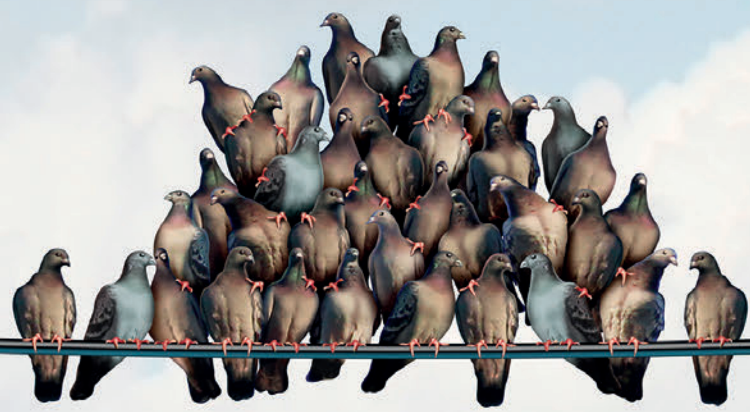
MARCH TO THE MIDDLE? HERD BEHAVIOR, VIDEO ECONOMICS, AND SOCIAL MEDIA



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I. INTRODUCTION

Justice Kennedy in his 2017 decision in *Packingham v. North Carolina*[2] stated that online social media has become our "modern public square" that "allow[s] a person with an Internet connection to 'become a town crier with a voice that resonates farther than it could from any soapbox.'"[3] Justice Kennedy has strong justification for this claim. For many of us, our lives are today largely online lives — and social media, in part, controls our engagement with news and public issues. According to a September 2018 Pew Research Center report,[4] over two thirds of U.S. adults (68 percent) receive most of their news from social media — with 74 percent of all Americans receiving at least some of their news from either Facebook, YouTube, or Twitter.

If their market dominance or unfair commercial practices give Facebook, YouTube, or Twitter an ability to diminish the vitality or diversity of the public square, that ability should concern regulators, particularly the Federal Trade Commission ("FTC") and the Federal Communications Commission ("FCC"). Not only could market power hurt the proper functioning of media markets — by, for instance, allowing a dominant Internet platform to charge advertisers supra-competitive rates — but that power could undermine the performance of our democracy by circumscribing certain views and opinions expressed online. And this circumscribing does not refer to censorship of illegal, threatening, or disruptive speech but rather to limiting viewpoints and opinions sufficiently distant from the median tastes.

While some might find it odd that an unregulated market in social media could create an underperforming marketplace of ideas, this article explores the opposite view. Established thought in video economics that has been applied to broadcast television and radio for most of the 20th century would suggest that the dominant social media platforms have economic incentives to produce a screen experience that caters towards bland, majority tastes. Behavioral economics, in particular research on herd behavior and the bandwagon and group polarizations effects, suggests that individuals may tend towards median views. These effects could feed upon each other to create online experiences in which minority viewpoints may be excluded, leading not to a race to the bottom but a march to the middle.

2 137 S. Ct. 1730 (2017), quoting *Reno v. Am. Civil Liberties Union*, 521 U.S. 844, 870, 117 S. Ct. 2329, 2344, 138 L. Ed. 2d 874 (1997).

3 *Id.* at 1737.

4 Amanda Zantal-Wiener, "68% of Americans Still Get Their News on Social Media, Even If They Don't Trust It," Hubspot, originally published September 14, 2018, updated December 14 2018, available at https://blog.hubspot.com/news-trends/two-thirds-americans-still-get-news-on-social-media.

II. SOCIAL MEDIA AND ANTITRUST

Despite these important, wide-ranging concerns, antitrust and other market regulators have been loath to examine social media and Internet giants. In particular, they have shied away from looking at whether the market dominance of Google, Facebook, Twitter, and YouTube threatens not only the marketplace but the marketplace of ideas. FTC Commissioner Noah Phillips typified this attitude when he argued that his agency should avoid using its antitrust authority to address Facebook, Google, and Twitter's censorship practices. "In a democracy, with a free press, we need to be very careful about using tools of law enforcement to address problems like that," Phillips told C-SPAN's *Communicators*.[5]

