BOSTON UNIVERSITY SCHOOL OF LAW
JOURNAL OF SCIENCE & TECHNOLOGY LAW

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NOTE

FACEBOOK'S INFIRM FOUNDATION: DUAL-STOCK ISSUES AND ESG POTENTIAL

Siddharth Anandalingam[1]*

[1]* J.D. 2023, Boston University School of Law. Special thanks to Professors Jessica Silbey and Madison Condon for their edits, suggestions, and direction. And thanks to all the staff editors at the Boston University Journal of Science and Technology for their support and help.

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Introduction

"Facebook is stuck in a feedback loop that they cannot get out of."[2] This is how Frances Haugen, the famed Facebook whistleblower, described the moral state of affairs at the company. During the Senate Hearing on Children and Social Media Use, Haugen discussed the many ways that Facebook knew it was harming its teenage users and nevertheless continued its operations. Haugen leaked multiple insider papers to the *Wall Street Journal*, which launched a series of articles entitled "*The Facebook Files*."[3] These *Files* illuminate the ways that Facebook put profits first in its drive to increase interaction on the platform even when there was evidence that their algorithm led to harm among different communities. While harm is a tough metric to measure, the *Files* illustrate that Facebook caused various negative outcomes such as increasing depression in younger users of the platform, spreading disinformation, and inciting ethnic violence around the world. At the same time, even Facebook realizes that it is losing its power and influence, with "its own research showing that many of its products aren't thriving organically."[4] Instead of finding a business model that leads towards more sustainable products and a happier user base, the company has gone to "extreme lengths" to keep people on its platform, including changing the ways its algorithm works to attract and draw users in.[5] While the change to boost "meaningful social interactions" or "MSI" on the platform should have strengthened the bonds between family and friends on the platform, it has instead rewarded outrage and sensationalism.[6] In February 2022, after Facebook's Q4 reports disclosed that Facebook had experienced a drop in daily active users for the first time in its history, Facebook's stock fell 23% and its market value dropped $200 billion from $900 to $700 billion.[7] However, while the stock price fell dramatically in 2022, 2023 was a good year for Meta's stock, which is now nearing its highest share price, suggesting that the company has delivered

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2 *Children & Social Media Use: Before the Sub-Committee on Consumer Protection, Product Safety, and Data Security, Committee on Commerce, Science and Transportation*, 117th Cong. (2021) [hereinafter *Children & Social Media Use*] (statement of Frances Haugen).

3 *The Facebook Files*, Wall St. J., https://www.wsj.com/articles/the-facebook-files-11631713039 (last visited Jan. 30, 2022).

4 Kevin Roose, *Facebook is Weaker Than We Knew*, N.Y. Times (Oct. 4, 2021), https://www.nytimes.com/2021/10/04/technology/facebook-files.html.

5 *Id.*

6 Keach Hagey & Jeff Horwitz, *Facebook Tried to Make Its Platform a Healthier Place. It Got Angrier Instead*, Wall St. J. (Sept. 15, 2021, 9:26 AM), https://www.wsj.com/articles/facebook-algorithm-change-zuckerberg-11631654215.

7 Jonathan Vanian, *Why Facebook Lost Nearly $200 Billion of Value in One Afternoon*, Fortune (Feb. 2, 2022, 8:33 PM), https://fortune.com/2022/02/02/facebook-lost-200-billion-in-market-value-earnings/.

strong returns for its initial shareholders over time.[8] This instability might give investors pause as they wait for the other shoe to drop. However, not all shareholders at Facebook are created equally. Due to its dual share corporate structure, CEO Mark Zuckerberg is essentially able to dictate all decisions at the company even though it remains publicly traded. This structure creates a situation whereby changes to company policy and tactics are futile, even if a plurality of the shareholders vote against the current direction of the company. This paper aims to explore the ways by which transformation could occur at Facebook in light of the dual class structure, taking a page out of stakeholder models of governance, SEC proposals, and Congressional propositions.

The slogan at Facebook, touted by CEO Mark Zuckerberg, is "move fast and break things."[9] While this disruptor mentality is prevalent in Silicon Valley, it does not necessarily lend itself to social media companies practicing the best methods when it comes to protecting their users and other stakeholders regardless of share price. There have been multiple proposals inside the company to change the way the Facebook algorithms work.[10] Additionally, there have been proposals by shareholders to change the governance structure of the company.[11] None of these have been followed. The reason that Facebook gives for the rejection of these proposals is that it could face trouble from its shareholders if it institutes a more stakeholder friendly corporate model that leads to a decline in its share price.[12] Even Frances Haugen admits:

> "I think it's important to understand that companies work within the incentives and the context they're given. I think today Facebook is scared that .... they might get a shareholder lawsuit. . . . [T]hey have a fiduciary duty to maximize shareholder value. . . . [W]hen they're given these little choices between 5% more misinformation or 10% more misinformation and 1% [growth] of sessions, they choose sessions and growth over and over again."[13]

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[8] *Id.*; Trefis Team, *Up 290% Since The Start Of 2023, Where Is Meta Platforms Stock Headed?* (Feb. 9, 2024, 9:00 AM), https://www.forbes.com/sites/greatspeculations/2024/02/09/up-290-since-the-start-of-2023-where-is-meta-platforms-stock-headed/?sh=305c81297b48

[9] *Meta for Education*, FACEBOOK, https://www.facebook.com/MetaforEducation/photos/a.344591650271/10155896703835272 (last visited Jan. 30, 2022). However, it should be noted that Facebook comments that this message really means to, "keep trying, make mistakes, and fix the mistakes—this is learning!" It is clear that they are not heeding their own advice.

[10] Explained further *infra*, Section III.

[11] Also explained further *infra*, Section III.

[12] As I explain later in the paper, this reason is unfounded.

[13] *Facebook Whistleblower Testifies Before UK Parliament Committee*, C-SPAN (Oct. 25, 2021),

However, if shareholders try to institute change at Facebook, they will face an uphill battle due to the fact that Facebook has dual class stocks, and Zuckerberg owns the biggest block of voting shares.[14] Every potential proposal to change the business model of Facebook or the governance structure of the company has to first come across Mark Zuckerberg's desk and be approved by him. In a situation like this, what does "shareholder primacy" really mean, and is there a route for minority shareholders to change the way Facebook is currently run? Further, what is the utility of keeping dual class voting stocks, and is this governance model good for shareholder democracy?

In this note, I will explain how minority Facebook shareholders – making up the plurality of shareholders – currently have no power over the company, and how Mark Zuckerberg is able to act with impunity. I propose a solution taken from new scholarship relating to corporate climate disclosure. This story plays out similarly at other companies that also have a dual class stock system. In Part I, I will provide background about Facebook's algorithm and how it drives engagement. I will also outline the ways that Facebook's algorithm falls short and ends up producing harm to several communities worldwide for which Facebook should be responsible and should be internalized by the company's bottom line. In Part II, I will give some background to the current debate between the stakeholder and shareholder governance models as well as argue for the importance of Facebook embracing ESG (Environmental, Social, and Governance) standards to actualize its value. In Part III, I will discuss Facebook's current dual-stock stock governance model and how it fails to promote shareholder democracy. Finally, in the conclusion, I will touch on some potential solutions, including the possibility of adding a sunset clause to the dual stock make up of Facebook, and also note SEC-lead efforts in the ESG space to provide greater disclosures to investors. In this final section, I will discuss how trade secret and corporate law needs to be taken into account when creating legislation. Can a method be devised so that profits at Facebook need not come at the expense of public interest and its own users?

I. BACKGROUND

A. Facebook Algorithm – Engaging Users and Meaningful Social Interactions

Facebook is one of many social media platforms. All platforms employ some type of algorithm to dictate what shows up on a person's internet feed. The algorithms exist either to bring content to the user or to shield them from

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https://www.c-span.org/video/?515522-1/facebook-whistleblower-testifies-uk-parliament-committee.

[14] Alison Durkee, *Facebook Investors Begin to Revolt Against Mark Zuckerberg*, VANITY FAIR (June 4, 2019), https://www.vanityfair.com/news/2019/06/facebook-investors-revolt-against-mark-zuckerberg. "Zuckerberg, the company's majority shareholder who holds 75% of Facebook's Class B stock, controls 58% of Facebook's vote."

content that goes against a set of community guidelines. Facebook's parent company Meta owns Facebook, Instagram, and WhatsApp.

Facebook's stated mission is to "make the world more open and connected."[15] To do this, they "build products that support [their] mission by creating utility for users, developers, and advertisers." [16]

Facebook's algorithm has undergone many changes over the years. When Facebook first started, a user could only log onto their own profile, which they could personalize, and had to manually look up another user's profile.[17] Over the years, Facebook has changed to try and increase "engagement-based rankings," which exist to "determine where pieces of content are placed on your feed to try and maximize engagement."[18] In the process, they added a news feed, "likes" and reactions (love, anger, sad, shocked/surprised, and funny), and attempted to "gauge the likelihood that a user will highly rate a post or. . . . will interact with a post by liking, commenting, or sharing."[19] In March 2017, Facebook decided to weigh reactions more than likes, regardless of the content or source of the post.[20] As a result, posts that elicited more "angry" or "sad" reactions were shown to users more frequently.[21]

The biggest change to the algorithm came in January 2018, when Facebook decided to focus on "meaningful social interactions" or MSI.[22] The stated purpose of this change was to allow users to see more posts from family and friends, in order for them to actively engage with these posts, as opposed to "passively consuming professionally produced content."[23] Facebook declared this would reduce the amount of time people spent on the platform, but forged ahead anyway, believing this would be better for user's mental health. While this was the stated reason, engagement was already down across the platform so the weighting change might have been a response to see if engagement would actually go up.[24] This new algorithm prioritized posts with comments and reactions over likes and views.[25] The more a post was able to generate reactions as well as consistent and longer comments, the more likely it would

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15 Facebook, Inc., Registration Statement at 42 (Form S-1) (Feb. 1, 2012), https://www.sec.gov/Archives/edgar/data/1326801/000119312512034517/d287954ds1.htm.

16 *Id.*

17 *Facebook News Feed Algorithm History*, WALLAROO, https://wallaroomedia.com/facebook-newsfeed-algorithm-history/ (last visited Jan. 30, 2022) [https://perma.cc/9BK5-QS7A].

18 Isobel Asher Hamilton, *How to Switch Your Facebook Feed to a Chronological Timeline*, BUS. INSIDER (Jan. 9, 2022, 10:10 AM), https://www.businessinsider.com/facebook-social-media-switch-feed-chronological-timeline-2021-11.

19 *Facebook News Feed Algorithm History*, *supra* note 16.

20 *Id.*

21 *See Id.*

22 *Id.*

23 Hagey & Horwitz, *supra*, note 5.

24 *Id.*

25 *Id.*

show up on a person's feed.[26] What started as a mode to allow users to engage with their own network was quickly hijacked by corporate and political forces; these groups had an incentive to create content that they believed would elicit strong emotional reactions, usually anger, as this would drive traffic to their own platform.[27] Haugen and Jeff Horwitz at the *Wall Street Journal* also speculated that employee bonuses were tied to increasing MSI as this was an easy correspondence for calculating user attention, which would result in being able to sell ad-space on Facebook. [28] This metric became central to the operations at Facebook. What is clear from the "hundred[s of] pages on how downstream MSI expand[ed] hate speech, misinformation, violence inciting content, [and] graphic violent content" is that Facebook knew about these harms and nevertheless did not disclose this information to its investors or its public user base.[29] Had investors known about these decisions, it is quite possible that they would not have invested as heavily in Facebook.

B. Facebook Harms: Mental Health, Disinformation, Global Violence

One of the biggest issues with writing about harms is quantifying them in a way that actually affects the bottom line at the company. It is often difficult to assess non-monetary harms, especially when trying to connect each instance or lack of action to a reduction in the value of a company. From a socially conscious perspective, shareholders might not want to invest in companies that go against their own values, and they might find utility in ESG factors. From a cynical perspective, shareholders might only care when negative information gets leaked as this usually accompanies a downturn in share price.[30] The Bloomberg columnist Matt Levine often writes that "everything is securities fraud" – shareholders could sue either because the company did not timely disclose something that would affect its share price or because the company "failed to disclose the conditions and vulnerabilities that allowed the bad thing to happen." [31] This could range from global warming, to sexual harassment by executives, to customer data breaches, to even the mistreatment of killer whales.[32] Here, Facebook shareholders could potentially have a securities fraud case if the managers of the company knew about the harms that were transpiring on their platform and did not disclose this to the shareholders.

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26 *See Id.*

27 *Id.*

28 *Children & Social Media Use*, *supra* note 1.

29 *Id.*

30 As seen in our example at hand.

31 Matt Levine, *Everything Everywhere is Securities Fraud,* BLOOMBERG OPINION (June 26, 2019 12:01 PM), https://www.bloomberg.com/opinion/articles/2019-06-26/everything-everywhere-is-securities-fraud.

32 *Id.*; These examples relating to suits against Exxon, Santander, Facebook, and SeaWorld, respectively.

It is important to review the most egregious harms that Facebook is accused of permitting to be carried out on its site. Whether it is through the negative impacts on the psyche of teenagers or the spread of disinformation in the US and around the world, the Facebook leaks have shown that the company knew about these harms and yet failed to prevent them when they possessed the capabilities to do so.

1. Effect on Mental Health

Facebook's own internal data showed that teenage girls using Instagram felt worse about their bodies when using the platform.[33] In one study of teens in the U.S. and U.K., Facebook found that more than 40% of Instagram users who reported feeling "unattractive" said the feeling began on the platform.[34] With the prevalence of social media, children might not be able to leave their insecurities or bullying at school. Among those users that had suicidal thoughts, "13% of British users and 6% of American users traced the desire to kill themselves to Instagram."[35] In response to these findings, Facebook's internal researchers recommended that "Instagram should reduce exposure to celebrity content about fashion, beauty and relationships, while increasing exposure to content from close friends, according to a slide deck they uploaded to Facebook's internal message board."[36] However, the executives at Facebook shot down this suggestion, with an unnamed executive questioning the idea of overhauling Instagram to avoid social comparison saying, "people use Instagram because it's a competition."[37]

Facebook not only affects the mental health of teenage uses, but also that of older users, where "Facebook researchers have found that 1 in 8 of its users report engaging in compulsive use of social media that impacts their sleep, work, parenting or relationships."[38] This equates to around 360 million people worldwide out of more than 2.9 billion users.[39] About 10% of users in the U.S exhibit this behavior, while in India, the company's largest market, the figure is closer to 25%.[40]

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33 Georgia Wells, Jeff Horwitz, & Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls, Company Documents Show*, WALL ST. J. (Sept. 14, 2021, 7:59 AM), https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739.

34 *Id.*

35 *Id*

36 *Id.*

37 *Id.*

38 Georgia Wells, Deepa Seetharaman & Jeff Horwitz, *Is Facebook Bad for You? It is for About 360 Million Users, Company Survey Suggests*, WALL ST. J. (Nov. 5, 2021, 11:09 AM), https://www.wsj.com/articles/facebook-bad-for-you-360-million-users-say-yes-company-documents-facebook-files-11636124681.

39 *Id.*

40 *Id.*

Zuckerberg defended Facebook's effect on social structures, claiming, "the research that we've seen is that using social apps to connect with other people can have positive mental-health benefits," at a congressional hearing in March 2021 when asked about children and mental health.[41] Facebook later tried to discredit the leaked documents by claiming that the studies were "designed to help its product teams understand how users feel about the products, 'not to provide measures of prevalence, statistical estimates for the correlation between Instagram and mental health or to evaluate causal claims between Instagram and health/well-being.'"[42] While it might be the case that these studies were based on the subjective experiences of randomly selected users, other researchers have studied the effect of social media on mental health. Melissa Hunt, a clinical researcher at the University of Pennsylvania, ran a study on undergraduate social media users comparing the mental health of those who carried out their normal use with students who were required to limit their use.[43] By the end of the three-week study, "the group that limited their use reported fewer feelings of loneliness and depression compared with the group that kept using social media as normal."[44]

Even if the studies that Haugen released were inconclusive, they should have presented a cause for alarm or inspired Facebook to do more formal research into their impact on mental health. Some experts believe that they have the data to carry out this research already.[45] There is no reason to withhold the data if it actually is beneficial to users. As a result, more likely, it seems that this is not the case. Withholding this information also potentially artificially inflates the share price of Facebook if shareholders would not want to hold stock in a company causing this type of harm.

2. The Spread of Misinformation

Facebook has been blamed for the spread of misinformation. Facebook says that it does not remove false news but puts it lower in News Feeds in order to help people stay informed without "stifling productive public discourse."[46]

In November 2020, after employees presented Mark Zuckerberg with statistics showing the widespread reach of viral, election-related misinformation, the company increased a focus on "news ecosystem quality" scores, or NEQ, which weigh the credibility and quality of news publishers and

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41 Wells et. al. *supra* note 32.

42 Nicole Wetsman, *Facebook Isn't Telling the Whole Story About Its Mental Health Research*, THE VERGE (Oct. 28, 2021, 10:00 AM), https://www.theverge.com/2021/10/28/22749357/facebook-mental-health-research-tobacco.

43 *Id.*

44 *Id.*

45 *Id.*

46 *False News*, META: TRANSPARENCY CENTER, https://transparency.fb.com/policies/community-standards/false-news/ (last visited Jan. 30, 2022) [https://perma.cc/67CR-JMPG].

their reporting.[47] The emphasis on NEQ should have helped to ensure that authoritative and substantiated news stories are displayed more prominently in the News Feed, but remained only a temporary adjustment.[48] Some scholars disagree with the premise that "fake news" is bad since it can help promote the proliferation of ideas.[49] However, due to fact that it is sometimes harder to correct news and change the mind of someone who believed the false narrative, it seems like a necessary measure to try and stymie the flow of such news.[50] As an apocryphal quip often attributed to Mark Twain says, "a lie can travel halfway around the world while the truth is still putting its shoes on."[51] As a result, Facebook's inaction on this issue is troublesome as a potential harm to shareholders.

3. Global Violence and Extremism

There is also a global, non-US perspective at play here as well. Facebook relies heavily on its continued growth of users outside of the US. As a result, it will have to contend with questions it faces about how it deals with violence and extremism around the world.

Facebook claims that it removes content, disables accounts, and works with local law enforcement when it believes that there is a "genuine risk of physical harm or direct threats to public safety."[52] On its community standards page, Facebook has an elaborate system detailing how it deals with "dangerous organizations and individuals" by sorting them into two tiers.[53]

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47 *Facebook News Feed Algorithm History*, *supra* note 16.

48 *Id.*

49 *See* Cass R. Sunstein, *Falsehoods and the First Amendment,* 33 HARVARD J. OF L. & TECH. 388 (2020).

50 *See* Peter Dizikes, *Study: On Twitter, False News Travels Faster Than True Stories*, MIT NEWS (Mar. 8, 2018), https://news.mit.edu/2018/study-twitter-false-news-travels-faster-true-stories-0308 [https://perma.cc/XY3F-PD5E].

51 Niraj Chokshi, *That Wasn't Mark Twain: How a Misquotation is Born*, N.Y. TIMES, April 26, 2017.

52 *Violence and Incitement*, META: TRANSPARENCY CENTER, https://transparency.fb.com/policies/community-standards/violence-incitement/ [https://perma.cc/N7VJ-JFUR].

53 *Dangerous Individuals and Organizations,* META: TRANSPARENCY CENTER, https://transparency.fb.com/policies/community-standards/dangerous-individuals-organizations/ [https://perma.cc/MD8L-6ABV?type=image]. Tier 1 results in the "most extensive enforcement" due to the belief that these entities have the "most direct ties to offline harm." If a group falls into Tier 1, Facebook will "remove glorification, support, and representation of Tier 1 entities as well as their leaders, founders, or prominent members" as well as not allowing praise or support of events that Facebooks designates are "violent events" or praise or support of the perpetrators of the events. Tier 2 focuses on entities that engage in violence against state or military actors but do not generally target civilians. Facebook removes glorification and representation of Tier 2 entities, but limits its removal of support to "material support." All support and representation is apparently removed, and praise of violent actions is removed as well.

With all this power to define entities and to act on that designation, Facebook has some control over situations where violence is threatened. However, Haugen has claimed that "87% of the spending on combating misinformation at Facebook is spent on English content, while only 9% of users are English speakers," which highlights that Facebook is not allocating its resources in the best manner to prevent worldwide violence.[54] Below, I describe how conflicts in Ethiopia, Myanmar, and India were made worse through Facebook's faulty algorithm.

Although Facebook ranked Ethiopia as the highest priority tier for "countries at risk of conflict," internal documents showed that their moderation efforts did not prevent the outpouring of inflammatory content.[55] Facebook observed a cluster of accounts affiliated with the militia group, Fano, using the platform to "seed calls for violence."[56] Facebook internally commented that Fano had an "established violence and criminal record" as well as committed "human rights violations."[57] Facebook said that while they recommended the Fano-affiliated network be removed from their site, they feared that "other bad actors promoting violence on its platform were simultaneously slipping through the cracks."[58] This recommendation by the team was not heeded and the posts by Fano and other extremist groups continued, leading to the spread of more violence.[59]

"About half of Myanmar's population of 53 million use Facebook, with many relying on the site as their primary source of news."[60] In 2021, the Rohingya population of the country sued Facebook for $150 billion, claiming that the platform "promoted violence against the persecuted minority."[61] An investigation by the rights group Global found "that Facebook's algorithm was promoting posts in breach of its own policies that incited violence against protesters marching against the coup launched by the military in February."[62] To

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54 Dan Milmo, *Rohingya Sue Facebook for £150bn Over Myanmar Genocide*, THE GUARDIAN (Dec. 6, 2021, 12:03 PM), https://www.theguardian.com/technology/2021/dec/06/rohingya-sue-facebook-myanmar-genocide-us-uk-legal-action-social-media-violence.

55 Eliza Mackintosh, *Facebook Knew It Was Being Used to Incite Violence in Ethiopia. It Did Little to Stop the Spread, Documents Show*, CNN BUSINESS (Oct. 25, 2021, 11:25 AM), https://www.cnn.com/2021/10/25/business/ethiopia-violence-facebook-papers-cmd-intl/index.html [https://perma.cc/EPE6-TND7].

56 *Id.*

57 *Id.*

58 *Id.*

59 *See Id.*

60 Emmanuel Akinwotu, *Facebook's Role in Myanmar and Ethiopia Under New Scrutiny*, THE GUARDIAN (Oct. 7, 2021), https://www.theguardian.com/technology/2021/oct/07/facebooks-role-in-myanmar-and-ethiopia-under-new-scrutiny [https://perma.cc/9GJE-4DT7].

61 *Rohingya Sue Facebook for $150bn Over Myanmar Hate Speech*, BBC NEWS (Dec. 7, 2021), https://www.bbc.com/news/world-asia-59558090 [https://perma.cc/AN7C-TKM6].

62 Akinwotu, *supra* note 59.

test this theory, researchers created new accounts and innocuously liked a Myanmar military fan page, which was not seen as violating Facebook's terms by itself.[63] However, they soon found that Facebook started to suggest several pro-military pages that contained abusive content.[64] The abusive content was the type of content used to incite violence against the Rohingya. Facebook commissioned an independent investigation to investigate the matter which confirmed that the site had been used to provoke offline violence.[65]

"With 340 million people using Facebook's platforms, India is the company's largest market."[66] As a result, any action that threatens Facebook's operations in India could be met with a severe decline in users across their platform. India has already banned TikTok from the country, and is in the midst of passing their own national data privacy law.[67]

India is Facebook's largest market, with over 340 million active users.[68] Many of the hate-filled posts on Facebook that gained traction were in Hindi, which for a time was not properly captured by the regular content moderation controls at the social media network.[69] According to internal documents, much of the content against Muslims is never even flagged due to language barriers.[70] "Rumors and calls to violence spread particularly on Facebook's WhatsApp messaging service in late February 2020, which led to "communal violence in Delhi leaving fifty-three dead."[71] Additionally, while there has been a rise of bots in India that spread hateful messages on Facebook, internal research documents from Facebook disclose that many of these bots were not detected

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63 *Id.*

64 *Id.*

65 *Id.*

66 Sheera Frenkel & Davey Alba, *In India, Facebook Grapples With an Amplified Version of Its Problems*, N.Y. TIMES (Oct. 23, 2021), https://www.nytimes.com/2021/10/23/technology/facebook-india-misinformation.html.

67 Siladitya Ray, *India Bans TikTok, 58 Other Chinese Apps, Citing Security Concerns*, FORBES (Jan. 29, 2020. 4:03 PM), https://www.forbes.com/sites/siladityaray/2020/06/29/india-bans-tiktok-58-other-chinese-apps-citing-security-concerns/?sh=698f9e787e60.; *India Proposes Digital Personal Data Protection Act 2022*, IAPP (Nov. 18, 2022), https://iapp.org/news/a/india-proposes-digital-personal-data-protection-act-2022 [https://perma.cc/93SD-FHTL].

68 Frenkel & Alba, *supra* note 65.

69 *How Facebook Left an Indian User to Read More Fake News, Hate Speech in 21 Days*, THE HINDU: BUSINESS LINE (Oct. 25, 2021, 2:06 PM), https://www.thehindubusinessline.com/info-tech/social-media/how-facebook-led-an-indian-user-to-read-more-fake-news-hate-speech-in-21-days/article37156877.ece [https://perma.cc/28L7-LT47].

70 Frenkel & Alba, *supra* note 65.

71 Newley Purnell & Jeff Horwitz, *Facebook Services are used to Spread Religious Hatred in India, Internal Documents Show*, WALL ST. J. (Oct. 23, 2021, 3:12 PM), https://www.wsj.com/articles/facebook-services-are-used-to-spread-religious-hatred-in-india-internal-documents-show-11635016354.

and removed before posting their vicious content.[72] The documents note that there are pages "replete with inflammatory and misleading anti-Muslim content" connected to the right-wing/nationalist group, "Rashtriya Swayamsevak Sangh," (RSS) which has close ties to India's current ruling party the Bharatiya Janata Party (BJP).[73] Facebook was hesitant to designate the group among the Tiered system because of "political sensitivities" that could affect the social network's operation in the country.[74] As a result, Facebook groups connected to the RSS were left alone, and the posts remained up, leading to more violence. [75]

II. The Argument for a Stakeholder Model

Before examining Haugen leaks which disclose the harms that Facebook assisted with and knew about, it will be important to assess why investors might care about negative actions caused by the companies they invest in.

There has been a push for companies to be the first responders to the negative externalities that they create.[76] When this occurs, it is imperative that they consider other stakeholder interests beyond just shareholders. In this section, I compare the concept of shareholder primacy, which is usually influenced by short-term increases in share price, with the stakeholder model of governance, which considers factors external to share price. Next, I examine how a focus on ESG factors could allow Facebook to escape liability in a shareholder lawsuit. This will set the stage for the following section where I examine actual measures that could be implemented to change practices at Facebook.

A. "Shareholder Primacy" vs. the Stakeholder Model

In 1932, Adolf Berle and Gardiner Means published their book *The Modern Corporation and Private Property*. The pair believed the issue with the corporate form was the "separation of ownership and control" where the shareholders were the owners while the managers controlled the day-to-day operations of the corporation. Managers are "tempted to use their power to enrich themselves rather than their shareholders."[77] At the same time, they argued that "if we look to companies to fix society's ills, we grant them too much power and influence, and the glow of benevolence might shield them from scrutiny."[78] In 1970, Milton Friedman reflected this point-of-view in his aptly titled article, "The Social Responsibility of Business is to Increase Its

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72 *See* Frenkel & Alba, *supra* note 65.
73 *Id.*
74 *Id.*
75 *See Id.*
76 *See infra* Section III.A.
77 Thomas W. Joo, *Race, Corporate Law, and Shareholder Value*, 54 J. of Legal Educ. 351, 352 (2004).
78 Siva Vaidhyanathan, Antisocial Media 114 (2018).

Profits."[79] In this article, Friedman argues that any decision the manager of a company makes that is purely directed at social means is antithetical to corporate governance since the manager is not the real owner of the company, and is merely the agent of the shareholder.[80] Friedman argued that if the managers prioritize "social good" over financial returns, it is likely that the shareholders will fire them.[81] As a result, "the core. . . . duty of a publicly traded company [is] to enhance the shareholder value."[82]

In Delaware, where Facebook is incorporated, the managerial powers of the directors of a corporation are guarded by the "business judgment rule." This rule is "a presumption that in making a business decision, the directors of a corporation acted on an informed basis, in good faith and in the honest belief that the action taken was in the best interests of the company."[83] When it comes to running the daily operations of the business, the directors are given significant leeway. Many companies have a controlling shareholder, who owns "a significant fraction of the firm's case-flow rights," allowing them to dictate policies even if they temporarily divert the value of the business.[84]

However, certain scholars debate the idea of shareholder primacy.[85] In the 1980s, Edward Freeman developed the theory of "stakeholder" primacy.[86] A stakeholder is a broad term for any party that "has an interest in a company and can either affect or be affected by the business."[87] While this usually describes the employees and customers or users of a company, it also encapsulates

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79 *See* Milton Friedman, *A Friedman Doctrine – The Social Responsibility of Business Is to Increase Its Profits*, N.Y. TIMES (Sept. 13, 1970), https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html.

80 *Id.*

81 See *Id.*

82 VAIDHYANATHAN, *supra* note 77 at 116.

83 *Smith v. Van Gorkom*, 488 A.2d 858, 872 (Del. 1985).

84 Lucian A. Bebchuk & Assaf Hamdani, *Independent Directors and Controlling Shareholders*, 165 U. PA. L. REV. 1271, 1279-80 (2017).

85 *See, e.g.,* David Rönnegard & N. Craig Smith, *The Law as Constraint and Potential Enabler of Stakeholder Concern*, *in* THE CAMBRIDGE HANDBOOK OF STAKEHOLDER THEORY 117-131 (Jeffrey S. Harrison, Jay. B. Barney, R. Edward Freeman & Robert A. Philips ed., 2019); *see also* Dennis Jaffe, *From Shareholder Primacy to Stakeholder Primacy: How Family Businesses Lead the Way*, FORBES (Feb. 24, 2021, 1:23 PM), https://www.forbes.com/sites/dennisjaffe/2021/02/24/from-shareholder-primacy-to-stakeholder-primacy-how-family-businesses-lead-the-way/?sh=5c35f9dc21ed [https://perma.cc/G4HW-E96S]; *see also* Cydney Posner, *So Long to Shareholder Primacy*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (Aug. 22, 2019) https://corpgov.law.harvard.edu/2019/08/22/so-long-to-shareholder-primacy/ [https://perma.cc/8YGN-6XT9].

86 James A. Stieb, *Assessing Freeman's Stakeholder Theory*, 87 J. OF BUS. ETHICS, 401 (2009).

87 Jason Fernando, *What Are Stakeholders: Definition, Types, and Examples* (Mar. 7, 2023), https://www.investopedia.com/terms/s/stakeholder.asp [https://perma.cc/PRK6-MFUU].

investors and could be broadly defined to encapsulate any member of the greater public affected by a company.[88] Freeman posited that corporations can serve their various constituents better over the long term if they work to mediate among distinct parties, convincing each that they would be respected and that the corporation cared about their interests."[89] Lynn Stout looked at Delaware (home to Facebook) case law to claim that "courts regularly allow corporate directors to make business decisions that harm shareholders in order to benefit other corporate constituencies."[90] Stout even claims that the Delaware Supreme Court has dialed back their application of *Revlon*, the premier case on share price primacy, describing that "[w]hen the pursuit of shareholder profits imposes greater costs on third parties (for instance, customers, employees, or the environment) that are not fully constrained by law, shareholder wealth maximization becomes undesirable, at least from a social perspective."[91] This means that corporations considering factors outside of share price could attempt to limit the externalities on other members of society. However, the corporation still needs to justify their actions to their shareholders as a preventative measure against lawsuits.

In his 2022 letter to CEOs entitled "The Power of Capitalism," Blackrock's CEO Larry Fink describes how the stakeholder model is important because it can bring benefits to shareholders in the long run.

> "In today's globally interconnected world, a company must create value for and be valued by its full range of stakeholders in order to deliver long-term value for its shareholders. It is through effective stakeholder capitalism that capital is efficiently allocated, companies achieve durable profitability, and value is created and sustained over the long-term. Make no mistake, the fair pursuit of profit is still what animates markets; and long-term profitability is the measure by which markets will ultimately determine your company's success."[92]

In this way, the stakeholder model might actually be a better forecast for the true value of a company, and thus could align with a shareholder model. Several companies have already instituted a version of the stakeholder model of governance, especially in how they address environmental or governance concerns. For example, Patagonia protects migrant workers, chooses suppliers

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88 *Id.*

89 *See* VAIDHYANATHAN, *supra* note 77.

90 Lynn A. Stout, *Why We Should Stop Teaching* Dodge v. Ford, 3 VA. L. & BUS. REV. 164, 170 (2008).

91 *Id.* at 174.

92 Larry Fink, *The Power of Capitalism*, BLACKROCK, https://www.blackrock.com/us/individual/2022-larry-fink-ceo-letter (2022) [https://perma.cc/827F-9UY2].

with reduced environmental footprints, and offers recycled and sustainable products.[93] eBay, on the other hand, tries to protect the work-life balance of its employees with the hope that happy employees will be more productive, and thus bolster their bottom line.[94]

One of the biggest criticisms for the stakeholder model is that without an "objective" indicator of the health of a company – like stock price – the company becomes more susceptible to external factors, including political lobbying.[95] In recent years, there has been a growth of people who argue that capitalism is being overcome by "wokeness."[96] However, this argument fails to comprehend that customers are increasingly looking to the values of a company as a gauge for the company's value, not just the products or services that the company provides.[97]

B. Adoption of ESG Metrics at Facebook

In order to establish the long term and durable nature of measures that will benefit both shareholders and stakeholders, Facebook could adopt a more ESG-oriented approach. ESG's "environment, social, and governance" criteria now supplement other types of financial analysis a company must execute when devising a business plan. While many cases have focused on the "environmental" factor (due to efforts by investors to try and prevent fossil fuel companies from polluting), "social" and "governance" factors are highly

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[93] *See, e.g.,* Patagonia, MIGRANT WORKER: EMPLOYMENT STANDARDS & IMPLEMENTATION GUIDANCE, (Nov. 1, 2020), https://www.patagonia.com/static/on/demandware.static/-/Library-Sites-PatagoniaShared/default/dwd52f9d06/PDF-US/Patagonia-Migrant-Worker-Employment-Standards-V2-0-English.pdf.

[94] *See eBay: Improving Stakeholder Management*, SLALOM, https://prev.slalom.com/case-studies/ebay-employee-workload-dashboard [https://perma.cc/G75K-VY2L].

[95] *Stakeholder Capitalism: Pros, Cons, & Examples*, MANAGEMENT CONSULTED (Nov. 17, 2023), https://managementconsulted.com/stakeholder-capitalism/ [https://perma.cc/TQS8-SZF8].

[96] Andrew Winston, *ESG is Under Attack. How Should Your Company Respond?*, HARV. BUS. REV. (Dec. 22, 2023), https://hbr.org/2023/12/esg-is-under-attack-how-should-your-company-respond [https://perma.cc/83CT-ECKL].

[97] Ira Kay, Chris Brindisi, & Blaine Martin, *The Stakeholder Model and ESG*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (Sept. 14, 2020), https://corpgov.law.harvard.edu/2020/09/14/the-stakeholder-model-and-esg/ [https://perma.cc/8EKJ-QPTY].

relevant to the Facebook question.[98] These days, investors interested in ESG want more transparency on how companies may negatively affect society.

As a corporation, Facebook has a duty to its shareholders.[99] The argument against policies instituted for societal benefit is that Facebook might face a shareholder lawsuit if it takes an action that does not maximize share price.[100] However, the theory behind ESG investing is that by following ESG criteria [investors] may be able to avoid companies whose practices could signal a risk factor—as evidenced by Beyond Petroleum's (BP: formerly "British Petroleum") 2010 oil spill and Volkswagen's emissions scandal.[101] Both "rocked the companies' stock prices and resulted in billions of dollars in associated losses.".[102] Robert C. Clark labels this idea as "monism": that "a corporation's socially responsible actions will strengthen the bottom line in the long run even if they reduce profits in the short run."[103] Josh Zinner, the CEO of Interfaith Center on Corporate Responsibility, which represents nearly 300 institutional investors has pointed out while it is true that tech companies are doing well in terms of the value of their stock, the biggest concern for these institutional investors is "about the long-term sustainability of companies and their impact on society."[104]

Coupled with this is the fact that institutional investors want their portfolio as a whole to be strong.[105]

> For nine in 10 companies on the S&P 500, their largest single shareholder is one of the Big Three. For many, the big indexers control 20 percent or more of their shares. Index funds now

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98 *See* The Investopedia Team, *Environmental, Social, and Governance (ESG) Criteria*, INVESTOPEDIA (Feb. 6, 2024), https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp . ("Social criteria examine how the company manages relationships with employees, suppliers, customers, and the communities where it operates. Governance deals with a company's leadership, executive pay, audits, internal controls and shareholder rights.") [https://perma.cc/H5ZA-XV8L].

99 Stout, *supra* note 89 at 173. (As a corporation's residual claimants, "shareholders are entitled to all the 'residual' profits left over after the firm has met its fixed contractual obligations to employees, customers, and creditors.")

100 *See Air Products v. Airgas*, 16 A.3d 48, 49 (2011).

101 *See* The Investopedia Team, *supra* note 97.

102 *See Id*.

103 Joo, *supra* note 76 at 356.

104 Levi Sumagaysay, *Investors Want Change, but Founders Like Mark Zuckerberg Hold Them Off*, MARKETWATCH (Sept. 20, 2021, 7:03 AM), https://www.marketwatch.com/story/investors-want-change-but-founders-like-mark-zuckerberg-hold-them-off-11631876609 [https://perma.cc/HFB2-GH3M].

105 Annie Lowrey, *Could Index Funds Be 'Worse Than Marxism'?*, THE ATLANTIC (Apr. 5, 2021, 10:10 AM), https://www.theatlantic.com/ideas/archive/2021/04/the-autopilot-economy/618497/.

> control 20 to 30 percent of the American equities market, if not more.[106]

Universal owners (institutional investors with highly-diversified long term portfolios that are representative of global capital markets) have a complex relationship with their investment portfolio.[107] It is possible that their investment and proxy-strategy consider motivations from a "portfolio rather than a firm level."[108] As Madison Condon explains in her work on the subject,

> An owner whose portfolio success tracks the entire market should be motivated to curtail the negative externalities generated by some of the firms in its portfolio if the owner's share of the cost of elimination of the externality internalizing the externality are lower than its share of the benefits that accrue to the entire portfolio from the elimination of the externality.[109]

As universal owners of much of the marketplace, institutional investors might not care if one part of their portfolio makes less money in the long run either, as long as this strengthens their portfolio as a whole.[110] While the "Wall Street Walk" – by which investors make their views known by divesting – could portray a company as a bad investment, other tactics involve directing the actions of the business.[111] This could range from investing more in green energy to even purchasing oil in order to keep it from being used. This has played out at various oil and energy companies including Exxon. Faced with the fear that a climate crisis could wreak havoc on society, affecting the market in its entirety, institutional investors like BlackRock and Vanguard decided to support proxy measures to force oil companies to provide more transparency about their action.[112]

Similarly, long term investors at Facebook might realize that investing in a company that is shown to weaken American democracy and flame global

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106 *Id.*

107 UNEP Finance Initiative, UNIVERSAL OWNERSHIP: WHY ENVIRONMENTAL EXTERNALITIES MATTER TO INSTITUTIONAL INVESTORS 9 (2011).

108 Madison Condon, *Externalities and the Common Owner*, 95 WASH. L. REV. 1, 5 (2020).

109 *Id.,* at 16.

110 Rachel Evans et al., *BlackRock and Vanguard are Less than a Decade Away from Managing $20 Trillion*, BLOOMBERG (Dec. 4, 2017, 5:00 AM), https://www.bloomberg.com/news/features/2017-12-04/blackrock-and-vanguard-s-20-trillion-future-is-closer-than-you-think.

111 *Id*.

112 Matt Philips, *Exxon's Board Defeat Signals the Rise of Social-Good Activists*, THE NEW YORK TIMES (June 9, 2021), https://www.nytimes.com/2021/06/09/business/exxon-mobil-engine-no1-activist.html.

violence might be a bad investment for their whole portfolio. Taken to its extreme, if there is no society as we know to operate in, ravaged by distrust and violence caused by social media, then there is no market for investments. Furthermore, even in the short term, investors may feel uneasy investing in Facebook out of fear that another PR scandal could be right around the corner.[113] Facebook user count has gone down for the first time in the history of the platform, and there was a steep drop in Facebook's share price right after the Haugen leaks.[114] Investors lose money when these drops occur.

Currently, Facebook (combined with Instagram) is the most popular social media platform globally.[115] However, Facebook's revenue and stock price could potentially take a hit if advertisers decide to move off the platform given the reduction in users caused by harm or leaks about harms. As a result, Facebook's trade-off between user well-being and the success of its business could see itself finally coming to a head.

III. Dual Class Stocks are Bad for Corporate Democracy

Shareholders could argue that a drop in daily users and share price since the publication of the *Facebook Files* would be enough evidence to try and force Facebook's managers to revise their model. They might also argue that the actions taken by Facebook could result in a higher lawsuit risk, which also drives down the share price. Various teams at Facebook have attempted to put forward plans to fix its algorithm. One team that focused on "user well-being" suggested a range of fixes, which the company implemented, building in optional features to encourage breaks from social media and to decrease the notifications that can serve as a lure to bring people back to the platform.[116]

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113 Indeed, in October 2023, a bipartisan coalition of forty-two attorneys general from across the country filed lawsuits against Meta for "unfair and deceptive practices" that targeted and harmed young people. These AGs argue that the apps are purposefully designed to addict young users and that the companies frequently attempt to deceiving the public about the dangers posed to young people by overuse of the apps, even when they contain information about this harm. Molly McGlynn, *AG Campbell Files Lawsuit Against Meta, Instagram For Unfair and Deceptive Practices that Harm Young People*, Ma. Off. of the Att'y Gen. (Oct. 24, 2023), https://www.mass.gov/news/ag-campbell-files-lawsuit-against-meta-instagram-for-unfair-and-deceptive-practices-that-harm-young-people [https://perma.cc/FA8L-GHXH].

114 Robert Hart, *Facebook Loses Daily Active Users for the First Time - Here's Where They're Going*, Forbes (Feb. 3, 2022, 2:05 PM), https://www.forbes.com/sites/roberthart/2022/02/03/facebook-loses-daily-active-users-for-the-first-time--heres-where-theyre-going/; Ben Smith, *Inside the Big Facebook Leak*, N.Y. Times (Oct. 24, 2021), https://www.nytimes.com/2021/10/24/business/media/facebook-leak-frances-haugen.html.

115 *Most Popular Social Networks Worldwide as of January 2022, Ranked by Number of Monthly Active Users,* Statista (Mar. 8, 2022), https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/.

116 Wells, *supra* note 37.

These methods are called "soft interventions" since they provide a nudge to get people off their devices rather than forcibly removing them.[117] In late 2019, Facebook shut the team down, turning content moderation decisions over to the more engineering-focused teams.[118]

Facebook used to also have an "integrity team" whose purpose was to determine negative outcomes resulting from the implementation of changes with the algorithm. These data scientists found that implementing measures which would make it less likely that a user would re-share a post about "civic or health information" helped reduce the spread of false content.[119] When the team wanted to expand this measure to content beyond just civic and health content, Zuckerberg rejected this idea since he did not want to reduce user engagement across the platform.[120] Other proposals were shot down out of concern that the changes would be perceived as affecting one political party more than another.[121] The reason to shoot down these proposals might be to avoid regulation by a party in power, or to encourage stalemate in Congress. "One cynical joke among members of the civic-integrity team was that they spent 10% of their time coding and the other 90% arguing that the code they wrote should be allowed to run."[122]

Currently, Facebook has an "advisory board" made up of independent internet-safety experts from around the world who suggested measures that Facebook can implement to protect their users from a negative experience on the platform.[123] However, this board was kept uninformed and powerless by Facebook's executives – "the company hadn't shared its research into Instagram's effects on teen girls, nor had it disclosed the relatively small amount of resources committed to protect users in developing countries."[124] As a result, any recommendations from the board were uninformed and toothless.

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117 Hannah Towey, *Facebook Whistleblower Lists 4 Actions She Would Take if She Was in Mark Zuckerberg's Place*, BUS. INSIDER (Oct. 5, 2021, 12:39 PM), https://www.businessinsider.com/facebook-whistleblower-things-mark-zuckerberg-should-change-2021-10.

118 Wells, *supra* note 37.

119 Hagey & Horwitz, *supra* note 5.

120 *Id.*

121 Jeff Horwitz & Deepa Seetharaman, *Facebook Executives Shut Down Efforts to Make the Site Less Divisive*, WALL ST. J. (May 26, 2020, 11:38 AM), https://www.wsj.com/articles/facebook-knows-it-encourages-division-top-executives-nixed-solutions-11590507499.

122 Billy Perrigo, *How Facebook Forced a Reckoning by Shutting Down the Team That Put People Ahead of Profits*, TIME (October 7, 2021 11:35 AM), https://time.com/6104899/facebook-reckoning-frances-haugen/.

123 Keach Hagey, Georgia Wells, Emily Glazer, Deepa Seetharaman, & Jeff Horwitz, *Facebook's Pushback: Stem the Leaks, Spin the Politics, Don't Say Sorry*, WALL ST. J. (Dec. 29, 2021, 10:14 AM), https://www.wsj.com/articles/facebook-whistleblower-pushback-political-spin-zuckerberg-11640786831.

124 *Id.*

It is clear that internal mechanisms purely influenced by growth of users, and aimed at increasing share price, cannot be the source of positive social change at Facebook. Frances Haugen claims that Facebook "is being led by metrics, not led by people," where "the metrics make the decisions."[125] But what if Facebook's shareholders also want to enact change?

In this section, I will examine how Facebook's corporate structure make it nearly impossible for non-executive and non-founder shareholders to shape the governance at Facebook. I will begin by discussing corporate democracy. I will then highlight the rise of dual class stock structures, especially among tech companies. Finally, I will describe how this system is implemented at Facebook.

A. What is Corporate Democracy?

Corporate democracy is a slightly amorphous topic dealing with the rights of shareholders. To some, this means upholding the "one share, one vote" mechanism.[126] Implementing a system in which shareholders have no feasible way to allay their concerns could be seen as antithetical to this account of corporate democracy. The dual class stock system employed at Facebook could be seen as undermining corporate democracy. BlackRock has gone on the record multiple times saying that it hopes to push Facebook towards a "one share, one vote" system. However, in their *Voting Bulletin* for Facebook, they acknowledge that the system "is not likely to affect a change in approach by the company given our vote is diluted under the current dual class structure. Nonetheless, we believe it is important to send a clear signal that proportionate voting rights are, in our view, integral to good governance and accountability."[127] Other investors have voiced their opinion on the matter. In fact, the proposal that received the greatest number of outside votes in 2021

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[125] Robin Givhan, *The Whistleblower Came to Advocate for Humans Over Algorithms*, WASH. POST (Oct. 5, 2021, 7:44 PM), https://www.washingtonpost.com/nation/2021/10/05/whistleblower-came-advocate-humans-over-algorithms/.

[126] This has been implemented in various ways. In *Schnell v. Chris-Craft Industries*, the Supreme Court of Delaware held that directors changing the date of the annual meeting of stockholders carried out for inequitable purposes was "contrary to established principles of corporate democracy" and thus the date had to be reverted. 285 A.2d 437 (Del. 1971). The directors desired to advance the date of the stockholder meeting to try and prevent a proxy contest that would potentially unseat some of the current board members. As a result, the court determined that this effort to "obstruct the legitimate efforts of dissident stockholders in the exercise of their rights" thwarted corporate democracy. *Id.* In *Airgas v. Air Products*, the Chancery Court determined that the Delaware General Corporate Law (DGCL) statute's provisions that prohibit corporations from waiting longer than thirteen months between meetings uphold shareholder democracy by "ensuring that stockholders have an opportunity to have their voices heard and to hold directors accountable." 27 A.3d 277 (Del. 2011).

[127] BlackRock, *Voting Bulletin: Facebook, Inc.,* INV. STEWARDSHIP GRP. (Jul. 2020), https://www.blackrock.com/corporate/literature/press-release/blk-vote-bulletin-facebook-jul-2020.pdf.

was "the one calling for Facebook to dump its dual-class stock structure, which got only 27.7% of the overall vote but 90% of the [Class A stock] vote."[128]

B. Dual Class Stocks Explained

A dual class system exists when a company issues two share classes that have different rights and privileges – usually "Class A" for the common stock, and "Class B" for the stock with more voting power.[129] The company retains the high-vote common stock for founders and early investors "to ensure they maintain control, even when they no longer own a majority of the company."[130] Importantly, shareholders are allowed to vote for the members of a board, which in turn determines the companies' C-Suite and policies. Shareholders are also allowed to bring direct policy measures they would like to be implemented to the board through a proxy battle, though these measures remain precatory – merely suggestive and not binding – even if reaching a majority of the shareholder vote.

John Coffee, director of the Center on Corporate Governance at Columbia University Law School, says that fear of takeovers from hedge funds, who are short-term focused, motivates the implementation of dual class shares.[131] As he puts it, "[e]ntrepreneurs have their vision and do not want activists to divert them from it."[132] When shareholders choose to invest in these companies, they do so because they believe in the founder's vision.[133] The examples range from media and communications companies arguing that the structure allows them to "remain committed to serious news coverage" to employee-owned companies who say that the system "creates a positive corporate culture with high employee morale and increased productivity."[134]

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128 Emily Stewart, *Mark Zuckerburg is Essentially Untouchable at Facebook,* Vox (Dec. 19, 2018), https://www.vox.com/technology/2018/11/19/18099011/mark-zuckerberg-facebook-stock-nyt-wsj [https://perma.cc/VMC2-2S9Y]**.**

129 Adam Hayes, *Dual Class Stock*, Investopedia (Apr. 5, 2022), https://www.investopedia.com/terms/d/dualclassstock.asp [https://perma.cc/ZP4C-62C8]. There are many different makeups of the weight of each Class. Coke has a 20 to 1 voting ratio, Fitbit has a 10 to 1 ratio, Berkshire Hathaway has a 10,000 to 1 ratio, etc. Some companies have even implemented measures whereby the lower-class of stocks has no voting rights at all. *Dual Class Companies List*, Council of Inst. Invs., https://www.cii.org/files/3_17_17_List_of_DC_for_Website(1).pdf [https://perma.cc/BU5S-GN86].

130 Stephen I. Glover & Aathy S. Thamodaran, *Debating the Pros and Cons of Dual Class Capital Structures*, 27 Insights: Corp. & Sec. L. Advisor 1, 1 (March 2013).

131 Reinhardt Krause, *This Is How Mark Zuckerberg and Other Tech CEOs Stay in Power*, Inv. Bus. Daily (May 29, 2020), https://www.investors.com/news/technology/tech-companies-ipo-super-voting-rights/ [https://perma.cc/L8LH-HGX7].

132 *Id.*

133 Glover*, supra* note 129 at 7.

134 *Id.* at 3.

Additionally, allowing companies with dual stocks to exist provides more options for investors. According to Jeff Thomas, a Nasdaq senior vice president who oversees its new listings and capital markets businesses, a dual-class structure encourages founders to come to market more readily since it allows them to think more "long term" and not be worried by market fluctuations that could lead to being acquired at a low price.[135]

Regardless, the agency and governance issues that corporations face are exacerbated by dual class voting stocks. The Class A stock relies on the owners of Class B stock to provide them with a return on their investment, and yet, depending on the makeup of the company, Class A investors cannot do anything to prod the owners towards following policies that they believe are most beneficial for the corporation. A Goldman Sachs report claimed that "using multi-class voting to insulate management from its own shareholders comes at significant long-term costs."[136] Critics worry that with dual-class structures, shareholders cannot remove CEOs who "mismanage [the] company[,] make bad decisions," or "lose sight of what made their company successful ..[137]

Additionally, while dual stock systems in general seem to have a good initial return for investors, the Institutional Shareholder Services group (ISS) study, *Controlled Companies in the Standard and Poor's 1500: A Ten Year Performance and Risk Review*, found that:

- Dual class companies significantly underperform single-class companies over 3-year, 5-year, and 10-year periods. Dual class companies only outperform single-class companies over a 1-year period.
- Dual class companies have more related party transactions than single-class companies.
- Dual class companies exhibit more stock price volatility than single-class companies.
- Dual class companies are less likely to have standard corporate governance features relating to board accountability and shareholder rights than single-class companies.
- Dual class companies are more insulated and engage in less outreach than single-class companies.[138]

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135 Krause, *supra* note 130.
136 *Id.*
137 *Id.*
138 *Controlled Companies in the Standard & Poor's 1500: A Ten-Year Performance and Risk Review,* Investor Responsibility Research Center Institute, Oct. 2012, http://irrcinstitute.org/pdf/FINAL-Controlled- Company-ISS-REport.pdf.

While it seems "dual-class stock IPOs have done better than those with a single class of stock recently," according to the ISS study, this can be partially explained by the fact that "a larger fraction of dual-class IPOs have been tech stocks, and tech stocks have outperformed other sectors."[139] At technology companies, the system is used to protect the founders control such that they can "retain control in order to innovate and remain an industry pioneer."[140] Additionally, at tech firms, founders are the employees who had the "technical skills and vision to benefit the company."[141]

C. Dual Class Stocks at Facebook

Facebook has a dual share structure, with Class A voters receiving only one vote per share, while Class B voters receive 10 votes per share. Currently only company insiders own Class B shares.[142] Post-IPO, Zuckerberg owned 36.1% of all Class A stock as well as 57.1% of Class B shares.[143] However, through agreements and close connections with other Class B shareholders,, Zuckerberg really has control over "392 million Class B Shares, some 90% of the total."[144] As of October 2021, "the top individual insider shareholders of Meta are Michael Schroepfer, David Fischer, and David Wehner, and the top institutional shareholders are Mark Zuckerberg, Vanguard Group Inc., and BlackRock Inc."[145] Vanguard owns about 7.7% of the stake, Blackrock owns 6.6%[146], and Fidelity owns 4.9%, .[147] "Even though Vanguard and BlackRock combined hold about as many shares as Zuckerberg, the dual share structure effectively nullifies the voice of these investors.[148]

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139 *Sumagaysay*, *supra* note 103.

140 *Id.*

141 *Id.*

142 Stewart, *supra* note 127.

143 Steven D. Solomon, *A Big Bet on Zuckerberg*, N.Y. TIMES (Feb. 2, 2012, 9:26 AM), https://dealbook.nytimes.com/2012/02/02/a-big-bet-on-zuckerberg/; Michael Baron, *Facebook to Future Stockholder: Bow Down to Mark Zuckerberg*, FORBES (Feb. 2, 2012, 12:22 PM), https://www.forbes.com/sites/thestreet/2012/02/02/facebook-to-future-stockholders-bow-down-to-mark-zuckerberg/.

144 Tom Lauricella & Leslie Norton, *How Facebook Silences Its Investors*, MORNINGSTAR (Oct. 7, 2021), https://www.morningstar.com/articles/1061237/how-facebook-silences-its-investors [https://perma.cc/TVU2-BBYP].

145 Nathan Reiff, *Top Facebook (Meta) Shareholders*, INVESTOPEDIA (Oct. 29, 2021), https://www.investopedia.com/articles/insights/082216/top-9-shareholders-facebook-fb.asp [https://perma.cc/9ZNP-LCH5].

146 *Id.*

147 Matt Krantz, *Here's Who Owns Meta now that Mark Zuckerberg is Unloading Stock,* INVESTORS.COM (Jan. 8 2024, 11:21 AM), https://www.investors.com/etfs-and-funds/sectors/sp500-heres-who-owns-meta-now-that-mark-zuckerberg-is-unloading-stock/#:~:text=Another%20mutual%20fund%20company%2C%20Fidelity,4%20position%20in%20the%20stock [https://perma.cc/5RQS-9M5Q].

148 Lauricella, *supra* note 143.

According to Facebook's S-1 form, upon incorporation, Facebook also implemented a number of defensive mechanisms that strengthen the dual class system if Facebook is approached by a takeover, thus diluting the chance for a managerial coup. These include: Separate Class B Vote for Certain Transactions,[149] Supermajority Approvals,[150] Board of Directors Vacancies,[151] a Classified Board,[152] and Stockholder Action: Special Meeting of Stockholders.[153] Facebook concedes that "so long as the outstanding shares of our Class B common stock represent a majority of the combined voting power of our common stock, Mr. Zuckerberg will be able to effectively control all matters submitted to our stockholders for a vote, as well as the overall management

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149 Facebook, Inc., *supra* note 14. "Any transaction that would result in a change in control of our company will require the approval of a majority of our outstanding Class B common stock voting as a separate class. This provision could delay or prevent the approval of a change in control that might otherwise be approved by a majority of outstanding shares of our Class A and Class B common stock voting together on a combined basis."

150 *Id.* "Our restated certificate of incorporation and restated bylaws do not provide that certain amendments to our restated certificate of incorporation or restated bylaws by stockholders will require the approval of two-thirds of the combined vote of our then-outstanding shares of Class A and Class B common stock. However, when the outstanding shares of our Class B common stock represent less than a majority of the combined voting power of common stock, certain amendments to our restated certificate of incorporation or restated bylaws by stockholders will require the approval of two-thirds of the combined vote of our then-outstanding shares of Class A and Class B common stock. This will have the effect of making it more difficult to amend our certificate of incorporation or restated bylaws to remove or modify certain provisions."

151 *Id.* "Our restated certificate of incorporation and restated bylaws provide that stockholders may fill vacant directorships. When the outstanding shares of our Class B common stock represent less than a majority of the combined voting power of common stock, our restated certificate of incorporation and restated bylaws authorize only our board of directors to fill vacant directorships. In addition, the number of directors constituting our board of directors is set only by resolution adopted by a majority vote of our entire board of directors. These provisions restricting the filling of vacancies will prevent a stockholder from increasing the size of our board of directors and gaining control of our board of directors by filling the resulting vacancies with its own nominees."

152 *Id.* "Our board of directors will not initially be classified. Our restated certificate of incorporation and restated bylaws provide that when the outstanding shares of our Class B common stock represent less than a majority of the combined voting power of common stock, our board of directors will be classified into three classes of directors each of which will hold office for a three-year term. In addition, thereafter, directors may only be removed from the board of directors for cause. The existence of a classified board could delay a successful tender offeror from obtaining majority control of our board of directors, and the prospect of that delay might deter a potential offeror."

