Quality considerations in digital zero-price markets

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Foreword

Most consumers are offered products at a price of zero on a daily basis. Business models centred around the zero-price products are not new. However, in the digital economy, new zero-price markets have arisen with their own unique characteristics and vast scope.

This paper sets out the potential dimensions of quality competition in zero-price markets and the business models associated with them, including privacy and data security, advertising content, ease of switching, and choice in complement markets, among others.

While there is a conceptual basis for identifying competition problems in zero-price markets, there are numerous practical analytical and legal challenges that may arise. However, these challenges may be surmountable by competition authorities in many cases.

When competition may not be functioning as expected in a zero-price market but competition enforcement tools cannot remedy the situation, there are numerous opportunities for consumer or data protection authorities to act.

In any event, competition, data, and consumer protection authorities have a complementary role in promoting competitive zero-price markets, and so co-operation between them is essential, particularly with respect to advocacy and regulatory solutions.

This paper was prepared by James Mancini and Cristina Volpin of the OECD Competition Division, with input from Michael Donohue and Dries Cuijpers of the Division for Digital Economy Policy, as a background note for the OECD Competition Committee roundtable on "Quality considerations in the zero-price economy", which took place in November 2018.

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Chapter 1. Introduction

Over the course of a single day, most consumers will come into contact with at least one product that is offered to them at a price of zero. Business models centred around the zero-price provision of products are not new: media companies have long made radio, television or even newspaper content available free of charge to consumers, funded by advertising revenues. Similarly multi-sided markets with a zero-price component have existed for some time with respect to credit cards, or even shopping malls (Evans, 2011). In other markets, a price of zero may be part of a strategy focused on selling consumers complements, as with the oft-cited example of firms providing a razor for free in the expectation that consumers would become repeat purchasers of accompanying blades.

However, in the digital economy, new zero-price markets have arisen with their own unique characteristics and vast scope: seven of the ten largest global companies provide zero-price products and services in digital markets.[1] The value of personal data in Europe alone has been forecast to grow to almost EUR 1 trillion (euros) annually by 2020.[2]

A key starting point in assessing a potential dimension of quality in a digital zero-price market is to ask why a firm is willing to provide the product without receiving money in exchange. While marginal costs in digital markets are frequently low, they are often not zero (as argued by Newman, 2017), and so firms generally require some compensation for the provision of these goods. The motivation for a price of zero generally falls into the following categories:

- **Data acquisition:** The collection of user data has become a key part of digital firm business models for improving service quality, developing new products, and monetisation through the sale of data to data brokers or other firms. The OECD Competition Committee's discussion of big data explores these business models and their implications for competition in depth (OECD, 2016a).
- **Advertising:** The provision of free goods to attract consumers' attention, which can then be directed towards advertisements, is an established business model in media sectors. However, in digital markets these advertisements can be tailored to individual consumers, enhancing their effectiveness. The OECD Committee on Consumer Policy's (CCP) report on online advertising describes these models and their implications for consumer policy (OECD, 2018b).
- **Developing a consumer base:** A price of zero may also be a part of a firm's strategy to eventually earn revenues from a consumer, for example through limited time free trials, offering a paid option with greater functionality (sometimes called "premiumisation"), selling complementary products (including non-durable complements that may be shielded from competition by compatibility limitations or a low tendency among consumers to shop around), or selling other products by making use of the firm's established relationship with zero-price good customers. Zero-price offers may also be a strategy in order to rapidly increase market share when a competitor offers a similar product (Barnett, 2018). Another possibility is

that firms offer free goods to accumulate a large user base that will increase the firm's attractiveness as a merger target for other firms (Rubinfeld and Gal, 2016).

- **Altruism and other long-term objectives:** Some technologies, referred to as "open source", are available at a price of zero and are not conditioned on access to consumer data or advertising revenues. These technologies may be offered without a profit motivation, reflecting broader philosophical views about technology accessibility and innovation. In some cases, for-profit firms participate in the development of open source technologies, because they derive value from them, the Linux operating system being one such example (Newman, 2017). While some concerns about the effect of open source technologies on the broader functioning of markets have been expressed (see, for example, Rubinfeld and Gal, 2016), this paper will be limited to the first three business models given their relevance to competition, data and consumer protection law.

This leads to one of the key questions associated with the competition analysis of zero-price markets: what is the nature of the transaction, if there is one, between suppliers and consumers of zero-price goods?

One perspective suggests that, since no currency changes hands, no real transaction occurs at all; and while firms may invest resources in data collection and processing, or developing advertisement services, a consumer is not actually giving something up when their data or attention are used to earn revenue. Wismer and Rasek (in OECD, 2017), for example, caution against trying to invent a negative aspect of a transaction for consumers in a multi-sided market if another side (e.g. advertisers) are paying for the zero-price product, since the forces of competition would continue to apply to that side of the market.

Evans takes a contrary view, stating:

> *The argument that free goods are not sold … does not make economic sense. Businesses still have to make decisions on how much to supply at a price of zero, and consumers still need to decide how much to demand given that they generally need to expend resources to obtain and consume these free products. In terms of competitive demand and supply, or the standard framework for a profit-maximizing firm setting price in the face of a downward sloping demand schedule, a "free price" simply means that the competitive market or the profit-maximizing firm sets a price of zero. Zero is just another number. (Evans, 2011, p. 14)*

Further, it may also be argued that a monetary price of zero does not mean consumers are not giving something up in exchange for the products they receive. Data or personal attention to advertisements is the price that consumers pay for the product, according to this perspective. Savage and Waldman (2015) support this contention by pointing to the fact that there is a real price/data trade-off in some markets, and indeed one study found that cheaper mobile applications collect a larger amount of consumer data than paid ones (Kummer and Schulte, 2016). Further, since consumers have a limited amount of attention, and the value of consumer data to firms may decrease as more firms gain access to it, the value brought to the transaction by consumers should be recognised. This idea is consistent with the statement in the European Commission's decision in *Google Shopping* that*:* "While users do not pay a monetary consideration for the use of general search services, they contribute to the monetisation of the service by providing data with each query" (para. 320).[3] Revisions in 2016 expanded the scope of the OECD Recommendation on Consumer Protection in E-commerce to include "non-monetary transactions" to reflect the importance of protecting consumers in this context (OECD, 2016).

A final approach dismisses the idea that a price of zero means there is no transaction, but does not go so far as to try to reconceptualise data or advertisement attention as prices. The well-established concept of product quality provides a reasonable basis on which to base economic analysis, including in the competition context, of zero-price markets (see, for example, Waehrer, 2016). In particular, this perspective recognises that price is only one dimension of competition between firms. While quality arises as a dimension of competition in many markets, quality in non-price markets will be the only parameter that affects consumer welfare, and the only measure of the effects of firm conduct or mergers.

The business rationales for providing zero-price products described above – essentially the value that a consumer's use of the product in question gives the firm – can be associated with one or more analogous determinants of quality and, therefore, consumer value. The scope of data collection and the degree to which it is associated with an individual consumer could, for example, be negatively associated with consumer welfare to the extent that it affects consumer privacy. Similarly, the more advertisements a consumer is exposed to when viewing content, the lower the value derived by the consumer could be (assuming advertisements are not considered valuable content by the consumer). Many consumers are frustrated when online advertising negatively impacts their online experience, either by slowing down services or interrupting them (OECD, 2018b).

However, this approach is not without its challenges: both in terms of analytical challenges and questions about consumer biases and information limitations. This paper will build on previous OECD discussions on the subject of big data (OECD, 2016a), multi-sided markets (OECD, 2017), non-price effects of mergers (OECD, 2018) and the OECD's broader Going Digital[4] project to explore the challenges associated with considering quality in zero-price markets. Specifically:

- **Section Chapter 2.** Summarises the various dimensions of quality competition that are observed in zero-price markets.
- **Section Chapter 3.** Discusses how these dimensions of quality can be considered in competition enforcement, and the associated analytical as well as legal challenges.
- **Section Chapter 4.** Identifies the demand-side problems that arise in zero-price markets, including the potential market failures that can result, legal challenges associated with applying consumer and data protection law to these markets, and additional policy solutions to address these problems.
- **Section Chapter 5.** Concludes.

Notes

[1] PriceWaterhouseCoopers (2018), "Global Top 100 companies by market capitalisation: 31 March 2018 update", www.pwc.com/gx/en/audit-services/assets/pdf/global-top-100-companies-2018-report.pdf.

[2] European Commission (2017), "Fact Sheet: Questions and Answers – Data protection reform package", http://europa.eu/rapid/press-release_MEMO-17-1441_en.htm.

[3] European Commission Decision C(2017) 4444, Case AT.39740 – *Google Search (Shopping)*, 27 July 2017, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf.

[4] See OECD Going Digital Project, www.oecd.org/going-digital/.

Chapter 2. Dimensions of quality competition in the zero-price economy

The type of quality competition that occurs in zero-price markets is not unique to these markets. However, a price of zero means that the terms of the transaction between firms and consumers may be almost exclusively conceptualised in terms of quality. It therefore follows that quality effects will be the primary measure of the effect on consumers of a merger or a firm's conduct, as well as the potential subject of collusion.

Understanding why firms offer products for a price of zero can be a starting point to identifying the different dimensions of quality competition in the market. The motivations described in Section Chapter 1. , namely advertising, data acquisition or establishing a consumer relationship, can be assessed to determine whether there is a corresponding determinant of consumer value. This approach helps ground the analysis of competition concerns in the incentives of firms as well as their impacts on consumers. The dimensions of quality that will be discussed in this section include:

- **Privacy and data security**, relevant when zero-price business models centre around data acquisition.
- **Advertising**, relevant when zero-price products are funded with advertising revenues.
- **Choice**, which can be a key dimension of quality for consumers when firms offer products at a price of zero with the purchase of complements or bundled goods in mind.
- **Other dimensions of quality,** including innovation and more product-specific measures of quality, which encompass the broad features of a product but which may not be fundamental to a zero-price business model.

2.1. Privacy and data security

Consumer privacy is a growing source of concern in digital markets. Firms are collecting an increasing range of data on consumers based on their interactions with the firms' zero priced products, as well as ancillary functionality built into these products. For example, Facebook collects data not only from users' interaction with Facebook, but also from websites with embedded Facebook functionality (Colangelo and Maggiolino, 2018).

The idea that consumer privacy constitutes a dimension of quality competition has begun to emerge in the decisions of some competition authorities (see, for example, European Commission's decision in *Microsoft/LinkedIn*[1]*)*. The concept is nonetheless the subject of some debate, particularly with respect to whether consumers consciously consider privacy when making product decisions, and the degree to which firms' privacy offer responds to competitive pressure (OECD, 2017b).

In this paper, privacy as a dimension of quality refers broadly to: the control that consumers have over whether and how much of their data is collected (the range of data and its frequency); how it is used, both by the collecting entity and any third parties that are granted

access to it; and how it is safeguarded from unauthorised or inappropriate uses. The latter safeguards contribute to what is referred to below as data security, which in the context of consumer data is one element of privacy. Various elements of privacy are subject to data protection legislation in most jurisdictions.

Recent developments in digital markets may strengthen the argument in favour of considering privacy a dimension of competition. These include the decision of some users to change messaging services due to privacy concerns when the acquisition of messaging platform WhatsApp by Facebook was announced (Costa-Cabral and Lynskey, 2016), and the introduction of privacy-focused services, such as the anonymous web search service DuckDuckGo. However, competition on privacy appears to still be observed in only a minority of competition cases. This may stem from decisions on the part of firms not to differentiate themselves in terms of privacy (perhaps due to a lack of competitive pressure to do so), and difficulties for consumers in evaluating privacy quality.

As with other dimensions of non-price competition, privacy can be a source of horizontal differentiation. Consumers could exhibit varying preferences in terms of the amount of personal information they are willing to divulge to firms, and the value they assign to protections that prevent unauthorised access of this data relative to other dimensions of zero-price product quality.

Analysing data security in a market, a narrower concept than privacy, may be somewhat simpler. Even if they place wildly differing values on the protection of their personal data, consumers can generally be expected to prefer a greater degree of data security holding all other quality dimensions constant (meaning it operates more as a dimension of vertical differentiation). That is, there is no group of consumers who prefer less data security, all else equal. Thus, consumer heterogeneity will stem only from differences in trade-offs among consumers; for example, a firm that opts to offer high levels of data security may need to sell more advertisements to fund the required investments. Data protection regulations establish firm liability and a minimum level of data security, but firms may be driven through competition, or at least risk management purposes, to exceed that level. In this sense, data security serves as a somewhat standard dimension of quality.

Consumers are faced with a more complicated set of options when weighing the broader dimension of privacy associated with a given service. As with data security, firms have certain statutory duties to consumers (and, as discussed below, there are calls to enhance these protections). However, there remains a range of potential privacy outcomes that can be offered to consumers, often associated with a given product feature.