This hesitance stems from understandable concerns about the constitutional limits on regulatory power as well as realism over what economic regulation can accomplish. Many would view regulating media companies as government manipulation of public discourse that violates the Constitution.[6] Commissioner Phillips told C-SPAN when explaining his hesitance in regulating social media bias that "using antitrust as a tool to address those biases . . . [conflicts with the] First Amendment." Further, Commissioner Phillips stated that "with respect to the FTC," he did not know . . . [of] any particular capability" to address the potential for social media bias.[7]

Further, the origin of the dominant Internet platforms' market dominance is unusual. While the network effects, which entrench Facebook, Amazon, Twitter, and Google, are not unique to social media, they certainly deploy these effects in new ways. For instance, Google's superior search function is allegedly a result of the size of its unparalleled record of billions of billions of searches. Google likes to brag that it never throws out a search.[8] Because no firm at this point in time could replicate this data, Google enjoys an almost insurmountable barrier to entry to online search. As Google's chief data scientist Peter Norvig acknowledged, "we don't have better algorithms than everyone else; we just have more data."[9]

And, it is hard to put social media into an existing category of industrial organization that has an established economic analysis and antitrust regulatory approach. Facebook and Twitter are neither cable nor telephone companies, but like the old telecom giants, social networks' primary job is to facilitate communication between people. Twitter has described itself as a "communications utility,"[10] while Facebook's mission statement was until recently "Making the world more open and connected."[11]

The dominant social media platforms are not media companies, yet Americans receive much of their video entertainment through them. According to marketing research, views of branded video content have increased 99 percent on YouTube[12] and 258 percent on Facebook[13] over the last two years. Indeed, the dominant social media networks can be used to buy things as with Facebook Marketplace, run businesses, and conduct political campaigns. Jean Tirole has commented that big tech and the Internet are places where "[o]ld-style regulation has a hard time finding its footing."[14]

But, in the end, this regulatory reluctance needs a reappraisal. First, the First Amendment does not preclude antitrust scrutiny. The Supreme Court has made clear from at least the time of *Associate Press v. United States*, that the First Amendment allows antitrust laws to protect the free flow of ideas.[15] That case involved the Associated Press ("AP"), which was (and still is) a cooperative association of news organization. Its

5 https://www.c-span.org/video/?454473-1/communicators-noah-phillips.

6 L. A. Powe, Jr., "Disease and Cure? Review of Republic.com by Cass Sunstein," 101 Mich. L. Rev. 1947, 1956 (2003) ("Promoting democratic deliberation [through media regulation] is a game that anyone can play . . . . To separate the good from the bad, the Court has wisely demanded more than a good heart before accepting speech-limiting proposals").

7 *Id.*

8 https://arstechnica.com/tech-policy/2010/03/google-keeps-your-data-to-learn-from-good-guys-fight-off-bad-guys/.

9 https://www.cnet.com/news/tim-oreilly-whole-web-is-the-os-of-the-future/.

10 https://blog.twitter.com/official/en_us/a/2008/welcoming-bijan-and-jeff.html.

11 https://techcrunch.com/2017/06/22/bring-the-world-closer-together/.

12 https://tubularinsights.com/sponsored-content-q2-2017-report/.

13 *Id.*

14 https://qz.com/1310266/nobel-winning-economist-jean-tirole-on-how-to-regulate-tech-monopolies/.

15 326 U.S. 1 (1945).

bylaws at the time prohibited its members from selling news to non-members. The government challenged this arrangement under the Sherman Act, and the Court upheld the Sherman Act claim against First Amendment challenge.

In finding for the government, the Supreme Court ruled that:

> [the] First Amendment, far from providing an argument against application of the Sherman Act, here provides powerful reasons to the contrary. That Amendment rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public . . . . Surely a command that the government itself shall not impede the free flow of ideas does not afford non-governmental combinations a refuge if they impose restraints upon that constitutionally guaranteed freedom.[16]