153 *Id.* "Our restated certificate of incorporation provides that stockholders will be able to take action by written consent. When the outstanding shares of our Class B common stock represent less than a majority of the combined voting power of common stock, our stockholders will no longer be able to take action by written consent, and will only be able to take action at annual or special meetings of our stockholders. Stockholders will not be permitted to cumulate their votes for the election of directors. Our restated bylaws further provide that special meetings of our stockholders may be called only by a majority of our board of directors, the chairman of our board of directors, our chief executive officer or our president."

and direction of our company."[154] In fact, they warn future investors that "[t]his concentrated control will limit your ability to influence corporate matters for the foreseeable future."[155]

The previous two quotations were found on Facebook's S-1 form, the form they must submit to the SEC before "going public." Investors would then be on constructive notice of the governance structure at Facebook when they choose to invest. Perhaps it could be argued that corporate democracy is still being upheld even with the unbalanced voting rights. After all, these minority-qua-nominal-majority investors knew the deal that they were striking. However, proxy fights have established the lack of confidence among Facebook's investors. "In 2018, Facebook shareholders proposed putting in place a one-vote-per-share and implementing reports on fake news controversies and the gender pay gap."[156] Trillium, the asset management group, in 2018, also put forth a proposal for Facebook's proxy statement, requesting that Facebook convene together a risk oversight committee to increase oversight mechanisms at the company.[157] Facebook's board recommended shareholders vote against all of those proposals, even though Institutional Shareholder Services (ISS) came out in favor of them. All of these proposals failed.[158] As a result, even though 83% of outside investors who own class A votes have voted to implement a "one share, one vote" system at Facebook, Zuckerberg, by owning significant class B shares and controlling 58% of Facebook's votes, can easily reject these measures.[159]

IV. Possible Solutions: Sunsets and Disclosure

As discussed, Facebook has not changed its operations even in the face of PR scandals, shareholder proposals, and loss of users and share price. It only resorts to break glass measures when the harm becomes obvious to outsiders and an emergency occurs.[160] It has "a strategy of only when crisis has begun, it slows the platform down, instead of watching as the temperature gets hotter and making the platform safer as that happens."[161] Facebook will not regulate itself, and shareholders are powerless to effect change. While there has been an institutional push to limit the influence of multi-class stock structures – Standard & Poor's and FTSE Russell announced in 2017 "they would no longer include companies with multi-class stock structures in their indexes,

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154 *Id.*
155 *Id.*
156 Stewart, *supra* note 127.
157 *Id.*
158 *Id*.
159 Durkee, *supra* note 13.
160 *Facebook Whistleblower Frances Haugen Testeifies Before UK Parliament Transcript,* Rev.Com (Oct. 25 2021) https://www.rev.com/blog/transcripts/facebook-whistleblower-frances-haugen-testifies-before-uk-parliament-transcript [https://perma.cc/GB4J-DPHE].
161 *Id.*

although some such companies [including Facebook] remain[ed] because they were grandfathered in." [162] As a result, government regulations might be the only option to consider.

Solutions could either come from Congress in the form of a required horizon on dual stock companies or could come from the SEC passing a disclosure rule. At the same time, proposed laws will have to be written in such a way to not be encumbered and preempted by corporate law or trade secret law.

A. Adding Horizons to Dual Stocks Measures

One answer to dual class stock structures is to implement a sunset/horizon provision by which, "under stipulated circumstances, an issuer's dual class structure automatically converts into a single class structure in which all shares have equal voting power."[163] The Council of Institutional Investors has encouraged "dual-class IPO companies to include reasonable time-based 'sunset' provisions in their charters" – noting that seven or fewer years post-IPO is sensible. [164] They based this on research which found that "while dual-class companies tend to have a value premium for a while after making their public debut, that benefit fades to a discount in six to nine years."[165] In BlackRock's *Vote Bulletin* for Facebook, BlackRock proposed something similar: "these structures should have a specific and limited duration for well-established public companies such as Facebook."[166] Furthermore, Professors Lucian Bebchuk and Kobi Kastiel present empirical evidence that the adverse effects of dual class stock increase over time and advocate sunset provisions as a response to this problem.[167]

One major issue with a horizon approach is that there cannot be uniformity amongst different companies when imposing a sunset provision with respect to timing. In *The Problem of Sunsets*, Professors Jill E. Fisch and Steven D. Solomon argue that since dual class structures are usually implemented to give the founders enough time to "pursue their vision," there is no way to scientifically calculate what the time necessary for this to occur would be.[168] As a result, time-based sunset provisions are not correlated "with any theory about

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162 *Sumagaysay*, *supra* note 103.

163 Jill E. Fisch & Steven Davidoff Solomon, *The Problem of Sunsets*, 99 Boston Univ. L. Rev. 1057, 1062 (2019).

164 *Dual-Class Stock*, Council of Inst. Invs., https://www.cii.org/dualclass_stock [https://perma.cc/4FQ6-2GHS].

165 *Id.*

166 BlackRock, *supra* note 126.

167 Lucian A. Bebchuk & Kobi Kastiel, *The Untenable Case for Perpetual Dual-Class Stock*, 103 Va. L. Rev. 585, 631 (2017).

168 Fisch & Solomon, *supra* note 162 at 1088.

the length of time necessary for a founder to implement his or her vision," and are usually determined in an arbitrary manner.[169]

Professors Fisch and Solomon go on to argue that event-based sunsets might be better suited to meet this issue. In these cases, the conversion from Class B to Class A stocks occur if an event is triggered, such as when a stock-B holder dies and attempts to pass the stocks on in their inheritance, or when the stock-B holder's stocks drop below a certain amount.[170] This latter form is called a "dilution-based" sunset, where "there is a plausible argument that once the founder's interest drops below 10%, his or her economic interest is no longer sufficiently aligned with the interests of the issuer."[171] Of course, it may be reasonably assumed that this sort of situation would not occur at Facebook, where Zuckerberg owns 36.1% of all Class A stock as well as 57.1% of Class B shares, and thus is not likely to drop below a 10% threshold.[172] If the threshold were raised, then it would be harder to argue that the founder's interest was out of line with the interests of the corporation. Furthermore, many of these defensive measures are enacted upon the dilution of class B stocks, thus rendering a dilution-based sunset ill-suited at Facebook.

Professors Fisch and Solomon also mentioned a more novel idea – "a sunset that is triggered by a founder's misconduct, such as a fiduciary breach."[173] While an interesting concept, it is highly unlikely to play out at Facebook. As mentioned previously, the managerial efforts of the board of Facebook are governed by the highly deferential business judgment rule. As a result, shareholders would face an uphill battle in bringing a claim of the breach of the *duty of care*. Zuckerberg and the board could argue that even though they harmed some users through their actions, they believed their actions were for the benefit of the company, and thus, the court could find that they satisfied their business judgment.[174]

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[169] *Id.* at 1081. For Example, Workday's sunset is twenty years, Groupon's is five, Yelp's is seven, Fitbit's is twelve, EVO Payment's is three, Zoom's is fifteen, and Lyft does not even have one.

[170] *See Id.* at 1086.

[171] *Id.* at 1087.

[172] Lauricella, *supra* note 143; see *supra* note 141.

[173] Fisch & Solomon, *supra* note 162 at 1091.

[174] The duty of loyalty is another path for investors, though not as relevant to the sunset clause issue. The duty of loyalty is usually breached if a corporate officer is committing an act of self-dealing. *See in re Walt Disney Company Derivative Litigation*, 906 A.2d 27, 67 (Del. 2006). However, the shareholder would have to first bring a claim of *demand futility* – that the corporation was unable to assert the claim itself against these directors since the corporation was ostensibly controlled by these directors. As of 2021, the test of demand futility requires that, separately for each claim, the court must determine whether for each current director: does the complaint allege particularized facts that, taken as true, support that (1) this director is a defendant or "through personal or other relationships. . . . beholden to" a defendant; and (2) there is a substantial likelihood of success for the claim. *In re Facebook Investors' Derivative Litigation*, No. 2018-0307-JRS, 2021 WL 5174098, at *2, *5 (Del. Ch. Nov. 8. 2021). If the answer is yes to both these questions for at least half the

Another pathway to the duty of care is the duty to monitor, where "the failure to investigate alone would be enough to establish a fiduciary breach."[175] Of course, Zuckerberg claims that the internal studies at Facebook disclose a different outcome than the leaks portray, at least with respect to social media usage by teens.[176] Perhaps a disclosure regime as explained *infra* in part (b) would either force these studies to accompany the judgment that Zuckerberg makes or would force Facebook's researchers to analyze their data through different lenses.

Duty of loyalty claims can also be found when the board disrupts corporate democracy. For example, *Schnell* was a duty of loyalty case.[177] However, as mentioned previously, it may be difficult to argue that dual stock systems are against corporate democracy if the investors knew about the provision at the time of investment. As a result, even event-based sunsets would be a difficult avenue for Facebook's investors.

B. Precedence for Social Disclosures from the SEC

The current disclosure regime is governed by Rule 10b-5 of the Securities Exchange Act. This act makes it illegal to "make any untrue statement of a *material* fact or to omit to state a *material* fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading."[178] In 1976, the Supreme Court explained that "materiality" relates to what the types of facts that would hold "actual significance in the deliberations of the reasonable shareholder," but did not expand on what sort of decisions have actual significance for these shareholders.[179] One theory of disclosable information, endorsed by the SEC advisory committee analyzing environmental and social disclosure in the 1970s, is that where disclosed information "reflects significantly on the

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current directors, then demand is excused with respect to the claim, and the shareholder will be able to bring the claim forward. This test was created in the case *In re Facebook Investors' Derivative Litigation*, in which the board of Facebook was not found to be beholden to Zuckerberg, and thus demand was not futile. Apparently, the analysis that the other directors and managers help Zuckerberg "control" the operations of Facebook does not necessarily amount to them being actually beholden to him. Additionally, the standard of particularized facts is quite high for a complaint, given that discovery has not occurred at this point in the trial process, and current evidence might be lacking. Thus, it may be hard to demonstrate a substantial likelihood of success. As a result, any claims that Zuckerberg is operating Facebook to benefit himself is likely to fail, even if the merits seemingly support this case.

175 Paul Rissman & Diana Kerney, *Rise of The Shadow ESG Regulators: Investment Advisers, Sustainability Accounting, and their Effects on Corporate Social Responsibility*, 49 Env't L. Rep. News & Analysis 10155, 10184 (Feb. 2019).

176 *See supra* Section III.A.

177 *See Schnell v. Chris-Craft Industries,* 285 A.2d 437, 439 (Del. 1971).

178 17 C.F.R. § 240.10b-5 (2003) (emphasis added).

179 *TSC Indust. v. Northway*, 426 U.S. 438, 448 (1976).

economic and financial performance of the company."[180] As explained above, information about the types of harms caused by Facebook can be connected to a drop in its share price. However, without a clear and direct relationship, it is possible that the SEC would have to mandate a rule that forces the mandatory disclosure of the societal impact of social media sites.

Perhaps the SEC should pass a rule whereby social media companies, including Facebook, would be required to disclose their social impact much like proposed rules that the SEC is considering with respect to climate change disclosure. In March 2022, the SEC proposed a disclosure rule relating to climate change:

> "The Securities and Exchange Commission today proposed rule changes that would require registrants to include certain climate-related disclosures in their registration statements and periodic reports, including *information about climate-related risks that are reasonably likely to have a material impact on their business*, results of operations, or financial condition, and certain climate-related financial statement metrics in a note to their audited financial statements. The required information about climate-related risks also would include disclosure of a registrant's greenhouse gas emissions, which have become a commonly used metric to assess a registrant's exposure to such risks."[181]

The rule would require a registrant disclose information about "the oversight and governance of climate-related risks by the registrant's board and management."[182] Importantly, it also requires the registrant to identify their process for "identifying, assessing, and managing climate-related risks."[183] SEC Chair Gary Gensler claims that the disclosures will "provide consistent, comparable, and reliable—and therefore decision-useful—information to investors to enable them to make informed judgements" about their investment decisions, while simultaneously providing consistent and clear reporting obligations for issuers.[184] Investors can only invest based on the information

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180 Rissman & Kerney, *supra* note 174 at 10163.

181 *SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors*, SEC (Mar. 21, 2022), https://www.sec.gov/news/press-release/2022-46 (emphasis added) [https://perma.cc/9T5A-ZCTK].

182 *The Enhancement and Standardization of Climate-Related Disclosures for Investors*, SEC (Mar. 21, 2022), https://www.sec.gov/rules/proposed/2022/33-11042.pdf.

183 *Id.*

184 Claudia De Meulemeester and Alex Janiaud, *Explainer: What to Expect Once the SEC Sets its Final Climate Disclosure Rules*, SustainableViews (Aug. 23, 2023), https://www.sustainableviews.com/explainer-what-to-expect-once-the-sec-sets-its-final-climate-disclosure-rules/#:~:text=The%20changes%20aim%20to%20clarify,clear%20reporting%20obligations%20for%20issuers%E2%80%9D. [https://perma.cc/HN3Q-9EP4].

presented to them and hence, more information they get will present them with a fairer playing field to make investments aligned with their values. Furthermore, while disclosures when introduced as shareholder proposals are merely precatory, and act more as a box-checking procedure, the SEC rule would have the force of law, and have potential fines associated with it. The proposed rule is currently facing backlash as companies are claiming that "report[ing] their supply chain emissions is a significant burden that will fall directly on their small and privately held suppliers."[185]

A social media disclosure rule could follow the SEC's environmental disclosure rule. Of course, this metric would likely be tougher to calculate when compared to something more easily measurable like greenhouse gas emissions. However, the SEC climate rule also calls for disclosure of governance procedure and board rules, which are more easily followed, and would at least force Facebook to disclose its analysis of what it determines to be issues – this alone could influence whether an investor believes that Facebook has priorities that align with them, even if they do not know the outcomes of the measures taken. Some criticize the Disclosure Rule as being too prescriptive, and instead pitch that disclosure should be optional based on investor preferences.[186] However, as explained in this paper, that outcome is simply not possible at a company like Facebook where the shares are captured by a group that has no interest in disclosing its own failings. Furthermore, "the increased consistency, comparability, and reliability expected to result from more prescriptive requirements could increase confidence in the capital markets and help promote efficient valuation of securities and capital formation."[187]

Part of the benefit of a disclosure regime is captured by the apt phrase: "you can't manage what you don't measure." While Facebook clearly tracks a lot of data on its platform, a disclosure rule would force them to track the types of harms that ESG-minded investors care about. It would also give these investors access to the information and thus allow them to competently invest. In all the harms mentioned above, Facebook knew what the results of their actions were and did not attempt to reverse them or prevent further abuses. It systemically lied to the members of its advisory board on internet safety and rejected potential adjustments to its algorithm. Moreover, they misled investors or at least potentially failed their duty to monitor.

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185 Andrew Ramonas, *SEC Climate Report Rules Face Legal Threat from Manufacturers*, BLOOMBERG LAW (Jan 18, 2024, 3:12 PM), https://news.bloomberglaw.com/esg/sec-climate-report-rules-face-legal-threat-from-manufacturers [https://perma.cc/M8CP-7PN4].

186 *See* Scott Hirst, *Saving Climate Disclosure*, 28 STAN. J.L.BUS. & FIN. 91 (2023).

187 *The Enhancement and Standardization of Climate-Related Disclosures for Investor*, *supra* note 181.

One of the issues facing disclosure regimes is the potential of overwhelming shareholders with more information that necessary, and potentially revealing trade secrets. This issue will be discussed in the following section.

C. Comprehensive Data Privacy Bills and Escape Valves

In summer of 2022, the House and Senate Commerce committees proposed the American Data Privacy Protection Act (ADPPA), which sought to prevent harms created by entities that use algorithms to process a huge amount of data.[188] The bill sought to mitigate this offense by the implementing transparency and imposing a duty of loyalty upon the big data companies. Facebook would neatly fit into the entities covered by the bill. While the bill was a step towards passing a truly comprehensive privacy law in America, both provisions had large escape valves that diluted their effectiveness. Below, I will discuss how trade secret law complicated the bill's transparency measures and how corporate law muddled the bill's information fiduciary requirements.

D. Transparency vs. Trade Secret Law

One of the main ways the ADPPA seeks to mitigate this harm is through requiring these entities to release annual "algorithmic impact assessments" which should describe their efforts to reduce algorithmic harms relating to (i) individuals under the age of 17; (ii) advertising for housing, education, employment, healthcare, insurance, or credit opportunities; (iii) determining access to any place of public accommodation, particularly harms relate to protected characteristics of an individual; and disparate impact on the basis of the protected characteristics.[189] While this section seems to provide a major mechanism for the FTC to ensure that the covered entities are complying with the Act, the proposed bill also has one large escape valve – companies are allowed to "redact and segregate any *trade secrets*. . . . from public disclosure."[190]

The reason why trade secret law became a major vehicle for IP protection of algorithms can be traced to a mid-2010s patent case. In the 2014 case *Alice Corporation v. CLS Bank*, the Supreme Court ruled that a software implementation of an escrow agreement was not patent eligible since it was an implementation of an abstract idea, which is not patentable.[191] The court offered a two-step process to determine whether a patent met the threshold of subject

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188 H.R. 8152, 117th Cong. (2022) [hereinafter *ADPPA*]. As of 2023, the bill appears to be stuck in committee-limbo as the Commerce committee's California delegation did not want a federal bill to pre-empt their robust state privacy bill. Joseph Duball, *State views on proposed ADPPA preemption come into focus*, IAPP (Sept. 27, 2022), https://iapp.org/news/a/state-level-views-on-proposed-adppa-preemption-come-into-focus/ [https://perma.cc/YUW7-2KCT].

189 *ADPPA*, §207(c)(1)(B)(vi).

190 *ADPPA*, §207(c)(3)(C)(ii).

191 *See Alice Corp. v. CLS Bank*, 573 U.S. 208 (2014).

matter eligibility. In the first step, the court must determine whether the claimed invention contains an "abstract idea." If the answer is yes, the court then asks whether the claim has an "inventive step." Confusingly, Justice Thomas never defined what he meant by "inventive", and this test has remained largely unclear to even members of the Court of Appeals for the Federal Circuit, who oversee most patent litigation. As a result, software companies, fearing that they would not be given protection under patent law, instead opted for trade secret protection.

Trade secrets were strengthened in the US with the passing of the Defend Trade Secrets Act in 2016. This act allowed an owner to sue in federal court when a trade secret has been misappropriated. A trade secret is defined as "all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing" as long as the owner of the secret has taken reasonable measures to keep the information secret and the information receives economic value due to being a secret.[192]

The relevant parts of this definition hint at the fact that companies using algorithms could very well argue that their algorithm is itself a trade secret and thus should not be disclosed in the impact assessment. The US government has previously been able to find refuge behind trade secret laws to prevent disclosures under the Freedom of Information Act (FOIA). The D.C. Circuit, which is a leading source of FOIA case law, has previously tried to limit the definition of trade secrets by claiming there must be "a direct relationship between the information at issue and the productive process," rather than merely collateral business confidentiality.[193] However, in some companies, especially social media companies, the algorithms used are the very thing that give the company value. In his book, *Custodians of the Internet*, Tarleton Gillespie writes that content moderation via algorithms is "central to what platforms do, not peripheral" and "is, in many ways, the commodity that platforms offer."[194] A company whose business is their algorithm could argue that disclosing parts of their algorithm would reveal too much information to their competitors. "Due to the inherent necessity of keeping a trade secret – well, secret – explaining how an AI decision is made will likely destroy an algorithm's trade secret status, depending on the extent of the required disclosure."[195]

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192 18 U.S.C. §1839(3) (italics and underlining added). The economic value can be actual or potential value.

193 *Pub. Citizen v. Food & Drug Admin.*, 704 F.2d 1280,1287-88 (9th Cir. 1983).

194 Tarleton Gillespie, Custodians of the Internet 13 (2018).

195 Charlotte A. Tschider, *Beyond the "Black Box"*, 98 Denver L. Rev. 683, 712 (2021).

Companies should not be able to hide behind trade secret law to prevent all access to information about their algorithms. The newly proposed bill attempts to circumvent this by leaving the algorithm as a black box, but nevertheless requiring companies to create an annual algorithmic impact assessment. The assessment will force companies to provide a "detailed description of the data used by the algorithm, including the specific categories of data that will be processed as input and any data used to train the model that the algorithm relies on'' as well as "a description of the outputs produced by the algorithm."[196] A company, like Facebook, might argue that releasing both their inputs and outputs would allow others to reverse engineer their algorithm, thereby causing them to disclose their trade secret.

Perhaps a solution to this issue could be for the FTC to determine a threshold by which the offending company would be required to disclose their harm. This metric would allow the FTC to balance business needs with the mental harms on users, the spread of misinformation, and the violence perpetrated by used of the platform. Below this amount, the FTC would be sworn into a version of a non-disclosure agreement so that the trade secret would not be under threat of misappropriation. However, when the threshold is reached, the actions of the company would be under heightened scrutiny, and disclosure to the public would be required. At the same time, the FTC would need to consider important free speech issues when ruling to limit any sort of speech.[197]

E. Information Fiduciary vs. Corporate Law

The first substantive section of the ADPPA is titled "Duty of Loyalty," which imposes data minimization, privacy by design, and other measures to ensure that entities minimize their negative impact on society. This role could be seen as that of an information fiduciary.[198] Entities would not be allowed to "collect, process, or transfer covered data" unless the action is "necessary and proportionate" to the service being provided, and unless it complies with a service of permissible purposes.[199] One of the permissible purposes that allows entities to store more data than usually allowable under the bill is to "comply with a legal obligation imposed by Federal, Tribal, Local, or State law, or to establish, exercise, or defend legal claims."[200]

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196 *ADPPA*, §207(c)(1)(B)(ii) – (iii).

197 *See generally* Eric Goldman, *Of Course the First Amendment Protects Google and Facebook (and It's Not a Close Question)* 1, Santa Clara L. Digital Commons (2018), https://digitalcommons.law.scu.edu/facpubs/951.

198 *See* Jack M. Balkin, *Information Fiduciaries in the Digital Age*, BALKINIZATION (Mar. 5, 2014, 4:50 PM), https://balkin.blogspot.com/2014/03/information-fiduciaries-in-digital-age.html [https://perma.cc/DX56-P9CF].

199 *ADPPA*, §101(a).

200 *ADPPA*, §101(b)(6).

Read broadly, this "legal obligation" could potentially allow a company to claim that it must adhere to corporate law's fiduciary duties. As mentioned above, Facebook could argue that it needs to continue to increase its collection of data because that is how its value as a company increases, and thus how it can help guarantee shareholder value as well. As a Delaware-incorporated company, Facebook might argue that these fiduciary duties are imposed by the DGCL, and that their actions are protected by the business judgment rule. As a result, the information fiduciary role would be powerless.

Conclusion

Even if investors were to seek to correct the path that Facebook is on, they would find it impossible to launch any sort of proxy fight due to Facebook's dual class structure, and they would be left to demonstrate their disapproval through the market and divestment. As a result, the government would have to step in for the sake of investors and society. The best bet might be to institute some form of sunset provision to the dual class share model. However, since it is difficult to develop a template to be used across a variety of business and industries, the government could follow other ESG movements and demand more transparency through disclosures. However, in this process, Congress and regulatory bodies would have to make sure there is no overarching escape valve for corporate or trade secret law.

One last point needs to be made on the politics of this scenario. According to a Senate aide's estimate, there are at least 30 bills that have been proposed which would update the regulatory framework for Meta and social media more broadly.[201] Of course, government proposals inevitably face a battle against partisanship and lobbying. In the third quarter of 2021, Facebook spent $5.1 million on lobbying Congress in response to plans to reform technology laws.[202] All but one member of the 12-person Subcommittee on Consumer Protection,

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[201] *See eg., id.*

[202] Emily Birnbaum & Caitlin Oprysko, *Facebook Lobbying Surges to $5M Amid Whistleblower Uproar*, Politico (Oct. 21, 2021, 10:36 AM), https://www.politico.com/news/2021/10/21/facebook-lobbying-uproar-516443 [https://perma.cc/9LUK-WQFH].

Product Safety, and Data Security has received money from Facebook.[203] After Haugen gave an interview with "60 Minutes," some conservative media outlets called Haugen "the frontwoman of a PR campaign pushed by the Democratic party," a "leftist activist" and someone who is "part of a broader Democratic initiative" to drive a wedge between the two sides of the aisle.[204] However, both sides of the aisle will have to come together to make the necessary changes to hold Facebook accountable for social harms that are being increasingly documented.

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[203] *See* Zach Everson, *Facebook has Donated to 11 of the 12 Senators Grilling its Hear of Safety Today*, FORBES (Sept. 30, 2021), https://www.forbes.com/sites/zacheverson/2021/09/30/facebook-has-donated-to-11-of-the-12-senators-grilling-its-head-of-safety-today/?sh=696b60d22ed6 [https://perma.cc/RK8Q-FAHT]; *see also Consumer Protection, Product Safety, and Data Security*, U.S. SENATE COMM. ON COM., SCI. & TRANSP., https://www.commerce.senate.gov/commerce-subcommittees [https://perma.cc/8LVR-KSUS] (last visited Feb. 14, 2024). The description on the website is that "The Subcommittee on Consumer Protection, Product Safety, and Data Security is responsible for consumer affairs and consumer product safety; product liability; property and casualty insurance; sports-related matters; consumer privacy and data security protection, and international data transfer issues."

[204] Hagey, *supra* note 122.

ARTICLE

NOT EASILY DISMISSED: THE GROWING IMPORTANCE OF DATA BREACH LITIGATION IN CYBERSECURITY

JEFF KOSSEFF, CHRIS BROWN, ELLIS FENSKE, AND DON NEEDHAM*

Plaintiffs are increasingly filing class action lawsuits against companies that have experienced data breaches, claiming that the companies failed to adequately safeguard class members' personal information. Such lawsuits face many early hurdles, primarily motions to dismiss for lack of Article III standing and failure to state a claim on the merits. The efficacy of such litigation long has been called into question, particularly after the Supreme Court's opinion in TransUnion v. Ramirez*, which set a high bar for standing. To evaluate the efficacy of data breach litigation, this Article examines 43 class action lawsuits filed from July 1, 2022 through June 30, 2023. It finds that the majority of the cases survived both standing-based and merits-based dismissal motions, allowing the cases to proceed to discovery and potential settlement. The Article argues that data breach litigation is an increasingly potent tool in creating a legal incentive structure for companies to more effectively safeguard personal information. Any discussion of the future of cybersecurity law should consider how to continue to use class action litigation to promote strong security practices. The Article then uses the caselaw analysis to provide a path forward for plaintiffs, companies, and policymakers who seek to encourage stronger cybersecurity.*

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INTRODUCTION

Breaches of companies' systems, networks, and data presents substantial challenges and expenses, with the average cost of a breach reaching $4.45 million in 2023, up fifteen percent from three years earlier.[1] The number of data breaches is surging, with the Identity Theft Resource Center tallying 2,116 U.S. data breaches in the first three quarters of 2023, an all-time record.[2] Data breaches, ransomware, and other cybersecurity incidents not only present substantial economic problems,[3] but also compromise national

[1] IBM SEC., COST OF A DATA BREACH REPORT 2023, at 5 (2023).

[2] Phil Muncaster, *U.S. Smashes Annual Data Breach Record with Three Months Left*, INFOSECURITY MAG. (Oct. 12, 2023), https://www.infosecurity-magazine.com/news/us-smashes-data-breach-record/ [https://perma.cc/UA92-DZG5].

[3] *See* Jeff Kosseff, *Defining Cybersecurity Law*, 103 IOWA L. REV. 985, 1010 (2018) (defining "cybersecurity law" as promoting "the confidentiality, integrity, and availability of public and private information, systems, and networks, through the use of forward-looking regulations and incentives, with the goal of protecting individual rights and privacy, economic interests, and national security.").

security[4] and individual privacy.[5] As stated in the foreword to the White House's 2023 National Cybersecurity Strategy, "Cybersecurity is essential to the basic functioning of our economy, the operation of our critical infrastructure, the strength of our democracy and democratic institutions, the privacy of our data and communications, and our national defense."[6]

How can the legal system promote cybersecurity? For well over a decade, members of Congress have proposed bills to set national privacy and data security standards, but to date, none have passed.[7] Accordingly, the United States lacks a coherent approach, leaving it to states,[8] industry-specific regulators,[9] and consumer protection authorities[10] to use more limited authority to set some standards.

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[4] *See* Siladitya Ray, *Ransomware Attacks Upgraded to 'National Security Threat' in New White House Cybersecurity Strategy*, FORBES (Mar. 2, 2023), https://www.forbes.com/sites/siladityaray/2023/03/02/ransomware-attacks-upgraded-to-national-security-threat-in-new-white-house-cybersecurity-strategy/ [https://perma.cc/6NPK-K8BA] ("The White House unveiled its National Cybersecurity Strategy Thursday, reclassifying ransomware attacks as a national security threat and holding tech firms responsible for building software that can withstand malicious actors, amid rising cyber threats against critical infrastructure across the country.").

[5] *See* James MacKay, *5 Damaging Consequences of Data Breach: Protect Your Assets*, METACOMPLIANCE, https://www.metacompliance.com/blog/data-breaches/5-damaging-consequences-of-a-data-breach [https://perma.cc/MR6L-F2NY] ("If a data breach has resulted in the loss of sensitive personal data, the consequences can be devastating. Personal data is any information that can be used to directly or indirectly identify an individual. This includes everything from, name, passwords, IP address and credentials. It also includes sensitive personal data such as biometric data or genetic data which could be processed to identify an individual.").

[6] Joe Biden, *Foreword* to WHITE HOUSE, NATIONAL CYBERSECURITY STRATEGY (2023).

[7] *See, e.g.,* Online Privacy Act of 2023, H.R. 2701, 118th Cong. § 212 (2023) (requiring covered entities to "establish and implement reasonable information security policies, practices, and procedures for the protection of personal information collected, processed, maintained, or disclosed by such covered entity").

[8] *See* Jeff Kosseff, *Hamiltonian Cybersecurity*, 54 WAKE FOREST L. REV. 155, 157 (2019) ("The federal government's inaction has prompted states to fill the gaps. Since 2003, every state has passed at least one law that establishes rules for notifying victims of data breaches or security private networks. Some states have passed many laws that require companies to adopt specific cybersecurity safeguards.").

[9] *See, e.g.*, Gramm-Leach-Bliley Act, 15 U.S.C. § 6801(a) ("It is the policy of the Congress that each financial institution has an affirmative and continuing obligation to respect the privacy of its customers and to protect the security and confidentiality of those customers' nonpublic personal information."); Health Insurance Portability and Accountability Act, 42 U.S.C. 1320d-2(a)(1) ("The Secretary shall adopt standards for transactions, and data elements for such transactions, to enable health information to be exchanged electronically[.]").

[10] *See* Kosseff, *supra* note 3, at 1011 ("No statute explicitly provides the [Federal Trade Commission] with data security enforcement authority. Rather, the FTC claims the ability

While the executive and legislative branches of federal and state governments nationwide continue to grapple with how to better promote cybersecurity, some of the strongest incentives for companies to secure systems and data come from the judicial branch. For two decades, companies have faced lawsuits from, among others, consumers and employees whose data has been compromised in cybersecurity incidents.[11] The companies' failure to safeguard their data, they argue, requires the companies to take remedial action to prevent future breaches and to compensate consumers and employees for harms. Although the damage per individual might be small, the litigation often is filed in the form of class action lawsuits, exposing the companies to potentially massive aggregate damage awards.

The number of data breach lawsuits has surged in the past few years.[12] An analysis by Law.com Radar found, on average, 44.5 data breach class actions filed per month for the first eight months of 2023, more than double the average from the same period in 2022.[13] In a separate tally of major data breach class action lawsuits, law firm Morrison Foerster tallied 43 in 2022, up from 36 in 2021 and 25 in 2020.[14] And in an analysis of its clients' cybersecurity incidents, law firm Baker Hostetler reports that 42 lawsuits resulted out of the 494 incidents for which data subjects were notified in 2022, up substantially from the four lawsuits that resulted from 394 notified incidents in 2018.[15]

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to bring data security cases under Section 5 of the Federal Trade Commission Act, which prohibits 'unfair or deceptive acts or practices in or affecting commerce.'" (quoting 15 U.S.C. § 45(a)(1))).

[11] *Id.* at 1016 ("In addition to data security and breach notification statutes, companies face a variety of post-data breach legal claims in consumer class action lawsuits.").

[12] *See* Richard N. Sheinis & Lisa Jaffee, *As Data Breach Class Actions Rise, Here's What to Know About the 'Kill Chain,'* N.Y. L.J. (June 20, 2023), https://www.law.com/newyorklawjournal/2023/06/20/as-data-breach-class-actions-rise-heres-what-to-know-about-the-kill-chain/?slreturn=20240307213045 [https://perma.cc/98VY-Z4H6] ("While data breach class action lawsuits are not new, it seems the number of suits being filed is increasing at a dizzying pace. This might be due to an increase in the number of larger data breaches occurring.").

[13] Amanda Bronstad, *Law.com Radar Report: Data Breach Class Actions Soaring in 2023*, LAW.COM (Oct. 16, 2023), https://www.law.com/2023/10/16/law-com-radar-report-data-breach-class-actions-soaring-in-2023/ [https://perma.cc/6ZK6-W3FL] ("Lawyers point to two reasons for the surge: A May 31 breach involving file transfer software MOVEit, which has ensnared hundreds of other organizations, many of which are named as the defendants in data breach lawsuits, and the increasing sophistication of cyberattacks.").

[14] MATT WYATT, MORRISON FOERSTER, PRIVACY LITIGATION 2022 YEAR IN REVIEW: DATA BREACH LITIGATION (Jan. 25, 2023), https://www.mofo.com/resources/insights/230125-year-in-review-data-breach-litigation [https://perma.cc/VD75-6PZ6].

[15] Edward Kovacs, *Companies Increasingly Hit with Data Breach Lawsuits: Law Firm*, SECURITYWEEK (May 1, 2023), https://www.securityweek.com/companies-increasingly-

There is little dispute that the number of data breach lawsuits has increased in recent years. Plaintiffs' lawyers are filing increasingly sophisticated claims, and defense-side law firms of all sizes are bolstering their cybersecurity practices.[16] But does data breach litigation provide a sufficient incentive for companies to invest in cybersecurity staffing, technology, and operational changes? If these lawsuits could be easily dismissed before discovery, the costs of the lawsuits would be minimal. If they cannot get the lawsuits fully dismissed, the costs of discovery—and potential settlement—increase substantially.

Defendants have multiple avenues to get the cases dismissed early. They could file a Rule 12(b)(1) motion arguing that the plaintiffs and putative class have not suffered an injury in fact or otherwise lack Article III standing,[17] or they could file a Rule 12(b)(6) motion arguing that the plaintiffs failed to plausibly state a claim on the merits.[18] Or they can (and often do) simultaneously move to dismiss the class action lawsuits for lack of standing and failure to state a claim on the merits. With the surge in data breach class action lawsuits and new caselaw that could make it harder for plaintiffs to establish standing in data breach cases, any analysis of the efficacy of data breach litigation should examine how easily these cases can be dismissed in the early stages.

This Article is based on an analysis of 43 data breach class action lawsuits in federal court that resulted in a written opinion on the merits and/or standing of a motion to dismiss, between July 1, 2022 and June 30, 2023. Of the 43 cases, a substantial majority—27—at least partly survived the dismissal motions and had at least one claim survive. Despite the substantial hurdles created by recent Supreme Court precedent, plaintiffs often can survive the initial dismissal motion, frequently leading to settlements.[19] This finding

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hit-with-data-breach-lawsuits-law-firm/ [https://perma.cc/722Q-JHGH] (citing BAKERHOSTETLER, 2023 DATA SECURITY INCIDENT RESPONSE REPORT 7 (9th ed. 2023), https://dsir.bakerlaw.com/wp-content/uploads/BL_Annual_Report_2023.pdf [https://perma.cc/GJ8E-L7SJ]).

[16] *See* Emma Cueto, *Mid-Law Sees Opportunity in Cybersecurity and Privacy*, LAW360 (July 26, 2023), https://www.law360.com/pulse/articles/1704177 [https://perma.cc/9HSQ-MYF4] ("While cybersecurity and privacy practices are still predominantly the purview of BigLaw, several Mid-Law firms have opened their own groups in 2023. Experts say this is part of the long-term trend of these topics growing not only more important to clients but important to an increasing number of clients, including small and midsize companies.").

[17] FED. R. CIV. P. 12(b)(1).

[18] FED. R. CIV. P. 12(b)(6).

[19] Fredric D. Bellamy, *Data Breach Class Action Litigation and the Changing Legal Landscape*, REUTERS (June 27, 2022), https://www.reuters.com/legal/legalindustry/data-breach-class-action-litigation-changing-legal-landscape-2022-06-27/ [https://perma.cc/BRR3-N7SH] ("The number and size of settlements like these are

suggests that data breach litigation provides at least some incentives for companies to bolster their cybersecurity protections.

Part I of this Article outlines the history of and landscape for data breach litigation. It then reviews the primary reasons that courts dismiss such cases in the early stages.

Part II explains the analysis of recent data breach cases, and focuses on key statistics that shed light on the types of cases filed, the most successful claims in data breach cases, and the common barriers to the lawsuits moving beyond a motion to dismiss. It ultimately concludes that although plaintiffs face substantial challenges in surviving motions to dismiss, they frequently do so. While the motion to dismiss process typically reduces the number of claims in a data breach lawsuit, it often does not eliminate all the claims.

Part III examines lessons from the analysis for companies, plaintiffs, and policymakers who want to better understand the role of litigation in promoting cybersecurity.

I. DATA BREACH LITIGATION AND HOW IT IS VULNERABLE TO DISMISSAL

A. Overview of data breach litigation

For two decades, companies have faced class action lawsuits for failing to adequately secure customers' and employees' personal information. Commentators have long recognized the importance of this litigation as part of the policy framework for promoting cybersecurity.[20]

One of the earliest data breach class action lawsuits stemmed from a data breach of footwear retailer DSW that took place in March 2005 and compromised the financial information of about 96,000 DSW customers.[21] A customer, Tracy L. Key, filed a putative class action lawsuit against the retailer.[22] The claims in the lawsuit were negligence, breach of contract, breach of fiduciary duty, and conversion.[23] Negligence is a frequent basis for data breach

playing a role as political leaders consider new legislation regarding data privacy protection, especially when considering whether to create private rights of action.").

[20] Sasha Romanosky, David Hoffman & Alessandro Acquisti, *Empirical Analysis of Data Breach Litigation*, 11 J. EMPIRICAL LEGAL STUD. 74, 75 (2014). ("On one hand, a weak litigation regime would be ineffective at deterring a firm's harmful or negligent behavior . . . . On the other hand, a heavy-handed litigation regime could impose excessive legal fees and damage awards and – according to some – stifle innovation."); Kosseff, *supra* note 3, at 1016 ("Data security litigation may be more forward-looking than data security and breach-notification statutes, in that it provides companies with even greater incentives to prevent future breaches. The prospect of multimillion-dollar damages or settlements could be enough to deter lax cybersecurity. Moreover, class action lawsuits often attract a great deal of publicity and typically require notice to all affected consumers, so litigation can harm a company's brand.").

[21] *Key v. DSW, Inc.*, 454 F. Supp. 2d 684, 685-86 (S.D. Ohio 2006).

[22] *Id.*

[23] *Id.*

lawsuits. Although the requirements vary by state, typically a negligence claim requires the plaintiff to "show that the defendant had a duty to conform to a certain standard of conduct; that the defendant breached that duty; that such breach caused the injury in question; and actual loss or damage."[24] A breach of contract claim arises from the defendant's failure to fulfill security obligations contained in an express or implicit contract.[25] It is somewhat less common for data breach lawsuits to include claims for breach of fiduciary duty, which occurs if there is a "relation existing between parties to a transaction wherein one of the parties is duty bound to act with the utmost good faith for the benefit of the other party."[26] Also uncommon in such cases is conversion, a tort that essentially alleges the wrongful taking of property.[27]

The DSW complaint was relatively straightforward with a limited number of claims. But as the size and complexity of data breaches grew, so did the size and likelihood of success of the lawsuits.[28] Among the first massive data breach class action lawsuits stemmed from the April 2011 breach of the Sony PlayStation Network.[29] The plaintiffs filed 51 claims under the laws of nine states.[30] Among the claims were negligence, though the elements varied by state.[31] The plaintiffs also sued for negligent misrepresentation, which required them to show "(1) they relied upon a material misrepresentation made

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[24] *In re Rutter's Inc. Data Sec. Breach Litig.*, 511 F. Supp. 3d 514, 526 (M.D. Pa. 2021).

[25] *See id.* at 533-534 ("[A] claim for breach of contract requires (1) the existence of a contract, including its essential terms, (2) a breach of a duty imposed by the contract, and (3) resultant damages.") (internal quotation marks and citations omitted); *In re Marriott Int'l*, 440 F. Supp. 3d 447, 485 (D. Md. 2020) ("[I]n an implied-in-fact contract, the parties' agreement is inferred, in whole or in part, from their conduct.") (internal quotation marks and citations omitted).

[26] *In re Ambry Genetics Data Breach Litig.*, 567 F. Supp. 3d 1130, 1145 (C.D. Cal. 2021) (internal quotation marks and citations omitted).

[27] *See Lee v. Ohio Educ. Ass'n*, 951 F.3d 386, 393 (6th Cir. 2020) ("[T]he elements of a conversion cause of action are (1) plaintiff's ownership or right to possession of the property at the time of the conversion; (2) defendant's conversion by a wrongful act or disposition of plaintiff's property rights; and (3) damages.") (internal quotation marks and citations omitted).

[28] *See* Joseph F. Yenouskas & Levi W. Swank, *Emerging Legal Issues in Data Breach Class Actions*, 73 BUS. LAW. 475, 475 (2018) ("Many data breaches have spawned multi-plaintiff or class action lawsuits by customers whose PII was accessed by unauthorized third parties as a result of the breach. But, until recently, businesses faced modest litigation risk in these cases because most courts held that litigants lacked standing to sue in federal court, reasoning that plaintiffs had yet to suffer an injury absent allegations that the exposure of their PII resulted in identity theft or unauthorized and unreimbursed charges to their financial accounts.").

[29] *In re Sony Gaming Networks & Customer Data Sec. Breach Litig.*, 996 F. Supp. 2d 942, 955 (S.D. Cal. 2014).

[30] *Id.* at 956.

[31] *Id.* at 963.

by Sony; and (2) that the misrepresentation resulted in a subsequent pecuniary loss."[32] They also filed claims for breach of warranty, which alleged that "Sony made affirmations of fact and/or promises to consumers regarding the adequacy and performance of Sony's network security, and subsequently breached these promises by failing to provide adequate network security to protect Plaintiffs' Personal Information"[33] and breach of implied warranty, which alleged that "Sony impliedly represented and warranted that Sony Online Services provided adequate network security, when in fact, Sony knew its network security was inadequate and vulnerable to intrusion."[34] The complaint alleged claims under the laws of eight states for unjust enrichment, which "essentially alleges that Plaintiffs conferred benefits on Sony by purchasing, registering with, and/or sending their Personal Information to Sony Online Services, and that Sony was unjustly enriched in retaining revenues derived from these benefits."[35] Finally, the plaintiffs filed claims under eleven state consumer protection statutes.[36]

While some data breach lawsuits remain relatively short and straightforward, the Sony PlayStation claim is more representative of the modern data breach lawsuit, with multiple types of claims under the laws of many states. While the lawsuits rely on a wide range of legal theories,[37] the underlying general argument is that the breached company failed to fulfill a legal obligation to customers, employees, or other data subjects by inadequately securing personal information.

B. Dismissal for failure to state a claim

Among the two most common ways for defendants to seek to dismiss a data breach class action claim is Federal Rule of Civil Procedure 12(b)(6), which allows dismissals based on failure to state a claim in the complaint. This became a particular potent tool for defendants after two Supreme Court opinions: *Bell Atlantic v. Twombly*[38] in 2007 and *Ashcroft v. Iqbal*[39] in 2009. Federal Rule of Civil Procedure 8(a)(2) requires pleadings to contain a "short and plain statement of the claim showing that the pleader is entitled to

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[32] *Id.* at 973.

[33] *Id.* at 976.

[34] *Id.* at 980.

[35] *Id.* at 984.

[36] *Id.* at 985.

[37] QUINN EMANUEL, PRIVATE DATA BREACH LITIGATION COMES OF AGE 9 (Oct. 4, 2022), https://www.quinnemanuel.com/media/jiefpor3/client-alert-data-breach-litigation-comes-of-age.pdf [https://perma.cc/N63M-A27Q] ("Data breach plaintiffs have pursued scores of disparate state statutory and common-law claims. Such plaintiffs often shoehorn as many as possible into their complaints, thereby adopting a blunderbuss pleading strategy to try to maximize their settlement leverage and preserve as many claims as possible.").

[38] *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544 (2007).

[39] *Ashcroft v. Iqbal*, 556 U.S. 662 (2009).

relief," and in *Twombly* and *Iqbal*, the Court concluded that this "demands more than an unadorned, the-defendant-unlawfully-harmed-me accusation."[40] This means that to overcome a Rule 12(b)(6) dismissal motion, the "complaint must contain sufficient factual matter, accepted as true, to state a claim to relief that is plausible on its face."[41] To meet the Court's plausibility standard, the plaintiff must plead "factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged."[42] In other words, the complaint must plead facts that provide for "more than a sheer possibility that a defendant has acted unlawfully."[43] The two opinions had an immediate impact not only on data breach cases, but all federal civil litigation. In a 2010 article analyzing motions to dismiss during two years before and two years after the Supreme Court's rulings, Patricia W. Hatamyar wrote that "district courts are taking *Twombly* and *Iqbal* to heart," and "appear to be granting 12(b)(6) motions at a significantly higher rate" than they had under the pre-*Twombly* and *Iqbal* standard for motions to dismiss.[44]

Meeting the *Iqbal*/*Twombly* bar is particularly challenging for data breach plaintiffs, who often do not have access to facts about the data breach beyond the brief notice that they've received from the company. Without sufficient facts, it can be difficult to meet the *Iqbal*/*Twombly* plausibility standard. For instance, in the Sony PlayStation case, the lawsuit included negligence claims under Florida, Missouri, and Ohio law. As the district court summarized, those claims assert that "because Sony requested, gathered, and promised to secure Plaintiffs' Personal Information, Sony had a duty to provide reasonable security consistent with industry standards, to ensure Sony Online Services were secure, and to protect Plaintiffs' Personal Information from theft or misuse."[45] The plaintiffs claimed that the company breached its duty of care by "failing to adequately secure its network, and that Plaintiffs suffered 'economic injury and property damage' as a result of the intrusion."[46] The court dismissed these claims, concluding that they failed to meet the plausibility requirement. "Although Plaintiffs are not required to put forth evidence of their alleged injury at this stage in the proceeding, Plaintiffs' allegations of causation and harm are wholly conclusory, and therefore fail to put the Court or Sony on notice of the specific relief requested," the court

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[40] *Id.* at 678 (internal citations and quotation marks omitted).

[41] *Id.* (internal citations and quotation marks omitted).

[42] *Id.*

[43] *Id.*

[44] Patricia W. Hatamyar, *The Tao of Pleading: Do* Twombly *and* Iqbal *Matter Empirically?*, 59 AM. U. L. REV. 553, 624 (2010).

[45] Sony Gaming Networks & Customer Data Sec. Breach Litig., 996 F. Supp. 2d 942, 963 (S.D. Cal. 2014).

[46] *Id.*

wrote.[47] The court noted the plaintiffs' failure to identify specific property damage and other harms. "Merely appending a clause incorporating by reference all prior allegations is insufficient, especially when Plaintiffs have alleged fifty-one independent causes of action in a complaint spanning over a hundred pages," the court wrote. "It is the Plaintiffs' burden — not the Court's — to identify the specific relief sought for each individual cause of action."[48]

Similarly, the Sony PlayStation plaintiffs sought actual damages under the Florida Deceptive and Unfair Trade Practices Act, which bars "[u]nfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices in the conduct of any trade or commerce."[49] As the court summarized, the plaintiffs claimed that "Sony misled consumers as to the security of Sony Online Services, and that this deceptive conduct induced consumers to purchase their Consoles, or to purchase Consoles at an inflated price."[50] But the Court noted that these alleged misrepresentations were in policies that consumers received after buying their consoles.[51] "As a result, Plaintiffs have failed to plausibly allege that the purchase price of their Console was an "actual damage" caused by Sony's deceptive or unfair conduct," the Court wrote, dismissing the Florida actual damages claim.[52]

That is not to say that *Iqbal/Twombly* is an insurmountable bar. Even though the judge in the Sony PlayStation case rigorously applied the plausibility requirement and dismissed many of the plaintiffs' 51 claims, he also concluded that many survived the motion to dismiss. For instance, the plaintiffs included a claim under the Missouri Merchandising Practices Act, which bars "deception, fraud, false pretense, false promise, misrepresentation, unfair practice or concealment, suppression, or omission of any material fact in connection with the sale or advertisement of any merchandise in trade or commerce."[53] The plaintiffs claimed that Sony violated the Missouri law by "failing to disclose that the security of Plaintiffs' Personal Information on Sony Online Services was inadequate," and the judge concluded that this allegation was sufficient to overcome the dismissal motion.[54] He reasoned that the complaint adequately alleged that a Missouri plaintiff "would not have purchased his Console if Sony had disclosed the truth regarding the security of its network."[55] This demonstrates that the plausibility requirement—while

[47] *Id.* at 963-64.

[48] *Id.* at 964 (internal citations and quotations omitted).

[49] *Id.* at 992 (quoting FLA. STAT. § 501.204(1) (2017)).

[50] *Id.* at 993.

[51] *Id.*

[52] *Id.*

[53] *Id.* at 999 (quoting MO. REV. STAT. § 407.020(1) (2020).

[54] *Id.*

[55] *Id.*

setting a high bar—does not require mountains of evidence in support of an assertion in the complaint.

C. Dismissal for lack of standing

Even if some claims survive an *Iqbal/Twombly* plausibility challenge under Rule 12(b)(6), the entire lawsuit still may be dismissed under Rule 12(b)(1) if the defendants convince the court that the plaintiffs lack Article III standing. To have standing to sue, a plaintiff must demonstrate three elements: "(1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision."[56]

The greatest standing-related challenge for plaintiffs in data breach class actions is establishing that they have suffered a concrete or particularized injury in fact that is actual or imminent. A 2015 Sedona Conference paper by influential data breach litigation practitioners argued that Article III standing presents a substantial barrier for many breach class actions: "For the most part these cases have failed to progress past the motion to dismiss stage, as defendants have successfully challenged the ability of litigants to demonstrate cognizable injuries sufficient to confer Article III standing."[57]

Courts have come to different conclusions as to what level of injury a plaintiff must allege to satisfy the standing requirement; in other words, is the mere possibility of a breach-related harm such as identity theft sufficient to create Article III standing? Federal courts are somewhat split as to what constitutes an injury in fact for data breach plaintiffs.[58] Some courts take a broad view of Article III standing. For instance, the Ninth Circuit in 2010 held that the "generalized anxiety and stress" that a plaintiff suffered due to

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[56] *Friends of the Earth, Inc. v. Laidlaw Env't Servs. (TOC), Inc.*, 528 U.S. 167, 180-81 (2000).

[57] Eric S. Boos, Chandler Givens & Nick Larry, *Damages Theories in Data Breach Litigation*, 16 SEDONA CONF. J. 125, 126 (2015).

[58] *See* R. Andrew Grindstaff, *Article III Standing, the Sword and the Shield: Resolving a Circuit Split in Favor of Data Breach Plaintiffs*, 29 WM. & MARY BILL RTS. J. 851, 852 (2021) ("The Courts of Appeal are currently split on whether to allow or deny standing for data breach plaintiffs—those persons seeking recourse from the entities that fell victim to the breach and therein lost plaintiffs' data to an unknown third party."); Quintin DiLucente, *Cybersecurity Class Actions Drawing a Split Among Circuit Courts*, PIETRAGALLO GORDON AFANO BOSICK & RASPANTI LLP (Apr. 12, 2022), https://www.pietragallo.com/the-privacy-hacks/cybersecurity-class-actions-drawing-a-split-among-circuit-courts/ [https://perma.cc/B27S-WBEF] ("The question of whether a plaintiff, or group thereof, has sufficient standing to bring class action lawsuits in the cybersecurity realm has unsurprisingly drawn a split amongst the Circuit Courts. In the wake of a data breach, one particular concern remains the same amongst all plaintiffs who wish to bring these suits – the risk of future harm.").

the theft of a laptop owned by his employer containing his personal information was a sufficient injury in fact.[59] The court also concluded that two other employees whose personal information was on the laptop had Article III standing because they spent time monitoring their accounts for potential identity theft.[60] But other courts have taken a narrower view and have been reluctant to easily find an injury in fact. For instance, the Fourth Circuit in 2017 refused to find an injury in fact when data breach plaintiffs alleged that they suffered "embarrassment, inconvenience, unfairness, mental distress, and the threat of current and future substantial harm from identity theft and other misuse of their Personal Information" and that the "threat of identity theft" caused them "to frequently monitor their credit reports, bank statements, health insurance reports, and other similar information, purchase credit watch services, and shift financial accounts."[61] The Court refused to rely on an "attenuated chain of possibilities" to establish injury in fact.[62]

In the DSW data breach case, the judge did not even have the chance to examine whether the plaintiff sufficiently stated claims for negligence, breach of contract, conversion, and breach of fiduciary duty because he concluded that the plaintiffs lacked standing for the entire lawsuit. The plaintiff claimed that her damages from the data breach were a "substantial increased risk of identity theft or other related financial crimes."[63] This was insufficient to support Article III standing, the judge wrote, agreeing with other courts that "have embraced the general rule that an alleged increase in risk of future injury is not an 'actual or imminent' injury."[64]

But in jurisdictions with a broader view of Article III standing, plaintiffs are more likely to get past that bar. For instance, the Sony PlayStation data

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[59] *Krottner v. Starbucks*, 628 F.3d 1139, 1142 (9th Cir. 2010).

[60] *Id.* at 1143 ("Here, Plaintiffs-Appellants have alleged a credible threat of real and immediate harm stemming from the theft of a laptop containing their unencrypted personal data. Were Plaintiffs-Appellants' allegations more conjectural or hypothetical — for example, if no laptop had been stolen, and Plaintiffs had sued based on the risk that it would be stolen at some point in the future — we would find the threat far less credible."); *see also Pisciotta v. Old Nat. Bancorp*, 499 F.3d 629, 634 (7th Cir. 2007) ("As many of our sister circuits have noted, the injury-in-fact requirement can be satisfied by a threat of future harm or by an act which harms the plaintiff only by increasing the risk of future harm that the plaintiff would have otherwise faced, absent the 'defendant's actions. We concur in this view.").

[61] *Beck v. McDonald*, 848 F.3d 262, 267 (4th Cir. 2017) (cleaned up).

[62] *Id.* at 275; *see also In re SuperValu, Inc.,* 870 F.3d 763, 771 (8th Cir. 2017) ("Plaintiffs also argue that the costs they incurred to mitigate their risk of identity theft, including time they spent reviewing information about the breach and monitoring their account information, constitute an injury in fact for purposes of standing. Because plaintiffs have not alleged a substantial risk of future identity theft, the time they spent protecting themselves against this speculative threat cannot create an injury.").

[63] *Key v. DSW, Inc.*, 454 F. Supp. 2d 684, 688 (S.D. Ohio 2006).

[64] *Id.* at 689.

breach case, which was litigated in a district court in the Ninth Circuit, rejected Sony's arguments that "Plaintiffs' allegations are insufficient because none of the named Plaintiffs have alleged that their Personal Information was actually accessed by a third party."[65] The plaintiffs established standing, the judge wrote, because they "have plausibly alleged a 'credible threat' of impending harm based on the disclosure of their Personal Information following the intrusion."[66]

After the DSW and Sony rulings on standing, two Supreme Court opinions in privacy cases would suggest that it might become even more difficult for plaintiffs in data breach cases to establish standing. Although the cases involved alleged violations of a privacy law, they relied on standing principles that commentators predicted might make it more difficult for plaintiffs in data breach cases.

First, in 2016, the Supreme Court issued its opinion in *Spokeo v. Robins*,[67] a Fair Credit Reporting Act lawsuit against a website that publishes individuals' personal information. While the Supreme Court refrained from definitively ruling whether the plaintiff had standing, it sent the case back to the appellate court to properly examine whether the alleged injury was concrete. "When we have used the adjective 'concrete,' we have meant to convey the usual meaning of the term — 'real,' and not 'abstract,'" the Court wrote.[68] In the months following *Spokeo*, commentary questioned whether the precedent would make it more difficult for data breach plaintiffs to overcome the Article III standing bar.[69]

Following *Spokeo*, in a 2021 opinion, *TransUnion v. Ramirez*, the Supreme Court considered a Fair Credit Reporting Act class action lawsuit against TransUnion, a credit reporting agency, which allegedly incorrectly included the names of 8,185 putative class members on a list of terrorists and criminals.[70] The Supreme Court held that the only class members who had

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[65] Sony Gaming Networks & Customer Data Sec. Breach Litig., 996 F. Supp. 2d 942, 962 (S.D. Cal. 2014).

[66] *Id.*

[67] *Spokeo, Inc. v. Robins*, 578 U.S. 330 (2016).

[68] *Id.* at 340.

[69] *See, e.g.,* Amanda Rodriguez & Caroline Zitin, Spokeo v. Robins*: A Dangerous Case for Privacy Plaintiffs*, 1 GEO. TECH. L. REV. 46, 50 (2016) ("While *Spokeo*'s decision may not appear to have been revolutionary, the decision has already provided courts with a more stringent threshold for analyzing Article III standing questions."); Devin Chwastyk, *Post*-Spokeo *Standing for Consumer Class Actions a Struggle; Products Liability, Mass Torts & Class Action*, LEGAL INTELLIGENCER (Jan. 31, 2017) ("The obliqueness of the decision suggests the court merely kicked the can down the road to allow lower courts and litigants additional opportunities to develop appropriate theories for standing in consumer class actions."), https://www.law.com/thelegalintelligencer/almID/1202777751938/ [https://perma.cc/HU5U-HGCZ].

