers only need to understand once and then can easily apply across all digital services that collect data from consumers (Crawford et al., 2021[79]).

However, the more complex disclosures are, the more difficult it can be to create useful and meaningful guidelines or standards (Stewart and Martin, 2004[15]). In particular, **what constitutes the most relevant information can be context dependent** and vary for different consumers. Accordingly, agreeing on particular terms to be shown in a standardised short-form of "key" terms may diminish the salience of other, in some cases maybe equally important terms (see Chapter 2).

Technical solutions, including machine-readable disclosures, can provide a possible way forward in certain contexts. In an early application (2002), the W3C, for example, officially recommended the Platform for Privacy Preferences (P3P), which relied on machine-readable privacy policies to automatically handle privacy settings based on pre-determined user preferences. More recently, researchers are considering how machine learning and natural language processing could be used to extract key terms or opt-out choices from privacy policies for a better presentation to the user (Gluck et al., 2016[61]; Bannihatti Kumar et al., 2020[108]). In the context of mobile apps' access to sensitive data, Wijesekera et al. (2018[44]) go one step-further by applying machine learning to automatically change privacy settings based on contextual information, i.e. based on what users are currently doing on their phone (e.g. allowing access to GPS data when a mapping application is used). They show that this can reduce instances where users' expectations about data flows would be defied by around 80%. Finally, machine-readable disclosures can also help to present disclosures to the consumer in a personalised way (FTC, 2016[5]), as long as all consumers retain access to the same comprehensive information.

While some technical solutions (e.g. embedding a "paid ad" tag in the URL of a native ad, see (Campbell and Grimm, 2018[105])) could, in principle, simply be introduced through regulatory mandate, more complex solutions will often rely on other stakeholders, including **information intermediaries**. In the context of mobile privacy settings, the FTC, for example, highlights a potential role for operating systems (e.g. Android or Apple), which connect users to a multitude of apps and could provide the technological base for more consistent disclosures across several apps (FTC, 2013[45]). Online platforms that link consumers to several sellers and providers can play a similar role. This includes online

price comparison websites, which aim to present even complex pricing structures in a comparable way. Regulators can foster these types of solutions by **ensuring that information is disclosed in a form that is usable by other market participants** (Issacharoff, 2011[46]). Data sharing and access initiatives (e.g. the UK Smart Data initiatives, the US MyData initiatives or the Australian Consumer Data Right initiative) can be relevant in this regard.

However, governments also need to **remain vigilant** that industry-led initiatives on information disclosures, which can achieve high acceptance rates in the market, function in alignment with the regulatory requirements. For example, the ACCC recently fined a price comparison website because it misled consumers into believing that the offered comparison was based on *all* electricity plans offered by its partners, when this was, in fact, not the case (ACCC, 2020[109]). Similarly, private sector initiatives to facilitate consumer engagement with cookie consent notices (e.g. *AdChoices*) seem promising and could be effective, but also have been criticised for having serious usability flaws in practice (Garlach and Suthers, 2018[110]; Degeling et al., 2019[35]).

When governments provide policy guidance to businesses, it is necessary to **monitor implementation.** Several authorities further **encourage businesses to test their own disclosures** to ensure that they are in line with the guiding principles (e.g. (ACM, 2020[111]; FTC, 2016[5])). The OECD has released similar guidance in the financial context (OECD, 2018[13]). This seems particularly important in the light of the accumulation problem discussed above (Chapter 3.), which suggests that the effectiveness of online disclosure interventions can sometimes only be really assessed under real world conditions (Fletcher, 2019[103]). Businesses, many of which already use A/B testing and related practices to assess the effectiveness of their websites and their marketing, can be important partners in this regard (Costa and Halpern, 2019[112]).

4.2. Complement online disclosure policies with awareness raising campaigns

Many demand-side interventions, including **online disclosures, can be more effective if consumers are made aware of their objective** (Fletcher, 2019[103]). Fostering public debate and awareness can be powerful in this regard. Habib et al. (2021[65]) argue, for example, that new privacy choice indicators (e.g. icons), even if thoroughly user-tested, should be paired with education and awareness raising on the icon's purpose and possible misconceptions. More broadly, Stewart and Martin (2004[15]) highlight that the more consumers' interpretation and understanding of disclosed information hinges on idiosyncratic factors (e.g. the consumer's goals or knowledge of the product), the less likely the disclosure alone will result in a well-informed decision. Socialisation and education may thus be used to help consumers understand the relevance of the disclosure for their decision.

Empirical evidence on the effectiveness of educating consumers about the relevance of disclosures (***inoculation***) is available in the area of native advertising. A study by the EC, for example, finds that participants who were briefed about unfair or misleading commercial practices were more aware of these practices and more frequently identified native advertising as marketing attempts (EC, 2018[38]). Similarly, Amazeen and Muddiman (2017[88]) provide evidence that a message forewarning readers about publishers' use of sponsored content makes it more likely that they will recognise that content as advertising. Amazeen (2020[113]) find that informing consumers that many people do not notice disclosures regarding native advertising or understand what they mean, doubled the share of consumers that recognised advertising after seeing such a disclosure, from 20% to 41%.

Finally, **public debate and awareness campaigns may also reduce the potential detriment associated with ineffective disclosures**. Elshout et al. (2016[32]) suggest addressing the issue by making consumers more aware of their basic rights to reduce their need to re-read such information in T&Cs or other disclosure types for each purchase they make.

4.3. Outlook: Limits of online disclosures and possible alternatives

This report has highlighted that there is no one-size-fits all approach to enhancing online disclosure effectiveness. It should equally be stressed that the potential role for online disclosure policies may vary from context to context:

In some cases, online disclosure requirements may be the only policy option (e.g. for disclosures of the price, delivery options or the contact details of the seller). In other cases, considering policy alternatives may be useful. For example, in a *native advertising* context, empirical assessments frequently suggest an average ad recognition of (sometimes far) less than 50% for standard disclosures used in practice. Even after modifications aiming to enhance disclosure effectiveness, a significant share of consumers (e.g. 20-25%) often fails to recognise an ad (Table A.D.1 in the Annex summarises related literature findings). If this is the case, policy makers may consider: banning certain advertising practices entirely or holding businesses accountable if their disclosure implementations obviously fail to advert a "significant minority" (see Box 2) of consumers.

The effectiveness of online disclosures requires particular scrutiny in areas such as advertising or data protection and cookie consent notices, where 'dark commercial patterns' are frequent and businesses may sometimes have incentives that strongly diverge from set policy objectives (see Chapter 3 and (OECD, forthcoming[49])). As Willis (2017[114]) highlights, the problem may become even more challenging as advances in technology and analytics increasingly allow businesses to comply with technical disclosure requirements while simultaneously implementing them in a way that provides ineffective disclosures to consumers.

Some have suggested that it may be useful for policy makers to consider direct interventions to **alter the choice architecture** and **outright bans** of certain practices when the typical disclosure implementations clearly circumvent the original policy objective (Chapter 3; (Fletcher, 2019[103]; OECD, forthcoming[49]). As an example, direct intervention may be appropriate in situations where businesses set the default in a cookie consent notice to "agree" despite a policy goal of obtaining informed consent and mounting evidence that consumers may stick to the default despite having a preference for "privacy by default" (ConPolicy, 2020[115]).

Alternatively, Willis (2019[116]) suggests that policy makers may consider substituting disclosure requirements with **performance based regulation**. Rather than mandating specific information to be disclosed, they would set "customer confusion caps" and leave it to businesses to determine how to meet those caps. Businesses could then be required to demonstrate, e.g. through periodic and independent tests, that a sufficient number of actual consumers are aware of the basic properties, benefits and risks of the products they have been sold or content they have been interacting with. In practice, "confusion testing" has already been used, e.g., in the United States. Willis (2019[116]) notes the following applications: i) in enforcement proceedings, to demonstrate unfair, deceptive, or abusive practices; ii) in private litigation, to prove false advertising and trademark infringement; or iii) related to the sale of medicaments, using over-the-counter sales trials to test consumer understanding of pharmaceutical usage and dosing directions.

Similar approaches could be considered when information requirements will likely induce information overload, e.g. because i) consumers receive the disclosure when they are busy with other activities; ii) the sheer amount of information disclosed is too much to process, or iii) the disclosure is too complex or requires specific skills to be understood. Performance based regulation may even provide incentives for businesses to reduce the inherent complexity of their products, to the extent possible, in order to reduce costs of communication.

Annex A. A brief overview of disclosure requirements in OECD countries

General information to be provided in the context of an E-commerce transaction

In general terms, online disclosures requirements in the context of e-commerce are established to ensure that consumers have sufficient information to make an informed decision regarding an online transaction. According to the OECD E-commerce Recommendation (OECD, 2016[6]), this should include information about the business (e.g. legal name, location, contact details), the goods or services offered (e.g. key functionality and interoperability features, safety and health care information) and the transaction (e.g. initial price, variable or recurring charges, terms of delivery, conditions related to returns or available dispute resolution and redress options). The Recommendation is explicit as to what specific information, at a minimum, should be disclosed by the business. Related legally binding requirements, are in place in most OECD jurisdictions, though the scope of required information may vary. Furthermore, not always is the information to be disclosed explicitly listed in the underlying regulation. In the US, for example, Section 5 of the Federal Trade Commission Act (FTC Act) prohibits businesses from engaging in unfair or deceptive acts or practices affecting commerce. The FTC's Section 5 authority is broad and covers, among other things, advertising claims, marketing and promotional activities, and sales practices in general, regardless of the medium. Case law and guidance documents, including the FTC Policy Statement on Deception (FTC, 1983[25]), have addressed specific problematic practices and provide examples of how disclosures are evaluated under the law. In contrast, for example, Article 7 of the EU's Unfair Commercial Practices Directive [UCPD, 2005/29/EC] explicitly lists specific information that is considered material in the context of a purchase, such as the main characteristics of the product, the price inclusive of taxes, the geographical address and the identity of the trader, including, for products offered on online marketplaces, whether the third party offering the products is a trader or not.

Online advertising disclosures

In the section on Fair Business, Advertising and Marketing Practices, the OECD E-commerce Recommendation (OECD, 2016[6]) highlights, among other things, that advertising and marketing should be clearly identifiable as such. It also suggests that any advertising and marketing should identify the business on whose behalf the marketing or advertising is being conducted where failure to do so would be deceptive. Advertising disclosures are of major concern in the online world, where the line between advertising and other content is increasingly blurring. In particular, commercial messages now often show up in the form of editorial content (e.g. in news media sites or online magazines), search results, social media posts or video messages that seamlessly blend in with other non-commercial and independent editorial content (*native* advertising) (OECD, 2019[24]). Several studies have confirmed that consumers tend to face difficulties in distinguishing independent editorial content from advertising (e.g. (FTC, 2017[54]; EC, 2018[38]; KFTC, 2018[117]), highlighting the need for more effective online disclosures in this area. An important sub-set of native advertising disclosures relates to *search* advertising or paid rankings. In particular, FTC guidance (FTC, 2013[118]) clearly highlights that including or ranking a search result in whole or in part based on payment is a form of advertising, and failure to clearly identify a search result as such can qualify as deception. Similarly, the EU Directive 2019/2161 ("New Deal for Consumers"), which amends the Unfair Commercial Practices Directive (2005/29/EC), making it clear that practices where a trader provides information to a consumer in the form of search results without clearly disclosing any paid

advertising or payment specifically for achieving higher ranking of products within the search results should be prohibited. This also applies to providers of online search functions, including search engines or comparison websites that have been directly or indirectly paid by a trader.

Personalised pricing disclosures

While evidence of the prevalence of online personalised pricing remains sparse, the quantity of personal data held on online consumers, combined with the increasing prevalence of personalisation in other domains (e.g. advertisement), have led policymakers to explore how to protect consumers from the potentially adverse effects of personalised pricing (OECD, 2021[11]). The display of disclosures has been considered as one possible response and is reflected, for example, in an amendment to the EU Directive on Consumer Rights (2011/83/EU), requiring traders to clearly inform consumers when the price presented to them is personalised based on automated decisions-making. OECD (2018[119]) highlights further that in most OECD jurisdictions privacy and data protection laws, which in line with the OECD Privacy Guidelines typically require businesses to disclose the purpose for which personal data is collected and seek consumer consent for those uses, may have a bearing in the context of personalised pricing.

Privacy and cookie consent notices

The OECD Privacy Guidelines highlight that there should be limits to the collection of personal data and that any such data should be obtained by lawful and fair means and, where appropriate, with the knowledge or consent of the data subject (Paragraph 7). Additionally, the purpose for which personal data are collected should be specified not later than at the time of data collection (Paragraph 9). Related regulations have been implemented in many OECD jurisdictions. Recent examples include the European Union's General Data Protection Regulation (GDPR) or the California Consumer Privacy Act (CCPA), which further strengthened transparency and consent requirements for companies' data collection practices. As a consequence, Degeling et al. (2019[35]) find, for example, that in mid-2018, when the GDPR went into effect, about 62% of popular websites in the EU displayed *cookie consent notices*, 16% more than in January of the same year. The frequent coupling of online disclosures and requests for explicit consent distinguishes online disclosures in the privacy setting from many other disclosure types. In the context of cookie consent notices, this includes a variety of designs, such as pure online disclosures, disclosures with a binary choice or disclosures with fine-grained consent options for each individual third-part service used by a website (Utz et al., 2019[48]). Online disclosures combined with a request for affirmative express consent are also common in the context of mobile app downloads (FTC, 2013[45]) and may become more common in other contexts where express consent is required, for example for transactions that involve a sale of information about minors in the context of the CCPA.

Data breach notifications

Numerous high-profile data breaches have put the security of personal data high up on the political agenda. The potential consumer harm from the misuse of individuals' personal data can be substantial. However, when the affected data subjects are notified by the breached organisation in time, the resulting harm can be limited, e.g. because individuals may be able to protect themselves from identity theft by changing their password. Accordingly, breach notification laws, requiring data controllers to inform individuals (and authorities) when a security breach has occurred, have been passed or proposed in many

countries, often justified on the grounds that data controllers may have limited incentives to disclose information that may negatively affect their reputation voluntarily (OECD, 2013[120]). A recent survey among 34 OECD member and non-member countries and 24 US States (including 1 US Territory) reveals that currently 26 countries and 15 US states have mandatory personal data breach notifications (PDBN) with specific requirement for data subject notification in place (Iwaya, Koksal-Oudot and Ronchi, 2021[12]).

Product recall notices

The recent OECD Council Recommendation on Consumer Product Safety recognises that consumers have a right to expect that products put on the market are safe under reasonably normal or foreseeable consumer use or misuse (OECD, 2020[16]). Further recognising that safety challenges, including the availability of banned or recalled products in traditional consumer markets, may affect consumer trust in global and digital supply chains, it explicitly recommends adherents to the Recommendation to promote and implement measures to ensure that businesses take all the necessary steps to notify consumers and the relevant government bodies when they become aware that products they placed on the market are unsafe. In particular, businesses should communicate effectively with consumers about a product recall without delay by providing them with clear, accurate and easy-to-understand information about the affected product and its associated risk and remedies, as well as information relating to the rights and obligations of the affected consumers.

Most agencies worldwide today have the authority to mandate a product recall if a company does not take action on its own, though in practice a large majority of recalls are conducted by businesses on a voluntary basis (OECD, 2018[9]). In some countries, such as Australia, Iceland, and Korea, the main elements that should be included in a recall notice are prescribed by law. Some countries also provide specific guidance as to what information should be included in a voluntary recall notice. For example, the sample template provided by the Australian ACCC, in line with the OECD's Product Safety Recommendation, lists the following information: identity of the recalling company, the recalled product (identified, e.g., through serial number and a picture), the product defect and/or safety risk (including pictorial representation where applicable), the types of remedies available to consumers, a list of next steps for the consumer to follow and contact details (ibid).