Further, courts outside the context of the Sherman Act, have approved of structural regulation of media companies against First Amendment challenge for the purpose of furthering and protecting the marketplace of ideas. For instance, in *National Broadcasting Co. v. United States*,[17] the Supreme Court upheld the constitutionality of ownership restrictions and behavioral remedies on broadcasters that the FCC imposed pursuant to the Communications Act of 1934. The Supreme Court reasoned that "the interest of the listening public in the larger and more effective use of radio" and that the "licensee to render the best practicable service to the community reached by his broadcasts" outweighed any First Amendment interest or radio broadcasters.[18]

More recently, the Supreme Court in *Turner Broadcasting v. Federal Communications Commission*[19] made clear that cable companies' First Amendment interests give way to the government's interest to ensure that "the public has access to a multiplicity of information sources . . . for [this access] promotes values central to the First Amendment."[20] Here, the Court upheld the Cable Television Consumer Protection and Competition Act of 1992's requirement for cable systems to carry local broadcasters to promote free over-the-air television. In 2016, the D.C. Circuit, in *US Telecom Association v. FCC*,[21] responding to a First Amendment compelled speech argument against the FCC's net neutrality regulations, held that only applied to "neutral transmission of others' speech, not a carrier's communication of its own message."[22] The First Amendment did not block the FCC's efforts to guarantee that the Internet remains a free and open communications medium.

Similarly, to the degree platforms do not always deliver on their promises of providing open platforms or condition the use of their platforms, the FTC can play a role. When the FCC repealed its Title II "net neutrality" regulations, Verizon, Comcast, AT&T, and Charter attempted to allay these concerns by pledging[23] not to block or throttle lawful content after the FCC scaled back its regulations. Then FTC Chair Maureen Ohlhausen pledged that the FTC would use its Section 5 authority to ensure "that Internet service providers live up to the promises they make to consumers."[24]

Second, supra-competitive advertising rates that monopolistic platforms can charge is a classic antitrust issue — and, indeed, their dominance of advertisement should raise an eyebrow or two. After all, Google and Facebook collected 63 percent of U.S. digital advertising dollars in 2017,[25] with some projections for 2018 as high as 84 percent.[26] And, the Internet tech giants earn most of their money from advertising.[27] In

16 *Associated Press v. United States*, 326 U.S. 1, 20, 65 S. Ct. 1416, 1424–25, 89 L. Ed. 2013 (1945).

17 319 U.S. 190 (1943).

18 *Nat'l Broad. Co. v. United States*, 319 U.S. 190, 216, 63 S. Ct. 997, 1009, 87 L. Ed. 1344 (1943) (quotations omitted).

19 512 U.S. 622 (1994).

20 *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 663, 114 S. Ct. 2445, 2470, 129 L. Ed. 2d 497 (1994)

21 *United States Telecom Association v. FCC*, 825 F.3d 674 (D.C. Cir. 2016).

22 *Id.* at 740.

23 https://arstechnica.com/tech-policy/2018/06/comcast-att-verizon-say-they-have-no-paid-prioritization-plans/.

24 https://www.ftc.gov/news-events/press-releases/2017/12/ftc-fcc-outline-agreement-coordinate-online-consumer-protection.

25 https://www.emarketer.com/Article/Google-Facebook-Tighten-Grip-on-US-Digital-Ad-Market/1016494.

26 https://www.ft.com/content/cf362186-d840-11e7-a039-c64b1c09b482.

27 https://www.adweek.com/digital/facebook-makes-money/.

addition, there are allegations of preferential consumer data sharing intended to harm rivals and assist commercial allies.[28]

Third, perhaps more salient than classic antitrust concerns, social media's role in the marketplace of ideas raises concerns that have received the greatest public attention and sparked the greatest outrage. Both left and right have their concerns. Many see social media as a tool for "fake news" and documented, nefarious Russian interference with the U.S. domestic political process. On the other hand, those on the other side of the political spectrum see themselves to be in the crosshairs of the Silicon Valley mandarins. Conservatives ranging from Michelle Malkin;[29] William Jacobson,[30] and Dennis Prager,[31] to the more extreme individuals such as Gavin Mcinnes ("Proud Boys" founder) and Milo Yiannopoulos have been "deplatformed."

At first blush, these actions do not seem to warrant a regulatory response — let alone an antitrust response. The platforms, often claiming an editorial freedom guaranteed by the First Amendment, would argue that if people do not like these purported editorial decisions, they can go elsewhere. An unregulated market in social media platforms is the best guarantee of diversity.

