Online News Aggregation and Neighbouring Rights for News Publishers

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Abstract

Spain and Germany have introduced a right to remuneration for news publishers for the re-use of their news content by online platforms. That creates a level playing field between news publishers and other media industries that already benefited from this right. Still, the evidence from these countries shows that news publishers have so far not been able to monetize this right. This paper takes an economic perspective on the neighbouring rights debate and tries to find an explanation for this market outcome.

First, it examines the economic impact of news aggregation platforms on news publishers. The available empirical evidence shows that news aggregators have a positive impact on news publishers' advertising revenue. That explains why publishers are eager to distribute their content through aggregators. Second, we zoom in on the alleged market failure and dominant position of news aggregators. Third, it explores alternative explanations in economic models of multi-sided markets. This offers a more credible economic explanation for the current situation. Fourth, it discusses a number of side effects of news aggregation platforms, including superstar effects in news feed, the declining role of newspaper editors and branding and the concomitant blurring in the quality of news articles. Article rankings in platforms are driven by ad revenues. This weakens the editorial choices and branding of newspaper publishers. Rankings might trigger superstar effects that reduce the variety of news consumption. Fifth, it suggests alternative ways forward that exploit the scope for using the data generated in digital news distribution channels.

Closer collaboration between news publishers and news aggregators who also aggregate data on all sides of news market could lead to new business models that generate more revenue for news publishers and responds better to consumer preferences for news qualities and subjects. This could turn out to be a winning strategy for all stakeholders in the debate.

1. Introduction

The shift from offline printed newspapers to online digital media has led to a decline in revenues for legacy newspapers. Several factors have contributed to that decline (Cornia et al, 2016). Readers moved their news consumption online and, in recent years, to mobile screens. This led to a steep decline in print edition revenues. Newspapers are struggling to compensate this through online subscriptions, trying to find a "freemium" balance between freely accessible and paywall protected content. Online ad revenue for newspapers only partly compensates the loss in offline ad revenue. Up to 90% of revenues in most newspapers still come from print, even after years of decline in print advertising and circulation and almost 20 years of investment in digital media (Cornia et al, 2016, p 7-8). Newspapers experiment with paywalls, native advertising and product branding, diversification into merchandising and e-commerce activities, video advertising, etc. Others are experimenting with distribution through social media and mobile platforms though some are reluctant and fear becoming too dependent. More sources of news have moved online, including TV and radio broadcasters, new ad-driven online newspapers, social media websites and blogs. They all compete for the attention of news consumers and drive down the market price of news. Unbundling adds to that competitive pressure. While offline readers bought a bundle of articles in a print edition, online readers can chose freely between articles from a variety of online news sources.

In this thriving online news market, news aggregation platforms have emerged that combine short snippets of news articles from many publishers, with links to the original full article. Readers are attracted to these because they reduce search costs for a wider variety of sources of news. Google News and Facebook Newsfeed have become major gateways to reach a wide online audience. While Facebook Newsfeed is ad-driven Google News is ad-free. The shift to mobile news reading adds further complications for publishers. About 40-50% of users consume news through their mobile phone (Reuters, 2016). In some countries, social media account for 75% of all news distribution activities, especially among the younger generations (Reuters, 2016). Small mobile screens, slow loading articles and the very short attention spans of mobile users are a challenge.

The origins of the debate on copyright-based solutions for newspaper publishers can be found in the contrast between struggling news content publishers and financially thriving online platforms that base their business models on the content provided by news publishers. Publishers want a share of news platform revenue as a remuneration for the news content that they produce. Facebook already shares 70% of its advertising revenue with news publishers. Google News does not display ads on its news aggregation platform, only in its general search engine. It has rejected sharing any of its advertising revenue.

News publishers also face a legal obstacle because, contrary to other media, the right to remuneration for re-use of news content was not formally recognized in law. Some EU MS have taken action to remedy this situation. Germany introduced a neighbouring right to copyright in 2013 that allowed publisher to claim a right to remuneration from websites for using their news content, unless that text is reduced to very small snippets. The main benefit of the law is that it creates legal clarity and puts news publishers on an equal footing with other media publishers who already had this right. News content publishers now need to explicitly agree that an online aggregator or search engine can post snippets of their news content on a website. However, despite expressing concern about Google News and lobbying for the law, German news publishers eventually allowed Google to use their content without any remuneration and the market situation did not change. The law did not generate additional revenue for the publishers on top of a share in advertising revenue from news aggregators that display ads, like Facebook Newsfeed for example. In Spain, the government introduced legislation in 2014 that goes a step further and provides for mandatory payment of compensation by online news aggregators through a collection society. Publishers are not free to choose or allow aggregation of their content. As a result, Google withdrew its News service from Spain, though it keeps displaying news article snippets in its search pages. In other countries courts intervened. After a court decision in a dispute between Google Search and the Francophone Belgian newspapers, the case was settled in 2012 with an agreement for enhanced collaboration between Google and the newspapers to attract more traffic to newspaper sites and to increase advertising revenue. A similar settlement was reached in France between Google and newspaper publishers.

This paper takes an economic perspective on the copyright debate for news publishers. We examine what drives the economic value of the right to remuneration for news publishers and why, in the case of Germany and Spain, its market value so far remains zero. We discuss the available empirical evidence on the impact of online news aggregators on the revenue of news publishers. That points towards an overall positive impact on audience reach and ad revenue for newspaper publishers. We also look at copyright as an instrument to promote innovation in society and find no evidence that the incentives for news production have weakened or that the volume of news articles has decreased, despite all the negative effects of digitization on newspaper revenue. It proposes an explanation for the weak market position that publishers have in online platforms, based on the economics of multi-sided markets. This may explain why news publishers in Spain and Germany were so far unable to monetize their legal rights. There is some empirical evidence that aggregators promote media plurality because they reduce transactions costs for consumers to access a wide variety of press sources and articles. On the other hand, search rankings in aggregation platforms may trigger superstar effects that reduce the consumed variety of news consumption. More importantly, news aggregators weaken editorial control and newspaper trademark branding. That poses a longer-term threat to newspapers and the quality of news. News markets and online distribution technology continue to evolve fast. Publishers and platforms are experimenting with new business models that explore the wide range of options between ads, subscriptions and access to platform user data. The regulatory push to monetize rights also continues, in the EU as well as in the US[1].

This paper is structured as follows. Section 2 provides a brief introduction to the rapidly evolving online news markets and technologies. Section 3 addresses the question whether online news aggregators add or divert revenue from newspapers' own online outlets. Section 4 goes beyond the remuneration debate and takes a wider economic look at copyright protection and the impact on innovation and social welfare. Section 5 explores potential market failures in online news aggregation markets. Section 6 investigates the impact of aggregators on media plurality in news production and consumption. Section 7 concludes.

2. The evolution of online news distribution models

Not all readers come directly to the website of a newspaper. Some get there by clicking on the search results of a general search engine, others come via news aggregators or via links embedded in social media or other webpages. Aggregators show only short snippets of news articles. To read the full article the reader has to click on the link to reach the webpage of the original news publishers, including the ads displayed on that page. Some aggregators display ads in articles or in snippets and share the revenue (Facebook, Yahoo, MSN); Google News does not display ads and has no direct ad revenue to share. Google Search and other general search engines like Bing do not share indirect ad revenues linked to search results that may include snippets of news articles. However, even direct ad revenue sharing agreements between publishers and platforms fall short of a copyright license.