Class action or representative action notifications

The OECD *Council Recommendation on Consumer Dispute Resolution and Redress* establishes that when a number of consumers allege that they have suffered economic harm as a result of the similar conduct of the same entity or related entities, and it is not practicable or efficient for them to act individually to resolve their disputes, those consumers should have access to mechanisms that provide for the collective resolution of those disputes (B.1.) (OECD, 2007[121]). Such collective *class* or *representative* actions have existed for a long time in some jurisdictions, including the US and several Canadian provinces, and are increasingly becoming more prominent in other countries. For example, a 2014 survey among 22 OECD member and 4 non-member countries suggests that several countries, including Denmark, France, Italy, Korea, Mexico and Norway, have implemented or considered new dispute resolution and redress mechanisms for consumers acting collectively since the release of the Recommendation in 2007. In November 2020 the European Parliament further approved the EU Representative Actions Directive (Directive 2020/1828/EU), strengthening procedural mechanisms for the protection of the collective interests of consumers in an increasingly globalised and digitalised marketplace.

Depending on the jurisdiction, consumer participation in class or representative actions can be determined on an opt-in or opt-out basis. In both cases, consumers typically need to be made aware of the action. In particular, the OECD *Council Recommendation on Consumer Dispute Resolution and Redress* establishes that adherents to the recommendation should ensure that reasonable measures are taken to inform consumers of the initiation of such cases so that they can take steps to become a member of (collective action on an "opt-in" basis) or drop out of the collective group ("opt-out" basis) and all potentially associated benefits if desired (B.3. and B.4.).

Related legal requirements are reflected, for example, in Paragraphs 58 to 62 of Directive 2020/1828/EU, which establish several additional information requirements for both the qualified entities that have brought a representative action before a court and the infringing trader. This includes, as relevant and appropriate, a requirement for the qualified entities to inform consumers, on their website, about the intention to bring forward a representative action, its subject matter, a description of the group of consumers concerned, possible legal or actual consequences and necessary steps to be taken by the consumers concerned in order to be able to benefit from the outcome of the proceeding. The Directive also specifies other possible means of informing consumers that may be considered, including national electronic databases, social media, online marketplaces, popular newspapers, including those that are published exclusively online and, where possible and appropriate, a paper or electronic letter addressed to individual consumers.

In the case of the US, obligations for notices to class members are established, for example, by Rule 23(c)(2) of the Federal Rules of Civil Procedure, which also includes information requirements, for example, with regard to the action's nature, the certified class definition, the class claims, the right and process to request exclusions as well as the action's binding effect on participating class members. The court, responsible for the notice, must thereby direct the "best notice practicable under the circumstance, including individual notice to all members who can be identified through reasonable effort" (FTC, 2019[18]).

Financial consumer protection

Requirements relating to disclosure and transparency in terms of financial products and services are a fundamental part of most financial consumer protection regimes. For example, Principle 4 of the OECD/G20 High-Level Principles of Financial Consumer Protection highlights that "*financial services providers and authorised agents should provide consumers with key information that informs the consumer of the fundamental benefits, risks and terms of the product. They should also provide information on conflicts of interest associated with the authorised agent through which the product is sold.*" The Principle further specifies that information should be provided on material aspects of the financial product, such as prices, costs, penalties, surrender charges, risks and termination modalities. Additionally, and where relevant, financial service providers and authorised agents should provide information on alternative products they provide, including simpler ones.

While these principles apply irrespective of whether a financial product is offered offline or online, many financial consumer protection authorities and regulators are recognising the need to re-assess their disclosure policies in the context of the digital transformation, involving new intermediaries, complex user interfaces, different devices and potentially more complex digital products (OECD, 2018[13]). For example, as part of an evaluation of the 2002 Distance Marketing of Financial Services Directive (DMFSD, 2002/65/EC), the European Banking Authority (EBA) in 2019 released several recommendations, trying to ensure that EU disclosure requirements take account of the increasing use of digital marketing channels for financial services and potentially resulting consumer issues (EBA,

2019[27]). Thus, the EBA highlights, for example, that an update of the DMFSD should focus more on the presentational aspects of disclosures in digital channels (e.g. colour and font size), account for the potentially higher speed with which consumers are led through the buying process and clarify how information should be provided on a durable medium. Several regulators have also released new guidance directed at financial services providers to explain how existing regulation translates into the digital environment. For example, in 2016, the Australian Securities and Investments Commission released a regulatory guide for financial services provider, explaining for example which disclosures can be digitally delivered and under when it can be assumed that a client has nominated their electronic address for the purpose of receiving disclosures (ASIC, 2016[122]).

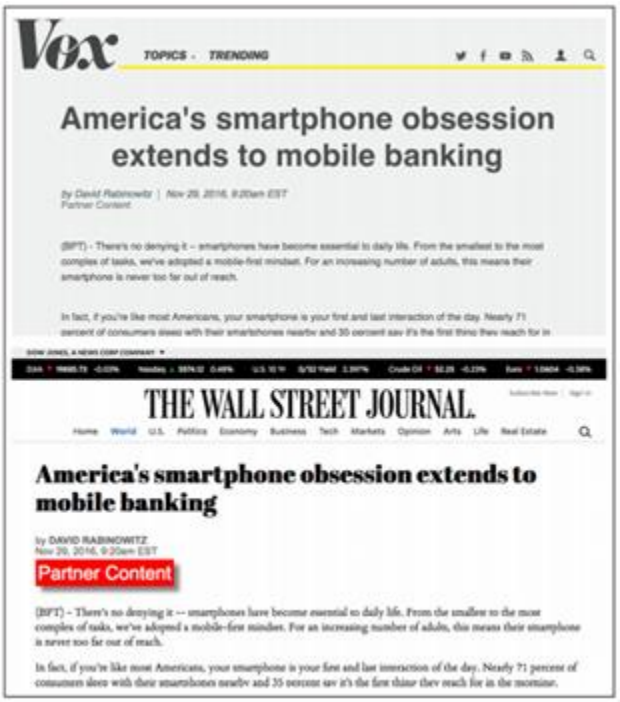
Annex B. Extended Literature Review: Simple online disclosures with narrow scope

Native Advertising in a News Content Environment

Focusing on native ads in a news environment, Wojdynski and Evans (2015[21]) were among the first to empirically assess (N = 242) the effect of online disclosure modifications on ad recognition. Acknowledging that online disclosures need to be *noticed* and *understood*, they considered both, the role of disclosure placement (notice) and wording (understanding) in a behavioural experiment and an eye-tracking study. With regard to the disclosure placement, their research design was informed by earlier studies of online reading behaviour, suggesting that information near the top left corner of the relevant content is most likely to be seen, followed by information towards the top right and then downwards, following the overall shape of an *F* (ibid). With regard to the wording of the disclosure, the authors suggest that a more recognisable and precise language will result in higher recognition compared to unclear or abstract language. Advertising recognition was assessed in a two-step procedure, where, *after* seeing the news content, participants were first asked whether there was any advertising in the content they had seen, and then, to validate their response, had to provide details on how they had recognised the ad content (*2-step ad recall*). The results suggest that participants seeing a mid-story disclosure position where 5.1 times more likely to recognise the ad compared to a position above the article headline (observed: 11% vs. 2%). While a disclosure at the bottom was also recognised more frequently than a disclosure at the top (8%), the difference was not statistically significant. The general pattern was validated in an additional eye tracking study and may be explained either by participants only paying attention to the content starting from the headline, or that the middle position is more effective because it breaks up the content the reader attends to. With regard to the disclosure wording, Wojdynski and Evans (2015[21]) find that "brand-voice" (2%) and "presented by [brandname]" (3%) led to significantly lower ad recognition compared to the simpler and more direct "advertisement" (12%) or "sponsor content" (13%).

Using the same two-step measure of ad recognition, Amazeen and Wojdynski (2018[51]) also focused on disclosure prominence and wording in the context of news content (N = 707) and additionally controlled for differences regarding the presence of a sponsor logo. They find that increasing the font size, the colour contrast between text and the background and adding text box effects (Figure A B.1) approximately doubled native advertising recognition, from 5.5% to 11%. There results also confirm that a more explicit wording of disclosure significantly fostered recognition, from 3.4% ("partner content") to 9.8% ("sponsored content") and 12% ("paid advertisement from [sponsor]"), respectively. The addition of a sponsor logo also enhanced recognition, from 6.6% to 10.5% (marginally significant).

Figure A B.1. Example I: Testing disclosure labels in native advertising (News Website)



Source: Amazeen and Wojdynski (2018[51])

Hyman et al. (2018[52]) also considered ad recognition in online news environment, showing participants (N = 896) a variety of images representing actual online content (8 native ads, 1 modified native ad, 3 "regular" ads and 6 examples of unpaid content). Ad recognition in this case was measured more simply by asking participants to identify ads *while* looking at the content (*direct identification*). On average, only 37% of participants were able to correctly identify the native ads, compared to 81% for regular ads. The authors also investigated the wording of the ad disclosures more closely, showing respondents a list of 13 disclosure wordings and asking them for each label whether they would associate it with paid content, unpaid content or simply wouldn't know. Table A.B.1 shows the result of this exercise, which clearly suggests that disclosures containing the word "paid" were considered more understandable than formulations including the word "sponsored" or other possible variations ("brand", "presented", "partner"). It is noteworthy that this ordering is in line with the findings from Amazeen and Wojdynski (2018[51]).

Table A B.1. Consumer perceptions of Native Advertising Labels

Label	Ad/paid content	Unpaid content	Don't know
Paid Ad	89%	4%	6%
Paid Content	87%	5%	8%
This content was paid for by	86%	6%	8%
Paid Post	83%	7%	10%
Ad	81%	7%	12%
Sponsored	79%	11%	10%
Sponsored Content	76%	12%	12%
Sponsored Post	76%	13%	11%
Brand Voice	64%	16%	20%
Brand Publisher	61%	19%	20%
Presented By	60%	20%	20%
Partnered Content	57%	19%	24%
Partner	57%	17%	26%
Written By	23%	52%	25%

Note: Share of Respondents that believed identified labels were associated with (1) ad/paid content, (2) unpaid content, and (3) don't know. Labels were presented without any associated content. Don't know = don't know/can't tell/not sure.
Source: Hyman et al. (2018[52])

Hyman et al. (2018[52]) further considered the effectiveness of disclosure variations, showing participants two of the original six native ads. For part of the group, one of the ads was modified to enhance salience. In particular, in the case of one ad, the authors inserted a grey horizontal bar just above the article text that was labelled "Paid Ad" (original: "Brand Voice"). In the case of the other, they replaced the small label above the headline saying "Sponsor Content" with a yellow horizontal bar labelled "Paid Ad" in larger fonts. Compared to the original labelling, ad recognition increased from 40% in the control group (original label) to 56% in the treatment group (modified), where the effect encompasses both prominence and wording effects.

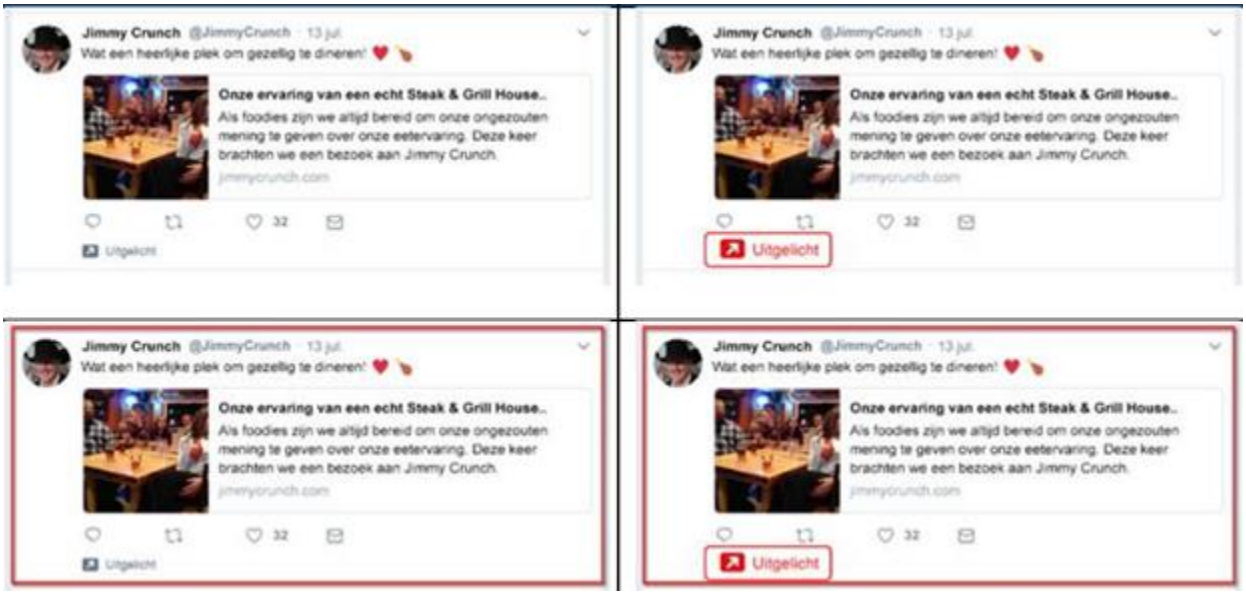
Peer and Shilian (2021[56]) extend on the analysis of different disclosure labels in native ad recognition in an online news media environment, specifically analysing whether explicitly identifying the advertising company enhances disclosure recognition. Participants (N = 1613) were invited to read three different articles on real estate, health and tourism, which were adapted from major news websites in Israel (*ynet*, *TheMarker*, *mako*). According to the experimental condition, the articles contained a disclosure, which was placed between the title of the article and the body of the text. After each article, participants were then asked a number of questions and required to indicate what type of article they had read from a list of six options (plus "other"), one of which was "Advertisement". The experimental design included one control condition (no disclosure) and 10 alternative disclosure conditions, 6 of which were unidentified ("*Advertisement*", "*Sponsored Content*", "*Marketing Content*", "*Promoted Content*", and "*Informative Content*") and 4 of which were identified ("*Courtesy of*", "*Sponsored by*", "*In Collaboration with*", and "*Funded by*"), including the name of the sponsoring business. The study results reveal that, on average, participants correctly identified only slightly more than one third [*mean recognition rate (MDR)* = 39.2%] of the three native ads as advertising, only slightly above the value for the control group (around 33%). Only 12.2% of participants detected all three articles as advertising. All online disclosures (apart from "*Informative article*") increased recognition rates *relative* to the control group, and in particular the disclosures containing

the brand name: the overall average effect of identified disclosures versus unidentified disclosure was a statistically significant increase of 11 percentage points. In particular, while the individual effects of unidentified disclosures on the MDR ranged from minus 4 percentage points ("Informative article") to 8 percentage points ("*Advertisement*"), identified disclosures increased the MDR by around 11-13 percentage points. "*Courtesy of*" was the most effective disclosure, reaching a MDR of around 46%. The study also considered the percentage of participants that correctly identified all articles *as* advertising (Absolute Detection Rate, ADR) and confirmed that, i) compared to the no-disclosure condition (8%), unidentified disclosures overall slightly increased the ADR (8.2%), though the effects were not statistically significant (apart from the "*Informative Article*", which reduced the ADR to 1.9%), and ii) identified disclosures significantly increased the ADR to 18.3% (20% for "*Courtesy of*"). In a second study (N = 626), Peer and Shilian (2021[56]) isolated the effect of identifying the advertiser by including two disclosure variants that were identical apart from the business identifier ("*Advertisement*" and "*Advertisement + Name*"). They find, for example, that while the unidentified "Advertising" disclosure significantly increases the ADR relative to the control from 2% to 12.75%, the effect was even larger for the identified "Advertising" disclosure (25.71%). The authors explain their results suggesting that adding a variable component to the disclosure may diminish the propensity of consumer becoming habituated and ignoring generic disclosures altogether.

