How Internet Platform Intermediaries Operate

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I. Introduction

Several segments of the Information, Communications and Entertainment ("ICE") marketplace have dominant intermediaries that operate a platform needed by both upstream sources of content and downstream consumers. These ventures can achieve market dominance in a "winner take all" (Malik, 2015) competition by creating the dominant platform standing between upstream content sources and downstream consumers (Schumpeter, 2017). In the markets for broadband carriage and many Internet service market segments, such as social networking, winning ventures quickly can accrue scale and efficiency advantages as more and more consumers join the bandwagon and subscribe (Gal & Elkin-Koren, 2017).

Successful insertion of an intermediary platform has generated both positive and negative impacts on consumer welfare, competition, the rate of innovation, employment and other key factors. On the positive side, intermediaries can promote efficiency and positive network externalities (Katz. & Shapiro, 1985, Moffatt, 2016) where the overall value of a network and its ability to generate consumer benefits grow as more users participate. On the negative side, intermediaries, operating without significant competition, can extract high prices from both upstream and downstream participants, erect strong barriers to market entry and use comparative advantages to dominate in both core and related markets such as the collection, processing and sale of "Big Data" (Helveston, 2016) about subscriber behavior. Additionally, invisible, bad actors, operating upstream from the intermediary, have largely undetected and unchecked opportunities to distort markets and elections, interfere with broadband users' reasonable privacy expectations and threaten trust in such essential institutions as the news media.

Economists use the term two-sided markets to identify platform functions where transactions occur both upstream and downstream from the intermediary (Rochet & Tirole, 2003, 2006, Armstrong, 2006, Filstrucchi, Geradin, van Damme & Affeldt, 2014). The business models used by intermediaries often rely on a strategic calibration of prices, often appearing to provide "free," or subsidized services to users on one side of the platform, typically downstream consumers. Consumers can access valuable services with zero financial payments, but they do have to pay by permitting intermediaries to compile information about their wants, needs, desires, Internet uses, searches and other behavior that can be processed and marketed to advertisers for better targeting of their commercial pitches. Privacy intrusions (Pasquale, 2013) and the commodification of consumer behavior generate significant value that a platform operator can accrue often without subscribers fully understanding and quantifying the potential for reduced benefits.

This paper identifies defects in the ways most governments currently respond to allegations of harm to consumers and competition. Governments can refrain from regulating access and tolerate market concentration as the proper reward for ventures offering desirable content and carriage services. Alternatively, they can impose ex ante safeguards to remedy anticipated harms to competition and consumers such as market concentration, price discrimination, reduced consumer welfare and captured consumer surpluses. Between these poles, governments can rely on courts or an expert regulatory agency to evaluate complaints and offer calibrated remedies.

The paper analyzes a recent Supreme Court case that endorses an analysis of both downstream and upstream market impacts. It recommends that courts and government agencies should address marketplace distortions by recalibrating existing tools to examine the competitive and consumer impacts on both sides of an intermediary's platform.

II. Consumer Benefits from Two-Sided Markets

Intermediaries have operated in many marketplaces for centuries (Cohen, 2018). Examples include travel agents, broadcast networks, newspapers and credit card issuers. Emerging broadband, digital platforms have enhanced the power and impact of such ventures resulting in vast changes to "the traditional equilibria of supply and demand, blurring the lines between owners and users, producers and consumers, workers and contractors, and transcending the spatial divides of personal and professional, business and home, market and leisure, friend and client, acquaintances and stranger, public and private." (Lobel, 2016 p. 90) Digital broadband platform operators can accrue substantial consumer benefits even as they acquire increasing market shares. A "win-win" scenario combines ample benefits for platform operators and consumers by enhancing the value proposition in commercial transactions.

Digital broadband platform operators can quickly acquire scale economies (Peritt, 2017) and efficiency gains by attracting growing numbers of users and spreading costs over a large population of users. The incremental cost to add an additional participant approaches zero, because many Internet-mediated markets have high initial, investment costs, but very low incremental costs incurred when adding users. Additionally, these platforms can accrue positive networking externalities (Lemley & McGowan, 1998, Newman, 2012) as subscribership grows. When intermediaries reach a critical mass of popularity, non-users see the advantages in joining the bandwagon which further enhances the comparative attractiveness of a single platform operator vis a vis other competitors and options.