At times, this choice is explicit; for example, a digital service provider may provide consumers with the option of receiving customised content in exchange for answering questionnaires or consenting to the collection of user data. In other cases, data collection is core to the business model of firms and consent to allowing it to occur is a prerequisite for accessing a zero-price service. In such cases, even if consumers dislike the concept of sharing their data, they may nonetheless opt to do so to benefit from a service at a price of zero.

Data collection can be differentiated based on its use from the perspective of a consumer. In particular, data might enhance the value at least some consumers obtain from a service. Indeed, Waehrer (2016) cautions against automatically considering firm data collection as a negative, since in many cases firms invest in data collection to improve the quality of services, such as web search engines. OECD (2016a) describes the range of innovations and quality improvements generated by harnessing consumer data.

So understanding the effects of a given type of conduct or transaction on consumers will therefore require an understanding of consumer preferences, namely the degree to which they value privacy relative to any benefits they may receive from a firm by disclosing more information. Developing such an understanding can be complicated by the gap between consumers' reported preferences and their actual behaviour.

2.2. Advertising content

A well-established business model for the provision of zero-price goods is to use content to attract consumers and then expose those consumers to advertisements while they are accessing this content.

From a consumer perspective, advertising content can be a dimension of quality to the extent that at least some consumers prefer (1) to be exposed to as few advertisements as possible, and (2) to be exposed to high-quality advertisements. There may be substantial heterogeneity in consumer preferences when it comes to advertisements however: some may derive utility from advertisements that either help them discover products or provide content in their own right.

As with data collection, advertising content presents consumers with a trade-off. More advertising may enable the firm offering the zero-price product to invest in higher quality. Also some zero-price online services offer consumers a premium offering to avoid advertisements in exchange for paying a fee, which gives consumers the opportunity to determine in monetary terms the value they would derive from avoiding advertisements.

Evans (2011) opines that advertising-based business models generate value as long as advertisers are willing to pay more to serve an advertisement to consumers than the latter are willing to pay to avoid receiving this advertisement. However, as discussed further below in Section Chapter 4. , information asymmetries may lead to adverse market outcomes when zero-price services are funded by advertisements. For example, the inability of consumers to evaluate the details of a search engine algorithm may create a misalignment in incentives between firms providing search engines, their users and advertisers. In other words, firms could be incentivised to degrade the quality of the search engine results in favour of paying advertisers, without consumers being in a position to notice or respond to the change (Stucke and Ezrachi, 2016).

In addition, the analysis of privacy as a dimension of quality competition could become more complicated when data collection is used to customise the advertisements that are displayed for users. Ratliff and Rubinfeld (2014) suggest that advertisement customisation may enhance advertisement quality from a consumer perspective. However, in one US survey, a majority of respondents indicated they would not want their data to be used to tailor the advertising they are exposed to (Turow et al, 2009). The degree to which consumers translate this preference into their purchasing decisions is unclear, since some studies suggest that customisation of advertisements to users substantially increases their effectiveness (Tucker, 2012). An increase in effectiveness is equivalent to an increase in quality in the related market for advertisements, which fund the business models that provide zero-price services.

While some online services such as Gmail allow consumers to choose whether the advertisements they receive (in email banner ads in the instance of Gmail) will be personalised to the user's interests (based for example on their search history), some studies find that consumers will not consciously spend time to select higher privacy settings for their services (Gross and Acquisti, 2005) even if such options are available. However, this

may be due to the information asymmetries and behavioural biases discussed in Section Chapter 4. In such cases, the precise line between what constitutes a dimension of competition and what is a consumer protection question may not be well-defined.

2.3. Ease of switching and choice in complement markets

Goods may be provided by firms for a price of zero if they expect to be able to develop a consumer relationship that will in the future lead to the sale of nonzero priced goods. This can take the form of providing a given good or service for free while charging for a complement, offering additional "premium" services for a fee, or providing services at a price of zero for a limited time only (e.g. trial periods). Other reasons for temporarily setting a price of zero can include strategies by start-up firms to increase their value to prospective acquirers, or anticompetitive temporary zero-price strategies aimed at driving out competitors to be followed by a price increase.

From a consumer perspective, the associated dimension of quality in zero-price markets could include compatibility of zero-price products with their paid complements, ease of switching (and switching costs, such as time to create a new user account) and the duration and conditions of the zero-price offer. Data portability could also constitute an element of quality and opportunity for horizontal differentiation, and is now recognised as a right in the European Union by the General Data Protection Regulation.

2.4. Other dimensions of quality

While privacy and data security, advertising content, choice in complements and ease of switching are the dimensions of quality most associated with the business model underpinning a zero-price business model, they are not the only dimensions of quality relevant for competition. Like most other markets, zero-price products have numerous characteristics that affect the value obtained by consumers, who may exhibit heterogeneous preferences.

One particular such dimension of competition in zero-price markets is innovation. As described in OECD (2018), competitive pressures can lead to innovation efforts that produce better products, or entirely new ones, for consumers. When the prevailing price in a market is zero, the offering of improved functionality or new features may be one of the only ways for firms to capture market share. Indeed, in *Google Shopping*, the European Commission noted that "*In so far as users expect to receive a service free of charge, an undertaking that decides to stop innovating may run the risk of reducing its attractiveness, depending on the level of innovation on the market in question*" (para. 268).[2] However, a price of zero may also limit the resources available to firms to engage in innovative efforts, especially firms without revenues from vertically-integrated complements or related products.

Some have expressed concerns about the "free effect", described in Section Chapter 4. below, preventing firms from introducing valuable innovations from the perspective of consumers due to the inability to begin charging a positive price in a market with zero-price offerings (see, for example, Rubinfeld and Gal, 2016). In fact, this concern may extend to other areas of quality competition as well: if consumers are reluctant to pay a positive price for a good they currently receive for free, the ability of firms to differentiate their offering through improved quality at a nonzero-price may be limited.

So it may be the case that quality competition is relatively more constrained in some zero-price markets, with concerns about price overwhelming all other dimensions of competition. There are risks of drawing overly strong conclusions from this observation, however. Competition analysis should not start incorporating dimensions of quality about which consumers "should", from an analyst's perspective, care about, rather than confining the analysis to dimensions that consumers indicate they do care about (see further discussion in OECD, 2018).

Apart from innovation, the relevant dimensions of quality in digital zero-price markets are market-specific, and could include speed, reliability, accuracy of search results, user friendliness, functionality and customisability. These dimensions of competition may be strongly influenced by network effects and data collection (for instance, the trial and error benefits for search engine results).

Notes

[1] European Commission Decision C(2016) 8404, Case M.8124 – *Microsoft/LinkedIn*, 6 December 2016, http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf.

[2] European Commission Decision C(2017) 4444, Case AT.39740 – *Google Search (Shopping)*, 27 July 2017, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf.

Chapter 3. Competition issues associated with quality in zero-price markets

Each of the dimensions of quality competition described above may become a central issue in competition cases involving zero-price markets. These include mergers, cartels, and, perhaps most commonly discussed, abuses of dominance. This section will briefly discuss the conceptual basis, analytical challenges, and legal challenges associated with considering quality in zero-price markets in the context of competition cases.

3.1. Conceptual basis for considering quality dimensions in competition cases

The consideration of quality may follow a similar logic to any other competition case, although in zero-price markets these dimensions take on a particular importance for establishing theories of harm.

3.1.1. Privacy theories of harm

In a zero-price market for which privacy is a potential dimension of quality, competition cases could arise with respect to:

- **Mergers:** Unilateral effects of anticompetitive mergers may manifest themselves through worsened privacy quality in markets, to the extent that the merging firms previously provided competitive discipline on each other in this area. To highlight the potential effects of such a transaction, Stucke and Grunes (2015) discuss the example of a large incumbent firm acquiring a small competitor that has specifically positioned itself as providing a high-privacy service, and ask whether such a merger could be thought of as anticompetitive even if there are no price impacts.
- **Cartels:** While no cases appear to have been introduced to date, collusion that limits the level of privacy offered to consumers could constitute a cartel infringement as with any other agreement on quality, output or price.
- **Abuses of dominance:** A primary focus of antitrust literature on the subject of privacy is the question of abuse. OECD (2016) sets out several potential abuses regarding data use that could be considered by competition authorities, particularly exclusionary conduct. However, some have also identified the prospect of considering whether dominant firm privacy and data protection policies could constitute exploitative abuses. For example, the German Bundeskartellamt investigation of Facebook is exploring the idea that exploitative abuses may manifest themselves in the use and acquisition of consumer data.[1] On this point, the President of the Bundeskartellamt noted:

> *Data protection, consumer protection and the protection of competition interlink where data, as in Facebook's case, are a crucial factor for the economic dominance of a company. On the one hand, the social network offers a free service, on the other it offers attractive advertising space, which is so valuable because Facebook has huge amounts of personalised data at its disposal. In these entrepreneurial activities Facebook has to comply with rules and laws. Competition law prohibits a company from abusing its market power.*[2]

Costa-Cabral and Lynskey opine that data protection laws can help assess whether exploitative abuses have occurred in the absence of price signals – specifically whether data protection laws have been violated, or whether a dominant firm has abused its position to obtain a "*legal decrease in control over personal data or an increase in the extent of processing*" (Costa-Cabral and Lynskey, 2016, p. 18).

3.1.2. Advertising theories of harm

While the range of situations in which advertising could be the subject of a collusive agreement is somewhat limited, the impact of advertising on the quality of zero priced goods could be an important issue in both abuse and merger cases. This requires a recognition that both consumer-facing and advertising sides of a market could be affected by market power. Thus simply having a highly competitive market for advertisement services does not guarantee that market power will not emerge on the associated content market which, as noted in Section 3.2, may be considered a market in legal terms even if the price paid by consumers is zero. The options available to consumers on the zero-price side of the market in the event of a significant advertisement-related degradation of quality would therefore need to be considered. Newman (2015) questions, for example, whether insufficient attention was paid to this side of the market when radio station mergers were assessed in the United States, since post-merger advertising content increased, and therefore quality from the perspective of listeners may have deteriorated.

Prat and Valletti (2018) explore how competition among firms such as social media platforms can be analysed in a merger context in terms of user attention. That is, firms compete amongst each other for the limited supply of user attention.

3.1.3. Switching and consumer choice theories of harm

Apart from the obvious observation that a merger could reduce consumer choices, much of the focus of the competition literature on consumer choice in zero-price markets focuses on exclusionary abuses. Barnett (2018) expresses concern about the strategy of offering one product for a price of zero and bundling it with a positively-priced product in digital markets, which he calls "concentration strategies" since it prevents entry from new firms specialising only in the product currently priced at zero.

To assess whether a business practice that reduces consumer choice, such as tying, should be considered an exclusionary abuse in zero priced markets, Rubinfeld and Gal (2016) propose first considering the intent of the conduct. In other words, does the decision to offer a price of zero, and tie the product in question with a paid product, reflect a desire by a dominant firm to exclude competitors from the market, allowing said firm to increase prices in the future? This examination should in those authors' view be followed by market definition that recognises how firm decision-making will generally consider the total profits of the tied products (rather than the zero-price or paid product alone).

However, as will be discussed in Section 3.3, it may be difficult to pursue a tying case under antitrust law that requires evidence of coercion if a product is provided for free (Rubinfeld and Gal, 2016). Similarly, evaluating a zero-price strategy can be complex because of the need to consider all sides of a market (e.g. both consumers and advertisers or data brokers) before concluding that a price of zero truly is predatory.

A related concern applies when a zero-price offer is not a permanent feature of a firm's business model, but rather an effort to accumulate users that can later be converted to paying consumers. Once again, the intent can be instructive as a first step in understanding the effects of the conduct. Is a temporary zero-price offer meant to overcome the fact that a product is an experience good, meaning consumers want a chance to test the product before purchasing it? Or is it meant to acquire consumers that can later be dissuaded from leaving in response to a price increase due to switching costs, limited data portability and the lack of alternatives (since competitors may have been driven out of the market; see, for instance, Gal and Rubinfeld, 2016)?

3.1.4. Other quality-focused theories of harm

Various other quality measures could be affected by anticompetitive mergers in zero-price markets as much as, if not more than, in positively-priced markets. Similarly, agreements limiting firms' competition could be formed on the basis of a given dimension of quality. Once again, the question of abuse of dominance has elicited somewhat more debate in the antitrust community.