Publishers pay attention to sources that direct traffic to their news sites and claim a share of the revenue of these referral sites. For example news publishers argue that

[1] See Financial Times (July 10, 2017) "Newspaper groups join forces to deal with Facebook and Google" https://www.ft.com/content/3a03d584-657e-11e7-8526-7b38dcaef614

although Google puts no ads on the News aggregator pages, it draws indirect traffic and revenue to the Google Search pages by displaying links and snippets of news article text in the search ranking and by acquiring data on its users' preferences and behaviour. That generates ad revenue for Google through ads placed on the Search page. Referral traffic led to a first court case in Belgium[2] (2006), and later in France, where publishers claimed remuneration for the use of their content in Google News, despite the fact that Google News carries no ads. Google refused to pay and de-listed the newspapers from it Search and Google News results. That caused a drop in traffic to newspaper websites and in ad revenue. Google also lost ad revenue as a consequence. Google and the newspapers in Belgium and France finally came to an agreement whereby Google provided some financial means, short of a license agreement, and helped newspapers to get more traffic to their websites. Similar cases emerged in Spain and Germany. In these countries, law makers decided to intervene through copyright law to enable them to claim remuneration for the (partial) reproduction of their content. In Spain, the law made compensation unwaivable and subject to compulsory collective licensing; in Germany, publishers were left a choice to accept or reject reproduction without remuneration. To date German and Spanish news publishers have been unable to monetize these rights. After an initial rejection and chilling effect on traffic to their websites, German publishers agreed that news aggregators could take their content without remuneration. Spanish publishers did not have that option and suffered a decline in traffic.

Over the last years, rapidly increasing download speed on mobile phones has enabled consumers to shift news reading from fixed computers to mobile, especially mobile users who are active in social media. Facebook is the market leader for social media news consumption. Its newsfeed attracts a substantial volume of traffic. Facebook Instant Articles (FBIA) displays the full text of a news article, with ads in the article. The articles are loaded onto Facebook servers and into the Facebook app environment. That puts Facebook in a strong position to observe user behaviour and control ad revenue. Facebook claims that users read more Instant Articles than ordinary articles and are less likely to abandon the article. News publishers retain 100% of the ad revenue on their own ads and 70% of the revenue on Facebook-produced ads. In this way, newspaper publishers passing through Facebook receive the same ad revenue as they get on their own websites, with the added advantage of reaching a wider audience. Ad revenue from newsfeed now represents a large share of Facebook revenue growth (Nieborg, 2016). However, there is no guarantee that Facebook will continue to offer such generous financial terms to news publishers in the future.

[2] See https://en.wikinews.org/wiki/Google_convicted_in_case_brought_by_Belgian_press

Google responded to the challenge of FBIA by introducing Accelerated Mobile Pages (AMP). This technology improves the mobile user experience with faster loading pages in their mobile browsers. Slow loading mobile pages were diverting mobile traffic from browsers to apps, including search-directed traffic in browsers, and the ad revenue that comes along with this traffic. Google has a strong position in advertising in browsers; Facebook has a strong position in mobile advertising. News pages loaded through FBIA don't allow Google ads to be displayed; they display Facebook ads – or ads produced by the news publisher. By improving mobile page load speed, consumers will be more inclined to search and load more pages in mobile browsers – and that brings more traffic and ad revenue back to Google. Consumers will click more on ads if they are confident that they will be loaded fast; that improves ad click-through rates. It boosts revenue for news publishers and many other content publishers on mobile pages. Google AMP caches the news articles on a Google server but does not control audiences and revenue. Ad revenue accrues to the ad publisher – where Google may also have a stake. Last but not least, AMP pages get a rank boost in mobile search (read: Google Search), bringing mobile searchers quicker to faster pages.

The ad revenue battle continues on other fronts too. Ad blockers become a major risk for many ad-driven online business models, including news publishers. Some news publishers have already introduced a "no ads, no views" policy: they block access to free online news articles for users who have installed ad blockers (Cornia et al, 2016).

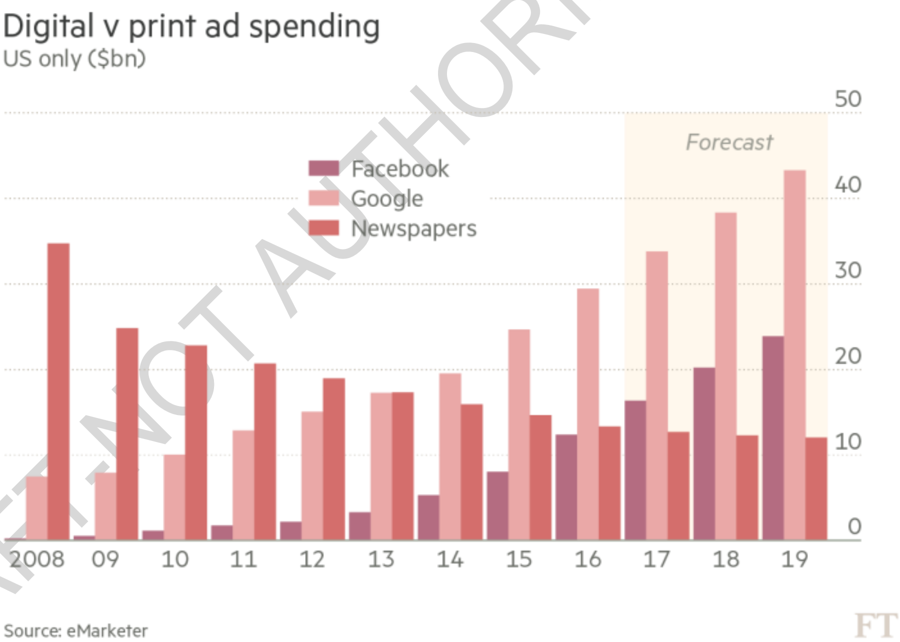
The debate is rapidly expanding beyond ad revenue however. It is gradually shifting away from rights to content to rights to access to data, which is key for news aggregators to get indirect revenue for the use of press publishers' content. Publishers begin to see that user data may be equally valuable as content, especially when they are seeking to protect their news brand names[3]. Google is discussing subscription tools with a few top news publishers[4]. This would enable publishers to monitor traffic to their articles and get a better insight in readers' behaviour. Google would reduce the 30% cut that it takes on subscriptions and provide artificial intelligence to present more flexible subscription offers to potential subscribers. Translated into economic jargon this means using data to price discriminate between different types of users. Third degree price discrimination transfers some of the consumer's surplus to the service news publishers who can monetize that surplus. Facebook is considering similar tools and offerings for publishers to enable them to enhance subscription revenue[5]. Independent online

[3] https://www.ft.com/content/8cf89782-9e4c-11e7-8cd4-932067fbf946
[4] http://fortune.com/2017/10/22/google-subscription-revenue-news-outlets/
[5] http://fortune.com/2017/10/19/facebook-news-subscription-tool-android-apple/

tracking services are also moving into the news reader data market and offering their services to news publishers[6].

3. Newspaper revenue and the substitution debate

The graph below shows how print news publishers has suffered from a steep fall in print advertising revenue, to the advantage on online platforms. Newspapers used to be the main advertising channel for businesses. Today, social media and other online platforms have taken over that role. They offer a much wider choice of flexible and targeted advertising channels. Total ad spending has increased but the share of newspapers in that spending has declined (see figure below). Newspapers want to boost their revenue by claiming a share of the advertising revenue that is directly (as in news aggregator platforms) or indirectly (as in general search engines) linked to their online news content (which is only a small part of total online ad revenue). An important question in this debate is whether re-routing content through online news aggregator platforms increases or diminishes ad revenue for news publishers on their own website. That is an empirical question that cannot be settled by economic theory or legal reasoning; only data can answer that question.