Platform intermediaries must deliver a compelling value proposition to generate consumer use, particularly when alternatives exist, with low entry barriers and switching costs. The combination of competitive necessity and more efficient operations can readily translate into the offering of lower priced products and services to consumers, particularly because two-sided platform operators can calibrate how much to charge each side:

> [P]rofit-maximizing prices may require charging one side less than the marginal cost of serving that side. Empirical surveys of industries based on . . .[two-sided platforms] find many examples of prices that are low, or even negative, so that customers on one side are incentivized to participate in the platform (Evans & Noel, 2005 at p. 668).

III. Consumer Costs from Two-Sided Markets

Immediate and longer-term costs offset readily identifiable benefits from two-sided platforms. In the short term, ventures like Amazon enhance consumer welfare by offering a growing inventory of products and services at lower prices, the product of operational efficiencies and the willingness to eschew profits in exchange for increasing market share and scope. However, in the longer term, consumers may suffer from the loss of competition from "bricks and mortar," local vendors as well as from the consequences of ever more accurate assessment of consumer price sensitivity and increasingly invasive collection of subscribers' consumption behavior and the brokering of such data by largely unregulated ventures (Kuempel, 2016). At some point, online platform operators may consider their market position sufficiently impenetrable so that they can refrain from aggressive price cutting and forgoing near term profitability.

Additionally, these operators may have so developed data analytics that they can quite accurately set and frequently modify prices with an eye toward maximizing profits (Fleming, 2015). Dynamic pricing refers to the ability of product and service vendors to change prices quickly by collecting and analyzing data about current consumer demand (Calo, 2014, Adame, 2016). Rather than set a fixed price, only occasionally raised or lowered, vendors can make frequent pricing changes based on current marketplace conditions.

While such dynamic pricing arguably represents an efficiency enhancing, fine-tuning of price setting, consumers may consider it unfair and discriminatory. With the ability to track current demand for a product or service, intermediaries can use so-called surge pricing that imposes an algorithm calculated price. For example, on demand transport services vary their quoted rates based on a current assessment of available cars and demand. While rates may fall below that charged by a tariffed taxi cab service, peak demand can trigger massively higher rates offered by new platform ventures such as Uber and Lyft. Amazon's algorithm temporarily quoted a 2,630.52 price for a used paperback book usually offered for 1.99. (Streitfeld, 2018).

IV. Subscriber Data Value and Lock-in Cost Missing in the Cost/Benefit Analysis

One can readily assess the benefits of access to intermediary platforms, but the costs are not as readily determined. Consumers may wrongly assume that they have free access, because in most instances access to content triggers no upfront subscription payment. The free access conclusion fails to consider two somewhat hidden and not easily quantifiable costs: 1) the increase in the price of advertised goods and services, possibly better calibrated through data mining resulting in surge prices; and 2) the monetary value accruing to intermediaries when they acquire, collate, analyze and sell consumer data, as well as auction advertising placements on their web sites (Bodie, Cherry, McCormick & Tang, 2017, Woodcock, 2017, Hacker & Petkova, 2017).

Broadband intermediaries have achieved remarkable success in developing techniques to monitor, surveil, collect, analyze, collate and sell subscriber data. This reduces the value position of what the intermediary offers because the ability to "mine" subscriber data has value that can provide a substantial, new revenue stream from freely collected consumer data.

V. Deficiencies in Existing Government Oversight Models

Outside the European Union, (European Parliament, 2016) most governments have failed to revise existing legal, regulatory and jurisprudential models and frameworks for application to issues raised by the onset of digital broadband intermediary platforms. This section addresses how traditional governmental strategies ignore fundamental differences between bricks and mortar and Internet-mediated transactions.

As a threshold matter, governments decide whether and how to intervene in a specific industry sector. They may opt to rely entirely on marketplace forces, confident that competition will force stakeholders to operate in ways that deliver a compelling value proposition for consumers without anticompetitive practices. Other governments may pursue the opposite: an interventionist approach, imposing ex ante rules and regulations, such as network neutrality (Frieden, 2015) and common carrier regulation. Between these polar opposites, two alternative, possibly complementary, ex post strategies exist: 1) apply antitrust, consumer protection and prohibitions on unfair trade practices to remedy proven harms and 2) use dispute resolution through litigation and complaint filing procedures to fashion remedies that typically impose monetary fines and compulsory modification of business practices.