But, is that really true? No one would ever say that if you do not like the telephone company, you are free to start your own. United States law and policy have always placed dominant communications networks under special regulatory frameworks — whether 19th century common carriage for the telegraph and telephone,[32] the 1983 breakup of A&T under the antitrust laws,[33] or other types of regulation for cable systems.[34]

Indeed, experience demonstrates the unfeasibility and perhaps even undesirability of competing social networks. Gab has held itself forth as a free speech platform in contrast to Twitter, which has more restrictive speech rules. Gab, in fact, has become a haven for extreme right-wing and racist views. Indeed, the Pittsburgh synagogue shooter was active on Gab.

The extremism of Gab's users could justify strict content rules — or at least some argue. But, there could be other ways to look at the phenomenon. At the beginning of the online explosion, Cass Sunstein in his book, Republic.com, and elsewhere[35] predicted that the Internet would diminish public discourse as intermediaries, such as newspapers, declined and people sought like-minded opinions. The Internet would allow communities of like-minded people to flourish and proliferate, creating echo chambers and diminishing deliberative democracy as a whole. Pushing certain extremist viewpoints off major networks can simply create even stronger echo chambers, which reinforces even more extreme views.

While Big Tech's exclusion of far smaller social networks could raise traditional antitrust concerns, bias and censorship may be hard to remedy under Section 2 of the Sherman Act. Given the amorphous nature of social networks and the product they provide, substitutability would be a difficult concept to understand. Is Twitter substitutable for Facebook, the phone company, or the party down the street? For the same reason, market definition would be difficult to agree upon. Classic antitrust models of increased prices and/or decreased output seem difficult to apply to two-sided markets such as search or Facebook in which the product is provided free in an in-kind exchange for viewer attention. Other modes of economic analysis are therefore possibly useful.

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28 https://www.nytimes.com/2018/12/05/technology/facebook-documents-uk-parliament.html.

29 https://www.creators.com/read/michelle-malkin/06/17/youtube-banned-me-but-not-the-hate-imams.

30 https://www.dailywire.com/news/12418/youtube-bans-conservative-channel-hank-berrien.

31 https://www.nationalreview.com/2016/10/google-youtube-prageru-censorship-prager-university-conservative-videos-censored/.

32 Adam Candeub, "Network Interconnection and Takings," 54 Syracuse L. Rev. 369, 381 (2004) ("By the nineteenth century, at least in the United States, courts applied the category largely to those involved in infrastructure-type industries, such as dock owners, toll bridge and road operators, telegraph operators, and perhaps most important for the development of legal doctrine, railroads.").

33 *United States v. Am. Tel. & Tel. Co.*, 552 F. Supp. 131, 138 (D.D.C. 1982).

34 Turner Brdcst. Sys., Inc. v. FCC (Turner I), 512 U.S. 622 (1994).

35 Cass Sunstein, Republic.com (2001); Cass R. Sunstein, "Deliberative Trouble? Why Groups Go To Extremes," 110 Yale L. J. 71 (2000) ("The general problem is said to be one of fragmentation, with certain people hearing more and louder versions of their own preexisting commitments, thus reducing the benefits that come from exposure to competing views and unnoticed problems.").

III. LESSONS FROM VIDEO ECONOMICS

What sort of problem would antitrust regulation solve if not a traditional antitrust problem? The answer might be found in the large corpus of regulation built around video economics — the study of broadcast and cable television. At first blush, Twitter, Facebook, and Google do not seem to be program providers because they do not produce entertainment. They simply connect people as do telephone companies. Similarly, one might say that they are not cable companies as they arguably do not distribute video entertainment — although that position would be at odds with their claims, made repeatedly in litigation, that their platforms reflect their own expression and therefore they should receive First Amendment protection for all the editorial decisions made therein.

Another perspective could view that social media is a form of video entertainment or distribution, after all, there is convincing evidence that social media is a substitute for television watching at least for the young. It is simply another screen that entertains us with moving images and text.[36] In a sense then, social media provides a mediated experience just like television or the movies. Accepting that assumption, then Facebook, YouTube, Twitter — and to some extent Google search — simply become platforms for providing eyeballs to advertisers. They entice viewers with a pleasurable screen-mediated experience for which the viewers pay through watching commercials.