6 http://www.niemanlab.org/2017/08/chartbeat-adds-subscriber-analytics-to-its-dashboard-the-single-most-requested-feature/

The impact of online news aggregators on the revenue of original news publishers is the result of the net effect of two opposing forces: a quantity and a substitution effect. The substitution effect measures to what extent aggregators displace online traffic and reduce the revenue generated by the publishers' own website. The quantity effect measures to what extent aggregators increase revenue by re-directing traffic towards the publisher's own website. If the substitution effect dominates, the original news publishers lose revenue; if the quantity effect dominates they gain revenue. The net effect is an empirical question. In the remainder of this section we summarize the available empirical evidence to date. The main finding is that the quantity effect dominates the substitution effect. Aggregators are complementary rather than competing services to newspapers' original websites. On balance, they generate additional traffic to news publishers' websites and thereby may increase rather than reduce their online revenue.

News aggregators offer snippets or small extracts of the original news article only. This may stimulate the interest of readers to click through to the full article on the original publisher's website. That increases traffic and ad revenue on the original newspaper site (the quantity effect). Aggregators may also provide a re-worked and edited version of one or several original articles, for instance in user-aggregated and blog aggregator sites (Isbell, 2010). That shifts more consumer value to the aggregator site and may reduce users' interest to look for the original article (Delarocas et al, 2015). The substitution effect depends on the difference in quality between the aggregator service and the original service offered by the publisher. The wider the quality gap between the two services the more likely that the quantity effect prevails. Aggregators often deliberately provide incomplete services because they cater to the long tail of news readers with less interest in full articles and a low willingness to pay for the full content. Tapping into that long tail may give original news publishers new audiences that they would otherwise not reach. Aggregators and original content producers play in slightly different markets characterised by quantity and quality discrimination between different types of news readers.

Chiou & Tucker (2017) explore whether aggregation of content by a single platform encourages users to "skim" content or to investigate in depth. The study uses data related to a contract dispute in 2010 that led a major aggregator (Google News) to remove news articles from a major content provider (Associated Press). These articles were typically shortened versions of stories that appeared in a select number of AP-associated newspapers. They compare users' website visits before and after this contract dispute relative to traffic on Yahoo! News, which continued to provide Associated Press content during this period. In theory consumers may use platforms to scan the extracts of content without clicking through to pursue more in-depth material ("scanning" or substitution effect). On the other hand, consumers may use platforms to explore new material more deeply ("traffic" or quantity effect). The authors find that after Associated Press content was removed from Google News, fewer users subsequently visited news sites after navigating to Google News relative to users who had used Yahoo! News. Over a seven-week period 80 million monthly visits were lost to newspaper websites that carried AP content. They find evidence that the traffic or quantity effect is large, as aggregators may guide users to new content. There is no evidence of a scanning or substitution effect, as overall traffic to Google News and Yahoo! News remained relatively comparable during that time period. Websites with stronger ties to AP suffered a drop in traffic after the dispute.

Chiou & Tucker (2017) conclude that the "fair use" exemption relied on by aggregator sites in the US is potentially less damaging to the original copyright holder than often thought. The decision to opt-into (or out of) an aggregation platform should depend on whether the content provider is considered high-quality or highly unusual. Both these characteristics appear to encourage users to use the aggregator to explore content more deeply instead of scanning content. Horizontally or vertically differentiated content from high-quality newspapers or from very local or specialized themes newspapers are likely to benefit from news aggregator sites while more bland middle-ground news producers may stand to lose. These findings are in line with earlier research by Bar-Isac et al (2012) on the impact of search cost reductions on the distribution of online consumption. Top performing products as well as long-tail rare products are likely to gain when search costs diminish while the middle ground may lose out. New aggregators reduce search costs for consumers and seem to have a similar impact of the distribution of news consumption.

Athey & Mobius (2012) study the introduction of a "local news" feature in Google News France in late 2009. Users could enter their zip code and on all subsequent visits they see news from local outlets prominently featured. The authors compare the news consumption of users who enable this feature to the usage of a set of "control" users, over a 2-week and an 8-week period. Adoption of this Google news feature leads to 26% increase in consumption of local news sites over a 2-week period and Google News explains a substantial portion of that increase. There is a 5% increase in direct navigation to local outlets (bypassing Google News altogether) and a 13% increase in clicks on local outlets from the Google news home page. Over an 8 week period the local news treatment effect is attenuated somewhat but remains high (over 14%). Over time the incremental local news consumption derives primarily from increased utilization of Google News. There is a 12% increase in the number of local outlets used. However, the Google local news feature cuts into the curation role of newspapers. Users are sent directly to the article, bypassing the profitable home page of the news outlet. They may subsequently read other articles in the outlet through following links they see on the same page as the original article, and thus their browsing may never take them to the outlet's home page. Even though these results broadly support the hypothesis that news aggregators are complements for local news outlets, it is important to emphasize that the impact on local news outlets is mixed overall. Some outlets gain more than others and users spread their consumption over a larger number of outlets. George & Hogendorn (2013) come to similar conclusions for the re-design of Google local News in the US.

Delarocas et al (2015) conduct a series of field experiments about readers' allocation of attention between news aggregator and the original articles they links to. They examine how the length of the text snippet, the presence of images and the number of related articles on the same story, affect a reader's propensity to visit the content producer's site and read the full article. Their findings suggest that longer aggregator snippets reduce the probability that readers will read the full articles. However when several related snippets compete for user attention, a longer snippet and the inclusion of an image increase the probability that an article will be chosen over its competitors.

Huanga et al. (2013) assess the relationship between aggregators and news websites in Taiwan. Newspapers worldwide often serve as content providers for news portals, but portals outperform most newspaper sites in audience share. Based on empirical data collected through a large-scale survey they find that aggregators do not compete with news websites, with the exception of Yahoo! News. Lee & Chyi (2015) use a national survey of 1,143 U.S. Internet users to study the demand for aggregators and other media outlets in the USA. They find a non-competitive complementary relationship between three major news aggregators and 13 major TV, print and social media news outlets. Google News, Yahoo! News, and Huffington Post do not compete with other media outlets.

Several studies have looked specifically at online newspaper traffic data that reflect the Spanish and German experience with the introduction of a neighbouring right for news publishers. At the request of the Spanish Association of Publishers of Periodical Publications, NERA Consultants (2015) assessed the impact of the introduction of an exception to copyright, for the benefit of news aggregators and subject to the payment of compensation, in the Spanish Copyright Act that became effective on 15 December 2014. It was promoted by a small group of publishers despite opposition from many industry players. The revision of the Spanish law was motivated both by the observation that aggregators benefit from the publishers' efforts without remunerating them, and the assumption that the substitution effect dominates the quantity effect. The revised Article 32.2 of the Act established unwaivable compensation to be paid by online news aggregators to publishers for making available their content within their aggregation services. Unlike the German case or the Commission's proposal of related rights, Spanish publishers cannot opt out of receiving this compensation and payments are to be made through a copyright collecting society. This was justified to prevent a repetition of the German case where the opt-in option led to a status quo. Using ComScore web traffic data, the NERA study found a decrease in traffic to Spanish newspapers' websites by 6% on average during the first few months of 2015, going up to 14% for small newspaper publications. Independently, Chartbeat, that tracks 50 Spanish newspaper sites ranging from small media outlets to the largest newspaper publishers, confirmed that these sites saw their external traffic fall by 10-15 percent[7]. Overall traffic did not fall immediately as the amount of internal traffic coming from other Spanish newspapers rose. This suggests that readers are moving more between Spanish news sites than previously, rather than coming directly from links at Google News. This could be interpreted as an indication that user search costs increased as the Google aggregator site stopped providing links. Users had to generate their own news aggregation instead of Google News doing it for them.