Each of the legacy models fails to achieve an ideal balance between governmental regulatory forbearance and intervention, primarily because the assumptions, strategies and tactics applied do not make essential adjustments reflecting the difference between digital, broadband networking and preexisting channels of commerce. Without modification of market definition and impact assessment, governments risk false positives, which trigger unnecessary marketplace intervention, or by reaching false negatives, which fail to trigger important safeguards based on an incorrect determination that no harm to consumers or competition has, or will occur.

VI. A Realistic Assessment of Platform Costs and Benefits

Consumers and governments may not fully understand the tradeoffs when digital, broadband intermediaries dominate many ICE market segments. One can readily appreciate the upside consumer benefits in having access to advertiser-supported content and Internet markets subsidized by ventures willing to forego short term profits for longer term market share and product diversification. A more difficult undertaking calculates what direct and indirect costs consumers incur, presently and in the future, for the opportunity to participate in "winner take all" two-sided markets.

Prevailing economic doctrine, widely embraced by government legislators, judges and regulators, favors an inclination not to intervene in the marketplace, when identifiable, near term cost savings and other welfare enhancements flow to consumers. Much revered, so-called Chicago School marketplace assumptions (Bork, 1978, Posner, 1979, Crane, 2014) and antitrust prescriptions may not make sense for digital, platform markets including the view that rational commercial actors (such as Amazon) never would pursue below market pricing given the unlikely opportunity to recoup current losses in the future. Likewise, a laser focus on efficiency and consumer welfare, as espoused by Robert Bork, may require a longer timespan that considers whether immediate and easily measured, short-term consumer welfare enhancements partially or completely offset in the longer-term. Such analysis requires scrutiny of both downstream and upstream market effects.

At the very least, it has become increasingly clear that consumers must contribute more value, than what they might infer from widespread promotion of "free" and subsidized access. Even in the short run, the value proposition from participating in two-sided markets may decline as consumers begin to understand the monetary value of the network usage data they generate and consent to having platform operators use for dynamic pricing of their goods and services and as a marketable commodity for sale to upstream advertisers.

In the longer term, the commodification of consumer data may accrue the greatest strategic and financial advantages for ventures that already have successfully exploited positive network externalities and have acquired large market shares. This advantage stifles innovation and competition if consumers cannot freely change their platform subscription and take their business to another platform. In the Internet ecosystem, consumers often lack complete information about what they must pay and what they lose in exchange for the opportunity to become a subscriber. Few consumers may have the disposition and wherewithal to undertake regular cost/benefit analyses as well as a determination whether to stick with the status quo, or to seek better terms and conditions. Such inertia enhances the ability of incumbent unicorn firms to maintain their market dominance.

Simply put, digital broadband consumers may likely suffer more significant, but not readily quantifiable harms, as digital, broadband intermediaries find new and more precise ways to maximize revenues from both upstream and downstream sources. Real or perceived lock-in by incumbent firms help maintain their market dominance.

Government agencies with jurisdiction to monitor such actions appear ill-equipped to provide effective oversight based on their fealty to now questionable economic and antitrust theory, the inability or unwillingness to consider costs and benefits on both sides of the two-sided market and their emphasis on short term consumer benefits that may not seem as generous as initially estimated.

A. The Way Forward

Regulatory agencies with jurisdiction to safeguard consumers and reviewing courts should better calibrate the tools they use to investigate the potentially harmful effects of platform intermediaries on competition and consumers, with emphasis on the potential for privacy intrusions, unfair trade practices, market concentration and anticompetitive tactics. The goals for recalibration should focus on acquiring a better understanding of platform operator practices and their impacts rather than serve as a justification for more intrusive government oversight. Such a holistic approach can better assess the costs and benefits generated by platform intermediaries.

1) Assess Impacts on Both Sides of a Platform

To achieve greater clarity on the potential for beneficial and harm impact, courts and government agencies should examine platform operations on both upstream and downstream market sides. Using a cost benefit analysis, they may determine that harmful impacts on one side are offset by benefits on the other side. In other instances, they may identify greater harms or benefits when examining both sides.