[70] *Transunion LLC v. Ramirez*, 594 U.S. 413, 418-20 (2021).

standing were the 1,853 people whose information was provided to businesses.[71] Even though Congress passed a law that explicitly provides all 8,185 class members with the ability to sue, the Court reasoned that whether plaintiffs have suffered a "concrete" and "particularized" injury in fact for Article III standing purposes is a separate inquiry. "Congress may enact legal prohibitions and obligations," the Court wrote. "And Congress may create causes of action for plaintiffs to sue defendants who violate those legal prohibitions or obligations. But under Article III, an injury in law is not an injury in fact. Only those plaintiffs who have been concretely harmed by a defendant's statutory violation may sue that private defendant over that violation in federal court."[72]

Particularly relevant to data breach cases was the *TransUnion* court's elaboration on how courts should evaluate whether an alleged injury is sufficiently "concrete" for Article III standing purposes. The central inquiry, the court wrote, "is whether the asserted harm has a 'close relationship' to a harm traditionally recognized as providing a basis for a lawsuit in American courts—such as physical harm, monetary harm, or various intangible harms."[73] Among the "intangible" harms that might be sufficiently concrete, the court wrote, are "reputational harms, disclosure of private information, and intrusion upon seclusion."[74]

Although the case dealt with an alleged violation of a privacy law and not a data breach, lawyers questioned whether *TransUnion* would make it even more difficult for data breach plaintiffs to establish standing.[75] But two years after the Supreme Court issued the opinion, lawyers and commentators report that the circuit split still exists, with some lower courts interpreting Article III standing more broadly than others.[76]

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[71] *Id.* at 417.

[72] *Id.* at 427.

[73] *Id.* at 417.

[74] *Id.* at 425.

[75] *See, e.g.,* Clifford Berlow, Alex Cottingham & Lindsay Harrison, *Supreme Court Limits Article III Standing for Class Action Plaintiffs: Implications for Data Breach Class Actions*, JENNER & BLOCK (July 8, 2021), https://www.jenner.com/en/news-insights/publications/supreme-court-limits-article-iii-standing-for-class-action-plaintiffs-implications-for-data-breach-class-actions [https://perma.cc/V95N-7S5D] ("In particular, TransUnion seems poised to limit the viability of class actions arising from data breaches. The decision likely means, for example, that plaintiffs lack Article III standing when their information may have been accessed but was not misused in a manner causing concrete harm—a subject on which the courts of appeals previously had split. The decision also will limit plaintiffs' ability to assert Article III standing merely based on the violation of privacy statutes alone without any resulting harm.").

[76] Jason Fagelman, Sarah Cornelia & Amanda Thai, *2 Years Later: TransUnion's Impact On Data Breach Litigation*, LAW360 (July 7, 2023), https://www.law360.com/insurance-authority/articles/1696413/2-years-later-transunion-s-impact-on-data-breach-litigation [https://perma.cc/A846-AJH3] ("Although the potential to limit Article III standing in

II. ANALYSIS OF A YEAR OF DATA BREACH CASES

Data breach litigation caselaw has evolved over the past two decades. The legal rules have evolved markedly since the early breaches of DSW and Sony PlayStation. But how? This Article seeks to understand the characteristics of data breaches that lead to class action lawsuits, and the types of companies that tend to be targeted with lawsuits. It examines how, from July 1, 2022 through June 30, 2023, courts applied the rules of *Iqbal*/*Twombly* and Article III standing to determine whether to dismiss data breach class action lawsuits. And it evaluates the likelihood of surviving dismissal motions for different types of claims.

In short, of the 43 cases included in the analysis, 27 had at least one claim survive beyond motions to dismiss for lack of standing or on the merits. While this does not necessarily mean that the plaintiffs would ultimately win on summary judgment or at trial, the analysis establishes that modern data breach plaintiffs often can survive early dismissal attempts and progress to discovery and later stages of class action litigation.

A. Methodology

At the outset, it is important to note that there is not an official source of all "data breach litigation" in the United States. In attempting to collect a representative sample of data breach cases to analyze, we must acknowledge the infeasibility of uncovering every data breach class action lawsuit, in part because no database can be guaranteed to contain every such dispute. So our focus was on following a standardized procedure that would result in a broad range of data breach lawsuits, unbiased by any particular choice of search terms.

We first decided to search for a representative sample of *federal* data breach litigation. Although some data breaches are litigated in state courts, we focused only on federal courts, in part because many states do not have standing rules similar to that of Article III. Moreover, data breaches involving putative class members in multiple states typically end up in federal court.

PACER, the federal judiciary's database, does not allow users to search for data breach litigation, and data breach class actions fall under a number of different types of claims. Accordingly, we could not rely on PACER's search functions to automatically identify data breach cases.

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these cases is real, the courts' mixed application of TransUnion has instead created uncertainty from an early stage of litigation."); *No Injury, No Data Breach Claims? Recent Trends in Evaluating Standing in Data Breach Class Actions*, MORRISON FOERSTER (Apr. 5, 2023), https://www.mofo.com/resources/insights/230405-no-injury-no-data-breach-claims-recent-trends [https://perma.cc/VV4X-W5Y7] ("Even with further guidance from the Supreme Court, the circuits remain split on whether plaintiffs in data breach class actions can meet Article III's injury-in-fact requirement without pleading actual misuse of stolen data.").

To identify cases for the analysis, we searched the LEXIS federal court opinion's database, from July 1, 2022 to June 30, 2023, for any opinion that contains the phrases "data breach" or "ransomware." We then manually reviewed the hundreds of results and looked for data breach class action lawsuits for which the opinion decided a motion to dismiss on the merits and/or Article III standing grounds. We excluded the vast majority of the cases that appeared in the search results. Among the most common reasons for the exclusions:

- While the opinion involved a class action data breach lawsuit, the issue was procedural, such as a discovery dispute.
- The dispute involved a breached company seeking insurance coverage for a data breach.
- The plaintiff was not a representative of a broad class of consumers or employees, but rather a business suing a third-party service provider that was breached.
- A data breach or ransomware was only tangentially mentioned in a dispute that had nothing or little to do with a cybersecurity incident.

Remaining were 43 federal data breach class action lawsuits for which a motion to dismiss was decided on the merits and/or for Article III standing purposes during that year. To be clear, it is quite likely that our data set excluded at least some opinions that fall within the scope of our analysis, in part because the LEXIS database does not necessarily capture every unpublished opinion or ruling from the bench. But any such under-inclusion would not be skewed for or against a particular type of data breach lawsuit and should not substantially impact the value of the observations that we make regarding the 43 cases.

Once we identified the 43 cases for analysis, we pulled the relevant filings—including complaints, amended complaints, motions to dismiss, opposition briefs, reply briefs, and opinions—from the PACER database. We then read the documents both for a qualitative assessment of the breach and resulting claims and to collect standardized data across cases, including:

- The type of industry in which the breach company operates (financial, medical, retail, etc.)
- The type of data subject whose information was compromised (customer or employee)
- The type of information that was stolen (names, addresses, social security numbers, financial data such as credit card and banking numbers, health records, etc.)
- Whether the alleged source of the breach was an outside hacker or an inside threat
- Whether ransomware was allegedly involved
- Whether the plaintiff alleged that the company's legal obligation to safeguard the data came from an internal security policy, an implied duty, or other obligation

- Whether the defendant moved to dismiss the lawsuit for lack of Article III standing, and, if so, how the court ruled
- The claims that the plaintiff presented (negligence, state consumer protection laws, breach of contract, etc.) and how the court ruled on dismissing those claims on the merits.

We split the 43 cases among four professors who thoroughly read each, and produced a text file summary. The summaries included qualitative descriptions of the relevant facts of the case, summaries of the legal arguments in the complaint, response, and the court's ruling. The reviews also included individual hashtags designed to be identified by software and used for a large-scale analysis of the body of caselaw. We wrote custom software to parse and analyze the reviews, extracting the tags and constructing a tagged database of cases, where each case is associated with a collection of tags.

We enforced, in software, the following rules on reviews. First, each review must include tags indicating the following data as alleged in the complaint: the category of information stolen in the breach, the category of victim (employee, user, or business), the number of weeks between the defendant's initial discovery of the data breach and their subsequent notification, whether the breach was caused by an insider attack (if known), a measure of the level of harm alleged to have been suffered by the plaintiff(s) (whether the harm identified was actual financial damage, or only the risk of future damages and/or emotional distress), and whether ransomware was involved in the breach.

Second, we required that every review include data about the legal reasoning used by the plaintiff and court: each review included a tag identifying the reasoning used by the plaintiff to establish the defendant's obligation to secure their data, and whether the court dismissed the case for lack of Article III standing.

Finally, we separated individual claims across all cases into fine-grained groups (grouping together claims under all state consumer protection laws and also all privacy torts, for example), and included tags to note the claims listed in each complaint. We required that if the court ruled on the merits in a case that for each claim identified in the complaint by a tag, there was a corresponding tag indicating the final ruling on the claim.

We also observed that nearly all complaints included a section arguing that the defendant should be aware of the prevalence and danger of cyber attacks, and made an effort to identify the source of the evidence used to establish this: from industry sources, government sources, etc.

B. General characteristics of data breach lawsuits in sample

The breached companies were most commonly sued by former consumers whose data was allegedly compromised. Of the 43 complaints, 28 were filed on behalf of customers, while 9 were filed on behalf of employees whose data was involved in the breach.

Consumer-facing companies also were more commonly the defendants in the lawsuits. Twelve of the suits were filed against retailers, twelve were filed against financial and insurance institutions, eleven were filed against healthcare companies, and seven were filed against healthcare and medical providers. The remaining handful of defendants were in business-to-business fields, education, and other sectors.

Ransomware is often in the news as a top cybersecurity threat, and it often is a component of the incidents that lead to litigation. Although ransomware frequently is a threat to the availability of information, it also can compromise its confidentiality by providing hackers with access to the data that is locked.[77] Indeed, the complaints in 18 of the 43 lawsuits identified ransomware as part of the incident that led to the litigation.

What types of data are most commonly compromised in the cybersecurity incidents that lead to litigation? Most of the complaints identified the categories of information at issue in the breaches. The most frequently cited category was the data subjects' names, which appeared in 38 of the cases. Social security numbers were allegedly compromised in 33 of the cases, and financial account information (such as bank account numbers and credit card numbers) were at issue in 26 cases. The plaintiffs alleged that drivers' license numbers were compromised in 20 of the cases. This finding is not terribly surprising, as most of the plaintiffs learned of the data breaches from notifications provided by the breached companies, and state data breach laws most commonly require notifications of breaches involving names in combination with driver's license numbers, social security numbers, or financial account data.[78] Other sensitive categories of data were not as commonly cited in the complaints. For instance, eleven cases involved health records, one case involved geolocation information, and one case involved human resources data.

The lawsuits typically contained numerous claims, and in many cases, the same type of claim appeared under multiple state laws. Negligence was, by far, the most common type of claim, appearing at least once in 41 of the 43 lawsuits.

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[77] *See* Ido Kilovaty, *Availability's Law*, 88 TENN. L. REV. 69, 85 (2020) ("Both DDoS and ransomware attacks reflect a trend in today's cybersecurity threat landscape. Unlike confidentiality threats, which may result in loss and misuse of sensitive personal data at most, availability threats can have serious physical manifestations."); Jeff Kosseff, *Hacking Cybersecurity Law*, 2020 U. ILL. L. REV. 811, 832-33 (2020) ("An increasingly common availability attack is ransomware, in which a program encrypts data on a computer or system, and the victim can only access the data by paying ransom to the attacker.").

[78] *See* Kosseff, *supra* note 3, at 1014 ("Typically, breach-notification laws require reporting if there has been unauthorized disclosure of an individual's name along with a Social Security number, driver's license or state identification number, or financial account number and access code. However, some states have added categories of information that trigger a notification requirement.").

Breach of contract—often resulting from an explicit privacy policy or terms of use—was pleaded in 22 lawsuits. Ransomware was more likely to appear in cases that included breach of contract claims, with 50 percent of cases with contract claims alleging ransomware, compared to 41.9 percent overall. Fourteen of the cases claimed breach of implied contract, and all but one of them arose from breaches that included compromises of social security numbers.

Plaintiffs alleged violations of state consumer protection laws in 21 of the suits, and unjust enrichment in 23 of the cases. Ten of the cases included privacy torts such as intrusion upon seclusion and public disclosure of private facts, and these cases were more likely to survive Article III standing dismissal motions than the cases that did not contain them.

C. Standing

Among the most important questions for our analysis was whether, a year after *TransUnion*, the Article III standing doctrine presented an insurmountable challenge for most plaintiffs. We found that it did not. Of the 43 cases, the courts considered whether to dismiss for lack of standing in 34.[79] Of those cases, the courts fully dismissed for lack of standing in 14 and fully or partly denied it in 20. Figure 1 breaks down the success of standing-based motions to dismiss based on the type of information compromised in the data breach at issue in the litigation.

[79] In the vast majority of these cases, the courts ruled on a Rule 12(b)(1) motion to dismiss. But because standing is jurisdictional, courts also can raise the issue *sua sponte*, even if the defendant has not filed a Rule 12(b)(1) motion. *See Cent. States Se. & Sw. Areas Health & Welfare Fund v. Merck-Medco Managed Care, L.L.C.,* 433 F.3d 181, 198 (2d Cir. 2005) ("Because the standing issue goes to this Court's subject matter jurisdiction, it can be raised *sua sponte*.").

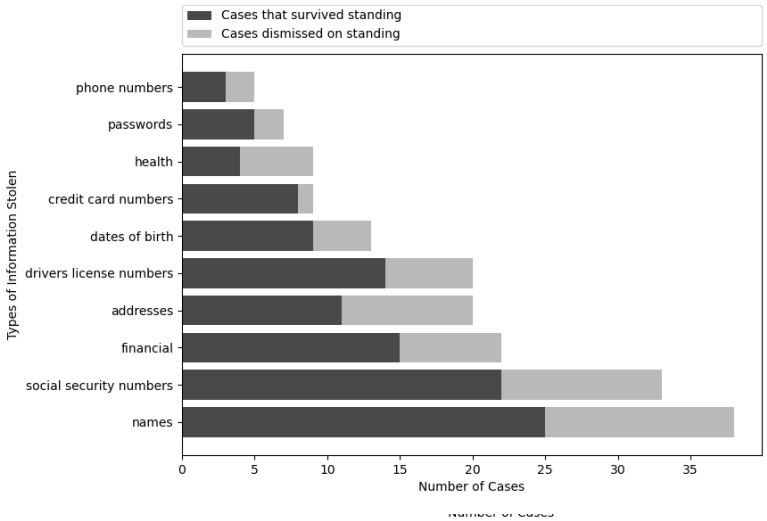

Figure 1

Our analysis suggests that, while Article III standing motions remain a viable tool for many defendants to win pre-discovery dismissal, they are far from certain to succeed, even after *TransUnion.* For instance, Acuity-CHS, a healthcare company that provides employment job screening and other services, suffered a data breach in 2020, and the next year discovered that the names, social security numbers, and birth dates of more than 100,000 people whom the company had served were potentially exposed.[80] In a notice to affected customers, the company stated: "There is no evidence of the misuse of any information potentially involved in this incident."[81]

Ashley Salas, who had used the company's services for employment screening and was among the affected individuals, filed a class action lawsuit on behalf of "[a]ll persons whose Private Information was compromised as a result of the Data Breach discovered on or about September of 2020 and who were sent notice of the Data Breach."[82] The lawsuit, filed in federal district court in Delaware, included claims of negligence, breach of express and implied contract, unjust enrichment, California's Confidentiality of Medical Information Act, California's Unfair Competition law, and the California Customer Records Act.[83] Acuity-CHS moved to dismiss the entire lawsuit due to

[80] *Salas v. Acuity-CHS, LLC*, No. 22-317-RGA, 2023 WL 2710180, at *1 (D. Del. Mar. 30, 2023).

[81] *Id.*

[82] *Id.*

[83] *Id.*

lack of standing, arguing that the plaintiff failed to establish both injury in fact and traceability.[84]

Acuity-CHS argued that Salas's alleged injury in fact was neither imminent nor concrete, and therefore failed to meet the requirements for Article III standing.[85] The court's inquiry into whether the alleged injuries were sufficiently imminent grew out of the fact that Salas did not allege that she suffered identity theft as a result of the breach.[86] Rather, the lawsuit claimed that her data was "accessed and viewed . . . with the intent of selling it and/or using it fraudulently to profit from such use,"[87] and that it is "for sale to criminals on the dark web."[88] Salas alleged that after the breach, she "received an alert through her identity theft monitoring service that her email address had recently been used in a potential identity theft incident," though the complaint did not allege any actual identity theft.[89] Such an allegation is unnecessary to support a finding that the injury was sufficiently imminent, the judge reasoned, provided that "other factors" were present. "Ms. Salas alleges that unauthorized parties intentionally accessed her data, and that those data include sensitive information, such as her Social Security number, birth date, and first and last name," the court reasoned, concluding that the allegations were sufficiently imminent.[90] Nor did the court accept Acuity-CHS's argument that Salas's alleged harms were not sufficiently concrete. "Among other things, she alleges anxiety and distress due to her fear that her private information will be misused, and current and future costs in terms of time, effort and money spent mitigating the impact of the data breach," the court wrote, concluding that Salas adequately alleged an injury in fact.[91]

The court also rejected Acuity-CHS's argument that the injury in fact was not traceable to the company's breach.[92] The gravamen of the company's argument was that Salas claimed that her email address was misused but the email address was not part of the company's data breach.[93] But that argument failed to persuade the court. "Ms. Salas makes other allegations of misuse, including misuse of the information directly impacted by the data breach—her name, date of birth, and Social Security number—which she alleges are 'for sale on the Dark Web,'" the court wrote.[94]

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[84] *Id.* at *2.
[85] *Id.* at *3.
[86] *Id.* at *4.
[87] *Id.*
[88] *Id.*
[89] *Id.*
[90] *Id.* at *5 (citation omitted).
[91] *Id.* at *6 (cleaned up).
[92] *Id.*
[93] *Id.*
[94] *Id.*

In concluding that Salas had standing to sue, the court acknowledged the recent *TransUnion* precedent.[95] But as with most of the 43 cases, that precedent did not prevent the court from finding that the plaintiff had standing. Moreover, the fact that Salas did not allege that identity theft had actually taken place was not a barrier to her lawsuit. This lends support to the commentators who speculate that *TransUnion* did not reshape the legal landscape in favor of data breach defendants.

Indeed, the Third Circuit, which was the first federal appellate court to consider whether data breach plaintiffs had standing after the *TransUnion* ruling, adopted a broad, plaintiff-friendly rule.[96] Relying on the *TransUnion* framework, the Third Circuit concluded that "the data breach context, where the asserted theory of injury is a substantial risk of identity theft or fraud, a plaintiff suing for damages can satisfy concreteness as long as he alleges that the exposure to that substantial risk caused additional, currently felt concrete harms."[97] Such "currently felt" concrete harms, the Court wrote, could occur "if the plaintiff's knowledge of the substantial risk of identity theft causes him to presently experience emotional distress or spend money on mitigation measures like credit monitoring services."[98]

Although Article III standing challenges do not always result in automatic dismissals of data breach cases, they may continue to present barriers to plaintiffs, even if their alleged injuries are similar to Salas's. For instance, four plaintiffs sued Elephant Insurance Company after a data breach allegedly exposed the names, birthdays, and driver's license numbers of current, former, and prospective customers.[99] The court concluded that all four plaintiffs lacked standing, and rejected each of the plaintiffs' attempts to establish injury in fact.[100] For example, the plaintiffs argued that the increased risk of identity theft in the future created standing, but the court reasoned that the plaintiffs must plead more than that. "Although the plaintiffs closely monitor their credit reports and financial accounts, none have alleged misuse of their PI," the court wrote. "None have pleaded facts to support their allegations of certainly impending identity theft."[101] Nor did the court agree that the appearance of two of the plaintiffs' drivers' license numbers on the dark web created standing. The court reasoned that drivers' license alone, without other information such as name and state, does not create a sufficiently large risk of identity theft. "Because the plaintiffs have not alleged any misuse of their PI or resulting harm from their driver's license numbers appearing on

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[95] *Id.* at *5.

[96] *Clemens v. ExecuPharm Inc.*, 48 F.4th 146 (3d Cir. 2022).

[97] *Id.* at 155-56.

[98] *Id.* at 156.

[99] *Holmes v. Elephant Ins. Co.*, No. 3:22cv487, 2023 WL 4183380, at *1 (E.D. Va. June 26, 2023).

[100] *Id.* at *6.

[101] *Id.* at *4.

the dark web, this alleged injury simply echoes the claim of heightened risk of identity theft," the Court wrote.[102]

In addition to alleging increased risk of identity theft, the plaintiffs claimed that the emotional distress from the data breach injured them.[103] Two of the plaintiffs claimed that they suffered "significant fear, anxiety and stress," but the court found this too speculative. "Neither plaintiff expands upon these conclusory allegations of emotional distress," the court wrote.[104] Nor did the court accept the plaintiffs' claim that they suffered an injury in fact due to the allegedly diminished value of their personal information. "They allege no facts to explain how their PI lost value and instead only repeat conclusory statements," the court wrote.[105] The court also refused to conclude that the plaintiffs suffered an injury in fact because they monitored their financial accounts after the breach. "Even if the plaintiffs had alleged that they spent money on protective services, the Fourth Circuit has held that expenses incurred on preventative or mitigative measures do not constitute an injury," the court wrote.[106]

The failure of the Elephant Insurance plaintiffs to convince the court that they had standing, despite numerous arguments,[107] demonstrates the continued efficacy of the Article III standing argument for some defendants in data breach cases. Still, our analysis of the 2022-23 cases shows that motions to dismiss for lack of standing are not a surefire win for defendants, and more often than not will be denied, even if the plaintiffs do not plead that identity theft or other harms have already occurred. This may change if the Supreme Court eventually agrees to hear a case involving an Article III standing challenge to a data breach case, as the court might definitively state what types of breach-related injuries qualify for standing purposes. But *Spokeo* and *TransUnion* provide lower courts with enough flexibility that they can find standing even if identity theft has not already taken place.

D. Dismissal on the merits

Even if plaintiffs convince the court that they have standing to sue, they often also must persuade the court to deny defendants' Rule 12(b)(6) motion to dismiss the lawsuit for failure to state a claim on the merits. In most of the cases in the sample, defendants simultaneously moved to dismiss for lack of standing and failure to state a claim on the merits.

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[102] *Id.*

[103] *Id.* at *5.

[104] *Id.*

[105] *Id.*

[106] *Id.*

[107] The court concluded that one of the four plaintiffs had suffered an injury in fact because he alleged that he "began experiencing an uptick in spam text and telephone calls that he attributes to this Data Breach," *id.* at *6, but it ruled that he, too, lacked standing because those communications were not traceable to the defendant. *Id.*

Of the 29 cases that were not dismissed for lack of Article III standing, 27 had at least one claim survive after the courts considered the Rule 12(b)(6) motions to dismiss for failure to state a claim.

If a plaintiff included a claim in a lawsuit, the court did not necessarily rule on whether to dismiss it on the merits. In some cases, the defendant did not file a Rule 12(b)(6) motion at all, instead relying entirely on a motion to dismiss for lack of standing. In other cases, the defendant only moved to dismiss some claims on the merits. And even if the defendant moved to dismiss for failure to state a claim, the court may not have ruled on that motion if it instead dismissed the case for lack of standing.

Negligence, which was alleged in 41 of the 43 cases, also was among the most likely to survive a Rule 12(b)(6) motion. Of the 27 motions to dismiss for failure to state a claim for negligence that courts ruled on, they fully denied 17, granted 7, and issued mixed rulings in 3 (Because many class actions allege the same claims under the laws of multiple states, some courts dismiss certain negligence claims while allowing the claims under other state laws to proceed. This often depends on whether the state has adopted the economic loss doctrine.)

Negligence per se claims, which rely on a particular statutory or regulatory duty of care, were generally not as likely to survive Rule 12(b)(6) motions as negligence claims. Of the seven motions to dismiss negligence per se claims on the merits, five were granted and two were denied.

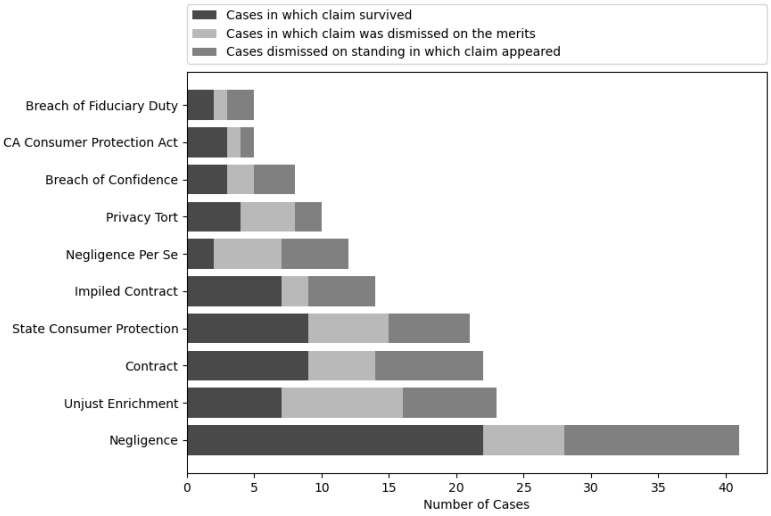
Claims under state consumer protection laws also fared less successfully, but also often resulted in only partial dismissals due to variations in state laws. Of the fourteen Rule 12(b)(6) motions that courts ruled on involving state consumer protection laws, the courts only fully denied two, fully granted six, and issued mixed rulings in six.

Claims arising from breach of contract succeeded in part depending on whether the claim was for the breach of an express contract (such as a privacy policy or terms of use) or an implied contract that was formed due to the relationship between the company and data subject. Of the thirteen motions to dismiss breach of express contract claims that received rulings on the merits, six were granted, six were denied, and one received a mixed ruling due to different state contract laws. But courts were more likely to allow implied contract claims to proceed. Of the eight motions to dismiss breach of implied contract claims that received merits rulings, six were denied and only two were granted.

While most data breach-related claims fall under torts and consumer protection laws that existed long before computers, the California Consumer Privacy Act, passed in 2018, creates a remedy explicitly for data breach subjects. The statute allows consumers whose information was compromised by "an unauthorized access and exfiltration, theft, or disclosure as a result of the business's violation of the duty to implement and maintain reasonable security procedures and practices" to sue for between $100 and $750 per

person.[108] The statute appears to provide a cause of action that often allows plaintiffs to proceed beyond a motion to dismiss. Of the four motions to dismiss CCPA claims that received rulings on the merits, only one was granted and three were denied.

Figure 2 below depicts the viability of each claim in the 43 cases. The dark blue line shows the number of cases in which each claim survived beyond the motions to dismiss. The light blue line shows the number of claims that are dismissed on Rule 12(b)(6) motions for failure to state a claim on the merits. And the green line depicts the cases in which the claims were dismissed for lack of standing. Claims appearing in fewer than five cases do not appear



in the figure.

Figure 2

While many of the suits were narrowed, with some but not all of the claims getting dismissed, plaintiffs only need one claim to survive for their lawsuit to move into the later stages of litigation, such as class certification and discovery.

For instance, after the district court denied Acuity-CHS's motion to dismiss Salas's class action lawsuit for lack of standing, it proceeded to consider the company's Rule 12(b)(6) motion to dismiss the negligence, breach of express contract, breach of implied contract, and unjust enrichment claims for failure to state a claim.[109] Applying the *Iqbal/Twombly* plausibility rule, the court reached a mixed result.

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[108] CAL. CIV. CODE § 1798.150.

[109] *Salas v. Acuity-CHS, LLC*, No. 22-317-RGA, 2023 WL 2710180, at *6-12 (D. Del. Mar. 30, 2023).

The court dismissed Salas's negligence claim because Delaware courts recognize the "economic loss doctrine," which prevents tort claims for "purely economic losses" because breach of contract is typically the more appropriate remedy.[110] Salas argued that "the alleged loss of value of her private information" was property damage that overcomes the doctrine's bar, but the court rejected that argument, reasoning that "diminution of the value of personal information is an economic loss, rather than property damage."[111]

The economic loss doctrine does not bar contract claims, and, in fact, the court rejected the company's attempt to dismiss Salas's breach of implied contract claim.[112] Salas claimed in her complaint that the company and class members "entered into implied contracts for the provision of health care services, as well as implied contracts for the Defendant to implement data security adequate to safeguard and protect the privacy of Plaintiff's and Class members' Private Information."[113] Although the judge recognized that the caselaw is "unsettled" as to whether such transactions can create an implied contract in a data breach case, he was unwilling to dismiss it at such an early stage.[114] He also rejected the company's arguments that Salas insufficiently pleaded damages and that the company did not breach data security duties outlined in specific documents such as its privacy notices.[115]

Nor did the judge grant the company's motion to dismiss Salas's unjust enrichment claim.[116] For a plaintiff to succeed in an unjust enrichment claim, they must establish "the unjust retention of a benefit to the loss of another, or the retention of money or property of another against the fundamental principles of justice or equity and good conscience."[117] The judge rejected the company's claim that it did not "benefit" from Salas's personal information. "I accept as true Ms. Salas's allegation that she paid CHS money for its services, and money certainly benefits CHS," he wrote.[118]

Although the judge allowed Salas's implied contract claim to survive, her express contract claim was not as successful. In her complaint, she claimed that she had entered an express contract with the company "under which Plaintiff and other class members agreed to provide their Private Information to Defendant, and Defendant agreed to provide medical exam services and protect Plaintiff and Class members' Private Information."[119] The express

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[110] *Id.* at *7.

[111] *Id.*

[112] *Id.* at *11.

[113] *Id.* at *9.

[114] *Id.* at *10.

[115] *Id.*

[116] *Id.* at *11.

[117] *Id.* (quoting *Fleer Corp. v. Topps Chewing Gum, Inc.*, 539 A.2d 1060, 1062 (Del. 1988)).

[118] *Id.*

[119] *Id.* at *8.

contracts, she alleged, came from "HIPAA privacy notices and explanation of benefits documents."[120] The court found that this argument was not sufficiently specific to plausibly identify an express contract. "She provides no detail as to the terms of the 'HIPAA privacy notices and explanation of benefits documents'—she merely avers that these documents exist," the court wrote, dismissing the express contract claim.[121]

While the *Iqbal/Twombly* standard forced the court to carefully evaluate the plausibility of Salas's claim, it ultimately was not enough to cause the court to entirely dismiss the lawsuit. While one might argue that dismissal of two of the four claims was a victory for the defendants, the survival of the two other claims means that the case might proceed to discovery and later stages of litigation.

In some cases, courts rely on the rationale for establishing standing in their determination that the plaintiffs plausibly stated a claim for relief. For instance, in a putative class action lawsuit against TIC International Corp., a benefits administrator, plaintiff Rodney Krupa alleged that he was one of more than 180,000 people whose names and social security numbers were disclosed in a breach.[122] TIC's motion to dismiss claimed both that he lacked standing and that he failed to state negligence and contract claims because he only plead future potential injuries.[123]

The court reasoned that "TIC's two arguments are basically one argument": standing requires an injury, as do claims for breach of contract and negligence.[124] "At first glance, this seems an odd case to be arguing about standing and damages," the court wrote. "Krupa is not a random plaintiff speculating about future risks of harm or seeking to assert the rights of others—he personally is a victim of a data breach that actually happened. His social security number was stolen, and he alleges that TIC had it been more careful could have prevented the theft. If this were a bank robbery no one would blink. It is a classic adversarial case."[125]

TIC's only argument both on standing and the merits, the judge reasoned, would be that hackers' access to social security numbers is not an injury.[126] And he had trouble accepting that line of thought. "Having one's social security number stolen seems an obvious harm," he wrote, fully denying the motion to dismiss. "If it were not a harm, why should TIC (or anyone else) take any data security measures? TIC might as well leave its customer lists in a spreadsheet on its website. Then there would be no data breach to report;

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[120] *Id.*

[121] *Id.* at *9.

[122] *Krupa v. TIC Int'l Corp.*, No. 1:22-cv-01951-JRS-MG, 2023 WL 143140, at *1 (S.D. Ind. Jan. 10, 2023).

[123] *Id.*

[124] *Id.*

[125] *Id.* at *2.

[126] *Id.*

potential plaintiffs would likely never learn their social security numbers were exposed by TIC; and anyone who did identify and sue TIC over the resulting identity theft could be stymied by proof-of-fact issues as to where the thief got the victim's number."[127]

Most claims in data breach suits—such as the negligence and contract claims that Krupa made against TIC International—are not specific to data breaches. Plaintiffs sue for a variety of injuries and harms under both negligence and contract, as well as other common law and statutory claims. But that is starting to change, as states pass data protection laws that include private rights of action for data breach victims. The most prominent such law is the California Consumer Privacy Act, discussed above. The CCPA was among the claims that plaintiffs Aviva Kirsten and Jeremy Pitman made in their lawsuit against their former employer, California Pizza Kitchen, following a breach that compromised their dates of birth, financial information, and social security numbers.[128] The plaintiffs alleged that they suffered numerous identity theft attempts and spent a great deal of time and money remediating the harms.[129]

The CCPA allows recovery of damages due to the breached company's "violation of the duty to implement and maintain reasonable security procedures and practices appropriate to the nature of the information to protect the personal information."[130] California Pizza Kitchen sought to dismiss the CCPA claim, arguing that the complaint failed to plausibly allege that the restaurant chain violated that duty. But the court rejected this argument, pointing out that the plaintiffs' personal information is available publicly on the internet.[131] "In similar data breach situations, other district courts in this circuit have held that when plaintiffs alleged that defendants allowed unauthorized parties on the internet to access plaintiffs' PII, plaintiffs plausibly alleged that defendants failed to maintain reasonable security procedures," the court reasoned.[132] This suggests that a data security-specific statute such as the CCPA provides a court with more leeway to allow a data breach-related claim to proceed past a Rule 12(b)(6) motion. The court is not merely assessing whether a company has met a vague duty of care, as in a negligence claim, but has a growing body of caselaw as to what constitutes a "reasonable security procedure."

Indeed, not all claims in the California Pizza Kitchen lawsuit survived the Rule 12(b)(6) motion. For instance, the plaintiffs included an invasion of privacy claim, which requires them to plead that "(1) a defendant 'intentionally

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[127] *Id.*

[128] *Kirsten v. California Pizza Kitchen*, No. 2:21-CV-09578-DOC-KES, 2022 WL 16894503 (W.D. Wash. July 29, 2022).

[129] *Id.* at *1.

[130] CAL. CIV. CODE § 1798.150(a)(1).

[131] Kirsten, 2022 WL 16894503, at *3.

[132] *Id.*

intrude[d] into a place, conversation, or matter as to which the plaintiff has a reasonable expectation of privacy[,]' and (2) the intrusion 'occur[red] in a manner highly offensive to a reasonable person.'"[133] The court agreed with California Pizza Kitchen that the plaintiffs failed to identify a specific act that intruded upon the privacy of the plaintiffs. The plaintiffs, the court reasoned "have not provided anything specific regarding whether or how Defendant knew its security was deficient or any other allegations indicating that Defendant intentionally allowed unauthorized access to Plaintiffs' PII."[134] This suggests that a more modern, data security-focused statute such as the CCPA may in some cases be easier for plaintiffs to satisfy than a century-old tort like invasion of privacy.

III. LESSONS FOR THE FUTURE

A. Lessons for Policymakers

While lawmakers and regulators continue to debate internal jurisdictional issues such as the amount of specific regulatory authority the Federal Trade Commission should have over cybersecurity, they should recognize that some of the most effective regulation is being done by plaintiffs' lawyers' use of the judicial branch.

Data security litigation helps to promote cybersecurity by providing companies with an incentive to avoid costly settlements. Moreover, the terms of settlements do far more than attempt to monetarily compensate class members, named plaintiffs, and plaintiffs' counsel. The settlements often include injunctive relief, requiring companies to take specific remedial steps to prevent future cybersecurity incidents.[135] As litigators at Locke Lorde wrote in 2014, the injunctive relief often helps persuade the court to approve a class action settlement, as it shows a concrete benefit beyond a small payment per affected data subject.[136]

This injunctive relief often is tailored to the specific breach, with the goal of requiring the company to make policy changes and cybersecurity

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[133] *Id.* at *4 (quoting *In re Facebook Inc. Internet Tracking Litig.*, 956 F.3d 589, 601 (9th Cir. 2020)).

[134] *Id.*

[135] *See* WYATT, *supra* note 14 ("In general, we continue to see data breach settlements following one of two well-developed templates: injunctive relief and offer of credit-monitoring services combined with either a claims-made settlement (sometimes with an aggregate cap) or a non-reversionary settlement fund.").

[136] Thomas J. Cunningham, Bart Huffman & Charles M. Salmon, *Settlement Trends in Data Breach Litigation*, FINANCIER WORLDWIDE (August 2014), https://www.financierworldwide.com/settlement-trends-in-data-breach-litigation [https://perma.cc/QP39-5BWH] ("Agreeing to change policies and procedures, or to increase data security in concrete ways, will go a long way toward convincing a judge that a settlement should be approved, especially in cases that do not involve actual monetary loss by class members.").

investments to prevent a repeat. For instance, in the T-Mobile settlement, the company agreed to spend $150 million more on data security than it had previously budgeted in 2022 and 2023.[137] The company also agreed that it would provide plaintiffs' lawyers with "additional confirmatory information related to its remediation of the issues directly relevant to the Data Breach."[138] Likewise, in the 2019 settlement of the lawsuit arising from the massive Equifax data breach,[139] within the 294-page settlement agreement, the credit monitoring company agreed to dozens of specific information security improvements, such as strong encryption,[140] vulnerability scanning,[141] penetration testing,[142] biannual incident response exercises,[143] annual employee information security training,[144] and spending at least $1 billion on information security over five years.[145] And in the 2022 settlement for a lawsuit arising from a breach of Capital One, the financial institution agreed to adopt "a comprehensive Cyber Event Action Plan designed to enhance and maintain a strong and sustainable cybersecurity program commensurate with the nature, size, complexity, and risk profile of the organization."[146] That plan includes specific improvements to perimeter security and cloud governance,[147] access management safeguards,[148] and improving the recruitment of skilled cybersecurity professionals.[149]

These changes are not mere window dressing for a financial settlement. They require hundreds of millions of dollars in investments and operational changes that bolster the companies' cybersecurity. Unless the FTC and state attorneys general receive substantial appropriations to expand their cybersecurity regulatory teams many times over, it is doubtful that they could ever achieve the same results in as many cases as the growing data security plaintiffs' bar has done in recent years.

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[137] Class Action Settlement Agreement and Release at 15, *In re T-Mobile Customer Data Sec. Breach Litig.*, No. 4:21-md-03019BCW (W.D. Mo. July 22, 2022).

[138] *Id.* at 16.

[139] Settlement Agreement and Release, *In re Equifax Inc. Customer Data Sec. Breach Litig.*, No. 1:17-md-2800-TWT, Doc. No. 739-2 (N.D. Ga. July 22, 2019).

[140] *Id.* at Ex. 3 ¶ 15.

[141] *Id.* at ¶ 7.

[142] *Id.* at ¶ 8.

[143] *Id.* at ¶ 20.

[144] *Id.* at ¶ 18.

[145] *Id.* at ¶ 22.

[146] Settlement Agreement and Release Exhibit 1 at Ex. 2 ¶ 2, *In re Capital One Consumer Data Sec. Breach Litig.*, No. 1:19-md-2915-AJT-JFA, Doc. No. 2219-1 (E.D. Va. Jan. 31, 2022).

[147] *Id.* at ¶ 2(a)(i).

[148] *Id.* at ¶ 2(a)(iii)

[149] *Id.* at ¶ 2(c).

As policymakers step back and consider how to best regulate and incentivize strong cybersecurity safeguards, they must consider the benefits of private litigation. Some barriers to litigation—such as Article III standing dismissals—are beyond the control of lawmakers and regulators, as they cannot alter the constitutional framework set by the courts. But lawmakers at both the federal and state levels could pass statutes that create effective and clear causes of action that allow plaintiffs to fairly hold companies accountable for inadequate cybersecurity. The laws should be sufficiently clear so that companies can fairly anticipate how to satisfy the legal standards.[150]

The California Consumer Privacy Act is a starting point for such discussion, as it specifies unreasonable data security as the trigger for its private cause of action. The CCPA is preferable to the state consumer protection statutes, which generally apply to "unfair" or "deceptive" trade practices, which may or may not include poor data security. But even the CCPA could use more clarity, as it leaves it to courts to determine what constitutes "reasonable" security. A more effective cause of action might specify the types of security safeguards that meet the minimum requirements, or at the very least provide categories of safeguards that help a court determine whether the company had "reasonable" security. Such a proposal might face opposition because data breaches are often quite case-specific, and technology may evolve faster than laws could change. Such concerns are valid, and might be addressed by giving an expert agency rulemaking authority to issue guidance as to "reasonable" cybersecurity safeguards.

B. Lessons for Plaintiffs

The analysis of the 43 data breach cases filed during the year suggests that plaintiffs can overcome the initial hurdles of motions to dismiss, though such success is far from certain. But the apocalyptic predictions that followed the *Spokeo* and *TransUnion* opinions have not materialized. Plaintiffs are filing a growing number of data breach-related lawsuits, and many of those lawsuits are surviving early dismissal motions. And courts are at least willing to allow claims to survive standing challenges, particularly if the plaintiffs can demonstrate that they have suffered actual harm.

Even in cases in which identity theft and other harms have not yet occurred, courts still are open to allowing the claims to proceed. The chances of success depend in part on factors beyond the control of plaintiffs, such as the standing-related precedent of the circuit in which the complaint is filed, and the district court judge's willingness to entertain the possibility of future harms. But plaintiffs are generally more likely to survive a motion to dismiss for lack of standing if they present a solid argument as to why the future

[150] *See* Kosseff, *supra* note 77, at 826 ("Cybersecurity requires companies to develop detailed policies and procedures, and to train new and current employees. Before a company invests the time and money in developing these new policies and procedures, it should have some clarity regarding the applicable regulatory requirements.").

harm is imminent. The review of cases in which plaintiffs defeated a Rule 12(b)(1) motion suggests that the more information that they have about unauthorized access to personal information, the more likely the court is to find that the plaintiffs have standing. A plaintiff's allegation that a cybersecurity incident left personal information publicly available is less likely to succeed without a claim that hackers or other parties actually accessed it. Even if the plaintiffs cannot allege that the unauthorized parties had already used that information for identity theft or other harms, such access increases the chances that a court will find the injury to be imminent and concrete.

As to the types of claims that plaintiffs file, the analysis suggests that negligence is among the more likely categories to succeed in the early stages of litigation. It therefore is not surprising that negligence also was the most common claim in the cases analyzed for this Article. Even in lawsuits arising from high-profile data breaches, plaintiffs appear to be selective as to the types of claims that they include in their lawsuits. The lawsuits appear to be somewhat tailored to the specific breach and alleged harms, and the plaintiffs generally avoid throwing every claim at the court and seeing what sticks.

This selectivity might be at least partly due to the growing sophistication of the cybersecurity plaintiff's bar. The increased frequency of data breach claims has led not only to the growth of cybersecurity-focused defense counsel, but also to a growing plaintiffs' bar that specializes in representing data breach victims. These specialists are more likely to understand the types of claims that are more likely to succeed given the particular facts of a breach. They also are more likely to know which jurisdictions are more amenable to data breach claims; for instance, they likely are aware of the states' economic loss doctrines, and would be more likely to file a negligence claim under the law of a state that does not bar purely economic negligence lawsuits.

Surviving a motion to dismiss does not mean that the plaintiff will suddenly recover a windfall in damages and make the time and costs of the litigation worthwhile. The plaintiff still may face additional hurdles at class certification, summary judgment, and trial. But summary judgment motions in data breach cases are rare, and trials are extraordinarily rare.[151] In reality, even just partial survival will put settlement talks on a fast track.[152] Because

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[151] *See* Kristin Bryan, Rafael Langer-Osuna & Ericka Johnson, *Key Litigation Takeaways From Rare Data Breach Trial*, PRIVACYWORLD (Apr. 4, 2022), https://www.techtarget.com/searchsecurity/news/252473857/How-and-why-data-breach-lawsuits-are-settled [https://perma.cc/DH3C-GB7A] ("Although data breaches and data breach litigation are not rare, trials concerning the appropriate response to cybersecurity incidents are.").

[152] *See* Alexander Culafi, *How and Why Data Breach Lawsuits are Settled*, TECHTARGET (Nov. 12, 2019), https://www.techtarget.com/searchsecurity/news/252473857/How-and-why-data-breach-lawsuits-are-settled [https://perma.cc/987G-XYWR] (quoting cybersecurity lawyer David Berger as stating: "It's true that a lot of data breach cases are settled before the class is certified. And as part of the settlement the parties will ask that the court

the motions to dismiss in the 43 cases in this analysis were decided relatively recently, we do not have statistics on the number that have settled and, if so, the amount for which they settled. But other large data breach cases indicate that companies are willing to pay substantial settlements. For instance, a 2021 data breach resulted in T-Mobile settling a class action lawsuit for $350 million.[153] The partial failure of motions to dismiss increases the economic incentive for plaintiffs and their lawyers to bring data breach lawsuits.

C. Lessons for Companies

Perhaps the most important takeaway for companies is that if they are sued for a data breach, there is a reasonable chance that at least part of that lawsuit will survive beyond a motion to dismiss. Despite the somewhat defendant-friendly rulings in *Spokeo* and *TransUnion*, lower courts often are willing to find that plaintiffs have standing even if they have not yet suffered actual harm.

This means that companies will either need to shoulder substantial litigation and discovery costs, or quickly begin discussions with plaintiffs about settlement. The cost of the settlement will reach beyond the monetary payments to the class and plaintiffs' counsel. The equitable relief discussed above in Part III.A can cost hundreds of millions of dollars.

Of course, there is an option that avoids costly discovery or settlement: avoid being the defendant in a meritorious data breach lawsuit. This is easier said than done, as threats continue to evolve every day, and no company has impenetrable cybersecurity.[154] Even if a company invests more in cybersecurity than any competitor in its sector, there is always a chance that clever hackers or insider threat actors will figure out how to penetrate those protections.

Companies may never be able to eliminate the chances of a data breach and a resulting lawsuit, but they could *reduce* the chances of a *successful* breach lawsuit by examining the characteristics of the lawsuits that are more likely to survive motions to dismiss. For many claims, such as negligence,

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certify the class and then approve the settlement. And I think the reason they settle at that point is that there are huge risks for both sides going forward.").

[153] *See* Dan Avery, *Deadline Passes on T-Mobile's $350 Million Settlement Days After Another Data Breach*, CNET (Jan. 24, 2023), https://www.cnet.com/personal-finance/deadline-passes-on-t-mobiles-350-million-settlement-days-after-another-data-breach/ [https://perma.cc/VAS3-PKTX].

[154] Mike Lloyd, *Perfect Cybersecurity Makes No Business Sense,* FORBES (Sept. 21, 2017), https://www.forbes.com/sites/forbestechcouncil/2017/09/21/perfect-cybersecurity-makes-no-business-sense/?sh=37e634441757 [https://perma.cc/PWM5-28RP] ("Perfect protection is technically impossible, but it also makes zero business sense. A competitive business would like to spend the minimum amount possible to arrange appropriate reductions in risk (not risk elimination) and then establish a proper mitigation plan once those risks come up snake eyes. What the business wants, in a word, is resilience.").

state consumer protection laws, and CCPA, the ultimate inquiry in data breach cases is reasonableness. Although the legal tests are phrased differently, a strong defense to such claims is that the company's cybersecurity practices were in line with those of other companies in the industry; in other words, the security practices were reasonable. A defendant cannot present evidence at the motion to dismiss stage, which limits the force of a reasonableness defense at that stage. But at the very least, an absence of clear cybersecurity shortcomings deprives the plaintiff of the ability to make specific allegations of *unreasonable* cybersecurity in the complaint.

The analysis also suggests that companies should be particularly careful when collecting, processing, and storing particularly sensitive information such as social security numbers, as courts are more likely to conclude that breaches involving that data lead to an injury in fact and, therefore, standing. While companies should adopt strong safeguards for all customer information, they should take special care for the sensitive data that is more likely to lead to identity theft and other harms.

The analysis also suggests that companies should be particularly focused on preventing ransomware. Companies have long had good operational reasons to seek to avoid ransomware, as it could result in their systems and data being inaccessible to employees, but the analysis also shows that ransomware frequently results in compromises of personal data confidentiality, leading to litigation.

CONCLUSION

After more than two decades of high-profile data breaches, the United States continues to struggle to figure out how to use law and policy to promote better private sector cybersecurity. While a great deal of debate has focused on federal and state regulation, the class action litigation system has been effective in providing strong incentives for companies to invest in cybersecurity. The analysis in this article demonstrates that, although companies can succeed in convincing courts to dismiss some data breach class actions in the early stages, motions to dismiss for lack of standing and on the merits are far from surefire winners. Plaintiffs have good reason to file data breach class action lawsuits, and companies have good reason to avoid them. And as policymakers determine how companies should secure personal and sensitive information, they should consider incorporating those security standards into causes of action that allow private parties to use the litigation system as an enforcement tool.

ARTICLE

THINNING BIOLOGICS PATENT THICKETS

RYAN P. KNOX*

For decades, pharmaceutical manufacturers have employed strategies to protect their drug monopolies, preventing the entry of competitors and maintaining high drug prices. One of the strategies pharmaceutical manufacturers, particularly biologics manufacturers, have used to maintain market exclusivity and thwart competition has been patent thickets.

Biologics patent thickets are created when manufacturers accumulate many patents – sometimes in the hundreds – on one drug product. Patent thickets serve two purposes. First, they provide extended patent exclusivity for the biologic, delaying the possibility of biosimilar competition. Second, they raise the transaction costs for prospective biosimilar entrants, as the associated patent infringement litigation is expensive and it can be difficult to determine if biosimilar competitors would be infringing on any of the numerous patents in the thicket. As a result, patent thickets maintain high drug prices, raise barriers for patient access, and increase healthcare spending. Further, patent thickets may have unintended consequences on pharmaceutical innovation, preventing and incremental innovation in biologics.

Lawmakers and advocates have called for interventions to stem the frequency of patent thickets in the pharmaceutical market. Yet several barriers have impeded efforts to dismantle patent thickets through litigation or to deter their development through reforms. In particular, the regulatory

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dynamics within the pharmaceutical industry, especially related to the US Food and Drug Administration (FDA), change how the incentives of patent exclusivity work compared to other industries. These regulatory challenges both highlight the underlying problem encouraging patent thickets and point to solutions to promote access to medicines and biosimilar competition.

This Article engages with the existing FDA regulatory incentives and dynamics to frame the debate surrounding biologics patent thickets, focusing on the goals of promoting access to medicines and biosimilar competition. It illustrates why biologics patent thickets are a problem, characterizing the suboptimal regulatory, innovation, and public health incentives present in the current system, and identifies the legal, regulatory, and practical barriers impeding potential and proposed reforms. This Article then presents potential solutions to address biologics patent thickets and recommends a change to the rights granted by FDA approval – requiring manufacturers permit biosimilar competition after the end of their regulatory exclusivities. Such a solution could accelerate biosimilar competition, promote access to affordable medications, and recalibrate the current innovation and patent incentives for biologics.

CONTENTS

INTRODUCTION

The high costs of prescription drugs in the United States (US) continue to be a burden for patients and the healthcare system alike. In 2021, the median drug launch price for cancer drugs was over $230,000 – more than three times the median US annual household income.[1] The median price of new drugs in 2022 exceeded $200,000.[2] In 2023, at least seven drugs had US list prices exceeding $1 million per patient per year, with the highest priced drug, Hemgenix (etranacogene dezaparvovec-drlb), having a list price of $3.5 million per dose.[3] Common drugs continue to repeatedly raise prices, with unsupported price increases generating billions of dollars in additional healthcare spending.[4] These expensive drugs threaten to bankrupt federal and state health insurance programs, including Medicaid, and patients across the country.[5] In

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[1] *See* Deena Beasley, *U.S. New Drug Price Exceeds $200,000 Median in 2022*, REUTERS (Jan. 5, 2023), https://www.reuters.com/business/healthcare-pharmaceuticals/us-new-drug-price-exceeds-200000-median-2022-2023-01-05/ [https://perma.cc/JE99-97NB]; Jessica Semega & Melissa Kollar, *Income in the United States: 2021*, U.S. CENSUS BUREAU (Sept. 13, 2022), https://www.census.gov/library/publications/2022/demo/p60-276.html [https://perma.cc/XF9D-H4CK]; OFFICE OF REP. KATIE PORTER, HOW BIG PHARMA EXPLOITS LAUNCH PRICES TO CASH IN ON CANCER (2022), https://porter.house.gov/uploadedfiles/skyrocketing_-_how_big_pharma_exploits_launch_prices_to_cash_in_on_cancer.pdf [https://perma.cc/G8TL-SQUM].

[2] Beasley, *supra* note 1.

[3] Fraiser Kansteiner, Zoey Becker, Angus Liu, Eric Sagonowsky & Kevin Dunleavy, *Most Expensive Drugs in the US in 2023*, FIERCE PHARMA (May 22, 2023), https://www.fiercepharma.com/special-reports/priciest-drugs-2023 [https://perma.cc/269X-G2KG]; *Hemgenix*, FDA, https://www.fda.gov/vaccines-blood-biologics/vaccines/hemgenix (last updated Jan. 4, 2023).

[4] Fraiser Kansteiner, *AbbVie's 'Unsupported' Price Hikes on Humira Drove $1.4B in Extra U.S. Drug Spending, ICER Says*, FIERCE PHARMA (Nov. 16, 2021), https://www.fiercepharma.com/pharma/abbvie-s-humira-leads-icer-s-list-unjustified-drug-price-increases-u-s [https://perma.cc/FX6Z-Y6H3].

[5] *See, e.g.*, Reed Abelson, *Higher Bills Are Leading Americans to Delay Medical Care*, N.Y. TIMES (Feb. 16, 2023), https://www.nytimes.com/2023/02/16/health/inflation-delayed-health-care.html [https://perma.cc/SA8N-3XEV]; Io Dodds, *How a Minnesota Man Who Died From Soaring Insulin Prices Could Change US Diabetes Care Forever*, THE INDEPENDENT (Dec. 10, 2021), https://www.the-independent.com/news/world/americas/us-politics/insuluin-prices-diabetes-alec-smith-b1972475.html [https://perma.cc/8SQ7-8559]; Michael Sainato, *The Americans Forced into Bankruptcy to Pay for Prescriptions*, THE GUARDIAN (Feb. 14, 2020), https://www.theguardian.com/us-news/2020/feb/14/americans-bankruptcy-pay-medications-pharmaceutical-industry [https://perma.cc/WHD2-A3HP]; *Massive Growth in Expenses and Rising Inflation Fuel Continued Financial Challenges for America's Hospitals and Health Systems*, AM. HOSP. ASS'N (Apr. 2022), https://www.aha.org/guidesreports/2023-04-20-2022-costs-caring [https://perma.cc/NFZ3-N45C]; A. Gordon Smith, *The Cost of Drugs for Rare Diseases Is Threatening the U.S. Health Care System*, HARV. BUSINESS REV. (Apr. 7, 2017), https://hbr.org/2017/04/the-cost-of-drugs-for-rare-diseases-is-threatening-the-u-s-

response to these widespread concerns, there have been repeated calls for drug pricing reform directed at Congress, the US Food and Drug Administration (FDA), and the US Patent and Trademark Office (USPTO), among other agencies.[6]

What are the causes of these unaffordable and skyrocketing prices of prescription drugs? Drug prices are left largely unregulated in the United States, meaning that pharmaceutical manufacturers can set prices based on what they determine the market can bear.[7] Intellectual property laws, federal and state health insurance coverage laws, and FDA regulations protect pharmaceutical products from competition, provide long monopoly periods, and incentivize higher drug prices.[8] Further, changes in the types of drugs being

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health-care-system [https://perma.cc/9Q3T-XRQT]; Emily K. White, *Killing U.S. Slowly: Curing the Epidemic Rise of Cancer Drug Prices*, 72 FOOD & DRUG L. J. 189, 190 (2017); Steven G. Morgan & Augustine Lee, *Cost-Related Non-Adherence to Prescribed Medicines Among Older Adults: A Cross-Sectional Analysis of a Survey in 11 Developed Countries*, BMJ OPEN 1, 1 (2017); Peter B. Bach & Steven D. Pearson, *Payer and Policy Maker Steps to Support Value-Based Pricing for Drugs*, 314 J. AM. MED. ASS'N 2503, 2503 (2015); Annie Waldman, *A Life-Saving Hepatitis C Cure with an $84,000 Price Tag*, BBC NEWS (July 22, 2014), https://www.bbc.com/news/blogs-echochambers-28429585 [https://perma.cc/99NQ-XLT4]; Aurel O. Iuga & Maura J. McGuire, *Adherence and Health Care Costs*, 7 RISK MGMT. AND HEALTHCARE POL'Y 35, 37 (2014) ("Between $100 and $300 billion of avoidable health care costs have been attributed to nonadherence in the US annually, representing 3% to 10% of total US health care costs.").

[6] *See, e.g.*, Anthony Raphael, *The Rising Tide of Prescription Drug Prices: An Analysis and Call for Reform*, MEDRIVA (Jan. 31, 2024), https://medriva.com/health/healthcare/the-rising-tide-of-prescription-drug-prices-an-analysis-and-call-for-reform/ [https://perma.cc/43HV-B24A] (general calls for drug pricing reform); *FACT SHEET: President Biden Calls on Congress to Lower Prescription Drug Prices*, WHITE HOUSE (Aug. 12, 2021), https://www.whitehouse.gov/briefing-room/statements-releases/2021/08/12/fact-sheet-president-biden-calls-on-congress-to-lower-prescription-drug-prices/ [https://perma.cc/L3M8-2WPV] (call to Congress); Exec. Order No. 14036, 86 Fed. Reg. 36987 (July 9, 2021), (Executive Order on Promoting Competition in the American Economy) (call to FDA and PTO).

[7] *See generally* Aaron S. Kesselheim, Jerry Avorn & Ameet Sarpatwari, *The High Cost of Prescription Drugs in the United States: Origins and Prospects for Reform,* 316 J. AM. MED. ASS'N 858, 860 (2016). *But see* Juliette Cubanski, Tricia Neuman & Meredith Freed, *Explaining the Prescription Drug Provisions in the Inflation Reduction Act*, KFF (Jan. 24, 2023), https://www.kff.org/medicare/issue-brief/explaining-the-prescription-drug-provisions-in-the-inflation-reduction-act/ [https://perma.cc/F53G-65JE] (reviewing the drug pricing provisions of the Inflation Reduction Act).