Native Advertising in social media

An increasing number of studies are considering native advertising beyond the news content environment. For example, the EC (2018[38]) used a representative sample of 9631 consumers from 6 European countries to test three different variants of native advertising disclosures against the standard disclosure ("sponsored" or similar, depending on the country) in a **Twitter** mock-up, focusing on both article and photo ads. The three variations were: i) adding a coloured frame around the ad, ii) enhancing the salience of the label (larger font, colour red, red frame around the label), iii) enhancing the salience of the label and adding a colour frame (Figure A B.2). The results of the study suggest that increasing label salience (i) increased the identification of native text ads from around 66% to around 75% in the case of text ads and from 72% to around 75% in the case of photo ads. Adding a colour frame around the ad had no statistically significant additional effect on disclosure recognition. Note that the comparatively high overall "ad recognition" in this case is explained by the measure itself, which consider the share of respondents that correctly identified the ad *while* looking at it. In particular, it seems noteworthy that that "ad recognition" was around 70% (photo ad) and 64% (text ads) even in the absence of any disclosure and that the increase in recognition due to the standard disclosure was not statistically significant. Importantly, the EC study finds much smaller effects of enhancing the disclosure salience for countries that used more ambiguous disclosure labels, such as "highlighted", "recommended" or "promoted" (between 0 and 5 percentage point increase) rather than "advertised" or "sponsored" (between 8 and 18 percentage points increase), highlighting that increasing the visual salience of a label that is not sufficiently comprehensible may not be sufficient (see below).

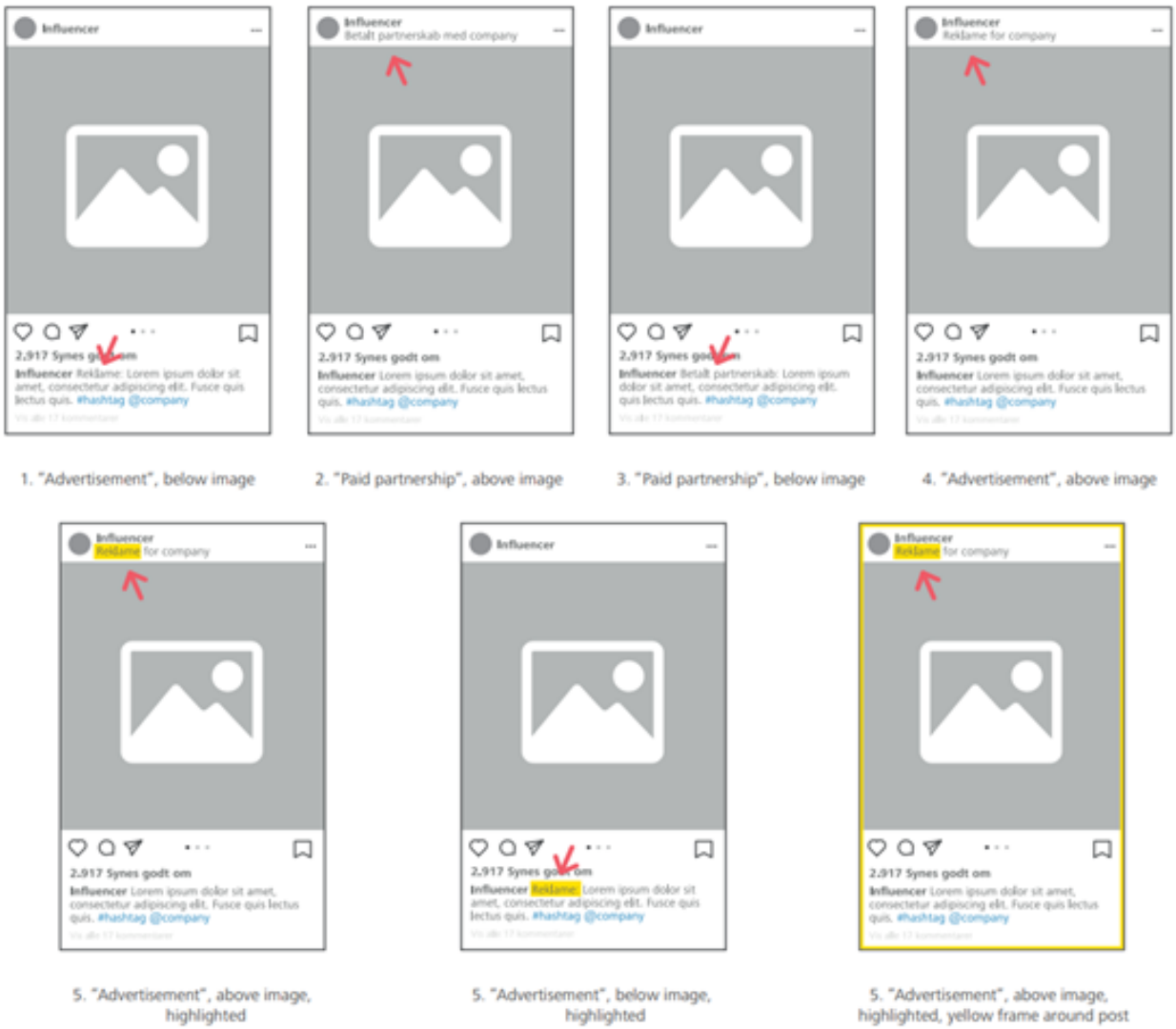
Figure A B.2. Example II: Testing disclosure labels in native advertising (Twitter)



Source: EC (2018[38])

In another experiment, the Danish Competition and Consumer Authority focused on adult's (N = 1410) recognition of commercial intent in (image-based) **Instagram** posts (KFST, 2021[47]). Several different disclosure variations were tested, including the position of the disclosure (above or below the image), the disclosure text ("Advertisement" vs. "Paid Partnership"), a coloured box highlighting the disclosure and a coloured frame around the image (Figure A B.3). Participants were shown an Instagram feed with six posts from known Danish influencers, including one with commercial intent, and were asked afterwards, whether any of the posts they had just seen had commercial intent. The results suggest that, among non-Instagram users, the modifications had no statistically significant effect on share of users that recognised the ad (36%). However, they significantly enhanced ad recognition among Instagram users. In particular, adding a coloured box to highlight the disclosure increased the recognition of the ad from 44% (standard disclosure) to 62%. Adding a coloured frame around the image also increased ad recognition significantly, from 49% to 65% (the benchmark in this case was not the standard disclosure). Changing the position of the disclosure and wording had not statistically significant effects on ad recognition.

Figure A B.3. Example III: Testing disclosure labels in native advertising (Images)



Source: KFST (2021[47])

In a second part of this experiment, KFST (2021[47]) further tested whether disclosure standardisation has a significant impact on ad identification. Participants in this case were asked to identify ads *while* looking at a feed of 20 posts (including 6 ads). While one group of participants was presented with a mix of more or less salient disclosure types, others saw the same, standardised disclosure throughout the feed. For Instagram users, standardisation was found to significantly increase the number of identified ads from 4.3 to 4.7, relative to the mixed disclosure scenario. No statistically significant effects were found for non-users, though when considering the share of non-users that identified all six ads correctly, there was still a marginally significant increase from 33% to 45% (51% to 62% for Instagram-users).

Advergames and advertising in online video content

Evans and Hoy (2016[57]) consider parents' capacity to understand online disclosures of the commercial nature and persuasive intent of *Advergames*. *Advergames* are typically targeted

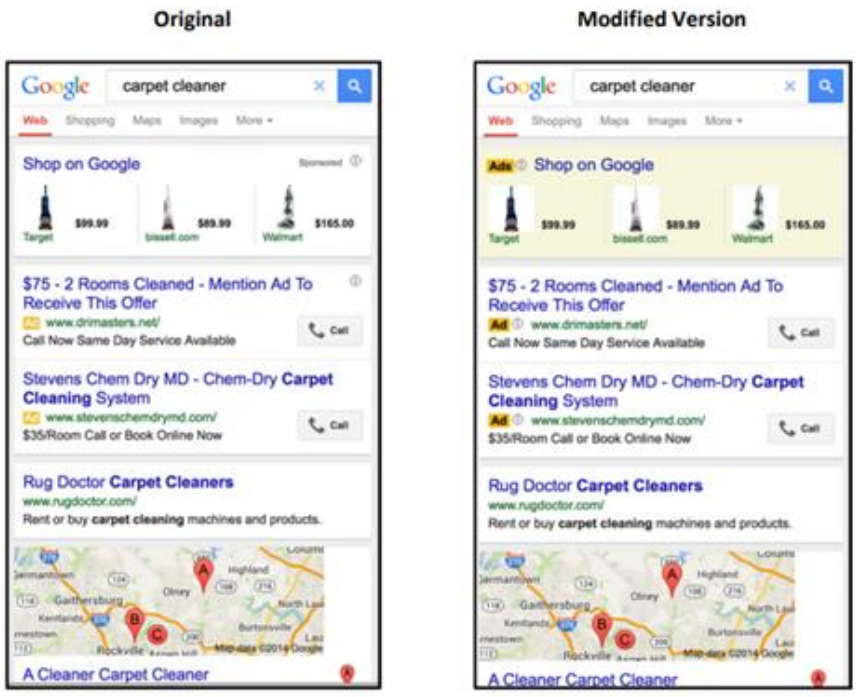
at children and embed products and/or product advertising into already existing media platforms or vehicles. As they don't clearly delineate between the commercial and program content, they can be understood as a part of the covert or native advertising environment. Inspired by the FTC's *Clear and Conspicuous* Standard, which in the context of televised products suggested that "*disclosures should be presented simultaneously in both audio and video portions of the advertisement*" (FTC, 1970[40]) ("dual modality"), the authors test both a single (print or audio only) and a dual modality disclosure against a no-disclosure control. The experiment used an existing, unmodified *Advergame* (Kellogg's "Pop-Tarts Toasty-Turvy") and embedded it in one of three versions of an overlaid website environment: i) without disclosure (control), ii) including a dynamic text flow below the game-play screen, repeatedly stating "Hi kids! This game is an advertisement" (single modality) or iii) the dynamic text flow combined with an audio clip simultaneously restating what appeared in the text (dual modality). The experiment involved 207 parents with children between the ages of 7 and 11 years and measured *Persuasion Knowledge* using six questions adapted from the Rozendaal persuasion knowledge scale (developed in the context of television advertising) and six distractor questions, yielding a knowledge indicator ranging from one to twelve. The results of the study suggest a significant difference in persuasion knowledge between the no-disclosure (mean = 8.1) and the disclosure conditions (mean = 9.0). However, there was no significant difference between the single-modality and the dual-modality disclosure. The authors acknowledge however, that the tested dual-modality disclosure did not comply with the Clear and Conspicuous Standard, which suggests that during the audio disclosure no other sounds should be audible. Accordingly, parents might have been distracted by the overlay of sound-effects from the game and the audio version of the disclosure. Finally, the authors also test the effect of cognitive load on persuasion knowledge and find that *overall* (average of single mode disclosure and no disclosure) parents that were asked to remember a randomly generated 13-digit number sequence throughout their interaction with the game had lower persuasion knowledge (7.13) than those that had not (9.06)

In another behavioural study focusing on multi-media content, the KFST (2021[47]) tested i) children's (age 6-12, N = 1 463) recognition of influencers' video ads on **YouTube** and ii) adults' recognition of image-based advertising on Instagram. In the first experiment, children were shown four types of videos, namely natural influencer commercials, unboxing videos, non-commercial influencer videos and traditional TV-like commercials. Half of the children saw content labelled as prescribed by today's guidelines, while the other half saw a more salient commercial disclosure designed specifically for children. The modified disclosure consisted of a yellow-framed introduction and closing remark to the video with a voice-over (dual-modality) (Figure 1). A key outcome variable was the ability to identify commercial content (yes/no/don't know) immediately after viewing the video. Results suggest that the intervention, compared to the standard disclosure, significantly increased children's ability to correctly identify commercial content, from 62% to 70% (natural influencer video) and from 73% to 77% (unboxing videos). While the achieved level after the intervention of recognition was still far below that of TV-like commercials (91%-92%), it was not statistically different from the level adults achieved when watching the video with the standard label (71% and 79%, respectively). The intervention thereby helped in particular the youngest children (age 6-8) to achieve higher levels of recognition (from 53% to 68% for natural influencer commercials and from 62% to 80% for unboxing videos). The intervention also improved children's understanding of the commercial intent, which was tested with several questions (e.g. "the video was made to earn money") after the first part of the experiment.

Paid rankings and search advertising

In one of the earliest studies including results for search advertising, the FTC considered consumers' (N = 48) recognition of *both* native advertising (in different contexts) and search advertising, using screenshots of eight different ads (both desktop and smartphone) (FTC, 2017[54]). While some participants saw the original ads, others saw versions where slight modification to the advertising disclosure had been made. In particular, modifications were made with regard to the disclosure language, position, text size and colour and other visual cues, including frames around or background shadings of ads or ad groupings (Figure A B.4). Ad recognition was measured indirectly through an interviewer, based on participants' spontaneous comments while interacting with the web pages and their responses to general questions concerning particular content items. As several changes were made to the disclosures of each ad condition tested, the study could not measure the effect of specific disclosure modifications. Additionally, the small sample size did not allow to statistically assess the disclosure effectiveness for individual ads. Observational data, however, suggests that individual modifications led to increases in recognition of between 10 to 45 percentage points. Across different ads and modifications, a regression analysis confirmed that these effects were statistically significant in the aggregate, enhancing the likelihood of add recognition from around 47% to 68%. These effects were found to be similar for search ads and native ads, as well as for ads viewed on a desktop computer and smartphone. The study also used eye tracking to evaluate participants' visual attention to the page and found that the modification of disclosures led to an overall reduction in time that participants spent looking at the ads. This, however, did not seem to be linked to consumers' enhanced understanding of the disclosures. Eye tracking also seemed to confirm that disclosures in the upper right corner of the webpage are less likely to be attended to.