By examining both sides of a digital, broadband platform market, courts and regulatory agencies can enhance the accuracy of their assessment of competition and whether consumers benefit or suffer from doing business with intermediaries having significant market share. In turn, they can better calibrate a remedy, or reach an empirically supported conclusion that no market intervention is necessary.

a) Insights from Ohio v. American Express

A recent Supreme Court decision involving a credit card issuer, provides insight on current disputes about the proper scope of market definition and analysis of platform intermediaries (Ohio v. American Express Co., 2018). The case addressed how courts should define the relevant market (Katz, M. & Sallet, 2018) to prevent finding anticompetitive harms where little or none exists, a false positive, and perhaps also to avoid decision making that ignores consumer harms, a false negative.

In *Ohio v. American Express*, the conservative majority of the Supreme Court, endorsing recent economic doctrine championed by academics (Filistrucchi, Geradin, Van Damme, & Affeldt 2014, Evans & Schmalensee, 2008, Evans & Noel, 2005), upheld a decision by the Second Circuit Court of Appeals to reject a lower court's relevant market determination in an antitrust review of an alleged vertical restraint of trade. The Court endorsed the finding that the lower court should have assessed consumer impacts on both sides of markets served by the credit card issuing company: the downstream users of cards and the upstream vendors accepting cards for payment. The alleged vertical restraint involved so-called anti-steering contractual language that prohibited vendors, agreeing to accept American Express credit cards, from trying to persuade customers to use a different card that imposed lower "swipe fee" processing costs on the vendor.

While suggesting that its relevant market and impact analysis required consideration of how anti-steering provisions affected both merchants and consumers—ostensibly a complete two-sided market assessment-- the District Court focused on how the anti-steering contractual language helped maintain higher swipe fees that harmed both credit card issuer competition and consumers with apparently no offsetting benefits (United States v. American Express Co. 2015). This court also determined that American Express had market power, because it imposed 20 fee increases over a 5-year period without losing market share in terms of the number of vendors accepting its cards and its market share of credit card transactions. The court determined that in the absence of the anti-steering provisions, swipe fees to merchants would have been lower as would consumer costs. The court also considered corroborating evidence the decision by the Discover credit card company to abandon its business model of offering comparatively lower fees as an inducement for more vendors to accept the card for payment and in turn to acquire greater market share of credit card usage. As the company having the smallest market share, Discover sought to differentiate its card with merchants, but could not acquire more market share, because vendors could not encourage customers to use it.

Both the Second Circuit Court of Appeals and the Supreme Court opted to examine all market impacts on both sides of the credit card platform marketplace. They concluded that to assess the complete impact of a credit card company's anti-steering contractual language, courts should identify and consider the consequences of any positive or negative impact. The lower court was deemed to have failed to consider how anti-steering rules could have positive impacts that could offset the negative impacts the lower court identified, as well as impact the relationships and interactions between both market segments.

The appellate courts undertook a comparison of costs and benefits affecting both vendors and credit card users. While anti-steering rules mandated by credit card issuers can constitute an illegal vertical restraint on trade, by reducing competition among credit card companies, the courts considered the potential for offsetting, positive financial impact on credit card users through more generous and diversified benefits, e.g., financial rebates and enhanced travel services.

The Second Circuit Court of Appeals examined both sides of the credit card market, because variance in costs incurred by both vendors and credit card users can impact both sides of the platform operated by a credit card issuer. Considering the interdependency of product and service vendors and consumers using credit cards, the court identified two joint market effects not considered by the lower court: 1) impact of anti-steering rules on the level of card issuer market competition and 2) the impact of credit card issuer anti-steering rules on their incentives to offer usage inducements to consumers. While the credit card marketplace is concentrated with only four companies and evidences substantial barriers to market entry, the court noted the ease with which consumers can shift card allegiance based on many factors including the costs incurred by using a specific card as well as the financial inducements offered by credit card issuers to encourage consumer loyalty.