The theory that a dominant firm may harm consumers in zero-price markets by degrading quality is in particular the subject of some debate. Ratliff and Rubinfeld (2014) question the incentive of firms to do so, particularly if it would not reduce costs, since any response by consumers that reduces consumption could reduce a firm's earnings from related markets (such as advertising and data sales). However, this requires the presence of feasible alternatives not constrained by entry barriers or overwhelming network effects. Further, it relies on the ability of consumers to perceive quality degradation which, as discussed further in Section Chapter 4. below, is not a given since there exist substantial information asymmetries between firms and consumers in digital markets. A clear incentive may therefore exist when a firm degrades quality to increase profitability in a related market; for example modifying the accuracy of search results to favour paid advertisers.

Ezrachi and Stucke (2016) note that there are some limited checks on dominant firm quality degradations when multi-homing allows consumers to compare firm quality, and firms may seek to avoid adverse reputational effects from being found to have degraded quality. To the extent that a dominant firm reduces the quality of a product which remains the highest-quality product on the market, it is not clear that this decision qualifies as an abuse – particularly if the conduct is not specifically aimed at protecting a monopoly or leveraging dominance into a related market (discussed further in Ezrachi and Stucke, 2016).

3.2. Analytical challenges for competition law enforcement in zero-price markets

In the absence of positive prices, competition analysis involves numerous practical and conceptual difficulties. This section will elaborate on these difficulties and some approaches that have been advocated to overcome them.

3.2.1. Evaluating market power and dominance

One challenge associated with competition analysis in zero-price markets is establishing market power. The traditional definition of market power, the ability of a firm to affect prices, may not be relevant in zero-price markets. Even the largest online firms could be constrained from charging a positive monetary price in markets where the prevailing current price is zero. Consider, for example, the implications of a search engine charging users a price for each query. Does this mean, however, that market power cannot exist in zero-price markets, and therefore there is no such thing as a dominant firm in these markets? The growing roster of cases related to these markets suggest the answer to this question is no. Nor is it true, it can be argued, that a lack of market power in one side of a multi-sided market, such as the paid advertisement side of a market, automatically means that a firm is not dominant in the related zero-price side.

Consumer behaviour in zero-price markets suggests that once a product is offered for a price of zero, it can be difficult to charge a positive price afterwards (the "free effect" described further in Section Chapter 4.), although there may be some limited exceptions in which zero-price and positively-priced products compete in the same market. Thus, zero-price markets generally fall into a particular category of markets, but this should not preclude a finding of dominance any more than a market with a high degree of price elasticity of demand would. That is, just because a firm is constrained in terms of the prices it can charge to a single option (zero) does not mean that it would not have the ability to affect unilaterally the terms of exchange with consumers to its benefit, and to consumers' detriment.

Therefore, the conceptually equivalent definition of dominance (the ability to unilaterally raise prices) in a zero-price market could be the ability to unilaterally worsen quality, whether this occurs with respect to privacy, data security, advertising content, ease of switching, or any other dimension that determines consumer value. A case-by-case analysis is required to assess these conditions.

The sections below set out some practical implications of this approach.

3.2.2. Market definition

While the concept of market power and dominance can be adapted for non-price markets to focus on quality, there remain several practical challenges. Market definition, a prerequisite to establishing market power, may become substantially more complicated and less mechanical than in simple positive-price markets for commodities, for example. As mentioned above, there is a limit to the ability of firms to increase prices in zero-price markets, meaning that a SSNIP test is likely not to be of value for market definition.[3] There may be a heightened risk, therefore, of injecting subjectivity into the process of market definition.

An oft-mentioned but rarely applied alternative to a SSNIP test is the small-but-significant non-transitory decrease in quality test (SSNDQ). Data availability can limit the range of circumstances in which it can be used (see OECD, 2017, for example). However, the test provides the framework for guiding even qualitative determinations of market definition. Indeed, in most cases, a qualitative approach will likely be needed, and a restrictive bright-line market definition may need to be avoided.

Evans (2011) identifies some of the complexities that arise in zero-price market definition. For example, how broad should the market for online social networking and other digital content websites be to the extent that each of these products competes with each other for

consumers' attention, or is this dynamic more appropriately captured within a competitive assessment? Further, there can be challenges in assessing competition between firms with substantially different business models but which may be substitutable for consumers; for example, music streaming versus download services. Finally, when similar zero-price and positively priced products are available to consumers, a separate market definition may be more appropriate, particularly to the extent there are differences in product functionality.

3.2.3. Quantitative estimation of effects

Beyond the identification of competitors, there are challenges associated with quantitative analysis, for example with respect to unilateral merger effects. Waehrer (2016) advocates for the use of downward quality pressure analysis when the quantification of quality effects is not straightforward. In particular, this approach requires only diversion ratios and premerger margins to quantify. Firms' internal data on consumer switching, or natural experiments in the market, can be used to obtain the former, since comprehensive demand estimation is likely not practical.

Market share variables in zero-price markets will also need to be selected carefully: since revenue is not available, the most meaningful alternative, such as share of users, or share of interactions (e.g. video views, searches, or completed transactions) must be found. Also, a narrow reliance on alternative market share measures can produce misleading results, as emphasised by Prat and Valletti (2018). They note that in markets where firms compete for user attention (such as social media platforms), a firm's share of online user attention must be put in context. Specifically, the degree to which the merging firms' users multi-home and overlap with one-another is crucial for understanding the competitive effects of a merger. This is consistent with conventional competition assessment approaches.

While some in the competition community opine that data or attention to advertisements are equivalent to a price paid by consumers, this characterisation does not help overcome quantification challenges. Monetary prices are analytically simple because the value of currency is the same for both consumers and sellers. The ideal equivalent for zero-price markets would be an exchange in which both seller and buyer would put in monetary terms what a given amount of personal data or advertisement exposure is worth to them.

However, for non-monetary units of exchange such as data or attention to advertisements, there is no simple measure of value (OECD, 2013). It is difficult to imagine a situation in a zero-price market in which a consumer would put the value of a service they are receiving, such as an online search platform, in the context of a fixed amount of personal data they would be willing to provide in exchange. There are notable exceptions to this, such as markets in which consumers are given the opportunity to pay to avoid advertisements or anonymise their activities, thus allowing consumers to develop a monetary value for these features (and which could be used to estimate damages in private enforcement actions). However, in most cases, this exchange remains a conceptual one (subject to numerous challenges, as set out in OECD, 2013) and, particularly given consumer biases associated with a zero-price described below, analysing data collection and attention to advertisements as one would any other dimension of quality remains the most practical approach.

The introduction of novel approaches to quantifying quality since the OECD Competition Committee's 2013 roundtable on the subject (OECD, 2013a) has been limited, particularly for zero-price markets. There are some options to develop quantitative measures of competitive parameters in zero-price markets in order to quantify effects, or at least to help categorise products for the purposes of assessing the degree to which they pose competitive

constraints on a given firm. These approaches cover only a single measure of quality and involve substantial limitations, and as such should be accompanied by qualitative analysis:

- **Advertising** may be the simplest such parameter, since it is straightforward to measure the percentage of a web page that is composed of advertisements, or the length of video advertisements per minute of content, to which consumers are exposed. However, these measures are agnostic with respect to advertisement quality and personalisation, which would reflect an assumption that all advertisements have the same effect on consumer welfare.
- **Privacy** can be quantified in some cases, although the degree to which it is quantifiable is limited by the lack of meaningful measures from a consumer and competition perspective. Consumer surveys could be used to gauge the confidence that consumers have in a firm's privacy arrangements, although these perceptions may not match reality. Categorisations based on the completeness and length of privacy disclosure may similarly be misleading, since they should also be considered in the context of ease of reading and comprehension. The amount of data collected could be categorised, for example based on (1) the scope of data collection, or in other words the number of variables for which data is collected, (2) the frequency of data collection (e.g. only at the point a consumer signs up for an account, or each time a consumer uses the service), (3) whether data collection is limited to a consumer's interaction with the service in question, or whether data collection continues while the consumer is using other services, and (4) the degree to which this data is shared with other parties, including other business units within the firm, and externally, through data brokers for example. However, to be informative as a measure of privacy, the volume of data collected must be put in context of how it is processed and treated by firms, as well the firm's data security safeguards.
- **Ease of switching** could be compared across products in a market based on the amount of steps or length of time required to switch services, and the percentage of data points that are portable for consumers. Equivalent indicators could also be considered with respect to the ability of consumers to multi-home.
- **Package or lifetime prices** could also be used to determine positive prices where complements or limited period trials are offered by firms in connection with the zero-price product.
- **Other measures of quality** can be particularly important in some zero-price markets, such as online rankings or reviews of products. These broad measures, used in some conventional competition cases as well, cover a more holistic set of consumer perspectives, but should be considered carefully for bias in reporting or manipulation.

3.2.4. Dealing with related markets and multi-sidedness

Multi-sidedness, or at least the existence of closely related markets, is a prominent feature of many zero-price products in the digital economy today. The Competition Committee hearing on rethinking antitrust tools for multisided platforms (OECD, 2017) sets out in detail the particular challenges associated with multi-sided markets and some strategies for analysing these markets. This section will focus narrowly on unique challenges in multi-sided markets when at least one side involves a price of zero.

Ratliff and Rubinfeld (2014) caution against a narrow focus on the zero-price side alone. They go as far as to say that without dominance in the side of the market that is funding the zero-price products, such as advertising or data collection, a firm cannot be found to have abusive practices. For instance, in their view a search engine providing what can be considered as free listing services for firms cannot be accused of an abuse for refusing to include a given firm in those results. This also simplifies some of the challenges of multi-sidedness for merger analysis, for example whether there is a need to balance efficiencies on the paid side of a market with potential harm on another.

Similarly, with respect to vertical restraints, Caffarra & Kühn (in OECD, 2017) propose dealing with multi-sided markets that have a zero-price side using a standard framework. In particular, they advocate focusing on the paid side of the platform, considering the user base on the zero-price side as a dimension of quality from the perspective of the paid side.

In contrast, Evans (2011) emphasises the need to consider the welfare of both the positive and zero priced sides of a market together. Even if paid and unpaid sides of a market are defined separately, the constraining influence of the other side should be adequately taken into account when considering competition effects on the zero-price side, and an overly rigid approach to market definition should be avoided. Thus, as noted during the Competition Committee's discussion on multi-sided platforms, a similar result could be generated regardless of whether a single or multiple interrelated markets are defined (OECD, 2017).

Thus, unlike Ratliff and Rubinfeld, Evans (2011) and Waehrer (2016) believe that anticompetitive effects may arise solely on the zero-price side, for example in the case of mergers that lead to a degradation of a quality on the zero-price side without a change in the price on the paid side. Waehrer (2016, p. 2) emphasises that "anticompetitive effects can arise on the consumer side even if the advertising side is highly competitive."

When a zero-price product is offered alongside paid complements, Evans (2011) suggests that the competition analysis should be similar to that of the provision of durables with consumable complements (e.g. razors and razor blades; see OECD 2017a for a full discussion of competition issues in aftermarkets).

Care should be taken to identify each related market associated with the zero-price product, since in there may in fact be multiple paid markets underpinning the business model. For example, in many online platforms, revenues are earned proportionate to the user base from both advertising and data collection. Costa-Cabral and Lynskey (2016) opine that the latter may not be adequately captured in some competition cases, and that defining a market for personal data collection (even if some firms use it for internal purposes as well rather than selling it to third parties) should be considered.

3.3. Legal challenges for competition law enforcement in zero-price markets

In addition to the analytical challenges for competition assessments in zero-price markets, there may be several legal challenges creating uncertainty for the application of competition law in these markets. Competition authorities and courts have so far mostly been concerned with the question of whether competition law applies to zero-price markets at all, finding that the answer is yes in at least some cases. Thus, there have been relatively few cases centring around the definition of an antitrust market and the characterisation of various dimensions of quality as parameters of competition. This section will explore the key legal issues, as well as the suitability of competition law remedies for zero-price markets. Some of these questions are also relevant to the application of consumer protection and data protection laws, which, with competition law, may address overlapping issues, as discussed further in Section Chapter 4. .

3.3.1. The applicability of competition law to zero-price markets

One preliminary question to be asked is whether competition law is broadly applicable to conduct or mergers occurring in zero-price markets. Since competition laws generally focus on the nature and impact of specific conduct, a price of zero will in at least some circumstances not be an obstacle to addressing conduct in zero-price markets. The section below will clarify: (1) whether profitability is required for a business to be considered an entity[4] captured under the scope of competition law, (2) whether an antitrust market can be defined in the presence of zero-price markets and what dimensions of quality can be considered parameters of competition in these markets, and (3) case-specific considerations, for example with respect to cartels or abuses of dominance.