If we take the jump and see social media as a sort of television distributor, then there is a long and accepted literature on video economics which says a lot about whether the social media platforms have the incentive to provide a robust diversity of content. For two to three generations, television and radio broadcasters have been regulated with a view to preserve a diversity of voices and a robust marketplace of ideas. The FCC has always regulated with the explicit goal to maximize diversity of viewpoint, particular local perspectives and legitimate minority view. Broadcasters are subject to "no censorship"[37] and equal opportunity rules for legitimate political candidates.[38] The FCC enforces special "public interest" criteria in merger policy, including the promotion of the "widest possible diversity of information sources and services to the public,"[39] which Congress mandated to promote a "diversity of views provided through multiple technology media."[40]

This economic literature from which this regulation proceeds shows that either under monopoly or competitive conditions, one would not expect video producers to cater to median tastes — leaving out less popular or extremist views. Rather, they have an incentive to ignore or silence minority views.

Hotelling (1929) is usually credited for first observing that markets can produce what he termed "excessive sameness."[41] Consider three ice cream makers who only have capacity to make one flavor of ice cream. Seventy percent of their market prefers chocolate; 15 percent vanilla; and 15 percent strawberry. All three ice cream makers will make chocolate in the hope of getting one third of chocolate lovers or 23 percent of the total market.

Steiner (1952) builds on Hotelling's basic insight about "excessive sameness" to model programming decisions in broadcast television. His model ignores the cost of producing programs and assumes revenue only comes from the number of eyeballs provided to advertisers.[42] Assuming limited channel capacity, and viewers only watch their first choice in programming (and, if not, do not watch at all), Steiner finds that competitive markets produce more sameness than monopoly — although his models allowed for very few programmers.

More current models about programming diversity (Spence & Owen, 1975, 1977 and Wildman & Owen, 1985)[43] allow consumers to express preferences in terms of willingness to pay and account for subscription television in competition to free advertiser-supported television as

36 Stan J. Liebowitz & Alejandro Zentner, "Clash of the Titans: Does Internet use Reduce Television Viewing?," The Review of Economics and Statistics Vol. 94, 234-245 (2002).

37 https://transition.fcc.gov/Bureaus/Mass_Media/Orders/1996/da961646.txt.

38 https://www.fcc.gov/media/policy/statutes-and-rules-candidate-appearances-advertising.

39 https://www.law.cornell.edu/uscode/text/47/521.

40 https://law.justia.com/codes/us/2014/title-47/chapter-5/subchapter-v-a/part-i/sec.-521.

41 Harold Hotelling, "Stability in Competition," Economic Journal, Vol. 39; No. 153 (Mar. 1929).

42 Steiner, P.O, "Program patterns and preferences, and the workability of competition in radio broadcasting," Q.J. Econ. 66. 194-223 (1952).

43 Michael Spence & Bruce Owen, "Television Programming, Monopolistic Competition, and Welfare," The Quarterly Journal of Economics Vol. 91, No. 1 (Feb., 1977), pp. 103-126; Michael Spence & Bruce Owen, "Television programming, monopolistic coopetition and welfare," in Economics and Freedom of Expression (B. Owen ed., 1975).

well as reflect other more realistic assumptions. The results are not unambiguous. But they tend to conclude that "both advertiser-supported and pay television have three biases: against programs that cater to minority-interest tastes, against expensive programs, and in favor of programs that produce large audiences."[44]

Of course, applying these models to Internet platforms is far from straightforward. There are arguments that Internet watching is not like television watching. Unlike the Internet, professionals create television videos and radio songs; social media's content is created in part by normal people, sometimes by quasi-professions, and other times simply reposts of professionally produced content ranging from news stories to videos. Perhaps most important, social networks are networks of people who chose to communicate. From this perspective, social media may be more of a large phone conversation than a video distribution network.