Calzada & Gil (2016) use a more sophisticated dataset to study both the Spanish and German cases. Their data do not only track the volume of web traffic but also the sources that generate the traffic (direct access to the news pages, aggregators, search engines, social media sites, links from other web pages, etc.). They find an 11% drop in Spanish newspaper traffic (quantity effect) and an 8% drop in the number of newspaper pages visited (a reduction in the variety of news) following the change in the copyright law. The latter could be interpreted as evidence that news aggregators increase access to a plurality of media resources rather than reduce it. They also find a drop in search and direct traffic to newspaper sites by 12% and 14% respectively. It may indicate that users quickly grew tired of the additional transaction costs to do their own news aggregation via search and direct access to newspaper sites and simply reduced the number of news sources that they consulted. That would once more confirm the variety or media plurality effect of news aggregators. Aggregators may actually increase the number of direct visits to news outlets by allowing consumers to rediscover new sources of information. For the German case they find a 7% reduction in daily visits to news outlets controlled by the Axel Springer group that initially opted out of Google News

[7] http://beta.latimes.com/business/technology/la-fi-tn-google-news-spain-20151217-story.html

during a 2-week period. There was also a 10% reduction in visits via search engines and 7% direct visits.

Athey, Mobius and Pal (2017) use Spanish data to estimate the impact of the removal of Google News on traffic. They find that the removal of Google News reduces overall news consumption (including consumption of the Google News homepage) by about 20% while visits to news publishers decline by about 10%. This decrease is concentrated around small publishers. Large publishers do not see significant changes in their overall traffic but see an increase in their own home page views, though offset by a decrease in views of articles.

These empirical studies cover only the impact of news aggregators on traffic and revenue for the original content publishers. They do not examine the impact on the production of original news content – the long-term dynamic effect of (weakened) copyright protection on the supply of innovative products - or the impact on consumer welfare through reduced search costs, availability of a wider variety of news sources and lower prices. Jeon & Nasr (2015) are the first to explore these wider welfare implications in a theoretical model. They examine how the presence of news aggregators affects the quality choices of newspapers, using an economic model to capture the "business-stealing effect" and the "readership expansion effect" of the aggregator. They find that the presence of the aggregator leads newspapers to specialize in news coverage and changes quality choices from strategic substitutes to complements. This shift is likely to increase the quality of newspapers and overall social welfare, though the effect on newspapers' profits is ambiguous. Unfortunately there is no empirical evidence yet in support of this model.

We can conclude from this overview that the studies published so far contain no empirical evidence in support of the substitution hypothesis and thus no evidence that online aggregators have a negative impact on original newspaper publishers' revenue. On the contrary, the evidence shows that aggregators may actually be complements to newspaper websites and may help consumer discover more news and boost the number of visits. This structured empirical evidence is corroborated by more qualitative and anecdotal evidence collected through interviews with newspaper managers (Cornia et al, 2016). They confirm that newspapers collaborate with large social media platforms like Facebook, Snapchat, Google, Yahoo and Apple because they bring them in touch with large online audiences that channel a substantial volume of traffic and ad revenue to their articles. News publishers may of course want to reach further and claim a share of indirect ad revenue related to snippets of news text that appear in general search engines – as Belgian and French newspaper publishers tried to do. The German competition authority (BKarA, 2015) pointed out that indirect ad revenue via search is hard to verify. The evidence (Delarocas et al, 2015) suggests that reducing the length of snippets will boost the expansion effect by directing more search traffic to newspapers' own websites and ads.

It is difficult for news publishers to find a good balance between free and paid online content. Many are experimenting with the positioning of paywalls on their online news sites. Chiou and Tucker (2017) find that the introduction of a pay wall leads to a 51% decrease in online visits and thus advertising revenue. It is not clear how much of that loss would be compensated by an increase in subscription revenue. Only news producers with a strong reputation and/or specialisation and a high price elasticity of demand for their news items are in a position to put up a pay wall to increase revenue. Moreover, moving online has resulted in unbundling of newspapers: while articles were sold as a package in print editions, consumers have more choice in making their own selection of articles online as they can freely move between different newspapers. Subscription fees limit that unbundling and reduce competition between newspaper sites. Still, the volume of freely available content is huge. Inevitably, the price of online content goes down as the volume of free supply increases.

4. The economic view on copyright

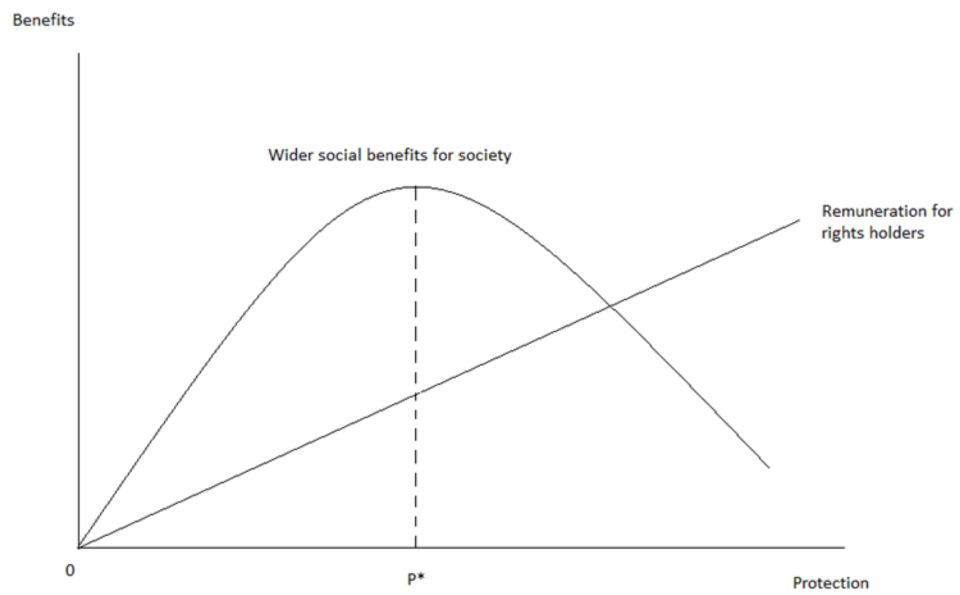
The strong focus on the revenue side and the substitution effect is a consequence of the Continental European civil law approach to copyright that emphasizes the rights of authors and publishers ("*droit d'auteur*") to decide on reproduction of their works and communication to the public, as well as the remuneration they want to receive for that use (Hugenholtz & Quintais, 2016). These rights have been put under stress in the digital age with the invention of many new forms of reproduction and communication to the public, including through hyperlinking and other forms of re-transmission and re-mixing, accidental and transient copying, text and data mining (Poort, 2016) and the same is happening with online news aggregation. The civil law tradition seeks to obtain remuneration for all digital reproductions that are publicly available, subject to some exceptions that are justified by transaction costs. Lawyers and courts are struggling to bring these new technologies in line with that right or design extensions and modifications of copyright law to bring them into the fold of that remuneration right.

The civil law approach can be contrasted with the common law view on copyright that is more aligned with the economic view (for instance in Landes & Posner, 1989). The economic view sees copyright as an economic policy instrument to stimulate innovation for the benefit of society as a whole, not only for authors or private rights holders. The civil law and common law view coincide in the argument that, without copyright protection, authors would have no incentive to invest in the production of artwork because everybody else could benefit from that investment by paying only the cost of a copy. That externality creates a market failure because it would stop production. The common and civil law views split ways when it comes to the economic interpretation of copyright as an exclusive monopoly right granted to the authors to decide who can use a copyright protected work, under which conditions and at what price. For economists, monopoly rights are by definition inefficient because they cause deadweight losses: potential benefits that cannot be realized in society. However, these short-term or static losses in copyright protection are compensated by longer-term dynamic gains because it produces a steady stream of innovative artwork. Contrary to the Continental European civil law view that emphasizes the rights of authors, at the expense of rights of consumers or society, the common law and the economic view seek a balance between the rights of authors and the overall welfare of society. For that reason, copyright is limited in time and scope. Exceptions to copyright protection determine circumstances where no payment to the author is due. In the Continental view, these exceptions should be limited to circumstances where transaction costs exceed the benefits of licensing for the rights holders (Charles River Associates, 2014). In the economic view, exceptions can go further in order to ensure an appropriate balance between the static losses and dynamic gains of copyright protection and promote wider dissemination of the benefits of innovation in society.