Figure A B.4. Example IV: Testing disclosure labels in search advertising

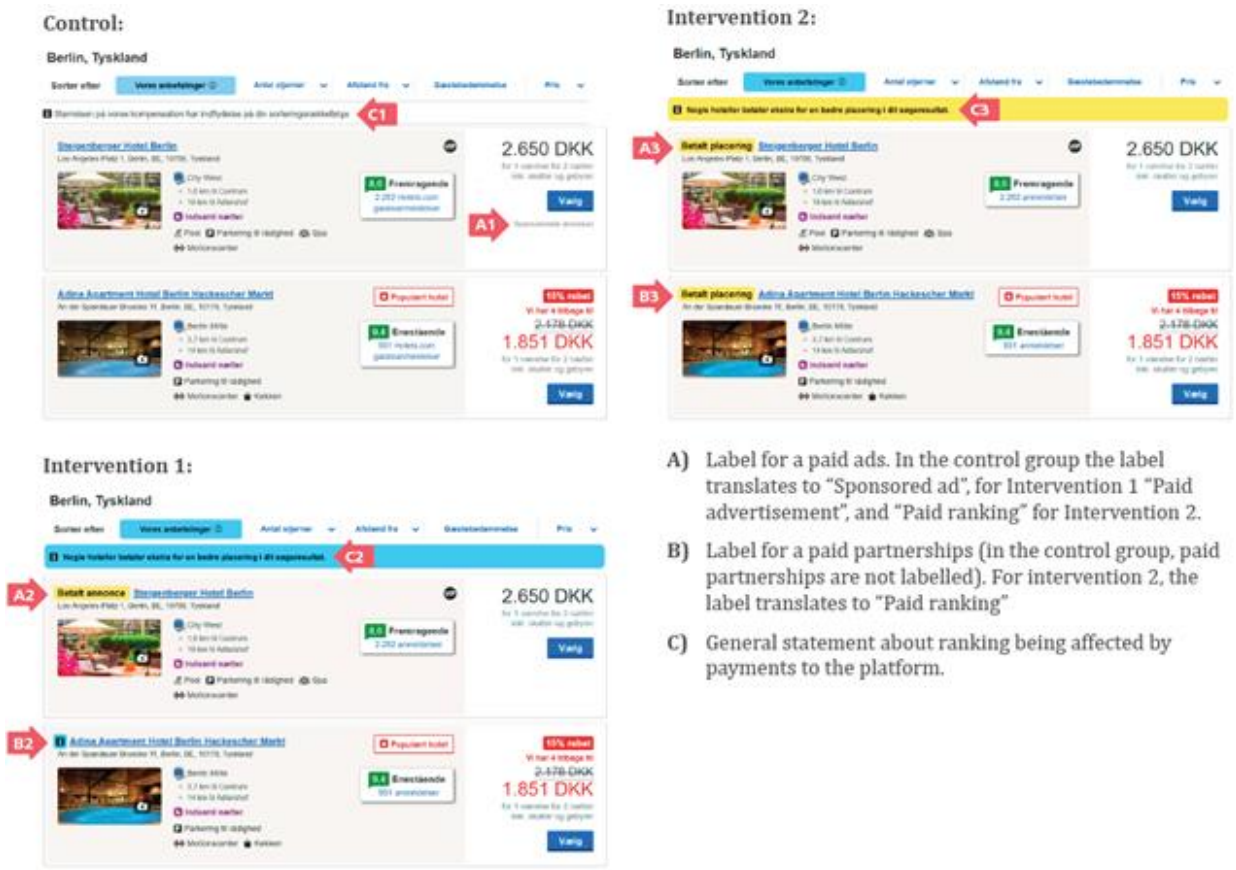


Source: FTC (2017[54])

A number of recent studies focussed more specifically on online disclosure effectiveness in the context of search advertising. For example, in the context of paid placements on a booking website, the KFST (2021[53]) tested disclosure variations based on enhanced prominence (including through altered position) and clearer language (N = 1034). The online survey simultaneously considered two types of paid placements, namely *paid ads* (short-term boost to ranking) and *paid partnerships* (long-term boost to rankings). In the control group, *paid ads* had a rather non-prominent label close to the price information and *paid partnerships* were not indicated at all. However, there was a small explanatory note at the top of the page indicating that rankings can be affected by payments to the platform (Figure A B.5). In a first intervention, prominence of the label for paid ads was enhanced by using more visible fonts (larger, bold), adding a coloured background (boxed label) and placing the label in direct proximity to the hotel name. Additionally, the label wording was changed from "sponsored offer" to "paid offer". As part of the same intervention, *paid partnerships* received a small "i" (for information) icon, highlighted in the same colour than the explanatory text at the top of the page (the text was available in the control but not highlighted). In a second intervention, both *paid ads* and *paid partnerships* received a common, simplified label ("paid placement") and where highlighted in the same colour, together with the explanatory text on paid rankings. These modifications led to a significant increase in the share of participants that stated (*ex-post*) that they had noticed paid search results, from 25% to 65% and 71%, respectively.

The study also assessed to what degree respondents were able to correctly identify *all* paid ads and paid partnership results while looking at the booking websites again. Interestingly, for *paid ads*, Intervention 1 already led to an increase from 36% in the control to 59% (60% after the second intervention), whereas only a slight increase was observed for *paid partnerships* (from 3% to 9%), despite the addition of an icon. Identification of paid partnerships went up significantly to 60% when a self-explanatory label was added in the second intervention. This suggests that self-explanatory labels are significantly more effective than icons that needs to be combined with additional information elsewhere to be understood. Follow-up questions further suggested that highlighting of the explanatory note at the top of the site had only minor effects on respondent's understanding of how rankings are affected by payments to the website, with only 13% noticing and understanding the explanation in Intervention 2 compared to 7% in the control group. This suggests that enhanced prominence alone may only have minor effects on consumer understanding when the message itself is not sufficiently intuitive and too detached from the focus of the consumer (e.g. here the individual search results).

Figure A B.5. Example V: Testing disclosure labels in paid rankings (Booking website)



Source: KFST (2021[53])

The Dutch Authority for Consumers and Markets (ACM), also looked into consumers' recognition of paid rankings on a (simulated) online platform (ACM, 2021[55]). Participants were given the task to make a purchase on the website and subsequently asked to complete a questionnaire. The results of the study suggest that only 9% of participants remembered having seen the tag "sponsored" during the exercise. Additionally, only 35% of the participants that had used the *actual* platform in the past 6 months said they had noticed the tag in actual use. Only 57% of participants consider the term "sponsored" to be a clear indication of the fact that a business paid to get a higher ranking and, in an open-ended question, only 31% were able to correctly explain what "sponsored" means. Interestingly, only 58% of participants considered it important that sponsorship was clearly communicated and 54% suggested that knowing whether or not a service is sponsored is *not* important for their decision. However, a significant minority of participants (38%) still said they would feel harmed if they would find out afterwards that the business they ordered from had paid the platform to get a higher ranking.

A second study then tested four modifications of the disclosure, including variations of the i) disclosure wording, ii) the text colour, iii) the position of the tag, iv) the addition of an icon ("i"), linking to more information about the meaning of paid rankings and v) the addition of explanatory information directly on at the top of the page. Before the actual study, it was further confirmed that consumers indeed find the term "paid position" clearer than "sponsored" (72% compared to 57%). The study measured both the share of participants that remembered seeing the disclosure (notice) and the share of participants

that correctly described what "paid position" means (understanding). The results suggest that all variations enhanced notice and understanding compared to the standard disclosure (9% and 32% respectively). In particular, changing the wording and colour of the disclosure and moving it to a more conspicuous position had the strongest effect, increasing notice to 31% and understanding to 55%. A large part of the increase in the share of participants noticing the disclosure is due to the new position: changing only the colour and wording, while still increasing this share from 9% to 15%, was significantly less effective. Interestingly, adding an icon link with more information or more information at the top of the page did not lead to a further increase in understanding, compared to the new wording, highlighting that, if given a choice, a clear disclosure label may be preferable to additional explanatory text. This seems to be in line with the results from (KFST, 2021[53]).

Personalised pricing, personalised rankings and targeted advertising

The European Commission ran a major behavioural experiment (N = 6 580 from 8 European countries)[28] on the impact of different modes of personalisation (personalised prices, personalised rankings and targeted advertising) and consumer behaviour and in this context also assessed the impact of different types of disclosures on consumer awareness with regard to these techniques (EC, 2018[123]). Participants were randomly allocated into three groups involving different degrees of transparency with regard to the personalisation technique. The *low transparency* group did not receive any indication that they may be exposed to personalisation (no disclosure). In the high transparency group participates received several indications that personalisation had been involved: i) text towards the top of the search results screen suggested that results have been filtered by "recommended" (as opposed to being randomly sorted), ii) text was shown below individual results ("based on your recent purchase"; "based on your previous search history"; or "based on your device and internet browser"), iii) text below the targeted advertisement indicated the information on which the advert had been targeted ("based on your previous search history"), iv) an additional sentence at the product confirmation screen explicitly stating that there has been some personalisation of the results (e.g. "The prices of some of the cars were recommended for you"). Finally, a third group (*high transparency + action*) was the same as the high transparency treatment only that it was made easier for participants to clear cookies and search again.

Awareness was measured with different questions after the experiment, such as whether participants believed personalisation had occurred and how they think it has occurred. The results of the survey suggest that participants in the high transparency group were overall statistically significantly more likely to correctly identify when personalisation had occurred. In particular, across personalisation scenarios, the share of participants correctly identifying that personalised pricing had occurred increased from 28.9% in the *low transparency* (i.e. no disclosure) condition to 41.4% in the *high transparency* disclosure condition (38.6% for the *high transparency + action* condition) (Table A.B.2). The increases ranged from around 10 percentage points (e.g. targeted advertising based on previous search and personalised ranking based on browser) to around 20 percentage points (personalised ranking and higher prices based on previous search results). Unfortunately, the study did only assess the overall effectiveness of a disclosure relative to no disclosure at all, but not the effectiveness of particular disclosure modifications.

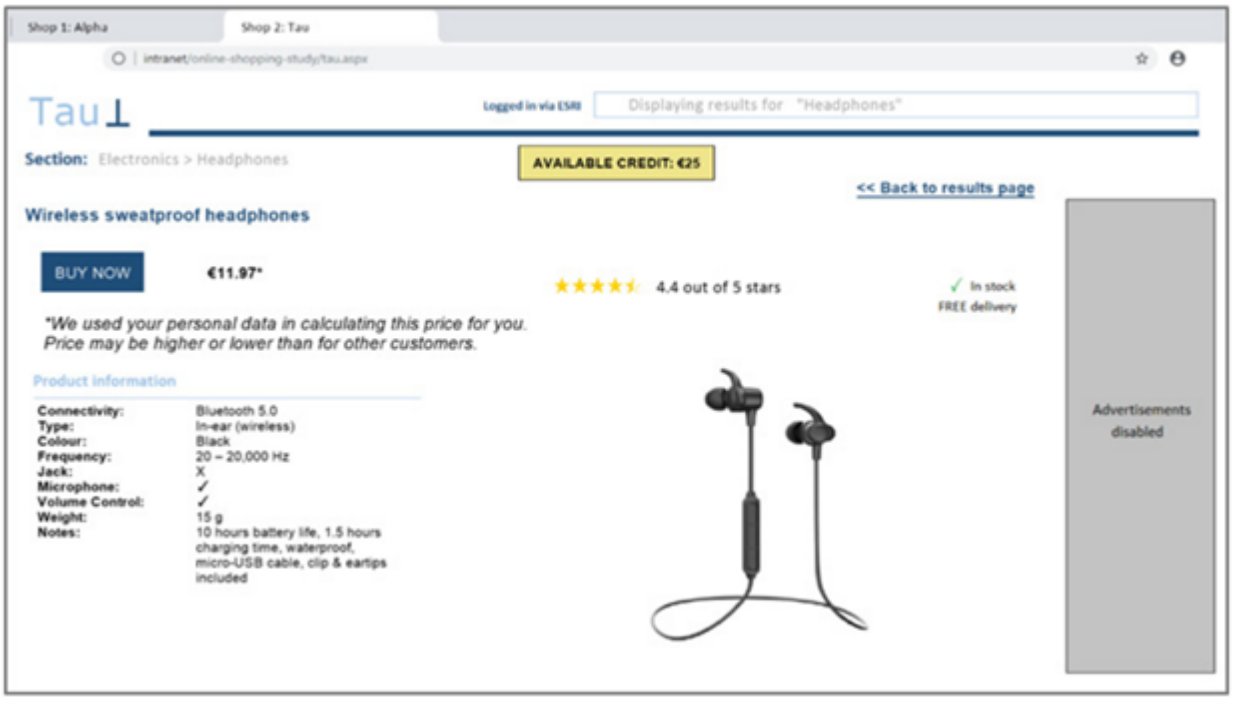
Table A B.2. The effectiveness of disclosure on different forms of personalisation (six EU countries)

Scenario allocation	Baseline	Low transparency	High transparency	High transparency + action	Across all treatments
	%	%	%	%	%
No personalisation	42.1				42.1
Personalised ranking of offers: based on browser		18.8	29.5	31.3	26.5
Personalised ranking of offers: based on previous searches		26.5	47	37.1	36.9
Price discrimination: high prices		30.2	50	41.5	40.4
Price discrimination: low prices		27.4	40.4	39.5	35.7
Targeted advertising: random sorting of search results		40.3	40.7	42.2	41.1
Targeted advertising: sorting of search results (based on previous search)		30.6	40.9	40.1	37.2
Total	42.1	28.9	41.4	38.6	36.6
No personalisation	346	2 086	2 070	2 078	6 580

Note: the table show for different personalisation scenarios the share of participants that correctly identified personalisation. There was no personalisation in the "baseline" scenario and "low transparency" was a no-disclosure condition. What constituted a 'correct response' differed for different scenarios. See EC (2018[123]) for more details.
Source: adapted from EC (2018[123])

Two recent experiments by the OECD, which also focused on awareness of and behavioural reactions to personalised *pricing*, more explicitly took into consideration the effect of modifying the wording of online disclosures on personalisation awareness (OECD, 2021[11]). In difference to the EC study, there was only a single disclosure indicating personalisation, which also more explicitly stated that prices were personalised. In particular, there were two disclosure conditions, a weaker one that stated "We used your personal data in calculating this/these price(s) for you" and a stronger one, which added: "This price/Prices may be higher or lower than for other customers" (Figure A B.6). A no-disclosure condition was the benchmark. There was no modification of the disclosure in other dimensions (e.g. prominence). Participants of the experiment, which was conducted first in Ireland and then repeated in Chile (N = 210, each), were first engaged in a task that revealed information about themselves and then made both real and hypothetical purchases on simulated online retail websites, some of which were using personalised pricing. Afterwards they responded to a questionnaire, which included several questions on the recall of personalisation and the disclosure. In particular, participants were asked, whether they had noticed any differences between retailers (open text), whether they saw a disclaimer, and if yes, they were asked to identify its content from a list. A participant was classified as recalling the disclosure (*strict criteria*) if they mentioned it in the open-text answers (unaided recall), or correctly identified the disclosure from the list (recognition). A *less strict criteria* included participants that, later on, were given a definition of personalised pricing and asked if they thought it was being used what made them think so. If they mentioned the disclosure then, they were also classified as recalling the disclosure.

Figure A B.6. Example VI: Testing disclosure labels in personalised pricing (Booking website)



Source: OECD (2021[11])

The results of the experiments suggest that a majority of participants did not recall even the stronger disclosure and even when using the less strict criterion (62% in Ireland and 85% in Chile). A statistically significant difference in recall of the stronger compared to the weaker disclosure variant was observed only for Ireland (6% vs. 22% for the less strict criterion and 21% vs. 38% for the stricter criterion). For Chile, recall rates were also higher for the stronger disclosure statement (4% vs. 9% and 12% vs 15% respectively) though the difference was not statistically significant. In both countries, neither of the disclosure had any statistically significant impact (compared to the no-disclosure condition) on the share of participants mentioning price differences in their open-text answers, when asked whether they noticed any differences between sites. After participants had been given a definition of personalised pricing they have further been asked to indicate, on a Likert scale ranging from 1 (completely unaware) to 7 (completely aware), to what degree they were aware of personalised pricing taking place while shopping. While the median rating remained low overall (2 in Ireland and 1 in Chile), awareness in Ireland was slightly, though statistically significantly higher in the strong disclosure condition relative to the no-disclosure condition.

Price transparency and additional fees

In a recent behavioural study (N = 1 208), the ACM considered how easily consumers understand price information, typically to be presented at the beginning of a purchase process, regarding possible additional costs that may be added to the shown price depending on the consumer choices made throughout the ordering processes (e.g. booking fees) (ACM, 2021[55]). The study presented participants with different disclosure versions on a comparison website showing several options for different tour packages (travel products) or mobile plans with phone included (telecom products). Information on additional prices was either, i) provided through a pop-up that appeared when participants

clicked on a small "i" icon; ii) were directly visible below the product price; or iii) provided through a pop-up that appeared when participants clicked on the text "excluding booking fees and surcharges" (travel) or "excluding one-time fees" (telecom), which was added below the price (Figure A B.7). They were then asked questions about their behaviour, confidence, visibility, clarity and attitude. When asked whether any additional costs were presented apart from the fixed price, only 8.6% of participants in the travel condition [6.8 for telecom] were certain when shown the version with the "i" icon. This percentage was significantly higher in the versions that showed the additional costs directly (24.6%) [25.2%] or a directly visible text explicitly highlighting that the shown price excludes additional charges (23%) [14.8%]. Additionally, the study found that only 2% [1%] of participants decided to click on the i-symbol, compared to 7.5% [5.2%] for the explicit statement. In line with these findings, participants also considered the i-symbol in the travel case less clear (3.88 on a 7-point Likert scale) than the direct (4.23) or the text version (4.01). In the telecom case the results were slightly different, as participants found the clickable text explanation to be less clear [4.14] than both the i-symbol [4.36] and the direct cost indication [4.45].