Competition law normally applies to businesses. One question in some jurisdictions is whether competition law is still applicable to businesses or lines of business even if they provide goods or services for free, since this activity, narrowly defined, does not generate a profit. However, the pursuit of profit is usually not a requirement for the application of competition law, and the provision of a free product or service would not by itself exempt the entity. Odudu (2006) argues that the *potential* to make a profit from the activity is normally considered sufficient to qualify an entity as subject to EU competition law.[5] As described above, with a few exceptions, businesses generally provide zero-price products with a specific profit-generating business model in mind. Thus, while a zero-price transaction in its most narrow form does not involve the exchange of funds, it is only part of a broader business model that could, for the purposes of most jurisdictions, be considered an economic activity.

This approach has been reflected in the relatively few cases dealing with zero-price markets to date. For instance, a price of zero does not appear to have been an obstacle to the application of competition law by the European Commission (for example the *Microsoft Windows Media Player* tying case[6] and the *Microsoft/Skype* merger[7]) and the UK Office of Fair Trading (a predecessor of the Competition and Markets Authority).

In the *Google/Waze* merger, the UK Office of Fair Trading dealt with a claim that a price of zero meant that competition law did not apply. The OFT observed that a price of zero did not automatically mean there was no expectation of future profit from the activity, stating:

> *Under the [Enterprise] Act, an enterprise refers to the activities of a business, which includes any undertaking which is carried on for gain or reward. There is no requirement on the realisation of gain or reward from the business activity or that any such gain or reward is current or immediate, only that the activity is carried out for that purpose. Such a requirement would preclude application of the Act to any business activity that is currently loss making or in a stage of investment(s), prior to subsequent (anticipated) return on that investment. Although Waze has [ ] revenue in the UK, it is an enterprise since it earns advertising revenues, [ ] earning advertising revenues in the UK, and its worldwide revenues are not insignificant.*[8]

However, it is clear that the line should be drawn somewhere. As noted by Ferro (2015), competition law has not been applied to charitable organisations and other entities offering goods free of charge. He therefore proposes distinguishing zero-price products according to whether they are provided for commercial or non-commercial reasons, since the latter are clearly not subject to competition law in some jurisdictions. He goes further by arguing that profitability should be closely tied to a zero-price market to captured by competition

law. Specifically, when commercial subsidisation is involved, Ferro opines that strategies should be distinguished according to whether there is a direct subsidisation with a positively-priced product, or whether such subsidisation is remote, which he defines as follows (Ferro, 2015, p. 2):

> *Supplying a free service/product may provide a company with competitive advantages thanks to brand recognition or good will. A company may provide a range of free products/services (through charitable endeavours, scientific patronage, etc.), and yet it is expectable that the shareholders believe that, overall, the company has something to gain from this activity.*

In sum, Ferro (2015) indicates that competition law applies only to entities offering zero-price products that are directly subsidised by positively-priced products. Further, even in these cases, he noted European Court decisions that appeared to limit the application of competition law only to circumstances in which conduct has actual or potential effects on a positively-priced product market, although the more recent cases noted above may suggest a broader conceptualisation of antitrust markets in Europe. This implies disagreement with considering data or advertising attention as a "price" paid by consumers.

While profitability does not seem to be a condition, there may be further questions regarding the degree to which the provision of a zero-price good could be considered an antitrust market. This question has raised doubts and has been answered in different ways in different jurisdictions. For example, the US Federal Court, in *KinderStart LLC vs. Google Inc.*, found that:

> *KinderStart cites no authority indicating that antitrust law concerns itself with competition in the provision of free services. Providing [online search engine] functionality may lead to revenue from other sources, but KinderStart has not alleged that anyone pays Google to search. Thus, the Search Market is not a "market" for purposes of antitrust law.*[9]

However, Evans (2011) notes that this decision does not necessarily preclude considering online search results and search advertising as a single market, which would involve zero and non-zero-price products being offered as part of a single business model. And market definition does not appear to have been an obstacle in European Commission and UK decisions regarding zero-price markets.

The legal feasibility of deeming a dimension of quality to be a parameter of competition has not been extensively discussed. However, it was mentioned briefly in the European Commission decision in *Microsoft/Skype*, which indicated that in zero-price markets, competition on quality remains an area of focus for competition law ("*Since consumer communications services are mainly provided for free, consumers pay more attention to other features. Quality is therefore a significant parameter of competition*.").[10]

Perhaps the most discussed dimension of quality with respect to legal applicability is privacy. When consumer data collection is involved in a market, some competition authorities have begun grappling with the question of where boundaries of competition law lie relative to data protection law. In the US Federal Trade Commission's decision in *Google/DoubleClick*[11] and the European Commission decision in *Facebook/Whatsapp*,[12] it was emphasised that competition authorities are not data protection authorities. However, while in the latter case, the European Commission did not make data protection a focus of its assessment, privacy issues were discussed in the *Microsoft/Skype*[13] and *Microsoft/LinkedIn*[14] mergers. In *Microsoft/LinkedIn*, the European Commission noted how foreclosure effects leading to the marginalisation of competitors offering a greater

degree of privacy protection to users would "*restrict consumer choice in relation to this important parameter of competition when choosing a [professional social network]*."[15]

Beyond these questions about the broad applicability of competition law and the role of quality as a parameter of competition in zero-price markets are specific challenges for the various types of competition cases that may arise. The main such challenges are discussed below.

Safe harbours

One possible obstacle to the application of competition law to anticompetitive conduct in zero-price markets could be the use of safe harbour mechanisms (further discussed in an OECD roundtable on the subject, see OECD, 2017c). Some jurisdictions use legislative safe harbours to establish the boundaries of conduct for which competition law interventions are justified. Classic examples of these safe harbours are presumptions based on the rule of reason in the US system or the *de minimis* rules[16] in the EU system. While in principle these pre-emptive tests do not hinder the application of competition law to zero-price markets, uncertainties related to their precise application (such as a lack of clarity with respect to market definition, given the challenges described above) may create significant legal challenges.

Cartel effects

Another question is whether the zero-price nature of the products prevents the conduct from having concrete anticompetitive effects.

Most competition laws do not require the analysis of cartel agreements' effects, which, as hard-core violations of competition law, are *per se* prohibited. Although cartels can be particularly harmful for consumers, even cartels that do not have a measurable effect are prosecuted. Usually, parties cannot defend against cartel charges by claiming they did not respect the agreed price increase, or that the price-fixing agreement did not have any direct effect on the prices paid by consumers.[17]

It seems, therefore, plausible to argue that an analysis of the effects would not be required in the case of a cartel among suppliers of zero-price products (Newman, 2016, p. 91). In contrast, the fixing of a price of zero between suppliers would require, according to Newman (2016, p. 91) an effects-based, rather than a *per se*, approach. An example is the US *Wallace v IBM* case,[18] where it was contended that the distribution of the open-source Linux under a general public license, which prevented users from charging a price for derivative works, amounted to price-fixing. The US judge noted that the agreement did not restrain trade and, on the contrary, would support creation of new derivative works and it concluded that "*Although it sets a price of zero, agreements to set maximum prices usually assist consumers and therefore are evaluated under the Rule of Reason*". A similar effects-based approach could possibly be suitable for a cartel between suppliers of a free product aimed at setting or reducing the quality of the product or the privacy and data protection safeguards. Newman (2016, p. 92) further opines that such a lenient approach should not be suitable for other types of cartels, for instance, market-allocation agreements involving zero-price products.

Findings of dominance

With respect to abuses of dominance, the finding of dominance in a zero-price market may also involve some legal challenges. One perspective suggests that such a finding is

precluded in zero-price markets. This argument was used by Google in the *Google Shopping* case, where Google was accused of systematically giving prominence to its own comparison shopping services and demoting those of rivals. The consumer side of the relevant product markets identified by the decision are zero-price markets. Google argued that, since the general search services are offered free of charge, it was impossible to establish dominance. This observation was rejected by the Commission, which found that: (i) users contribute to the monetisation of Google Search services even if they do not pay a fee for those services; (ii) there are other characteristics that demonstrate market power, including the strength and the stability of Google's market shares by volume, barriers to entry and expansion and the lack of entry in the market; and (iii) Google had the ability of altering the quality of its general search service to a certain degree without suffering the risk of substantial switching, because of the infrequency of multi-homing and brand effects.[19]

In finding an abuse of dominance, issues may arise from the interpretation and application of the specific test for the abuse. One example in the United States is that of contractual tying arrangements, for which the coercion element is interpreted as "*conditioning [the] sale of one commodity on the purchase of another*".[20] In the past, 'sale' has been interpreted as the exchange of money and goods, meaning that "*tying arrangements cannot exist when the tying product is not sold to the consumer, but is provided free of charge*".[21] Newman (2016, pp. 98-99) argues that, in order to find a tying infringement, the question of the characterisation of a zero-price transaction as 'sale' is irrelevant and that, as held in *Lucas Industries,*[22] the assessment must focus on whether the coercion occurred.

In the *Microsoft Windows Media Player* tying case,[23] where the European Commission found that Microsoft had tied its Media Player to its operating system, the coercion criterion was satisfied by the fact that the technical tying made it impossible to uninstall the software. According to the Commission, "*inasmuch as tying risks foreclosing competitors, it is immaterial that consumers are not forced to "purchase" or "use" [Windows Media Player]. As long as consumers "automatically" obtain [the player] - even if for free - alternative suppliers are at a competitive disadvantage*."[24] The General Court, deciding on the appeal, did not consider the fact that the additional product was offered free of charge as an obstacle to a finding of abuse, stating that there is nothing in the law or the case law requiring that "*consumers must necessarily pay a certain price for the tied product in order for it to be concluded that they are subject to supplementary obligations within the meaning of* [Article 102 TFEU, lett. d)]".[25]

Predatory pricing

Another challenge pertains to predatory pricing, since cost-based tests do not apply to zero priced markets. The contention that the free offering of products constituted predatory pricing was dismissed in France (*Evermaps v Google*)[26] and abandoned before trial in the United Kingdom (*Streetmap v Google*)[27]. As noted by Rubinfeld and Gal (2016, p. 555):

> *if we compare the production costs and the quality of the free good to other products, it may be the case that more efficient producers would have to exit the market. The free good provider survives only because it is willing to lose revenue on the product (often potentially making up for it elsewhere). Therefore, the as-efficient competitor test cannot serve as a primary or sole indicator that welfare is harmed.*

A recent study commissioned for a reform of the German Act against Restraints of Competition (Schweitzer et al, 2018) suggests that a new provision could be adopted to prevent abusive hindering of competitors if it results in strengthening positive network effects, possibly including thwarting of multi-homing and switching. The study suggests

that dependency and a related unreasonable exclusionary conduct can result from a situation where "*an undertaking [is] dependent, in order to achieve a substantial value creation within a value creation network, on access to automatically generated machine or service usage data that is exclusively controlled by another company*".[28]

Merger notification thresholds

With respect to the application of merger control rules to zero-price business models, another specific challenge may arise from current merger thresholds based on revenues. That is, potential anticompetitive transactions involving firms with low levels of revenue, for example firms providing zero-price products as the first stage of their business model, may not be captured by merger review thresholds (see OECD, 2015, for a discussion of how problematic mergers may not be notifiable). While this challenge is not unique to zero-price markets, it may be relatively common given the strategies of some firms, including an explicit strategy to offer zero-price goods in order to gain a user base and become an attractive acquisition target (discussed, for example, by Rubinfeld and Gal, 2016). New merger thresholds based on transaction values in addition to revenue have been recently introduced in the German and in the Austrian Competition Acts,[29] and could address this challenge.

Private enforcement

The zero-price nature of products may raise additional legal issues in the context of the private enforcement of competition law. Due to the zero-price nature of the markets or products, it may be more difficult for claimants to demonstrate:

- **Standing:** In some jurisdictions, obtaining claimant standing in private damages actions could be an obstacle. For instance, in the United States, the law requires private parties seeking damages to provide evidence of injury to business or property.[30] In zero-price markets, the suffered harm does not occur on property in the traditional sense, but on information or attention from the consumer. Although the issue is largely unexplored, some have argued that insofar as the information and attention are exchanged or traded for some other goods, they could be considered property under the meaning of the Clayton Act (see, for example, Newman, 2016, p. 55). In relation to the issue of standing, the US system poses another difficulty, by requiring that 'antitrust injury' is demonstrated, i.e. injury of the type that antitrust laws are intended to prevent. A price of zero may be used by defendants in private enforcement actions to attempt to disprove the existence of antitrust injury or suffered harm. Newman argues that, as long as the anticompetitive conduct is reflected in "reduced output, lower quality or less innovation" or "higher attention or information costs", claimants should be permitted to bring legal action (Newman, 2016, p. 58-60).
- **Quantifiable damages**: The quantification of damages represents an additional challenging aspects of private litigation in relation to zero-price products, facing similar quantification challenges to those described in Section 3.2.1. An inability to prove damages in private enforcement cases involving zero-price products could mean that public enforcement in these markets is particularly important to sufficiently deter anticompetitive conduct (see, for example, Newman, 2016, pp. 89-90).