[8] *See generally* CONG. BUDGET OFF., PRESCRIPTION DRUGS: SPENDING, USE, AND PRICES (Jan. 2022), https://www.cbo.gov/publication/57772 [https://perma.cc/BB4G-8LCN] (insurance incentives); CONG. RSCH. SERV., DRUG PRICING AND PHARM. PATENTING PRACS. (Feb. 11, 2020), https://sgp.fas.org/crs/misc/R46221.pdf (patent protections); Ryan Knox, Note, *More Prices, More Problems: Challenging Indication-Specific Pricing as a Solution to Prescription Drug Spending in the United States*, 18 YALE J. HEALTH POL'Y L. & ETHICS 192, 202-217 (2019) (discussing incentives associated with federal health programs).

approved and used, tied with lack of competition for these drugs, have driven up prescription drug prices and spending.[9]

Much of the growth in prescription drug prices and spending is driven by biologics.[10] Biologics are complex biopharmaceuticals manufactured from living organisms or derived from their cells and tissues.[11] New biologics have revolutionized treatment for patients with various cancers, autoimmune conditions, and genetic disorders.[12] Yet these complex drugs are also comprising a larger – and disproportionate – share of healthcare spending.[13] In 2018, although biologics only made up 0.4% of drugs prescribed in the US, they represented 46% of net drug spending.[14] Biologics made up 79% of Medicare Part B prescription drug spending in 2021 and accounted for 89% of Medicare Part B spending growth from 2008 to 2021.[15]

To help address the high prices of biologics, Congress created an abbreviated pathway for "highly similar" follow-on biologics, called "biosimilars."[16] Historically, biosimilars have had limited success in the US market.[17] In the

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[9] *See* Ryan P. Knox, Vineet Desai & Ameet Sarpatwari, *Biosimilar Approval Pathways: Comparing the Roles of Five Medicines Regulators*, manuscript at 3 (manuscript on file with author) (discussing the role of biologics in driving up prescription drug prices and spending).

[10] *See id.*

[11] *See* Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), Pub. L. No. 111- 148, 124 Stat. 804 (codified as amended at 42 U.S.C. § 262) ("a virus, therapeutic serum, toxin, antitoxin, vaccine, blood, blood component or derivative, allergenic product, protein, or analogous product, or arsphenamine or derivative of arsphenamine (or any other trivalent organic arsenic compound), applicable to the prevention, treatment, or cure of a disease or condition of human beings."); *What Are "Biologics" Questions and Answers*, FDA, https://www.fda.gov/about-fda/center-biologics-evaluation-and-research-cber/what-are-biologics-questions-and-answers [https://perma.cc/X6G3-XPLS];Thomas Morrow & Linda Hull Felcone, *Defining the Difference: What Makes Biologics Unique*, 1(4) BIOTECHNOLOGY HEALTHCARE 24, 24-26, 28-29 (2004).

[12] Knox et al., *supra* note 9, manuscript at 3; Mike Z. Zhai, Ameet Sarpatwari & Aaron S. Kesselheim, *Why Are Biosimilars Not Living Up to Their Promise in The US?*, 21 AM. MED. ASS'N J. ETHICS 668, 668 (2019).

[13] Zhai et al., *supra* note 12.

[14] Avik Roy, *The Growing Power of Biotech Monopolies Threatens Affordable Care*, FOUND. FOR RSCH. ON EQUAL OPPORTUNITY (Sept. 15, 2020), https://freopp.org/the-growing-power-of-biotech-monopolies-threatens-affordable-care-e75e36fa1529 [https://perma.cc/PPG7-AFKM].

[15] NGUYEN X. NGUYEN, T. ANDERS OLSEN, STEVEN H. SHEINGOLD & NANCY DE LEW, U.S. DEP'T HEALTH AND HUM. SERVS. OFF. ASSISTANT SEC'Y FOR PLAN. AND EVALUATION, MEDICARE PART B DRUGS: TRENDS IN SPENDING AND UTILIZATION, 2008-2021 (June 9, 2023).

[16] 42 U.S.C. § 262(i)(2)(B) (2021).

[17] *See* MURRAY AITKEN, MICHAEL KLEINROCK & JAMIE PRITCHETT, IQVIA INSTITUTE, BIOSIMILARS IN THE UNITED STATES 2023–2027: COMPETITION, SAVINGS, AND SUSTAINABILITY 2 (Jan. 2023), https://www.iqvia.com/insights/the-iqvia-institute/reports-and-

fifteen years since the biosimilar approval pathway was created by the Biologics Price Competition and Innovation Act (BPCIA), FDA has only approved 53 biosimilars (as of May 31, 2024),[18] many of which have not yet been marketed.[19] This is approximately half the number of biosimilar approvals by the European Medicines Agency (EMA).[20] Additionally, biosimilars have only captured relatively small market shares in the US compared to other jurisdictions.[21] Some of this is due to the newness of the market and practical difficulties in developing a biosimilar.[22] Yet much of this lag in biosimilar approval and uptake is due to strategies employed by pharmaceutical manufacturers to delay, stifle, and prevent biosimilar competition.[23]

One such strategy that has come to the forefront of the debate on high prescription drug prices and access to medicines is biologics patent thickets – an accumulation of patents on one biologic product.[24] To create a patent thicket, pharmaceutical companies apply for a series of patents, typically after

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publications/reports/biosimilars-in-the-united-states-2023-2027 [https://perma.cc/72JF-YQNT]; Knox et al., *supra* note 9, manuscript at 5.

This is in contrast to generic drugs, which experienced significantly more approvals and greater market shares following the implementation of the abbreviated pathway under the Hatch-Waxman Act. *See* Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended in scattered sections of titles 15, 21, 35, and 42 of the U.S.C.); Henry Grabowski, Genia Long, Richard Mortimer & Mehmet Bilginsoy, *Continuing Trends in U.S. Brand-Name and Generic Drug Competition*, 24 J. MED. ECONOMICS 908, 908-09 (2021) (on generic market shares).

[18] *Biosimilar Product Information*, FDA, https://fda.gov/drugs/biosimilars/biosimilar-product-information [https://perma.cc/NWW4-F8T2] (last updated March 13, 2024); Knox et al., *supra* note 9, manuscript at 4.

[19] *See* AITKEN ET AL., *supra* note 17, at 2, 4-5; Zhai et al., *supra* note 12.

[20] *Medicines*, EUROPEAN MEDICINES AGENCY, https://www.ema.europa.eu/en/medicines [https://perma.cc/MAB2-FW9Q]; Knox et al., *supra* note 9, manuscript at 4. Note, however, that the EMA has been approving biosimilars since 2006, almost a decade longer than FDA. *See id*, manuscript at 5.

[21] Knox et al., *supra* note 9, manuscript at 5 (comparing 20% biosimilar market uptake in the US compared to 90% biosimilar market uptake in the UK).

[22] *Id.*

[23] *See, e.g.*, Rebecca Robbins & Christina Jewett, *Six Reasons Drug Prices Are So High in the U.S.*, N.Y. TIMES (Jan. 17, 2024), https://www.nytimes.com/2024/01/17/health/us-drug-prices.html [https://perma.cc/6YZA-H38F]; Raphael, *supra* note 6; Knox et al., *supra* note 9, manuscript at 20 & n. 89. Other factors that hinder biosimilar uptake include FDA's interchangeability designation and a lack of automatic substitution at the state level. *See id.*, manuscript at 21-27.

[24] Ryan Knox & Gregory Curfman, *The Humira Patent Thicket, the Noerr-Pennington Doctrine and Antitrust's Patent Problem*, 40 NATURE BIOTECHNOLOGY 1761, 1761 (2022); INITIATIVE FOR MEDICINES, ACCESS AND KNOWLEDGE ("I-MAK"), OVERPATENTED, OVERPRICED: CURBING PATENT ABUSE: TACKLING THE ROOT OF THE DRUG PRICING CRISIS (2022) [hereinafter I-MAK], https://www.i-mak.org/wp-content/uploads/2022/09/Overpatented-Overpriced-2022-FINAL.pdf [https://perma.cc/Z5GT-B6EL].

the product's approval and often unrelated to improvements on the quality or efficacy of the product.[25] Some are granted; some are not.[26] When biosimilar competitors later attempt to enter the market, the companies claim that several of the patents in the thicket – but not the expired originator patent – are infringed.[27] With this extensive patent protection, it can become virtually impossible for biosimilar companies to gain approval to enter the market without allegedly infringing one or more patents and entering very expensive and time-consuming litigation to challenge these infringement claims.[28] Many of these cases are ultimately settled by the parties, delaying entry of the competitor.[29]

Biologics patent thickets have been widely criticized on many legal and public health grounds.[30] Many of the patents making up biologics patent thickets have been argued to be obvious developments from earlier inventions or minimal changes not reflecting substantive improvements to the drug, both of which weaken the innovation incentive underlying patent law.[31] Considering the intersection between patent law and FDA regulation, these cases show how uses – or arguable misuses and abuses – of the patent system can render ineffective regulatory pathways,[32] namely the biosimilar approval pathway.[33] The business practices used in creating patent thickets conflict with the goals of antitrust law in promoting competition in pharmaceutical markets.[34] As a matter of innovation law and policy, biologics patent thickets are fundamentally different from patent thickets in other

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[25] Knox & Curfman, *supra* note 24, at 1761.

[26] *Cf. id.*

[27] *Cf. id.*

[28] *Cf. id.*

[29] Knox & Curfman, *supra* note 24, at 1761; Rachel Goode & Bernard Chao, *Biological Patent Thickets and Delayed Access to Biosimilars, an American Problem*, 9 J. L. AND BIOSCIENCES, no. 2, (2022), at 1, 8-9, 11.

[30] *See, e.g.*, Emily Hutto, *How Patent Thickets Keep Cheaper Drugs Off the Market*, MEDPAGE TODAY (Feb. 3, 2023), https://www.medpagetoday.com/washingtonwatch/fdageneral/102953 [https://perma.cc/6CWQ-AWEH] (quoting Sean Tu on the impact of biologics patent thickets); Rebecca Robbins, *How a Drug Company Made $114 Billion by Gaming the U.S. Patent System*, N.Y. TIMES (Jan. 28, 2023), https://www.nytimes.com/2023/01/28/business/humira-abbvie-monopoly.html [https://perma.cc/G8WQ-3H4P] (criticizing the Humira patent thicket).

[31] Jeffrey Wu & Claire Wan-Chiung Cheng, *Into the Woods: A Biologic Patent Thicket Analysis*, 19 CHI.-KENT J. INTELL. PROP. 93, 146-47 (2019) (describing overlapping patents in biologics patent thickets).

[32] *See* I-MAK, *supra* note 24.

[33] Pub. L. No. 111- 148, 124 Stat. 804 (codified as amended at 42 U.S.C. § 262).

[34] *Cf.* Knox & Curfman, *supra* note 24, at 1761-63 (discussing the problems of antitrust law related to patent thickets).

industries.[35] Instead of promoting collaboration and creation, biologics patent thickets prevent the development of biosimilars, limit innovation in the manufacturing of biologics, and stifle incremental innovation and the development of me-too drugs.[36] Further, biologics patent thickets drive up healthcare costs for both healthcare systems and patients and delay access to lower-cost biosimilar alternatives.[37] Simply put, patent thickets are bad for innovation and access to medicines.

Lawmakers and scholars in recent years have put forth several proposals to address the problem of biologics patent thickets or pharmaceutical patent thickets generally. Proposals have targeted various aspects of patent thickets, including the incentives and ability to create patent thickets,[38] the approval and validity of patents in patent thickets,[39] and the defense of patent thickets in litigation.[40] But as scholars delve into the unique aspects of pharmaceutical patent thickets,[41] many solutions put forth do not emphasize the role of FDA in approving drugs and its potential to have a direct impact on the calculus incentivizing patent thickets, and thereby lack of biosimilar competition and high drug prices.

This Article seeks to fill this gap by setting forth a proposal for how FDA regulations and approvals could be modified to promote biosimilar competition and access to affordable medicines while discouraging the creation of patent thickets and over-patenting. Specifically, this Article recommends that FDA approval come with the condition of permitting biosimilar competition at the time of expiration of regulatory exclusivities, regardless of the expiration of patents. At that time, biosimilar competitors could enter the market while paying reasonable royalty fees to brand-name manufacturers until the expiration of patents. Comparing such conditions to other government contracts in the healthcare space and licensing and royalty fees set forth by other legislation, this Article evaluates the proposal's feasibility, its potential in deterring patent thickets and encouraging biosimilar competition, and

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[35] Michael A. Carrier & S. Sean Tu, *Why Pharmaceutical Patent Thickets Are Unique*, 32 TEX. INTELL. PROP. L.J. 79, 110 (2024).

[36] Carrier & Tu, *supra* note 35, 81, 83, 87; *see also infra* Part II.C.

[37] *See* Knox & Curfman, *supra* note 24, at 1763.

[38] Knox & Curfman, *supra* note 24, at 1761-63 (creation of patent thickets and petitioning activity).

[39] Michael Frakes & Melissa Wasserman, *Is The Time Allocated To Review Patent Applications Inducing Examiners To Grant Invalid Patents?: Evidence From Micro-Level Application Data* (Nat'l Bureau of Econ. Rsch., Working Paper No. 20337, July 2014).

[40] *See generally* Carrier & Tu, *supra* note 35; Knox & Curfman, *supra* note 24, at 1761-62; *Arrington Leads Bipartisan Effort to Address Patent Thickets and Increase Competition in the Prescription Drug Market*, JODEY ARRINGTON (Jan. 12, 2024), https://arrington.house.gov/news/documentsingle.aspx?DocumentID=1174 [https://perma.cc/2RSF-MVK8].

[41] *See, e.g.*, Carrier & Tu, *supra* note 35, at 81-83.

its potential impact on innovation incentives. Ultimately, this Article concludes that the proposed solution could accelerate biosimilar competition, promote access to affordable medications, and recalibrate the current innovation and patent incentives for biologics. However, given the fragmented nature of the US healthcare system and the multiple agencies regulating prescription drugs, collaboration among stakeholders will be essential to align policy incentives, thin biologics patent thickets, and make access to affordable biologics and biosimilars a reality for all.

This Article proceeds in three parts. Part I details the legal and regulatory framework of biologics and biosimilars, including the relevant FDA regulations and patent law protections. Further, Part I outlines how current laws promote patent thickets at the cost of biosimilar competition. Part II depicts why biologics patent thickets are a problem under the law, a problem for public health, and a problem for innovation policy. In doing so, Part II illustrates why current law and policy have failed to address the problem of patent thickets, by discouraging their creation, supporting legal challenges to them, or hampering reforms. Part III reviews and proposes solutions to address biologics patent thickets. First, Part III introduces some solutions that have been proposed by lawmakers and scholars and explains the limitations to the implementation of these proposals and their effectiveness in addressing biologics patent thickets. Then, Part III proposes a novel solution to biologics patent thickets and evaluates its strengths and limitations in thinning patent thickets, promoting biosimilar competition, promoting access to affordable medicines, and maintaining incentives for pharmaceutical innovation. Ultimately, this Article concludes by discussing what other aspects of drug pricing regulation would need to be reformed to support these goals, emphasizing the need for collaboration among agencies and stakeholders.

I. Biologics Regulation And Patent Thickets

Patent thickets are not unique to the pharmaceutical industry, or even to biologic drugs. However, the regulatory scheme of biologics and biosimilars, in combination with the patent system, create a particular set of circumstances that promote the creation of patent thickets.

This Part describes the problem of biologics patent thickets. Section A defines biologics and biosimilars and explains the characteristics of these type of drugs that support the creation of patent thickets and make the entry and success of biosimilar competitors more difficult. Section B outlines the FDA approval pathways for biologics and biosimilars and how it overlaps with the biologics' patent applications and exclusivities. Section C introduces the patent framework and the aspects of biologics patents that are most pertinent to the creation and challenging of biologics patent thickets. Section D defines biologics patent thickets, providing key examples, and explains how biologics patent thickets are distinct from patent thickets in other industries. The framework provided in this Part sets the stage for how the current laws and

regulations both foster and promote the creation of biologics patent thickets – and why this is a problem.

A. Introduction to Biologics and Biosimilars

The composition of the pharmaceutical market has changed over time. Traditionally, prescription drugs were predominantly small molecule drugs, which are chemically synthesized compounds with low molecular weights.[42] Small molecule drugs have relatively simple chemical structures and manufacturing processes.[43] As such, they are relatively easy to duplicate.[44] This factor in particular made the creation of a robust generic drug market in the US feasible.[45] Generic drugs are identical copies of originator small molecule drugs manufactured by different companies.[46] Generics have been able to be developed quickly, enter the market quickly, and cause dramatic price decreases.[47] For example, generic drugs saved the US healthcare system approximately $2.4 trillion from 2010 to 2020.[48]

In recent years, biologics have played a greater role in biomedical innovation, medical treatment and healthcare spending.[49] Biologics are large, complex molecules manufactured from living organisms or derived from their cells and tissues.[50] Examples of biologics include insulins, vaccines, monoclonal antibodies, and cell and gene therapies.[51] Biologics are also more complex

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[42] Michael S. Sinha, *Costly Gadgets: Barriers to Market Entry and Price Competition for Generic Drug-Device Combinations in the United States*, 23 MINN. J.L. SCI. & TECH. 293, 298 (2022); Michael A. Carrier & Carl J. Minniti III, *Biologics: The New Antitrust Frontier*, 2018 UNIV. OF ILL. L. REV. 1, 6 (2018).

[43] *See* CONG. RSCH. SERV., MEDICAL PRODUCT REGULATION: DRUGS, BIOLOGICS, AND DEVICES (May 26, 2023), https://sgp.fas.org/crs/misc/IF11083.pdf.

[44] CONG. RSCH. SERV., THE HATCH-WAXMAN ACT: A PRIMER (Sept. 28, 2016), https://www.everycrsreport.com/files/20160928_R44643_1c2fafad2efe96d4c0fe44f2f23308dcfc059f83.pdf [hereinafter HATCH-WAXMAN ACT PRIMER].

[45] *Id.*

[46] *Generic Drug Facts*, FDA, https://www.fda.gov/drugs/generic-drugs/generic-drug-facts [https://perma.cc/FN3D-AE87] (last updated Nov. 1, 2021).

[47] Sinha, *supra* note 42, at 293-94; Carrier & Minniti, *supra* note 42, at 6.

[48] Sinha, *supra* note 42, at 298 (citing ASSOCIATION FOR ACCESSIBLE MEDICINES (AAM), THE U.S. GENERIC & BIOSIMILAR MEDICINES SAVINGS REPORT 6 (Oct. 2021), https://accessiblemeds.org/sites/default/files/2021-10/AAM-2021-US-Generic-Biosimilar-Medicines-Savings-Report-web.pdf.

[49] Knox et al., *supra* note 9, manuscript at 2; Carrier & Minniti, *supra* note 42, at 5-6.

[50] *What Are "Biologics" Questions and Answers*, FDA, https://www.fda.gov/about-fda/center-biologics-evaluation-and-research-cber/what-are-biologics-questions-and-answers [https://perma.cc/X6G3-XPLS] (last updated Feb. 6, 2018).

[51] *Id.*

molecules than small molecule drugs.[52] Where small molecule drugs are manufactured through chemical synthesis, biologics are manufactured using living cells.[53] In many cases, biologics are therapeutic proteins that are manufactured in large batches using recombinant DNA in bacteria.[54] While the amino acid sequence of the biologic is dependent on the bacteria used in manufacturing the biologic, the ultimate folding and three-dimensional structure of the biologic are based on the cells' environment and are very sensitive to minor changes in the manufacturing processes.[55] Because of this sensitivity, variations occur between batches of biologics produced by the same manufacturer in the same facility.[56]

The complexity and sensitivity of biologics also make it virtually impossible, using current technologies, to manufacture identical copies of originator biologics, like is done for small molecule drugs with generics.[57] Instead, FDA approves biosimilars, which are biologic molecules that are highly similar to and have no clinically meaningful differences from originator biologics.[58] Patients are expected to have the same clinical outcomes using biosimilars compared to their corresponding originator biologics.[59]

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[52] Knox et al., *supra* note 9, manuscript at 3, 8 (citing Liang Zhao, Tian-hua Ren, & Diane D Wang, *Clinical pharmacology considerations in biologics development*, 33(11) ACTA PHARMACOLOGICA SINICA 1339, 1339-47 (2012)).

[53] Carrier & Minniti, *supra* note 42, at 6-7. For a greater discussion of the science of developing biologics, *see id.*

[54] C. Lee Ventola, *Biosimilars*, 38 PHARMACY AND THERAPEUTICS 270, 270-274, 277, 287 (2013).

[55] *Id.* at 270; Carrier & Minniti, *supra* note 42, at 7 ("Even though drug developers can replicate an amino acid sequence, individualized production and purification methods result in unpredictable structural folding at the secondary, tertiary, and quaternary levels (each of which addresses larger three-dimensional structures)."). For these reasons, it is sometimes said that "the product is the process" for biologics. *See* Carrier & Minniti, *supra* note 42, at 7 (quoting JAMES T. O'REILLY & KATHARINE A. VAN TASSEL, FOOD AND DRUG ADMINISTRATION § 13:135 n.16 (Thomson Reuters, 4th ed. 2016)).

[56] Ventola, *supra* note 54, at 270; Carrier & Minniti, *supra* note 42, at 7. This in part is why biologics are approved for safety purity and potency, compared to safety and efficacy for small molecule drugs. *See* 42 U.S.C. § 262(a)(2)(C) (2012).

[57] Ventola, *supra* note 54, at 270; Carrier & Minniti, *supra* note 42, at 7.

[58] *See* Carrier & Minniti, *supra* note 42, at 3; W. Nicholson Price II, *The Cost of Novelty*, 120 COLUM. L. REV. 769, 817 (2020) ("Current technology does not allow exact copies of biologics; they are too complicated for the tools we have available."); H Mellstedt, D Niederwieser & H Ludwig, *The Challenge of Biosimilars*, 19 ANNALS OF ONCOLOGY 411, 411 (2008), doi: 10.1093/annonc/mdm345. PMID: 17872902; Knox et al., *supra* note 9, manuscript at 3, 21-25.

[59] Flyn Kaida-Yip, Kaivalya Deshpande, Trishla Saran & Dinesh Vyas, *Biosimilars: Review of Current Applications, Obstacles, and their Future in Medicine*, 6 WORLD J. CLINICAL CASES 161, 161 (2018). *See also* Knox et al., *supra* note 9, manuscript at 21-25 (discussing the expectation of interchangeability between originator biologics and biosimilars).

Biosimilars, like generics, are intended to promote competition in the drug market and lower the price of treatment.[60] Compared to originator biologics, biosimilars cost on average 30% lower, and this has increased in recent years to over 50% lower than originator prices.[61] With the high prices of biologics, these discounted biosimilar prices can save patients thousands of dollars. A recent estimate projects that biosimilars could save the US healthcare system over $100 billion in the next 5 years.[62] However, such savings necessitates robust biosimilar competition.

Several barriers have hampered robust biosimilar competition in the US market. Compared to generics, biosimilars are generally not substitutable by pharmacies at the point of sale.[63] Most state laws require a biosimilar be granted the additional, arguably higher, FDA designation of "interchangeability" for substitution to be permitted, and in many cases additional consultation with prescribers is still required.[64] Automatic substitution was central to the creation of a robust generics market and may be playing a role in lower patient utilization.[65] Other barriers have hindered the approval and entry of biosimilars in the US. Two key legal barriers exist as relevant to this Article: FDA regulations and patent laws. The following two Sections discuss each in turn.

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[60] Knox et al., *supra* note 9, manuscript at 5.

[61] Dana P. Goldman & Tomas J. Philipson, *Biosimilars Competition Helps Patients More Than Generic Competition*, STAT NEWS (Oct. 8, 2021), https://www.statnews.com/2021/10/08/biosimilars-competition-helps-patients-more-than-generic-competition/ [https://perma.cc/A9N6-KQ9D].

[62] MURRAY AITKEN, MICHAEL KLEINROCK & ELYSE MUÑOZ, IQVIA INSTITUTE, BIOSIMILARS IN THE UNITED STATES 2020–2024: COMPETITION, SAVINGS, AND SUSTAINABILITY 10 (Oct. 2020), https://www.iqvia.com/insights/the-iqvia-institute/reports-and-publications/reports/biosimilars-in-the-united-states-2020-2024; *see also* Andrew Mulcahy, Christine Buttorf, Kenneth Finegold, Zeid El-Kilani, Jon F. Oliver, Stephen Murphy & Amber Jessup, *Projected US Savings From Biosimilars, 2021-2025*, 28 AM. J. MANAGED CARE 329 (2022) (estimating savings at $38.4 billion from 2021 to 2025, with an upper bound estimate of savings at $124.5 billion).

[63] *See* Knox et al., *supra* note 9, manuscript at 20; Chana A. Sacks, Victor de Wiele, Lisa A. Fulchino, Lajja Patel, Aaron S. Kesselheim & Ameet Sarpatwari, *Assessment of Variation in State Regulation of Generic Drug and Interchangeable Biologic Substitutions*, 181 J. AM. MED. ASS'N INTERNAL MED. 16, 17 (2021); *State Regulations for Biosimilar Interchangeability*, CARDINAL HEALTH, https://www.cardinalhealth.com/en/product-solutions/pharmaceutical-products/biosimilars/state-regulations-for-biosimilar.html (last visited Apr. 21, 2024).

[64] Knox et al., *supra* note 9, manuscript at 20; Sacks et al., *supra* note 63, at 18; *State Regulations for Biosimilar Interchangeability*, *supra* note 63.

[65] Knox et al., *supra* note 9, manuscript at 19.

B. FDA Approval of Biologics and Biosimilars

New biologic drugs, sometimes called originator biologics or reference biologics, are approved by FDA through a Biologics License Application (BLA).[66] Prior to submitting the drug for approval, a manufacturer must conduct preclinical testing to determine the potential of the biologic, submit an Investigative New Drug (IND) application to begin clinical trials, and then conduct three phases of clinical trials to demonstrate the safety and effectiveness of the biologic for clinical use in humans.[67] If clinical trials are deemed successful, then a manufacturer may submit a BLA to FDA for approval. Only after FDA has approved the BLA may the originator biologic enter the market.[68]

Upon FDA approval, biologics receive twelve years of exclusivity.[69] Within the first four years of the exclusivity, time period, FDA may not accept any applications for biosimilar versions of the originator biologic product.[70] After that time, FDA may review applications for biosimilars, but may not approve them until the end of the twelve year exclusivity period.[71] Biosimilars may enter the market once no other exclusivities apply (patent or regulatory) preventing competitive entry.[72]

Biosimilars are approved through the abbreviated pathway for biosimilars, the abbreviated Biologics License Application (aBLA).[73] For approval, a biosimilar manufacturer must show that the "biological product is highly similar to the reference product notwithstanding minor differences in clinically inactive components; and. . . there are no clinically meaningful differences between the biological product and the reference product in term of safety, purity, and potency of the product."[74] To gain approval, biosimilar manufacturers are required to conduct both non-clinical and clinical studies to demonstrate biosimilarity.[75]

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[66] 21 CFR § 601.2 (2023); *see also Biologics License Applications (BLA) Process (CBER)*, FDA, https://www.fda.gov/vaccines-blood-biologics/development-approval-process-cber/biologics-license-applications-bla-process-cber#:~:text=The%20Biologics%20License%20Application%20(BLA,under%2021%20CFR%20600%20%E2%80%93%20680 [https://perma.cc/J59D-UH34] (last updated Jan. 27, 2021). Note this is a separate pathway from the New Drug Application (NDA) used for small molecule drugs.

[67] *See Investigational New Drug (IND) Application*, FDA, https://www.fda.gov/drugs/types-applications/investigational-new-drug-ind-application (last updated July 20, 2022).

[68] 42 U.S.C. § 262(a).

[69] *Id.* § 262(k)(7).

[70] *Id.* § 262(k)(7)(B).

[71] *Id.* § 262(k)(7)(A).

[72] Knox et al., *supra* note 9, manuscript at 24; Carrier & Minniti, *supra* note 42, at 15.

[73] 42 U.S.C. § 262(k).

[74] *Id.* § 262(i)(2).

[75] Knox et al., *supra* note 9, manuscript at 8.

In addition to gaining standard biosimilar approval, manufacturers may seek to be approved as "interchangeable."[76] Interchangeable, under the BPCIA, means that "the biological product may be substituted for the reference product without the intervention of the health care provider who prescribed the reference product."[77] To find interchangeability and grant a biosimilar with this designation, FDA must determine that the product is (1) biosimilar to the reference product, (2) expected to provide the same clinical effect as the reference product in any given patient, and (3) that "the risk in terms of safety or diminished efficacy of alternating or switching between use of the biological product and the reference product is not greater than the risk of using the reference product without such alternation or switch."[78] Proving interchangeability may require additional studies evaluating the effects of switching back and forth between the originator biologic and the biosimilar ("switching studies"),[79] although FDA has approved several interchangeable biosimilars based only on scientific justifications and no additional studies.[80] Notably, the first interchangeable biosimilar receives its own one-year exclusivity period.[81]

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[76] 42 U.S.C. § 262(k)(2)-(4).

[77] *Id.* § 262(i)(3).

[78] *Id.* § 262(k)(4); *Considerations in Demonstrating Interchangeability With a Reference Product: Guidance for Industry*, FDA (May 2019), https://www.fda.gov/media/124907/download.

[79] *Considerations in Demonstrating Interchangeability With a Reference Product*, *supra* note 78. However, most interchangeable biosimilars approved thus far have not been required to conduct switching studies. *See* Sarfaraz K. Niazi, *BioRationality: FDA Publishes Results of First Meta-Analysis to Conclude All Biosimilars Are Interchangeable*, AM. J. MANAGED CARE CENTER FOR BIOSIMILARS (Nov. 20, 2023), https://www.centerforbiosimilars.com/view/biorationality-fda-publishes-results-of-first-meta-analysis-to-conclude-all-biosimilars-are-interchangeable [https://perma.cc/W7FF-QKLH].

[80] *See* Joseph Park & Gillian Woollett, *Confusion Persists Around the Interchangeability Designation for Biosimilars*, PHARMACY TIMES (Nov. 17, 2023), https://www.pharmacytimes.com/view/confusion-persists-around-the-interchangeability-designation-for-biosimilars [https://perma.cc/9JC6-BZYZ] (citing *Approval Letter for Semglee*, FDA (July 28, 2021), https://www.accessdata.fda.gov/drugsatfda_docs/appletter/2021/761201Orig1s000ltr.pdf; *Approval Letter for Cimerli*, FDA (Aug. 2, 2022), https://www.accessdata.fda.gov/drugsatfda_docs/nda/2022/761165Orig1s000Approv.pdf; *Approval Letter for Rezvoglar*, FDA (Nov. 16, 2022), https://www.accessdata.fda.gov/drugsatfda_docs/nda/2022/761215Orig2s000Approv.pdf).

[81] 42 U.S.C. § 262(k)(6).

C. Patent Protections for Biologics

In addition to the protections provided by FDA regulatory exclusivities, biologics commonly obtain patent exclusivities to protect their products.[82] The types of patents obtained can be generally put into three categories.[83] "Primary" patents cover the drug's compound.[84] Patents on aspects of the drug other than the compound are called "secondary patents."[85] Secondary patents may cover the drug's formulation (for example, tablets or capsules), method of use, or method of manufacturing.[86] Tertiary patents refer to patents on the devices that are used with the drug, such as inhalers or insulin pens.[87]

Companies seek patents throughout the development of their product; if they do not, they risk the technology becoming "public knowledge" and therefore unpatentable.[88] Patent exclusivities for drugs take into account this lag from patenting during development to the drug being marketable. While all patents provide twenty years exclusivity, patents for drugs (both small molecules and biologics) may be extended up to fourteen years after the date of approval.[89] Studies have shown that most often, patent protection outlasts

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[82] *See generally* Victor L. Van de Wiele et al., *The Characteristics of Patents Impacting Availability of Biosimilars*, 40 NATURE BIOTECHNOLOGY 22, 22-25 (2022); Goode & Chao, *supra* note 29.

[83] *See, e.g.*, Robin Feldman, *Purple is the New Orange*, UNIV. ILL. L. REV. (forthcoming) (manuscript at 15-16), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4419259; Sinha, *supra* note 42, at 307; Amy Kapczynski, Chan Park & Bhaven Sampat, *Polymorphs and Prodrugs and Salts (Oh My!): An Empirical Analysis of "Secondary" Pharmaceutical Patent*s, 7 PLOS ONE 1, 1 (2012).

[84] Feldman, *supra* note 83; Sinha, *supra* note 42, at 307; Kapczynski et al., *supra* note 83, at 1.

[85] Feldman, *supra* note 83, manuscript at 16; Sinha, *supra* note 42, at 308; Kapczynski et al., *supra* note 83, at 3; Robin Feldman, *May Your Drug Price Be Evergreen*, 5 J. L. & BIOSCIENCES 590, 632-634 (2018) ("'secondary patents' . . . , instead of covering the active ingredient or base compound, cover modified forms of the active ingredient, associated uses of existing chemical compounds, new combinations of old chemical compounds, dosage regimens, and specific formulations").

[86] Sinha, *supra* note 42, at 309 ("secondary patents cover aspects of a drug such as its formulation, method of use, or minor structural modifications such as enantiomers, prodrugs, or salts."); Feldman, *supra* note 83, manuscript at 16; Rachel Goode, William B. Feldman, & S. Sean Tu, *Ancillary Product Patents to Extend Biologic Patent Life*, 330 J. AM. MED. ASS'N 2117, 2117-19 (2023).

[87] Feldman, *supra* note 83, manuscript at 16; Sinha, *supra* note 42, at 310; Reed F. Beall & Aaron S. Kesselheim, *Tertiary Patenting on Drug-Device Combination Products in the United States*, 36 NATURE BIOTECHNOLOGY 142, 142 (2018).

[88] 35 U.S.C. § 102(b).

[89] Victor L. Van de Wiele et al., *The Prevalence of Drug Patent Term Extensions in the United States, 2000–2018*, 41 NATURE BIOTECHNOLOGY 903, 903 (2023) ("At the time of drug approval, a manufacturer can apply for [patent term extension (PTE)] for one key

the exclusivity provided by FDA.[90] As such, patent exclusivities, compared to FDA regulatory exclusivities, are generally considered the greater barrier to biosimilar competition.[91]

Prior to a biosimilar entering the market, all patents and regulatory exclusivities on the originator biologic must expire. The process of biosimilars entering the market, however, differs notably from their small molecule generic counterparts.[92] In the case of generics, FDA requires originator manufacturers to list all patents associated with their products in the "Orange Book," which notifies generic manufacturers of the patents that they may infringe if they enter the market before expiration; thus, if a generic manufacturer wishes to enter the market earlier, they are aware of which patents may be at issue and can argue specific patents are invalid or do not apply.[93] The counterpart for biosimilars, the "Purple Book," only lists patents that are subject to litigation between biologics and prospective biosimilar manufacturers.[94] Without this prior notice, biosimilar entrants are not certain of applicable patents until they initiate the process set forth in the BPCIA.[95] Instead, the originator manufacturer and biosimilar manufacturer engage in a so-called "patent dance," where the patients negotiate and determine which patents will be litigated.[96] The originator manufacturer then can sue the prospective biosimilar manufacturer for patent infringement based on that set of patents.[97] The resolution between the parties is more "centered on private negotiation between the parties" compared to generics.[98] As will be discussed later, these negotiations may result in settlements delaying biosimilar entry.[99]

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patent on its drug, and receive a statutory extension equal to the length of the FDA review plus half the time spent in clinical trials, up to a maximum of 5 years or a total of 14 years from the date of FDA approval, whichever is longer."). Because of the need for FDA approval before the drug can be sold, and the different types of patent protections that may be sought (particularly related to drug-device combinations), the effective patent term of exclusivity varies greatly. *See id.*; Sinha, *supra* note 42, at 309; Eric Budish, Benjamin N. Roin & Heidi Williams, *Do Firms Underinvest in Long-Term Research? Evidence from Cancer Clinical Trials*, 105 AM. ECON. REV. 2044, 2045 (2015).

[90] Van de Wiele et al., *supra* note 89, at 903-06 (finding patent term extensions nearly always exceeded the FDA regulatory exclusivities provided to biologics and small molecule drugs).

[91] *Id.*; Knox et al., *supra* note 9, manuscript at 17.

[92] Carrier & Minniti, *supra* note 42, at 17-18.

[93] *Id.*; Feldman, *supra* note 83, manuscript at 43-44.

[94] Carrier & Minniti, *supra* note 42, at 17-18; Feldman, *supra* note 83, manuscript at 43-44.

[95] *See* Carrier & Minniti, *supra* note 42, at 17-18; 42 U.S.C. § 262(l)(2)-(6) (2012).

[96] Carrier & Minniti, *supra* note 42, at 17 (describing the "patent dance" in detail).

[97] *Id.*

[98] *Id.* at 18.

[99] *In re Humira*, 465 F. Supp. 3d 811, 824 (N.D. Ill. 2020); *Mayor and City Council of Baltimore v. AbbVie*, 42 F.4th 709, 714 (2022).

D. Biologics Patent Thickets and Biosimilar Competition

Pharmaceutical manufacturers have engaged in a wide range of practices to protect their products and markets.[100] Some of these strategies are implemented only after biosimilars attempt to enter the market. For example, manufacturers settled patent infringement litigation with prospective biosimilar competitors by negotiating delays in their market entry, either with prohibited payments (called reverse payment or "pay-for-delay" settlements)[101] or by permitting earlier entry in other markets.[102] Other strategies are planned in anticipation of future or impending biosimilar competition. Manufacturers may make a small modification or reformulation to the drug, extending its monopoly in a strategy called "product-hopping."[103] Manufacturers may also switch patients to the new product, in some cases removing the originator from the market, prior to biosimilar entry, shrinking the market vulnerable to biosimilar competition.[104] In a strategy called "patent evergreening," manufacturers extend their drug's exclusivity period by seeking additional patent or exclusivity protections, generally without a significant modification to the

[100] *See, e.g.*, DRUG PRICING AND PHARMACEUTICAL PATENTING PRACTICES, *supra* note 8, at 15-32; Michael A. Carrier, *Three Challenges for Pharmaceutical Antitrust*, 59 SANTA CLARA L. REV. 613, 638-39 (2020); *see generally* Michael A Carrier & Fernando Araya, *Pharmaceutical Antitrust Enforcement in the United States and Chile*, 8 J. L. & BIOSCIENCES 1, Jan.-June 2021. Note that not all of these strategies are unique to biologics and biosimilars. Pay-for-delay settlements and evergreening have also been observed in small-molecule drugs. While patent thickets are more common in biologics, they have been observed in small molecule drugs, combination products, and other medical products. This Article, however, will focus its discussion only on biologics and biosimilars.

[101] C. Scott Hemphill, *Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem*, 81 N.Y.U. L. REV. 1553, 1568 (2006), https://papers.ssrn.com/sol3/Papers.cfm?abstract_id=925919.

[102] Knox & Curfman, *supra* note 24, at 1761.

[103] Michael A. Carrier & Steve D. Shadowen, *Product Hopping: A New Framework*, 92 NOTRE DAME L. REV. 167, 171 (2017); Benjamin M. Miller, *Product Hopping: Monopolization or Innovation*, 22 B.U. J. SCI. & TECH. L. 89, 94 (2016); Alan Devlin & Michael Jacobs, *Anticompetitive Innovation and the Quality of Invention*, 27 BERKELEY TECH. L. J. 1, 42 (2012).

[104] Carrier & Shadowen, *supra* note 103, at 171; Michael S. Sinha, *Public Health Product Hops*, 73 AM. UNIV. L. REV. 395, 405 (2023).

drug.[105] Several other strategies exist,[106] and manufacturers continue to develop and adapt strategies to protect their innovations and profits.

The remainder of this Section will focus on the particulars of biologics patent thickets. While the focus of this Article is only biologics patent thickets, the incentives causing patent thickets parallel those promoting these other anticompetitive practices. Further, potential reforms may inadvertently exacerbate these other practices and should be considered in evaluating proposed solutions.

1. Defining Biologic Patent Thickets

Biologics patent thickets exist when one manufacturer owns multiple – in some cases hundreds of – patents on a single biologic product.[107] This "large web of patents" insulates the biologic from competition and increases the transaction costs for a biosimilar to enter the market.[108] While there is no threshold number of patents needed to be considered a "patent thicket," AbbVie's Humira (adalimumab) – a drug that has been at the forefront of the patent thicket debate – had 132 patents and initially identified more than 60 patents which may have been infringed by biosimilar competitors.[109] Similarly, Bristol-Myers Squibb's Revlimid (lenalidomide) obtained 117 patents and Regeneron's Eyelea (aflibercept) obtained 92 patents.[110] Other drugs deemed to be protected by patent thickets have also claimed dozens of patents may be infringed by their first potential biosimilar competitor.[111]

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[105] Feldman, *supra* note 85, at 597; C. Scott Hemphill & Bhaven N. Sampat, *Evergreening, Patent Challenges, and Effective Market Life in Pharmaceuticals*, 31 J. HEALTH ECON. 327, 327-28 (2012). Patent evergreening and patent thickets share many of the same characteristics. Both extend patent protection on a drug and focus on secondary patents and tertiary added after the core primary patents. This Article's distinction between the two practices focuses on the number of the patents at issue; in addition, the extent of patent exclusivity, patent thickets – or the number of patents therein – makes patent infringement litigation much more difficult and burdensome. These incentives are discussed further in Part II, *infra*.

[106] *See generally* Carrier, *supra* note 100; DRUG PRICING AND PHARMACEUTICAL PATENTING PRACTICES, *supra* note 100.

[107] Knox & Curfman, *supra* note 24, at 1761; Carrier & Tu, *supra* note 35, at 80.

[108] Carrier & Tu, *supra* note 35, at 81.

[109] Knox & Curfman, *supra* note 24, at 1761; Goode & Chao, *supra* note 29, at 4. While most sources refer to AbbVie filing 247 patent applications on Humira and being granted 132, research has since found that AbbVie and its affiliated companies submitted 311 patent applications and was granted 165 patents on Humira. *See The Drug Patent Book*, I-MAK, https://drugpatentbook.i-mak.org/ (accessed Aug. 19, 2024); Robbins, *supra* note 30.

[110] I-MAK, OVERPATENTED, OVERPRICED: CURBING PATENT ABUSE: TACKLING THE ROOT OF THE DRUG PRICING CRISIS (2022), https://www.i-mak.org/wp-content/uploads/2022/09/Overpatented-Overpriced-2022-FINAL.pdf.

[111] Goode & Chao, *supra* note 29, at 11.

The large number of patents alone is not necessarily an issue.[112] In the mid-1800s, in what is sometimes referred to as the first patent thicket, sewing machines were covered by hundreds of patents held by several inventors.[113] Modern technologies can be protected by thousands, with smartphones protected by as many as 250,000 patents.[114] Yet we see robust competition among smartphones and other technologies. Even in the pharmaceutical context, having hundreds of patents is not *per se* a bad thing. In some cases, many patents indicate the value of the innovative drug and show that the pharmaceutical innovation system is in fact working as intended. However, other characteristics of the patent thickets discussed herein raise significant challenges and undermine their potential benefit in the innovation context.

In addition to the sheer number of patents, there are at least two characteristics common among most biologics patent thickets. First, biologics patent thickets are mostly composed of secondary and tertiary patents.[115] Many of these patents may be related to similar aspects of the product. Professors Michael Carrier and Sean Tu, for example, have found that many patent thickets are built up by continuation patents, which "are based on the same invention description and drawings as a previously filed application, and their disclosure is identical or nearly identical to a previous application."[116] The entire "family" of patents has the same expiration date, so the submission of continuation patents does not extend exclusivity but instead builds the size of the patent thicket.[117] In the same study, Carrier and Tu found an increase of method of use patents, which in combination with the continuation patents and associated litigation, may restrict the ability of biosimilars to compete with originator biologics on certain indications.[118]

Second, oftentimes many of the secondary and tertiary patents constructing the patent thicket are filed years after the initial approval of the biologic.[119] In some cases – as it was with Humira – these late-stage patents are

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[112] *Cf.* Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZ. L. REV. 165, 204-205 (2011) ("Contrary to the definition of patent thickets that dominates the literature today, this phenomenon is not defined solely by the number of patents. The Sewing Machine War makes clear that patent thickets are also defined by, among other things, the capabilities and costs of communication between the relevant parties and the means and costs in commercially exploiting the technology.").

[113] *Id.* at 175-182, 193-94.

[114] Nat Watkins, *Inside Big Tech's Race to Patent Everything*, WIRED (Mar. 15, 2022), https://www.wired.com/story/big-tech-patent-intellectual-property/.

[115] Carrier & Tu, *supra* note 35, at 82; Feldman, *supra* note 83, manuscript at 17; Sinha, *supra* note 42; Van de Wiele et al., *supra* note 82, at 22-25.

[116] Carrier & Tu, *supra* note 35, at 85.

[117] *Id.* at 86.

[118] *Id.* at 91-92.

[119] *Id.* at 99; Knox & Curfman, *supra* note 24, at 1761; I-MAK, *supra* note 24, at 3.

filed in the years preceding the expiration of the primary patent, thereby prolonging the exclusivity period.[120] The timing of these submissions (many patent applications being submitted in the period immediately preceding patent expiry) indicates the patent thicket is being built not as a result of new innovation.[121] Instead, the patent thicket is likely constructed either to prolong the drug's exclusivity period (in the cases of new patents that provide the full twenty-year exclusivity period) or to increase the complexity and costs of patent litigation (in the cases of continuation patents and patents with terminal disclaimers), in both cases making biosimilar competition more difficult.[122]

Many of these characteristics are shared between patent thickets and patent evergreening.[123] Both concern secondary and tertiary patents added after the core primary patents.[124] Both may also extend the period of patent exclusivity for the biologic.[125] However, the key distinction this Article makes is the primary method by which the strategy strengthens the drugs exclusivity period.[126] Where patent evergreening focuses on the extended period of exclusivity, a patent thicket can be constructed without extending the exclusivity at all.[127] Instead, the greater protection of the patent thicket comes from its size, the number of patents involved in securing the biologic from competition.[128] By constructing a patent thicket, originator biologic manufacturers increase the burden and complexity of patent infringement litigation.[129] Instead of needing to address the validity of a few patents, biosimilars

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[120] Carrier & Tu, *supra* note 35, at 88-90; Knox & Curfman, *supra* note 24, at 1761; I-MAK, *supra* note 24, at 3, 7.

[121] Knox & Curfman, *supra* 24; I-MAK, *supra* note 24.

[122] *See* S. Sean Tu, Rachel Goode, & William B. Feldman, *Biologic Patent Thickets and Terminal Disclaimers*, 331(4) J. AM. MED. ASS'N 355, 355-57 (2023); S. Sean Tu et al., *Changes in the Number of Continuation Patents on Drugs Approved by the FDA*, 330(5) J. AM. MED. ASS'N 469, 469-70 (2023); I-MAK, HUMIRA (2020), https://www.i-mak.org/wp-content/uploads/2020/10/i-mak.humira.report.3.final-REVISED-2020-10-06.pdf.

[123] *See, e.g.*, Wu & Cheng, *supra* note 31, at 110 ("The difference between patent thickets and patent evergreen is that the concern of the former is the number of patents while that of the latter is the increased year span of the collective patent term. However, it should be stressed that the extents of patent thickets and patent evergreening do interplay with one another, with the former having the inherent capability to achieve the latter.").

[124] *Cf.* Carrier & Tu, *supra* note 35, at 88; Feldman, *supra* note 83, manuscript at 15-17. For a criticism of patent evergreening, *see, e.g.*, Erika Lietzan, *The "Evergreening" Metaphor in Intellectual Property Scholarship*, 53 AKRON L. REV. 805 (2019).

[125] Carrier & Tu, *supra* note 35, at 86; Feldman, *supra* note 83, draft at 11, 15.

[126] *Cf.* Wu & Cheng, *supra* note 31, at 110.

[127] *Id.*; *see also* Carrier & Tu, *supra* note 35, at 86 (discussing the role of continuation patents in pharmaceutical patent thickets.

[128] Wu & Cheng, *supra* note 31, at 110; Knox & Curfman, *supra* note 24, at 1761.

[129] Wu & Cheng, *supra* note 31, at 109-10; Knox & Curfman, *supra* note 24, at 1761; Carrier & Tu, *supra* note 35, at 83.

would have to argue against dozens – or potentially hundreds – of patents in order to enter the market.[130]

Further, even though secondary and tertiary patents are less likely to be upheld in patent infringement litigation than the primary patents,[131] biosimilar manufacturers must consider the resources required to challenge many weak patents against the risk associated with patent infringement litigation.[132] Biosimilar entrants may therefore choose to delay entry rather than enter time- and resource-intensive litigation.

2. The Humira Patent Thicket

Biologics commonly are protected by multiple patents, and it is not uncommon for a biologic manufacturer to seek dozens if not hundreds of patents on a single drug.[133] Further, given the complexity in biologics molecules and manufacturing processes, biologics have notably more patents than small molecule drugs.[134] One study found that the top seven highest selling biologics had an average of 83 patents, compared to an average of approximately 4 for small molecule drugs,[135] with more recent studies suggesting this is continuing to increase.[136] Yet there continues to be less transparency in the data available on biologics and their patent thickets. This could be, in part, related to the delay in the implementation of a biosimilar approval pathway in the US and the fact that not until the past decade were many blockbuster biologics eligible for biosimilar competition.[137] The greatest focus related to patent thickets in recent years has been on one drug: Humira.

AbbVie's Humira is a blockbuster treatment for arthritis, plaque psoriasis, ankylosing spondylitis, Crohn's disease, and ulcerative colitis.[138] Beginning

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[130] Knox & Curfman, *supra* note 24, at 1761.

[131] Sinha, *supra* note 42, at 309-11; Sean Tu & Mark A. Lemley, *What Litigators Can Teach The Patent Office About Pharmaceutical Patents*, 99 WASH. UNIV. L. REV. 1673 (2022); Victor L. Van de Wiele, Aaron S. Kesselheim, & S. Sean Tu, *Biologic patent challenges under the America Invents Act*, 42 NATURE BIOTECHNOLOGY 374, 374-77 (2024).

[132] *See* Bryan S. Walsh, Jonathan J. Darrow, & Aaron S. Kesselheim, *Recent Orange and Purple Book Legislation Suggests a Need to Bridge Drug and Biologic Patent Regimes*, 40 NATURE BIOTECHNOLOGY 167, 167-68 (2022).

[133] *See, e.g.*, Goode & Chao, *supra* note 29, at 9; Charlotte Geaghan-Breiner, *The Patent Trap: The Struggle for Competition and Affordability in the Field of Biologic Drugs*, 54 COLUMBIA J. L. & SOC. PROBLEMS 589, 592 (2021); I-MAK, *supra* note 24, at 8.

[134] *See supra* notes 42-65 and accompanying text.

[135] Geaghan-Breiner, *supra* note 133, at 602 (citing I-MAK, OVERPATENTED, OVERPRICED: HOW EXCESSIVE PHARMACEUTICAL PATENTING IS EXTENDING MONOPOLIES AND DRIVING UP DRUG PRICES 7 (2018), https://www.i-mak.org/wp-content/uploads/2018/08/I-MAK-Overpatented-Overpriced-Report.pdf [https://perma.cc/6BAW-6TCJ]).

[136] *See, e.g.*, I-MAK, *supra* note 24, at 6; Goode & Chao, *supra* note 29, at 16.

[137] *See* Knox et al., *supra* note 9, manuscript at 26.

[138] Knox & Curfman, *supra* note 24, at 1761.

in 2014, prior to the expiration of its core composition patent, AbbVie filed approximately 247 patent applications for methods for manufacturing, formulation, and potential future formulations related to Humira.[139] Ultimately 132 patents were granted, extending Humira's patent exclusivity through 2037,[140] though later permitted biosimilar entry in 2023.[141] AbbVie settled patent infringement suits with all prospective biosimilar competitors, protecting its exclusivity in the US while permitting early entry in the European market.[142] This negotiated early entry benefitted both AbbVie and the biosimilar manufacturers, with AbbVie maintaining extended control in the US market, biosimilar manufacturers gaining revenue in the European market, and both parties saving time and resources on patent infringement litigation.

More notable than the settled Humira patent infringement litigation was the subsequent antitrust lawsuit brought by a group of indirect payers for Humira.[143] Plaintiffs, which included the city of Baltimore and insurance and employee benefit plans, argued that AbbVie's conduct violated Section 2 of the Sherman Antitrust Act which states that it is a felony to "monopolize, or attempt to monopolize… any part of the trade or commerce among the several States."[144] In relevant part, the plaintiffs based AbbVie's alleged violation on its "obtaining and asserting 'swaths of invalid, unenforceable, or noninfringed patents without regard to the patents' merits."[145] Further, separate from the creation of the patent thicket, plaintiffs alleged that AbbVie's settlements with the prospective biosimilar entrants in exchange for early entry in Europe violated Section 1 of the Sherman Antitrust Act, which states that "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce" is illegal.[146] The remainder of this Section will only focus on the Section 2 claims regarding the creation of the Humira patent thicket.

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[139] *Id.*; I-MAK, *supra* note 24 at 7.

[140] Knox & Curfman, *supra* note 24, at 1761.

[141] *Id.*

[142] *Id.*; *cf. In re Humira*, 465 F. Supp. 3d 811, 823-825 (N.D. Ill. 2020).

[143] *In re Humira*, 465 F. Supp. at 824-825.

[144] *Id.* at 819; 15 U.S.C. § 2.

[145] *In re Humira*, 465 F. Supp. at 827.

[146] *Id.* at 819; 15 U.S.C. § 1. A deeper discussion of the pay-for-delay theory and market allocation theory put forth by plaintiffs is outside the scope of this Article. For a greater analysis of these arguments, *see*, *e.g.*, Michael A. Carrier, *The U.S. District Court for the Northern District of Illinois Dismisses Antitrust Case Challenging Patent Thicket* (Humira), ECOMPETITIONS 1, 4 (2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3678198; Laura Karas, *When "Pay-for-Delay" Becomes "Delay-Without-Pay": Humira Antitrust Claims*, HARV. L. SCH. BILL OF HEALTH (Feb. 1, 2021), https://blog.petrieflom.law.harvard.edu/2021/02/01/pay-for-delay-humira-antitrust/; Robin C. Feldman, *The Price Tag of "Pay-for-Delay"*, 23 COLUM. SCI. & TECH. L. REV. 1, 41-42 (2022).

The challenge was ultimately unsuccessful at both the district and appellate court levels.[147] The district court found that AbbVie's creation of the Humira patent thicket did not violate antitrust law. The court first emphasized that plaintiff's theory was not that AbbVie "obtained its patents by knowing and willful fraud… [n]or that it was anticompetitive to accumulate a large portfolio of patents… nor that any one of AbbVie's petitioning activities was 'objectively baseless.'"[148] Instead, the plaintiffs alleged that AbbVie had "abused its monopoly" over Humira in the US market.[149] The challenged conduct in question was (1) AbbVie's patent applications to the USPTO to construct the patent thicket, (2) the assertion of these patents in *inter partes* review, and (3) the assertion of these patents in the patent infringement litigation.[150] "[I]t is [true that] in some instances unlawful to use patents in ways that foreclose competition."[151] Plaintiffs suggested that "one such example is when a patentee acquires and asserts whole tracts of questionable patents as part of a bad-faith, intentional effort to prop up the market for an existing, expiring patented product."[152] This claim stemmed from the idea that "petitioning the government (during patent prosecutions, the FDA approval process, and in the courts) can violate the antitrust laws if, in reality, that petitioning is nothing more than a sham meant to inhibit competition."[153]

The district court then analyzed plaintiff's claims under the *Noerr-Pennington* doctrine, which provides antitrust immunity for an entity's petitioning of the government.[154] While AbbVie's conduct in seeking FDA approval, applying for patents from USPTO, and defense of those patents in *inter partes* review and litigation were considered petitioning activity, the court considered the exceptions to *Noerr-Pennington* immunity, specifically "sham petitioning."[155] Sham petitioning, which revokes *Noerr-Pennington* immunity, requires meeting a two-part test.[156] First, the petition must be "objectively

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[147] *In re Humira*, 465 F. Supp. at 819; *Mayor and City Council of Baltimore v. AbbVie Inc.*, 42 F.4th 709, 709 (7th Cir. 2022).

[148] *In re Humira*, 465 F. Supp. at 827.

[149] *Id.*

[150] *Id.* at 827-829.

[151] *Id.* at 828, (quoting *United States v. Line Material Co.*, 333 U.S. 287, 308 (1948)).

[152] *Id.* at 828.

[153] *Id.*

[154] Noerr-Pennington immunity is grounded in the First Amendment right to petition, which is closely related (if not completely subsumed within) First Amendment speech rights. *See Eastern Railroad Presidents Conference v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 138 (1961); *United Mine Workers of America v. Pennington*, 381 U.S. 657, 669 (1965). Elsewhere, I have argued with Gregory Curfman that Noerr-Pennington immunity should be restricted in this context due to the commercial nature of the patent applications. *See* Knox & Curfman, *supra* note 24, at 1762.

[155] *In re Humira*, 465 F. Supp. at 828-829.

[156] *Id.*

baseless" such that no reasonable petitioner could expect success on the merits.[157] Second, the petitioner must be using the petitioning process itself to interfere with competition, as opposed to using the outcome of a governmental process to do so.[158] However, the court rejected these arguments, saying that that the sham exception could not apply as more than half (approximately 53.4 percent) of AbbVie's patent applications had been successful.[159] Further, AbbVie's success rates were even higher in *inter partes* review and the terms of the patent infringement settlements also "foreclosed" findings of objective baselessness.[160] As such, AbbVie's patent applications, use of *inter partes* review, and patent infringement litigation were characterized as non-sham, protected petitioning activity and therefore shielded from antitrust review.[161]

On appeal, the Seventh Circuit affirmed and upheld Humira's patent thicket.[162] The court, in an opinion by Judge Easterbrook, characterized the Humira patent thicket as representing the value of Humira as an innovation, not an indication of anticompetitive conduct. In particular, the court questioned "what's wrong with having lots of patents? If AbbVie made 132 inventions, why can't it hold 132 patents? The patent laws do not set a cap on the number of patents any one person can hold."[163] Even though secondary and tertiary patents may be weaker, the court also noted that "Weak patents are valid; to say they are weak is to say that their scope is limited, not that they are illegitimate."[164] The court also emphasized that if even a single patent in the patent thicket were held to be valid, then plaintiffs would ultimately fail.[165]

Further, the Seventh Circuit agreed with the district court's application of *Noerr-Pennington*, disagreeing with plaintiffs that AbbVie's high volume of late-term patent applications demonstrated an abuse of the patent process.[166] The fact that anticompetitive effect was dependent on the outcome of the process, as opposed to the use of the process itself, was important.[167] The court explained "Patent applications, successful or not, do not impose costs

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[157] *Id.* (citing *Prof'l Real Estate Inv'rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 51 (1993)).