The Supreme Court conservative majority affirmed the Second Circuit Court of Appeals analysis and conclusion that the lower court should have assessed the consumer impact of transactions occurring on both sides of the credit card issuer's platform. The Court determined that both sides of an intermediary platform require examination, because two inter-related transactions take place, each of which affect both upstream and downstream participants. By examining the marketplace impact on both sides of the American Express platform, the Court identified consumer and competitive benefits that offset the harm to consumers identified by the District Court.

Identifying this benefit would not occur if a court solely examined impacts on just one side of the intermediary's transactions, when identifying what constitutes the relevant market for credit card services. Because credit card anti-steering contractual terms might not constitute an unlawful vertical restraint on trade, the reviewing court could avoid a false positive finding of anticompetitive harm to consumers by acquiring a complete evidentiary record including an assessment about the potentially favorable impact of the anti-steering contractual language on both vendors and consumers.

A dissenting opinion, written by Justice Breyer and joined by the three other liberal Justices, disputed the lawfulness of the two-sided market examination. He strongly asserted that the lower court had no reason to expand its market impact analysis, noting that no antitrust case precedent supports doing so. Additionally, he noted case precedent does not favor judicial netting or balancing of competitive benefits and harms occurring in different markets.

The sole focus on the immediate impact of higher swipe fees on downstream credit card users ignores other factors that might reduce or eliminate a conclusion of anticompetitive harm such as higher prices to consumers. A more nuanced, calibrated and granular analysis considers the credit card ecosystem as both two-sided and segmented by card issuer marketing strategies. Swipe fee pricing strategy constitutes a key differentiator for which credit cards a vendor would accept, but other factors come into play, particularly on the consumer side. Some consumers might want a credit card that offers generous financial rebates and other subsidies, such as airline miles. Others might want one that offers a low short-term interest rate on balance due transfers. Others might willingly pay for the privilege of tapping a benefit-rich inventory, including airline lounge access, "free" baggage allowances on specific airlines, concierge-provided travel assistance and early opportunities to buy Broadway and concert tickets.

In this more segmented marketplace, a credit card company might execute a strategy of demanding comparatively higher swipe fees of vendors to generate more generous and desirable credit card user rewards. Another company might use lower swipe fees as an incentive for more vendors to accept purchases using the card. Arguably, such differentiation promotes a competitive marketplace both in terms of what inducements credit card companies must offer consumers and which card a consumer will use for each transaction.

The *American Express* case emphasizes the need for courts and by extension, regulatory agencies, to consider the relationship between upstream and downstream market participants in terms of their impact on each other—interdependency—and in terms of their relationship with the platform intermediary. In the credit card ecosystem, the availability of alternative credit cards and the ease with which consumers can change allegiances evidence a competitive credit card platform marketplace with significant consumer sensitivity to comparative costs and benefits accruing from the use of specific cards. Some credit card users attempt to maximize downstream subsidies and rebates by acquiring many different cards and strategically using the one card conferring the best benefits for each transaction, e.g., Card A for gasoline, Card B for airline tickets, Card C for restaurants.

The division of the Supreme Court on a liberal vs. conservative fulcrum in this case may identify what constituencies and economic doctrine each faction favors. The majority persuasively demonstrates that in the credit card ecosystem, two complementary and inter-related transactions take place. Justice Breyer, in dissent, suggests that the complementary relationship between the products has no applicability to the purpose of defining the market for credit card transactions that identifies product and service substitutes. The Court majority considers card user and card accepting vendors as jointly participating in transactions that affect each other and thereby bind them and their markets together.

2) Consider Whether and How Lock-In Exists

Courts and regulatory agencies should consider the service options available to digital, broadband subscribers. In some instances, they have ample choices that prevent lock-in and evidence a competitive marketplace. However, in other instances, lock-in occurs, because consumers have few alternatives, or they incur costs, inconvenience, or reduced benefits if they leave the dominant platform.

Lock-in can occur even when alternative options exist. For example, an electronic commerce site, like eBay, may steer subscribers to a former affiliated electronic funds transfer platform operated by PayPal, even though alternative payment systems exist. Consumers have incentives to use PayPal, because the eBay site appears to favor and expedite such transactions and most vendors prefer to receive payment via PayPal. The preference for PayPal and the greater ease consumers have in using the preferred payment system generate substantial motivations to take the promoted and preferred path of least resistance.