Figure A B.7. Example VII: Testing disclosure labels on extra costs (Travel booking)

Source: ACM (2021[55])

Annex C. Extended Literature Review: Extensive or complex online disclosures

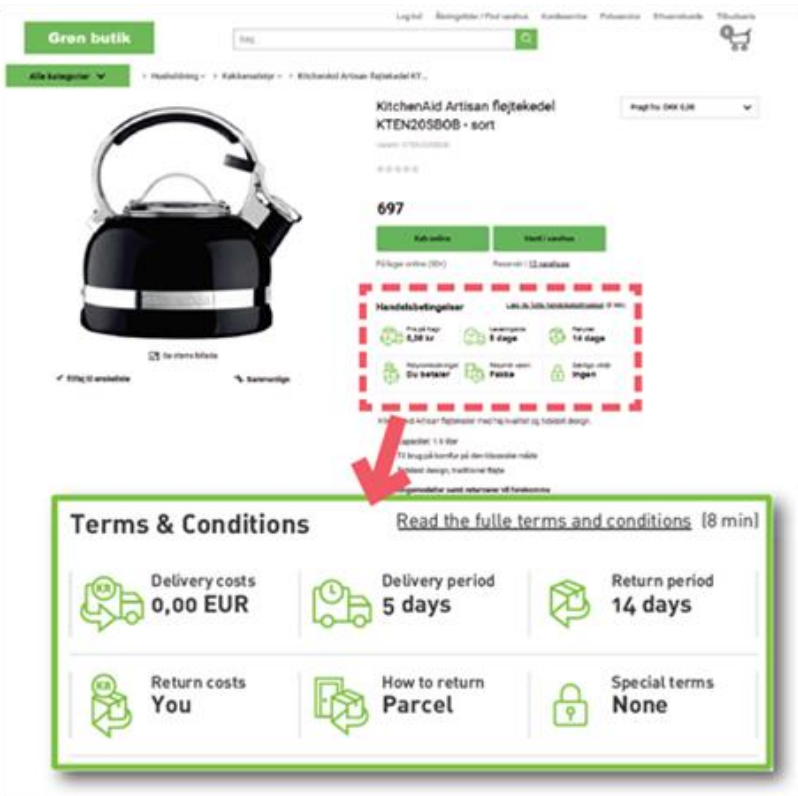
Terms and Conditions

In an online experiment featuring consumers from 12 European countries (N = 9 953), Elshout et al. (2016[32]) analysed the effects of simplifying and/or shortening the Terms and Conditions (T&Cs) of an online transaction, as well as of providing a reading cost cue (i.e. "reading the terms and conditions takes less than five minutes"), on T&C readership and consumer attitudes. Readership was assessed using two different measures, a self-reported ("not at all", "scanned", "more than half", "read all") and an observed measure (seconds spent scrolling through the T&Cs). To proceed to check-out, respondents had to at least scroll through and accept the T&Cs. The authors find that simplifying and shortening (in two stages) T&Cs significantly increases the percentage of consumers claiming they "read all" T&Cs, from 10.5% (long and complex) to 26.5% (extremely short and simple), and reduces the share of consumers that did "not [read them] at all" (from 24.2% to 19.6%) or only "scanned" them (from 45.7% to 33.5%). The total time spent on the T&Cs also diminished for simpler and shorter disclosures, from 68.7 seconds (long and complex) to 35.7 seconds (simple and extremely short). Importantly, while longer reading times were overall found to be associated with higher T&Cs comprehension (holding constant the length and complexity of the T&Cs), shortening and simplification of T&Cs overall significantly enhanced comprehension. In particular, the average number of correct responses on three questions related to the content of the T&Cs (*objective* comprehension), significantly increased from 1.30 (long and complex) to 1.39 (extremely short and simple) after the manipulating.[29] The *perceived* difficulty of T&Cs also diminished with shortening and simplifications (from 4.02 to 3.48 on a 7-point scale), though no statistically significant correlation between subjective and objective comprehension was detected. The study further revealed that consumers have a more positive attitude towards short and simpler T&Cs, due to higher satisfaction and less frustration. Consumers also reported to be slightly more likely to take the provided information into consideration in their purchase decision if the T&Cs were extremely short and simple.

A second experiment (N = 9 833) focused on the effect of quality cues (e.g. customer feedback or national consumer organisation endorsement) on trust in the T&Cs and trust in the seller but also considered the effect of adding quality cues (including an expected reading time cue) on the time consumers spent engaging with the T&Cs. As this report is mainly concerned with the effectiveness of online disclosures in enabling informed consumer choice, only the latter results will be discussed here. In difference to the first experiment, consumers in this study were not required to scroll through the T&Cs to finalise the purchase process but could choose to access them on the final page of the process by clicking on a link. Overall, the experiment found that only a small minority of 12.0% of all consumers accessed the T&Cs. However, the results also suggest that the addition of a reading time cue ("reading the terms and conditions takes less than five minutes") more than doubled the percentage of consumers accessing the T&Cs from 9.4% (no cue) to 19.8% and, for those that accessed the conditions, increased the time spent on them from 24.70 seconds (no cue) to 37.54 seconds. Other quality cues (e.g. endorsements) had no significant effects on the percentage of consumers accessing the T&Cs but some were also found to have a positive impact on reading times for those consumers that accessed them (e.g. 37.43 seconds for endorsement from a European consumer organisation).

The Danish Competition and Consumer Authority conducted an experiment (N = 100) to test whether a standardised box containing six key T&Cs can enhance the salience and comparability (across businesses) of these T&Cs (KFST, 2018[64]). The six highlighted terms (Figure A C.1) were chosen i) to reflect consumer preferences and ii) determinants of competitiveness, including delivery or return costs. The control group had the same information available through the traders' standard presentation of T&C. In a simulated purchase scenario, each participant could choose between three related products from different online shops. Trade-offs were introduced such that more expensive products had better T&Cs. The results of the experiment suggest that enhancing the salience of certain terms and conditions can significantly sway consumers towards choosing products with the better terms, relative to the benchmark scenario. For example, the percentage of consumers choosing the seller with the lower delivery costs increased from 61% to 88% when delivery costs featured prominently in a summary box.[30] The experiment further revealed that the salient presentation of key T&Cs significantly decreased the number of T&Cs consumer overlooked (out of a total of 21 presented), from 36.8% (7.72) to 20% (4.20). In a second part of the experiment, which tested participants' ability to find key pieces of information within the T&Cs, these findings were confirmed: the standardised format increased the average number of correctly answered questions about T&Cs (out of a total of 5) from 3.44 to 4.67. The time participants needed to find the corresponding information also diminished significantly, from 119 to 38 seconds. Furthermore, participants were less frustrated during the search task, as measured by facial expressions (brow furrow during search). However, it should be noted that the five questions posed exclusively related to information highlighted in the standardised summary box, allowing no conclusion with regard to the comprehension of non-highlighted T&Cs.

Figure A C.1. Example VIII: Testing a standardised summary box for T&Cs



Source: KFST (2018[64])

In a research project undertaken for the UK's State Department for Business, Energy and Industrial Strategy (BEIS), the Behavioural Insights Team (BIT) undertook 3 experiments on how to improve the comprehension of terms and conditions in the context of a) an online retail website (N = 1812), b) pay-monthly mobile (telecom) contract (N = 2442) and c) a peer-to-peer (P2P) room-sharing platform (N = 2442) (BIT, 2019[124]). Similar to the earlier studies, these experiments also measured comprehension as the number of correct answers to (in this case) eight multiple choice questions. Interestingly, the BIT experiments also considered particular subsets of the eight comprehension questions to determine whether the effect of, e.g., summary tables and other methods to enhance the salience of particular T&Cs leads to different outcomes for emphasised and non-emphasised T&Cs. Other outcome variables (here not reported) included interest in the company's product and trust in the company. Manipulations included: in Experiment 1 (Retail), i) the addition of text-box with scrollable T&Cs, ii) the use of icons to illustrate key terms; and iii) the presentation of selected terms in Q&A format. In Experiment 2 (Telecom), iv) the shortening of T&Cs (from 5 to 3 minutes reading time); v) the use of emoji symbols (in addition to the shortening); and vi) the additional presentation of seven key terms in a summary table (in addition to the shortening). In Experiment 3 (P2P): vii) the simplification of T&Cs through the use of shorter words and sentences; viii) the addition of a text boxes with examples for selected T&Cs; and ix) the use of an interactive slider to illustrate how the cancellation policy changes over time.

In the first experiment (a), the benchmark was a scenario where participants had to agree to T&Cs, which could be accessed through a link. The results suggest a significant increase in comprehension for all three interventions, from 3.39 (out of 8) correct responses to 4.28 (scroll), 4.54 (icon) and 4.61 (Q&A summary) respectively. Importantly, the results also suggested that the provision of a summary of key terms (either through Icons or Q&As) did *not* significantly reduce the opening rates for the full T&Cs (11.06% in the control) and further did *not* lead to a reduction of comprehension for those terms only available through the full T&Cs. In particular, while, as expected, comprehension for the *emphasised* conditions significantly increased (from 1.35 to 2.44 in both versions of the summary condition), the provision of the non-emphasised conditions also increased, though this increase was, if anything, only marginally statistically significant (from 1.82 in the control to 1.90 and 1.96 in the Icons and Q&A intervention respectively). The scroll intervention increased comprehension significantly for both sets of questions (to 1.86 for emphasised and 2.09 for non-emphasised questions respectively).

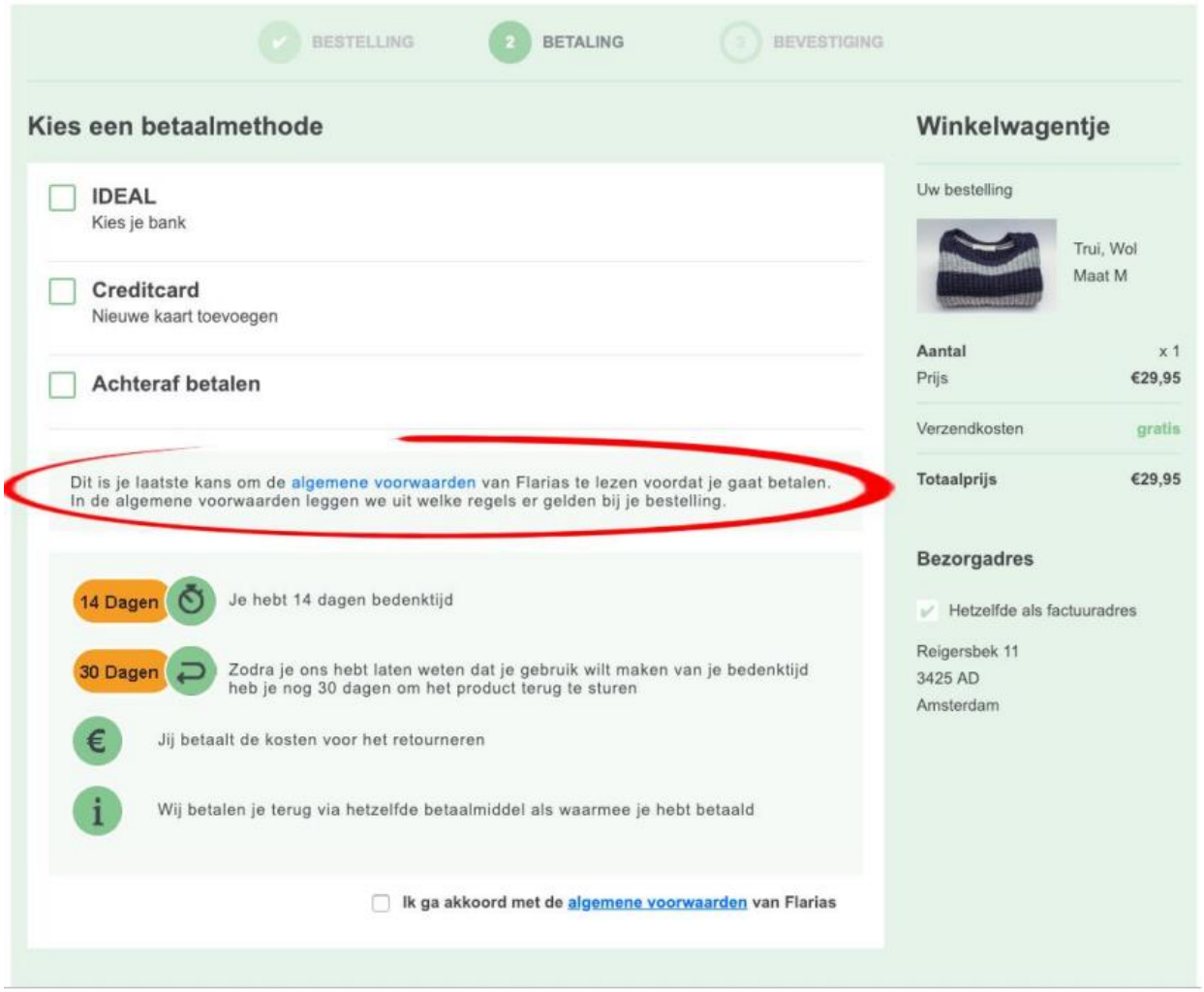
In the second experiment (b), the benchmark was a scenario where the T&Cs were divided into seven sections and content was searchable at the top of the page. In difference to the first experiment, none of the three interventions (shortened, shortened+emoji, shortened+summary) was found to have a statistically significant impact on the comprehension of key terms, with participants responding correctly to between 4.48 (control) and 4.58 (summary table) out of 8 questions on average. However, the summary table significantly improved participants understanding of the 5 terms emphasised in the summary table (from 2.88 to 3.09 out of five possible correct answers). On the downside, the addition of a summary table in this case *diminished* the number of correct answers for T&Cs that were *not* emphasised (from 1.60 to 1.49 out of three possible correct answers) and this effect was statistically significant. All three interventions further led to an increase in participants' self-reported confidence in their comprehension of the company's terms, with the summary table intervention leading to the highest increase (from 4.73 to 4.97 on a 7-point scale).

The results of the third experiment (c), where the benchmark was structurally similar to experiment (b), also delivered no statistically significant main effects for any of the three interventions (simplification, examples of key terms, interactive slider to represent

cancellation fees), with participants on average responding correctly to between 3.10 (control) and 3.15 (examples) out of 8 questions on average. However, and similar to the summary table intervention from the previous experiment, the provision of examples did enhance comprehension for the four questions related to the examples (from 1.57 to 1.72) and diminished comprehension of the other four terms (from 1.53 to 1.43), though the latter decrease, in this case, was not statistically significant. Interestingly, the authors also found a statistically significant effect of T&Cs simplification on the comprehension of *lower-education* participants (from 2.55 to 2.98 out of 8 possible correct responses), implying that policy maker should take into consideration possible heterogeneous intervention effects for different groups of consumers. None of the interventions had a statistically significant impact on participants' self-reported confidence in their comprehension of the company's terms and conditions.