[158] *In re Humira*, 465 F. Supp. at 829 (citing *Prof'l Real Estate Inv'rs, Inc.*).

[159] *In re Humira*, 465 F. Supp. at 830; Knox & Curfman, *supra* note 24, at 1761.

[160] *See In re Humira*, 465 F. Supp. at 831-35.

[161] *See Mayor and City Council of Baltimore v. AbbVie Inc.*, 42 F.4th 709, 713 (7th Cir. 2022); Knox & Curfman, *supra* note 24, at 1762-63.

[162] *AbbVie*, 42 F.4th at 716; Knox & Curfman, *supra* note 24, at 1763.

[163] *AbbVie*, 42 F.4th at 712.

[164] *Id.* at 713.

[165] Knox & Curfman, *supra* note 24, at 1762-63.

[166] *Id.* at 1762.

[167] *Id.*

on rivals; only issued patents do so."[168] This, combined with AbbVie's success rate on the patent applications, *inter partes* review, and patent infringement litigation and settlements led the court to hold the petitioning could not be objectively baseless.[169]

While other high-priced biologics are protected by patent thickets,[170] there have been relatively few major cases involving biologics patent thickets.[171] Rather, most do not reach litigation like in *In re Humira*.[172] Some prospective biosimilar entrants have settled patent litigation with manufacturers, negotiating entry in other markets (such as Europe) or a delayed entry, albeit earlier than patent expiration.[173] Others have been involved in patent infringement litigation with originator biologics manufacturers.[174] Undoubtedly, still other companies might have considered entering a biosimilar market but chose not to due to the high risks related to patent thickets and the low potential reward given biosimilars limited success in markets thus far.[175] Understanding both the legal and practical barriers to thinning future biologics patent thickets is necessary to craft reforms to resolve the problem. Important too is understanding the dynamics and particular qualities of biologics patent thickets that have led to the current landscape.

3. A Comparison to Patent Thickets in Other Industries

Before addressing the effects of biologics patent thickets in the next Part and ultimately solutions to biologics patent thickets, it is essential to understand what exactly the patent thickets being discussed are. Some scholars and courts thus far have conflated different patenting practices, which can inadvertently lead to challenges or unintended consequences of law and policy.[176]

Patent thickets differ significantly across industries in terms of the number of patents involved, the types of patents acquired, and the entity (or entities) who hold the patent rights.[177] These variations affect patent holders' goals in

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[168] *AbbVie*, 42 F.4th at 714.

[169] Knox & Curfman, *supra* note 24, at 1761.

[170] *See* Goode & Chao, *supra* note 29, at 2-3.

[171] *See id.* at 3; Goode, Feldman, & Tu, *supra* note 86, at 2117.

[172] *See* Goode & Chao, *supra* note 29, at 8-9.

[173] *See, e.g.*, *id.* at 13 (cataloging associated litigation).

[174] *Id.* at 11-13 (cataloging associated litigation).

[175] *See* Knox et al., *supra* note 9, manuscript at 5; *cf.* Ryan Knox, *Insulin Insulated: Barriers to Competition and Affordability in the U.S. Insulin Market*, 7 J. L. & BIOSCIENCES 10, 11-19 (2020) (on biosimilar insulin manufacturers that have been deterred from entering the US market).

[176] *See generally Mayor and City Council of Baltimore v. AbbVie Inc.*, 42 F.4th 709 (7th Cir. 2022); Carrier & Tu, *supra* note 35, at 80-81, 92-100.

[177] Carrier & Tu, *supra* note 35, at 80-81, 92-94. This Section's description of biologics patent thickets compared to technology patent thickets is an oversimplification of both industries and both practices; *See, e.g.*, Sinha, *supra* note 42, at 303-13 (discussing

creating a patent thicket, the costs and benefits of the patent thickets, the innovation incentives of the patent thicket, and the reforms and solutions needed to address challenges of these challenges. Depending on the relevant industry, patent thickets refer to two distinct phenomena.

As discussed above, biologics patent thickets refer to multiple patents held on one product by one company.[178] There are different types of patents on the individual product – primary, secondary, and tertiary patents – but they are all owned by one entity.[179] This one company then uses its patent thicket to prevent other companies from entering the market. For example, an insulin manufacturer will own the patents related to the insulin product, its method of use, and the insulin pen used to administer the dose of insulin.[180]

Patent thickets in technology are fundamentally different.[181] These patent thickets, using the term as originally coined by Carl Shapiro,[182] refer to a dynamic where multiple companies each hold patents necessary for a technology to enter the market.[183] Take a smartphone for example.[184] Company A wants to sell a smartphone and holds the patent on the main device shape and structure, but Company B holds the patent to the screen's unlock feature, Company C holds the patents on the Bluetooth capability, Company D holds the patent on the WiFi capability, and so on.[185] The device cannot be the smartphone device it is without all of these features; conversely, if certain features are removed, the device may not be attractive or successful on the market. Company A therefore cannot bring its smartphone to market

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combination drug-device products and their associated patents and exclusivities). However, the ownership of the patents and the characteristics tends to differ by industry and generally holds true for the purposes of this discussion.

[178] Because of the different structures and incentives, economics literature commonly refers to pharmaceutical patent thickets as "strategic patenting practices" and not patent thickets. *See, e.g.*, Olga Gurgula, *Strategic Patenting by Pharmaceutical Companies: Should Competition Law Intervene?*, 51 IIC INT'L REV. OF INTELL. PROP. & COMP. LAW 1062, 1069 (2020). The term patent thicket has been used only recently in the legal literature and health policy literature in the pharmaceutical context.

[179] Sinha, *supra* note 42, at 308-10.

[180] Anders Olsen, Reed F. Beall, Ryan P. Knox, Sean S. Tu, Aaron S. Kesselheim & William B. Feldman, *Patents and Regulatory Exclusivities on FDA-Approved Insulin Products: A Longitudinal Database Study, 1986–2019*, PLOS MED., Nov. 16, 2023, at 3-4.

[181] Still, we may be able to learn from these patent thickets in crafting solutions. *See* Part III, *infra*.

[182] Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, 1 INNOVATION POL'Y AND ECON. 119, 120 (2001).

[183] *Id.*

[184] *Cf.* Jessie Yang, *The Use and Abuse of Patents in the Smartphone Wars: A Need for Change*, 5 J. L., TECH. & INTERNET 239, 239 (2014).

[185] Stefan Wagner, *Are 'Patent Thickets' Smothering Innovation?*, YALE INSIGHTS (Apr. 22, 2015), https://insights.som.yale.edu/insights/are-patent-thickets-smothering-innovation [https://perma.cc/G3G6-YC9D].

without infringing on the patents of Companies B, C, and D. In order to bring devices to market and overcome the barriers of the patent thicket, companies must enter into agreements with each other to permit use of the other entities' technologies.[186] This can take the shape of a series of agreements or patent pooling agreements (where a series of patents are packaged and licensed together) and may or may not include royalty payments between entities.[187] With these licensing agreements, entities are able to bring their product to the market.

These different types of patent thickets raise two major differences in incentives for the companies involved. First, the acquisition of patents and the extent of their benefit to the owner vary between industries. Pharmaceutical patents have a much longer patent life than the technology industry, where development occurs as at a much more rapid pace.[188] This difference and the different patent thicket structures change the value of holding the patents. In the pharmaceutical context, companies are incentivized to obtain more patents to maintain exclusivity for a longer period of time. More patents generally mean longer exclusivity and therefore more profits.[189] Technology companies may also seek more patents for more profits, but they likely will lack the same value and duration as pharmaceutical patents.[190] But companies holding more technology patents have greater bargaining power when it comes to licensing arrangements that allow products to come to market. This, in turn, can affect these companies' decisions regarding mergers and acquisitions to maximize their patent portfolio and negotiating position.

That fact brings us to the other crucial incentive: collaboration. Collaboration and negotiation are key to navigating technology patent thickets.[191] Some parties with more patents in their portfolio may have greater leverage for negotiating terms agreements, but collaboration is necessary for all parties if they are going to be able to enter the market at all.[192] As such, solutions to technology patent thickets center around fostering relationships among technology companies with related products: licensing agreements, pooling agreements, and other contracting arrangements.[193]

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[186] Shapiro, *supra* note 182, at 120.

[187] *Mayor and City Council of Baltimore v. AbbVie Inc.*, 42 F.4th 709, 715 (7th Cir. 2022).

[188] OECD, PATENTS AND INNOVATION: TRENDS AND POLICY CHALLENGES 5, 15 (2004), https://www.oecd.org/science/inno/24508541.pdf [https://perma.cc/UTV2-8TP9] (also noting how some industries are moving away from patenting and towards open source policies).

[189] Knox & Curfman, *supra* note 24; Goode & Chao, *supra* note 29, at 24.

[190] Simon Lester & Huan Zhu, *Rethinking the Length of Patent Terms*, 34 AM. U. INT'L L. REV. 787, 801-02 (2019).

[191] *See generally* Shapiro, *supra* note 182.

[192] *Cf. id.* (discussing the necessity of collaboration in technology patent thickets).

[193] *Id.*

On the other hand, with biologics patent thickets, a prospective competitor must review, and potentially challenge, all the patents held by one company in order to enter the market.[194] Unless the originator company wants to avoid patent infringement litigation (because of time, expense, or concern about the strength and validity of their patents), originator manufacturers have no incentive to bargain or collaborate with competitors.[195] Biosimilar entry generally only means lost revenue for the originator. Even if an originator company chooses to permit early biosimilar entry, as AbbVie did with Humira, the originator manufacturer has virtually all the bargaining power; if a biosimilar company wants to enter, they have little leverage against the originator to use in negotiating better entry terms.[196]

Despite these key differences, in the Seventh Circuit's opinion on the Humira patent thicket, the court compares the problem of patent thickets in the pharmaceutical industry and in technology.[197] Specifically, the court commented that, compared to Humira's 132 patents, "[T]ech companies such as Cisco, Qualcomm, Intel, Microsoft, and Apple have much larger portfolios of patents. Thomas Edison alone held 1,093 U.S. patents. When the FTC challenged Qualcomm's patent practices, it objected to licensing terms rather than the sheer size of the portfolio."[198]

It is true that 132 patents are significantly less than the thousands that may be held by technology companies. But this distinction does not consider the different incentives and dynamics for the companies when they actually hold these patents. In developing precedent permitting pharmaceutical patent thickets, it is crucial to both acknowledge and incorporate these differing incentives, discussed further in the following Sections.

II. THE PROBLEM OF BIOLOGICS PATENT THICKETS

In Part I, this Article defined: (1) what biologics patent thickets are; (2) how they are created; (3) why they are created; and (4) how these patent thickets prevent biosimilar competition. By reviewing the Humira patent thicket and discussing notable differences between different types of patenting strategies, Part I also foreshadows the incentives and challenges associated with biologics patent thickets. But the question still remains, why are biologics patent thickets a problem? Why should reforms be implemented to overcome these current incentives and obstacles discussed?

This Part explains why patent thickets are a problem both legally and normatively. The pharmaceutical industry and some scholars may disagree, arguing that patent thickets represent the value of a pharmaceutical innovation

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[194] *See* Knox & Curfman, *supra* note 24, at 1761.

[195] *See id.*; Goode & Chao, *supra* note 29, at 9.

[196] *In re Humira*, 465 F. Supp. 3d 811, 820 (N.D. Ill. 2020).

[197] *Mayor and City Council of Baltimore v. AbbVie Inc.*, 42 F.4th 709, 712 (7th Cir. 2022).

[198] *Id.*

and the healthcare system's reward for this innovation.[199] At one level, this disagreement shows a consistent challenge in health policy and a disagreement between industry and patient advocates: "the calibration of pharmaceutical patent laws to optimize the balance between innovation and access."[200] But this is an oversimplification; as this Part shows, patent thickets cause notable harms to both innovation and access to medicines while putting a burden on the drug approval system. Pharmaceutical innovation in the US is affected by a range of actors and regulators in the healthcare system. Some do so more directly, while others may have a more indirect role in innovation policy.[201] Similarly, many agencies and laws play a role in promoting or restricting patient access to medicines. This Part examines these laws and how their incentives contribute to the harms of biologics patent thickets. Further, this Part considers whether all, or only certain types of, patent thickets are harmful to consumers and what types of innovation should be incentivized or disincentivized through patent thicket law and policy.

Section A details the implications of patent law on biologics patent thickets and biologics innovation and biosimilar competition. Section B describes how FDA regulation relates to biologics patent thickets and argues that the current state of affairs demonstrates an abuse of the FDA regulatory system and an underlying challenge in FDA's role in innovation policy. Section C illustrates the harm of biologics patent thickets on access to medicines with a discussion of how various federal health programs and policies incentivize the creation and maintenance of biologics patent thickets. Collectively, these aspects of the problem help inform and develop the solutions proposed in the final part of this Article.

A. Patent Law

The patent system rewards inventors for their innovation by granting them a period of exclusivity during which no other inventors can use their innovation without rights.[202] Thus, obtaining patents in most industries can be very lucrative and incentivize inventors to invest significant time and

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[199] *See, e.g.*, Lietzan, *supra* note 124.

[200] Hemphill & Sampat, *supra* note 105, at 327.

[201] *See, e.g.*, Rachel E. Sachs, *The Uneasy Case for Patent Law*, 117 MICH. L. REV. 499 (2018) (on innovation incentives in patent law) [hereinafter *Sachs, Uneasy Case*]; Rachel E. Sachs, W. Nicholson Price II, & Patricia J. Zettler, *Rethinking Innovation at FDA*, B.U. L. REV. (forthcoming 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4373500 (on FDA's role in incentivizing innovation); Rachel E. Sachs, *Delinking Reimbursement*, 102 MINN. L. REV. 2307, 2314 (2018) (on the role of Medicare and Medicaid reimbursement in incentivizing innovation) [hereinafter Sachs, *Delinking Reimbursement*]; Rachel E. Sachs, *Prizing Insurance: Prescription Drug Insurance as Innovation Incentive*, 30 HARV. J. L. & TECH. 154 (2016) (same) [hereinafter Sachs, *Prizing Insurance*].

[202] *See* Sachs, *Uneasy Case*, *supra* note 201, at 505; Sachs, *Prizing Insurance*, *supra* note 201, at 160.

resources into developing a product.[203] These incentives are particularly strong in the pharmaceutical space.[204] Patent laws support the development of new, novel therapies.[205] Manufacturers are incentivized to discover the next blockbuster drug, knowing that their research and development investments may be recouped after the ultimate approval of their drug. Patent thickets strengthen the protection and extend the exclusivities provided to drugs, thus increasing the incentives for manufacturers to find and develop such innovative treatments. By contrast, weaker exclusivities, and smaller markets disincentivize innovation; the latter we have seen historically in the rare disease space in particular.[206]

In the first place, it can be argued that biologics patent thickets exemplify the patent system working – incentivizing the development of novel therapies. Many of the high priced biologic drugs commonly critiqued for their patent portfolios are major innovations that have improved the lives of millions of patients. Rituxan (rituximab) was the first "therapeutic antibody approved for oncology patients," becoming the top selling cancer drug for almost a decade.[207] Herceptin (trastuzumab) was the first monoclonal antibody to block a cancer-causing protein,[208] with one researcher involved in its development arguing that it "created a new paradigm for how to look for treatments in cancer."[209] And while not the first drug in its class, Humira was a significant improvement over existing drugs in terms of dosing schedule, patient toleration, and administration. It also became a treatment for not only one but fifteen indications reaching one million patients.[210] The patent

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[203] *See* Sachs, *Uneasy Case*, *supra* note 201, at 503-508 (discussing variations in the innovation incentives across different industries).

[204] Bhaven N. Sampat, *A Survey of Empirical Evidence on Patents and Innovation* 19 (Nat'l Bureau Econ. Rsch., Working Paper No. 25383, 2018).

[205] *See* Sachs, *Uneasy Case*, *supra* note 201, at 505; Sachs, *Prizing Insurance*, *supra* note 201, at 157.

[206] Sachs, *Prizing Insurance*, *supra* note 201, at 157; Taeho Greg Rhee, *Policymaking for Orphan Drugs and Its Challenges*, 17(8) AM. MED. ASS'N J. ETHICS 776 (2015), https://journalofethics.ama-assn.org/sites/joedb/files/2018-05/pfor2-1508.pdf. This trend has changed in recent years, with orphan drugs earning as much as non-orphan drugs. *See* S. Sean Tu et al., *Five-Year Sales for Newly Marketed Prescription Drugs With and Without Initial Orphan Drug Act Designation*, 329(18) J. AM. MED. ASS'N 1607, 1607-08 (2023).

[207] *See, e.g.*, Timothy M. Pierpont, Candice B. Limper, & Kristy L. Richards, *Past, Present, and Future of Rituximab-The World's First Oncology Monoclonal Antibody Therapy*, 8 FRONTIERS IN ONCOLOGY 1, 1 (2018).

[208] Charles L. Sawyers, *Herceptin: A First Assault on Oncogenes that Launched a Revolution*, 179 CELL 8, 8 (2019).

[209] Sujata Gupta, *Trials and Tribulations*, 548 NATURE S28, S28 (2017).

[210] *See* Tuhin A. Rahman, *The Story of Humira®, The Swiss-Army Knife of Pharmaceutical Drugs*, LINKEDIN (Feb. 17, 2017), https://www.linkedin.com/pulse/story-humira-swiss-army-knife-pharmaceutical-drugs-tuhin-a-rahman/ [https://perma.cc/W5GU-8LW6].

system and the patent thickets on these biologics incentivized and rewarded these innovative drug discoveries.

However, the majority of the patents seen in biologics patent thickets are not on the core substance. Biologics patent thickets are largely composed of secondary and tertiary patents: patents on the formulation, dosing regimen, method of use, manufacturing process, route of administration, and associated devices.[211] Thus there are other incentives driving innovators to seek these patents. Particularly given the later stage in the product life cycle[212] when many of these other patents in the thicket are submitted, it seems that the patent system and the persistence of biologics patent thickets may incentivize certain kinds of innovation. More specifically, here patent law incentivizes certain kinds of incremental innovation. Manufacturers want to extend their exclusivities, and recent cases have supported the validity of patent thickets.[213] Some later stage patents may be weaker, relating back to earlier discoveries or minor improvements. These patents must still meet the basic requirements for patent eligibility (most relevant here being newness and non-obviousness),[214] yet manufacturers reap the rewards of patent protection with less investment of resources required.

Despite the benefits of incremental innovation in some instances, the incentives here raise the concern about incentivizing high-value versus low-value innovation.[215] The patent protection of incremental innovation is not treated differently than a major novel development.[216] Both are eligible for the same twenty-year patent protection.[217] Is that justified? Should innovators receive the same patent protection for minor modifications or the development of me-too drugs as the innovator of a new product? The current system says yes.[218] Such a policy promotes the creation and ongoing growth of patent thickets at the potential cost of innovations by other companies. Is

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[211] *See* Carrier & Tu, *supra* note 35, at 81-82; Goode, Feldman, & Tu, *supra* note 86, at 2117; Knox & Curfman, *supra* note 24, at 1761.

[212] I do not intend to argue the validity of the patents in these thickets, though secondary and tertiary patents are oftentimes found to be weaker; instead, I mean to suggest there are other incentives driving the timing of these patents. As such, a change to patent law and policy may be necessitated. *Cf.* Goode, Feldman, & Tu, *supra* note 86, at 2117 (on ancillary patents on manufacturing).

[213] *See e.g., In re Humira*, 465 F. Supp. 3d 811 (N.D. Ill. 2020); *Mayor and City Council of Baltimore v. AbbVie*, 42 F.4th 709 (7th Cir. 2022).

[214] Carrier & Tu, *supra* note 35, at 85-86.

[215] *Cf.* Alan Devlin & Michael Jacobs, *Anticompetitive Innovation and the Quality of Invention*, 27 BERKELEY TECH. L. J. 1, 4 (2012) ("Should a modicum of improvement shield the defendant from antitrust liability, or should legality turn on the outcome of a cost-benefit analysis that weighs the value of the improvement against the cost of suppressed competition?").

[216] *See generally* Sachs, *Uneasy Case*, *supra* note 201, at 540-42.

[217] 35 U.S.C. § 154 (a)(2).

[218] Subject to some exceptions; *see, e.g.*, Sachs, *Uneasy Case*, *supra* note 201, at 521.

incentivizing a moderate rate of innovation rather than lowering patent protections and potentially slowing novel innovations due to higher risks?[219]

Further, what constitutes an innovation or improvement worthy of greater protection? Certain changes to drugs, like making a product an extended release version, may be generally well understood but still provides patients with significant benefits. Other incremental innovations may provide little to no patient benefit but include a greater investment in resources to modify the drug. More generally, such incremental innovation could incentivize so-called "product hops" – when originator manufacturers make minor changes to a drug they have on the market prior to biosimilar or generic competition.[220] By moving (or "hopping") patients to the new product, the originator manufacturer greatly weakens the generic or biosimilar market.[221] But some product hops may be beneficial for patients. For example, Professor Michael Sinha has argued that certain product hops may be beneficial for public health, including abuse-deterrent opioids.[222] Reforms to laws and policies surrounding biologics patent thickets must take these innovation incentives into account. Non-patent law solutions, for example, may maintain broad innovation incentives while increasing biosimilar access and competition, undermining the consequences of biologics patent thickets.

The strong patent protections supporting biologics patent thickets have also significantly delayed the development and approval of biosimilars. The US still lags behind other countries in the entry of biosimilars in the market.[223] Patents have increased the delay and given manufacturers less experience seeking FDA approval of biosimilars, as the next Section further explores. This may in part have limited the development of processes that can promote the efficient development of biosimilars.[224]

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[219] In seeking to reform these innovation incentives, lawmakers must be mindful of the impact on what types of research and what types of drugs may be affected. For example, as Professor Erika Lietzan writes, "if the post-approval reward gets shorter when research takes longer, certain types of research – and therefore certain *types of drugs* – will be affected more than others." Erika Lietzan, *The Drug Innovation Paradox*, 83 MO. L. REV. 39, 44 (2018). Changing the permissibility of biologics patent thickets, or at least the types of biologics patent thickets that are permitted to continue, will have ripple effects throughout the innovation system. If the incentives for certain types of innovation are weakened, policymakers may want to consider additional incentive programs to combat that.

[220] Sinha, *supra* note 104, at 398.

[221] *Id.* at 398-99.

[222] *Id.* at 396.

[223] *See* Knox et al., *supra* note 9, manuscript at 5.

[224] For other factors that have influenced the varied success of biosimilars, *see generally* Knox et al., *supra* note 9.

B. FDA Law

The primary role of FDA is to approve new drugs for the US market, acting as a gatekeeper or consumer protection agency for the healthcare sector.[225] In addition, like patent law, FDA also plays a role, albeit indirectly, in incentivizing new and certain types of innovations.[226]

FDA provides companies a right to develop a new, hopefully innovative and effective, drug.[227] Without an Investigational New Drug Application (IND) authorized by FDA, manufacturers cannot administer an investigational new drug to humans, transport the product across state lines, or initiate clinical trials.[228] At this stage, FDA has an oversight role in the innovation process, interacting with manufacturers at certain stages throughout the clinical trial process. While going through clinical trials does not provide any protections or incentives, manufacturers are allowed to seek patents throughout clinical trials to protect their promising innovations.[229] Without communication between FDA and USPTO on requirements,[230] this hands-off role of FDA permits the creation of biologics patent thickets.[231]

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[225] *What We Do*, FDA, https://www.fda.gov/about-fda/what-we-do#:~:text=Information%20for%20Consumers-,FDA%20Mission,and%20products%20that%20emit%20radiation [https://perma.cc/3C6K-6AS4] (last updated Nov. 11, 2023).

[226] *See also* Sachs et al., *supra* note 201, at 1.

[227] *See Investigational New Drug (IND) Application*, *supra* note 67.

[228] *Id.*

[229] *See generally* Knox, *supra* note 175, at 11-14 (discussing timeline of prescription drug development, including patents and FDA approvals); Knox et al., *supra* note 9, manuscript at 17.

[230] For example, a requirement that patents related to the manufacturing of the drug substance, closely related to the primary patent on the biologic, could result in earlier submission of these patents and a lesser role those patents could play in extending the exclusivity provided by the thicket. *Cf.* Goode et al., *supra* note 86, at 2117-19; Arti K. Rai & W. Nicholson Price II, *An Administrative Fix for Manufacturing Process Patent Thickets*, 39 NATURE BIOTECHNOLOGY 20, 20 (2021). Alternatively, this could call for a strengthening of the utility requirement under 35 U.S.C. § 101, increasing the threshold for patentability. *See generally* Michael Risch, *A Surprisingly Useful Requirement*, 19(1) GEORGE MASON L. REV. 57 (2011).

[231] *Cf.* I-MAK, ADDRESSING PATENT THICKETS TO IMPROVE COMPETITION AND LOWER PRESCRIPTION DRUG PRICES: A BLUEPRINT FOR REFORM (2023), https://www.i-mak.org/wp-content/uploads/2023/12/Addressing-Patent-Thickets-Blueprint_2023.pdf (reviewing solutions to address patent thickets, including more active collaboration and communication between FDA and USPTO). Some proposals have been set forth calling for increased collaboration between FDA and USPTO to address these types of challenges. *See, e.g.*, *Executive Order on Promoting Competition in the American Economy*, WHITE HOUSE (July 9, 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/; S. Sean Tu, *FDA Reexamination: Increased Communication Between the FDA and USPTO to Improve*

Later stages in the FDA approval process play a greater role in pharmaceutical innovation incentives and compound the challenges of biologics patent thickets. In order to incentivize the development of certain types of treatments, Congress has created programs through FDA to benefit manufacturers of drugs meeting set needs. The Breakthrough Therapy designation provides faster review and greater FDA resources to support the development and approval of drugs treating serious conditions that have preliminary evidence indicating they will be a substantial improvement over currently available drugs.[232] Similarly, the Accelerated Approval Pathway facilitates "earlier approval of drugs that treat serious conditions, and fill an unmet medical need based on a surrogate endpoint."[233] Other programs incentivize the development of certain types of drugs that may not be profitable. For example, the Orphan Drug Act provides financial incentives in the form of grants and tax credits as well as seven years market exclusivity to support the development of drugs for rare diseases (treating fewer than 200,000 people).[234] Congress passed the Generating Antibiotic Incentives Now Act (GAIN Act), creating a 5-year FDA exclusivity to incentivize the development of antibiotics.[235] Federal investments in vaccine development and indemnification of manufacturers of vaccines from lawsuits related to certain adverse events both mitigate the risks related to the uncertain market for vaccines.[236]

In all cases, development of these drugs may be unattractive investments for manufacturers given the increased time and resources needed to develop these drugs. To protect their investments, manufacturers taking advantage of these specialized pathways may be more likely to seek additional patents to make their drug to maximize the financial reward. FDA's regulations therefore may be playing a role in directing innovation in a way leading to more

Patent Quality, 60 HOUSTON L. REV. 403 (2022); Joint USPTO-FDA Collaboration Initiatives; Notice of Public Listening Session and Request for Comments, 88 Fed. Reg. 11902 (2023).

[232] *Breakthrough Therapy*, FDA, https://www.fda.gov/patients/fast-track-breakthrough-therapy-accelerated-approval-priority-review/breakthrough-therapy (last updated Jan. 4, 2018).

[233] *Accelerated Approval Program*, FDA, https://www.fda.gov/drugs/nda-and-bla-approvals/accelerated-approval-program (last updated Feb. 22, 2024).

[234] Orphan Drug Act of 1983, Pub. L. No. 97-414, 96 Stat. 2049 (codified as amended at 21 U.S.C. §§ 360aa–360ee) (1983). These drugs were historically not profitable, though that has changed in recent years. *See* Tu et al., *supra* note 206.

[235] Section 805 of the Food and Drug Administration Safety and Innovation Act Public Law 112-144. *But see* Jonathan J. Darrow & Aaron S. Kesselheim, *Incentivizing Antibiotic Development: Why Isn't the Generating Antibiotic Incentives Now (GAIN) Act Working?*, 7(1) OPEN FORUM INFECTIOUS DISEASES ofaa001 (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6986775/#CIT0001 (discussing the limitations of the GAIN Act).

[236] RESEARCH AND DEVELOPMENT IN THE PHARMACEUTICAL INDUSTRY, CONGRESSIONAL BUDGET OFFICE (2021), https://www.cbo.gov/publication/57126.

frequent creation of biologics patent thickets, particularly given the more frequent use of these specialized pathways and programs over time.[237]

Further, the intersection of FDA law with patent law leads to concerning incentives regarding how manufacturers navigate their product's lifecycle. Like any product, biologics patents have an expiration date: twenty years (subject to patent term extensions, if applicable).[238] But unlike most other industries, the pharmaceutical industry has future competition built into the regulatory framework. Small molecule drugs receive five years market exclusivity if they qualify as a "New Chemical Entity."[239] Biologics, instead, receive twelve years of market exclusivity (absent other applicable exclusivities).[240] After these exclusivities expire, under the Hatch-Waxman Act and the BPCIA, other manufacturers are supposed to be able to benefit from the originator innovations and develop competitors – generics and biosimilars, respectively.[241] Both regimes built in procedures for patent disputes related to prospective generic or biosimilar competitors.[242] But the anticipated timelines for competition – and the explicit plan in the regulatory system for such competition – undermine the expectation for such expansive patent protections.

The incentives here become clearer when looking at the timing of the growth of biologics patent thickets, and specifically the timing of additional patent applications. In developing a drug, the majority of the innovation is expected to occur before approval. When the drug goes to market, it is seen as a fixed innovation. Despite this, many biologics patent thickets are created long after the drug is approved and on the market.[243] Take Humira for example, which was approved in 2002 and had its primary composition patent expire in 2016.[244] Of its 132 patents, more than 90 percent were filed after

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[237] *See, e.g.*, Andrea N. Monge et al., *Use of US Food and Drug Administration Expedited Drug Development and Review Programs by Orphan and Nonorphan Novel Drugs Approved From 2008 to 2021*, 5(11) J. AM. MED. ASS'N NETWORK OPEN e2239336 (2022); Aaron S. Kesselheim et al., *Trends in utilization of FDA expedited drug development and approval programs, 1987-2014: cohort study*, 351 BMJ h4633 (2015), doi:10.1136/bmj.h4633.

[238] 35 U.S.C. § 154(a)(2) (2015).

[239] 21 C.F.R. 314.108(b)(2) (2016).

[240] Jon Tanaka, *"Shall" We Dance? Interpreting the BPCIA's Patent Provisions*, 31 BERKELEY TECH. L.J. 659, 659 (2016).

[241] *See* Drug Price Competition and Patent Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (1984) (codified as amended in scattered sections of 21 U.S.C., 35 U.S.C. and 42 U.S.C.); Biologics Price Competition and Innovation Act of 2009 ("BPCIA"), Pub. L. No. 111- 148, 124 Stat. 804 (2010) (codified as amended at 42 U.S.C. § 262).

[242] *See generally* Carrier & Minniti, *supra* note 42, at 11-18.

[243] Knox & Curfman, *supra* note 24, at 1761; see generally Goode & Chao, *supra* note 29.

[244] Knox & Curfman, *supra* note 24, at 1761.

Humira was already on the market.[245] Approximately 50 percent of those patents were filed after 2014, two years[246] before biosimilar competition was initially anticipated.[247] Despite the massive change in its patent portfolio, Humira did not experience major changes as a product in that time period. Similarly, Merck submitted at least 129 patent applications to cover its drug Keytruda (pembrolizumab), more than 50 percent of which were filed after Keytruda was already on the market.[248]

Patent thicket practices like Humira's raise notable regulatory questions. Additional patents and exclusivities for a product that has not changed do not seem warranted. If the biologics had improved its formulation to be more effective or more convenient for patients, that might be a different story.[249] Similarly, new patents on delivery devices that improve performance or patient experience should be incentivized.[250] But the patent thickets witnessed involving dozens of late-stage patents not related to notable changes indicate a regulatory failure, providing exclusivity without meaningful innovation. However, defining meaningful innovation, as discussed above, is no easy task, and calibrating the regulatory levers to incentivize the "right" or desired types of innovation may be more possible in theory than in practice.[251]

Regardless, these cases show a clear disconnect between the patent system and FDA regulatory systems. While both are playing a role in incentivizing innovations, the types and timing of the patents submitted in constructing biologics patent thickets are suspect and undermine industry's innovation incentive justifications. FDA law, which has a greater role in access and competition than patent law (though still an indirect role), may be a more appropriate tool to thin patent thickets and promote biosimilar approval and competition. However, the interplay of these systems with other health laws influencing access to medicines is essential, particularly as reimbursement

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[245] *Id. But see The Drug Patent Book*, I-MAK, https://drugpatentbook.i-mak.org/ (accessed Aug. 19, 2024) (311 applications and 165 granted); Robbins, *supra* note 30 (same).

[246] These later-stage filings may not be actually related to impending biosimilar competition, however, "[e]mpirical studies have shown that more than 80 percent can be explained by improvements that are not temporally connected to impending generic entry." *See* Michael Carrier & Steve Shadowen, *Pharmaceutical Product Hopping: A Proposed Framework for Antitrust Analysis*, HEALTH AFF. BLOG (June 1, 2017), https://www.healthaffairs.org/do/10.1377/hblog20170601.060360/full/.

[247] Knox & Curfman, *supra* note 24, at 1761.

[248] *"Why Does the United States Pay, by Far, the Highest Prices in the World for Prescription Drugs?" before the Senate Committee on Health, Education, Labor and Pensions* 6 (Feb. 8, 2024) (written testimony of Peter Maybarduk, Access to Medicines Director, Public Citizen), https://www.help.senate.gov/imo/media/doc/f4147c37-b26e-4d8e-deda-90671fd44d86/Written%20Testimony%20of%20Maybarduk_Feb.%208.pdf [https://perma.cc/DM3X-FFP4].

[249] Incremental innovation is discussed in greater detail, *supra* Part II.A.

[250] *Cf.* Sinha, *supra* note 42, at 353-54.

[251] How to recalibrate such regulatory incentives is further discussed, *supra*, at 24-30.

rates may be influenced not only by the availability of biosimilar competition, but the FDA approval itself.[252]

C. Access to Medicines and Drug Pricing

Constantly balanced with pharmaceutical innovation is pharmaceutical access. While it is important to ensure that adequate innovation incentives exist for companies to research and develop lifesaving medications, these medications have no value to society unless they are able to get to and treat patients.[253] On the one hand, patent law and FDA law promote access to medicines by ensuring incentives support medicines being developed, approved, and available on the market.[254] On the other hand, the long exclusivity periods provided under FDA law and patent law delay competition that can drive down the prices of brand-named drugs and provide lower cost generic and biosimilar alternatives.[255]

Biologics patent thickets are not just an innovation problem or a competition problem: they are an access to medicines problem. Patent thickets fundamentally inhibit access to medicines, producing significant welfare costs for both patients and the healthcare system. Without the entry of biosimilar competition, manufacturers have no incentive to lower drug prices – and very rarely do prior to competitive entry.[256] For patients with insurance, high drug prices can lead to high out-of-pocket costs and higher insurance premiums.[257] In some cases, insurers have refused to pay for high-cost drugs, putting the burden directly on the patient.[258] Patients without insurance too are responsible for the entire sale price of the drug.[259] Both cases can be prohibitively expensive for patients, preventing them from affording drugs. Patent

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[252] *See generally* Sachs, *Delinking Reimbursement*, *supra* note 201, at 2311-21.

[253] *Cf.* Steven Morgan, Ruth Lopert & Devon Greyson, *Toward a Definition of Pharmaceutical Innovation*, 2OPEN MED. e4, e4-e5 (2008) ("Pharmaceutical innovations create value to society by making it possible to generate improvements in patient health (net of treatment risks) that were previously unattainable. It is the uniqueness of such health improvements that defines pharmaceutical innovations."); *see generally* Ze Cong, *Value of Pharmaceutical Innovation: The Access Effects, Diffusion Process, and Health Effects of New Drugs*, RAND (2009), https://www.rand.org/pubs/rgs_dissertations/RGSD242.html [https://perma.cc/K4GT-MGZP].

[254] *See* discussion, *supra* Part II.A. & II.B.

[255] *Cf.* Knox et al., *supra* note 9, manuscript at 5.

[256] *See* Sinha, *supra* note 42, at 301.

[257] *See* CONG. BUDGET OFF., *supra* note 8, at 18-19.

[258] Sydney Lupkin, *A Decade Marked by Outrage over Drug Prices*, NPR (Dec. 31, 2019), https://www.npr.org/sections/health-shots/2019/12/31/792617538/a-decade-marked-by-outrage-over-drug-prices [https://perma.cc/WJ4H-DRRT].

[259] U.S. PIRG EDUC. FUND., PAYING THE PRICE: THE HIGH COST OF PRESCRIPTION DRUGS FOR UNINSURED AMERICANS 4 (July 2006), https://pirg.org/wp-content/uploads/2012/01/PayingthePriceDC_0.pdf [https://perma.cc/G8V6-GHCZ].

thickets further place burdens on healthcare systems as a whole. High drug prices have placed burdens on the budgets of hospitals and clinics, in some cases forcing them to reduce the care and services provided.[260] Individual high cost drugs have threatened to bankrupt payers, including Medicaid.[261] These scenarios also threaten patients' access to medicines – whether it be one high priced drug or other services that insurers and providers can no longer afford to cover.

The exclusivities provided by biologics patent thickets, and protected under patent law and FDA law, also weaken the ability of lawmakers to mitigate high drug prices. Despite Medicare's large size – comprising approximately 40 percent of the US pharmaceutical market[262] – not until the Inflation Reduction Act (IRA) has Medicare had the ability to negotiate drug prices.[263] Even with the IRA, this ability for Medicare to negotiate is limited to single source drugs and by ambiguity remaining on what biologics may have "bona fide competition" (which are exempt from negotiation).[264] Further, Medicare Part D plans, which cover outpatient prescription drugs for eligible adults, are required to cover at least two prescription drugs in each therapeutic class and all FDA-approved drugs in six classes (which include antidepressants, antiretrovirals, antipsychotics, anticonvulsants, immunosuppressants, and antineoplastics) and at least two drugs in every class.[265] Medicaid is similarly limited in restricting coverage of FDA-approved medications.[266] With these

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[260] *See* CONG. BUDGET OFF., *supra* note 8, at 1; NORC AT UNIV. CHICAGO, RECENT TRENDS IN HOSPITAL DRUG SPENDING AND MANUFACTURER SHORTAGES 2 (Jan. 15, 2019), https://www.aha.org/system/files/2019-01/aha-drug-pricing-study-report-01152019.pdf [https://perma.cc/L4BH-C6UA].

[261] *See* John Nathan-Kazis, *How Ozempic and Wegovy Could Break the Healthcare System*, BARRON'S (Sept. 21, 2023), https://www.barrons.com/articles/wegovy-ozempic-obesity-drugs-healthcare-system-20307eea.

[262] Greg D'Angelo, *The VA Drug Pricing Model: What Senators Should Know*, HERITAGE FOUND. (Apr. 11, 2007), https://www.heritage.org/health-care-reform/report/the-va-drug-pricing-model-what-senators-should-know [https://perma.cc/VZW9-CY83].

[263] Juliette Cubanski, Tricia Neuman & Meredith Freed, *Explaining the Prescription Drug Provisions in the Inflation Reduction Act*, KFF (Jan. 24, 2023), https://www.kff.org/medicare/issue-brief/explaining-the-prescription-drug-provisions-in-the-inflation-reduction-act/ [https://perma.cc/4AH3-LCQZ].

[264] Juliette Cubanski, *FAQs about the Inflation Reduction Act's Medicare Drug Price Negotiation Program*, KFF (Jan. 31, 2024), https://www.kff.org/medicare/issue-brief/faqs-about-the-inflation-reduction-acts-medicare-drug-price-negotiation-program/ [https://perma.cc/GY5B-72HY].

[265] CTRS. FOR MEDICARE & MEDICAID SERVS., MEDICARE PRESCRIPTION DRUG BENEFIT MANUAL §§ 10.1, 30.2.5 (2016), https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/Part-D-Benefits-Manual-Chapter-6.pdf [https://perma.cc/77M4-SXZT].

[266] *See* Knox, *supra* note 8, at 233.

mandates tying FDA-approval to Medicare and Medicaid reimbursement, the federal government's negotiating power is weakened, regardless of eligibility under the IRA.[267] This is particularly relevant as many high priced biologics fall into these categories.

Pharmaceutical innovation does not exist for innovation's sake. Society values pharmaceutical innovation because of what it can do – treating patients and thereby improving or saving lives.[268] Without drugs being accessible to patients, there is no value to a prescription drug market. By driving up drug prices, biologics patent thickets pose another barrier to access to medicines in the US healthcare system ripe for resolution.

III. SOLUTIONS TO BIOLOGICS PATENT THICKETS

In the previous Parts, this Article has demonstrated why biologics patent thickets are a problem under patent law, FDA law, and public health policy. Reforms must take these incentives into account to maximize patient benefit and future access to pharmaceutical innovations.

This Part now sets forth potential solutions to the problem of biologics patent thickets – some set forth by other scholars and policymakers and one novel proposal related to FDA approval. Section A briefly reviews and evaluates previously proposed solutions, including reforms to the Purple Book, reforms to patent review, reforms to the patent infringement litigation procedures, and reforms to antitrust doctrine. Section B sets forth a novel solution – requiring manufacturers permit biosimilar competition after the expiration of its FDA exclusivities, regardless of remaining patent protections. Such a solution would accelerate biosimilar competition but may have unintended consequences related to affordability and licensing of existing patents. Recognizing the complexity of the problem of biologics patent thickets and the conflicting incentives provided by various areas of law, Section C advocates broadly for collaborative agency solutions to resolve biologics patent thickets and rectify the misaligned incentives hampering drug pricing reforms.

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[267] That being said, manufacturers are also weakened in their ability to negotiate with the significant excise taxes imposed if they reject the negotiated price offered by CMS. *See* HEALTH CARE PROVISIONS OF THE BUDGET RECONCILIATION MEASURE P.L. 117-169, CONGRESSIONAL RESEARCH SERVICE (2023), https://crsreports.congress.gov/product/pdf/R/R47396.

[268] *Cf.* Steven G. Morgan, Hannah S. Bathula & Suerie Moon, *Pricing of Pharmaceuticals is Becoming a Major Challenge for Health Systems*, 368 BMJ l4627 at 1 (2020); OECD, PHARMACEUTICAL INNOVATION AND ACCESS TO MEDICINES 3-4 (2018), https://www.oecd.org/health/pharmaceutical-innovation-and-access-to-medicines-9789264307391-en.htm [https://perma.cc/ZYV9-V2WS].

A. Previously Proposed Solutions

Several solutions have been proposed by other scholars and lawmakers to address the problems and incentives associated with biologics patent thickets. The following subsections summarize these proposals and review their strengths and limitations in thinning biologics patent thickets.

1. Purple Book Reform

Several scholars have posed solutions to ease the barrier of patent thicket litigation. Some have focused on increasing transparency of applicable patents. As discussed above, in the small molecule drug context, manufacturers are required to publish the list of patents protecting their products in a document called the Orange Book.[269] The biologics counterpart, the Purple Book, only publishes patents that are the subject of patent thicket litigation with prospective biosimilar companies.[270] This dynamic – where generic manufacturers have greater notice whether they may infringe on a brand name product's patents, but biosimilar manufacturers do not – compounds the obstacles of biologics patent thickets for biosimilar companies. Not only do biosimilar manufacturers have a greater number of patents to evaluate in considering whether to enter the market, but they lack the notice of what patents may or may not attach to a particular drug product. To address this challenge, Bryan Walsh and colleagues have recommended that FDA require biologics manufacturers publish the list of patents protecting their products in the Purple Book, like small molecule drug manufacturers do in the Orange Book.[271] Separately, Professor Robin Feldman has advocated for reforms to the Purple Book, requiring listing of all patents or restricting biologics manufacturers' rights to the patents listed in the Purple Book.[272] Beyond these recommendations, additional types of patents not included in the Orange Book – namely method of manufacturing patents[273] – should be listed in the Purple Book, given the centrality of manufacturing processes to the production of biologics.

These proposed Purple Book reforms would support biosimilar manufacturers in identifying which patents may be applicable but does not necessarily lower the subsequent patent litigation. Further, patent listings are open for abuse. FDA only plays a ministerial role in publishing the Orange and Purple Books, listing patents submitted by manufacturers without additional

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[269] Carrier & Minniti, *supra* note 42, at 12, 17; Feldman, *supra* note 83, manuscript at 1.

[270] Carrier & Minniti, *supra* note 42, at 17; Feldman, *supra* note 83, manuscript at 6.

[271] Bryan S. Walsh et al., *supra* note 132, at 168.

[272] Feldman, *supra* note 83, manuscript at 10.

[273] *Id.* (citing Orange Book Transparency Act of 2020, Pub. L. No. 116-290, §2, 134 Stat. 4889 (2021)).

independent evaluation or review.[274] Inapplicable patents have been listed in the Orange Book and prevented generic entry;[275] the same could happen in the biologics context. Regardless, although potentially helpful, this solution itself would not deter the creation of patent thickets.

2. Reforms to Patent Review

Other proposed solutions involving communication and collaboration between FDA and USPTO could prevent the granting of obvious patents. FDA and USPTO could play a more active role in publishing the Orange and Purple Books, reviewing and identifying patents that would prevent generic and biosimilar competition.[276] This reform would not change the patents granted but could influence which patents are raised to prevent biosimilar entry. Other FDA-USPTO solutions have been proposed to influence which patents are granted in the first place. Professors Arti Rai and Nicholson Price, for example, have recommended requiring submission of manufacturing process information in FDA applications and sharing that information with USPTO, affecting subsequent granting of process patents.[277] As many of the patents asserted in biosimilars patent litigation are late-stage manufacturing process patents, this could be effective in preventing the formation of patent thickets.[278] Still, this information sharing would only affect manufacturing patents, not other secondary post-approval patents. While an important step, other solutions would be needed to address other types of patents within the thicket.

More broadly, scholars have proposed increases in the time and resources for the USPTO to review patents. One study by Professor Michael Frakes and Professor Melissa Wasserman in the context of small molecule drugs that determined that "time constraints facing US patent examiners may be presently leading to the issuance of invalid secondary pharmaceutical patents," thereby delaying the entry of small molecules.[279] Despite these findings, they caution

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[274] *See* Kathleen M. Sanzo, Michael J. Abernathy, J. Clayton Everett, Jr., R. Brendan Fee & Maarika L. Kimbrell, *FDA's Orange Book Listing Process: FTC Formally Joins the Fray*, MORGAN LEWIS (Sept. 22, 2023), https://www.morganlewis.com/blogs/asprescribed/2023/09/fdas-orange-book-listing-process-ftc-formally-joins-the-fray [https://perma.cc/CVS7-SNVJ].

[275] *Id.*

[276] *See, e.g.*, John R. Thomas, *Noticing Patents*, 24 COLUMBIA SCI. & TECH. L. REV. 299, 300, 304 (2023); GOV. ACCOUNTABILITY OFF., GENERIC DRUGS: STAKEHOLDER VIEWS ON IMPROVING FDA'S INFORMATION ON PATENTS 1-2, 38 (March 2023), https://www.gao.gov/assets/gao-23-105477.pdf [https://perma.cc/239W-Q9UU].

[277] Rai & Price II, *supra* note 230, at 20.

[278] *Id.*

[279] Michael D. Frakes & Melissa F. Wasserman, *Investing in Ex Ante Regulation: Evidence from Pharmaceutical Patent Examination* 43 (Nat'l Bureau of Econ. Rsch., Working

that this does not necessarily support increasing review times given the greater costs associated with such a reform.[280] Other welfare costs and benefits, including time to generic entry and litigation time and costs, should be taken into account. While this study did not look at biologics and biosimilars, with a greater number of patents involved, it is likely that similar trends would be observed.[281]

3. Reforms to Patent Infringement Litigation

Recently, lawmakers have introduced a bill that would change the way patent infringement litigation operates. Currently, manufacturers notify prospective biosimilar companies which patents they believe would be infringed if the biosimilar entered the market.[282] The parties then negotiate which patents will be under dispute in litigation.[283] The number of patents claimed and ultimately litigated varies, but one Humira biosimilar litigation involved over 60 patents claimed and more than ten patents actually litigated.[284] This leaves biosimilar manufacturers vulnerable to costly infringement litigation.

In January 2024, Senators Welch, Braun, and Klobuchar introduced a "bill to address patent thickets."[285] The law would restrict the number of patents that can be litigated; specifically, it would only permit manufacturers to litigate one patent, selected at the company's discretion.[286] Some commentators, including Professor Sean Tu, have argued that this bill will accelerate competition while "fulfilling the public's demand for cost-effective and readily available medications, while also providing manufacturers with the incentives to foster innovation."[287] If implemented, the innovation incentives

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Paper No. 27579, May 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3661071 [https://perma.cc/FE4C-MFYQ].

[280] *Id.*

[281] Studies of biologics and biosimilars are in part limited by lack of available patent data due to the limitations of the Purple Book. *Cf.* S. Sean Tu & Mark A. Lemley, *What Litigators Can Teach the Patent Office about Pharmaceutical Patents*, 99 WASH. UNIV. L. REV. 1673, 1673-74 (2022).

[282] Goode & Chao, *supra* note 29, at 2, 5.

[283] *Id.* at 4-5.

[284] *Id.* at 19-20.

[285] S. 3583, 118th Cong. (2024).

[286] *Bill to Address Patent Thickets*, SENATOR PETER WELCH (2024), https://www.welch.senate.gov/wp-content/uploads/2024/01/Welch.Braun_.Klobuchar-Patent-bill.pdf [https://perma.cc/R2GQ-3L3M] ("The bill streamlines patent litigation by limiting the number of patents per patent thicket a pharmaceutical company can assert to one, reducing the burden on generic and biosimilar companies. Patent holders who have created a thicket would only be allowed to assert one patent per thicket in litigation. They may choose which patent from each thicket to assert to protect their invention.").

[287] *Press Release: Welch, Braun, and Klobuchar Introduce Bipartisan Legislation to Streamline Drug Patent Litigation, Lower Cost of Prescription Drugs*, SENATOR PETER WELCH (Jan. 12, 2024), https://www.welch.senate.gov/welch-braun-and-klobuchar-

would be changed. Manufacturers would still seek patents, but the number would not have the same benefit as now. On the other hand, it may compound the product hopping problem, incentivizing minor modifications prior to patent expiration and building these changes into the lifecycle of the drug. Still, this proposal in the short term may ease biosimilar entry and in the long term deter the creation of biologics patent thickets.

4. Reforms to Antitrust Doctrine

Proposals have also been made for how patent thickets could be challenged with antitrust litigation as opposed to patent infringement litigation. One limitation seen in the Humira antitrust case was the lack of consideration of the pharmaceutical regulatory context.[288] Pharmaceutical patent thickets have different competitive incentives than other patent thickets that should be considered in the antitrust calculus. Such an industry-specific approach has been discussed in other antitrust cases,[289] though is not formally part of the current doctrinal analysis. Biologics patent thickets are the result of multiple patent, FDA, and health law incentives in the highly regulated pharmaceutical industry. The regulatory environment is key to understanding not only the behavior in creating biologics patent thickets but the underlying anticompetitive intent. Because of these differences, Professors Michael Carrier and Sean Tu have advocated for courts to recognize the difference between pharmaceutical patent thickets and patent thickets in other industries in their antitrust review.[290]

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introduce-bipartisan-legislation-to-streamline-drug-patent-litigation-lower-cost-of-prescription-drugs/ [https://perma.cc/WZR5-E9VN]. A similar bill, narrower bill introduced by Senator John Cornyn (R-TX) was passed in the senate in July 2024. *See* S.150 - Affordable Prescriptions for Patients Act of 2023, 118th Cong. 2d. Session (2023), https://www.congress.gov/bill/118th-congress/senate-bill/150/text?s=1&r=1&q=%7B%22search%22%3A%22S.150%22%7D; *July 2024 – A Patent Thicket Bill Passed The Senate. There's More Work to Do.*, I-MAK (Aug. 7, 2024), https://www.i-mak.org/2024/08/07/july-2024-a-patent-thicket-bill-passed-the-senate-theres-more-work-to-do/; Tristan Manalac, *Senate Unanimously Passes Bill to Reduce Big Pharma Patent Thickets, Increase Competition*, BIOSPACE (July 12, 2024), https://www.biospace.com/policy/senate-unanimously-passes-bill-to-reduce-big-pharma-patent-thickets-increase-competition.

[288] Carrier & Tu, *supra* note 30, at 97-103.

[289] *See, e.g.*, *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 411-12 (2004) (advising that "[a]ntitrust analysis must sensitively recognize and reflect the distinctive economic and legal setting of the regulated industry to which it applies.") (quoting *Town of Concord v. Boston Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990) (internal quotation marks omitted)).

[290] *See generally* Carrier & Tu, *supra* note 30. Specifically, the authors conclude "In short, unlike the high-technology industry, patent thickets in the pharmaceutical industry are designed to be anticompetitive. It is not persuasive to justify such thickets based

Scholars have proposed various methodologies for taking the industry context into account. Professor Scott Hemphill has characterized the regulatory regime as demonstrating the range of anticompetitive conduct possible in an industry and deemed acceptable by Congress, arguing that the industry regime must be taken into account in antitrust decision-making.[291] Hemphill has advocated for antitrust analysis that involves "a careful engagement with regulatory facts and economic theory within a specific industry."[292] Relatedly, Professor Michael Carrier and Steve Shadowen have called for courts to take into account "the realities of the pharmaceutical industry" in their pharmaceutical antitrust decision-making.[293] Professors Robin Feldman and Mark Lemley have advocated for a less "atomistic" application of antitrust law, looking at "the forest not the trees."[294] Their proposed framework seeks to help "agencies focus not just on individual or proven harms but on probabilistic reductions of competition and anticompetitive synergies."[295] By applying such a proposal in reviewing biologics patent thickets, antitrust doctrine could take into account the different regulatory and innovation incentives specific to the pharmaceutical industry, particularly when strategies are shown to be used to purposely delay generic and biosimilar competition. Still, despite their potential, this would only support *ex post* challenges to biologics patent thickets.

B. A Novel Proposal: Pro-Competitive Conditions on FDA Approval

Biologics patent thickets will continue to be a problem without significant changes to the regulatory system. The current interplay between FDA law and patent rights poses the greatest challenge, but they do not have to do so. Changing the extent and value of the rights pharmaceutical manufacturers receive based on FDA approvals and patent grants would change manufacturers' incentives to create biologics patent thickets in the first place. The current senate proposals to restrict the number of patents that can be claimed against a biosimilar are one way to deter over-patenting *ex ante*.[296] Yet this

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on those in the high-technology industry. Given the increase in pharmaceutical thickets and effects on patients' lives, a recognition of this difference would be helpful." *Id.* at 110.

[291] Hemphill, *supra* note 101, at 1556-57.

[292] *Id.* at 1616.

[293] Carrier & Shadowen, *supra* note 246.

[294] Robin C. Feldman & Mark A. Lemley, *Atomistic Antitrust*, 63 WM. & MARY L. REV. 1869, 1936 (2022). *See also* Knox & Curfman, *supra* note 24, at 1761-62 ("'[c]ourts can find liability based on an overall scheme to monopolize even if not all of the acts in that scheme are independently wrongful,' and further some 'courts are willing to consider a pattern of abusive litigation or regulatory petitioning even if some of the individual lawsuits are protected petitioning activity.'") (discussing Feldman & Lemley's piece).

[295] Feldman & Lemley, *supra* note 294, at 1937.

[296] *See* Part III.A.3., *infra*.

proposal would not avoid the ongoing problem of litigation seen in both the biosimilar and generic contexts.

Changing the rights on the FDA law side could have a more pervasive impact on biologics patent thickets as well as generic and biosimilar competition. Simply put, Congress could change the current scheme under the BPCIA to require that biologics manufacturers permit biosimilar competition after a set time period in the form of compulsory licensing agreements. Regardless of whether there are patents remaining that would otherwise prevent biosimilar entry, biologics manufacturers, as a condition of FDA approval, would be required to permit biosimilar competition after a statutorily defined period. Further, originator manufacturers would be required to provide biosimilar companies with the necessary information, including samples and manufacturing process information,[297] in order to allow the companies to develop their biosimilar products.

There is both national and international precedent for both licensing and conditions on FDA approval. Compulsory licensing has long been discussed as a solution for access to medicines (though not in the context of biosimilar competition and FDA approval). Under the Trade Related Aspects of Intellectual Property (TRIPS), the World Trade Organization requires member countries require compulsory licenses for pharmaceuticals in some cases.[298] During the COVID-19 pandemic, compulsory licensing was discussed frequently in the context of COVID-19 vaccines.[299] In the US, the Bayh-Dole Act gives the federal government so-called "march-in rights," the right to grant a compulsory license "if the invention was developed with federal funding and the agency finds that certain statutory criteria apply."[300] These compulsory licenses, similar to this Article's proposal, "must have 'terms that are reasonable under the circumstances,' which may require the licensee to pay royalties to the patent holder."[301] Due to controversy, the US has never

[297] *Cf.* Michael Carrier, *Sharing, Samples, and Generics: an Antitrust Framework*, 103 CORNELL L. REV. 1 (2017).

[298] *See* Margo A. Bagley, *The Morality of Compulsory Licensing as an Access to Medicines Tool*, 102 MINN. L. REV. 2463, 2466-67 (2018).

[299] *See* Sapna Kumar, *Compulsory Licensing of Patents During Pandemics*, 54 CONN. L. REV. 57, 60 (2022)

[300] CONG. RSCH. SERV., MARCH-IN RIGHTS UNDER THE BAYH-DOLE ACT: DRAFT GUIDANCE (Feb. 1, 2024), https://crsreports.congress.gov/product/pdf/IF/IF12582. However, due to limitations in the statute, some scholars are skeptical that using the Bayh-Dole Act would make a significant impact on high drug prices. *See, e.g.*, Jordan Paradise, *COVID-IP: staring down the Bayh–Dole Act with 2020 vision*, 7 J. L. & BIOSCIENCES 1, 7 (2020) (reviewing the literature critiquing the Bayh-Dole Act); Carolyn L. Treasure, Jerry Avorn, & Aaron S. Kesselheim, *Do March-In Rights Ensure Access to Medical Products Arising From Federally Funded Research? A Qualitative Study*, 93(4) MILLBANK QUARTERLY 761 (2015).