At the same time, one could argue that social media and television are remarkably similar. How different is watching an episode of *Friends* from seeing videos on Facebook of your friends — especially if your friends are attractive and have good haircuts. And, the fact that social networks don't produce material does not mean necessarily that they do not create a specific type of platform. Facebook bans pornography and nudity, and Twitter and the other social networks have elaborate codes of conduct. One could interpret these policies not as a call for civility — but as efforts ensure a non-controversial platform — where viewers would not be shocked by coming across a naked body or an undesired social opinion. Through these rules, the social media platforms express nothing and communicate no idea — they simply create a forum conducive to the greatest number of users.

In that sense, social media provides *one* product: a version of people's lives that will offend or bother as few other people as possible. While this product is unique to each user, it is homogenized for the widest possible audience. This process of homogenization increases the market for social media — but would of course require platforms to weed out upsetting images (or "ideas") that users might encounter while building or creating "their programming." The social media platforms curate potential communities so as to ensure that this creation process will not "run into" nudity or discomforting ideas or anything else that might disrupt the anodyne consumption of online screen time.

Last, social media can serve as a sort of status good or social identifier. Teenagers did not like being on the same network as their grandparents, and flocked to Snapchat and Instagram. Because most people prefer the quantity network effects of Twitter, Gab, which marketed itself as a free speech alternative, is primarily populated by far-right users who do not have access to Twitter, and is often viewed as a place for fascists and racists, which some Gab users sadly take with pride. As with fashion, users say something about themselves through the social media they use.

If social media platforms reflect a sort of identity, then no doubt dominant social media platforms have the incentive to create an identity into which the greatest number of people will be comfortable. The largest "community" will be one in which there are fewest barriers to join, where all will be comfortable, and judgment and offense rare. In this way, the biggest community has the most eyeballs to provide to advertisers. Once again, social media has an incentive to purge from this community dissenting views that might make people uncomfortable.

IV. BEHAVIORAL ECONOMICS AND SOCIAL MEDIA

Behavioral economics suggests that certain social and psychological human tendencies could reinforce the push to the mean preference which video economics often predicts. These mechanisms could, in fact, reinforce each other, making this whole market story more compelling and worthier of regulatory attention.

The behavioral economic literature is replete with what is called the "herd effect" and the related social psychological literature speaks of group polarization.[45] In a way, the herd effect is one of the most basic and ubiquitous human tendencies. Americans, French, and Kenyans each act, dress, and adopt the same views (broadly considered from a global perspective).[46] Humans conform. Similarly, group polarization "is among the most robust patterns found in deliberating bodies, and it has been found in many diverse tasks."[47] People tend to adopt the views of those

44 Steven Wildman & Bruce M. Owen, Video Economics, (Harv. Univ. Press, 1992).

45 Cass R. Sunstein, "Deliberative Trouble? Why Groups Go to Extremes," 110 Yale L.J. 71, 85 (2000).

46 Sushil Bikhchandani et al., A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades, 100 J. Pol. Econ. 992 (1992).

47 *Id.*

around them — and, in fact, will often defer to the views of others despite their own differing information.[48]

The herd effect has been often observed and well established in finance where experts will often adopt views — and take trading positions — simply because their peers do.[49] In addition, the herding and bandwagon effect have been detected in other types of decisions outside of market behavior. In particular, the effects have been detected in peoples' adoption of sentiments and political opinion[50] and even voting.[51] The herd effect has been documented as affecting judges as well.[52]

More recent research has documented the herd and bandwagon effects online. For instance, research has shown that Internet product ratings seem to be influenced by herding and bandwagon effects.[53] Similarly, the bandwagon effect has been identified as causal in retweeting decisions,[54] online product choices,[55] as well as movie ratings.[56]

That sociologists, psychologists, as well as evolutionary biologists have used the effect to explain a variety of human phenomena, suggests an origin of this behavioral tendency in group dynamics or even evolution.[57] Groups have been observed to sanction non-conformist and reward conformists and, therefore, conformity may be related to people's desire to maintain their reputation and their self-conception.[58] In addition, social psychologists have observed how limited "argument pools" can lead to greater conformity within such pools.[59]