More recently, the ACM (2021[55]) also looked into the effectiveness of the general sales terms and conditions in the case of a fictitious online purchase (N = 2208). The experiment tested four versions of the payment page, namely: i) participants had to click on a link to access and read the T&Cs (benchmark); ii) participants were shown a summary of the most important terms and conditions using visual symbols; iii) participants were shown an urgency notification indicating that this was the last chance to read the T&Cs before making the purchase; and iv) participants were shown a combination of version 2 and 3, containing both symbols and urgency notifications (Figure A C.2). Participants were then given eight questions to test their comprehension of the terms and conditions. The results of the experiment suggest that using visuals to summarise the most important terms and conditions had the largest impact on comprehension, increasing the percentage of correct answers from 31.8% to 44.7%. The urgency cue also had a significant, though smaller, impact on comprehension (34.5%), which, in combination with the summary led to a maximum of 46.9% correct responses. However, the urgency cue had a statistically and economically significant effect on the percentage of participants accessing the T&Cs through the link, more than tripling it from 8.6% to 30.0% (24.7% in combination with the summary).[31]

Figure A C.2. Example IX: Testing a standardised summary box and urgency cue for T&Cs



Source: ACM (2021[55])

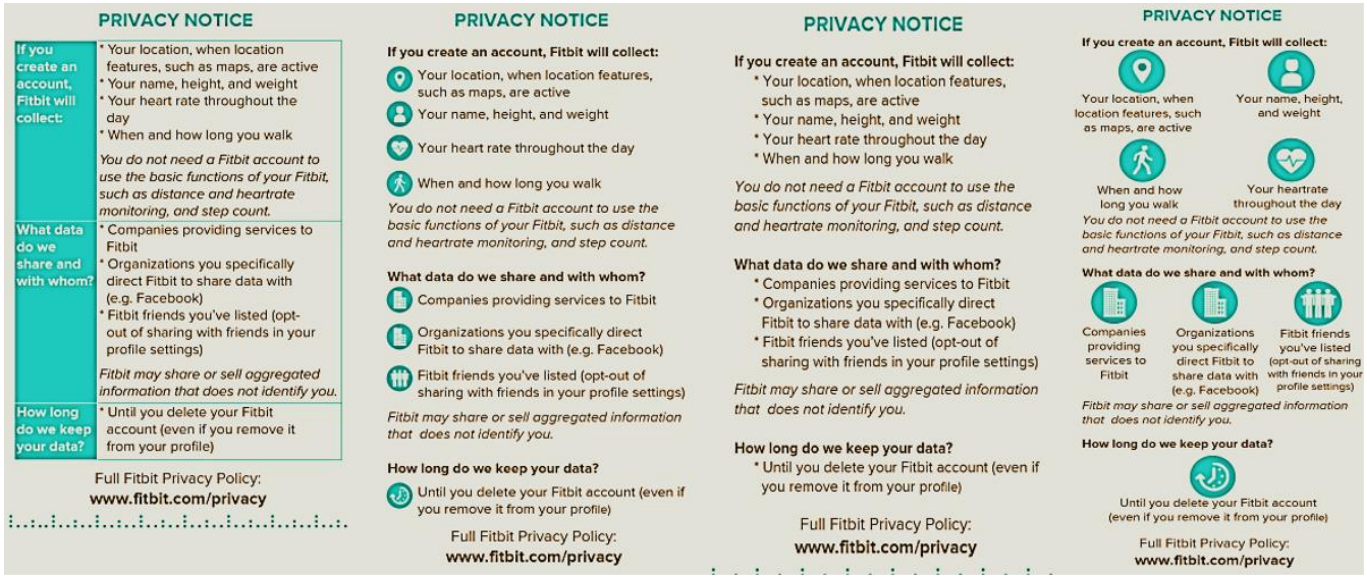
Privacy Notices

In an early series of empirical exercises (two web surveys and one field experiment), Balebako et al. (2015[63]) examined how the timing of (in this case a relatively simple) privacy notice for a smartphone app, specifically developed for the experiment, affects participants ability to recall the privacy policy's content. Different participants were shown the same privacy policy either i) not at all (benchmark); ii) in the app store; or when using the app: i.e. either iii) when starting the app (before use); iv) during use ("just in time"); or v) after use. Recall was assessed (following distractor questions in the web surveys or a 24h delay in the field experiment), using one question as to how well respondents remembered (self-reported) seeing the notice ("well", "most of it", "vaguely", "not at all"), and two multiple choice questions about the content of the notice (six possible answers, including "I don't remember"). The results of the first field survey (N=277) and the field experiment (N=126) suggest that overall recall of the notice remained relatively low, with a majority of respondents either not remembering seeing the notice at all or only vaguely (63.5% in the field survey and 75% in the field experiment). In both cases, the percentage of respondents correctly responding to both multiple-choice questions was further found to

be significantly lower for the "app store" condition (ii, 17% in the field survey and 14% in the experiment) than in all other conditions where the notice was shown (iii-v, 28-43% and 20-37%, respectively). The difference between the three "use" conditions (before/during/after) were not statistically significant. In a third, follow-up survey (N=326), the authors tested whether these results could be explained by the relatively low salience of the tested "app-store" (ii) condition. Accordingly, two additional, more salient, "app-store" conditions were added (e.g. increasing the size of the notice and diminishing the salience of the background). While both new conditions (14% and 26%, respectively) resulted in a significantly higher percentage of respondents correctly responding to both multiple-choice questions than the original "app-store" condition (6%), the previous main result, namely that all "use" conditions (45%, with no significant difference among them) performed better than "app-store" conditions, was confirmed.

Similar to online terms and conditions, privacy policies can be complex and lengthy and are often clicked away and ignored by consumers. In three online user studies, focussing on the privacy policy of a fitness wearable (*Fitbit Surge*), Gluck et al. (2016[61]) examine the effects of i) shortening privacy notices and ii) highlighting the implications of privacy practices with a positive (reason for policy) or negative (illustrating risks) framing, on participants awareness of privacy practices. A first study (N = 200) tested the effectiveness of different notice formats (e.g. table, bullets, icons, see Figure A C.3), which delivered no statistically significant differences with regard to respondents' awareness of the previously presented privacy policies. A second study (N = 70) then presented participants with 20 of Fitbit's actual, as well as 10 fictitious, privacy (e.g. data collection, sharing, selling, retention) practices using multiple choice questions to determine what policies respondents already knew would be employed by Fitbit (e.g. 94% of respondents knew that Fitbit Surge would collect data about steps, but only 22% were aware of Fitbit's data retention policy). The results of this study were used to identify all those of the 20 actually employed practices that at least i) 70% of all participants (13 practices) or ii) 85% of all participants (6 practices) had correctly expected already (*baseline knowledge*). The final study (N = 391) then assessed the effect of framing (positive, negative, neutral) and shortening, i.e. dropping the expected 6 ("medium") or 13 ("short" version) policies from the full ("long") privacy policy, on participants' privacy awareness, measured in terms of an index [-20;20] counting the total number of right (+1), unsure (0) or wrong (-1) answers about the 20 tested policies. The study results suggests that, compared to the control group (no privacy notice), all conditions significantly increased awareness, from and index value of 9.54 to 12.06. Framing was not found to have any significant effect on awareness over the neutral version of the tested conditions. However, long (12.52) and medium length notices (12.65), whose effects were statistically not distinguishable, significantly outperformed short notices (11.05). This effect was mostly driven by those policies *excluded* from the shortest version, and, in particular, those that were excluded from the shortest but included in the medium version (i.e. expected by 70%-85%). For these policies, performance of the short condition group was indistinguishable from the control group (no privacy policy). Interestingly, neither the short nor the medium length condition performed any better on policies *included* in all three conditions, calling into question the benefits of focussing on the "most surprising" policies to increase consumer awareness with regard to these practices.

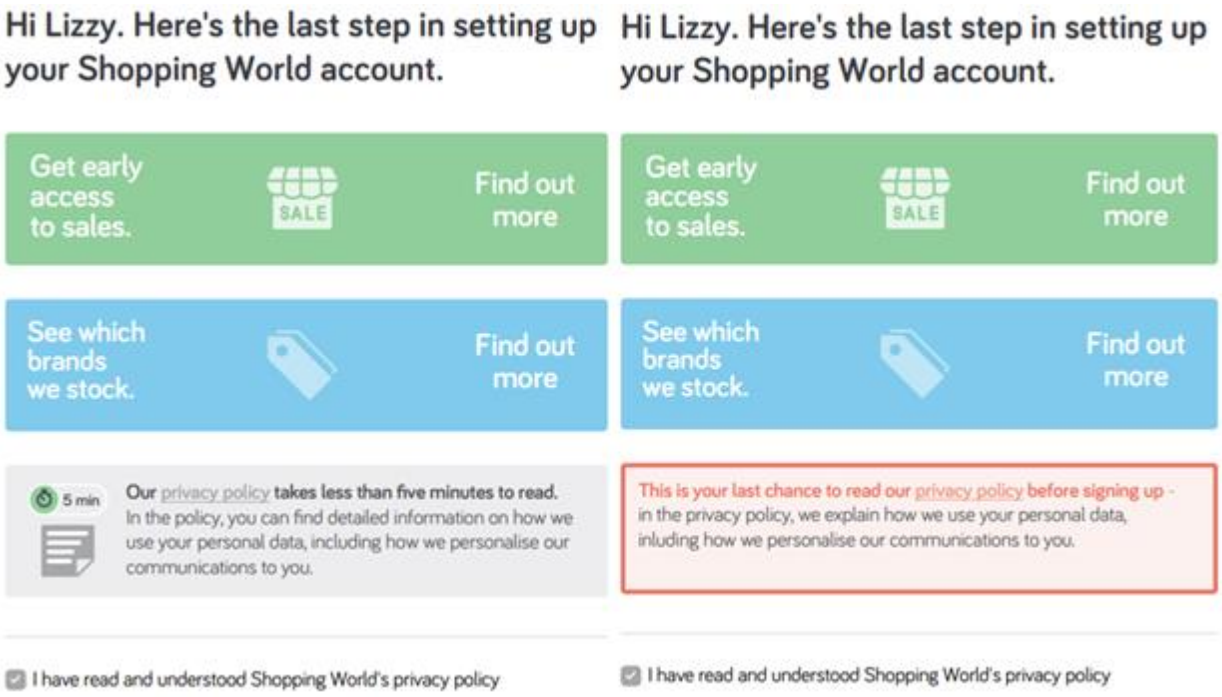
Figure A C.3. Example X: Testing different privacy policy formats



Note: From left to right: Table format, bulleted icon format, bulleted format, icon format.
Source: Gluck et al. (2016[61])

Besides the three experiments on Terms and Conditions described above, BIT (2019[58]) also considered different Privacy Policy manipulations. A first experiment (N = 1 832) focused on consumers' willingness to access a retail website's privacy policy by clicking on a link. In the control group, participants were presented with three buttons providing access to more information on i) early access to sales, ii) the brands stocked by the company, and iii) the company's privacy policy. All interventions only altered the latter, adding a) a *cost cue* ("5 min read"), b) a *personal note* (using the name of the participant) highlighting that they were in control of access to their data, or c) an *urgency* formulation, highlighting that this was the last chance to read the privacy policy [see Figure A C.4 for versions (a) and (c)]. The results of the experiment suggest that, compared to the control (16.43%), all modifications enhanced access rates, to 20.24% (*personal note*), 23.08% (*urgency*) and 33.60% (*cost cue*), respectively, where the cost cue effect was also significantly larger than the effect of the other two interventions. In a second step, the experiment also assessed the effect of the three interventions on comprehension (8 questions), suggesting a significant increase in the number of correct responses from 3.95 (control) to 4.49 (*cost cue*), 4.73 (*urgency*) and 4.82 (*personal note*), respectively.

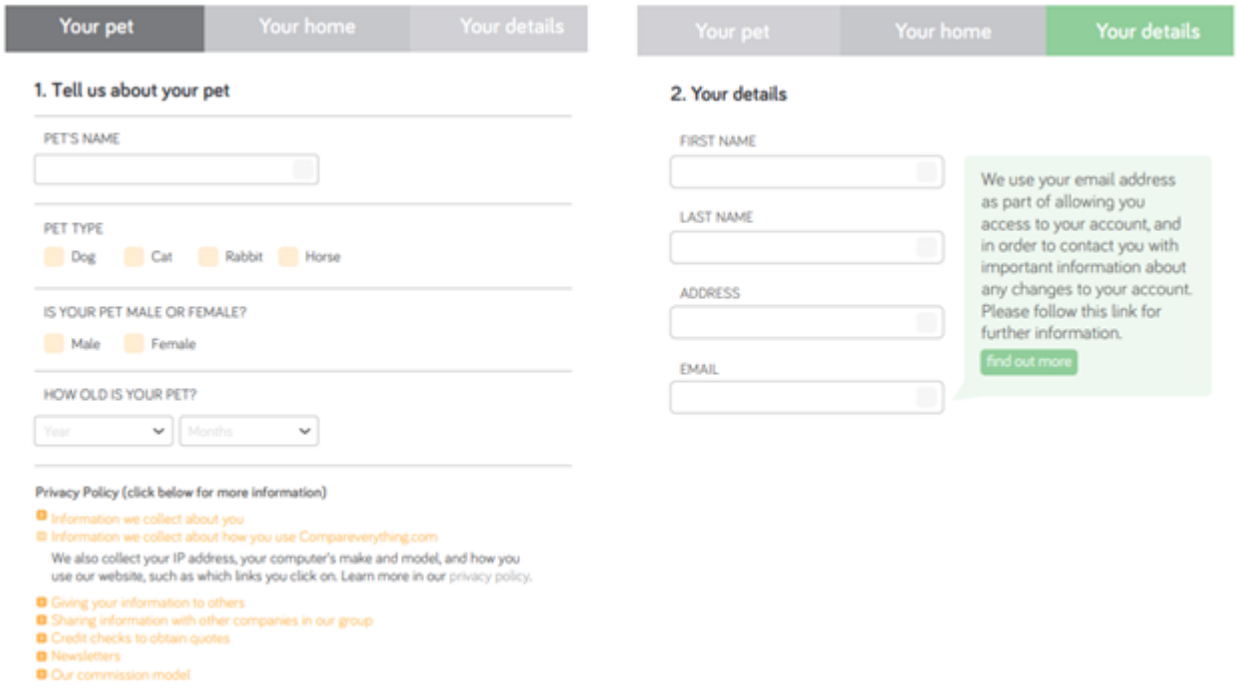
Figure A C.4. Example XI: Testing different invitations to read the privacy policy



Source: BIT (2019[58])

In a second experiment (N = 1867), BIT (2019[58]) tested three manipulations of a short-form presentation of seven key privacy policies of a (insurance) price comparison website, which, in the control group, was displayed through one paragraph at the bottom of the page, with a link to the full privacy policy. The manipulations were i) a 'layered' summary that replaced the original paragraph, with headings that expand when clicked (see Figure A C.5, left panel); ii) a 'just in time' presentation, in addition to the original paragraph, where relevant bits of the policy appeared in pop-ups in the corresponding parts of the form that participants had to fill out as part of the exercise (see Figure A C.5, right panel); and iii) an 'iconized' presentation, replacing the original paragraph, where each of the seven policies was shown in a small text box and illustrated through a small icon (not shown). Comprehension was measured with eight questions and the results of the experiment suggest that, compared to the control (3.37 correct responses), both the 'just in time' intervention (3.67) and the 'iconized' version (3.60) performed significantly better than the control, whereas the 'layered' version performed slightly, though not significantly, worse (3.23). None of the three interventions significantly increased the percentage of participants opening the full privacy policy, which contained additional terms that were not captured in the summary (*non-highlighted*). A differential analysis further suggests that the reduction in comprehension for the layered version was driven exclusively by a (significant) reduction in comprehension for the four questions on the highlighted terms, while layering had no effect on comprehension of the four remaining questions on non-highlighted terms. As the authors highlight, this suggests that layering introduces a friction, complicating respondents' access to the highlighted terms.[32]

Figure A C.5. Example XII: Testing layered or 'just in time' representations of key privacy policies



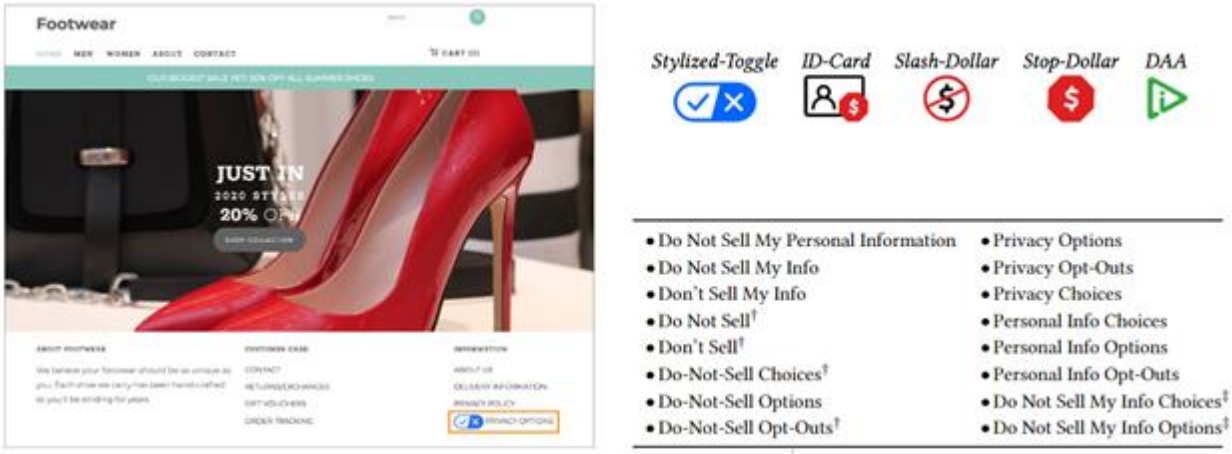
Note: The figure combines two different experimental conditions, namely the layered (left) and the 'just in time' (right) variant.
Source: BIT (2019[58])

In a third experiment (N = 1 867), BIT (2019[124]) tested variations of a social media platform's full privacy policy. In the control, the 1 900-word privacy policy was divided into sections, with searchable contents at the top of the page. The three manipulation altered the presentation of these terms i) using icons to illustrate headers, the table of contents and some key concepts; ii) providing additional vignettes with icons, explaining how specific items would affect a character named 'Sam'; and iii) adding text boxes explaining how participants could opt in and out of key items. None of the interventions significantly enhanced comprehension (measured with 8 questions) compared to the benchmark (3.13) and the use of Icons actually diminished comprehension slightly (2.89) (marginally significant). The presentation of choices for some of the privacy terms (iii) also had no significant effect on comprehension as measured by the four questions related to these terms. The authors suggest that the full privacy policy might have been already too long, so that adding further examples or explanations did nothing to reduce information overload, or, in the case of icons, even worsened the problem.