[301] *Id.*

used march-in rights,[302] though has expressed an increasing willingness to consider the possibility in recent years.[303] Thus, requiring licenses in the pharmaceutical context already has some precedent both globally and in the United States to shape such terms.

Adding conditions to FDA approval is also already built into the existing system. In order to gain FDA approval, manufacturers are required to provide FDA with specific types of trials to support the safety and effectiveness of their drug.[304] But the obligations of manufacturers do not end at the time of approval. A manufacturer must continue to comply with FDA's labelling, manufacturing, advertising, and risk-management requirements.[305] Pediatric studies may be required after approval.[306] As a condition of FDA approval, FDA may also require additional studies be conducted, including post-marketing clinical trials and confirmatory trials for the accelerated approval program.[307] Additional obligations related to FDA approval, including transparency and collaboration with FDA and other manufacturers, are an ongoing part of the current system.

These obligations are also consistent with manufacturers' current relationships with the U.S. Department of Health and Human Services (HHS) as an umbrella agency. Manufacturers already have several conditions associated with their participation in federal programs, separate from those discussed above related to FDA. HHS and manufacturers enter into contracts, called pharmaceutical pricing agreements, as a condition of manufacturers

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[302] Robert Cook-Deegan, Aaron S. Kesselheim, & Ameet Sarpatwari, *Updating the Bayh-Dole Act: March-in Rights and Transparency*, 327 J. AM. MED. ASS'N 923, 923-24 (2022).

[303] *Request for Information Regarding the Draft Interagency Guidance Framework for Considering the Exercise of March-In Rights*, 88 Fed. Reg. 85593-85605 (2023). *See also* Sarah Owermohle & Rachel Cohrs, *To Lower Drug Prices, White House Takes New Aim at Pharma Patents*, STAT NEWS (Dec. 6, 2023), https://www.statnews.com/2023/12/06/drug-prices-march-in-rights-white-house-pharma-patents/?utm_campaign=dc_diagnosis&utm_medium=email&_hsmi=295786364&_hsenc=p2ANqtz—0nWvJnYprdGPntb5GIwBr3nZ3s9LR34MQ_htHO_YiCHj-YMiHzgXq4PGouGo2ObjEVvGym6M-_8aMx9mu_fLUD27nvA&utm_content=295786364&utm_source=hs_email [https://perma.cc/K5KN-YFC9].

[304] CONG. RSCH. SERV., HOW FDA APPROVES DRUGS AND REGULATES THEIR SAFETY AND EFFECTIVENESS 3 (May 8, 2018), https://crsreports.congress.gov/product/pdf/R/R41983.

[305] *Id.* at 14.

[306] *Postmarketing Requirements and Commitments: Introduction*, FDA, https://www.fda.gov/drugs/guidance-compliance-regulatory-information/postmarket-requirements-and-commitments#:~:text=Now%2C%20under%20FDAAA%2C%20postmarketing%20studies,potential%20for%20a%20serious%20risk (last updated Jan. 12, 2016).

[307] *Id.*

participation Medicare, Medicaid, and the 340B Program.[308] HHS, in return, requires coverage of a majority of FDA-approved drugs by Medicare and Medicaid.[309] Given the leverage associated with FDA approval, HHS could use its authority to better incentivize biosimilar competition and improve its effectiveness in promoting access to affordable medicines.

There are some notable strengths to such a proposal. First, it would explicitly cabin the patent rights that are being gamed in building patent thickets. Incremental innovation would still be incentivized by the patent system but would serve as less of a barrier to biosimilar entry than exists in the current system. Second, it would clarify the rights associated with FDA approval and more closely tie the FDA approval and patent approval processes together. Additionally, the timeline for biosimilar entry would be more clearly defined and related to FDA approval, aiding biosimilar manufacturers in planning the development of their products with less risk as to when they will be able to enter the market. As a whole, this proposal would help to build a robust biosimilar market, increasing competition, lowering drug prices, and promoting access to affordable medicines.

Even so, like any large-scale policy change, many details would need to be further analyzed to make such a proposal implementable. First, the appropriate period of exclusivity for an originator biologic would need to be determined. For example, after the expiration of the primary patent on the drug substance or after the expiration of the twelve-year exclusivity provided under BPCIA, FDA could require biosimilar manufacturers allow entry of biosimilar competitors. Both of these timetables have their weaknesses. The expiration of the primary patent is less definite, can be improperly calculated,[310] and may not provide a long period of exclusivity after FDA approval, undermining innovation incentives. The twelve-year exclusivity period is one of the longest exclusivity periods provided by medicines agencies globally,[311] and itself has been criticized as being longer than necessary to incentivize competition.[312] Basing the entry of biosimilar competition on a reformed

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[308] *See, e.g.*, Ryan P. Knox & Ameet Sarpatwari, *The 340B Drug Pricing Program: Administration, Litigation, and Reform*, OKLAHOMA L. REV. (forthcoming 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4562355.

[309] *See supra* notes 262-67 and accompanying text.

[310] *Cf.* S. Sean Tu, Dinis Cheian, Sarah Gabriele, Benjamin N. Rome, & Aaron S. Kesselheim, *The cost of drug patent expiration date errors*, 42 NATURE BIOTECHNOLOGY 1024, 1024-25 (2024).

[311] Knox et al., *supra* note 9, manuscript at 17. For additional discussion of variations in exclusivity periods, *see* Victor L. Van de Wiele, Aaron S. Kesselheim, Deborah Gleeson, Zhigang Lu, Sean S. Tu, & Benjamin N. Rome, *Measuring and Understanding Market Exclusivity Length for New Prescription Drugs in France, Australia, and the USA*, 38 PHARMACEUTICAL MED. 303, 303-310 (2024).

[312] *See, e.g.*, *Policy Proposal: Reducing the Exclusivity Period for Biological Products*, PEW CHARITABLE TRUSTS (Sept. 8, 2017), https://www.pewtrusts.org/en/research-and-

exclusivity period more in line with other national medicines regulators[313] would provide an easily administrable rule, securing competition while maintaining innovation incentives.[314]

Second, lawmakers would need to consider what to do about the non-expired patents on a biologic. It seems nonsensical, and could be an unconstitutional taking or a violation of the TRIPS nondiscriminatory technology patenting provisions, to completely invalidate or ignore the additional patents.[315] Doing so would also undermine the incentives for originator manufacturers to improve upon their products.[316] Instead, requiring a manufacturer to issue compulsory licenses to biosimilar manufacturers on the other patents remaining on the biologic may be more feasible. Biosimilar manufacturers could be required to pay licensing fees until the expiration of the remaining patents. FDA or HHS could set standard licensing fee rates or negotiate licensing fees to be paid by biosimilar manufacturers to the originator manufacturers, thereby not depriving the originator of their patent rights.

The value and structure of such licensing fees would need to be carefully studies so as not to unintentionally worsen the biologics patent thicket problem. If fees were paid on a per-patent basis, for example, manufacturers would be incentivized to further grow their patent thicket to maximize their revenue. In doing so, these fees could make the prospect of market entry financially unattractive or unfeasible for biosimilar companies. Higher fees, in turn, would likely lead to higher biosimilar prices, undermining the dual goals of biosimilar competition and patient affordability. Options exist to make this solution financially viable without leaving it open to abuse by biologics manufacturers. For example, HHS and FDA could set standard maximum licensing fees or maximum reimbursements to reward biosimilar

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analysis/fact-sheets/2017/09/policy-proposal-reducing-the-exclusivity-period-for-biological-products [https://perma.cc/7794-RRL9].

[313] For example, Canada provides 8 years and the European Union provides 10 years to biologics. Knox et al., *supra* note 9, manuscript at 17.

[314] This may also exacerbate the increasing launch prices of biologics. *See* Knox et al., *supra* note 9 manuscript at 17-20, 33.

[315] For a discussion of ignoring patents, *see* Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 22 (2008). For a discussion of TRIPS non-discrimination provisions, *see, e.g.*, *Fact Sheet: TRIPS and Pharmaceutical Patents*, WORLD TRADE ORGANIZATION, https://www.wto.org/english/tratop_e/trips_e/factsheet_pharm02_e.htm (last accessed Aug. 19, 2024); Eduardo Urias & Shyama V. Ramani, *Access to medicines after TRIPS: Is compulsory licensing an effective mechanism to lower drug prices? A review of the existing evidence*, 3 J. INT. BUS. POL'Y 367, 367-84 (2020).

[316] Whether these incentives are necessary, or to what extent they are necessary, after FDA approval is outside the scope of this paper. For a brief discussion of the issue, *see* Lemley, *supra* note 315, at 29-30 ("Pharmaceutical innovation is rarely cumulative, so the need for further research on a particular drug after FDA approval, while not zero, is not particularly high.").

competition. In either case, originator biologics manufacturers would still receive significant innovation incentives without it supporting a growing thicket.

In addition to financial challenges, there would be other barriers in supporting biosimilars in actually getting to market. For one, lack of access to information on the manufacturing processes, samples of the drugs, or incentives provided to biosimilars to limit market entry.[317] However, these would exist regardless of changes to the BPCIA and FDA approval rights. Instead, these reforms may exacerbate these challenges and illuminate the extent to which biologics manufacturers are gaming the system. Other requirements would need to be set in place to ensure biosimilars are not only permitted by law to launch their biosimilars but have the information and resources necessary to do so. Further, this proposal could incentivize product hopping, as slight modifications could extend their exclusivity period even with mandatory biosimilar competition.[318] On the other hand, this could support incremental innovation and as Professor Michael Sinha has called them "public health product hops."[319]

Overall, this proposal has strong benefits in terms of patient access, having the potential to accelerate the entry of lower cost biosimilar alternatives by years, saving money for both patients and health systems. Despite its limitations and likely political barriers to implementation, conditioning FDA approval on permitting biosimilar competition after a fixed period, regardless of patent protections, could be a clear and effective in thinning biologics patent thickets.

C. The Need for Collaborative Solutions to High Drug Pricing

This FDA-focused solution to biologics patent thickets highlights the role FDA plays in the healthcare and innovation systems: access in terms of approval and availability. FDA is the gatekeeper to the US pharmaceutical market, and its policies ultimately determine what drugs can and cannot be sold. But availability alone is not enough when drugs are unaffordable. FDA currently plays no role in drug pricing. Other policy levers and other agencies would need to be involved to address the affordability prong of the patent thicket problem in access to medicines.

Additionally, several potentially conflicting incentives exist among agency policies and powers, compounding the challenge of addressing high drug prices and increasing of biosimilar competition. For example, FDA encourages biosimilar approval and competition, where the Centers for Medicare and Medicaid Services (CMS) and other programs within HHS in some cases

[317] *See generally* Carrier & Minniti, *supra* note 42.

[318] Sinha, *supra* note 104, at 398.

[319] *Id.* at 401.

incentivize prescribing higher-priced, brand-named drugs.[320] Where FDA promotes competition through biosimilars, USPTO promotes innovation through patents, which can prevent biosimilar competition. While the Federal Trade Commission pursues anticompetitive strategies broadly, FDA only has narrow authority to challenge manufacturers' anticompetitive actions (generally in the form misbranding due to false advertising), even within the pharmaceutical industry.[321] These interagency conflicts and variations in their oversight and enforcement authorities must be taken into account in crafting effective reforms.

These solutions may be a first step in tackling biologics patent thickets and high drug prices in the United States. Even so, given the fragmented nature of the healthcare system and the multiple agencies regulating prescription drugs, collaboration among agencies will be essential to align policy incentives, resolve the problem of biologics patent thickets, and ultimately promote access to affordable medicines.

CONCLUSION

Biologics patent thickets continue to drive up high drug prices in the United States, threatening patients' access to medicines. They represent an abuse of the patent system, a gaming of the FDA regulatory system, and an unintended consequence of innovation incentives. By keeping drug prices high, biologics patent thickets delay patient access to medicines and exacerbate the burden of high drug prices on the healthcare system. In order to thin biologics patent thickets, reforms are needed. Compulsory licensing to mandate biosimilar competition after a defined time period as a condition of FDA approval would be one solution among a suite that will be needed to address the ongoing challenge of high prescription drug prices.

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[320] *See* Knox, *supra* note 8, at 7-8; Ryan P. Knox, Junyi Wang, William B. Feldman, Aaron S. Kesselheim & Ameet Sarpatwari, *Outcomes of the 340B Drug Pricing Program: A Scoping Review*, 4(11) J. AM. MED. ASS'N HEALTH FORUM e233716 (2023) (on the prescribing incentives associated with the 340B Program).

Note FDA is an agency within HHS. Thus, intra-agency conflicting policies also exist. Another example was seen with the 340B Drug Pricing Program, which has incentivized the prescribing of high-cost medications and increased list prices of prescription drugs. *Id.* CMS responded by decreasing Medicare Part B reimbursement to 340B hospitals. *Id.*

[321] For more on litigation at FDA and its relationships with other litigation authorities, *see* C. Joseph Ross Daval, *Litigating Authority for FDA*, 100 WASH. U. L. REV. 175, 193 (2022) (also discussing the role of the DOJ in FDA litigation).

ARTICLE

CONSUMER MANIPULATION VIA ONLINE BEHAVIORAL ADVERTISING

LEX ZARD

ABSTRACT

Online behavioral advertising (OBA) has a significant role in the digital economy. It allows advertisers to target consumers categorized according to their interests that are algorithmically inferred based on their behavioral data. As Alphabet and Meta gatekeep the Internet with their digital platforms and channel most of the consumer attention online, they are best placed to execute OBA and earn profits far exceeding fair estimations.

There are increasing concerns that gatekeepers achieve such profitability at the expense of consumers, advertisers, and publishers who are dependent on their services to access the Internet. In particular, some claim that OBA systematically exploits consumers' decision-making vulnerabilities, creating internet infrastructure and relevant markets that optimize for consumer manipulation. Intuitively, consumer manipulation via OBA comes in tension with the ideal of consumer autonomy in liberal democracies. Nevertheless, academia has largely overlooked this phenomenon and instead has primarily focused on privacy and discrimination concerns of OBA.

This Article redirects academic discourse and regulatory focus on consumer manipulation via OBA. In doing so, first, this Article elaborates on how OBA works. Second, it constructs an analytic framework for understanding manipulation. Third, it applies the theory of manipulation to OBA. As a result, this Article illustrates the extent to which OBA leads to consumer manipulation.

Crucially, this Article is purely analytic and avoids normative evaluation of consumer manipulation via OBA. Evaluating consumer manipulation harms of OBA is an equally important but separate task and is pursued in another publication.

Keywords: manipulation, online advertising, Alphabet, Meta, digital platforms, behavioral personalization, targeted advertising, surveillance capitalism, artificial intelligence, online manipulation, digital market manipulation
Introduction

CONTENTS

INTRODUCTION

Online behavioral advertising (OBA) is a configuration of online advertising that allows advertisers to target consumers with personalized advertisements based on their behavioral data.[1] It has been the primary revenue stream for most digital service providers (operating websites and apps) that do not charge consumers monetary fees.[2] Due to their role in OBA markets and infrastructure, OBA has been the "golden goose," particularly for

[1] *See* Sophie C. Boerman, Sanne Kruikemeier & Frederik J. Zuiderveen Borgesius, *Online Behavioral Advertising: A Literature Review and Research Agenda*, 46 J. ADVERT. 363, 364 (2017).

[2] *See generally* Julie E. Cohen, *Infrastructuring the Digital Public Sphere*, 25 YALE J.L. & TECH. (SPECIAL ISSUE) 1 (2023).

Alphabet[3] and Meta.[4] Alphabet dominates the OBA infrastructure that facilitates digital service providers' engagement in OBA and monetization of their services without charging consumers a monetary fee.[5] In contrast, Meta has a significant market share of OBA due to its capabilities to collect vast consumer behavior data and to target them on popular online platforms such as Facebook and Instagram.

OBA yields large profits for Alphabet and Meta, as they control the gates of the online environment, channel most of the consumer attention online, and access unmatched behavioral data.[6] These data advantages ("data power") allow gatekeepers to collect revenue far exceeding estimated fair returns to their shareholders.[7] Market studies increasingly find that OBA markets and infrastructure benefit these platforms, notably Alphabet and Meta, at the expense of the advertisers and publishers dependent on them.[8]

As OBA entails the processing of vast consumer data, it has been associated with serious concerns about consumer privacy.[9] Similarly, OBA's practice of labeling consumers into groups has raised concerns regarding consumer

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[3] Alphabet, Inc. [hereinafter Alphabet] is a conglomerate that operates, among other things, Google Search, Google Shopping, Google Play, YouTube, Google Chrome, Android, and Google Maps. *Alphabet Investor Relations*, ALPHABET, https://abc.xyz/ [https://perma.cc/3TKJ-3L9F].

[4] Meta Platforms, Inc. [hereinafter Meta] operates Facebook, Instagram and WhatsApp. *Introducing Meta: A Social Technology Company*, META (Oct. 28, 2021), https://about.fb.com/news/2021/10/facebook-company-is-now-meta/ [https://perma.cc/B7HJ-NP2M].

[5] *See generally* Cohen, *supra* note 2.

[6] In 2019, in the UK, £14 billion was spent on online advertising, 80% of which was spent on platforms operated by Google and Meta. COMPETITION & MKTS. AUTH., ONLINE PLATFORMS AND DIGITAL ADVERTISING 9 (2020).

[7] *See, e.g.,* COMISIÓN NACIONAL DE LOS MERCADOS Y LA COMPETENCIA, STUDY ON THE COMPETITION CONDITIONS IN THE ONLINE ADVERTISING SECTOR IN SPAIN E/CNMC/002/2019 (2021); COMPETITION & MKTS. AUTH., *supra* note 6.

[8] *See, e.g.,* Eur. Parliament, Pol'y Dep't for Econ., Sci. & Quality of Life Pol'ys, *Online Advertising: The Impact of Targeted Advertising on Advertisers, Market Access and Consumer Choice* (June 21, 2021), https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2021)662913 [hereinafter Eur. Parliament, *Online Advertising Study*]; Eur. Parliament, Pol'y Dep't for Citizens' Rts. & Const. Affs., *Regulating Targeted and Behavioural Advertising in Digital Services: How to Ensure Users' Informed Consent*, at 136 (Aug. 30, 2021), https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2021)694680 [hereinafter Eur. Parliament, *Targeted and Behavioural Advertising Study*]; Eur. Comm'n, Directorate-Gen. for Commc'ns Networks, Content & Tech., *Study on the Impact of Recent Developments in Digital Advertising on Privacy, Publishers and Advertisers* (2023), https://data.europa.eu/doi/10.2759/294673 [hereinafter Eur. Comm'n, *Study Digital Advertising*].

[9] *See generally* FREDERIK ZUIDERVEEN BORGESIUS, IMPROVING PRIVACY PROTECTION IN THE AREA OF BEHAVIORAL TARGETING (2015).

discrimination and oppression.[10] In this Article, I argue that the most severe concern concerning OBA is that of consumer manipulation. This argument is not entirely new. Calo brought up this concern in his article about "digital market manipulation."[11] Since then, many scholars have addressed the issue. However, thus far, academic discussions have strayed away from addressing concerns of consumer manipulation via OBA by conflating manipulation concerns with all forms of online manipulation,[12] limiting the concerns to design features that they label as "dark patterns,"[13] or raising concerns at the level of political economy without offering practical conceptual tools that can be used in policy.[14]

In arguing that consumer manipulation is the most severe concern of OBA, I explain in Part I what OBA is and how it works. In Part II, first, I construct an analytic framework for understanding manipulation, and second, I apply this framework to OBA to evaluate whether and to what extent OBA leads to consumer manipulation.

From the outset, it is essential to note that the framework of manipulation, and, therefore, consumer manipulation via OBA endorsed in this Article, is purely analytical. Normative evaluation of consumer manipulation via OBA, that is, to what extent this is wrong, is not the subject of this Article. Such normative evaluation requires the construction of harm's theory, and I pursue this aim elsewhere.

I. ONLINE BEHAVIORAL ADVERTISING

A. OBA: Paradigm

OBA is the online phenomenon that entails showing consumers advertisements that are personalized based on their behavioral data.[15] The OBA definition presented in this Article reveals three premises that form the OBA paradigm: (i) targeting individual consumers with ads is beneficial for advertisers and possibly consumers, (ii) a consumer's observed behavior reveals what the consumer reacts to better than surveying, and (iii) the Internet can

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[10] *See generally* Sandra Wachter, *Affinity Profiling and Discrimination by Association in Online Behavioral Advertising*, 35 BERKLEY TECH. L.J. 367 (2020).

[11] Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 996, 1002-1006 (2014).

[12] *See, e.g.,* Daniel Susser, Beate Roessler & Helen F. Nissenbaum, *Online Manipulation: Hidden Influences in a Digital World*, 4 GEO. L. TECH. REV. 1 (2019).

[13] *See. e.g.,* M. R. Leiser, '*Dark Patterns': The Case for Regulatory Pluralism Between the European Unions Consumer and Data Protection Regimes*, *in* RESEARCH HANDBOOK ON EU DATA PROTECTION LAW 240 (Eleni Kosta & Ronald Leenes eds, 2022).

[14] *See, e.g.,* SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM (2019).

[15] *See* Boerman et al., *supra* note 1, at 364; Kaan Varnali, *Online Behavioral Advertising: An Integrative Review*, 27 J. MKTG. COMMC'N. 93, 106 (2021) (in this Article, I have updated the definition to cover such instances).

be used to observe and influence consumer behavior. This paradigm has resulted from the collision of three historical processes.

1. Targeting and Behaviorism

The rise of advertising came with the mass production of goods in industrialized societies, which created the need for producers to inform mass populations.[16] During almost the entire twentieth century, the primary form of advertising had been mass market advertising: directing advertisements to the largest number of consumers possible.[17] In this period, the legacy media facilitated mass market advertising through newspapers and magazines, and later through radio since the 1920s and television since the 1950s.[18] This trend started to shift by the 1970s when the proliferation of channels on cable television and new technologies such as CD players and home video recorders fragmented the mass market that was no longer concentrated on a handful of broadcast channels.[19]

Marketers have always targeted their consumers with tailored communications: even as early as 1915, print media had created specialized output tailoring their content, including advertisements, to specific audiences (primarily based on class, ethnicity, and gender).[20] Also, in radio and television, the Nielsen Ranking System provided broad demographic information about the viewers (i.e., gender and age group).[21] Due to the deep fragmentation of the once concentrated market, advertisers started looking for new audiences that they could define in finer detail towards the end of the twentieth century.[22] As a result, targeted marketing practices such as direct marketing and database marketing emerged as the primary logic of advertising, requiring advertisers to compile increasing amounts of consumer data.[23]

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[16] *See* JOSEPH TUROW, BREAKING UP AMERICA: ADVERTISERS AND THE NEW MEDIA WORLD 20–21 (1998) (about industrialization and capitalism). *See generally* Herbert Marcuse, *Industrialization and Capitalism*, NEW LEFT REV. 3 (1965).

[17] *See* TUROW, *supra* note 16, at 20–21.; *see also* Abigail Bartholomew, Behaviorism's Impact on Advertising: Then and Now (Dec. 2013) (M.A. thesis, University of Nebraska-Lincoln).

[18] *See* JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM 38 (2019); *see also* TUROW, *supra* note 16, at 4.

[19] *See* COHEN, *supra* note 18, at 39; *see also* TUROW, *supra* note 16, at 38.

[20] *See* TUROW, *supra* note 16, at 27.

[21] *See* TUROW, *supra* note 16, at 25.

[22] *See* ZUIDERVEEN BORGESIUS, *supra* note 9, at 17–18. *See generally* COHEN, *supra* note 18, at 39; IEN ANG, DESPERATELY SEEKING THE AUDIENCE 27–36 (1991).

[23] *See* TUROW, *supra* note 16 at 55–90; ZUIDERVEEN BORGESIUS, *supra* note 9, at 17–18; *e.g.* Shelly Rodgers, Hugh Cannon & Jensen Moore, *Segmenting Internet Markets*, *in* INTERNET ADVERTISING: THEORY AND RESEARCH 149, 149 (David W. Schumann & Esther Thorson eds., 2007).

In the search to define consumer audiences in more granular ways, the marketing industry not only collected data through voluntary self-disclosure (e.g., surveys) but increasingly adopted the logic of *behaviorism*.[24] Behaviorism is a branch of psychology that understands a human experience as measurable, observable behavior that can be studied, predicted, and influenced without the subject's awareness.[25] Since its development as a scientific theory, behaviorism has been applied in marketing – John B. Watson, a psychologist who conceptualized the term in 1924, became the vice president of one of the largest advertising agencies in the 1930s.[26] Initially marketers used behaviorism to build brand loyalty, tailoring advertising content. Such strategies started to be adopted in targeting practices at the end of the twentieth century.[27]

Supermarkets pioneered using behavioral information for targeting campaigns.[28] As a recent example of a supermarket relying on consumer behavioral data to target them with marketing communications, *Target Inc.*, a U.S. store, made headlines in 2012 for its data-driven targeting practices.[29] By analyzing the shopping behavior of their consumers who disclosed that they were pregnant, Target constructed a "pregnancy prediction" score.[30] When new consumers exhibited similar purchasing behavior, Target automatically predicted that they were pregnant and targeted them with appropriate marketing communications (e.g., sending booklets about diapers to the home address of their consumers).[31]

2. The Internet

The Internet became accessible to the general public in 1991 with the launch of the World Wide Web: a presentable form of digital content accessible to anyone connected to the Internet. Internet users could access

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[24] *See* ZUBOFF, *supra* note 14, at 371–375 (arguing surveillance capitalism incentivizes the type of behavior modification depicted in B.F. Skinner's *Walden Two*).

[25] *See* George Graham, *Behaviorism*, STANFORD ENCYCLOPEDIA OF PHIL. (Jan. 13, 2023), https://plato.stanford.edu/entries/behaviorism/ [https://perma.cc/BM87-UGKE].

[26] Bartholomew, *supra* note 17.

[27] *See id.*; COHEN, *supra* note 18, at 21; Adam Arvidsson, *On the 'Pre-History of The Panoptic Sort': Mobility in Market Research.*, 1 SURVEILLANCE & SOC'Y. 456 (2003).

[28] *See* JOSEPH TUROW, THE AISLES HAVE EYES: HOW RETAILERS TRACK YOUR SHOPPING, STRIP YOUR PRIVACY, AND DEFINE YOUR POWER (2017).

[29] *See* Kashmir Hill, *How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did*, FORBES, (Feb. 16, 2012, 11:02 AM), https://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/ [https://perma.cc/S3J5-REKW]; Charles Duhigg, *How Companies Learn Your Secrets*, N.Y. TIMES, (Feb. 16, 2012), https://www.nytimes.com/2012/02/19/magazine/shopping-habits.html [https://perma.cc/8S2X-KQLT].

[30] *See* Duhigg, *supra* note 29; ZUIDERVEEN BORGESIUS, *supra* note 9, at 44.

[31] *See* Duhigg, *supra* note 29.

websites via typing their uniquely assigned Uniform Resource Locators (URLs) in the address bar of a web browser (e.g., Mosaic or Netscape Navigator – applications created solely for accessing websites), but also by clicking *hyperlinks* – text on the website that directs the user to another website and its digital content.

Some innovators created websites with the sole purpose of searching for other websites. These so-called "online search engines" provided a list of hyperlinks related to the keyword that the internet user typed in the search bar, and as the number of websites proliferated, they became the primary way the internet users accessed the Web.[32] In the early 2000s, Google Search emerged as the superior online search engine that relied on the *PageRank algorithm*, which accomplished unprecedented relevance and efficiency in delivering search results.[33] Google Search's technological superiority stemmed from its behaviorist logic – it observed cues of consumers' online behavior, such as the pattern of searched terms, spelling, punctuation, dwell times, and locations that were ignored by other search engines.[34] It used these cues, often called "data exhaust" or "digital breadcrumbs," to turn the search engine into a recursive algorithmic system that continuously learned and improved the search results.[35]

The ban on commercial use of online activities was lifted in 1994, but at that time, internet users were primarily members of a homogenous group of middle-to-upper-income college-educated men, and advertisers were slow to show interest.[36] By the 2000s, as a more significant part of human society moved online, search engines became a new venue for marketers to reach audiences that now disclosed their interests by typing keywords.[37] For example, Overture, which operated GoTo.com, allowed marketers to bid for their websites to be prioritized in the search results: the highest bidder was listed first, the runner-up was listed second, and so forth.[38] In contrast, Google Search faced bankruptcy, as its founders, committed to retaining its technological superiority and high standards of search relevance, refused to rely on advertising.[39]

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[32] *See* ZUBOFF, *supra* note 14, at 63–98.

[33] *See* Sergey Brin & Lawrence Page, *The Anatomy of a Large-Scale Hypertextual Web Search Engine*, 30 COMPUT. NETWORKS 107 (1998).

[34] *See* ZUBOFF, *supra* note 14, at 68.

[35] *See id.* at 68–69.

[36] Rodgers, Cannon & Moore, *supra* note 23.

[37] *See* ZUIDERVEEN BORGESIUS, *supra* note 9, at 18; Susie Chang, *Internet Segmentation: State-of-the-Art Marketing Applications,* 2 J. SEGMENTATION MKTG. 19 (1998).

[38] *See* Saul Hansell, *Google's Toughest Search Is for a Business Model*, N.Y. TIMES (Apr. 8, 2002), https://www.nytimes.com/2002/04/08/business/google-s-toughest-search-is-for-a-business-model.html [https://perma.cc/E3VT-FHTF].

[39] *See id;* Brin & Page, *supra* note 33.

In response to the continuous pressure from investors to find a profitable business model, Google Search adopted several forms of online targeted advertising that were claimed to provide the users with an advertisement that they found relevant, which could be demonstrated by increased conversion rates – the rate of the number of times consumers clicked the ads.[40] One configuration of Google advertising was OBA that, similar to when improving search results, relied on observing consumer behavior and targeting advertisements based on the "digital breadcrumbs" Google picked up from the consumers. OBA demonstrated the highest conversion rates compared to other configurations, becoming most popular amongst advertisers and thus becoming Google's primary revenue stream.

B. OBA: Configuration

1. Online Targeted Advertising

Online targeted advertising refers to an online advertising practice that delivers an advertisement tailored to a particular context or an individual consumer.[41] Therefore, two major types of online targeted advertising are *contextual* advertising and *personalized* advertising.[42]

In online *contextual* advertising, advertisers target consumers based on the interaction context.[43] This may include the digital content on the publisher's web page or app that the consumer is accessing, the language content is presented in, the time of day content is accessed, the general geographic location (e.g., country, state) the content is accessed from, as well as the weather in that location.[44] This contextual information allows advertisers to present ads in the correct language, in the correct market, with the awareness of the elements of the day, and achieve relevance by analyzing the content consumers access instead of analyzing information about the consumers themselves.[45]

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[40] *See* ZUBOFF, *supra* note 14, at 71–82.

[41] Eur. Comm'n, Consumers, Health, Agric. & Food Exec. Agency, *Consumer Market Study on Online Market Segmentation Through Personalised Pricing/Offers in the European Union*, at 31 (July 19, 2018), https://commission.europa.eu/publications/consumer-market-study-online-market-segmentation-through-personalised-pricingoffers-european-union_en [hereinafter Eur. Comm'n, *Personalisation Study*].

[42] "Online classified advertising" is another type of online advertising that is not necessarily *targeted* to a particular individual or through algorithmic analysis of the context. Craigslist is the most well-known online classified advertising websites. *See* craigslist: Amsterdam, CRAIGSLIST, https://amsterdam.craigslist.org [https://perma.cc/S643-FSPK]; JESSA LINGEL, AN INTERNET FOR THE PEOPLE: THE POLITICS AND PROMISE OF CRAIGSLIST (2020).

[43] *See Contextual Targeting*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/1726458?hl=en [https://perma.cc/24KQ-WGRW].

[44] *See* Kaifu Zhang & Zsolt Katona, *Contextual Advertising*, 31 MKTG. SCI. 980 (2012).

[45] Online contextual advertising may use personal data for "frequency capping," a practice that establishes the maximum number of times a single user sees the advertisement. *See* Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8.

In contrast, online *personalized* advertising targets individual consumers based on consumer identity or using the data *about* consumers themselves.[46] Personalized advertising can be based on data that consumers provide voluntarily. Online segmented advertising is a stipulatory term used in policy documents to describe online personalized advertising that relies on *broad demographic* information that consumers voluntarily disclose by, for example, signing up for digital services or content.[47] Such information usually includes gender, age, country of residence, and in some instances, the parental status of the consumer.[48]

Online personalized advertising can rely on more *detailed* demographic information, such as the consumer's education (e.g., high-school graduate), finances (e.g., household income top 10%), relationship status (e.g., married), employment (e.g., tech industry), or other socio-demographic categories.[49] Advertisers can build such a consumer profile based on the data voluntarily *disclosed* by the consumer ("explicit profile") or based on the data about consumer online behavior that they *observed* ("predictive profile").[50]

Developing predictive profiles by algorithmically inferring attributes based on the observed online behavioral data about the consumer is commonly called "profiling."[51] OBA is an advertising practice that relies on profiling to target individual consumers.[52] Observed online behavioral data about the consumer may include social media data (e.g., posts and likes), search data (e.g., history), web browsing data (e.g., media consumption data), mouse cursor movement, keyboard strokes, and location data.[53]

2. Profiling: Behavioral Personalization

In OBA, consumers can be profiled beyond demographic traits and may include inferring *psychographic* traits such as affinities, interests, values, and

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[46] *See Personalized Advertising*, GOOGLE ADVERTISING POLICIES HELP, https://support.google.com/adspolicy/answer/143465?hl=en [https://perma.cc/PW6E-ZKMT].

[47] Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 19; Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 26.

[48] *About Demographic Targeting*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/2580383 [https://perma.cc/9ZL2-XNG6].

[49] *See id.*; *About Detailed Targeting*, META BUSINESS HELP CENTER, https://www.facebook.com/business/help/182371508761821 [https://perma.cc/SQ5W-92DE].

[50] ARTICLE 29 DATA PROTECTION WORKING PARTY, OPINON 2/2010 ON ONLINE BEHAVIORAL ADVERTISING 7 (2010), https://ec.europa.eu/justice/article-29/documentation/opinion-recommendation/files/2010/wp171_en.pdf [https://perma.cc/F6EP-DDAE].

[51] *See* Eur. Comm'n, *Personalisation Study*, *supra* note 41, at 41; Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 19; Mireille Hildebrandt, *Defining Profiling: A New Type of Knowledge?*, *in* PROFILING THE EUROPEAN CITIZEN 17 (Mireille Hildebrandt & Serge Gutwirth eds., 2008).

[52] *See* ZUIDERVEEN BORGESIUS, *supra* note 9, at 15.

[53] *See id.* at 35–38.

lifestyles.[54] For example, a consumer can be inferred to be a "surf enthusiast," a "sci-fi fan," a "dog lover," someone who "is about to have a wedding anniversary," or who "recently moved to Hawaii."[55] In OBA, inferences about the consumers' demographic and psychographic traits are made algorithmically, typically via data mining or artificial intelligence (AI) techniques that recognize patterns and correlations in otherwise raw data.[56] Further inferences can be drawn through consumers' similarity with other consumers – a feat called "lookalike audience" or "similar audience."[57] In other words, this practice implies using (often voluntarily disclosed) data from a group of people to predict and infer something about a consumer not explicitly part of that group, as described in Target's pregnancy prediction case explained in the section above.[58]

Profiling can also be used for personalizing any digital content more broadly.[59] For example, using behavioral data for personalizing search results by changing their order is often called "personalized ranking" – a practice that almost all websites that have a search function engage in (e.g., search engines and online marketplaces).[60] Algorithms for personalizing digital content are often called "recommender systems." Behavioral personalization of content through such systems is often framed as the core practice of digital service providers. For example, Netflix claims to provide a "personalized digital content service" – referring to its movie recommendation system, and Facebook defines its primary service as the provision of a "personalized experience" – referring to its News Feed.[61] While behavioral personalization of

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[54] Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 19; *see also About Audience Segments*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/2497941?hl=en [https://perma.cc/46VR-T9EG].

[55] *See About Demographic Targeting*, *supra* note 48.

[56] *See* Bart H. M. Custers, THE POWER OF KNOWLEDGE: ETHICAL, LEGAL AND TECHNOLOGICAL ASPECTS OF DATA MINING AND GROUP PROFILING IN EPIDEMIOLOGY 13, (2004); FEDERICO GALLI, ALGORITHMIC MARKETING AND EU LAW ON UNFAIR COMMERCIAL PRACTICES 21–22 (2022) (on machine learning).

[57] *See About Lookalike Audiences*, META BUSINESS HELP CENTER, https://www.facebook.com/business/help/164749007013531?id=401668390442328 [https://perma.cc/C8C7-5EH2]; *see also About Similar Segments for Search*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/7151628 [https://perma.cc/DV9D-LC4N].

[58] *See* ZUIDERVEEN BORGESIUS, *supra* note 9, at 44.

[59] *See id.* at 49.

[60] *See* Eur. Comm'n, *Personalisation Study*, *supra* note 41, at 41–43; Aniko Hannak, Gary Soeller, David Lazer, Alan Mislove & Christo Wilson, *Measuring Price Discrimination and Steering on E-Commerce Web Sites*, 2014 PROC. INTERNET MEASUREMENT CONF. 305, 307.

[61] *See Netflix Terms of Use*, NETFLIX, https://help.netflix.com/legal/termsofuse [https://perma.cc/W95Y-8CX2]; *Terms of Service*, FACEBOOK, https://www.facebook.com/terms.php [https://perma.cc/W4QP-D8WS].

content is not the same as OBA, the latter often involves the former. Sometimes, they are bundled together to justify data collection for advertising personalization.[62]

In addition, some websites that use recommender systems for personalizing search results allow advertisers to pay for prominence for their products (i.e., "paid ranking").[63] The paid ranking is part of OBA to the extent to which behavioral personalization considers consumers' predictive profiles. Also, profiling can be used to personalize prices. Online personalized pricing (alternatively "online price discrimination") refers to offering different online prices for identical products or services to different consumers.[64] In one example, Amazon was found to vary prices for video games and Kindle e-books based on consumers' IP addresses.[65] Online personalized pricing can also be OBA when an advertiser explicitly sponsors differentiation, for example, by placing an advertisement that offers a discount to a consumer based on their previous buying history.[66]

Another form of OBA is "re-targeting," which relies exclusively on consumers' observed shopping behavior and shows consumers ads for the products and services they revealed interest in, such as by adding them to the shopping cart of the online marketplace.[67] Re-targeting is particularly noticeable for consumers, as they experience being followed by advertisements across the Internet.[68] Re-targeting is sometimes dubbed as "creepy marketing" because of the following nature of the advertisement.[69]

C. OBA: Markets

1. Publishers and Advertisers

In this Article, I refer to "publishers" as the providers of digital services that publish advertising on their online interface. Publishers monetize consumer visits by selling online advertising space called "inventory" to

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[62] Lex Zard & Alan M. Sears, *Targeted Advertising and Consumer Protection Law in the European Union*, 56 VAND. J. TRANSNAT'L. L. 799, 828 (2023).

[63] *See Commerce Ranking Disclosure*, FACEBOOK, https://www.facebook.com/legal/commerce_ranking [https://perma.cc/5DZL-DLWH].

[64] *See* Frederik Zuiderveen Borgesius & Joost Poort, *Online Price Discrimination and EU Data Privacy Law*, 40 J. CONSUM. POL'Y 347, 348 (2017).

[65] *See* Alan M. Sears, *The Limits of Online Price Discrimination in Europe*, 21 COLUM. SCI. & TECH. L. REV. 1, 3 (2021).

[66] *See* Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 63.

[67] *Id.* at 19.

[68] *Id.* at 19–20; ZUIDERVEEN BORGESIUS, *supra* note 9, at 48.

[69] *See* Robert S. Moore, Melissa L. Moore, Kevin J. Shanahan, Alisha Horky & Britney Mack, *Creepy Marketing: Three Dimensions of Perceived Excessive Online Privacy Violation*, 25 MKTG. MGMT. J. 42 (2015).

advertisers.[70] Although advertisers include large corporations responsible for most of online advertisement spending (for example, in 2021, HBO Max spent $635 million, Disney Plus - $403 million, and Walmart – $331 million), it also includes much smaller companies or individuals.[71] Similarly, publishers can be individuals that, for example, run personal blogs, but also large corporations that provide news media (e.g., The New York Times, Le Mond), games (e.g., Candy Crush Saga, Pokemon Go), or online platforms (e.g., Google Search, Facebook, Amazon Store, Apple App Store, Uber).[72] Platform service providers are the largest publishers, as they generate most of the traffic online. Taking the United Kingdom (UK) as a comparative example, in 2020, internet users spent 50% of their time online using the top ten platform services and 37% using the platform services of two companies – Alphabet and Meta.[73]

The platform services of Alphabet and Meta are the most prominent advertising publishers because they reach a massive amount of online consumers who find their services of search and social networking almost essential for accessing social, cultural and commercial connectivity.[74] To illustrate, Google Search managed 90% of all searches in Europe, and Meta's platform services handled 80% of all social network traffic worldwide.[75] Also, in 2020, Alphabet reached 90% of all online consumers in the UK, and Meta reached 85%.[76]

As consumers spend most of their time online using their services, these platforms act as "gates" through which business users can access the consumers; therefore, they are often called "gatekeepers" in legal jargon.[77]

In exchange for giving the consumers access to their now essential services, gatekeepers assume access to the data about online consumer behavior (i.e., "access-data bargain"), and by applying algorithmic techniques to these

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[70] *See Glossary of Terminology*, INTERACTIVE ADVERTISING BUREAU (IAB), https://www.iab.com/insights/glossary-of-terminology/ [https://perma.cc/ZFH2-96RK].

[71] COMPETITION & MKTS. AUTH., *supra* note 6, at 61; *see Largest Global Advertisers 2021*, STATISTA, https://www.statista.com/statistics/286448/largest-global-advertisers/ [https://perma.cc/3HH4-SYDM].

[72] Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 26.

[73] COMPETITION & MKTS. AUTH., *supra* note 6, at 5; Four out of five most visited websites worldwide belong to Alphabet and Meta in 2022. *See Most Visited Websites - Top Websites Ranking for December 2022*, SIMILARWEB, https://www.similarweb.com/top-websites/ [https://perma.cc/B4R9-ADBB].

[74] COHEN, *supra* note 18, at 44.

[75] Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 18.

[76] COMPETITION & MKTS. AUTH., *supra* note 6, at 36–37.

[77] *See, e.g.,* Jonathan Zittrain, *A History of Online Gatekeeping*, 19 HARV. J.L. & TECH. 253 (2006); *see also* GIOVANNI DE GREGORIO, DIGITAL CONSTITUTIONALISM IN EUROPE 17 (2022).

data, they render consumers legible.[78] In other words, by analyzing online behavioral data about the individual consumer and the consumers in the aggregate, gatekeeper platforms can define narrow consumer segments, profile individual consumers based on their predicted behavior (inferred from their past online behavior), and allocate them into pre-defined or custom segments (e.g., "surf-enthusiast," "recently divorced").[79]

2. Walled Gardens and Open Exchanges

Non-platform publishers, such as providers of online newspapers or games, lack such capabilities of intermediation and legibility and cannot build extensive predictive profiles about consumers. In response to the demand of non-platform publishers to mimic OBA practices, the platform service providers have expanded their OBA practices beyond their own services by creating advertising networks ("ad networks"), such as Alphabet's *Google Display Network* and Meta's *Audience Network*.[80] These ad networks provide publishers with outsourced sales of advertising space and provide advertisers with aggregated advertising spaces from numerous publishers. Ad networks also provide unique targeting capabilities and ad optimization tools. By creating ad networks, platform service providers intermediate between advertisers and other publishers that would not be able to provide similar OBA optimization independently.[81]

Such ad networks that platform service providers use to provide OBA on non-platform publishers are often called "walled gardens" – closed ecosystems in which platforms provide complete end-to-end technical solutions for advertisers and publishers.[82] In response to the impetus of many publishers and advertisers to escape the complete dependence on platform service providers, new and smaller ad intermediaries have emerged that take on particular functions of these walled gardens in the "open exchange" that allows advertisers and publishers to reach consumers over the entire Web.[83]

Demand Side Platforms (DSPs) provide advertisers with a one-stop platform for buying advertising spaces or inventories from many different sources.[84] DSPs aggregate the demand from all their advertising partners and buy advertising spaces in the open exchange according to these demands.

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[78] *See* Zard & Sears, *supra* note 62, at 801–02,

[79] *See id.* at 809.

[80] See *Glossary of Terminology*, *supra* note 70; *See Estimate Your Results with Bid, Budget and Target Simulators*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/2470105?hl=en&ref_topic=3122864 [https://perma.cc/8X45-F8J5].

[81] See ZUBOFF, *supra* note 14, at 93–97.

[82] COMPETITION & MKTS. AUTH., *supra* note 6, at 155.

[83] *Id.* at 263–265.

[84] *See Glossary of Terminology*, *supra* note 70.

Supply-Side Platforms (SSPs) aggregate publishers' inventories and sell them in the open exchange.[85] When an SSP identifies a particular demand it sells the advertising space to a DSP, which was looking for such a consumer. The exchange of information about the demands and the supply of the available inventory happens on the advertising exchanges ("ad exchange"), which also run the real-time auction process through which inventories are bought and sold.[86] The entire process occurs programmatically (fully automated) and happens almost in the same instance as a consumer is visiting a particular website.[87]

Many publishers do not have access to the consumer behavioral data that is essential to meet the demands of behavioral personalization, and many advertisers may not know various new audiences they can reach. Therefore, data management platforms (DMPs) have emerged to support the demand side and supply side by enriching them with data and enabling them to define and target more narrowed-down consumer audiences.[88] Lastly, advertising servers ("ad servers") provide services to advertisers and publishers for them to track, manage, and measure advertising campaigns.[89] Advertisers' ad servers offer a centralized tool for managing their campaigns, including uploading advertising designs (i.e., creative), setting targeting criteria, or measuring performance goals across various DSPs.[90] Similarly, publishers' ad servers provide a centralized tool for publishers to optimize monetization from OBA by, for example, managing all of their inventory (websites, mobile apps, videos, games), placing trackers, getting detailed reports, and connecting to multiple SSPs or ad networks.[91]

3. Data Market and Power

The existence of the myriad of players often called "AdTech" in the OBA open exchange and its technological and structural complexity have attracted much attention from academia.[92] The industry continuously emphasizes the value that OBA creates for these exchange participants, placing them at the center of the discussions around OBA.[93] Nevertheless, only a small piece of

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[85] *See id.*

[86] *See id.*

[87] *See id.*

[88] COMPETITION & MKTS AUTH., *supra* note 6, at 125.

[89] *See Glossary of Terminology*, *supra* note 70.

[90] *See Introducing Campaign Manager 360*, CAMPAIGN MANAGER 360 HELP, https://support.google.com/campaignmanager/answer/10157783?hl=en&ref_topic=2758513 [https://perma.cc/ZPF8-B4J6].

[91] *See Advertising with Google Ad Manager*, GOOGLE AD MANAGER HELP, https://support.google.com/admanager/answer/6022000?hl=en [https://perma.cc/99HG-H5C7].

[92] *See* Varnali, *supra* note 15.

[93] *The Value of Digital Advertising*, IAB EUROPE, https://iabeurope.eu/the-value-of-digital-advertising/ [https://perma.cc/2BNC-66FD].

OBA revenue is generated in the open exchange. For example, in the UK, it amounts to 15% of online targeted advertising revenue.[94] The rest of the revenue is channeled by online platforms. To illustrate this, in 2021, more than 80% of global online advertising revenue went to online platforms, and more than 60% to platforms operated only by Alphabet and Meta.[95] In 2022, more than 50% of online advertising revenue went to Alphabet ($168.44 billion) and Meta ($112.68 billion).[96]

In the open exchange, Alphabet provides the largest advertising intermediaries in almost all functions.[97] Google AdSense and Google AdMob are the most prominent advertising networks.[98] Google Marketing Platform combines the most extensive DSP (Display and Video 360) and the most prominent ad server for advertisers (Campaign Manager 360).[99] Google Ad Manager provides the largest SSP (DoubleClick for Publishers) and the most prominent ad server for publishers.[100] Finally, Google Authorized Buyers or Google AdX is the largest ad exchange.[101]

While these intermediaries provide services for publishers and advertisers, they are also self-serving for online platforms. Firstly, by connecting other publishers in their network, online platforms increase the *scale* of the advertising spaces or inventories they can sell to advertisers (i.e., horizontal integration) and consumer behavioral data available to them.[102] Secondly, via providing the largest intermediaries in all functions, platforms maintain influence on which advertisement is served by which publisher, creating an

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[94] *See* COMPETITION & MKTS AUTH., *supra* note 6, at 6; *see also* Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 38–39.

[95] Alphabet and Meta are often referred to as "duopoly" (or "quasi-duopoly") in online advertising market. *See* Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 39; *see also* Eur. Comm'n, *Personalisation Study*, supra note 41, at 41–42. However, particularly in the U.S. Amazon has been rising, and, therefore, there have been new references to "triopoly." *See Google, Facebook, and Amazon: From Duopoly To Triopoly of Advertising*, FORBES, (Sep. 4, 2019, 10:30 AM), https://www.forbes.com/sites/forrester/2019/09/04/google-facebook-and-amazon-from-duopoly-to-triopoly-of-advertising/?sh=6ae96ead6343 [https://perma.cc/A3AR-7ZN5].

[96] Ronan Shields, *Here Are the 2022 Global Media Rankings by Ad Spend: Google, Facebook Remain Dominant — Alibaba, ByteDance in the Mix*, DIGIDAY (Dec. 13, 2022), https://digiday.com/media/the-rundown-here-are-the-2022-global-media-rankings-by-ad-spend-google-facebook-remain-dominate-alibaba-bytedance-in-the-mix/ [https://perma.cc/Q8CU-GZXD].

[97] COMPETITION & MKTS AUTH., *supra* note 6, at Appendix M.

[98] *Id.* at M31.

[99] *Id.* at M71.

[100] *Id.* at M12.

[101] *Id.*

[102] ZUBOFF, *supra* note 14, at 83.

accessible venue for self-preferencing (i.e., "vertical integration").[103] OBA open exchange can be understood as Alphabet's "walled garden," in which other platform providers such as Meta and Amazon have their share of walled islands regarding social media and online marketplace advertising.

The platform-led OBA industry claims that behavioral personalization is the most efficient configuration.[104] These claims point towards a higher "click-through rate" or CTR, which measures the percentage of consumer action, such as a consumer clicking the ad when exposed to a particular advertisement.[105] For example, one industry-funded study estimated that the CTR of behavioral personalization is five to ten times higher than other forms of targeting in online advertising.[106] Nevertheless, there is growing evidence that points to the contrary.[107] For example, the New York Times, which has cut off OBA open exchange to rely on online contextual advertising instead, declared that its revenues have significantly grown.[108] These doubts come with the claim that platforms are the only beneficiaries of OBA, as it maximizes the platforms' profits at the expense of all other participants.[109] For an illustration of platforms' profitability, the UK's Competition and Market Authority found that Alphabet and Meta had been generating excess profit for their investors (Google returned 40% of capital and Meta 50% to their investors, instead of the expected 8% that would be a fair mark).[110] In 2022, 50% of all online advertising revenue went to Alphabet and Meta.[111]

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[103] Eur. Parliament, *Online Advertising Study, supra* note 8, at 39; COMPETITION & MKTS AUTH., *supra* note 6, at 19–21.

[104] *The Value of Digital Advertising*, *supra* note 93; Varnali, *supra* note 15, at 94.

[105] *Clickthrough Rate (CTR): Definition*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/2615875?hl=en&ref_topic=24937 [https://perma.cc/F4RT-8UXK].

[106] IHS MARKIT, THE ECONOMIC VALUE OF BEHAVIOURAL TARGETING IN DIGITAL ADVERTISING (2017), https://datadrivenadvertising.eu/wp-content/uploads/2017/09/BehaviouralTargeting_FINAL.pdf [https://perma.cc/7BTW-PEWR].

[107] EURO. PARLIAMENT, ONLINE ADVERTISING STUDY, *supra* note 8, at 19–20.

[108] *See* Natasha Lomas, *The Case Against Behavioral Advertising Is Stacking Up*, TECHCRUNCH (Jan. 20, 2019, 4:00 PM), https://techcrunch.com/2019/01/20/dont-be-creepy/ [https://perma.cc/9HZX-W4UD]; *see also* Jessica Davies, *After GDPR, The New York Times Cut off Ad Exchanges in Europe — and Kept Growing Ad Revenue*, DIGIDAY (Jan. 16, 2019), https://digiday.com/media/gumgumtest-new-york-times-gdpr-cut-off-ad-exchanges-europe-ad-revenue/ [https://perma.cc/4Q7Z-6M2K].

[109] Lomas, *supra* note 108.

[110] COMPETITION & MKTS. AUTH., *supra* note 6, at 8.

[111] Shields, *supra* note 96.

D. OBA: Infrastructure

1. Real-Time Bidding (RTB)

In OBA, advertising placements are determined programmatically, by algorithmic systems instead of human-mediated ways.[112] In this programmatic process, advertisers bid on the Real-Time Bidding (RTB) auction to compete with other advertisers to target an ad to a specific consumer online.[113] In the OBA open exchange, the RTB auction is housed by the ad exchanges, where SSPs sell the advertising inventory of their publishers and DSPs place bids for their advertisers.[114] The consumer visiting a publisher's website initiates the programmatic process. Using the trackers placed on the website, the publisher's SSP (or an ad server in case of multiple SSPs) generates an advertisement request ("bid request") that contains a broad array of information about the consumer seeing the ad inventory.[115] Bid requests are then passed to ad exchanges and to the DSPs that evaluate advertising opportunities based on their campaign objectives who respond with their bids, the amount of money the advertiser is willing to pay per click.[116] The publishers (via SSP or an ad serve) rank the offers based on the price (and other priorities) and decide which advertisement will be served on the webpage (See Figure I.1).[117]

Traditionally, RTB relied on a waterfall auction, in which ad exchanges and SSPs would rank their demand partners sequentially in hierarchical levels (if DSP#1 makes a bid, it gets the inventory, if not, a new auction is triggered for DSP#2, and so forth).[118] This enabled self-preferencing of platform providers like Alphabet that were vertically integrated in the open exchange, and bids would be passed to other DSPs (who may have paid higher prices) only if Alphabet was not interested or did not meet the publisher's

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[112] Michael Veale & Frederik Zuiderveen Borgesius, *Adtech and Real-Time Bidding under European Data Protection Law*, 23 GER. L.J. 226, 231 (2022).

[113] *Id.*

[114] Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 25.

[115] *See Authorized Buyers Real-time Bidding Proto*, GOOGLE FOR DEVELOPERS, https://developers.google.com/authorized-buyers/rtb/realtime-bidding-guide [https://perma.cc/5CG9-3TYS]; *see also OpenRTB Integration*, GOOGLE FOR DEVELOPERS, https://developers.google.com/authorized-buyers/rtb/openrtb-guide [https://perma.cc/3UJX-RZX9]; *Ad Selection w White pPaper*, GOOGLE AD MANAGER HELP, https://support.google.com/admanager/answer/1143651 [https://perma.cc/Y3B3-VZFT].

[116] In most cases, advertisers pay per action ("cost-per-action" or CPA), for example, per click on the advertisement ("cost-per-click" or CPC). *Estimate Your Results with Bid, Budget and Target Simulators*, *supra* note 80; COMPETITION & MKTS. AUTH., *supra* note 6, at 265.

[117] COMPETITION & MKTS. AUTH., *supra* note 6, at 265.

[118] *See* Michalis Pachilakis, Panagiotis Papadopoulos, Evangelos P. Markatos & Nicolas Kourtellis, *No More Chasing Waterfalls: A Measurement Study of the Header Bidding Ad-Ecosystem*, ARXIV (2019), http://arxiv.org/abs/1907.12649 [https://perma.cc/J6TQ-6CNJ].

requirements.[119] In response to this, the industry developed the *header bidding* protocol that allows queries of multiple ad exchanges, DSPs, and advertisers simultaneously. Because it allows publishers more freedom to choose whom they sell the advertising space to (prices for which also increased), header bidding became the prominent protocol.[120]

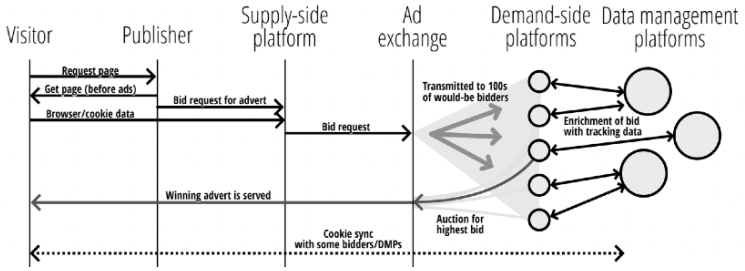

Figure 1:1. Real Time Bidding(RTB) Process (by Veale and Zuiderveen Borgesius) [121]

The content of the bid requests is determined by the specifications of *Authorized Buyers* maintained by Alphabet or the *OpenRTB/AdCom* protocol maintained by the Interactive Advertising Bureau (IAB), a membership organization of advertising firms.[122] It usually contains information about the consumer, such as age, gender, geographic location (e.g., postal code, longitude, and latitude), metadata about provided consent, interests, and information about the device that the consumer is using.[123] Although the bid requests with some or all of this information give DSPs the possibility to target the consumers in granular ways, the economic incentives of RTB auction mean that DSPs with more specific knowledge about the individual consumers will win the desirable viewers.[124] With this in mind, DSPs employ DMPs (data management platforms) that help them identify the consumer and enrich the DSP with data about the consumer from other sources (e.g., its database and data brokers).[125] The DSP with the most knowledge wins the auction and links the further data to the consumer for future profiling.

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[119] Veale & Zuiderveen Borgesius, *supra* note 112, at 32.

[120] Pachilakis et al., *supra* note 118.

[121] Veale & Zuiderveen Borgesius, *supra* note 112, at 232.

[122] *OpenRTB (Real-Time Bidding)*, IAB TECH LAB, https://iabtechlab.com/standards/openrtb/ [https://perma.cc/7C9S-M79E]; *Authorized Buyers Real-time Bidding Proto*, *supra* note 115.

[123] Veale & Zuiderveen Borgesius, *supra* note 112, at 232.