Perfectly rational behavior under imperfect information can also lead to herd behavior or "information cascades." An information cascade occurs when a person, with imperfect information, faces a decision and has observed others make the same decision before him or her. It may be rational to follow others who presumably have better information. As Bikhchandani et al. observe, once enough people defer to those who proceed them, each person's decision becomes uninformative to others because everyone is clearly following the herd. At this point, an individual would look to the last "informative" decisionmaker and follow her — thus keeping the information cascade going even knowing it is a cascade.[60]

Social media has the power to create communities that pool information and provide instant feedback to members — feedback, which as the phenomenon of cyberbullying shows — often enforces conformity. These platforms seem ideal places for behavioral tendencies toward herd behavior to proliferate and information cascades occur. If the herd effect occurs in social media, people's political and social views may tend towards the center of an already bland experience that the social media companies parcel out. This narrowing of taste may lead to social media making their offerings even blander — and quickly we could see how consumer preference and social media production leads to a march to the middle. Platforms' incentives reinforce herding effects and vice-versa — all ratcheting peoples' political views and opinions towards the mean while excluding dissenting voices.

48 A. Banerjee, "A Simple Model of Herd Behavior," The Quarterly Journal of Economics, Vol. 107, No. 3, pp. 797-817 (1992).

49 Marco Cipriani & Antonio Guarino, "Estimating a Structural Model of Herd Behavior in Financial Markets."

50 Tom W. G. van der Meer, Armen Hakhverdian & Loes Aaldering, "Off the Fence, Onto the Bandwagon? A Large-Scale Survey Experiment on Effect of Real-Life Poll Outcomes on Subsequent Vote Intentions," International Journal of Public Opinion Research, Vol. 28, Issue 1 (2016).

51 Ivo Bischoff & Henrik Egbert, *Social information and bandwagon behavior in voting: An economic experiment*, Journal of Economic Psychology, I, 34, No. 2 (2013), pp 270-284.

52 Andrew F. Daughety & Jennifer F. Reinganum, "Stampede to Judgment: Persuasive Influence and Herding Behavior by Courts," 1 Am. L. & Econ. Rev. 158, 159-65 (1999).

53 Sinan Aral, "The Problem With Online Ratings," MIT Sloan Management Review; Cambridge Vol. 55, Iss. 2, (Winter 2014) pp. 47-52.

54 Juan Shia, Kin Keung Laib, Ping Hua & Gang Chen, "Understanding and predicting individual retweeting behavior," Applied Soft Computing 60, No. 2 (2017) pp. 844–857.

55 Huang, J. H., & Chen, Y. F. (2006), "Herding in Online Product Choice," Psychology & Marketing, Vol. 23, No. 5, pp. 413–428.

56 Young-Jin Lee, Kartik Hosanagar & Yong Tan, "Do I Follow My Friends or the Crowd? Information Cascades in Online Movie Ratings," Management Science, Vol. 61, No. 9, pp. 2241-2258 (2015); Duncan J. Watts & Peter Sheridan Dodds, "Influentials, Networks, and Public Opinion Formation," Journal of Consumer Research, Vol. 34, Issue 4, 1 (2007) pp 441–458.

57 Elliott Sober & David Sloan Wilson, Unto Others: The Evolution and Psychology of Unselfish Behavior, (Harv. Univ., 1999).

58 Cass R. Sunstein, "Deliberative Trouble? Why Groups Go to Extremes," 110 Yale L.J. 71, 100 (2000)

59 *Id*.

60 Sushil Bikhchandani et al., "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades," 100 J. Pol. Econ. 992 (1992); David Hirschleifer, "The Blind Leading the Blind: Social Influence, Fads, and Informational Cascades," in The New Economics of Human Behavior 188, 189 (Mariano Tommasi & Kathryn Ierulli eds., 1995).

V. CONCLUSION

These are, of course, simply preliminary speculations on how consumer's behavioral economic tendencies could, combined with the social media platforms' economic incentives, dampen public discourse. Much more research is necessary to establish the mechanism by which this herding effect occurs online and whether it constricts discussion in significant ways.

And, they do not suggest a remedy — certainly not of the classic antitrust sort. But these concerns should motivate antitrust regulators to take a more active interest in the power of the dominant social media platforms and search engines not simply in the marketplace but also in the marketplace of ideas.