3.3.2. Remedies

The fact that competition theories of harm and analytical tools are still being developed to address zero-price markets could mean that flexible approaches and *ad hoc* remedies adapted to the specific situation of a case are required. In some circumstances, competition law may not provide the best tools to address competition concerns in zero-price markets.

For instance, the most traditional antitrust remedy, the application of a fine in conjunction with an order to cease the conduct, could be a suitable remedy to address cartel conduct in zero-price markets. However, when applied to unilateral conduct, fines do not "turn the clock back" to before the violation, and therefore do not address the effects of the misconduct (Botta and Wiedemann, 2018, p. 69). Given the behavioural biases described below, anticompetitive conduct associated with zero-price products could have a particularly lasting effect on markets, and as such further measures may be required.

Bary and De Bure (2017) highlight the risks associated with structural remedies in highly innovative digital markets. In particular, since these markets are inherently difficult to predict, ill-considered structural remedies could have substantial negative effects for innovation and long-run consumer welfare. Zero-price markets may be particularly unsuitable for structural remedies, since the paid and unpaid sides of a business model may not be easily separated.

Despite concerns about their enforceability, behavioural remedies provide competition authorities with substantial flexibility. Botta and Wiedemann (2018, pp. 72-74) opine that, since there is a lack of certainty among digital market participants about some types of conduct, behavioural remedies represent an opportunity to provide guidance to market participants in unclear situations. Behavioural remedies that have been proposed as suitable solutions to exploitative abuses by dominant players in digital markets are the implementation of price comparison websites to encourage consumers' switching, the limiting of the type and amount of data that the platform can collect, and the sharing of the data collected with competitors (Botta and Wiedemann, 2018, pp. 75-79).

Botta and Wiedemann (2018, pp. 81-82) suggest that behavioural remedies to implement data protection rules could be imposed by competition authorities to address information asymmetries and behavioural biases arising in zero-price markets (described in Section Chapter 4. below). Thus, the data protection authority could be involved in the negotiation phase of the commitment to ensure compliance with both legal frameworks.

All of these remedies, however, present considerable challenges for the competition authorities, in terms of powers as well as the knowledge and resources required to implement and monitor them. They encounter significant challenges in terms of (i) consistency between the application of competition provisions and the standards elaborated so far by the case law (in particular given that they were not elaborated with zero-price markets in mind); (ii) institutional organisation, possibly lacking the powers or the structure allowing them to co-operate closely with consumer law and data protection authorities in devising and negotiating the terms of commitments; (iii) technical ability to adopt technologically-sophisticated commitments; and (iv) resources to regularly monitor the implemented commitments and revise them if necessary.

While suitable commitments can be designed to address several competition problems in zero-price markets, there may be issues that are better and more economically tackled outside the enforcement sphere, by devising appropriate policies that fully take into considerations the considerable overlapping of scope and objectives of competition, data and consumer protection. Potential policy solutions to achieve this objective are analysed in Section Chapter 4. .

Notes

[1] Bundeskartellamt (2017), "Background information on the Facebook proceeding", www.bundeskartellamt.de/SharedDocs/Publikation/EN/Diskussions_Hintergrundpapiere/2017/Hintergrundpapier_Facebook.pdf?__blob=publicationFile&v=6.

[2] Bundeskartellamt (2017), "Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive", www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html.

[3] Unless a single market is to be defined for both paid and zero-price sides of a transaction platform, in which case a SSNIP on the paid side could be considered an increase to the total price of the transaction. See OECD, 2018 for further discussion.

[4] The US Sherman Antitrust Act applies to any 'person' engaging in restraining behaviour or monopolisation. The Canadian Competition Act refers to any 'person' who conspires, agrees or enter into an anticompetitive agreement. EU competition law adopts a functional approach focused on the notion of 'undertaking', which is defined by the case law as every entity engaged in an economic activity.

[5] According to O. Odudu, *The Boundaries of EC Competition Law - The Scope of Article 81*, Oxford University Press (2006), pp. 26 and 35-36, the three requirements of economic activity for undertakings under EU competition law consist in: i) offering products in the market; ii) bearing economic or financial risk; iii) having the potential to make profit from the activity. This latter requirement was elaborated by the case law particularly in relation to public entities.

[6] European Commission Decision C(2004)900 of 24 March 2004, Case COMP/C-3/37.792 *Microsoft*, http://ec.europa.eu/competition/antitrust/cases/dec_docs/37792/37792_4177_1.pdf.

[7] European Commission Decision C(2011)7279 of 7 October 2011, Case COMP/M.6281 – *Microsoft/Skype*, http://ec.europa.eu/competition/mergers/cases/decisions/m6281_924_2.pdf.

[8] Office of Fair Trading, *Motorola Mobility Holding (Google, Inc.)/Waze Mobile Limited*, ME/6167/13, 17 December 2013, http://webarchive.nationalarchives.gov.uk/20140402225142/http://www.oft.gov.uk/shared_oft/mergers_ea02/2013/motorola.pdf, para. 8.

[9] *Kinderstart.com LLC v. Google Inc*. N.D.Cal., 2007, No. C 06-2057 JF (RS), p. 4.

[10] European Commission Decision C(2011) 7279 of 7 October 2011, Case COMP/M.6281 – *Microsoft/Skype*, http://ec.europa.eu/competition/mergers/cases/decisions/m6281_924_2.pdf, para. 81.

[11] Statement of the Federal Trade Commission Concerning *Google/DoubleClick*, FTC File No. 071-0170, 20 December 2007.

[12] European Commission, 3 October 2014, COMP/M.7217 - *Facebook/Whatsapp*, http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf, para. 164.

[13] European Commission Decision C(2011)7279 of 7 October 2011, Case COMP/M.6281 – *Microsoft/Skype*, http://ec.europa.eu/competition/mergers/cases/decisions/m6281_924_2.pdf.

[14] European Commission Decision C(2016)8404, Case M.8124 – *Microsoft/LinkedIn*, 6 December 2016, http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf.

[15] European Commission Decision C(2016)8404, Case M.8124 – *Microsoft/LinkedIn*, 6 December 2016, http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf, para. 350.

[16] Notice on agreements of minor importance which do not appreciably restrict competition under Article 101(1) of the Treaty on the Functioning of the European Union (*De Minimis* Notice) [2014] OJ C291/01.

[17] See, for instance, in the EU, T-377/06, *Comap SA v European Commission*, EU:T:2011:108, para. 99; T-587/08 *Fresh Del Monte*, EU:T:2013:129, para. 549.; T-308/94, *Cascades SA v European Commission*, EU:T:1998:90, para. 230; C-8/08, *T-Mobile Netherlands BV, KPN Mobile NV, Orange Nederland NV and Vodafone Libertel NV v Raad van bestuur van de Nederlandse Mededingingsautoriteit*, EU:C:2009:343, para. 39.

[18] *Wallace v International Business Machines Corp.*, 467 F.3d 1104 (US Court of Appeals, 7th Circuit, 2006) at 1107.

[19] European Commission Decision C(2017) 4444, Case AT.39740 – *Google Search (Shopping)*, 27 July 2017, http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf, paras. 319-324.

[20] *Jefferson Parish Hospital District No. 2 v Hyde*, 466 US 2 (1984) at 12-13; *Illinois Tool Works Inc. v Independ. Ink Inc*., 547 US 28, 45-46 (2006), quoted by John M Newman, "Antitrust in Zero-price Markets: Applications", 94 *Washington University Law Review* 49, p. 97.

[21] *Stephen Jay Photography, Ltd. V. Olan Mills Inc.*, 903 F.2d 988 (1990) at 9 (quoting the district court).

[22] *Lucas Indus. Inc. v. Kendiesel Inc.*, Civ. 93-4480, 1995 WL 350050, at 9 (D.N.J. June 9, 1995), quoted by John M Newman, "Antitrust in Zero-price Markets: Applications", 94 *Washington University Law Review* 49, p. 99.

[23] Commission Decision C(2004)900 of 24 March 2004, Case COMP/C-3/37.792 *Microsoft*.

[24] See para. 833.

[25] Case T-201/04, *Microsoft Corp. v Commission*, ECR 2007 II-03601, EU:T:2007:289, para. 969.

[26] Paris Court of Appeal, *Soc. Evermaps v Google Inc*., 12/02931, judgment of 25 November 2015, www.autoritedelaconcurrence.fr/doc/google_ca_25nov_15.pdf.

[27] UK Court of Justice, *Streetmap.EU Ltd v Google Inc. & Ors* [2016] EWHC 253 (Ch) (12 February 2016), http://www.bailii.org/ew/cases/EWHC/Ch/2016/253.html.

[28] See English summary: H. Schweitzer, J. Haucap, W. Kerber and R. Welker (2018), "Modernising the law on abuse of market power, Summary of the Report's Recommendation", www.bmwi.de/Redaktion/DE/Downloads/Studien/modernisierung-der-missbrauchsaufsicht-fuer-marktmaechtige-unternehmen-zusammenfassung-englisch.pdf?__blob=publicationFile&v=3, p. 5.

[29] Section 35 (1a) of the German Competition Act (GWB) and Section 9(4) of the Austrian Cartel Act 2005 (KartG). A joint guidance paper on Transaction Value Thresholds for Mandatory Pre-merger Notification has been published by the Bundeskartellamt and the Bundeswettbewerbsbehörde and an English translation is available at www.bundeskartellamt.de/SharedDocs/Publikation/EN/Leitfaden/Leitfaden_Transaktionsschwelle.pdf;jsessionid=4FE3CEA16AE3D102189EF28952F5BE78.1_cid362?__blob=publicationFile&v=2.

[30] Section 4 of the Clayton Act provides that: "*any person who shall be injured in his business or property by reason of anything forbidden in the antitrust laws may sue therefor […] and shall recover threefold the damages by him sustained, and the cost of suit, including a reasonable attorney's fee*."

Chapter 4. Consumer and data protection issues associated with quality in the zero-price economy

A growing body of research suggests that the functioning of zero-price digital markets is affected by certain demand-side characteristics that could impede the competitive process and affect consumer welfare. While quality competition is a concept rooted in competition analysis, it is clear that competition enforcement may not be able to address quality concerns in zero-price markets alone. In particular, consumer and data protection authorities can, in fulfilling their mandates, help address these demand side characteristics, improve consumer welfare, and set the stage for greater quality competition, even if the latter is not a concept common to consumer or data protection law.

This section will describe the demand-side characteristics and the potential quality issues that may arise in zero-price markets. Next, the legal challenges associated with applying consumer and data protection law in these markets will be discussed. Finally, policy solutions that extend beyond the isolated enforcement of competition law will be introduced. In many cases, demand-side market problems in digital zero-price markets cannot be neatly categorised into competition, consumer protection and other policy categories. As a result, regulatory co-operation and the development of co-ordinated solutions may be particularly important in these circumstances.

4.1. The source of demand-side problems in digital zero-price markets

Competition authorities are beginning to explore the existence of demand-side problems that may be hampering the functioning of markets, both in terms of diagnosing these problems and developing remedies to them (see, for example, OECD, 2018a). In contrast, these issues have long been an area of focus for consumer protection authorities.

Demand-side problems in digital zero-price markets include both typical characteristics (information asymmetries) as well as some very unique, and potentially more challenging ones (related to consumer behavioural biases). A clear understanding of the source of these problems is needed to prevent enforcer and policymaker value judgments from affecting the analysis of market outcomes, for example by inferring what consumers "should" care about without sufficient basis.

4.1.1. Information asymmetries

As with any other market involving complex products, zero-price digital markets often feature substantial information asymmetries between consumers and suppliers. These asymmetries may, for example, leave consumers susceptible to manipulation (see, for example, Acquisti et al, 2015) and unable to evaluate the quality of the services they receive.

More generally, many zero priced digital products can be considered experience goods (their quality can only be evaluated after they are consumed), or credence goods (their quality may not be observable by consumers at all). As a result, consumer decision-making

may not play the usual role in disciplining firm behaviour, particularly when the information available to consumers is complex or misleading, few alternatives are available to consumers, or consumer mobility is limited by network effects and low data portability. For example, if a firm degrades quality on the zero-price side of a market in order to increase earnings on a paid side (as discussed in Section 2.2), the consumers on the zero-price side may not be aware, and due to biases such as inertia, exhibit a low tendency to compare competing service providers.