[124] *Id.*

[125] *Id.*

The centrality of the consumer data in the RTB process comes from the advertising paradigm of OBA, which works on the premise that targeting based on consumers' behavioral profiles ensures relevance. With this in mind, the advertisers participating in RTB have an economic incentive to ensure that they bid and compete only in cases where the winning bid maximizes the chance of the consumers clicking the advertisement. Therefore, DSPs and advertising networks provide data-based algorithmic tools to estimate click-through rates into "quality scores."[126] Such advanced data analytic tools allow advertisers to observe how their advertisements perform (how consumers behave regarding their advertisements) and further tailor their campaigns based on these insights, creating a self-improving optimization cycle.[127] As the advertisers with more data about the consumer can better estimate such quality scores, the quantity and the quality of data about the consumers and their behavior determines the efficacy of ad optimization.[128]

2. Cookies

The most prevalent way to track consumers has long been via trackers known as "cookies."[129] Cookies are small blocks of encoded or encrypted data that the website's server places on the consumer's computer (that visits the website) and later accesses to identify the returning user.[130] In the early days of the internet, publishers could not tell the difference between visitors.[131] Cookies were introduced in 1994 by Netscape Navigator primarily to "give Web a memory" or, in other words, to identify the re-visiting users on the website.[132]

Today, cookies are used for various purposes: they can be *strictly necessary* for enabling website features, for example, accessing secure areas of the website or adding items to a shopping cart.[133] They can also be used to *improve performance*, such as tracking errors or which website pages are most visited.[134] They can also enable other *functionalities,* keeping users logged in or

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[126] *See* Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 18.

[127] *See* ZUBOFF, *supra* note 14, at 93–97.

[128] *About Quality Score*, GOOGLE ADS HELP, https://support.google.com/google-ads/answer/6167118?hl=en [https://perma.cc/M36G-AQJW]; COMPETITION & MKTS. AUTH., *supra* note 6, at 16.

[129] *See* Veale & Zuiderveen Borgesius, *supra* note 112, at 227–229.

[130] *Id.* at 227.

[131] John Schwartz, *Giving Web a Memory Cost Its Users Privacy*, N.Y. TIMES, (Sep. 4, 2001), https://www.nytimes.com/2001/09/04/business/giving-web-a-memory-cost-its-users-privacy.html [https://perma.cc/8VJQ-5AZZ].

[132] *See* ZUIDERVEEN BORGESIUS, *supra* note 9, at 20.

[133] *See* Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 44.

[134] *Id.*

retaining their preferences.[135] Such cookies are also called first-party cookies as they are placed by the server of the publisher's website that the consumer visits. There are also *third-party* cookies placed by a party other than the publisher, such as an advertising network.

While third-party cookies can provide significant functionalities (e.g., showing a video from another source), they also allow tracking of the users across the internet and, therefore, have been used to operationalize OBA.[136] For example, a 2015 study of 478 websites across eight EU member states found that 70% of the 16,555 cookies placed were third-party cookies, from which more than half were set by 25 domains that belonged to advertising intermediaries engaged in OBA.[137] In practice, advertising intermediaries place tracking cookies by placing frames, also called "tags" (or "web beacons"), on websites across the internet.[138] These tags can be as big as the advertising box – a space in which an advertisement appears, or as small as a single pixel ("pixel tags" or "1x1 pixels"). For example, tags often take the form of clickable buttons, such as "LOG IN via Facebook" or "SUBSCRIBE to YouTube."[139]

In addition to placing cookies, the tags serve several important functions for advertising intermediaries. Firstly, when the consumer accesses the web page, tags located on the page that they may not click or cannot even see trigger the initiation of specific actions, such as initating the RTB processes by creating "a bid request."[140] Most importantly, by spreading the tags on many different websites, the server of the tag can also combine the cookies placed on them and link the data collected on each website to a single consumer.[141]

However, not all intermediaries are equally able to spread their tags across the internet, and large platforms, like those belonging to Alphabet and Meta, are most successful in tracking consumers online.[142] For example,

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[135] Katie Moser, *How to Personalize Content Using First Party Cookies and Data*, ZESTY, https://www.zesty.io/mindshare/how-to-personalize-content-using-first-party-cookies-and-data/ [https://perma.cc/TMQ8-W4EB].

[136] See Frederik Braun, Origin Policy Enforcement in Modern Browsers: A Case Study on Same Origin Policy Implementations (Oct. 2012) (Thesis, Ruhr-Universität Bochum).

[137] *See* Article 29 Data Prot. Working Party, *Cookie Sweep Combined Analyzis - Report*, at 2, 14/EN WP 229 (Feb. 3, 2015).

[138] Tags are sometimes also called as "tracking pixels," "web bugs," "pixel tags," and "clear GIFs." *See* Janne Nielsen, *Using Mixed Methods to Study the Historical Use of Web Beacons in Web Tracking*, 2 INT. J. DIGIT. HUMAN. 1 (2021).

[139] Janice Sipior, Burke Ward & Rubén Mendoza, *Online Privacy Concerns Associated with Cookies, Flash Cookies, and Web Beacons*, 10 J. INTERNET COM. 1, 4 (2011).

[140] *Web Beacon*, NAI: NETWORK ADVERTISING INITIATIVE, https://thenai.org/glossary/web-beacon/ [https://perma.cc/XHS5-EPFA].

[141] Nielsen, *supra* note 138, at 4.

[142] Veale & Zuiderveen Borgesius, *supra* note 112, at 228.

WhoTracks.Me study found that Alphabet was tracking around 40% of the measured Web traffic and Meta around 15%.[143]

Other advertising intermediaries (smaller DSPs and SSPs) that do not hold a strong intermediary position online cannot spread their tracking code via tags. However, in response to their need to track users, the industry found a loophole in the Single Origin Policy to bypass its rules by a process called "cookie syncing" (alternatively "cookie matching").[144] Cookie syncing significantly widened the scope of tracked activity online by pooling the reach of multiple trackers.[145]

3. Cookieless OBA

Due to the concerns about consumer privacy, reliance on cookies for OBA is a highly controversial and heavily regulated practice. The European Union (EU) privacy and data protection law has set high standards for cases in which processing data via cookies can be considered lawful. Therefore, it is increasingly difficult for advertising intermediaries to place third-party advertising cookies legitimately. Moreover, partly due to the pressure from regulators, web browsers and device manufacturers started to move away from this practice. For example, in 2019, Mozilla's Firefox adopted a default configuration to disable third-party cookies for advertising unless activated by the user, and in 2020, a similar feature was adopted by Apple's Safari.[146] Despite owing much of its financial success to third-party cookies, Alphabet announced that Chrome—which has 65% of the market[147]—would follow Firefox and Safari in disabling third-party cookies as the default configuration in 2023.[148] Yet,

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[143] Arjaldo Karaj, Sam Macbeth, Rémi Berson & Josep M. Pujol, *WhoTracks .Me: Shedding Light on the Opaque World of Online Tracking*, ARXIV 8–9 (2019), http://arxiv.org/abs/1804.08959 [https://perma.cc/C2KS-87UY].

[144] Veale & Zuiderveen Borgesius, *supra* note 112, at 229.

[145] 53 companies observe more than 91% browsing behavior of all internet users. *Id.*

[146] Marissa Wood, *Today's Firefox Blocks Third-Party Tracking Cookies and Cryptomining by Default*, MOZILLA BLOG (Sep. 3, 2019), https://blog.mozilla.org/en/products/firefox/todays-firefox-blocks-third-party-tracking-cookies-and-cryptomining-by-default/ [perma.cc/8SBN-6UHZ]; Nick Statt, *Apple Updates Safari's Anti-Tracking Tech With Full Third-Party Cookie Blocking*, THE VERGE (Mar. 24, 2020, 3:07 PM), https://www.theverge.com/2020/3/24/21192830/apple-safari-intelligent-tracking-privacy-full-third-party-cookie-blocking [perma.cc/NH7M-TVWH].

[147] *Browser Market Share Worldwide - January 2024*, STATCOUNTER GLOBAL STATS, https://gs.statcounter.com/browser-market-share [perma.cc/93W2-53UL].

[148] Dieter Bohn, *Google Chrome Third-Party Cookies Block Delayed Until 2023*, THE VERGE (June 24, 2021, 9:21 AM), https://www.theverge.com/2021/6/24/22547339/google-chrome-cookiepocalypse-delayed-2023 [perma.cc/5QJ9-H7A3]; Matt Burgess, *Google Has a New Plan to Kill Cookies. People Are Still Mad*, WIRED (Jan. 27, 2022, 2:31 PM), https://www.wired.com/story/google-floc-cookies-chrome-topics/ [https://perma.cc/9E4J-4H4Z].

Alphabet delayed the phase-out of cookies twice.[149] In July 2024, Alphabet announced a U-turn, deciding to keep infrastructure based on cookies and introducing a general "opt-out" of cross-site tracking.[150]

As the OBA industry is losing the capabilities for tracking based on third-party cookies, it has started looking for other ways to connect users with their browsing records to compile their behavioral profiles.[151] "Device fingerprinting" is one such method by which seemingly insignificant information about the features of the device, such as screen resolution and the list of installed fonts, are analyzed to give the device a unique "fingerprint."[152] This fingerprint can be used, for example, to combat fraud (e.g., identifying that the person trying to log in to a site is likely an attacker who stole the credentials), but also to track a single consumer across different websites without their knowledge and without a way of opting out.[153] Device fingerprinting allows tracking users without cookies, but also can be used to respawn deleted identifiers in case the consumer deletes cookies.[154] Research found fingerprinting evidence on at least 4.4%–5.5% of top websites.[155] However, as fingerprinting is challenging to observe, these numbers can be regarded as the lower bounds.[156]

While device fingerprinting provides an alternative privacy-invasive tracking practice, some initiatives have successfully demonstrated the possibility of creating consumers' behavioral profiles while preserving privacy. Since 2010, the web browser *Adnostic* allows the creation of a behavioral profile of users and uses them to target them with advertisements without

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[149] Anthony Chavez, *Expanding Testing for the Privacy Sandbox for the Web*, GOOGLE: THE KEYWORD (July 27, 2022), https://blog.google/products/chrome/update-testing-privacy-sandbox-web/ [perma.cc/63LL-TTMG].

[150] Kendra Barnett, *In Shock Decision, Google Abandons Third-Party Cookie Deprecation Plans*, THE DRUM, https://www.thedrum.com/news/2024/07/22/shock-decision-google-abandons-third-party-cookie-deprecation-plans (last visited Jul 24, 2024).

[151] Zard & Sears, *supra* note 62, at 815.

[152] *Cover Your Tracks*, ELEC. FRONTIER FOUND., https://coveryourtracks.eff.org/learn [perma.cc/HEX7-P7FS].

[153] Nick Nikiforakis, Alexandros Kapravelos, Wouter Joosen, Christopher Kruegel, Frank Piessens & Giovanni Vigna, *Cookieless Monster: Exploring the Ecosystem of Web-Based Device Fingerprinting*, 2013 IEEE SYMP. ON SEC. AND PRIV. 541, https://www.computer.org/csdl/proceedings-article/sp/2013/4977a541/12OmNCwlalM [perma.cc/PT7Q-N4V9].

[154] Veale & Zuiderveen Borgesius, *supra* note 112, at 230.

[155] *See* Gunes Acar, Christian Eubank, Steven Englehardt, Marc Juarez, Arvind Narayanan & Claudia Diaz, *The Web Never Forgets: Persistent Tracking Mechanisms in the Wild*, 21 ACM CONF. ON COMPUT. AND COMMC'NS SEC. 674 (2014), https://dl.acm.org/doi/epdf/10.1145/2660267.2660347 [perma.cc/8PKW-RG9W].

[156] Veale & Zuiderveen Borgesius, *supra* note 112, at 230.

sharing any of the data with other parties.[157] When Alphabet considered depreciating cookies-based infrastructure, it developed Chrome Browser-based advertising solutions under the umbrella of the 'Privacy Sandbox' project.[158] The most effective of these solutions was the so-called *Topics API* technique that allowed for behavioral targeting and advertisement performance measurement without sharing data with third parties.[159] While Topics API increased data confidentiality, it seemingly increased the already dominant power of Alphabet over the advertising market, making the transition subject to close scrutiny from the competition authorities.[160] Ultimately, Alphabet abandoned its plan to depreciate cookies, creating uncertainty about the role of privacy-preserving advertising in the future of the advertising infrastructure.[161]

Lastly, in contrast to the Web, accessed via web browsers, mobile app developers traditionally had more freedom to track mobile users.[162] Empirical studies for analyzing tracking in mobile apps in the Apple iOS system are scarce.[163] In 2021, Apple introduced the App Tracking Transparency Framework, which disabled a default possibility to track third-party apps for advertising purposes, which has caused considerable disruption to the OBA markets.[164] Meta was particularly affected by these changes – its stock price dropped 26% as it anticipated a $10 billion loss in revenue.[165] In the Android ecosystem, one study found that Alphabet tracked 88.4% of the mobile apps

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[157] Vincent Toubiana, Arvind Narayanan, Dan Boneh, Helen Nissenbaum & Solon Barocas, *Adnostic: Privacy Preserving Targeted Advertising*, 2010 NETWORK & DISTRIBUTED SYS. SYM., https://crypto.stanford.edu/adnostic/adnostic-ndss.pdf [perma.cc/6Q4Y-VAPE]; *Adnostic: Privacy Preserving Targeted Advertising*, STANFORD UNIV., https://crypto.stanford.edu/adnostic/ [perma.cc/HBT7-N63F].

[158] The Privacy Sandbox: Technology for a More Private Web., https://privacysandbox.com/ (last visited Apr 23, 2023).

[159] Chrome, *Topics API Overview*, CHROME FOR DEVELOPERS (2022), https://developer.chrome.com/docs/privacy-sandbox/topics/overview/ (last visited Oct 11, 2023).

[160] David Meyer, *Google's Cookie Plan Crumbles after Regulators and Advertisers Refuse to Bite*, FORTUNE (Jul. 23, 2024, 5:20 PM) https://fortune.com/2024/07/23/google-drops-privacy-sandbox-plan-phase-out-third-party-cookies/ (last visited Jul 28, 2024).

[161] Competition & Markets Authority (UK), *Investigation into Google's 'Privacy Sandbox' Browser Changes*, GOV.UK (2024), https://www.gov.uk/cma-cases/investigation-into-googles-privacy-sandbox-browser-changes (last visited Jul 28, 2024).

[162] *See* Veale & Zuiderveen Borgesius, *supra* note 112, at 229.

[163] *Id.*

[164] *See* Jacob Loveless & Forbes Business Council, *How Does Apple's App Tracking Transparency Framework Affect Advertisers?*, FORBES (Aug. 22, 2022, 10:15 AM), https://www.forbes.com/sites/forbesbusinesscouncil/2022/08/22/how-does-apples-app-tracking-transparency-framework-affect-advertisers/ [perma.cc/HHP6-MF7L].

[165] Daniel Newman, *Apple, Meta and the $10 Billion Impact of Privacy Changes*, FORBES (Feb. 10, 2022, 7:40 PM), https://www.forbes.com/sites/danielnewman/2022/02/10/apple-meta-and-the-ten-billion-dollar-impact-of-privacy-changes/ [perma.cc/KNU3-HSQZ].

and Meta 42.6%.[166] Third-party apps and plug-ins have a variety of ways to access the unique identifiers of mobile devices, such as phone numbers, SIM numbers, or MAC addresses.[167] Such a variety of identifiers are used to link a mobile device to other devices (e.g., desktop computers). Providing OBA is among several purposes of cross-device tracking.[168]

II. CONSUMER MANIPULATION

So far, I have explained what OBA is and how it works. In Part II, I argue that OBA leads to consumer manipulation. I introduce this argument in two steps. First, I construct an analytic framework for understanding manipulation in Section II.A, and, second, I apply this framework to OBA in Section II.B.

A. Manipulation

In ordinary discussions, *manipulation* as a form of influence is morally loaded and is ascribed to a derogatory connotation. In interpersonal relationships, manipulators are said to influence someone's behavior through a "guilt trip" – making someone feel guilty, "peer pressure" – making someone fear social disapproval, "negging" – making someone feel bad about themselves, "emotional blackmail" – make someone fear the withdrawal of affection, or "seduction" – making something seem (sexually) appealing.[169] In philosophical discussions, there is little agreement as to what binds these forms of influence together — what are the necessary and sufficient conditions for a practice to be identified as manipulation (i.e., identification question), and what makes manipulation wrong (i.e., evaluation question).[170]

Consequently, policy discussions are contaminated by the variety of subjective moral standpoints one can adopt about manipulation, making it challenging to define malicious practices, identify their harms, assign responsibility, and tailor regulatory intervention.[171] In this Article, I aim to provide

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[166] Reuben Binns, Ulrik Lyngs, Max Van Kleek, Jun Zhao, Timothy Libert & Nigel Shadbolt, *Third Party Tracking in the Mobile Ecosystem*, 10 PROC. ACM CONF. ON WEB SCI. 23, 27 (2018), https://dl.acm.org/doi/10.1145/3201064.3201089 [https://perma.cc/KR6C-RYVY].

[167] *See* Veale & Zuiderveen Borgesius, *supra* note 112, at 230.

[168] *See* Sebastian Zimmeck, Jie S. Li, Hyungtae Kim, Steven M. Bellovin & Tony Jebara, *A Privacy Analysis of Cross-Device Tracking*, 26 USENIX SEC. SYMP. 1391, 1391 (2017), https://www.usenix.org/system/files/conference/usenixsecurity17/sec17-zimmeck.pdf [https://perma.cc/8VYP-DG28].

[169] *See* Robert Noggle, *The Ethics of Manipulation*, THE STANFORD ENCYCLOPEDIA OF PHIL. ARCHIVE (Apr. 21, 2022), https://plato.stanford.edu/archives/sum2022/entries/ethics-manipulation/ [perma.cc/F6NV-XT6E].

[170] *See id.* at § 1.3.

[171] *See, e.g.,* Eur. Comm'n, Directorate-Gen. for Just. & Consumers, *Behavioural Study on Unfair Commercial Practices in the Digital Environment: Dark Patterns and*

an analytic framework for understanding manipulation that can be useful in policy discussion.[172] With this aim, I step away from normative evaluations of manipulation as much as possible and approach the concept from a purely analytic point of view, attempting to describe it as a particular type of influence.[173]

The analytic framework developed in this Article is largely founded on the framework proposed by Daniel Susser, Beate Roessler, and Helen Nissenbaum. At times, I go further from their framework and attempt to synthesize it with the aspects of alternative theories, such as those developed by Michael Klenk.

1. Influencing Human Behaviour

Humans depend on each other for almost everything they need, and to get those needs met, they influence each other in various ways.[174] In this sense, influence on human behavior can be understood in two dimensions: by observing what is being modified (*change*)[175] and by observing the effect of the modification on the target (*effect*).[176] Figure II:1 illustrates the intersections of these dimensions in a quadrant (*quadrant of influence*). First, in order to influence the target, an agent may change *(i)* the target's understanding of options (*perception*) or *(ii)* the target's options (*options*).[177] Second, the effect of the change may be that the target of the influence has *(a)* acceptable alternative options (*choice*) or *(b)* no acceptable alternative options or no ability to exercise choice between them (*no choice*).[178] In this Article, I use this model, illustrated by Figure II:1, to delineate between different forms of

Manipulative Personalisation, at 40 (Apr. 2022), https://data.europa.eu/doi/10.2838/859030 [hereinafter Eur. Comm'n, Dark Patterns Study].

[172] *See* CASS R. SUNSTEIN, THE ETHICS OF INFLUENCE: GOVERNMENT IN THE AGE OF BEHAVIORAL SCIENCE (2016); Robert Noggle, *Pressure, Trickery, and a Unified Account of Manipulation*, 57 AM. PHILOS. Q. 241 (2020); Noggle, *supra* note 169; THE PHILOSOPHY OF ONLINE MANIPULATION (Fleur Jongepier & Michael Klenk eds., 2022); Susser et al., *supra* note 12. *See generally* MANIPULATION: THEORY AND PRACTICE, (Christian Coons & Michael Weber eds., 2014).

[173] See similar argument for using manipulation in non-moralized sense in Wood. *See* Allen W. Wood, *Coercion, Manipulation, Exploitation*, *in* MANIPULATION, *supra* note 172, at 18–21.

[174] *See* Wood, *supra* note 173, at 17; *see also* MANIPULATION, *supra* note 172, at 1. For deliberation about human nature as a social being, *see* PLATO, REPUBLIC 59 (Robin Waterfield trans., 2008).

[175] Words formated in *Italics* inside the parenthesis refer to how the concepts appear in Figure II:1.

[176] This view is based on dichotomy proposed by Susser, Roessler, and Nisseunbaum. *See* Susser et al., *supra* note 12, at 14. In this Article, "options" relate to "decision-space" and "perception" to "decision-making process."

[177] *See id.*

[178] *See id.*

influences, in particular persuasion with arguments (quadrant [i][a]), persuasion with incentives (quadrant [ii][a]), coercion (quadrant [ii][b]), and manipulation (quadrant [i][b]).

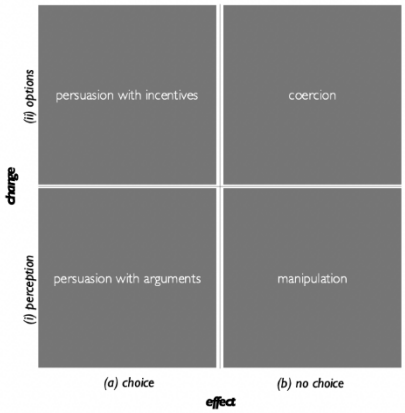

Figure II:1. Quadrant of Influence (by Author)[179]

Manipulation can be understood as a *hidden influence* on human behavior. The manipulator hides something important from the target.[180] While some forms of manipulation may hide the manipulative stimulus itself, other forms may make the stimulus visible but hide the manipulator's role or intentions. As soon as a target of influence becomes aware of a covert influence, influence becomes implicated in their decision-making.[181] As such a position is already well defended by Susser, Roessler, and Nissenbaum, I do not further continue to expand on the differences between forms of influence and instead focus on some aspects of manipulation that these scholars did not give limelight.

Manipulation is also a "success concept" – it reflects that the stimulus hiddenly and successfully influenced a target towards an outcome. In contrast, a practice can be *manipulative* if it is an attempt to manipulate, whether or not such an attempt results in manipulation.[182] There can be degrees of manipulativeness depending on the methods and strategies used (*see* Section II.A.3). Manipulation itself is blind to methods and strategies; instead, it suggests that intentional influence has taken place in a way that remained hidden from the

[179] The figure is the author's representation of a theory of influences developed by Susser, Roessler, and Nissenbaum. *See id.*

[180] *See* SUNSTEIN, *supra* note 172, at 102.

[181] *See* Susser et al,, *supra* note 12, at 20.

[182] *See id.* at 27.

target of this influence.[183] There are no degrees in manipulation: it has either taken place or not.

Central in the theory of manipulation as a hidden influence is that such manipulation is *intentional*.[184] I argue that intentional manipulation does not always involve the agent's conscious deliberation to hide some aspect of influence. Manipulation can also occur when a manipulator deliberates to influence a target towards an outcome but neglects to deliberate how the means of this influence may affect the target.[185] The manipulator can be focused on seeing the outcome come through but be "careless" with regards to the means through which this happens. Therefore, I argue that intentional manipulation also happens when the manipulator focuses on the outcome and neglects the hiddenness of the influence.[186] For example, negging involves an attempt to influence another person's behavior by making that person feel bad about themselves or the situation. In interpersonal intimate, friendship, and family relationships, people do not always deliberately want others to feel bad but still do so, somewhat unconsciously, to make them do something.

Therefore, in this Article, I define manipulation as:

> *a successful and intentional attempt to influence someone's behavior where an agent intended or disregarded that an aspect of influence remained hidden from the target's conscious awareness*.[187]

2. Vulnerability

One way to understand the conscious deliberation process through which humans make decisions is by the interplay of a person's beliefs, preferences, and emotions that preceded their actions.[188] Ideally, a decider would hold *beliefs* that truthfully reflect circumstances, they would form *preferences*

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[183] *See id.*; *see also* Wood, *supra* note 173, at 11.

[184] *See* Susser et al., *supra* note 12, at 26.

[185] The account of manipulation as "careless influence" was first developed by Klenk. *See* Michael Klenk, *(Online) Manipulation: Sometimes Hidden, Always Careless*, 80 REV. SOC. ECON. 85, 97 (2022). Klenk argues that an action is manipulative if "a) M[anipulator] aims for S[ubject] to do think, or feel b through some method m and b) M disregards whether m reveals eventually existing reasons for S to do, think or feel b to S"). *See also* Noggle, *supra* note 169, at 6-7. Klenk explicitly states to dissagree with the view that manipulation is hidden. I intend to synthesizes the view of Susser, Roessler and Nisseubaum on hidenness on manipulation with the view of Klenk on carelessness into a new understanding.

[186] *See* Klenk, *supra* note 185.

[187] Manipulation as *hidden influence* is one of at least three ways manipulation can be defined. Other two ways include manipulation as *trickery* and manipulation as *pressure*. *See* Noggle, *supra* note 169.

[188] *See* Robert Noggle, *Manipulative Actions: A Conceptual and Moral Analysis*, 33 AM. PHILOS. Q. 43, 44 (1996).

that accurately reflect these beliefs, and experience *emotions* that help them gauge their proximity to their preferences. As people have many beliefs, desires, and emotions, conscious deliberation is a process through which one makes up their mind.[189] *Rationality* – a state of being governed by reason – is one form of conscious deliberation that allows a decision-maker to advance toward their self-interest by always choosing the best available option.[190]

Rationality is often considered an aspirational state.[191] Scholars have also constructed economic and legal theories around a view of human beings as rational beings.[192] However, studies in human psychology reveal that human beings rarely, if ever, behave *entirely* rationally.[193] These studies conclude that most everyday human decision-making does not even happen consciously and deliberately.[194] Instead, they suggest that for evolutionary purposes, the human brain developed mechanisms that they call *heuristics* and *automated behavior patterns* – to shortcut the decision-making process, reduce complexity, and save energy in the face of repetitive and unimportant tasks.[195]

Cognitive psychologists refer to the conscious decision-making process as *System 2* and describe it as a *slow,* reflective, effortful, controlled way of thinking that requires time, energy, and attention (*slow* thinking).[196] In contrast, they explain, humans make most of their decisions using the thinking

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[189] *See id.* at 44–47; Susser et al., *supra* note 12, at 18.

[190] R. Jay Wallace, *Practical Reason*, STANFORD ENCYCLOPEDIA OF PHIL. ARCHIVE (Jan. 14, 2020), https://plato.stanford.edu/archives/spr2020/entries/practical-reason/ [https://perma.cc/FF8L-B2X9].

[191] *Id.* at § 4.

[192] In law and economics, human beings are at times portrayed as economic agents who are consistently rational and optimize for their self-interest (such agents are often referred to as "homo economicus" or "economic man"). Such views were promoted by early economic theorists, such as John Stuart Mill and Adam Smith. *See, e.g.,* JOHN STUART MILL, ESSAYS ON SOME UNSETTLED QUESTIONS OF POLITICAL ECONOMY (2011); ADAM SMITH, THE WEALTH OF NATIONS (Robert B. Reich ed., 2000). The EU legal framework sometimes considers humans as such rational agents. For example, when referring to the "average consumer," consumer protection legislation considers a consumer that is "reasonably well informed, observant, and circumspect." *See* Eur, Comm'n, *Dark Patterns Study*, *supra* note 171, at 90.

[193] The three most influential works analyzing the shortcuts are DANIEL KAHNEMAN, THINKING FAST AND SLOW (2011); ROBERT B. CIALDINI, INFLUENCE: THE PSYCHOLOGY OF PERSUASION (2006); RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE (2008).

[194] *See* Susser et al., *supra* note 12, at 21.

[195] *See* AMOS TVERSKY & DANIEL KAHNEMAN, *Judgment under Uncertainty: Heuristics and Biases*, 185 SCIENCE 1124 (1974) (heuristics); CIALDINI, *supra* note 193 (automated behavior patterns).

[196] *See* Kahneman, *supra* note 195, at 21. Thaler and Sunstein refer to System 1 as the "Automatic System" and "Gut," and to System 2 as the "Reflective System" and "Conscious Thought." THALER & SUNSTEIN, *supra* note 193, at 19.

paradigm they call *System 1,* which is *fast,* non-reflective, automatic, simple, and requires much less time, energy, and attention (*fast* thinking).[197] Studies reveal that humans only mobilize slow thinking when fast thinking cannot handle the task at hand.[198] Even then, System 1 continues to generate cues that a person receives in the form of impressions, intuitions, and feelings that they consider during their slow thinking process.[199] Therefore, in many situations and observingly systematically, these fast-thinking shortcuts are prone to errors in the decision-making process called *cognitive biases* that may lead to sub-optimal decisions.[200]

These biases can be triggered accidentally, but they are also susceptible to being exploited by an intentional external influence. They act as vulnerabilities in human decision-making. Manipulators could exploit them to bypass the conscious deliberation process.[201] Beyond biases, human decision-making vulnerabilities include human beliefs, desires, and emotions.[202] When deciding, people can never fully cover all available information, as data that can be considered in any given situation is infinite.[203] Others may exploit this lack of perfect information to encourage their targets to hold false beliefs. Such influence on the target's beliefs is called *deception*. Deception is always manipulation as the falsehood of the proposition is always hidden, undermining the target's ability to understand their options.[204]

Manipulators can also influence people's desires.[205] Any given individual has a myriad of interrelated desires. A person may want to fill up their water bottle because they are thirsty, continue to work at the desk to meet their desired writing goal, and want to be outside enjoying the rare sunlight, all at the same time. Ideally, (entirely rational) people would order these desires into preferences to maximize their self-interest.[206] Such orders of desires that keep preferences about preferences are called *second-order preferences*. This

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[197] *See* KAHNEMAN, *supra* note 195, at 25.

[198] *Id.* at 24; Shaun B. Spencer, *The Problem of Online Manipulation*, 3 UNIV. ILL. L. REV. 960, 964 (2020).

[199] KAHNEMAN, *supra* note 193, at 24.

[200] *Id.* at 25.

[201] *See* Noggle, *supra* note 169.

[202] *See* Noggle, *supra* note 188, at 44. One of the earliest accounts for such a view of is Plato's *tripartite mind*: of reason, desire and passion. See PLATO, *supra* note 174, at 143–152.

[203] *See Alan Watts – Choice*, YOUTUBE (July 21, 2016), https://www.youtube.com/watch?v=wyUJ5l3hyTo.

[204] *See* Susser et al., *supra* note 12, at 21.

[205] *See* Eric M. Cave, *What's Wrong with Motive Manipulation?*, 10 ETHICAL THEORY & MORAL PRACT. 129, 130 (2007); Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 76 N.Y.U. L. REV. 630, 733–743 (1999).

[206] *See* Hanson & Kysar, *supra* note 205, at 672.

ordering is rarely fully conscious and always fluid; others can exploit this fluidity.

Human emotions also play an essential role in the decisions people make.[207] Ideally, people get excited when they are about to satisfy their preferences and get depressed when they think satisfying these preferences is impossible.[208] In a way, emotions help humans to scan through life's complexity to determine what to focus on.[209] However, emotions are also vulnerable to outside influence. Guilt trips, peer pressure, and emotional blackmail play on people's emotions to influence their attention and behavior.[210]

Finally, human beings are also influenced by the context in which they make decisions (e.g., their physical environment).[211] For example, when people decide what to buy in the cafeteria, the arrangement of options (e.g., some are at eye level, some more challenging to reach), also called "choice architecture," influences them to select the closest options.[212] The aspects of the choice architecture that influence people's behavior are called "nudges."[213] By definition, nudges alter people's behavior "without forbidding options or *significantly* changing their economic incentives."[214] Such nudges can be in the environment accidentally, but they can also be designed intentionally to influence human behavior.[215] Many intentionally designed nudges influence appeal to conscious deliberation (e.g., graphic health warnings on cigarette packages nudge people to consider the health effects of smoking). Manipulators can also nudge people by changing their decision-making contexts in a way to influence them hiddenly.[216]

3. Evaluating Manipulativeness

Evaluating whether an agent manipulated a target via a particular practice requires evaluating whether the practice successfully affected the outcome and whether the practice was "manipulative." An influence can be considered manipulative if (1) an agent intended to direct a specific target toward a particular outcome (i.e., influence is targeted); and if (2) an agent intended

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[207] Noggle, *supra* note 188, at 44.

[208] *Id.* at 46.

[209] *Id.*

[210] *See* Noggle, *supra* note 169.

[211] *See* THALER & SUNSTEIN, *supra* note 193.

[212] *Id.* at 1–4; Susser et al., *supra* note 12, at 23.

[213] THALER & SUNSTEIN, *supra* note 193, at 6.

[214] *Id.* (emphasis added).

[215] Much has been said about an overlap between nudging and manipulation. I skip engaging with this discussions at this stage. For more in depth analysis about nudges and manipulation, see Susser et al., *supra* note 12, at 23; Robert Noggle, *Manipulation, Salience, and Nudges*, 32 BIOETHICS 164 (2018); Thomas RV Nys & Bart Engelen, *Judging Nudging: Answering the Manipulation Objection*, 65 POLIT. STUD. 199 (2017).

[216] *See* Nys & Engelen, *supra* note 215.

or disregarded that an aspect of the influence remained hidden from the target (i.e., influence is hidden).[217]

In contrast to "manipulation," "manipulativeness" is not a binary concept; instead, it can be best imagined on the spectrum – some attempts and practices are more manipulative than others. I argue that such a degree of manipulativeness depends on the *likelihood* that targeted and hidden influence will exploit the target's decision-making vulnerabilities. In other words, an action is manipulative, the extent to which it is likely to result in manipulation. Therefore, manipulative practices are attempts to influence a particular person towards a targeted outcome while willing to keep some aspect of the influence hidden in a way that can exploit their decision-making vulnerabilities. Therefore manipulative practices have three elements:

1) they are targeted;
2) they are willingly hidden, and
3) they exploit decision-making vulnerabilities.[218]

In particular, while elements (1) and (2) are necessary and sufficient conditions for a practice to be considered manipulative, element (3) provides a tool to evaluate the degree to which the practice is manipulative. Such an evaluation requires identifying different levels of vulnerabilities.

Human beings are vulnerable to being physically or emotionally wounded (in Latin, "vulnus" means "wound").[219] Vulnerability is a difficult concept to untangle in legal theory, which borrows terminology and conceptual frameworks of vulnerability from various external disciplines, such as political philosophy, gender studies, and bioethics.[220]

These disciplines conceptualize vulnerability for addressing a broad range of problems.[221] Such multiplicity of meanings and functions makes an overarching definition of vulnerability elusive.[222] In this Article, I scope the use

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[217] *See* Susser et al., *supra* note 12, at 26–29; *see* Klenk, *supra* note 185.

[218] *See* Susser et al., *supra* note 12, at 27.

[219] *Vulnerable*, MERRIAM-WEBSTER DICTIONARY, https://www.merriam-webster.com/dictionary/vulnerable [https://perma.cc/2RLW-KTXQ]; *see* VULNERABILITY: NEW ESSAYS IN ETHICS AND FEMINIST PHILOSOPHY 4–5 (Catriona Mackenzie, Wendy Rogers & Sandy Dodds eds., 2014). Also note, that in contrast to how it is often used in academic literature, human vulnerability in this Article does not mean human fragility. In this Article, I endorse the view of humans being vulnerable like plants, not fragile like jewels: vulnerability that exposes plants (and humans) to injury is also the source of their growth. *See Vulnerability and Flourishing – Martha Nussbaum*, WOMEN IN PHILOSOPHY (2017), https://gohighbrow.com/vulnerability-and-flourishing-martha-nussbaum/. In a way, it can be argued that vulnerability is "antifragility." For the concept of antifragility see NASSIM NICHOLAS TALEB, ANTIFRAGILE: THINGS THAT GAIN FROM DISORDER (2012).

[220] Gianclaudio Malgieri & Jedrzej Niklas, *Vulnerable Data Subjects*, 37 COMPUT. L. SEC. REV. 2, 3 (2020).

[221] *Id.* at 3–5; VULNERABILITY, *supra* note 219, at 4–5.

[222] *See* Florencia Luna, *Identifying and Evaluating Layers of Vulnerability – A Way Forward*, 19 DEV. WORLD BIOETH 86, 89 (2019).

of the concept solely in a decision-making context, with a particular emphasis on commercial relationships.

I argue that formulation of a coherent and effective framework of vulnerability is essential to support policy discussions about the likelihood of manipulation and consequent harms. Historically, legal texts adopted a "labeled" understanding of vulnerability that labels particular sub-populations (e.g., minors, persons with mental disabilities) as "vulnerable groups."[223] Studies from other disciplines criticize such a model and argue that membership in a group can be understood only as one of several "layers" of an individual's vulnerability to manipulation. These layers rarely, if ever, apply in isolation to any given individual, but they interplay with each other to form a complex figure of a person's vulnerability.[224]

While entirely capturing and precisely measuring such complexity is impossible, without outlining better contours of vulnerability to manipulation, legal instruments may fall strikingly short of meeting their aims and leave vulnerable individuals unprotected. This is important in the European Union (EU) legal framework for OBA, where vulnerability is a key concept. For example, vulnerability plays a definitive role in regulating manipulative practices in the Artificial Intelligence Act (AIA) discussions. In the proposal for AIA, the European Commission initially endorsed vulnerability as a labeled concept, and the European Parliament has suggested updating the model to include other layers (e.g., socio-economic factors).[225] Therefore, to support the legal discussions in better capturing human vulnerability, this Article builds upon neighboring disciplines and endorses the view of vulnerability as a *layered* concept.[226]

This section differentiates between three sources of vulnerability: (1) *intrinsic vulnerabilities* stem from the target of the influence; (2) *situational vulnerabilities* stem from the circumstances, and (3) *relational vulnerabilities* stem from the asymmetries in the relationship between a target and the agent of the influence. Such delineation of sources is intended to capture, rather than to limit, various types of vulnerability. In specific contexts, the line between sources of vulnerability may be blurred. Relational factors can be considered situational and situational factors intrinsic. Reference to sources, therefore, only provides a way to measure vulnerability to manipulation on the spectrum by identifying and adding the layers (*see* Figure II:2). Defending

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[223] *See* Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), at 13, COM (2021) 206 final (Apr. 21, 2021) [hereinafter Proposal for Artificial Intelligence Act].

[224] *See* Luna, *supra* note 222, at 90.

[225] Amendments Adopted by the European Parliament on 14 June 2023 on the Proposal for a Regulation of the European Parliament and of the Council on Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts, 2024 O.J. (C/2024/506) 1.

[226] *See* Luna, *supra* note 222.

such an understanding of vulnerability requires a more rigorous argumentation that is outside the scope of this Article and I intend to pursue elsewhere.

Layered vulnerability, as proposed in this Article, suggests that every human being can be regarded as having at least a baseline level of vulnerability to manipulation (*ordinary vulnerability*). A personal trait, situational circumstance, or relational asymmetry can provide a second layer and deem a person more than ordinarily vulnerable (*vulnerable*). Vulnerabilities can compound: a personal trait, situational circumstance, or nature of a relationship can act as the additional layer and create a state of *heightened vulnerability,* and in cases of further compounding, *extreme vulnerability* to manipulation.

Figure II:2. Levels of Vulnerability (by Author)

These levels of vulnerability can be used to evaluate how manipulative the practice is, which can be connected with the likelihood of exploiting the vulnerability.[227]

The likelihood of exploitation may depend on the specificity with which the influence is tailored to the target's vulnerabilities.[228] In order for an influence to be considered manipulative under the definition of this Article, the influence does not have to be intentionally targeted to these vulnerabilities. Instead, manipulative influence involves a deliberate attempt to influence a person, coupled with the agent's expected awareness that the influence can exploit the target's vulnerabilities.[229] Therefore, how manipulative the practice is depends on the target's level of vulnerability.

Generally, targeting vulnerabilities can also be employed as a method for overt forms of influence. Vito Corleone, Mafia don from the movie The Godfather, increases the likelihood of his *coercive* attempts being effective by placing the head of his target's favorite horse into his bed.[230] Mr. Keating, the

[227] *See* Susser et al., *supra* note 12, at 27.

[228] *See id.*

[229] This point of view is defended by Klenk in Klenk, *supra* note 185. While Klenk argues against Susser, Roessler, and Nissenbaum's manipulation as a "hiddenness" view, in this Article, I argue that negligence and hiddenness conditions are not self-excluding. The influence itself can be overt, but the mechanism of influence that exploits target's vulnerabilities and that an agent neglects to consider remains hidden from the target.

[230] THE GODFATHER (Paramount Pictures 1972).

English teacher from the movie Dead Poets Society, also increases the likelihood of his *persuasive* attempts being effective by showing his students the picture of the dead alumni to encourage them to live extraordinary lives.[231]

As long as the target is able to make their own vulnerability conscious – an influence that is specifically targeted to such vulnerability is not a *manipulative* influence. Figure II:3 illustrates how the specificity of targeting, hiddenness, and the likelihood of exploitation of vulnerability can be understood to interact in forms of influence within the framework developed in this Article.

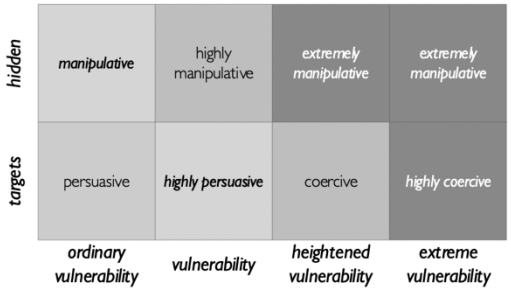

Figure II:3. Spectrum of Influences (by Author)

B. Manipulation in Context

Manipulation can happen in a variety of contexts.[232] *Intimate* relationships are contexts in which manipulation is prevalent.[233] Manipulation can also happen in a *political* context.[234] Manipulation can happen as *propaganda* or covert attempts to shape public opinion towards a particular issue.[235] Governments can manipulate their citizens for social security and order ("social engineering," "state manipulation").[236] In this Article, I examine manipulation in the context of OBA. In Section II.B.1, I explain why I address this context. In Sections II.B.2 and II.B.3, I elaborate on the manipulative practices of OBA used to extract data and personalize advertising.

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[231] DEAD POETS SOCIETY (Touchstone Pictures 1990).

[232] *See* MANIPULATION, *supra* note 172, at 1.

[233] *See* Eric M. Cave, *Unsavory Seduction and Manipulation*, *in* MANIPULATION, *supra* note 172, at 176.

[234] *See* Noggle, *supra* note 169, at § 1.2; *see, e.g.,* NICCOLÒ MACHIAVELLI, THE PRINCE (William Kenaz Marriott trans., 2006).

[235] *See, e.g.,* YOCHAI BENKLER, ROBERT FARRIS & HAL ROBERTS, NETWORK PROPAGANDA: MANIPULATION, DISINFORMATION, AND RADICALIZATION IN AMERICAN POLITICS (2018).

[236] *See, e.g.,* Rogier Creemers, *China's Social Credit System: An Evolving Practice of Control* (May 9, 2018), https://papers.ssrn.com/abstract=3175792 [https://perma.cc/2LBD-8KS8] (about Social Credit System in China).

1. Consumer Manipulation via OBA

Manipulation has always been prevalent in the markets, mainly through attempts to influence consumers through manipulative advertising.[237] In an ideal market that maintains an equilibrium between production supply and consumer demand, businesses would use marketing strategies to *inform* consumers about the availability of products and services that meet their preferences.[238] Consumers do not have rigid preferences but change daily (if not momentarily) depending on their circumstances.[239] Therefore, by analyzing the overall market, businesses can anticipate consumer demand and use advertising to influence consumers' preferences.[240] In essence, advertising facilitates the market by providing consumers with helpful information in the ideal scenario.[241]

Nevertheless, market practices do not always reflect the ideal market scenario. Since the 1920s, the advertising industry started relying on behavioral psychology insights, shifting the paradigm of understanding consumers from rational beings to malleable organisms that could be influenced toward suggested ends (*see* Section I.A.2). As a result, marketers, incentivized to maximize surplus *value* (difference between the price paid and the actual market value) from the consumers or to create new demand, started making exaggerated claims, and some even resorted to outright deception.[242] For example, in the mid-nineteenth century, the tobacco industry advertised smoking (known to correlate to the high risk of lung disease) as a promising solution for lung health and offering better health overall.[243]

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[237] *See History of Advertising*, WIKIPEDIA (2023), https://en.wikipedia.org/w/index.php?title=History_of_advertising&oldid=1138278604#cite_note-26 [https://perma.cc/Z4RU-A4HF]; ERNEST S. TURNER, THE SHOCKING HISTORY OF ADVERTISING 12 (1965).

[238] *See* MASSIMO FLORIO & CHIARA PANCOTTI, APPLIED WELFARE ECONOMICS: COST-BENEFIT ANALYSIS OF PROJECTS AND POLICIES 32–62 (2022); *see also* ONLINE TARGETED ADVERTISING AND HUMAN DIGNITY: Lex Zard, *Online Targeted Advertising and Human Dignity: Prof. Floridi, Prof. Frischmann, Prof. Zuboff*, YOUTUBE 32:00-35:00 (May 17, 2021), https://www.youtube.com/watch?v=WwXG4ZiKw6s.

[239] *See* Merle Curti, *The Changing Concept of "Human Nature" in the Literature of American Advertising*, 41 BUS. HIST. REV. 335, 350 (1967).

[240] *See Supply and Demand*, BRITANNICA, https://www.britannica.com/money/supply-and-demand [https://perma.cc/3W7Y-EN7B]

[241] *See* Robert Pitofsky, *Beyond Nader: Consumer Protection and the Regulation of Advertising*, 90 HARV. L. REV. 661, 663 (1977).

[242] *See id.* at 666.

[243] One of the slogans promoted that "smoke not only checks disease but preserves the lungs." *See* A.V. Seaton, *Cope's and the Promotion of Tobacco in Victorian England*, 20 EUR. J. MARK. 5, 21 (1986); *see also 10 Evil Vintage Cigarette Ads Promising Better Health*, HEALTHCARE ADMINISTRATION DEGREE PROGRAMS, https://www.healthcare-administration-degree.net/10-evil-vintage-cigarette-ads-promising-better-health/ [https://perma.cc/8DLG-AXP5].

By the 1950s, when TVs were introduced to a mass audience, advertising started to be seen as "art" that entered its "golden age" (advertising expenditure in the U.S. amounted to several billion dollars annually).[244] Meanwhile, it was increasingly exposed that the advertising industry was aiming to exploit human decision-making vulnerabilities and to manipulate consumers through deception and other misleading practices.[245] These revelations triggered a vigorous "consumer movement" and subsequent consumer protection regulations in the 1960s and 1970s, primarily aimed to mitigate market failure risks by setting legal boundaries on manipulative advertising.[246] While the empirical evidence about consumer responses to marketing communication was limited, and there was no consensus between industry and civil society about the psychology of consumer behavior, policymakers recognized advertising practices as a form of influence that could be manipulative and dangerous for the market.[247]

In particular, consumer protection rules prohibited advertisements that outright *deceived* consumers by providing false information or otherwise *misled* consumers to have false beliefs, for example, by omitting certain information.[248] Similarly, *subliminal* advertising was also prohibited because it intended to influence consumers' preferences beyond their conscious awareness.[249] In contrast, policymakers did not find "puffery" – exaggerated affirmations of value, opinion, or praise about the product – to be manipulative enough to deserve regulatory intervention.[250]

In one famous example of the puffed campaign from the 1970s, *Coca-Cola* affirmed that its beverage was the "real thing" and "that's what the world needs."[251] Puffed commercial messages such as these were tolerated, partly because they had become a source of *entertainment* similar to music and cinema and partly because they facilitated economic growth in capital

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[244] JIM HEIMANN, THE GOLDEN AGE OF ADVERTISING: THE 50S (1999)*; see, e.g.*, ROBERT A. SOBIESZEK, THE ART OF PERSUASION: A HISTORY OF ADVERTISING PHOTOGRAPHY (1988)*; see* JOHN A. HOWARD & JAMES HULBERT, ADVERTISING AND THE PUBLIC INTEREST: A STAFF REPORT TO THE FEDERAL TRADE COMISSION (1973).

[245] *See* VANCE PACKARD, THE HIDDEN PERSUADERS (1957). Packard's work is particularly significant, and is ignited the public discourse about manipulative advertising.

[246] Pitofsky, *supra* note 241, at 661.

[247] *See* Curti, *supra* note 239, at 353–358.

[248] HOWARD & HULBERT, *supra* note 244, at VII 1-46.

[249] *See* Laura R. Salpeter & Jennifer I. Swirsky, *Historical and Legal Implications of Subliminal Messaging in the Multimedia: Unconscious Subjects*, 36 NOVA L. REV. 497, 512-13 (2012).

[250] Ivan L. Preston, *Regulatory Positions toward Advertising Puffery of the Uniform Commercial Code and the Federal Trade Commission*, 16 J. PUB. POL'Y MKTG. 336 (1997).

[251] *The History of Coca-Cola's It's the Real Thing Slogan*, CREATIVE REVIEW, https://www.creativereview.co.uk/its-the-real-thing-coca-cola/ [https://perma.cc/4LTE-QKSF].

markets.[252] As a result, puffery became a standard in modern advertising. Moreover, the *Persuasion Knowledge Model (PKM)* developed in the 1980s suggested that as consumers became less sensitive to exaggerated claims, they developed "schemer schema" or "persuasion knowledge" that equipped them with skepticism towards advertisements, making them aware of otherwise hidden influences.[253]

Since the 1990s, consumer protection enforcement has relied on the PKM to distinguish between mere puffery and misleading commercial messages.[254] Central to such evaluation was the benchmark consumer from whose perspective the manipulativeness of the advertisement was to judge. Historically, policymakers regarded consumers in the market as somewhat reasonable and only regarded them as vulnerable to manipulation if they belonged to a "labeled" vulnerable group, such as minors or people with mental disabilities.[255] However, behavioral science insights (*see* Section II.A.3) about consumer biases have revealed that consumers that do not belong to pre-labeled vulnerable groups can be influenced by targeting biases shared by all human beings.

These revelations significantly altered how marketers influence consumers in ways that PKM could no longer capture.[256] Legal scholars developed a theory of "market manipulation" to explain practices marketers may use to exploit human decision-making vulnerabilities (e.g., cognitive biases) to bypass conscious deliberation even when the consumer is expected to treat information such as advertising with skepticism.[257]

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[252] *See* HOWARD & HULBERT, *supra* note 244, at I–7.

[253] *See* Marian Friestad & Peter Wright, *The Persuasion Knowledge Model: How People Cope with Persuasion Attempts*, 21 J. CONSUMER RSCH. 1 (1994).

[254] Drawing a line between exaggerations and misleading advertising has been complicated for rule-makers and enforcers. Strategies and outcomes of this differ across different states across the Atlantic. For example, in the prominent example where Apple advertised its iPhone 3G as "twice as fast for half the price," action against Apple resulted in different U.S. and U.K. decisions. *See* Brian X. Chen, *Apple: Our Ads Don't Lie, But You're a Fool If You Believe Them*, WIRED (Dec. 2 2008, 12:25 PM), https://www.wired.com/2008/12/apple-says-cust/ [https://perma.cc/CU65-3NPZ].

[255] *See* HOWARD & HULBERT, *supra* note 244, at VII-12 to -13. Therefore, consumer protection rules also have regarded practices as *manipulative* if they explicitly targeted these groups.

[256] Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 21.

[257] "Market manipulation" has been coined in the series of studies published by Hanon and Kysar. *See* Hanson & Kysar, *supra* note 205, at 630; Jon Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: A Response to Market Manipulation*, 6 ROGER WILLIAMS U. L. REV. 262, 263 (2000). Note that while Hanson and Kysar coin their theory as "market manipulation," this term also has a particular meaning in criminal law context—manipulation of stock prices, manipulating the market but not consumers *per se*. Therefore, to avoid the confusion of this framing, I refer to "consumer manipulation" to describe manipulation in the context of business-to-consumer commercial transactions.

In light of such new methods of consumer manipulation, updating consumer benchmarks in the EU consumer protection policy to reflect the behavioral insights in human beings has become one of the central issues in consumer protection law and has also reached the Court of Justice of the EU (CJEU).[258]

Since the rise of the digital economy, consumer manipulation has become a topic of concern in online environments.[259] In January 2023, the European Commission screened nearly four hundred online stores and found manipulative practices in almost half.[260] Since the early 2010s, the manipulative affordances of the Internet and other related technologies, such as AI, have been recognized as a new form of "digital market manipulation."[261] As a result of growing interest, by the 2020s, a theory of "online manipulation" has emerged in academia.[262] These scholars broadly define online manipulation as the "use of information technology to covertly influence another person's decision-making," covering all manipulative practices facilitated via digital technologies.[263] This theory focuses not on a particular business model, economic logic, or market practice, such as OBA, but on the general characteristics of the Internet that can exacerbate manipulation.[264]

The central premise of the online manipulation theory is that the online consumer is a *mediated* consumer.[265] They interact with businesses *through* the Internet. Susser, Roessler, and Nissenbaum compare the Internet to eyeglasses in that once a person starts to use them, people usually forget they are wearing glasses unless something reminds them of them.[266] Similarly, online environments are designed to disappear from the conscious awareness of their users.[267] In other words, consumers focus on the content, such as

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[258] The Italian court (Consiglio di Stato) has requested a preliminary ruling from the CJEU in the case C-646/22-1 *Compass Banca* whether new behavioral discoveries of consumers' "bounded rationality" should be taken into account when considering the average consumer benchmark. Compass Banca SpA v. Autorita' Garante della Concorrenza e del Mercato, No. 646/22-1 [Cons. Stato], (Oct. 13, 2022), https://curia.europa.eu/juris/showPdf.jsf?text=&docid=268142&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=1911411.

[259] *See* Eur. Comm'n, *Dark Patterns Study*, *supra* note 171.

[260] *See* European Commission Press Release IP/23/418, Consumer Protection: Manipulative Online Practices Found on 148 out of 399 Online Shops Screened (January 30, 2023).

[261] *See* Calo, *supra* note 11, at 995.

[262] *See* Susser et al., *supra* note 12; Spencer, *supra* note 198; JONGEPIER & KLENK, *supra* note 172.

[263] Susser et al., *supra* note 12, at 29.

[264] Online manipulation as addressed by Susser, Roessler, and Nisseunbaum covers both commercial and political contexts. *See generally* Susser et al., *supra* note 12.

[265] *See* Calo, *supra* note 11, at 1003; Susser et al., *supra* note 12; *see also* Spencer, *supra* note 198; JONGEPIER & KLENK, *supra* note 172.

[266] *See* Susser et al., *supra* note 12, at 33.

[267] Mark Weiser, *The Computer for the 21 St Century*, 265 SCI. AM. 94 (1991).

messages, posts, and videos, instead of the medium that delivers it. Therefore, the Internet, in essence, is a see-through technology and particularly well-placed for hidden influences.[268] However, in contrast to eyeglasses, the online environment is not only hidden but also easily *configurable* – the online environment can be easily adapted.[269] Therefore, the internet can exacerbate manipulation in two distinct but interrelated ways due to its mediative and configurable nature.

Firstly, as the Internet (and infrastructure that enables consumers to access and share content) remains in the background of consumer activities, it can be reconfigured to *extract* an unprecedented amount and variety of information.[270] Information about consumers has long been considered a valuable resource that can be leveraged to influence them.[271] However, while information about the consumer was once challenging to uncover, the internet makes very detailed information available almost at zero cost (*see* Section I.A.2).[272] Combining all information about them may reveal a great deal about their interests without consumers being aware of it – even tech-savvy consumers spend little time considering what is happening under the hood.[273] Such surveillance and information extraction ability can lead to businesses identifying consumers' *personal* decision-making vulnerabilities.[274] In one often-cited example, investigative journalists found that Facebook could identify when its teenage consumers felt "worthless" and "insecure."[275] Moreover, internet surveillance can disclose new vulnerabilities by analyzing population-wide trends.[276]

Secondly, the online environment can be *hiddenly reconfigured* to target these identified personal or population-wide decision-making vulnerabilities.[277] The Internet allows reconfiguration in real-time as a consumer

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[268] *See* Susser et al., *supra* note 12, at 33.

[269] *See* COHEN, *supra* note 18, at 1.

[270] Susser et al., *supra* note 12, at 30. *See generally* ZUBOFF, *supra* note 14 (explaining the origins and operation of surveillance capitalism).

[271] *See* George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213 (1961).

[272] *See* Susser et al., *supra* note 12, at 31; ZUBOFF, *supra* note 14, at 68–69; *see also* Susser et al., *supra* note 12, at 30.

[273] Susser et al., *supra* note 12, at 33.

[274] Tal Z. Zarsky, *Privacy and Manipulation in the Digital Age*, 20 THEOR. INQ. L. 157, 161 (2019); *see also* Calo, *supra* note 11, at 1003; Susser et al., *supra* note 12, at 29–31.

[275] Sam Machkovech, *Report: Facebook Helped Advertisers Target Teens Who Feel "Worthless"*, ARS TECHNICA (May 1, 2017, 3:00 PM), https://arstechnica.com/information-technology/2017/05/facebook-helped-advertisers-target-teens-who-feel-worthless/ [https://perma.cc/5X7B-MCW3].

[276] *See* Karen Yeung, *'Hypernudge': Big Data as a Mode of Regulation by Design*, 20 INF. COMMC'N. SOC'Y. 1, 118 (2016).

[277] *See* Susser et al., *supra* note 12, at 32.

interacts with the digital content and service and provides more information.[278] Moreover, it can be narrowly targeted to single out a specific individual.[279] Even when it is not deliberately targeted to exploit vulnerabilities, such narrow and information-rich algorithmic targeting can often lead to a manipulative effect.[280] Such algorithmic real-time adaptability of the online environment allows businesses to target consumers in contexts where consumers feel more vulnerable. In one such example, a marketing agency suggested targeting women with quick-fix beauty products on Mondays when they felt most unattractive.[281] The most cited example of online manipulation is when Cambridge Analytica, a political consulting firm, used Facebook's advertising platform to promote campaigns for Brexit and US presidential candidate Donald Trump by targeting to exploit people's decision-making vulnerabilities.

In sum, due to the mediative and configurative nature of the Internet and information technologies, there is a consensus in the state-of-the-art legal literature that consumers are *more than ordinarily vulnerable* to manipulation in the online environment, framing a baseline consumer to have "digital vulnerability."[282] That being said, if "bounded rationality" insights of behavioral sciences suggest that all consumers have a basic level of vulnerability that this Article has framed as "ordinary vulnerability," digital vulnerability suggests a secondary layer of vulnerability, where consumers are more than ordinarily vulnerable.