Digital technologies create new means to reproduce and communicate copyright protected works to the public. The civil law approach would seek to extend authors' rights to claim remuneration for all these new uses. The common law or economic view on copyright would not automatically grant an extension of authors' rights to remuneration for uses under these new technologies. Extending copyright protection to all forms of digital reproduction may defy the purpose of copyright as an instrument to promote innovation, not necessarily to maximize revenue of the rights holders. Economists would carefully examine the balance between static deadweight losses and dynamic welfare gains in the copyright equation. They would go back to the purpose of copyright and ask whether these new technologies affect that balance and reduce the incentive to produce innovation (Bechtold, 2016). A reduction in innovation has a negative impact on societal welfare. In the case of newspapers for example, a reduction in the number of new articles and in the variety of views expressed in news publications would constitute a welfare loss that requires intervention through further copyright protection. However, if no such negative effect on the supply of innovative artwork can be observed there is no a priori reason to extend claims.

The policy gap between the civil law legal doctrine and the common law and economic view is illustrated in Figure 1. Too little protection stops innovation; that is bad both for authors and society. More protection boosts benefits for authors and society. The civil and common law view go hand in hand up to the optimal degree of protection P*. Beyond P* they split ways: more protection still benefits authors but reduces the wider benefits to society because it slows down further innovation. Consequently, in the economic view, the crucial test for an appropriate level of copyright protection is not the impact on revenue for authors but the longer-term dynamic impact on the supply of innovation for society.

Figure 1: Social versus private benefits of copyright protection



Finding the optimal degree of protection P*, or the point where more protection becomes inconsistent with wider societal benefits from innovation, is an empirical question that cannot be settled through economic theory or legal reasoning. The impact of protection on the production of innovation or the supply of news articles is a crucial - but difficult - test for the justification of a possible ancillary copyright for newspaper publishers. There are no indications that German and Spanish news publishers reduced the production of news articles when Google News refused to pay a fee.

Proponents of the civil law legal doctrine often argue that revenue for rights holders and the supply of innovation are positively correlated. In the digital age that is not necessarily true. The cost of production and distribution of media products has fallen substantially (Waldfogel, 2013). In that case, a fall in revenue does not necessary depress production. Music is a good example: revenue from recorded music sales declined significantly with digitization in the in early 2000s but music production increased (Aguiar & Waldfogel, 2014). A similar phenomenon may have occurred in news. The vast increase in online news sources may be an indication.

There are no statistics on the production of newspaper articles. There are statistics on the evolution of the number of newspapers and their circulation that show that both have declined (Cornia et al, 2O16. That does not necessarily mean that the supply of news has declined as many more new sources of news have become available online: TV broadcasters have moved online, new fully digital newspapers have emerged and a myriad of blogs comment on current events. Moreover, news articles are a heterogeneous product market with some degree of substitution between articles. Articles are not entirely unique products. They can cover the same event in different ways. The absence of statistics on news production creates a gap in our understanding of the dynamics of the newspaper industry in the digital age. It makes it difficult to judge whether there is a need to boost news production through additional copyright protection or other means.

Before concluding this section it is worth pointing out that copying news items is widely practiced in the digital age by all news media, including legacy newspapers publishers, radio and TV news channels. This is well-documented in a study of French news media by Cage et al (2015) who investigate the speed and modalities of online news dissemination. On average, it takes two hours for information published by an online media outlet to be published on another news site, but less than 45 minutes in half of the cases and less than 5 minutes in 25% of the cases. At least half of online dissemination is copy-and-paste and does not follow rules for citing and crediting. Information is costly to produce but cheap to reproduce. Copyright law does not protect facts, only the particular expression of facts by an author in a news article. Some re-writing, reduction to short excerpts or an appropriate reference to the original publisher might go a long way to satisfy the law though it may not change the information content of the article. Automated online aggregators do not re-write articles; that creates conflict with copyright law.

5. Market failures in online news publishing

We examine why the legislatives initiatives in Spain and Germany have so far failed to increase news publishers' revenue beyond their share in direct advertising revenue on platforms that display ads (and not indirect ad revenue on general search engines). It is often argued that the inequality in bargaining power between online news aggregator platforms and newspaper publishers is a market failure or an abuse of dominant position by the news aggregators. The Spanish and German competition authorities addressed the issue of possible abuse of a dominant market position by Google Search and Google News and the need for intervention by the competition authorities or the regulator.

The Spanish competition authority (CNMC, 2014) issued an opinion that questions the economic foundations for the introduction of unwaivable compensation for news publishers in the Spanish intellectual property law. First, the CNMC observes that there are technical solutions (the introduction of a robot.txt file[8] in a web page, or paywalls) that newspapers can apply to avoid that their articles are aggregated by online news platforms. This boils down to an opt-in/opt-out procedure, similar to the German newspapers case. The fact that newspapers do not use this means is an indication that the perceived benefits of aggregation exceed the costs – in line with the evidence presented in the previous section. The introduction of "unwaivable" legal means to achieve the same purpose would then be not only superfluous but could be harmful. Second, the CNMC notes that it is inefficient to let collecting societies fix an a-priori price for the remuneration of newspapers and not let the market work out a price. News aggregators generate traffic and revenue for news publishers' websites but it is very difficult to determine the revenue that news aggregators gain from specific news articles. Hence it would be difficult to work out the basis for the calculation of compensation. The CNMC concludes that there is no indication of a market failure in news aggregation because news publishers do not seem to actively oppose news aggregators. Consequently, there is no reason for regulatory intervention in that market. Moreover, the intervention through the modification of the Spanish intellectual property law creates new market access barriers, both for existing news aggregators and for new service providers. The CNMC recommends dropping at least the unwaivable character of the provisions and the intermediation of copyright management societies. The CNMC report predicted the failure of the Spanish unwaivable compensation to generate any additional revenue for Spanish newspaper.

In contrast to Spain, Germany introduced a revocable neighbouring right. The German case is more complex because if involves the Google Search engine too. Part of the debate is about the length of the news snippets that Google can extract from a news article and put in the search results. After the law came into force, VG Media, the collecting society for German news publishers associated to the Springer group, introduced a tariff of 11% on all ad revenue derived from news search and news aggregation activities in June 2014. The tariff was subsequently reduced to around 6% in October 2014. Google eventually asked all publishers to sign a written contract with a

[8] See https://en.wikipedia.org/wiki/Robots_exclusion_standard

zero price license under the "opt-in" clause. All newspaper signed in order to allow Google News and Google Search to continue linking to their news articles. The news publishers then filed a complaint at the German competition authority about the alleged abuse by Google of its dominant position in the German market. The competition authority (Bundes Kartel Ambt, 2015) ruled that there was no need for action. The complaint went beyond Google News that is not ad-driven, although it directs its readers to Google Search engine, where they do searches that produce ads. It also covered news articles snippets ranked in Google Search. The BKarA examined the question from a multi-sided online platforms perspective. The different sides of the market (newspaper publishers as content suppliers, consumers, advertisers) cannot be considered as separate markets; they are linked by indirect network effects. One side (advertisers) may subsidize the other side (consumers), thereby increasing the welfare of all sides. Although the news publishers are not remunerated for their contribution to the platform, the BKarA still considers this to be a market, though with a zero price. It also considered that the "opt-in" procedure is a proportional measure that leaves newspapers free to decide whether they want to participate in the market. It concluded that Google does not abuse its market position and that there is no reason for intervention in this market. After the competition authority rejected their claim, VG Media filed a new complaint against Google in a civil court in January 2016, claiming that Google owes them remuneration. This local court in Berlin has meanwhile rejected this claim[9].