Courts and regulatory agencies should consider the potential for lock-in beyond simply assessing whether a specific market segment has multiple platform operators. The existence of alternatives, by itself, does not evidence a competitive marketplace which can self-regulate. In the absence of viable service alternatives, courts and regulators should consider downstream consumers' quality of experience to ensure that the apparent preference for a single platform option promotes convenience and enhances consumer welfare.

3) Assess Market Impacts, Rather Than Simply Calculate Market Share

As noted, courts and regulators generally refrain from reaching conclusions about market competitiveness based solely on calculations showing a concentrated market, or one dominated by a single venture. Large firms having high market share may evidence a firm's superior business acumen, or the need for ventures to accrue economies of scale to thrive in a specific market segment.

On the other hand, market dominance may have significant and potentially adverse impacts on consumers and the potential for competition. Significant harm may arise because a firm can leverage dominance in one market to dominate other market segments. For example, Google dominates the market for Internet search and advertising, despite ample alternatives. Regulatory or judicial intervention is not warranted simply because Google has acquired substantial market share in Internet search. However, the company's success in dominating the search market also translates into substantial market share in the auctioning of advertising opportunities to search consumers (Newman, 2014), making it possible for the company to impose anticompetitive terms and conditions.

Courts and regulators may need to consider the inter-relationship between a venture's successes in two or more markets, because dominance in combined, or interdependent markets, may trigger new or greater risks for consumers. Just as platform intermediary operation affects both downstream and upstream users, so too can market success in one market generate uncontested opportunities to extend market power elsewhere. Such leverage may have adverse impacts on the potential for new competition, even from innovative ventures.

VII. Conclusion

Digital broadband technologies and markets have reached a critical mass of market penetration and efficiency enhancements highlighted by embedded platforms. The Internet ecosystem has many market segments predominated by single ventures that have acquired dominance in "winner take all" competition that rewards ventures best able to exploit positive network externalities. Intermediaries have conferred significant, identifiable benefits to consumers, who also incur offsetting costs, not all of which can be easily quantified or measured. Intermediary platforms operators can calibrate cost recovery from both upstream and downstream users. In many instances, downstream consumers have benefitted from subsidies and pricing strategies that reduce, or eliminate direct, out of pocket costs. However, subsidy payers, such as advertisers, eventually recoup their costs through higher charges for goods and services. In light of enhancements in the acquisition, analysis and marketing of consumer behavior data, both vendors and platform intermediaries now have more diversified and extensive ways to recoup costs and to improve prospects for generating more revenues. Such data mining can impose new costs on consumers who must tolerate ever more extensive privacy intrusions in exchange for access to so-called free services. Enhanced consumer surveillance can impose lower or higher costs as exemplified by dynamic pricing that frequently changes rates through algorithmic analysis of overall demand, as well as a prediction of a prospective customer's intensity of preference for a particular good, or service.

In light of the mixed impacts of embedded intermediaries on competition and consumers, legislatures, courts and regulators should apply new tools for assessing current and prospective impacts. Unfortunately, the speed of innovation and the convergence of technologies and markets have exceeded the ability of governments to stay current. Accordingly, the tools used to assess market impacts have become ill-suited and poorly calibrated to meet new challenges (Brandenburger, Breed & Schoning 2017). Conventional competition policy and economic theories lack an emphasis on identifying both short term and longer-term consequences of platform operations. While immediate consumer welfare enhancement supports regulatory forbearance, governments need to consider whether and how longer-term impacts will remain benign or favorable.

In too many instances, governments have overstated consumer benefits and the absence of competitive harm. Most courts and regulatory agencies have not considered an intermediary's impact on both upstream and downstream markets, failed to consider fully whether and how subscriber lock-in has occurred and generated rationales excusing substantial market concentration based on short term consumer benefits that may not be as generous if offsetting privacy intrusions are considered.

Going forward, governments should appreciate that platform intermediaries do not operate as charities and that the conferral of benefits to consumers may be offset by negative impacts on both consumers and competition, even in the short term. A more holistic examination of impacts, without placing a premium on short term consumer benefits, would generate a more accurate assessment of the mixed impacts generated by platform intermediaries.

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