Take, for instance, zero priced services financed from the collection of personal data. The terms and conditions offered to consumers when they agree to access zero-price services, which effectively set the boundaries for the transaction that occurs between consumer and supplier, are often either not read by consumers, or their implications are not fully understood. Complexity in disclosure may also be a strategy employed by firms to limit consumer responses (termed "shrouding"; see for instance Gabaix and Laibson, 2005). The German Bundeskartellamt's statement opening an investigation on Facebook highlights similar concerns with respect to the clarity of terms and conditions.[1]

In one experimental study involving a fictional social networking service, 74% of participants opted not to consult the terms of service, and 98% did not identify a provision that allowed the supplier to share data with employers and law enforcement agencies (Obar and Oeldorf-Hirsch, 2018). Thus, even when consumers are aware of the extent of personal data they are providing to firms, they may not fully appreciate the potential uses of that data, the degree to which it is anonymised, and the range of third parties it can be provided to. This makes it difficult for consumers to, for example, decide between zero-price and paid premium services that offer a differing level of quality in dimensions such as privacy protection.

Without sufficient information about the use of data, which may not be available even after a comprehensive and well-informed assessment of the terms and conditions offered by a zero-price service provider, consumers may be unable to evaluate the terms of the transaction they undertake with a zero-price service provider. Since big data technology is continually developing, consumers may not be able to grasp the implications of allowing data collection, the purposes of which may not be known even by the collecting firm at the time of the exchange. These information asymmetries are particularly crucial if, given the price to zero, privacy may be among only a few key dimensions of quality, which defines the value a consumer gains from a product.

4.1.2. Consumer behavioural biases

Zero-price markets also feature some novel behavioural biases that lead to market outcomes that diverge from what would be expected in a competitive environment. Some of these biases are somewhat simple to understand: consumers may decide that since they are receiving a product for free, there is no need to become particularly concerned with variations in quality. This sentiment may be echoed by providers of zero-price products, even if competition and consumer protection law does generally apply to zero-price markets. However, such a perception among consumers may be reflective of an optimism bias and limited information – there is evidence that consumers underestimate how effective advertising is and how many points of data they are providing to firms in exchange for zero-price products (Newman, 2017). There are two particularly relevant effects of consumer biases in zero-price markets.

The "free effect"

The "free effect" refers to the outsize effect a price of zero has on consumers, and the resulting implications for markets. It can be illustrated by an experiment conducted by Shampan'er and Ariely (2016), which involved giving participants a choice of chocolate bars, either high or low quality, at differing prices. For example, participants were originally offered high quality chocolate at a price of $0.27 and low quality chocolate at a price of $0.02. Lowering the prices to $0.26 and $0.01, respectively, did not significantly change the consumers' decisions. However, lowering the prices to $0.25 and $0.00, respectively, resulted in a large shift in consumption to the low quality product. So, this showed that "valuations for free goods are boosted beyond their benefit-cost differences" (Shampan'er and Ariely, 2016, p.12).

There are a range of other studies that find a similar effect, for example consumers valuing a price reduction to free more than a significantly larger price reduction that still leaves a nominal positive price, as well as a hesitation by consumers to ever accept a positive price after a product has been offered for free (see, for example, the studies discussed in Rubinfeld and Gal, 2016).

This effect means that in some markets, a price of zero could become more likely than a dispassionate analysis of costs and benefits would suggest, given consumers' reaction to said price. It also suggests that other dimensions of competition, such as the various dimensions of quality described above, may take a back seat in consumers' minds to the price. So even a small price increase that dramatically improves quality may not be sufficient for a new entrant to a market to capture market share.

This concern could be particularly relevant when a zero-price good is tied to a positively-priced good, since consumers may disproportionately select the offer of a zero priced good, even if the price of the complement exceeds the total cost of an alternative offering where both the good and the complement have a positive price. In terms of impact, Gal and Rubinfeld (2016, p. 535) note that the tying firm "will have to invest less in the quality of the tying product to create a comparative advantage", creating suboptimal outcomes. If a firm's strategy is to provide a product for free until competitors have been driven out of a market, and funds are required to continue the provision of the product, higher prices and weak competition may result.

Determining whether a zero-price market is affected by the free effect, particularly without the resources to conduct a comprehensive survey or study, and determining whether consumer advocacy should be pursued to make consumers aware of it, can be challenging. It may not be the dominant force in all zero-price markets – newspapers are experimenting with paywall business strategies that limit content that was once provided at a price of zero. And even if consumers indicate that a given measure of quality is important to them (e.g. minimal advertising exposure), it may be the case that any loss in quality is more than offset by being able to pay a price of zero (discussed further in Norman et al, 2016).

Waehrer (2016) observes that there may also be a free effect working to keep prices high for consumers. This would apply in markets where firms derive benefits from their user base, such as via data collection, where it could theoretically be welfare-enhancing to have a negative price (a price paid to consumers) for some online services. However, given the risk that consumers could manipulate this by, for example, artificially inflating the number of searches they conduct, Waehrer suggests that the price of zero is likely to remain a minimum in at least some markets.

The privacy paradox

The other effect, which may in fact be closely related to the free effect, is what is termed the "privacy paradox" (see, for example, Costa-Cabral and Lynskey, 2016, p. 14). This effect refers to the fact that consumers express significant concerns about privacy, and rate it as an important dimension of product quality, but do not seem to make product decisions with privacy in mind. For example, in a large-scale US survey, 91% of respondents expressed the view that consumers have lost control over how firms collect and use personal data (Stucke and Grunes, 2015). Several other studies have found consumers express the view that privacy is highly important, but are only willing to pay a nominal amount when given the choice of improving the privacy of digital services.

However, the overall conclusion of studies seeking to assess the existence of the privacy paradox is mixed (Kokolakis, 2017). That is, in some cases, users derive value from disclosing more information (e.g. social networking, at least within a social circle), and indeed some experiments do find that consumers select among competing services based on privacy. In one experiment, consumers for example exhibited a willingness to pay a one-time (relatively low) fee to conceal the browser history, contacts, location, phone identification number and texts on their mobile devices. Indeed, in the United States, this option has been put into practice, with one internet provider offering subscribers who agree to share their individual browsing information with a discount (Savage and Waldman, 2015), although this result may not translate to a zero-price market subject to the free effect.

Therefore, as with many other market failures, a case-by-case analysis will be required to understand the extent to which the privacy paradox is affecting a market. Specific potential biases to verify include an optimism bias (underestimating the probability of negative events), affect heuristics (an individual overestimating risks for activities that they do not enjoy and underestimating them for activities that they do enjoy), and hyperbolic discounting (discounting future benefits or harms in an inconsistent way) (see Kokolakis, 2017 for further discussion).

4.2. Legal applicability of data and consumer protection laws to zero-price products

While competition, consumer and privacy policy have each a different focus, they are all broadly aimed at governing the interaction between businesses and consumers and there can be substantial overlaps (OECD, 2010). These overlaps have been recognised through multiple initiatives seeking to improve the co-ordination of the three areas of law and policy.[2] Zero-price markets exhibit features that require, perhaps more than most other markets, such co-ordination (Helberger et al, 2017, p. 1449).

Two important distinctions ought to be made in relation to the applicability of these areas of law and policy to digital zero-price products. The first distinction is between the objectives of competition law, consumer protection and data protection. The second one concerns the scope of consumer protection and data protection and, consequently, the extent to which these areas of law apply to zero-price markets.

4.2.1. The objectives of data, consumer protection and competition law

Data protection is concerned with the protection of the processing of personal data of natural persons. It seeks to provide individuals with an adequate degree of control over their personal data. Depending on the jurisdiction, this can involve ensuring that consumers are:

- informed of personal data collection and processing.
- asked for consent to the processing of their personal data
- able to access, rectify and request the deletion of the data
- able to transfer their personal data

Consumer law focuses on safeguarding the integrity of the contractual relationship between a trader of products and services and a consumer. It is aimed at protecting fair exchanges. While data protection seeks to prevent information and power asymmetries that may enable personal data processing abuses, and therefore focuses on individual rights to privacy, non-discrimination and freedom of association, the goal of consumer law is to ensure a fair playing field for the provision of goods and services to the final consumer (Costa-Cabral and Lynskey, 2017, p. 18).

Competition and consumer protection share the goal of consumer welfare, but they pursue this objective in different ways.[3] Competition law seeks to preserve the forces of competition and in so doing ensure firms face pressure to keep prices low, quality high, or to engage in innovation, depending on the specific circumstances of the market. Ohlhausen and Okuliar (2015) note that competition law should be limited to address only actual or potential losses of efficiency and they point out that competition law is tailored to *"*broader, macroeconomic harms, mainly the maintenance of efficient price discovery in the markets, whereas the consumer protection laws are preoccupied with ensuring the integrity of each specific contractual bargain.*"*

The different objectives of these three areas of law are reflected by their scope of application.

4.2.2. Boundaries of application of data, consumer and competition law to zero-price transactions

Data protection

Data protection law protects the rights of the person whose data are processed and imposes obligations on parties who possess and process these data. Important questions that are addressed by data protection laws include:

- What is the scope of data that can be collected and stored by a company?
- What privacy protections are required for transmitted data?
- What disclosure and opt-in processes are needed to meet requirements for consumer consent?

Costa-Cabral and Lynskey (2017) note that data protection law is different from competition law in that it applies to individuals and only to the activity of personal data processing. They also note (pp. 18-19) how these two areas of law are fundamentally distinct in that:

> *Competition law applies to correct market failures that are external to the individual, such as undertakings colluding, while data protection law applies to correct internal failings, such as information and power asymmetries that prevent individuals from effectively controlling their personal data.*

Some of the concerns related to the quality competition in zero-price markets, such as privacy and advertising, could potentially be addressed by data protection policies (Kerber, 2016, p. 861). According to some competition authorities, the two areas of law partly overlap, but they do not tackle the same type of harm to consumers and should be kept distinct. For instance, in its Statement concerning the *Google/DoubleClick* merger, the US Federal Trade Commission clarified not only that it does not have "*legal authority to require conditions to [the] merger that do not relate to antitrust*", but also that "*regulating the privacy requirements of just one company could itself pose a serious detriment to competition in this vast and rapidly evolving industry*."[4]

A similar approach was adopted by the European Commission in *Google/DoubleClick*[5] and *Facebook/WhatsApp*.[6] In the latter case, involving zero-price products, the Commission noted the existence of competition on data protection for free services (see Costa-Cabral and Lynskey, 2017, pp 25-26), but it stated that

> *Any privacy-related concerns flowing from the increased concentration of data within the control of Facebook as a result of the Transaction do not fall within the scope of the EU competition law rules but within the scope of the EU data protection rules.*[7]

Ohlhausen and Okuliar (2015, p. 152) opine that competition law should apply "only where the potential harm is grounded in the actual or potential diminution of economic efficiency. If there is likely no efficiency loss because of the conduct or transaction, another legal avenue for enforcement is more appropriate and efficient." To this end, they caution against confusing the scope and the role of competition and privacy or consumer protection laws, which in their view may jeopardise the theoretical foundations of competition law while not advancing the cause of consumer protection.

Conversely, Costa-Cabral and Lynskey (2017, pp. 29-31) suggest that privacy considerations could be brought into the realm of competition law, by using data protection as a normative framework for analysis. In other words, data protection law could provide a limit beyond which businesses cannot go and should be internalised in competition law assessment. Thus, the two areas of law could be consistent and the assessments reciprocally enriching.

However, such a blending of analytical frameworks may not be required for competition and data protection law to play a role in promoting privacy competition. For example, privacy offers that extend beyond the minimum standards set out in data protection law could be an area of focus for competition authorities, to the extent that privacy can be considered a dimension of competition in the market.

Competition authorities' investigations reveal that privacy can be an important parameter of competition and often a driver of customer choice in certain markets, particularly where non-monetary transactions occur. As a result, privacy has been considered in a limited number of cases in the competition assessment of a transaction. In *Microsoft/LinkedIn*,[8] for instance, the European Commission considered whether the merger restricted consumer choice in relation to privacy protection in the market for professional social network services. When considering the foreclosure effects, it noted that one of LinkedIn's competitors provided users with a user-friendly registration process, asking them to accept actively its privacy policy and requesting consent following the introduction of new services with impact on data collection.

Such an approach is consistent with the idea that competition promotion can address problems not easily addressed through regulation. In this case, competition and consumer

law can be used as corrective devices to information asymmetries that data protection law is not able alone to address, given some inherent limitations.

For example, the provision of consent by the consumer often plays a significant role in data protection laws (Gürkaynak, 2015, p. 156). However, it is noted that most consumers provide consent about the treatment of their data without reading the information. According to a study by McDonald and Cranor (2008, p. 563), it would take internet users an average of 244 hours per year to read privacy policies of websites they visit. This, according to the authors of the study, is more than half of the time that users normally spend online.

Another limitation of the information obligations imposed by data protection law relates to the ability of individuals to understand what they are consenting to, even if they do take the time to read terms and conditions. In particular, they may not have sufficient knowledge and information to understand fully which personal data are being collected, how they can be used, and the value of these data. Even when consumers read and consent to firms' data collection policies, therefore, they often do not understand all the implications (Ben-Shahar and Schneider, 2011, p. 665).