While news aggregators have been under scrutiny for alleged dominant market positions, the attempts made in Germany and Spain to strengthen the bargaining position of news publishers have not produced a solution. Attempts in the US to allow news publishers to form a cartel to negotiate with news aggregators are still under discussion. Publishers have asked Congress for an exception to competition policy rules and allow them to create a cartel of publishers that can negotiate more effectively with online platforms[10]. In the EU news media markets are geographically segmented however along national and linguistic borders and there is little cross-border traffic in online media. That makes collective action more difficult.

By bringing the collecting societies as intermediaries into the market process, the legislators in Spain and Germany have tried to increase this price to a positive non-zero figure. Collecting societies will not work for zero remuneration, partly because they are private companies that have to cover at least their operational costs. As the Spanish competition authority pointed out, the collecting societies create additional costs in the

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9 https://dejure.org/dienste/vernetzung/rechtsprechung?Gericht=LG%20Berlin&Datum=19.02.2016&Aktenzeichen=92%20O%205%2F14

10 https://www.ft.com/content/3a03d584-657e-11e7-8526-7b38dcaef614

functioning of the market. That in itself is an inefficient solution because the market can clear at a lower cost, as it currently does with the robot.txt protocols. Regulatory intervention in the market, implemented via a collecting society, would make the market less efficient. So far newspapers in Germany opt-in and there is no loss of social welfare. In the Spanish case however, newspapers are legally not allowed to consent to a zero price and the entire market disappeared as a result.

Rather than looking for competition-related explanations, an alternative and possible better explanation may be found in the theory of multi-sided markets or platforms. News aggregators are platforms or multi-sided markets that bring different types of users together in a single market place: news producers, consumers and advertisers (Caillaud & Jullien, 2003; Rochet & Tirole, 2006). Typically, platforms benefit from direct (and indirect) network effects: the more users join the platform (on one side of the market), the more want to join (on other sides). Platforms also benefit from economies of scope in data aggregation (Martens, 2016). They can aggregate information across a wide variety of products and preferences across many users. That information can be plugged into algorithms in order to reduce the cost of matching different types of users: matching consumers with news articles, matching advertisers with consumers, etc. Bigger datasets often increase the efficiency of matching in very heterogeneous markets. The advantage for consumers is a reduction in search costs and lower switching costs between different suppliers of news. The advantage for news producers is access to a much larger potential audience than offline newspapers and individual online websites can reach (Cornia et al, 2016). News aggregation platforms enable more efficient matching between suppliers, consumers and advertisers, more efficient than individual newspaper websites and print editions. As such, they provide a compelling value proposition to all user groups. The flip side of the coin is that platforms seek to internalize and monetize the benefits that they provide to market users by driving a wedge between the interests of different user groups (Parker & Van Alstyne, 2006) [11]. They maximise their own profits by eroding some of the potential benefits that users could achieve. This can be done for example through pricing strategies and the manipulation of search rankings (Ursu, 2015). For example, news aggregation platforms offer news publishers and advertisers a much wider consumer reach than they can achieve on their own websites. In return they charge advertisers a price for the ad and appropriate (part of) the advertising revenue, leaving the rest to the newspaper

[11] Several studies (Ursu, 2015 for Expedia; Chen et al, 2015 for Uber; Fradkin, 2014 for AirBnB) have found empirical confirmation for the view that search rankings in commercial platforms drive a wedge between the interests of suppliers and consumers, to the benefit of the platform operator. There are no empirical studies yet on news article rankings in aggregator platforms and how they affect the interests of the publishers and news readers. Such studies would be very useful to assess the impact of news aggregators on media plurality.

publishers. Publishers pay for their share in ad revenue with their news content. Consumers pay for free access by allocating part of their attention time to advertising and by sharing some personal news preference data with the platform.

Parker & Van Alstyne (2005) demonstrated in their seminal paper on network effects in multi-sided platforms that the pricing structure in platforms depends on the price elasticities of the different sides and user groups in the market. The side with the lowest price elasticity – i.e. their participation is less sensitive to entry pricing - will usually end up paying the highest price for market access. In Google Search, advertisers pay a price for the ads they place. Information suppliers and consumers pay a relatively low price by contributing their private information. In Google News there are no ads and only publishers and consumers. Neither of them pays. However, publishers receive benefits from additional traffic and ad revenue on their own websites. That makes them price inelastic too: a lower price, even a zero price, does not affect their participation because they still get benefits – as the empirical evidence suggests. That lowers their market power and reduces their remuneration, in this case to zero. Market participants with high price elasticities – i.e. their participation will be very sensitive to price increases – end up paying the lowest price. Consumers pay nothing. If aggregators would charge them they would probably unsubscribe in large numbers from the service. The zero price for news publishers could thus be considered as an economically efficient market outcome from the perspective of the Parker & Van Alstyne (2005) model.

A more efficient solution may be for the publishers to collaborate with the platforms in order to monetize some of the externalities that are currently not captured by the aggregation platforms, for example in the use of data. This explains steps taken by Google and Facebook to collaborate with news publishers to monetize the data that are collected on user behaviour on the platforms (as reported above in Section 2). News aggregators have a privileged overview and collect data on all actors on all sides of the market. There is a lot of potential economic value to be extracted from these big data collections. This will help publishers to better target ads and news articles to specific consumer audiences, and possibly to raise more subscription revenue from these audiences by means of subscription offers adapted to users' behaviour. Such measures will benefit the platforms and the publishers. Consumers may find that part of their consumer surplus (consumption of free content) is monetized by news publishers. Still, it could give them a better quality and selection of news articles and lower their search costs.

6. News media plurality and editorial quality

A free and pluralist press is a vital ingredient for well-functioning modern democracies. In pre-digital times, democracies had a lively and free printed press with a wide variety of opinions being voiced in often very animated social, political and economic debates. Consumers bought a printed newspaper that contained a bundle of articles edited and ranked by a human editor and whose selection matched their social, cultural and political preferences. Digitisation and online availability of news has changed the dynamics of news markets, both on the production and consumption side. Consumers now have access to a wide variety of online newspapers and a large part of that is available at virtually zero cost. This has led to "unbundling" of the printed newspaper. Consumers can read individual articles across many newspapers (Calzada & Gil, 2016). Most articles across newspapers, especially mainstream non-specialized newspapers, are partial substitutes: they cover the same content though possible from different perspectives. As a result, competition is so strong that the price of most news has dropped to zero. This competition is compounded by the widespread practice among online news publishers to closely watch and copy immediately from each other (Cagé et al, 2016).

When Google launched Google News as a news aggregation platform - a special version of its search engine that returned only news articles - unbundling was given a further push. Aggregators do not only reduce the access price; they also reduce search costs for consumers who get a range of articles from a variety of sources on a single page rather than having to jump to different websites. The consequence of aggregation however is that curation of articles is no longer done by a human editor. A search algorithm replaces the human editor. Lowering search costs enables news publishers to reach a much larger audience, mainly low opportunity cost consumers deep down the long tail who would not have bought a printed newspaper or taken the time to read full-length articles. Never before was such a diversity of news available to so many consumers at such low cost (Cornia, 2016). This expanded reach explains why, despite their misgivings, most newspapers actively collaborate with online news aggregators. The long-running judicial tussle between Google News and publishers in Germany is a good example. Facebook gave unbundling and reach another push when it brought online news to mobile phones via its app. Consumers can now read short news articles or even snippets of articles on their tiny smartphone screens at moments of low opportunity cost of time, sitting on the train or waiting at the cashier in the supermarket. However, news snippets on small screens make it even more difficult for publishers to maintain visibility for their brands. Some newspapers are experimenting with building their own news aggregation platform, with a subscription fee attached to it[12]. That combines the advantages of lower search costs and more variety for consumers, with more revenue for news publishers. It is difficult to see however how such limited variety high quality news platforms can compete with Google and Facebook on consumer reach. Whether these experiments will succeed in generating sufficient revenue remains an open question. Unfortunately online ad revenue is not sufficient for many publishers to build a sustainable newspaper publishing business model on. Publishers can complement this with online subscription revenue. Subscription pricing is tricky because news has become so ubiquitous on the internet that few consumers are willing to pay for it. Only high quality and/or specialized newspapers can still muster a reasonable willingness-to-pay for online content, or generate a sufficiently large online audience[13].