There is further debate whether online manipulation is more likely when consumers access the Internet not via screens (e.g., personal computers, smartphones) but using spatial computing devices such as Apple Vision Pro or Meta Quest Pro.[283] As Big Tech companies compete to facilitate consumer uptake of spatial technologies, it is essential to recognize that these devices

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[278] *See* Yeung, *supra* note 276.

[279] Marc Faddoul, Rohan Kapuria & Lily Lin, Sniper Ad Targeting (May 10, 2019) (Final Project, University of Berkeley) (on file with UC Berkeley School of Information).

[280] *See* Klenk, *supra* note 185.

[281] *See* Rebecca J. Rosen, *Is This the Grossest Advertising Strategy of All Time?*, THE ATLANTIC (Oct. 3, 2013), https://www.theatlantic.com/technology/archive/2013/10/is-this-the-grossest-advertising-strategy-of-all-time/280242/ [https://perma.cc/66Z9-36KE].

[282] *See also* Federico Galli, *Digital Vulnerability*, *in* ALGORITHMIC MARKETING AND EU LAW ON UNFAIR COMMERCIAL PRACTICES 181 (Pompeu Casanovas & Giovanni Sartor eds., 2022); N. Helberger et al., *Choice Architectures in the Digital Economy: Towards a New Understanding of Digital Vulnerability*, 45 J. CONSUMER POL'Y 175 (2022); Gianclaudio Malgieri & Antonio Davola, *Data-Powerful* (2022), https://papers.ssrn.com/abstract=4027370. *See generally* Natali Helberger et al., *EU Consumer Protection 2.0: Structural Asymmetries in Digital Consumer Markets, A Joint Report from Research Conducted Under the EUCP2.0 Project*, THE EUROPEAN CONSUMER ORGANISATION (2021).

[283] *See generally* EUR. PARLIAMENT, POLICY DEPARTMENT FOR CITIZENS' RIGHTS AND CONSTITUTIONAL AFFAIRS DIRECTORATE-GENERAL FOR INTERNAL POLICIES, METAVERSE (2023).

further amplify the effects of the Internet on consumers with regard to their susceptibility to manipulation. In this Article, I introduce the term "meta-vulnerability," that refers to the *heightened vulnerability* of consumers to be manipulated when using spatial computing devices (see Figure II:4).[284]

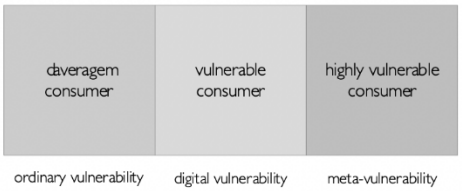

Figure II:4. Levels of Online Consumer Vulnerability (by Author)

Lastly, in the discussions of online manipulation, a proliferation of studies about so-called "dark patterns" focus on manipulative practices in online interface design and reverberate the paradigm focusing on the innate manipulativeness of the Internet.[285] Dark patterns can be defined as user interface patterns that steer, deceive, manipulate, or coerce consumers to take specific actions that may not be in their best interests.[286] While online manipulation and dark pattern literature provide a comprehensive overview of how businesses can manipulate via the online environment, the problem with such framing is that they focus on manipulative features and not on the root causes of employing them online.[287]

The online interface is typically deliberately designed to serve a particular purpose. In this Article, I address one of the central (if not primary) purposes with which digital service providers adopt dark patterns. Analyzing the digital economy comprehensively illustrates that the root problem is the economic logic behind monetizing digital content and services, often referred to

[284] Here "meta-vulnerability" refers to vulnerability in metaverse, but also vulnerability of higher state or second-order vulnerability when using augmented, virtual and mixed reality devices. *See also* Zard & Sears, *supra* note 62, at 843. I heard this term first by Carlota Rigotti and Gianclaudio Malgieri, and use it with their permission.

[285] *See* Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 29–35 (comprehensive analysis of "dark pattern" literature).

[286] Leiser, *supra* note 13, at 241; *see* Arunesh Mathur, Jonathan Mayer & Mihir Kshirsagar, *What Makes a Dark Pattern. . . Dark? Design Attributes, Normative Considerations, and Measurement Methods*, 2021 CHI CONF. ON HUMAN FACTORS IN COMPUTING SYS. 1, https://dl.acm.org/doi/pdf/10.1145/3411764.3445610 [https://perma.cc/4JJM-HJY3] (different definions of "dark patterns").

[287] *See* Spencer, *supra* note 198, at 1002.

as "surveillance capitalism" or "information capitalism."[288] This economic logic incentivizes providers of digital services to create an environment that increasingly influences consumers towards "guaranteed outcomes" for producing excess profit.[289] OBA is the configuration that actualizes the economic logic of surveillance capitalism. Therefore, I argue that the reliance on OBA for monetizing digital services is at the root of consumer manipulation in online environments.

With this in mind, I refer to consumer manipulation via OBA to address practices that digital service providers rely on to facilitate execution of OBA configuration or functioning of the OBA infrastructure that influences consumers towards particular actions, and where digital service providers are willing to keep some aspect of this influence hidden from the consumer, in a way that can exploit their varying degrees of decesion-making vulnerability.[290]

Section II.B.2 expands on configuring the online environment to extract consumer attention, time, and data against consumers' genuine preferences. Second, Section II.B.3 expands on personalizing advertisements to hiddenly influence consumers to act on them.

2. OBA as Manipulative Data Extraction

Online advertising monetizes consumer attention or "eyeballs."[291] The time consumers spend with publishers reveals where advertisers can reach the consumers online. OBA configuration introduces consumer data as the third essential element: publishers that allow OBA configuration ignite the "extraction imperative" – they derive profit in proportion to which they increase consumer attention, time, and data.[292] Therefore, having a solid financial incentive, publishers allowing OBA configurations design the online interfaces that manipulate consumers to trap them, maximize their engagement, and maximize the amount of data they provide. In this Article, I refer to such practices as manipulative extraction practices.

Many digital services providers do not charge consumers monetary fees, encouraging them to perceive their services as "free."[293] Until 2019, Facebook's sign-up page slogan was "It's free, and always will be."[294] Removing

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[288] *See* ZUBOFF, *supra* note 14; COHEN, *supra* note 18.

[289] *See* ZUBOFF, *supra* note 14, at 93–97.

[290] *See* HOWARD & HULBERT, *supra* note 244, at V–2.

[291] TIM WU, THE ATTENTION MERCHANTS (2016).

[292] *See* ZUBOFF, *supra* note 14, at 128–129; *see also* JAN TRZASKOWSKI, YOUR PRIVACY IS IMPORTANT TO US! 10–12 (2021).

[293] TRZASKOWSKI, *supra* note 292, at 12.

[294] Qayyah Asenjo & Alba Moynihan, *Facebook Quietly Ditched the "It's Free and Always Will Be" Slogan From Its Homepage*, BUSINESS INSIDER (Aug. 27, 2019, 9:01 AM), https://www.businessinsider.com/facebook-changes-free-and-always-will-be-slogan-on-homepage-2019-8 [https://perma.cc/8Z6E-85CQ].

monetary payment is beneficial from the perspective of OBA, as it removes friction for new consumers to start using digital services.[295] Once consumers engage with digital services, their providers start collecting data about them and exposing them to advertisements. Due to the "free" nature of digital services, many consumers do not understand that value exchange is taking place. With this in mind, explicitly framing digital services and content as "free" and thus masking the fact that the commercial access-for-data bargain takes place can be regarded as a highly manipulative practice (*mep1*). Not disclosing the access-for-data bargain to the consumers can amount to the same.

Digital service providers often remove other expressions of friction for consumers to start engaging with their services and content. For example, since 2019, Facebook has prided itself that "it's quick and easy" to create an account.[296] Indeed, consumers effortlessly access most digital services. In contrast, many publishers make it disproportionally tricky for consumers to cancel or deactivate their accounts or stop using their services or content. Such intentional asymmetry between signing up (that is easy) and canceling (that is difficult) is called "roach motel"[297] and is one of the most prevalent patterns online.[298] Roach motel is often coupled with "trick questions" such as "Are you sure you would like to deactivate your account?" that can trigger consumers to second-guess their decisions, especially when they have already taken steps towards deactivation (*mep2*).[299]

The ease of accessing digital services is also reflected in "contracts" in the online environment, which generally take three forms:[300] (i) *click-wrap* contracts that provide users with the notice of the "terms of service" that they need to scroll through and, in the end, the possibility to "accept" them; (ii) *modified click-wrap* contracts that provide consumers with an "accept" button and a hyperlink that takes them to the "terms of service"; and (iii) *browse-wrap* contracts that provide notice of "terms of service" as a hyperlink somewhere in the app or the website, the consumer's agreement to

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[295] TRZASKOWSKI, *supra* note 292, at 12.

[296] Asenjo & Moynihan, *supra* note 294.

[297] "Roach Motel is an American brand of a roach bait device designed to catch cockroaches." *Roach Motel*, WIKIPEDIA (2022), https://en.wikipedia.org/w/index.php?title=Roach_Motel&oldid=1085471320 [perma.cc/HCK4-5BMG].

[298] Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 45.

[299] At the time of this writing, deactivating a Facebook account takes nine steps. It asks for feedback when selecting the reason for deactivation, and, in the end, at the final step, it asks again if the user wants to deactivate the account. *See Temporarily Deactivate Your Facebook Account*, FACEBOOK HELP CENTER, https://www.facebook.com/help/214376678584711?helpref=faq_content.[perma.cc/EQ4W-BUM9]. As Francien Dechesne pointed out to me, "roach motel" dark patterns also well resemble "Hotel California" that is "programmed to receive." From where "you can check out any time you like; but you can never leave." THE EAGLES, HOTEL CALIFORNIA (Record Plant 1976).

[300] Zard & Sears, *supra* note 62, at 830.

which is merely implied by the digital service provider (e.g., when visiting a website).[301] In click-wrap contracts, when terms of service are presented to the consumers, they rarely (if ever) read them because of the swaths of text.[302] Even when they read them, relevant information, such as the fact that the publisher monetizes consumers' attention through OBA, is hidden in highly legalistic language, making it difficult for consumers to understand the nature of the exchange (*mep3: obscure legalese*).[303] In some cases, when publishers rely on browse-wrap contracts, many consumers do not understand the access-to-attention bargain and do not even know they have entered a commercial relationship (*mep4: covert contracts*).[304]

Network externalities significantly affect how large platforms attract and maintain their users. To clarify, platforms of Alphabet and Meta have achieved a particularly significant gatekeeping role in the online environment – where most consumers access the open Web through their services (e.g., Google Search, Instagram).[305] Providing services that consumers highly value is not a form of manipulation, and these services play a significant role in consumers staying with the platforms.[306] Nevertheless, these platforms can increase their "stickiness" by deliberate attempts to expand their reach over the Internet, thwart other forms of accessing the Web, and "lock in" their consumers in the relationships with them.[307] For example, Alphabet and Meta enable consumers to use their accounts as "master accounts" to sign up and sign in on myriads of websites on the Web.[308] Such tools can be considered manipulative when consumers are unaware that using them allows Alphabet and Meta to track their online behavior, which is true in almost all cases (*mep5: mastering*).[309]

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[301] *See* CATERINA GARDINER, UNFAIR CONTRACT TERMS IN THE DIGITAL AGE 111 (2022); Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239 (1995).

[302] *See generally* Mark A. Lemley, *The Benefit of the Bargain*, 2023 WIS. L. REV. 237 (2023).

[303] *See* Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 95–96.

[304] *See* TRZASKOWSKI, *supra* note 292, at 11–12.

[305] *See* Jean-Christophe Plantin, Carl Lagoze, Paul N Edwards & Christian Sandvig, *Infrastructure Studies Meet Platform Studies in the Age of Google and Facebook*, 20 NEW MEDIA SOC'Y. 293 (2018).

[306] *See* COHEN, *supra* note 18, at 40–41.

[307] *Id.* at 41.

[308] Plantin et al., *supra* note 305, at 301–307.

[309] Similarly, but outside of the OBA context, Alphabet's use of reCAPTCHA can also be considered manipulative. The important aspect here is that most internet users do not know that Google uses user actions to improve their machine learning capabilities. As Alphabet frames it: "reCAPTCHA makes positive use of this human effort by channeling the time spent solving CAPTCHAs into digitizing text, annotating images, and building machine learning datasets. This in turn helps preserve books, improve maps, and solve

The idea of monetizing attention is not new nor unique to the digital economy.[310] Simon explained in 1971 that:

[I]n an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the *attention* of its recipients. Hence a *wealth of information* creates a *poverty of attention* and a need to allocate it efficiently among the overabundance of information sources that might consume it.[311]

The internet allows each individual almost unhindered access to the world's information.[312] This explains why the search engine has become the most valuable service, as it provides consumers with *relevance* and, thus, the ability to manage their attention efficiently.[313] One way this relevance can be increased is by "recommender systems" that personalize digital content (discussed in Section I.B.2). Like search engines, many other platforms rely on recommender systems to achieve relevance, improve the "user experience" (UX), and provide consumers with what *they* want to see.[314] Behavioral personalization has become the hallmark of modern-day digital services, where the most prominent platforms provide personalized entertainment (e.g., Netflix – personalized cinema, Spotify – personalized music).[315] Personalization can benefit consumers, as it can help them allocate their scarce attention more efficiently.[316] Such practices can influence consumers in salient

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hard AI problems." *reCAPTCHA: Easy on Humans, Hard on Bots*, GOOGLE, https://www.google.com/recaptcha/intro/?hl=es/index.html [perma.cc/K3X3-CAEB].

[310] *See* TRZASKOWSKI, *supra* note 292, at 11.

[311] Herbert A. Simon, *Designing Organizations for an Information-Rich World*, *in* COMPUTERS, COMMUNICATIONS, AND THE PUBLIC INTEREST 38, 40–41 (Martin Greenberger ed., 1971) (emphasis added).

[312] TRZASKOWSKI, *supra* note 292, at 10.

[313] "Google's mission is to organize the world's information and make it universally accessible and useful." *See Our Approach to Search*, GOOGLE SEARCH, https://www.google.com/search/howsearchworks/our-approach/ [perma.cc/S2CP-Z3N5].

[314] TRZASKOWSKI, *supra* note 292, at 10. The internet usage in Europe has been dramatically increasing – according to Eurostat data, in 2022, 90% of EU27 individuals use internet, compared to 78% in 2015, and 67% in 2010. *What Did We Use the Internet for in 2022?*, EUROSTAT (Dec. 15, 2022), https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20221215-2 [perma.cc/P3AK-A6W3].

[315] Netflix claims to provide "a personalized subscription service that allows our members to access entertainment content." *Netflix Terms of Use*, *supra* note 61. Spotify – "personalized services for streaming music and other content." *Terms and Conditions of Use*, SPOTIFY, https://www.spotify.com/us/legal/end-user-agreement/ [https://perma.cc/QVC6-PQAK].

[316] In a behavioral study on manipulative personalization, mystery shoppers disclosed that: "it was a common practice for large online companies to gather personal information to offer a 'personalised experience' to the user and that most people were used to it and did not find it problematic." Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 59.

ways, especially if they remain hidden from their awareness.[317] If consumers are unaware that personalization takes place, they may act on a false premise that they are seeing what everyone else sees, and such a perspective can be enough to affect their decisions (*mep6: covert personalization of content*).[318] Moreover, content personalization, including and especially when it is hidden, can have far-reaching consequences: as many people receive their news and form opinions from social media platforms (e.g., Facebook, Twitter), they may get locked into "filter bubbles" that can amplify their opinions – giving way to more long-lasting behavior modification.[319] Potential consequences can include moving consumers towards extreme fitness and dieting, radicalization, and misogyny.

Secondly, personalization can become manipulative when practices do not stop merely at providing relevance for the consumers but are designed to maximize the time consumers spend with digital services.[320] This is particularly true when digital services or content are monetized through OBA because increased time spent with the service results in increased exposure to advertisements and, therefore, increased monetary profit.[321] The most illustrative example of such manipulative practices is designing an online interface with an endless feed that consumers can infinitely "scroll" (*mep7: endless feed*).[322] This practice, one of the defining characteristics of video-sharing platforms (e.g., TikTok, Instagram), makes it easier to continue using the service than stop using it.[323]

Another widespread practice that similarly makes it easier to continue consuming the service is the auto-play function that many platforms employ that automatically continues providing content after initial consumption (*mep8: auto-play*).[324] This can be when a new episode of TV series is automatically loaded on Netflix or another, often personalized, video is loaded on YouTube. Auto-play, infinite scroll, and personalization may be set as default modes by platforms, hiddenly influencing consumers towards maximizing

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[317] Nevertheless, the study continues to illustrate that "being conscious of the tracking and personalisation could have inhibited certain actions (e.g., commenting or sharing content), if consumers knew that this would have been recorded and used by the website/app." *See id.*

[318] *Id.*

[319] *See* ELI PARISER, THE FILTER BUBBLE: HOW THE NEW PERSONALIZED WEB IS CHANGING WHAT WE READ AND HOW WE THINK (2012); *see also* Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 59.

[320] TRZASKOWSKI, *supra* note 292, at 148–150.

[321] *Id.* at 11–12.

[322] Corina Cara, *Dark Patterns In The Media: A Systematic Review*, 7 NETWORK INTEL. STUD. 105, 108; Mathur et al., *supra* note 286, at 3.

[323] Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 37.

[324] TRZASKOWSKI, *supra* note 292, at 169.

the time they spend consuming their services and, thus, maximizing exposure to advertisements (*mep9: immersion selection*).[325]

Some platforms not only care about maximizing the time consumers spend on their services and content but also care about maximizing their engagement – how actively they interact with them, therefore designing their products with this aim.[326] For example, by notifying users that someone "liked" or "commented" on their content, platforms influence their consumers to associate their engagement, such as posts, tweets, videos, and images, with social validation (such notifications release the neurotransmitter dopamine), creating a positive reinforcement feedback loop that encourages consumers to maximize content sharing and engagement with the content (*mep10: social validation loop)*.[327] Many publishers "gamify" their services by providing their consumers with bonus points or other benefits (*mep11: gamification*).[328] Many of these habit-forming ways publishers design their online interfaces are similar to mechanisms used in addictive gambling slot machines.[329] Further, manipulative extraction practices resemble practices adopted by the casinos, such as removing windows and clocks out of sight from gamblers and offering them unlimited amounts of food and alcohol to keep them playing.[330]

Finally, these practices are often applied in combination and, at times, precisely target highly vulnerable people. For example, TikTok and Instagram have a large user base consisting of minors more vulnerable to manipulative practices than adults. When these practices are evaluated with the layered understanding of vulnerability proposed in this thesis (*see* Figure), it can be concluded that they are *highly manipulative* when they are tailored to ordinarily vulnerable consumers. However, they can be *extremely manipulative* when directed toward highly vulnerable people.

Consumers' attention, time, and engagement can be measured by the *data* they leave behind when interacting with digital services.[331] Such "data exhaust" provides zero-cost information that publishers can use to improve their services and help consumers manage their time and attention more efficiently (optimizing for relevance).[332] In a way, processing such data can be "essential" for improving the functionality of digital services. However, as

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[325] Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 59, 64.

[326] TRZASKOWSKI, *supra* note 292, at 12.

[327] *Sean Parker - Facebook Exploits Human Vulnerability (We Are Dopamine Addicts)*, YOUTUBE (Nov. 11, 2017), https://www.youtube.com/watch?v=R7jar4KgKxs. See also in-depth analyzis of such techniques in NIR EYAL, HOOKED: HOW TO BUILD HABIT-FORMING PRODUCTS (2014).

[328] *See generally* NATASHA DOW SCHULL, ADDICTION BY DESIGN (2014).

[329] TRZASKOWSKI, *supra* note 292, at 169.

[330] *See generally* SCHULL, *supra* note 328.

[331] ZUBOFF, *supra* note 14, at 68.

[332] *Id.* at 69.

this data can also be used to infer consumers' interests (and predict their future behavior), it is also a central *resource* for OBA (*see* Section I.B.2). Therefore, the OBA industry, led by the platforms that gatekeep access to the internet for consumers, sees consumer behavior data as "raw material" that can be "mined" and "processed," similar to natural resources.[333]

However, extracting data from consumers' private experiences has particular legal boundaries. For example, in the EU, "personal data" that refers to data related to "an identified or identifiable living individual" is protected through a fundamental rights framework requiring that people *consent* to processing of data concerning them.[334] The OBA industry's initial attempts to monetize consumers' data without consent met with significant counter-reaction.[335] An amendment to the ePrivacy Directive in 2009 required users' consent to use cookies for collecting consumer data when their use was not strictly necessary.[336] Therefore, the OBA industry introduced the "cookie banners," asking consumers if they "accept" that the publisher processes their data for advertising.[337] Incentivized by the logic of surveillance capitalism to maximize data extraction, the industry primarily relied on the coercive tactic of *pre-ticking* consent boxes (i.e., "pre-selection"), which persisted until shortly after the Court of Justice of the EU (CJEU) ruled in the *Planet49* case

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[333] Data is often called "the new oil." Joris Toonders Yonego, *Data Is the New Oil of the Digital Economy*, WIRED (Jul. 2014), https://www.wired.com/insights/2014/07/data-new-oil-digital-economy/ [https://perma.cc/MSR9-2JGX]. For more in-depth analyzis about data, see ZUBOFF, *supra* note 14, at 81.

[334] Charter of Fundamental Rights of the European Union art. 8.

[335] For example, in 2004, Google announced that Gmail would scan the communications of users for personalizing advertising placement. This raised issues with regard to consumer privacy. *Privacy and Civil Liberties Organizations Urge Google to Suspend Gmail*, PRIVACYRIGHTS.ORG (Apr. 19, 2004), https://privacyrights.org/resources/privacy-and-civil-liberties-organizations-urge-google-suspend-gmail [https://perma.cc/8VUN-FW8G]. See more about the role of consent in the digital society in Bart Custers et al., *The Role of Consent in an Algorithmic Society - Its Evolution, Scope, Failings and Re-Conceptualization*, *in* RESEARCH HANDBOOK ON EU DATA PROTECTION LAW, *supra* note 13, at 455.

[336] Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 Concerning the Processing of Personal Date and the Protection of Privacy in the Electronic Communications Sector, art. 5, 2002 O.J. (L 201) 3; *see also* DLA PIPER, EUROPEAN LAW ON COOKIES (2020), https://www.dlapiper.com/en-gb/insights/publications/2020/11/european-law-on-cookies [https://perma.cc/8U3E-8CRW]; Zard & Sears, *supra* note 62, at 816.

[337] See an overview of cookie banners in Cristiana Santos, Arianna Rossi, Lorena Sanchez Chamorro, Kerstin Bongard-Blanchy & Ruba Abu-Salma, *Cookie Banners, What's the Purpose? Analyzing Cookie Banner Text Through a Legal Lens*, 20 PROC. WORKSHOP ON PRIV. ELEC. SOC'Y 187 (2021), https://doi.org/10.1145/3463676.3485611.

in late 2019 that this practice was illegitimate under the ePrivacy Directive and the General Data Protection Regulation (GDPR).[338]

In the 2010s, cookie banners also started to include other similarly coercive or manipulative tactics for extracting more data than the consumer intended.[339] Meta being particularly innovative in designing such practices on its platforms, they are often unified under the term "Privacy Zuckering," which pays homage to Meta's founder.[340] Moreover, in parallel with increasing legal demands, particularly after the *GDPR* and *Planet49* case, Consent Management Platforms (CMPs) have emerged to serve smaller publishers to acquire "compliant" consumer consent.[341] CMPs often boast of their capabilities of getting a high consent rate.[342] However, they often do this by directly exploiting consumers' decision-making vulnerabilities.[343] As a result, in 2021, one study found that 89% of cookie banners were coercive or manipulative.[344] In summary, it is not far-fetched to argue that many CMPs provide publishers (and advertisers) with *manipulation-as-a-service*.

There are various ways in which advertising intermediaries, publishers, and CMPs design cookie banners that can exploit consumers' decision-making vulnerabilities. For example, one coercive practice is not to offer an option to "reject" data processing on the first layer of the banner (instead, consumers may see "accept all" and "see cookie preferences").[345] Studies show that this practice significantly increased the likelihood of consent.[346] In the context of this Article, this practice is *coercive* because it creates explicit friction and unequal paths between acceptance and rejection and, in a way, threatens a consumer to take away their time unless they accept data

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[338] Case C-673/17, Bundesverband der Verbraucherzentralen und Verbraucherverbände — Verbraucherzentrale Bundesverband eV v. Planet49 GmbH, ECLI:EU:C:2019:801 ¶ 62 (Oct. 1, 2019) [hereinafter Planet49].

[339] TRZASKOWSKI, *supra* note 292, at 165–167.

[340] *See* Mohit, *Privacy Zuckering: Deceiving Your Privacy by Design*, MEDIUM (Apr. 10, 2017), https://medium.com/@mohityadav0493/privacy-zuckering-deceiving-your-privacy-by-design-d41b6263b564 [https://perma.cc/ERF2-EHHW].

[341] *See* Esther van Santen, *Cookie Monsters on Media Websites: Dark Patterns in Cookie Consent Notices*, 17 INT'L MULTI-CONF. ON COMPUTING GLOB. INFO. TECH. 1 (2022).

[342] *Quantcast Choice Powers One Billion Consumer Consent Choices in Two Months Since GDPR*, QUANTCAST (Jul. 30, 2018), https://www.quantcast.com/press-release/quantcast-choice-powers-one-billion-consumer-consent-choices/ [https://perma.cc/JG2G-BDHJ].

[343] Leiser, *supra* note 13, at 245.

[344] *See* Santos et al., *supra* note 337, at 1.

[345] Euro. Data Prot. Bd., *Report of the Work Undertaken by the Cookie Banner Taskforce*, at 4 (Jan. 18, 2023), https://www.edpb.europa.eu/our-work-tools/our-documents/other/report-work-undertaken-cookie-banner-taskforce_en [https://perma.cc/X43L-5D4B]/.

[346] Leiser, *supra* note 13, at 244.

processing.[347] On top of that, the second layer often includes even more coercive and manipulative practices.[348] In case a "reject" button is present, banners often employ a *manipulative* design. For example, "accept all" and "reject all" buttons may be presented differently in color or size, or an irrelevant third option may be introduced. Table II-1 provides a non-exhaustive list of various manipulative and coercive practices used in cookie banners.

Table II-1. Manipulative and Coercive Patterns in Cookie Banners (by Author)[349]

Name	Description	Analysis	Level of Influence
hidden tracking (mep12)[350]	A consumer is not presented with the notice about the data processing.	The processing of data is *hidden* from the consumer.	extremely manipulative
cookie wall[351]	A pop-up is a "wall" that consumers cannot close to access content unless they click "accept."	The only option to access the content is to accept data processing.	highly coercive
pre-ticked consent[352]	Pop-up presents an "accept" button and several options from which "accept all" is pre-selected.	Friction to reject - the consumer must change the default, unequal pathways.	coercive

[347] *See* Euro. Data Prot. Bd., *supra* note 345, at 5.

[348] *See* Planet49, *supra* note 338.

[349] In the first column, "name," a specific dark pattern is identified from the dark pattern literature. In the third column, the table analyzes the pattern based on the analytical framework developed in Chapter II. Lastly, in column four, the table labels the dark pattern according to the forms of influences in Figure 3:4. Furthermore, if a pattern is identified as "manipulative," column one labels the pattern with an additional "mep" label in parenthesis.

[350] Hidden tracking is usually discussed under the "hidden information" dark pattern category. Other forms of hidden information can be when the relevant information is provided in a tiny font, or the contrast ratio of the text compared to the background is too low. *See* van Santen, *supra* note 341, at 2.

[351] *See id* at 3.

[352] While pre-ticked consent boxes have decreased, such "preselection" dark patterns are still found in the cookie banners. *Id* at 2.

no reject button[353]	A consumer is not presented with the "reject all" button on the first layer.	Friction to reject – the consumer *must* choose to "see more" to reject (unequal pathways).	coercive
inaccurate classification (mep13)[354]	The consumer is presented with "accept all" or "accept only essential cookies," and data is inaccurately classified as *essential.*	Deceptive practice that exploits consumers' trust in the online environment to hiddenly influence their decision-making.	extremely manipulative
confusing grounds (mep14)[355]	Consumers can accept and reject data processing on the grounds of "consent" and "legitimate interest" separately.	Consumers may think they need to refuse processing twice to not have their data processed for advertising.	extremely manipulative
false hierarchy (mep15)[356]	"Accept All" and "Reject All" are presented differently in size.	Changing the choice environment to *nudge* consumers towards accepting all data processing.	highly manipulative
misdirection (mep16)[357]	Accept All" and "Reject All" are presented differently in color, or color schemes are reversed.	Same as "false hierarchy" – a *nudge* towards accepting all data processing.	highly manipulative

[353] The "no reject button" dark pattern is currently most prevalent in cookie banners and found to be systematically coercive. *See*, e.g., Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 109; *see also* Eur. Parliament, Pol'y Dep't for Economic, Sci. and Quality of Life Policies, Giovanni Sartor, *New Aspects and Challenges in Consumer Protection: Digital Services and Artificial Intelligence*, at 23 (Apr. 15, 2020), https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2020)648790; Eur. Data Prot. Bd., *supra* note 345, at 4.

[354] Eur. Data Prot. Bd., *supra* note 345, at 7.

[355] *See* van Santen, *supra* note 341, at 3; *see also* Eur. Data Prot. Bd., *supra* note 345, at 6.

[356] van Santen, *supra* note 341, at 3; *see also* Eur. Data Prot. Bd, *supra* note 345, at 6.

[357] van Santen, *supra* note 341, at 3; *see also* Eur. Data Prot. Bd, *supra* note 345, at 6.

irrelevant third option (mep17) [358]	Consumers are presented with "Accept All" and "Reject All" as well as the "Know More" button.	Exploits the irrelevant third-option bias ("decoy effect") that nudges a consumer to select more intrusive processing.	highly manipulative
no withdraw button[359]	Consumers are not presented with a button that allows them to withdraw consent in a similar way they accepted.	Significant friction to withdraw - the consumer must take several steps to withdraw consent.	highly coercive
"pay" or "ok"[360]	Consumers are required to pay unless they accept tracking for OBA.	Significant friction unless a third (free) alternative is provided.	highly coercive

In most cases, each cookie banner contains more than one dark pattern – one study found that cookie consent notices contained, on average, 4.8 such patterns.[361] Also, if a consumer rejects cookies, this option is rarely recorded, and the publishers prompt the consumers to decide on data processing every time they visit (*mep18: nagging*).[362] In contrast, if they accept, the cookies will be held on the consumers' computers for years, and consumers are not prompted again.[363] Moreover, consumers are presented with a variety of banners that may deplete their dececesion-making (ego depletion) and push them to, over time, give way to data processing.[364] Further, framing effects play a significant role: arguably, "accept all tracking" may more accurately represent an issue rather than accepting "cookies," which can have a connotation to a reward *(mep19: framing effects*).[365]

[358] This is author's contribution to already identified patterns.

[359] Eur. Data Prot. Bd., *supra* note 345, at 8.

[360] *„Pay or Okay" On Tech News Site Heise.de Illegal, Decides German DPA*, NOYB (July 14, 2023), https://noyb.eu/en/pay-or-okay-tech-news-site-heisede-illegal-decides-german-dpa [https://perma.cc/4MSZ-RSNF].

[361] van Santen, *supra* note 341, at 2.

[362] Zard & Sears, *supra* note 62, at 817.

[363] In some cases, the cookie retention period has been set for 8,000 years. Article 29 Data Prot. Working Party, *supra* note 137, at 2.

[364] *See* TRZASKOWSKI, *supra* note 292, at 197–202.

[365] See about consumer experiences in Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 85–89.

Table II-2. Manipulative Extraction Practices (by Author)

N	Name	Level of Influence
mep1	free-framing	highly manipulative
mep2	roach motel	highly manipulative
mep3	obscure legalese	highly manipulative
mep4	covert contracts	highly manipulative
mep5	mastering	highly manipulative
mep6	covert content personalization	highly manipulative
mep7	endless feed	highly manipulative
mep8	auto-play	highly manipulative
mep9	immersion preselection	highly manipulative
mep10	social validation loop	highly manipulative
mep11	gamification	highly manipulative
mep12	hidden tracking	extremely manipulative
mep13	inaccurate classification	extremely manipulative
mep14	confusing grounds	extremely manipulative
mep15	false hierarchy	highly manipulative
mep16	misdirection	highly manipulative
mep17	irrelevant third option	highly manipulative
mep18	nagging	highly manipulative
mep19	framing effects	highly manipulative

In summary, I have illustrated in this section different practices that digital service providers rely on to extract consumer attention, time and data, and that digital service providers are willing to engage in these practices regardless of increased likelihood of exploiting consumer decision-making vulnerabilities.[366]

3. OBA as Manipulative Personalization of Ads

The ultimate goal of the manipulative extraction of attention, time, and data is to optimize online consumer interactions for maximizing consumer action on advertising, often measured by the *click-through rate (CTR)*.[367] This goal is further expressed in the OBA "prediction imperative" that uses

[366] Noyb observes that manipulative/coercive practices have been decreasing. Nevertheless, a significant amount of websites online still incorporate such practices. *See Where Did All the "Reject" Buttons Come From?!*, NOYB (Oct. 27, 2022*),* https://noyb.eu/en/where-did-all-reject-buttons-come [perma.cc/FFG7-3BFH].

[367] *See* ZUBOFF, *supra* note 14, at 95.

extracted data to algorithmically predict which advertisements the consumer is most likely to act on into "quality scores."[368] OBA infrastructure entails using artificial intelligence (AI) systems relying on vast datasets of consumer data to personalize advertisements.[369] Consumers may experience personalized advertisements as more relevant. Nevertheless, AI systems optimized to maximize consumer action may also lead to advertisement personalization that exploits consumers' decision-making vulnerabilities.[370] This section refers to such practices as manipulative advertising practices. Table II-5 lists manipulative advertising personalization practices (referred to as "map"s in the table).

Hiding the *commercial intent* of the communication or the fact that it is a sponsored advertisement has long been considered a manipulative practice.[371] Such hidden practices sometimes occur in the context of OBA within "native advertisements" that can disguise an ad by making it resemble the editorial content the consumer is accessing (*map1: hidden advertorial*).[372] Similarly, advertisements can also be disguised as search results (*map2: hidden paid ranking*).[373] In some contexts, such as TV advertisements, consumers may be able to discern communication as an advertisement, but in online environments, where consumers are more than ordinarily vulnerable to hidden influences (*see* Section II.A.3), without explicit disclosure of commercial intent, practices can be considered as *highly manipulative*.

When exposed to OBA infrastructure, consumers need more information than mere disclosure of commercial intent to become consciously aware of how an advertisement influences them.[374] By extrapolating *Persuasion*

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[368] Zuboff coins prediction imperative and "economies of action" that refers to the profitability of ensuring consumers act on the advertisement. *Id.* at 199–202.

[369] *See* Judith Irene Maria de Groot, *The Personalization Paradox in Facebook Advertising: The Mediating Effect of Relevance on the Personalization–Brand Attitude Relationship and the Moderating Effect of Intrusiveness*, 22 J. INTERACTIVE ADVERT. 57 (2022).

[370] *See* ZUBOFF, *supra* note 14, at 212–18.

[371] *See* Friestad & Wright, *supra* note 253, at 25; *see also* FED. TRADE COMM'N, .COM DISCLOSURES: HOW TO MAKE EFFECTIVE DISCLOSURES IN DIGITAL ADVERTISING (2013).

[372] *See* Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 32 ("native advertising"); Soontae An, Gayle Kerr & Hyun Seung Jin, *Recognizing Native Ads as Advertising: Attitudinal and Behavioral Consequences*, 53 J. CONSUMER AFFS. 1421, 1421 (2019).

[373] Zard & Sears, *supra* note 62, at 810.

[374] *See* Timothy Morey, Theodore "Theo" Forbath & Allison Schoop, *Customer Data: Designing for Transparency and Trust*, HARV. BUS. REV. (May 2015), https://hbr.org/2015/05/customer-data-designing-for-transparency-and-trust [perma.cc/CW6K-GT2M]; *see also* COMPETITION & MKTS. AUTH., *supra* note 6, at 155; Boerman et al., *supra* note 1, at 369–370; Helberger et al., *supra* note 282 (digital vulnerability).

Knowledge Scale (PKS)[375] to OBA, I argue that, beyond the commercial intent, appropriate consideration of personalized advertisements requires consumers to evaluate the following: (1) notice of the personalization, (2) the criteria of personalization, (3) who pays for personalization (e.g., advertiser), and (4) the economic logic, including who performs the personalization (e.g., platform).[376] Under a PKS framework, advertisement personalization can be regarded as *hidden* and *manipulative* if any of these aspects of OBA is not disclosed to the consumer.[377]

Firstly, understanding whether an advertisement is personalized is essential for the consumer to evaluate an ad.[378] Many consumers perceive personalized advertisements as advantageous.[379] They respond favorably to personalized and, thus, more relevant ads.[380] However, identifying *covert* personalization significantly impacts consumers' perceptions of the advertising.[381] Multiple empirical studies have illustrated that consumers *feel* vulnerable when they encounter personalized advertisements they did not expect, for example, because they were unaware that their data was processed for this purpose.[382] Once consumers discover covert personalization, they perceive such ads as intrusive, disturbing, and annoying.[383]

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[375] Sophie C. Boerman, Eva van Reijmersdal, Esther Rozendaal & Alexandra Dima, *Development of the Persuasion Knowledge Scales of Sponsored Content (PKS-SC)*, 37 INT'L. J. ADVERT. 671 (2018). Moreover, Boerman and others acknowledge that there is a research gap in understanding how consumers are influenced by the OBA. Boerman et al., *supra* note 1, at 373.

[376] *See* Boerman et al., *supra* note 364, at 673–75.

[377] For a similar argument, see Joanna Strycharz & Bram Duivenvoorde, *The Exploitation of Vulnerability Through Personalised Marketing Communication: Are Consumers Protected?*, 10 INTERNET POL'Y REV. 1, 7 (2021).

[378] de Groot, *supra* note 369, at 57.

[379] For example, Lee and Rha identify four consumer groups in personalized advertising: (1) ambivalent – who perceive benefits and risks to be high, (2) privacy-oriented; (3) personalization-oriented; and (4) indifferent. They find that the number of the ambivalent group is highest. Jin-Myong Lee & Jong-Youn Rha, *Personalization–Privacy Paradox and Consumer Conflict with the Use of Location-Based Mobile Commerce*, 63 COMPUT. HUM. BEHAV. 453 (2016).

[380] de Groot, *supra* note 369, at 57.

[381] Elizabeth Aguirre, Dominik Mahr, Dhruv Grewal, Ko de Reyter & Martin Wetzels, *Unraveling the Personalization Paradox: The Effect of Information Collection and Trust-Building Strategies on Online Advertisement Effectiveness*, 91 J. RETAIL. 34, 43 (2015); *see, e.g.,* Tobias Dehling, Yuchen Zhang & Ali Sunyaev, *Consumer Perceptions of Online Behavioral Advertising*, *in* 21 IEEE CONF. ON BUS. INFORMATICS (2019), https://ieeexplore.ieee.org/document/8808011 [perma.cc/P3P5-NVXD]; *see also* Lee & Rha, *supra* note 379; de Groot, *supra* note 369.

[382] *See* Dehling et al., *supra* note 381.

[383] *See* de Groot, *supra* note 369, at 62.

Nevertheless, consumers do not always *accurately* identify personalization.[384] Algorithm-made inferences often elude consumers' conscious awareness mainly because they rarely (if ever) deliberately provide data used for personalization. For example, scrolling or mouse hovering behavior is rarely *deliberately* adopted to influence how ads are personalized.[385] Even when consumers are conscious that the OBA infrastructure uses data about their scroll/pause times for personalization, they cannot always accurately identify which advertisement relates to which scrolling pattern.[386] Therefore, unless explicitly disclosed that the advertisement is personalized, the practice remains hidden from the consumer and can be considered *highly manipulative* (*map3: covert ad personalization*).

Secondly, empirical evidence illustrates that while ad personalization disclosure increases consumers' trust in ads (and their likelihood to act on them), it does not always increase their understanding of how the influence works.[387] As a result, the OBA industry has increasingly adopted the *AdChoices* icon –  as a standard for ad personalization disclosure.[388] If consumers click these icons, they can get basic information about the criteria for personalizing the advertisement, such as broad demographic and contextual information (e.g., age, country of residence, language).[389] Sometimes disclosure also includes the disclaimer that the advertisement is personalized with *other* information inferred from the consumer's online behavior.[390] Nevertheless, such disclosure sometimes does not list *specific inferences* (e.g., interest in beauty products) nor *specific behavior* that inferences are drawn from (e.g. while scrolling paused on pictures of models).[391] However, such specific information about the inferences and behavior can be crucial for a

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[384] *See id.* (*perceived* personalization and *actual* personalization); Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 59.

[385] However, there are some instances when tech-savy users of social media try to "game" the algorithm by deliberately changing their scroll behavior (mostly for content filtering).

[386] *See* Alice Binder, Marlis Stubenvoll, Melanie Hirsch & Jorg Matthes, *Why Am I Getting This Ad? How the Degree of Targeting Disclosures and Political Fit Affect Persuasion Knowledge, Party Evaluation, and Online Privacy Behaviors*, 51 J. ADVERT. 206 (2022). The fact that consumers regard an influence as "intrusive," but they are not able to detect that influence is the paradigm example of manipulation as distinguished from other forms of influence.

[387] Boerman et al., *supra* note 1, at 370.

[388] *Your Ad Choices* icon is an ad marker from the Digital Advertising Alliance (DAA) that has been established as an industry standard. *About the Digital Advertising Alliance*, YOURADCHOICES, https://youradchoices.com/about [perma.cc/DME7-G5CZ].

[389] Tami Kim, Kate Barasz & Leslie K John, *Why Am I Seeing This Ad? The Effect of Ad Transparency on Ad Effectiveness*, 45 J. CONSUMER RSCH. 906, 907 (2019).

[390] *Id.* at 913.

[391] *See* Eur. Parliament, *Online Advertising Study*, *supra* note 8, at 89; *see also* Kim et al., *supra* note 389; Eur. Comm'on, *Dark Patterns Study*, *supra* note 171, at 60.

consumer to understand the advertisers' strategy and the nature of the influence.[392] Therefore, unless the criteria used for personalization are disclosed on the level of specific inferences and behavior connected to them, the practice can be considered *highly manipulative* (*map4: hidden criteria*).

A particularly challenging issue with personalization criteria disclosure is that personalization algorithms can *implicitly* infer essential parameters.[393] For example, an algorithm (e.g., via a feat of lookalike audiences) can connect a consumer to other consumers with similar scrolling patterns that implicitly relate to their *anxiety* but explicitly are identified as "interest in self-help literature."[394] In this case, the disclosure will inform consumers that their scrolling behavior is similar to the scrolling behavior of others that expressed interest in self-help literature. Nevertheless, the fact that the behavior implicitly refers to these consumers' shared state of anxiety will remain hidden.[395] The issue is that making such implicit inferences *explicit* may be technologically unfeasible.[396] Nevertheless, without disclosure the influence remains *hidden*, and the practice thus *highly manipulative*. This is particularly important because OBA in almost all cases relies on such inferences for interest-based targeting (*see* Section I.B.2).[397]

Thirdly, it has always been essential for consumers to understand who is behind the advertisement – who is selling the product or the service.[398] Traditionally, as well as in OBA, this entails the information about the advertiser and their advertising agency. Non-disclosure of who pays for the advertisement, such as an agency and an advertiser, can be considered a highly manipulative practice (*map5: hidden advertisers)*.

Lastly, consumers must understand economic logic or the model through which advertisement is monetized.[399] This can be particularly challenging because OBA is a highly technical and dynamic infrastructure involving multiple parties that benefit from advertisement personalization. Without the information about who performs advertisement personalization and who benefits from it, influence will stay hidden from conscious awareness.

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[392] Kim et al., *supra* note 389, at 917–18; Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 89–90.

[393] *See* Sandra Wachter & Brent Mittelstadt, *A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI*, 2019 COLUM. BUS. L. REV. 494 (2019).

[394] Zard & Sears, *supra* note 62, at 810.

[395] *See* Eur. Parliament, *Targeted and Behavioural Advertising Study*, *supra* note 8, at 89–90.

[396] *Id.*

[397] *See* Binder et al., *supra* note 386; Johann Laux, Sandra Wachter & Brent Mittelstadt, *Neutralizing Online Behavioural Advertising: Algorithmic Targeting with Market Power as an Unfair Commercial Practice*, 58 COMMON MKT. L. REV. 719, 722 (2021).

[398] HOWARD & HULBERT, *supra* note 244, at ch. IV; Friestad & Wright, *supra* note 253.

[399] Boerman et al., *supra* note 364, at 674.

Therefore, personalizing advertising without disclosing the information about the intermediaries involved and their respective roles in the intermediation process, practice can be considered *highly manipulative (map6: hidden infrastructure).* Similarly, without disclosing every party between whom the information about the consumer was consolidated, personalization is *hidden* and, therefore, highly manipulative *(map7: hidden data sharing)*.

Consumers can be manipulated via OBA when the *psychological mechanisms* ads use to influence them remain hidden.[400] Personalizing advertisements to target consumers' cognitive or psychological characteristics is called "psychological targeting" or "psychological profiling."[401] Psychological profiling can involve targeting consumers' "personality traits" such as openness, conscientiousness, extraversion, agreeableness, and neuroticism (*OCEAN*).[402] Some empirical studies in consumer psychology have demonstrated targeting these traits is the most *effective* targeting practice.[403] In contrast to the pre-digital era, the OCEAN traits can be inferred almost at zero cost in the online environment on a massive scale.[404] For example, they can be predicted from consumers' social media profiles,[405] language use,[406] and pictures.[407] Consumers' personality traits, in their essence, reveal the consumer's particular personal vulnerability, and in the context of OBA, they are highly vulnerable to the hidden influence.[408] Therefore targeting OCEAN traits can be considered an *extremely manipulative practice (map8: OCEAN targeting).*

Psychological profiling can also involve targeting consumers' *affective states*, including their moods (e.g., sadness), emotions (e.g., surprise), stress

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[400] Strycharz & Duivenvoorde, *supra* note 377, at 7-8.

[401] *Id.*

[402] Sandra C Matz, Ruth E Appel & Michal Kosinski, *Privacy in the Age of Psychological Targeting*, 31 CURRENT OP. PSYCH. 116, 119 (2020).

[403] *See* Jacob B. Hirsh, Sonia K. Kang & Galen V. Bodenhausen, *Personalized Persuasion: Tailoring Persuasive Appeals to Recipients' Personality Traits*, 23 PSYCH. SCI. 578, 578-581 (2012); *see also* Youngme Moon, *Personalization and Personality: Some Effects of Customizing Message Style Based on Consumer Personality*, 12 J. CONSUMER PSYCH. 313, 313-326 (2002); Barbara K. Rimer & Matthew W. Kreuter, *Advancing Tailored Health Communication: A Persuasion and Message Effects Perspective*, 56 J. COMMC'N. S184, S184-S201 (2006).

[404] Matz et al., *supra* note 402, at 117.

[405] Michal Kosinski, David Stillwell & Thore Graepel, *Private Traits and Attributes Are Predictable from Digital Records of Human Behavior*, 110 PROC. NAT'L. ACAD. SCIS. 5802, 5802-5805 (2013).

[406] Gregory Park et al., *Automatic Personality Assessment Through Social Media Language*, 108 J. PERSONALITY SOC. PSYCH. 934, 934 (2015).

[407] Crisitina Segalin, Alessandro Perina, Marco Cristani & Alessandro Vinciarelli, *The Pictures We Like Are Our Image: Continuous Mapping of Favorite Pictures into Self-Assessed and Attributed Personality Traits*, 8 IEEE TRANSACTIONS ON AFFECTIVE COMPUTING 268 (2017).

[408] Strycharz & Duivenvoorde, *supra* note 377, at 7.

levels (e.g., high-stress levels), and attachments (e.g., porn addiction).[409] These states can be predicted from consumers' spoken language,[410] keyboard typing patterns,[411] video data,[412] and metadata.[413] Targeting consumer affect states has been a prevalent practice in the OBA industry, sometimes called "dynamic emotional targeting" or "emotion analytics."[414] Hiddenly targeting someone's affective states can exploit their situational vulnerabilities and, therefore, can be considered an *extremely manipulative practice* (*map9: affect targeting*).[415] Similarly, *personal hardships* can be a form of consumers' situational vulnerability businesses can exploit.[416] Table II-3 provides a non-exhaustive list of personal hardship examples that can be exploited, and therefore, targeting of which can be considered *extremely manipulative* (*map10: affect targeting*).

Table II-3. Hardship Targeting (from Google Ad Policy)[417]

map10: hardship targeting	*examples of personal hardships*
10.1. physical illness	physical injury, arthritis, diabetes;
10.2. mental health	anxiety disorders, attention hyperactivity deficit disorder (ADHD);
10.3. sexual health	erectile dysfunction, sexually transmitted diseases (STDs), infertility;
10.4. financial difficulties	negative credit score, insolvency;

[409] Matz et al., *supra* note 402, at 117.

[410] Tuka AlHanai & Mohammad Ghassemi, *Predicting Latent Narrative Mood Using Audio and Physiologic Data*, 31 PROC. AAAI CONF. ON A. I. (2017),

[411] Spencer, *supra* note 198, at 979.

[412] Thales Teixeira, Michel Wedel & Rik Pieters, *Emotion-Induced Engagement in Internet Video Advertisements*, 49 J. MKTG. RSCH. 144, 145 (2012).

[413] Robert LiKamWa, Yunxin Liu, Nicholas D. Lane & Lin Zhong, *MoodScope: Building a Mood Sensor from Smartphone Usage Patterns*, 11 PROC. ANN. INT'L CONF. ON MOBILE SYS., APPLICATIONS, & SERVS. 389, 400 (2013).

[414] Tom Kelshaw, *Emotion Analytics: A Powerful Tool to Augment Gut Instinct*, THINK WITH GOOGLE (Aug. 2017), https://www.thinkwithgoogle.com/intl/en-154/marketing-strategies/data-and-measurement/emotion-analytics-powerful-tool-augment-gut-instinct/ [https://perma.cc/NK4E-3QRD]; *see also The Power of Emotional Targeting in Advertising*, THEVIEWPOINT (2021), https://theviewpoint.com/insights/the-power-of-emotional-targeting-in-advertising [https://perma.cc/GFN2-U88H]; Spencer, *supra* note 198, at 979.

[415] Strycharz & Duivenvoorde, *supra* note 377, at 18.

[416] *Personalized Advertising*, *supra* note 46.

[417] *See id.*

10.5. relationship-related	going through a divorce, considering breaking up;
10.6. trauma or grief	experienced domestic abuse, loss of a loved one

Advertisements can be personalized not only based on consumers' personality traits, affective states, or personal hardships but their particular *idiosyncrasies* or *cognitive styles*.[418] Profiling a consumer as having characteristics and styles such as being "impulsive," a "natural follower," or "scarcity-phobic" is called "persuasion profiling."[419] Personalizing advertisements following such persuasion profiles can be rephrased as personalization that targets to exploit consumers' decision-making vulnerabilities and, therefore, is, in essence, another *extremely manipulative practice* (*map11: persuasion profiling*). A consumer's belief system can act as a particular decision-making vulnerability that manipulators can exploit (*see* Section II.A.2).[420] Therefore, personalizing advertisements based on consumers' beliefs or identities can be extremely manipulative (*map12: identity targeting*). *Table II-4* provides a non-exhaustive list of identities targeting which can be considered manipulative:

Table II-4. Targeting Identity (from Alphabet Ad Policy)[421]

map12: identity targeting
12.1. sexual orientation
12.2. political ideology
12.3. trade union membership
12.4. race or ethnicity
12.5. religious beliefs
12.6. marginalized groups

Advertisers can use the affordances of OBA to exploit consumers' decision-making vulnerabilities. One such affordance is the ability of OBA to microtarget so narrowly as to single out an individual consumer, enabling "segment-of-one marketing."[422] Usually, advertisers use microtargeting criteria

[418] Calo, *supra* note 11, at 1017.

[419] *Id.; see generally* KAPTEIN MAURITS, PERSUASION PROFILING: HOW THE INTERNET KNOWS WHAT MAKES YOU TICK (2015).

[420] Noggle, *supra* note 169.

[421] See the list of "beliefs" that are *Personalized Advertising*, *supra* note 46.

[422] Eur. Comm'n, *Dark Patterns Study*, *supra* note 171, at 33.

to define their audiences, but at times, they can also exploit the criteria to reach a *pre-defined* consumer segment that can be a single individual.[423] Such exploitation of OBA by the advertisers is called "sniper ad targeting," and one of its main goals is to manipulate *(map13: sniper ad targeting*).[424] In one quintessential example, John Jones used sniper ad targeting to manipulate his wife, friends, and relatives to change their religious beliefs.[425] He came across the information about the controversies about the Mormon Church and was convinced to leave it.[426] However, when he systematically failed to convince his wife and relatives to read the same information, he created a *MormonAds* campaign and leveraged his knowledge of OBA to single out his wife, friends, and the larger community – having a life-altering impact on everyone involved.[427]

Sniper ad targeting illustrates deliberate manipulation via OBA.[428] "Careless" manipulation can also occur when the consumer is targeted based on "lookalike" or "similar" audiences. In such cases, an algorithm may process data about keyboard typing patterns and does not explicitly identify that such a pattern relates to the person experiencing anxiety and therefore targets the consumer's decision-making vulnerability. Empirical research could be informative in better understanding such an influence, but until further information, these practices can be considered *extremely manipulative* (*map14: lookalike audiences*).

Personalizing advertising can be considered *extremely manipulative* if it targets people otherwise vulnerable to manipulation in the online environment. In particular, it is often argued that children, when targeted with personalized advertising, may not fully understand the nature of influence and therefore are more likely to be manipulated (*map15: targeting minors*).[429] In addition, OBA personalization can have similar effects when it is targeted at the elderly (*map16: targeting elderly*),[430] as well as people with lower levels

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[423] Faddoul et al., *supra* note 279, at 6.

[424] *Id.* at 4.

[425] *Id.*

[426] Kevin Poulsen, *Inside the Secret Facebook War For Mormon Hearts and Minds*, THE DAILY BEAST, (Feb. 10, 2019, 8:58 AM), https://www.thedailybeast.com/inside-the-secret-facebook-war-for-mormon-hearts-and-minds [https://perma.cc/SLA8-TG3F].

[427] Faddoul et al., *supra* note 279, at 4.

[428] Klenk, *supra* note 185, at 96–97.

[429] Van der Hof Simone & Eva Lievens, *The Importance of Privacy by Design and Data Protection Impact Assessments in Strengthening Protection of Children's Personal Data Under the GDPR*, 23 Commc'ns L. 33, 39 (2018); Valerie Verdoodt & Eva Lievens, *Targeting Children with Personalised Advertising : How to Reconcile the (Best) Interests of Children and Advertisers*, *in* DATA PROTECTION AND PRIVACY UNDER PRESSURE : TRANSATLANTIC TENSIONS, EU SURVEILLANCE, AND BIG DATA 313 (Valerie Verdoodt & Eva Lievens eds., 2017), http://hdl.handle.net/1854/LU-8541057.

[430] Joshua C.P. Reams, *Twenty-First Century Advertising and The Plight of the Elderly Consumer*, 52 WILLAMETTE L. REV. 325, 336–340 (2016); *see also* Randall Lewis & David

of digital literacy, often called "digital immigrants" who joined the online environment in late adulthood (*map17: targeting digital immigrants*).[431]

Table II-5. Manipulative Advertising Practices (by Author)

	Name	Level of Influence
map1	hidden advertorials	highly manipulative
map2	hidden paid ranking	highly manipulative
map3	hidden ad personalization	highly manipulative
map4	hidden personalization criteria	highly manipulative
map5	hidden advertisers	highly manipulative
map6	hidden infrastructure	highly manipulative
map7	hidden data sharing	highly manipulative
map8	OCEAN targeting	extremely manipulative
map9	affect targeting	extremely manipulative
map10	hardship targeting	extremely manipulative
map11	persuasion profiling	extremely manipulative
map12	identity targeting	extremely manipulative
map13	sniper ad targeting	extremely manipulative
map14	lookalike audiences	extremely manipulative
map15	targeting minors	extremely manipulative
map16	targeting elderly	extremely manipulative
map17	targeting digital immigrants	extremely manipulative

CONCLUSION

In this Article, I have defined OBA as an online phenomenon that involves showing consumers advertisements that are personalized based on their behavioral data. OBA can be understood as an online advertising configuration that entails targeting an individual consumer sorted into segments based on interests or detailed demographic traits that AI systems inferred based on behavioral (e.g., Web browsing or social media behavior) data about the consumer.

Alphabet and Meta, which provide popular platform services, are the most prominent advertising publishers. These companies also provide advertising networks - "walled gardens," and advertising intermediaries that allow open

Reiley, *Advertising Effectively Influences Older Users: How Field Experiments Can Improve Measurement and Targeting*, 44 REV. IND. ORGAN. 147 (2014).

[431] Christian Brandt, Targeted Digital Advertising and the Effect of Digital Literacy 15 (May 17, 2021) (Thesis, Copenhagen Business School).

advertising exchange over the Internet. For facilitating open exchange, digital service providers track consumers over the Internet and compete with each other in real-time bidding (RTB) auctions. The winner is typically the party with the most data about the consumer, resulting in competition in extracting consumer data. Alphabet and Meta are dominant players in the OBA industry.

Consumer manipulation via OBA refers to situations when digital service providers facilitate or use OBA configuration or infrastructure in a way that hiddenly influences consumers either to give away their attention, time, and data or to act on a particular advertisement. In this Article, I have identified manipulative extraction practices and manipulative advertising practices. I argue that consumer manipulation is the central concern of OBA.

The framework for understanding consumer manipulation via OBA, developed in this Article, is analytic and normatively neutral. I have not argued that any such practice is illegal or morally wrong. Instead, I intended to illustrate that by adopting OBA configuration and facilitating OBA infrastructure, digital service providers engage in practices that are highly likely to result in consumer manipulation or, in other words, influence consumers in a way that remains hidden from their conscious awareness. I argue that in doing so, digital service providers are willing to accept that these methods or their aspects remain hidden from the consumers and can exploit their vulnerabilities. I find that normative evaluation of consumer manipulation via OBA, that is, an analysis of its consequences on consumers, the market, and society, is essential for the policy intervention of OBA. I pursue theory building to capture consumer manipulation harms of OBA elsewhere.