Further limitations of data protection arise due to the changes brought about by big data technology. Rubinstein (2013) notes that consumer consent models are limited by the fact that (1) firms engaging in data mining often do not know in advance what they will discover and are unable to adequately inform individuals about it; (2) users cannot provide genuine consent about uses of their data of which they are unaware; (3) the boundaries between personal data and non-personal data are not always well defined. As a result of these limitations, Rubinstein (2013) argues that some of the foundational premises of data regulation may not be applicable anymore. Firstly, the distinction between personal[9] and non-personal data becomes blurred, since non-personal data can be used to form inferences on consumers despite falling outside the scope of data protection laws. Applying data protection law to all data would have wide-reaching consequences, however there may be concerns that limiting current protections to personal data is insufficient. Secondly, the ability of data anonymisation to protect users from tracking and profiling is being called into question, thanks to advance techniques allowing re-identification. Thirdly, the massive scale of data collection is in conflict with the principle of data minimisation, according to which the least amount of data necessary should be collected from the individual.

Some authors consider that some competition law remedies would be appropriate to tackle certain information asymmetries that data protection may not be able to solve, if they result in competition concerns (Craig, 2014, p. 9). Other authors, like Helberger et al. (2017, p. 1451) opine that data protection may be beneficially complemented by consumer protection law enforcement, suggesting using consumer law's principles to interpret and apply data protection law provisions.

Consumer protection

Consumer law generally addresses, as mentioned, the interaction between final consumers and businesses that offer them products or services. Many jurisdictions limit its application to individuals concluding transactions for personal purposes.[10]

A fundamental question that may arise in some jurisdictions is whether consumer law can apply to the supply of goods or services that are not exchanged for a monetary consideration. As a matter of policy, the OECD Council has brought non-monetary transactions within the scope of consumer protection in e-commerce (OECD, 2016).

However, the question of the applicability of consumer law to the purchase of zero-price products has not yet been fully explored (Helberger et al, 2017, p. 1442). For instance, the Consumer Rights Directive, which lays down certain basic contractual rights for EU consumers, adopts definitions of 'sales contract' and 'service contract' that refer to the supply of goods or services in exchange for a price (or an undertaking by the consumer to pay the price). This is a case where the level of protection guaranteed by the system could be lower for consumers that are paying in non-monetary form. In the EU legal framework, however, some legislative instruments seem to include this category of consumers in the scope of protection. In particular, the Unfair Commercial Practices Directive and the Proposal for a Directive on the supply of digital content contain some provisions that do not make any express distinction with regard to the form of payment provided by the consumer. In other jurisdictions, non-monetary transactions may be addressed by competition authorities under deception and unfairness authority.

In relation to zero-price products, the application of consumer law is mostly concerned with the provision of information to consumers to enable them to effectively exercise their choice. Its application could be relevant in relation to the privacy and advertising dimensions of quality, in particular to address market failures deriving from information asymmetries and behavioural biases of consumers (Kerber, 2016, p. 861). According to this perspective, consumer law and data protection address some of the same issues (Kerber, 2016, p. 863).

Consumer protection concerns that are specific to data collection may arise. In some jurisdictions, consumer law has been invoked to assess the fairness of the standard terms of the privacy policy of Google, Facebook, iTunes, Instagram, LinkedIn, Twitter, Tinder, and Runkeeper. In particular, some consumer protection laws could be interpreted to capture situations in which data are obtained without express communication by the consumer (e.g. data extrapolated from a website's tracking cookies) (Helberger et al, 2017). Kerber (2016) points out that the key consumer protection concern here would be the lack of transparency on how the data is collected and used by businesses. This lack of transparency could constitute an unfair commercial practice, a violation of consumer rights, or misleading advertising.[11]

Given that both data protection and consumer protection laws could be applied to the same type of conduct, namely data collection, there are substantial opportunities for these respective authorities to co-ordinate their interventions (if they are indeed separate authorities). The potential policy approaches for this are described below.

4.3. Collaborative options for addressing demand-side concerns

Given the difficulties associated with using competition law remedies alone to address the demand-side concerns arising in zero-price markets, a rigid separation between the sphere of action of competition, consumer protection and data protection authorities would most likely not lead to optimal outcomes, in terms of both consumer welfare and consumer protection. For this reason, the three policy areas may need to be applied in parallel to ensure competition is maintained and consumers are protected in zero-price markets.

4.3.1. Enforcement approaches

There is no single model for the allocation of enforcement responsibilities. Most competition authorities, however, are endowed with powers going beyond the enforcement of competition law. Over 30 competition authorities also enforce consumer protection laws

(Kovacic and Hyman, 2013, p. 2). Examples are the United Kingdom, Italy, Poland, and the United States. Some jurisdictions, like Spain and the Netherlands, add to these powers also the regulation of network industries. In other countries, sectoral regulators apply competition law or consumer protection in their regulated industry (de Streel and Sibony, 2017).

Various forms of co-operation between different authorities also exist. A number of consumer protection agencies actively co-operate with other domestic authorities in enforcing consumer protection laws.[12] This co-operation can be based on legal frameworks or other arrangements and includes information sharing, collaboration on guidance for businesses, investigations, and enforcement actions.[13]

Early proponents of a combined enforcement approach specific to digital markets were the OECD, in its Recommendation of the Council on Cross-Border Co-operation in the Enforcement of Laws against Spam,[14] and the European Data Protection Supervisor in its 2014 Preliminary Opinion of Privacy and Competitiveness in the Age of Big Data. This latter Opinion recommended a closer dialogue between regulators and experts across policy boundaries, with the goals of strengthening competition and consumer protection enforcement and stimulating the market for privacy-enhancing services. Others go further, arguing for the development of a "common strategy" by competition authorities, consumer protection agencies and data protection supervisors to protect consumers (Kerber, 2016, p. 866).

Competition, data protection and consumer protection authorities could co-operate during several phases of their respective investigation processes, including data collection and data sharing, as well as the identification of remedies. For example, Botta and Wiedemann (2018) posit that the idea of consent in data protection law is based on assumptions that are not borne out in reality and that the limitations of consumer consent policies could be better addressed by the co-operation between data protection and competition authorities in the design of remedies. In particular, as mentioned above, they consider that data protection authorities could participate in the negotiation of commitments, to safeguard the respect of data protection laws alongside the enforcement of competition law (Botta and Wiedemann, 2018, pp. 81-82).

The European Data Protection Supervisor's Opinion 8/2016 recommended a structural approach to this investigative co-operation, calling for the creation of a network (Digital Clearing House) aimed at facilitating the sharing of information between regulators relating to possible violations in the online markets. Among other things, the network would be responsible for "*using data protection and consumer protection standards to determine 'theories of harm' relevant to merger control cases and to cases of exploitative abuse […]*"; propose regulatory solutions in certain markets, and assess the impact of remedies.[15]

Another opportunity for co-operation, as discussed above, would be to internalise data or consumer protection concerns into the competition assessment. This view seems to have been endorsed by the German Bundeskartellamt and the French Autorité de la Concurrence in their joint paper on Competition Law and Data, where they stated that:

> *"the fact that some specific legal instruments serve to resolve sensitive issues on personal data does not entail that competition law is irrelevant to personal data. Generally speaking, statutory requirements stemming from other bodies of law may be taken into account, if only as an element of context, when conducting a legal assessment under competition law."*[16]

Such an approach appears to have been adopted by the German Bundeskartellamt in the Facebook investigations.[17]

A softer form of co-operation could envisage the request of non-binding advisory opinions from other authorities, whose assessment could be considered relevant to the specific case, before issuing a final decision.

4.3.2. Advocacy approaches and potential new regulatory measures

Beyond co-operation in the enforcement context, there are opportunities for competition, consumer protection and data protection policy to play a role in conducting soft advocacy, targeting consumers, firms, and even legislators in the event new regulatory measures may be required.

The OECD Privacy Guidelines,[18] the OECD Security Risk Recommendation[19] and the OECD E-commerce Recommendation[20] provide a policy framework to foster trust in the use of digital services. These documents illustrate the need for issues arising out of the online environment, such as digital identity management in online transactions, digital risk insurance, data access and portability, or algorithmic discrimination, to be jointly addressed with co-ordinated action by relevant policy communities. In particular, there is a growing interconnectedness between digital security, privacy and consumer protection.[21]

One mechanism that would allow competition, data and consumer protection authorities to interact would be through the use of market studies. As noted by the OECD (2018), market studies are a valuable tool to tackle demand-side concerns that would fall beyond the scope of the competition authorities' enforcement mandates. The three perspectives could, in collaboration with sector regulators, substantially enhance the ability of market studies to take a holistic perspective on demand side features in zero-price markets, and to take ownership of any follow-ups to the study. Consumer protection agencies may also be particularly well placed to work with competition authorities in the design of consumer advocacy initiatives or proposals for regulatory reform to address demand-side competition problems uncovered in market studies. Institutional changes to enable such an approach have been adopted by the 9th Amendment to the German Competition Act, which empowered the Bundeskartellamt to conduct sector inquiries where significant consumer protection concerns are suspected.

These efforts may be particularly necessary to address two identified market failures that may not be tackled through enforcement action alone: information asymmetries, on the hand, and behavioural biases, on the other. They therefore need to correct essentially two problems:[22]

- **Lack of consumer knowledge**: for example, consumers are not aware of the low level of privacy protection they enjoy and there is no demand for privacy-enhancing services.
- **Limitations to consumer choices**: for example, consumers are aware of the low level of privacy protection they enjoy but they do not take any action because they cannot or do not know how to.

Potential measures to address each problem are described below. While they focus on approaches to privacy concerns, they may be relevant to any other relevant dimension of competition in zero-price markets.

Stimulating privacy competition with consumer information

In zero-price markets, consumers may not extensively consider the privacy implications of their consumption decisions due to a lack of information, as well as an inability to process the information that is provided to them. Firms may therefore be insulated from pressure to improve privacy quality, and may engage in conduct aimed at further obscuring consumer awareness.

As a result, numerous proposals have been made to improve the information available to consumers, and to encourage active engagement by consumers in decisions regarding privacy. These include the creation of more consumer-friendly legal frameworks imposing disclosure obligations, as well as advocacy measures that are tailored to consumers' needs, and which encourage competition beyond a basic minimum level. Some proposed measures in this respect are:

- **Mandating the disclosure of specific pieces of information** regarding data collection, such as:
  - The value of personal information collected by businesses, including the monetary price charged to purchasers of the collected data (de Streel and Sibony, 2017, pp. 33-34).
  - The duration of the storage of the data.
  - Whether algorithms will be used to process the data (de Streel and Sibony, 2017, p. 33).
  - Information about the quality of the zero-price service being provided, via for example consumer reviews free from manipulation (de Streel and Sibony, 2017, p. 33).
- **Providing consumers with regular opportunities to revise their data collection consent or providing consumers with timely notices**. This would address the unpredictability at the time a consumer consents to data collection regarding how their data will be used in the future. Timeliness is also a key factor in the effectiveness of such notices (de Streel and Sibony, 2017, p. 38), since the point at which a consumer receives information will have a substantial impact on its effectiveness (OECD, forthcoming).
- **Enhancing consumer knowledge** about the technical aspects of privacy and data processing through information campaigns led by consumer and data protection authorities.
- **Setting minimum standards for clarity of contractual clauses** in the digital environment (see, for example, European Data Protection Supervisor, 2014).
- **Streamlining the information available to consumers**, ensuring that only relevant information is provided, and using innovative techniques to convey key concepts, for example:
  - The Office of the Privacy Commissioner of Canada has indicated that creative initiatives could be undertaken by businesses to ensure that the limitations of consent requirements are minimised:

    > *For example, organizations could be enhancing their privacy policies with dynamic, interactive data maps and infographics, or short videos. Icons can also be useful in supplementing privacy policies to allow*

individuals to know at a glance how their information is being used. "Privacy Icons" are an example of a symbols-based approach to presenting attributes of privacy policies including data retention, third party use of data, and whether law enforcement can access data.[23]

- To address the fact that consumers do not usually read information provided to them, the adoption of a labelling system of terms and conditions has also been suggested. Such a system would provide ready-to-use information about the overall level of protection of privacy and data protection (de Streel and Sibony, 2017, p. 35).
- Certification schemes may also provide consumers with a user-friendly signal of privacy standards, as proposed by the European Data Protection Supervisor (2014)
- The use of distinctive background shading or text colours has also been recommended in the context of online advertisements, where consumers may be prone to manipulation risks (OECD, 2018b).