New aggregation and further unbundling has eroded the brand value of newspapers. Apart from legacy print newspapers a vast number of online-only news sources have emerged, including blogs and social media pages that wriggle into the news space, TV stations are putting their news online. It is often difficult to distinguish between genuine news items and paid-for advertising space that may carry full-length articles too, let alone trying to avoid the pop-up ads that jump all over your tiny mobile screen. That makes it difficult, even for discerning readers, to appreciate and distinguish the quality and credibility of all these sources of news. We also observe a declining role for the traditional newspaper editor who was in charge of defining the brand. News aggregators combine articles from many news publishers in a single search ranking. That ranking is a form of news curation, similar to the role played by editors in legacy newspapers. Editors format and position articles and ads to reflect editorial preferences, newspaper branding and commercial interests. They decide to put some articles on the front pages or with bold headings that attract more attention while others are moved to less eye-catching formats and places. News aggregator platforms have no editorial line to defend; they are revenue private firms. Their commercial interests are linked to the volume of traffic and ad revenue. Aggregation platforms use search rankings to drive a wedge between consumer preferences and news publishers in order to pursue the commercial interests of the aggregation platform. Trending news articles will be pushed up the search rankings because they may attract more expensive advertising and are more likely to be read. Search rankings also undermine news publisher attempts at building editorial profiles and branding.

[12] See for example Blendle https://launch.blendle.com/
[13] http://www.niemanlab.org/2017/09/newsonomics-our-peggy-lee-moment-is-that-all-there-is-to-reader-revenue/

The demise of the editor explains the rise of "fake news", divisive, misleading and sometime illegal content. With fake news, consumers start asking again for editors: “somebody should stop this”. But the editor has disappeared as a result of digital market forces, forces in which consumers are an active driving force[14]. Social media and news aggregation platforms are very reluctant editors. Like all online platforms, they claim to be intermediaries only, not producers of content. They facilitate exchange of media between producers and consumers but are not involved in content production or editing. Recently, political, legal and consumer pressure has forced major online media platforms to bring back human editors on a global scale[15]. Consumers save transaction costs by going to aggregator platforms but may lose consumer welfare because they get less reliable news, less of what they prefer and more of what generates ad revenue for the platform. Moreover, search rankings inherently suffer from "superstar economics" (Rosen, 1981). Empirical evidence shows that consumers have a tendency to simply consume top-ranked products as a way of reducing search costs[16]. That explains why aggregators focus on "trending" news articles: the faster an article rises in popularity (clicks), the faster it will indeed rise.

As such news aggregation platforms are a Faustian deal between platforms, publishers and consumers. The platform offers an increase in audience reach for news publishers; it offers consumers a reduction in transaction costs and access to a wide variety of articles. In return, it increases its ad revenues. The flip side of the deal is the loss of editorial control and brand recognition for publishers and more dependence on search rankings for consumers. Publisher may perceive the deal as unfair because news aggregators run profitable business models built on their content while publishers' revenue is under pressure. However, they would not gain from refusing the deal because there are no better alternatives for the time being.

7. Conclusions

[14] https://www.theguardian.com/technology/2016/aug/29/facebook-trending-news-editors-fake-news-stories

[15] https://www.ft.com/content/ba7d4020-1ad7-11e7-a266-12672483791a

[16] Search rankings are endogenous and the direction of causality is not clear (Moraga-Gonzales et al, 2013): Does higher ranking increase consumption or do more frequently consumed items rank higher? Rankings may create a lock-in effect: popular products become more popular because they are already popular.

The demise of the news industry is rightly perceived as a danger for democracy. The debate on neighbouring rights is primarily driven by concerns about the decline in revenue and the longer-term financial sustainability of the newspaper industry as consumers and advertisers move from print editions of press publications to online news consumption in online platforms.

Legislators have introduced a right to remuneration for news publishers for the re-use of their news content by online platforms. That main benefit of these legal initiatives is to create a level playing field between news publishers and other media industries that already benefited from this right. Re-routing some of the money earned by news aggregation platforms to news publishers by means of an extension of the scope of copyright may seem like a good way of achieving that goal.

The available empirical evidence shows that newspapers actually benefit from news aggregation platforms in terms of increased traffic to newspaper websites and more advertising revenue. News platforms that display ads share between 70 and 100% of ad revenue with newspaper publishers. That explains why publishers are eager to distribute their content through aggregators. Research also shows that the question of indirect ad revenue from news content generated in general search can be addressed by modifying the length of text snippets in search. There is no evidence that the production of news articles has decreased, despite the fall in the number of newspapers and in revenue.

The German and Spanish cases show that the law can create a right but market forces have valued this right at a zero price. Explanations may be found in the economics of platforms or multi-sided markets. Platforms benefit from network effects and data aggregation across many users. This results in wider reach and lower transactions costs that individual newspaper websites cannot match. Platforms will price discriminate between different types of users in function of their market situation. Advertisers pay for the platform. Publishers receive a share in ad revenue in return for contributing their content. Consumers receive free content in return for sharing some personal data on their news reading preferences. This puts many newspapers in a weak position to leverage the value of their content. Only top-end papers may be able to charge a price for premium content.

The paper discussed some of the hidden dangers and negative side effects of news aggregation platforms. These include superstar effects in news feed that promote "trending" articles at the expense of more insightful articles. The flip side of the improved audience reach and ad revenue prospects offered by news aggregation platforms is that news publishers become more dependent on platforms as online distribution outlets. It weakens their brand and control over marketing. Aggregation results in a declining role for newspaper editors and newspaper quality trademarks or "branding". The demise of the editor has given rise to blurring in the quality of news articles and the phenomenon of "fake news".

An important dimension of the debate on online news aggregators is their impact on media plurality and the diversity of news production and consumption. The evidence suggests that news aggregators promote diversity because they facilitate access to news across different sources. At the same time, the rising role of search algorithms at the expense of human editors may lower the quality of news and may even contribute to fake news distribution.

Alternative ways forward to increase newspaper revenue could star from exploiting the scope for using the data generated in digital news distribution channels. Platforms collect a wealth of data on news readers. That enables them to do more targeted advertising. Lately, news publishers are trying to get more access to these data. Google and Facebook for example have proposed new services to publishers that would enable them to do so[17]. Independent private data providers may also help publishers to strengthen their marketing strategy and branding. Closer collaboration between news publishers and news aggregators who also aggregate data on all sides of news market could lead to new business models that generate more revenue for news publishers and responds better to consumer preferences for news qualities and subjects. This could turn out to be a winning strategy for all stakeholders in the debate.

Recent advances in technology and business models show that the online news industry is far from stabilized yet and that there is wide scope for further innovation in exploring new revenue sources that go beyond that traditional choice between ads and subscriptions. Typically, the value of user data grows in importance and remains to be exploited.

[17] See for example https://www.ft.com/content/8cf89782-9e4c-11e7-8cd4-932067fbf946

Bibliography

Aguiar, L. and Walfogel, J. (2014) "Quality Predictability and the Welfare Benefits from New Products: Evidence from the Digitization of Recorded Music", JRC Digital Economy working paper.

Anderson, C W (2013) "What aggregators do: Towards a networked concept of journalistic expertise in the digital age".