Habib et al. (2021[65]) focus more closely on privacy *choices* (e.g. generic choice, opt-out, sale of personal information) and examine how effective different icons (11), in combination with possible accompanying captions or link texts (16), are in informing consumers about available choices. After determining several candidates for effective icons and captions in two pre-studies, the authors test the consumer understanding of the 23 most promising combinations through an online experiment (N = 1 468). In particular, the authors consider combinations of four icon conditions (no icon, Stylised-Toggle, Slash-Dollar, DAA's Privacy Rights icon) and six link text conditions (no text, "Privacy Options", "Privacy Choices", "Do Not Sell My Personal Information", "Do Not Sell My Personal Info", "Personal Info Choices"), to communicate both do-not-sell choices (in line with the US CCPA regulation) and broader privacy choices to consumers (Figure A C.6).[33]

For broad privacy choices, the empirical analysis suggests that the blue *Stylised-Toggle* icon, together with "privacy options" performed best, but other icons also worked well when combined with "Privacy Options" or "Privacy Choices". This implies that both text elements effectively conveyed privacy choices. Participants were significantly less likely to expect privacy choices when seeing the link text "Personal Info Choices" or only the DAA or Dollar icons, without any accompanying link text. Additionally, the two CCPA-mandated link texts ("Do Not Sell My Personal Info[rmation]"), worked well on their own, but also in combination with most icons, effectively creating the expectation of a do-not-sell choice. However, in this case adding the "Stylised Toggle" icon caused a sizeable share of participants (40%) to mistake the icon for an actual control button, which, upon clicking, would give the website permission to sell their personal information. Additionally, in the absence of further text, the Slash-Dollar icon was often falsely associated with secure or encrypted payment options. In a follow-up study (N = 421), the researchers also found that a simple variation of the *Stylised-Toggle*, using the colour red to symbolise an "opt-out' choice ( ), in combination with the "Do Not Sell My Personal Information" text, induced i) even more participants to mistake the icon for an actual control button and ii) more confusion than the blue, more neutral *Stylised-Toggle*, as to the implications of "clicking" the button, likely due a possible uncertainty as to whether the suspected icon involved a simple negation or a double negation (red could resemble both, *disabled sales* or a disabled *do not sell my data* option).

Figure A C.6. Example XIII: Testing different icon and text combinations to communicate privacy choices



Note: Left panel shows application of the different icon and text combination in the online experiment. Right panel shows a number of promising icons determined in preliminary studies, which were subsequently tested in combination with selected text elements (bottom of right panel) in the final experiment. † identifies text elements only tested in the "preliminary" text study. ‡ identifies text elements only tested in the "refined" study. See Habib et al. (2021[65]) for more details.
Source: Author's elaboration, based on Habib et al. (2021[65]).

Financial disclosures

Effectively disclosing financial information can be particularly challenging, given that many consumers exhibit high levels of financial illiteracy or innumeracy (Ben-Shahar and Schneider, 2010[34]). Because inadequate information in the context of financial products can be associated with significant financial detriment for consumers, e.g. when they choose a suboptimal mortgage loan because they fail to foresee the full repayment costs of a

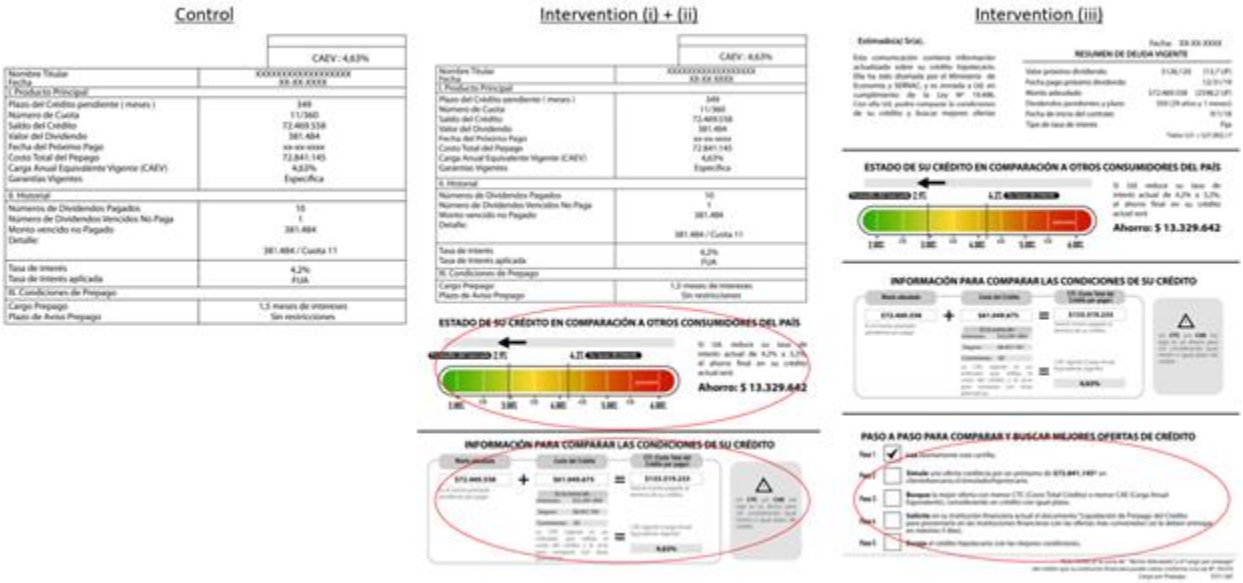
complex, adjustable rate contract with alternative payment options, there is a long history of qualitative and quantitative studies focussing on disclosures in areas such as the rates and terms for mortgages, credit cards and other consumer loans. Hogarth and Merry (2011[62]) synthesise the early literature, which confirms many of the factors found to be important in other policy areas (e.g. the use of plain and meaningful language or salient disclosure design) to also play an important role for disclosures in a financial context. Importantly, this literature also highlights, and confirms, that providing a context for consumers to understand the overall significance of the disclosed information, and how it may interact with their decision (e.g. by reframing important information in the form of frequently asked questions), can be crucial in the case of complex disclosures. In this context, the financial literature adds to other strands of the literature, by clearly highlighting, for example, the importance of providing *reference points* to enhance consumers' ability to take meaningful decisions, a finding that will likely bear relevance for other complex disclosures as well, such as privacy policies or T&Cs. More than other parts of the literature, the financial literature thereby puts a relatively strong focus on *nudges*, often explicitly evaluating the performance of disclosures by their ability to induce a certain behaviour, e.g. assessing the number of consumes choosing the cheapest product. Importantly, the literature also highlights that the provision of a reference points can be important even if the disclosed information is already presented in a relatively easily comparable way (such as the *Annual Percentage Rate*, or APR, in the financial context), because many consumers may only consider a single offer at a time rather than engaging in extensive comparison shopping.

For example, in a seminal paper, (Bertrand and Morse, 2011[59]) performed a randomised field trial (N = 1 441) to evaluate how consumers' decision to continue borrowing from payday lenders, a rather expensive form of borrowing, changed with three different manipulations of the disclosure, namely: i) providing a *comparison* of the payday loan's APR with the APRs of other, potentially more familiar, financial instruments (e.g. car loans, credit card, or subprime mortgage); ii) *reframing* fees in the form of the accumulated dollar costs of an exemplary USD 300 payday loan outstanding for distinct periods of time (2 weeks, 1 month, 2 months, 3 months) and comparing these with the cost of other financial products; and iii) presenting consumers with a simple graphic, showing how often the average person *refinances* a payday loan before paying it back.[34] Additionally, the authors tested whether providing consumers with a tool to help them take active steps to get out of debt (saving planner) reinforced the effectiveness of the provided information. The results of the experiment suggest that the three main interventions significantly reduced borrowing, compared to an average amount of USD 235 for the standard APR disclosure, by USD 55 (reframing), USD 38 (comparison) and USD 28 (refinancing), respectively. Adding a savings planner had no statistically significant effects on borrowing behaviour and did not interact with any of the three main interventions.

More recently, the Chilean National Consumer Service (SERNAC) run a related experiment (N = 548), testing the effect of a re-design of the standard *Mortgage Statement*, which financial institutions are legally required to send to their customers every three months, on consumer understanding and refinancing decisions (SERNAC, 2020[19]). The interventions, applied to a slightly modified version of the standard mortgage statement that consumers currently would obtain via e-mail (control), included i) the addition of two reference points (a 'thermometer' indicating the distance between the average market interest rate and the interest rate applied to the debtor and the Peso amount a person could save by reducing their current interest rate by 1 percentage point); iii) additional information on how to assess the current credit conditions; and, additionally, iv) a step-by-step guide on how to find the best alternative credit offer. The fourth modification represents the actually proposed re-design, based on a literature review of best practices

and focus group testing (Figure A C.7). In four rounds, where treatment conditions were held constant, but the content of the credit statements varied (e.g. higher distance from the average market rate or possible saving amount), participants were asked whether they would replace the current contract under the shown conditions. The results of the experiment suggest that all modifications significantly increased the likelihood of participants considering a change of contract by 15.8 (i), 14.5 (ii) and 23.4 percentage points, respectively, compared to the control group (54%). Effect sizes did not vary significantly with the participants' level of financial literacy. However, none of the interventions had a significant impact on participants' ability to select the best alternative contract (a task correctly resolved by around 70% of participants on average) or comprehension more broadly (assessed by four questions on the credit conditions), apart from a positive effect of intervention (iii) on the number of participants that correctly found it could be useful to renegotiate the contract (83% correct responses on average). The latter effect was particularly pronounced among low-income participants.

Figure A C.7. Example XIV: Testing reference points and next step guidance in financial disclosures

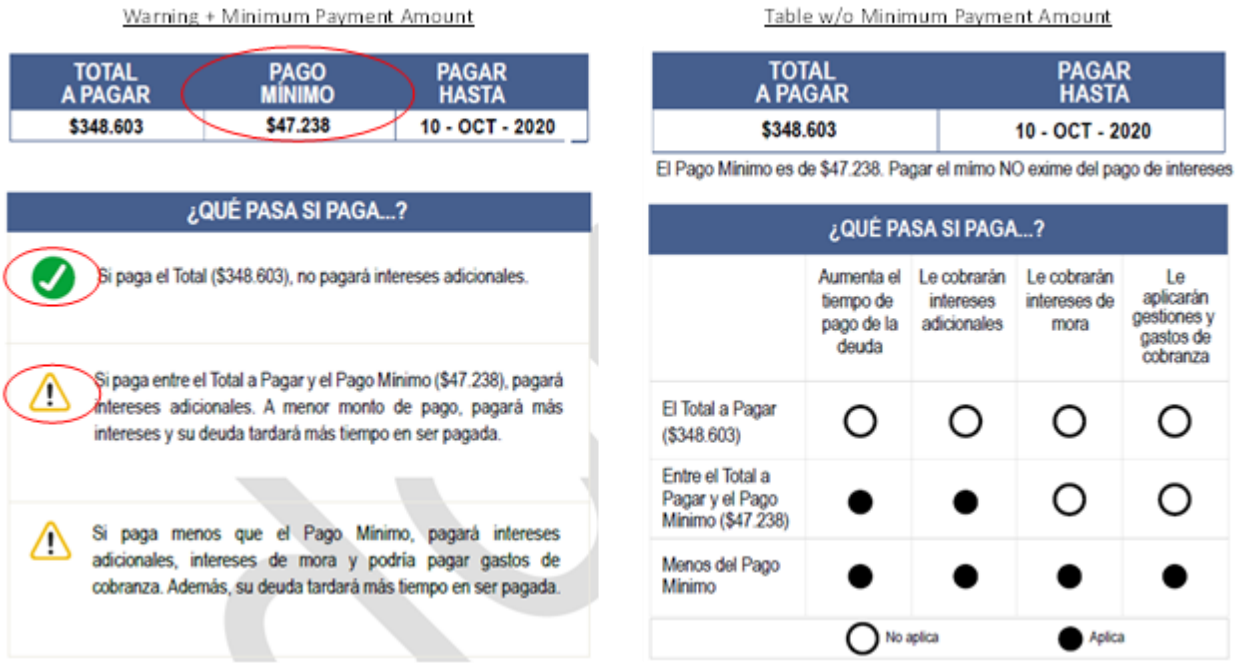


Source: SERNAC (2020[19])

In a different experiment, SERNAC (2021[60]) evaluate the impact of modifying the monthly billing statement for credit card holders (in digital format) on decision making (repayment) and understanding (N = 1 328). Four variations of the current credit card statement (control) were considered, involving all four possible combinations of A) incorporating *either* a warning symbols *or* a more neutral table, to highlight the additional applicable fees when choosing a minimum over the total repayment, and B) increasing (*or not*) the salience of the total amount due, relative to the minimum possible repayment. The four experimental conditions can thus be summarised as: i) warning symbol with minimum (Figure A C.8, left panel); ii) warning symbol without minimum; iii) neutral table with minimum; iv) neutral table without minimum (Figure A C.8, right panel). All conditions were significant simplifications over the standard statement, where the corresponding information about additional fees associated with different repayment schedules had to be collected from different parts of the document. The presentation of information was also enhanced for other parts of the document in all four conditions, by including, e.g., a

glossary of technical terms or the market average interest rate as a reference point (not separately tested). The results of the experiment suggest that a) all conditions (simplified presentation) significantly raised the percentage of participants agreeing that the statement is easy to understand, from 35% in the control to 45% across the four treatments (the effect is also significant when self-assessed understanding of individual sections was tested separately); b) all conditions (containing the market interest rate as a reference point) increased the share of participants willing to consider another card (40% vs 29%); c) all conditions increased the percentage of respondents understanding that paying the total balance would help to avoid additional or revolving fees (50% vs. 26%). For conditions with warning symbols (i and ii), this percentage was even higher (55%); d) all conditions made it easier for participants to identify the minimum repayment amount (55% vs. 49%), and this effect was particularly pronounced in the conditions where the minimum amount was highlighted (61%, i and iii); finally, e) willingness to repay the full amount was significantly higher for the condition that showed a warning symbol but did *not* highlight the minimum payment amount, increasing the *relative salience* of the total amount due (ii) (67% vs. 55%).