Competition could therefore be strengthened by encouraging a more holistic sense of transparency, since businesses would be encouraged to compete on dimensions of privacy quality such as the ease with which consumers can exercise their control over the data.[24]

Ensuring consumers have access and make use of choices

Another factor limiting the development of privacy competition in zero-price markets is the inability of consumers to choose and to switch among competing zero-price product providers. For example, high switching costs may be part of an express strategy on the part of firms to prevent consumers from transferring their data to a competing platform. Consumers may also underestimate their gains from switching, and therefore refrain from actively examining alternatives to their current provider of zero-price products.

The European Data Protection Supervisor observes that this affects the quality of the consent provided by the consumers, especially where only a binary option (provision of the good or service in exchange for the data) is provided and the business offering the good or service is dominant in that market.[25] In other words, it is unclear whether consumers are providing consent in the fullest sense of the term when they accept contractual conditions from a dominant zero-price product provider.

Competition, consumer, and data protection authorities may identify markets in which the ability of consumers to choose and switch is limited, and assess whether regulatory reform or other advocacy measures are required. This process could include identifying whether there are any anticompetitive barriers to alternative business models, such as paid products that provide better privacy protection. Specific options include:

- **Mandating active data collection opt-in policies versus opt-out policies,** therefore establishing a higher level of privacy protection as a default option (Kerber, 2016, p. 862).
- **Promoting data portability** has also been identified as a key competition lever,[26] for its ability to reduce the risk of exploitation of locked-in consumers and to attract new market players. In the European Union, the General Data Protection Regulation strengthened individuals' ability to switch by expressly recognising the right to "receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable

format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided" or "have the personal data transmitted directly from one controller to another, where technically feasible".[27] Further, recommendations have been formulated at the national level to consider how to use data portability to support competition between intermediaries such as digital comparison tools.[28] Initiatives to make data portability not only possible, but relatively easy have been taken by private companies (e.g. Google Takeout).[29].

- **Recognising property rights over personal data**, as proposed by Kerber (2016) would provide individuals with full choice regarding the disclosure of their data and the ability to sell or license them directly on the market, instead of through platforms. However, granting property rights to personal data raises a number of questions that have not yet been fully addressed. For example, the precise line between personal and non-personal data may not be well defined in such a context.

There are some signs that services granting consumers control over their personal data are being developed in response to increasing consumer awareness, and potential regulatory attention. As noted above Google, Microsoft, Twitter and Facebook are developing a project to enhance data portability for consumers (Brandom, 2018).

New firms are also emerging, rooted in recent technological advancements such as Blockchain. For example, the Tide Foundation is making use of technology that encrypts consumers' personal information, such that only they can grant access to the data (Shapiro, 2018). For example, if a firm would like to send a targeted advertisement for a product to a specific set of consumers, it could use the Tide platform to submit a request to those consumers. The latter could choose whether to accept the advertisement request, for which they would receive a payment. Thus, consumers and data vendors would share the payments made by advertisers, reflecting the value each party brings (the data itself, and the agglomeration as well as formatting of the data, respectively).

Notes

[1] Bundeskartellamt (2017), "Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive", www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html.

[2] One of seminal initiatives in Europe was the Preliminary Opinion of the European Data Protection Supervisor, calling for an integration of the data protection rights and the enforcement of competition law, see European Data Protection Supervisor (2014), "Privacy and Competitiveness in the Age of Big Data: the Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy", https://edps.europa.eu/sites/edp/files/publication/14-03-26_competitition_law_big_data_en.pdf. Another example is the German Monopolies Commission (Monopolkommission) (2015), Competition policy: The challenge of digital markets, Special Report No. 68.

[3] See OECD (2010), p. 32; R. H. Bork (1967), "The Goals of Antitrust Policy", 57 *The American Economic Review* 2, https://www.jstor.org/stable/1821625; Joined cases T-213/01 and T-214/01, *Österreichische Postsparkasse AG and Bank für Arbeit und Wirtschaft AG v European Commission*,

EU:T:2006:151, para. 115; Case C-209/10, *Post Danmark A/S v Konkurrencerådet*, EU:C:2012:172, para. 20.

[4] Statement of Federal Trade Commission concerning *Google/DoubleClick*, FTC File No. 071-0170, www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf, pp. 2-3.

[5] European Commission, 11 March 2008, COMP/M.4731 - *Google/ DoubleClick*, http://ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_en.pdf, para. 368.

[6] European Commission, 3 October 2014, COMP/M.7217 - *Facebook/Whatsapp*, http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf.

[7] European Commission, 3 October 2014, COMP/M.7217 - *Facebook/Whatsapp*, http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf, para. 164.

[8] European Commission Decision C(2016)8404, Case M.8124 – *Microsoft/LinkedIn*, 6 December 2016, http://ec.europa.eu/competition/mergers/cases/decisions/m8124_1349_5.pdf, para. 350. See also, in relation to consumer communication services, European Commission, 3 October 2014, COMP/M.7217 - *Facebook/Whatsapp*, http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf, paras. 87, 102 and fn. 79.

[9] In the General Data Protection Regulation entered into force in the EU this year, personal data is defined as "*any information relating to an identified or identifiable natural person*", while the processing activity is "*any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyse or predict aspects concerning that natural person's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements*".

[10] This definition is provided by Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council, OJ L 304, 22.11.2011, p. 64–88.

[11] In its Guidance on the application of the Unfair Commercial Practices Directive, Commission Staff Working Document Guidance on the Implementation/Application of Directive 2005/29/EC on Unfair Commercial Practices accompanying the document "A comprehensive approach to stimulating cross-border e-Commerce for Europe's citizens and businesses" SWD/2016/0163 final, the European Commission acknowledges the economic value of information concerning personal preferences of consumers, personal data and other user-generated content. The Guidance further specifies that the marketing of products as 'free' or similar, when they are in fact exchanged for such data, may constitute a misleading practice.

[12] OECD (2018), Toolkit for Protecting Digital Consumers: A Resource for G20 Policy Makers, www.oecd.org/sti/consumer/toolkit-for-protecting-digital-consumers.pdf, p. 65.

[13] OECD (2018), "Consumer protection enforcement in a global digital marketplace", OECD Digital Economy Papers, No. 266, OECD Publishing, Paris, http://dx.doi.org/10.1787/f041eead-en.

[14] OECD (2006), Recommendation of the Council on Cross-Border Co-operation in the Enforcement of Laws against Spam, OECD/LEGAL/0344, https://legalinstruments.oecd.org/public/doc/118/118.en.pdf.

[15] European Data Protection Supervisor, "Opinion 8/2016 on Coherent Enforcement of Fundamental Rights in the Age of Big Data", https://edps.europa.eu/sites/edp/files/publication/16-09-23_bigdata_opinion_en.pdf, p. 15.

[16] Bundeskartellamt and Autorité de la Concurrence, "Competition Law and Data", 10 May 2016, www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.pdf?__blob=publicationFile&v=2, p. 23.

[17] Bundeskartellamt, "Background Information on the Facebook proceeding", p. 2.

[18] OECD (2013), "Guidelines on the Protection of Privacy and Transborder Flows of Personal Data", www.oecd.org/sti/ieconomy/oecd_privacy_framework.pdf.

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[21] M. Donohue, E. Ronchi and L. Bernat (2016), OECD Observer, "Bridging policy silos to boost trust online", http://oecdobserver.org/news/fullstory.php/aid/5589/Bridging_policy_silos_to_boost_trust_online.html.

[22] European Data Protection Supervisor (2014), "Privacy and Competitiveness in the Age of Big Data: the Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy", available at https://edps.europa.eu/sites/edp/files/publication/14-03-26_competitition_law_big_data_en.pdf, pp. 33-36.

[23] Office of the Privacy Commissioner of Canada (2016), "Consent and privacy - A discussion paper exploring potential enhancements to consent under the Personal Information Protection and Electronic Documents Act", www.priv.gc.ca/media/1806/consent_201605_e.pdf, p. 12. See, for more information on privacy icons, M. Popova (2011), "Mozilla's Privacy Icons: A Visual Language for Data Rights", http://bigthink.com/design-for-good/mozillas-privacy-icons-a-visual-language-for-data-rights.

[24] European Data Protection Supervisor (2014), "Privacy and Competitiveness in the Age of Big Data: the Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy", available at https://edps.europa.eu/sites/edp/files/publication/14-03-26_competitition_law_big_data_en.pdf, p. 33.

[25] European Data Protection Supervisor, "Privacy and Competitiveness in the Age of Big Data: the Interplay between Data Protection, Competition Law and Consumer Protection in the Digital Economy" (2014), available at https://edps.europa.eu/sites/edp/files/publication/14-03-26_competitition_law_big_data_en.pdf, p. 34-35.

[26] See, inter alia, L. Zingales and G. Rolnik (2017), "A Way to Own Your Social-Media Data", *New York Times*, www.nytimes.com/2017/06/30/opinion/social-data-google-facebook-europe.html?_r=1&mtrref=www.aei.org&gwh=9548B05E4B7FACF812B51619635EC9C1&gwt=pay&assetType=opinion; W. Kerber (2016), "Digital markets, data, and privacy: competition law, consumer law and data protection", 11 *Journal of Intellectual Property Law & Practice* 1, https://doi.org/10.1093/jiplp/jpw150, p. 862-863; G. Colangelo and M. Maggiolino (2018), "Data Accumulation and the Privacy-Antitrust Interface: Insights from the Facebook case for the EU and the U.S.", *Stanford-Vienna Transatlantic Technology Law Forum Working Papers*, No. 31, p. 11. See, for the risks arising from data portability, P. Swire and Y. Lagos (2013), "Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique", 72 *Maryland Law Review* 2, pp. 379 ff; I. Graef (2015), "Mandating Portability and Interoperability in Online Social Networks: Regulatory and Competition Law Issues in the European Union, 39 *Telecommunications Policy* 6, https://ssrn.com/abstract=2296906.

[27] Article 20 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) http://data.europa.eu/eli/reg/2016/679/oj.

[28] UK CMA (2017), "Guidance on Digital comparison tools: summary of final report", https://www.gov.uk/government/publications/digital-comparison-tools-summary-of-final-report/digital-comparison-tools-summary-of-final-report.

[29] Google Takeout is a Google service that allows to download data from various Google services (+1s, Buzz, Contacts and Circles, Picasa Web Albums, All Google Profiles including Gmail, Voice) to a personal computer. It was launched in September 2011.

Chapter 5. Conclusion

This paper explores the particular challenges associated with analysing and addressing concerns regarding quality competition in zero priced digital markets. The growing range of products offered to consumers for a price of zero, and the economic weight of these markets, suggest that they will continue to command significant attention from competition authorities, data and consumer protection authorities as well as policymakers more generally.

There are some potential legal hurdles associated with capturing zero-price markets under competition laws in some jurisdictions. However, there are arguments in favour of considering the interaction between consumers and suppliers of zero-price products as a transaction, and indeed the case law in several jurisdictions supports this contention.

The potential dimensions of quality competition that are particularly relevant to zero-price markets, given the business models that underpin them, include privacy and data security, advertising content, ease of switching and choice associated with complements. A range of other market-specific dimensions of quality may also play an important role.

Competition analysis can involve some conceptual and practical challenges in the absence of prices in a market. There continues to be a debate over whether a firm can truly be dominant, and liable for abusive content, if it provides zero priced products to consumers. While some researchers have proposed surmounting this challenge by considering attention to advertising or consumer data as the "payment" that consumers provide in exchange for their services, it may be more relevant to consider these characteristics using established theories of harm associated with quality. Other papers advocate for a focus on the paid side of markets, suggesting that a lack of dominance on the paid side means a firm's conduct on the zero priced side of a market should not be cause for concern under established analytical frameworks. However, this perspective can be criticised for ignoring conduct that takes advantage of information asymmetries and profitably worsens quality in zero-price markets that exhibit strong network effects.

A focus on quality as a measure of the terms of the exchange between firm and customer may therefore be the optimal conceptual approach. Rigid market definition may need to be avoided, and alternative quantitative measures may need to be carefully assessed for the extent to which they capture the business models of firms offering zero-price firms.

While the analytical challenges in digital zero-price markets can sometimes be surmounted, there are more wide-reaching concerns associated with these markets, which may exhibit competition problems that cannot be addressed through enforcement alone. In addition to the information asymmetries involved, there are a range of consumer behavioural patterns associated with zero-price goods that may lead to averse market outcomes. More broadly, some studies express concerns about the implications of a price of zero for innovation and quality competition incentives.

These challenges cannot be addressed with competition authorities alone. There may therefore be a particular need for collaboration between consumer protection, competition,

data protection and other authorities, relative to other markets. This can range from a co-ordinated approach in cases, softer advocacy measures to build consumer awareness, and even new regulatory proposals. It is clear, therefore, that a price of zero does not mean that competition, data and consumer protection authorities should focus elsewhere. The scale of zero-price markets and the range of associated concerns suggest there is still much work to be done.

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