Athey S, Mobius M (2012) "The Impact of News Aggregators on Internet News Consumption: The Case of Localization",

Athey S, Mobius M, Pal, J (2017) The Impact of Aggregators on Internet News Consumption, Stanford University SIEPR working paper 2017-34.

Bar-Isaac & Guillermo Caruana & Vicente Cunat, 2012. "Search, Design, and Market Structure," American Economic Review, American Economic Association, vol. 102(2), pages 1140-60, April.

Bechtold, S. (2016) "Deconstructing copyright", mimeo.

Bundes Kartel Ambt (2015) "Google/VG Media u.a.; Auseinandersetzung um das Leistungsschutzrecht des Presseverlegers", Entscheidung B6-126/14 nach §32c GWB, 8 September 2015.

Cage, Julia, Nicolas Herve, Marie-Luce Viaud, (2015) “The Production of Information in an Online World”, NetInstitute.org working paper nr 2015-05.

Caillaud, Bernard and Bruno Jullien (2003): Chicken & Egg: Competition among Intermediation Service Providers, Rand Journal of Economics 34, 309-328.

Calzada, J. and Gil, R. (2016) "What do news aggregators do? Evidence from Google News in Spain and Germany", working paper.

Charles River Associates (2014) "Assessing copyright exceptions", report for the European Commission (DG Markt).

Chen M, Sheldon, Ml (2015) uber surge pricing Dynamic Pricing in a Labor Market: Surge Pricing and Flexible Work on the Uber Platform, December 11, 2015

Comision National de los Mercados y la Competencia (2014) "Propuesta referente a la modification del articulo 32.2 del Proyecto de ley que modifica el texto refundido de la ley de propiedad intelectual", report issued by the CNMC on 16 May 2014.

Cornia, A., Sehl, A, Nielsen, R. K. (2016) "Private sector media and digital news", a report by the Reuters Institute Digital News Project.

Danbury, Richard (2016) "Is a publishers' right a good idea?", Centre for Intellectual Property and Information Law, Cambridge University. Mimeo.

Delarocas, Sutanto, Calin and Palme (2015) "Attention Allocation in Information-Rich Environments: The Case of News Aggregators", Management Science, December 2015.

Duch-Brown, N. and Martens, B (2014) "Search costs, information exchange and sales concentration in the digital music industry", JRC Digital Economy working paper 2014.

Dunaway, J. (2016) "Mobile versus computer: implications for news audiences and outlets". Shorenstein centre on media politics and public policy, Discussion paper August 2016.

European Commission (2015) "Communication on a Digital Single Market Strategy for EUrope",http://eurlex.europa.eu/legalcontent/EN/TXT/?qid=1447773803386&uri =CELEX:52015DC0192

European Commission (2016) "Proposal for a Directive on Copyright in the Digital Single Market" https://ec.europa.eu/digital-single-market/en/news/proposal-directive-european-parliament-and-council-copyright-digital-single-market

Evans, David and Richard Schmalensee (2007): The Industrial Organization of Markets with Two-sided Platforms, Competition Policy International 3, 151-179.

Fradkin, A. (2014). Search Frictions and the Design of Online Marketplaces. Retrieved from http://andreyfradkin.com/assets/Fradkin_JMP_Sep2014.pdf

George, L and Hogendorn C. (2012) "Aggregators, search and the economics of new media institutions", Information Economics and Policy, vol 24(1), pp 40-51.

George, L and Hogendorn C. (2013) "Local news online: aggregators, geo-targeting and the market for local news", working paper.

Grimmelmann (2012) Some Skepticism About Search Neutrality, in The Next Digital Decade: Essays on the Future of the Internet

Grimmelman (2014) Speech Engines, 98 Minnesota Law Review 868 (2014)

Gruenberger, M (2016) "The German news publishers' ancillary right", slides presented at the Amsterdam conference on neighbouring rights, organised by Institute for Information Rights, University of Amsterdam.

Hargreaves I, Guibault, L, Handke, Ch, Martens, B and Valcke, P (2014) "Text and Data Mining: Report from the expert group", European Commission DG RTD.

Hiller, R and Jin-Hyuk Kim (2015) "Online music sales, sales displacement and internet search: evidence from YouTube", Center for the Analysis of Property rights and Innovation (CAPRI), Publication 13-2.

Huanga S, Mengchieh J and I Chyi (2013) "Friend or foe? Examining the relationship between news portals and newspaper sites in Taiwan" Chinese Journal of Communication, 2013, Vol. 6, No. 1, 1–17.

Hugenholtz, B and Quintais, J.P. (2016) "Towards a universal right of remuneration: legalizing the nono-commercial use of works", IVIR University of Amsterdam, mimeo.

Isbell, K. (2010) "The Rise of the News Aggregator: Legal Implications and Best Practices", Berkman Center, Research Publication No. 2010-10.

Jeon D and N Nasr (2015) "News Aggregators and Competition Among Newspapers in the Internet", mimeo, Toulouse School of Economics.

Johnson and Myatt (2006) On the Simple Economics of Advertising, Marketing, and Product Design, American Economic Review , vol. 96, no. 3, June 2006

Landes W and R Posner (1989) "An Economic Analysis of Copyright Law", the Journal of Legal Studies, 1989, vol. 18, issue 2, pages 325-63

Lesley Chiou and Catherine Tucker (2013) "Paywalls and the demand for news", Information Economics and Policy, 2013, 25 (2), 61{69.

Lesley Chiou and Catherine Tucker (2017) "Content aggregation by platforms: the case of the news media", Journal of Economics and Management Strategy, March 2017.

Lee & Chyi (2015) "The Rise of Online News Aggregators: Consumption and Competition", International Journal on Media Management.

Merges, Robert (2008) "IP rights and technological platforms", UC Berkeley School of Law, mimeo.

Moraga-González, José-Luis & Petrikaite, Vaiva (2013) "Search Costs, Demand-Side Economies and the Incentives to Merge under Bertrand Competition," CEPR Discussion Papers 9374, C.E.P.R. Discussion Papers.

NERA Economic Consulting (2015) "Impacto del Nuevo Artículo 32.2 de la Ley de Propiedad Intelectual. Informe para la Asociación Española de Editoriales de Publicaciones Periódicas (AEEPP)", 9 de julio de 2015.

Parker, Geoffrey W. and Marshall van Alstyne (2005): Two-sided Network Effects: A Theory of Information Product Design, Management Science 51, 1494-1504.

Poort, J. (2016) "Borderline exploitation of copyrighted works", IVIR University of Amsterdam, mimeo.

Reuters (2016) "Digital News report".

Rochet, J.-C., & Tirole, J. (2003) "Platform Competition in Two-sided Markets", Journal of the European Economic Association, 1(4), 990-1029. doi: 10.1162/154247603322493212

Rosen, Sherwin (1981) The Economics of Superstars, The American Economic Review Vol. 71, No. 5 (Dec., 1981), pp. 845-858

Triaille, Jean-Paul, J De Meeus A De Francquen (2014) "Study on the legal framework of text and data mining (TDM)", De Wolf and Partners, report prepared for the European Commission, March 2014.

Ursu R, (2015) The Power of Rankings: Quantifying the Effect of Rankings on Online Consumer Search and Purchase Decisions (presented at Searle Conference on Internet Search and Innovation 2015.

Weaver, Alexander Barrett (2013) "Aggravated with Aggregators: Can International Copyright Law Help Save the News Room?", Emory International Law Review, Vol. 26, No. 2, 2013.

Westlund, O. (2015) "News consumption in an age of mobile media: Patterns, people, place, and participation", Mobile Media & Communication, Vol 3(2), Sage Publications.

Xalabarder, R (2014) "The Remunerated Statutory Limitation for News Aggregation and Search Engines Proposed by the Spanish Government; Its compliance with international and EU law", Universidad Obrero de Catalunya, Internet Interdisciplinary Institute, working paper 2014-04.