Figure A C.8. Example XV: Testing warning symbols and altering salience of options in financial disclosures



Note: Excerpts from the full statements.
Source: SERNAC (2021[60])

Annex D. Literature Benchmarks: Simple online disclosures with narrow scope

Table A D.1. Literature Benchmarks: Simple online disclosures with narrow scope

Application	Context	Effectiveness Measure	Minimum effectiveness (e.g. standard disclosure)	Maximum effectiveness (enhanced disclosure)	Average/ other	Source
Native Advertising	News Website	Ad Recognition (ex-post, 2-stage)	2%	13%	7% (average)	Wojdynsky and Evans (2015[21])
Native Advertising	News Website	Ad Recognition (ex-post, 2-stage)	3.4%	12%	9% (average)	Amazeen and Wojdynski (2018[51])
Native Advertising	Mixed content	Ad Recognition (direct)	40% (considering only two ads)	56% (considering only two ads)	37% (considering 9 ads)	Hyman et al. (2018[52])
Native Advertising	News Website	Mean Detection Rate = percentage of correctly identified ads (ex-post, 1 step).	29% (standard)	46% (clear wording)	39% (average)	Peer and Shilian (2021[56])
Native Advertising	News Website	Absolute Detection Rate = percentage of participants correctly identifying all articles (ex-post, 1 step).	1.9% (standard)	20% (clear wording)		Peer and Shilian (2021[56])
Native Advertising	Photo Ads (Twitter)	Ad Recognition (direct)	70% (no disclosure) / 72% (standard disclosure)	76% (prominent)		EC (2018[38])
Native Advertising	Text Ads (Twitter)	Ad Recognition (direct)	64% (no disclosure) / 66% (standard disclosure)	75% (prominent)		EC (2018[38])
Native Advertising	Instagram	Ad Recognition (ex-post, 1 step)	36% (non-Instagram users, average)	65% (Instagram users, prominent)	36% (non-users) / 52% (users)	KFST (2021[47])
Native Advertising	Instagram	MDR (direct)	4 out of 6 (66%) [non-users, non-standardised disclosures]	4.8 out of 6 (80%) [users, standardised disclosures]		KFST (2021[47])
Native Advertising	Instagram	ADR (direct)	33% (non-Instagram users)	62% (users) [standardised disclosure]		KFST (2021[47])
Native Advertising	Advergame	Persuasion Knowledge (Index, 1-12)	8.1 (no disclosure) / 7.13 (under cognitive load)	9 (dual-modality, no cognitive load)		Evans and Hoy (2016[57])
Video Advertising	YouTube	Ad Recognition (direct) [Children, age 6-12]	62% (standard disclosure)	77% (modified)	79% (adults, standard)	KFST (2021[47])

Native Advertising and Paid Ranking	Diverse	Ad Recognition (direct)	47%	68%		FTC (2017[54])
Paid Ranking	Hotel Booking	Ad Recognition (ex-post, 1-step)	25%	71%		KFST (2021[53])
Paid Ranking	Hotel Booking	ADR (direct)	3% (paid partnerships)	60% (paid ads / paid partnership)		KFST (2021[53])
Paid Ranking	Online Platform	Ad Recognition (ex-post, 2-step)	Notice (9%) / Understanding (31%)	Notice (32%) / Understanding 55%		ACM (2021[55])
Personalisation (Pricing, Ranking, Ads)	Webstore	Awareness (ex-post)	28.9% (average, no disclosure)	41.4% (average, high transparency)		EC (2018[123])
Personalised Pricing	Webstore	Awareness (ex-post, Index 1-7)	2.3 (Ireland), 2.7 (Chile) [no disclosure]	3* (IRL), 2.7 (CHL)		OECD (2021[11])
Personalised Pricing	Webstore	Disclosure Recall	IRL: 6%/21%; CHL: 4%/9% [strict/soft crit.]	IRL: 22%*/38* CHL: 12%/15%		OECD (2021[11])
Additional fees	Travel/ Telecom	Recall (ex post)	8.6% (Travel), 6.8% (Telco)	24.6% (Travel); 25.2% (Telco)		ACM (2021[55])

Source: OECD's elaboration based on the cited literature.

Annex E. Literature Benchmarks: Extensive or complex online disclosures

Table A E.1. Literature Benchmarks: Extensive or complex online disclosures

Application	Context / Notes	Effectiveness Measure	Minimum effectiveness (e.g. no or standard disclosure)	Maximum effectiveness (enhanced disclosure)	Average/ other	Source
Terms and Conditions	E-commerce	Accessing T&Cs (clicked on link)	9.4% (no cues)	19.8% (reading time cue)	12.0% (average)	Elshout et al. (2016[32]), second experiment (consumers choose to open T&Cs)
Terms and Conditions	E-commerce	Accessing T&Cs (clicked on link)	6.6% (link and summary)	30% (link and urgency cue)	8.6% (link only)	ACM (2021[55])
Terms and Conditions	E-commerce	Accessing T&Cs (clicked on link)	9.3% (control)	11.06% (icon summary)		BIT (2019[124]), first experiment
Privacy Notices	Price Comparison	Accessing full terms (clicked on link)	8.6% (just in time)	11.5% (layered)		BIT (2019[124]), third experiment
Terms and Conditions	E-commerce	Self-reported readership ("Read all")	10.5% (long and complex)	26.5% (simplified, shortened)		Elshout et al. (2016[32]), first experiment (consumers access T&Cs by default)
Terms and Conditions	E-commerce	Self-reported readership ("none at all")	24.2%	19.6%		Elshout et al. (2016[32]), first experiment (consumers access T&Cs by default)
Terms and Conditions	E-commerce	Notice (self-reported memory, out of 21 T&Cs)	13.3 (63.2%)	16.8 (80%)		KFST (2018[64])
Terms and Conditions	E-commerce	Comprehension (objective, 3	1.30 correct responses	1.39 correct responses		Elshout et al. (2016[32]), first

		questions)	(43.3%)	(46.3%)		experiment (consumers access T&Cs by default)
Terms and Conditions	E-commerce	Comprehension (objective, 5 questions)	3.44 correct responses (68.8%)	4.67 correct responses (93.4%) (key terms highlighted in standardised box)		KFST (2018[64])
Terms and Conditions	E-commerce	Comprehension (objective, 8 questions)	3.10 correct responses (38.8%) (Experiment c)	4.61 correct responses (57.6%) (Experiment a)		BIT (2019[124])
Terms and Conditions	E-commerce	Comprehension (objective, varying number of questions)	35.8% (of 4 questions on non-emphasised terms, Experiment c)	61.2% (of 5 questions on emphasised terms, Experiment b)		BIT (2019[124])
Terms and Conditions	E-commerce	Comprehension (objective, 8 questions)	31.8%	46.9%		ACM (2021[55])
Privacy Notice	E-commerce	Comprehension (objective, 8 questions)	3.95 correct responses (49.4%) (control)	4.82 (60.3%)		BIT (2019[124]), Experiment 2
Privacy Notice	E-commerce	Comprehension (objective, 8 questions)	3.37 (42.1%) (control)	3.67 (45.9%)		BIT (2019[124]), Experiment 3
Terms and Conditions	E-commerce	Comprehension (reported difficulty, 7-point scale)	4.02	3.48		Elshout et al. (2016[32]), first experiment (consumers access T&Cs by default)
Terms and Conditions	E-commerce	Comprehension (self-reported confidence, 7-point scale)	4.73 (Experiment 5)	5.04 (Experiment 6)		BIT (2019[124])
Privacy		Comprehension (self-	4.61	4.95		BIT (2019[124])

Policy		reported confidence, 7-point scale)	(Experiment 4)	(Experiment 3)		
Privacy Notice	Mobile App	Comprehension (objective, share of participants responding correctly to 2 question about the content of the notice)	6%	45%		Balebako et al. (2015[63])
Privacy Notice	Mobile App	Recall (self-reported, share of participants who remembered "well" seeing the privacy notice or "most of it")	25%	36.5%		Balebako et al. (2015[63])
Privacy Notice	Wearable	Awareness (objective, 20 questions, scale: [20,-20]	11.05 (short notice) (55.3% "correct", approx.[35])	12.65 (medium length notice) (63.3% "correct", approx.)	9.54 (control, no notice) (47.7% "correct", approx.)	Gluck et al. (2016[61])
Privacy Notice	Webstore	Accessing Privacy Notice (click on link)	16.43% (control)	33.60 (reading cost cue)		BIT (2019[124])

Source: OECD's elaboration based on the cited literature.

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Notes

[1] See Box 2.4 for more specific guidance from the FTC.

[2] The scope of this report slightly diverges from a previous report on online disclosures (OECD, 2018[7]), which explicitly excluded disclosures aimed at *nudging* consumers into particular behavioural responses. This extension is necessary to better accommodate for disclosure types such as data breach notifications or product recall notices, where the original policy intention may sometimes indeed be to provoke a particular reaction, such as a password change or a product return (OECD, 2018[10]). That information cannot only be used to inform but also to influence consumer behaviour has been explicitly recognised for example in the OECD's Consumer Policy Toolkit (OECD, 2010[1]). See Thaler and Sunstein (2008[135]) for a definition of "nudges" and for an implicit warning that even policies that are intended to remain impartial may *de facto* still sway consumers towards a particular behaviour (see p. 10/11). The notion of "impartiality" in the context of disclosure requirements is not established in the literature and used here merely for simplicity, lacking a better alternative.

[3] "Reasonable expectations" ought to be understood relative to the particular circumstances of the transaction. The qualifier "reasonable" is critical, as it ensures that the benchmark remains "reasonable" even if the actual expectations of the individual in question are biased, e.g. due to short-sightedness or over-optimism (Europe Economics, 2007[144]).

[4] See Costa and Halpern (2019[112]) for more on the link between transparency and competition.

[5] Consumer detriment may not be only consequence that matters for determining a benchmark of disclosure success. Thus, in the case of product recalls, for example, it has been argued that beyond detriment (e.g. hazard posed by the product or injuries suffered by consumers since the recall was advertised), the evaluation of recall effectiveness may also need to consider factors such as the communication method used to advertise the recall, the type of product being recalled, the price of the product and the engagement of a regulator in the recall process (OECD, 2018[9]).

[6] See (OECD, forthcoming[146]) for a more detailed discussion of how consumer vulnerabilities can be accounted for by consumer policy in the digital age.

[7] https://www.visualcapitalist.com/terms-of-service-visualizing-the-length-of-internet-agreements/ (last visited 07.10.2021) or https://www.thinkmoney.co.uk/blog/what-phones-know-about-you/ (last visited 07.10.2021)

[8] See Elshout et al. (2016[32]) or Jin, Luca and Martin (2018[33]) and Chapter 3 for a discussion of why businesses may in some cases have incentives to bury information on purpose in complex or lengthy disclosures.

[9] For example, an experiment conducted by the FTC showed that adding information about mortgage broker costs to a mortgage disclosure, in order to improve consumer decision making, actually diminished the number of consumers who could identify the cheapest loan from 95 per cent to between 49 and 71 per cent (depending on the type of disclosure used) (Lacko and Pappalardo, 2007[128]).

[10] Whether disclosures can be targeted to individual consumers or not may therefore also depend on the timing of the disclosure, e.g. relative to a previous purchase transaction.

[11] This can involve cases where boxes are pre-checked (default) or where boxes are unchecked but require a choice before the consumer can proceed (mandated choice), compare Thaler and Sustein (2008[135]).

[12] Law: 15 U.S.C. §§ 8401-8405, http://uscode.house.gov/view.xhtml?req=granuleid%3AUSC-prelim-title15-chapter110&edition=prelim

[13] Because experimental settings are to some degree artificial and constraint in terms of the considered options the presented findings should not be taken at face value. In particular, it could be argued that they tend to overestimate the effectiveness of the discussed disclosures, because they cannot take into account the total amount of information a consumer would be exposed to (online and offline) in reality.

[14] For example, Samsung, during the recall of the Galaxy Note 7 offered coupons to affected consumers amounting to USD 100 to exchange and purchase a new Samsung phone and USD 25 to purchase a new phone from another company (OECD, 2018[10]).

[15] Evidence from the US CPSC provides similar results, see https://www.slideshare.net/USCPSC/cpsc-recall-effectiveness-workshop-recall-data, cited ibid.

[16] Ben-Shahar and Schneider (2010[34]) refer more broadly to a "quantity problem, of which one manifestation is "information overload", as discussed for example in OECD (2018[7]), and the other is the "accumulation problem".

[17] Stewart and Martin (2004[15]) provide an example where the lack of coordination between agencies at the state and federal level on the content of a nicotine warning label led to a major pharma company being charged with engaging in unfair business practices.

[18] In a related context, the terminology of *relative salience* has also been used to describe situations in which one product dimension (e.g. the price) is substantially more salient to consumers than other dimensions of the same product. This can lead to a saliency bias where consumers engage more with the most salient product dimension and less with other dimensions, with important implications for competition. In this context, disclosures with regard to the less salient product dimensions can actually solve the saliency bias (Fletcher, 2019[103]).

[19] See OECD (forthcoming[49]) for more examples.

[20] See judgment of the European Court of Justice in case C-673/17 from October 1, 2019, and the related opinion of the advocate general, which explicitly referred to "default inertia".

[21] These losses were mostly due to cases where the loss of data involved financial information, including social security numbers and/or loss of bank account and credit card information. No statistically significant negative returns were found for the subsample of firms that reported only losses of non-financial data, such as information on driver license, medical records, or e-mails).

[22] Looking at actual consumers' browsing behaviour, including clicks and conversions (call rates), of over 200 000 users of a mobile restaurant-search platform to analyse revealed preferences, Sahni and Nair (2019[137]) find conversions for labelled ads to be higher than for non-labelled ads on the considered platform rather than lower. They explain this result suggesting that businesses advertising activities may sometimes serve as a signal of higher product quality. When this is the case, the incentives of the platform, advertisers and regulators are effectively aligned.

[23] See Einstein (2016[138]), p. 106, cited in Amazeen and Muddiman (2017[88]).

[24] A survey by Accenture (2018[140]) suggests that 83% of consumers are willing to share their data to enable a personalised experience.

[25] See Bar-Gill (2019[101]) for more examples.

[26] According to Bar-Gill (2019[101]), but also the previous discussion on business incentives, firms may exploit this effect by improving conditions that are part of the summarised information, while introducing less favourable conditions in other areas.

[27] https://www.youtube.com/watch?v=onXNnlCYJ4Y

[28] UK, Germany, France, Spain, Sweden, Czech Republic, Poland and Romania.

[29] The study also considered whether the effect size varies with education but found no statistically significant differences.

[30] Similar effects were not confirmed for other highlighted T&Cs.

[31] The results in parenthesis seem to suggest that some consumers considered reading the summary a *substitute* for reading the full T&Cs. See BIT (2019[58]) for related evidence suggesting that including a summary may decrease understanding of T&Cs not captured in the summary.

[32] The results also suggest that the 'just in time' intervention significantly enhanced understanding of non-highlighted terms, a finding that is not explained by increased opening rates of the full terms.

[33] The combination of 'no icon' and 'no text' was excluded.

[34] This intervention aimed to address a possible *overconfidence* bias, which consumers may exhibit when considering the likelihood of different repayment schedules.

[35] This is an approximation only, as additional correct responses (+1) could have been annihilated by incorrect responses (-1).