No. 16-1454

In the Supreme Court of the United States

STATES OF OHIO, CONNECTICUT, IDAHO, ILLINOIS, IOWA, MARYLAND, MICHIGAN, MONTANA, RHODE ISLAND, UTAH, AND VERMONT,

Petitioners,

v.

AMERICAN EXPRESS COMPANY, AND AMERICAN EXPRESS TRAVEL RELATED SERVICES COMPANY, INC.,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

BRIEF FOR *AMICI CURIAE* JOHN M. CONNOR, MARTIN GAYNOR, DANIEL MCFADDEN, ROGER NOLL, JEFFREY M. PERLOFF, JOSEPH A. STIGLITZ, LAWRENCE J. WHITE, AND RALPH A. WINTER IN SUPPORT OF PETITIONERS

ANTHONY J. BOLOGNESE
Counsel of Record
BOLOGNESE & ASSOCIATES, LLC
1500 JFK Boulevard, Suite 320
Philadelphia, PA 19102
(215) 814-6750
ABolognese@Bolognese-Law.com

Counsel for Amici Curiae

December 14, 2017

TABLE OF CONTENTS

INTEREST OF *AMICI CURIAE*................................ 1

SUMMARY OF ARGUMENT 1

ARGUMENT 9

I. "TWO-SIDEDNESS".. 9

II. PLATFORM COMPETITION IN TWO-SIDED MARKETS... 13

III. THE AMEX RESTRAINTS HARM HORIZONTAL COMPETITION AMONG CREDIT CARD PLATFORMS 16

IV. CROSS-MARKET EXTERNALITIES.............. 24

V. MARKET POWER, MARKET DEFINITION AND INSISTANCE 29

VI. INCREASED AMEX OR CREDIT CARD OUTPUT DOES NOT DEMONSTRATE THE ABSENCE OF ANTICOMPETITIVE IMPACT34

CONCLUSION... 36

TABLE OF AUTHORITIES

Cases

Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007) 16

Times Picayune Pub. Co. v. United States, 345 U.S. 594 (1953)... 5, 30

U.S. Airways, Inc. v. Sabre Holdings Corp., 2017 U.S. Dist. LEXIS 40932 (S.D.N.Y. Mar. 21, 2017) 10

United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001) 5

Other Authorities

A. Boik & K. Corts, *The Effects of Platform Most-Favored Nation Clauses on Competition and Entry*, J. of Law & Econ. (2016) 12

A. Dixit and J. Stiglitz, *Monopolistic Competition and Optimum Product Diversity,* Am. Ec. Rev. (1997)...25

D. Carlton & R. Winter, *Vertical MFN's and the Credit Card No-surcharge Rule* 11, 12

G. Stigler, *Price and Non-Price Competition*, 76 J. Pol. Econ. 149 (1968) 24

J. Johnson, *The Agency Model and MFN Clauses* (Jan. 25, 2017) 12

J. Rochet and J. Tirole, *Two-Sided Markets: A Progress Report*, Rand J. of Econ. 37(3) (2006)...... 9

Lear, *Can "Fair" Prices Be Unfair? A Review of Price Relationship Agreements*, UK Office of Fair Trading, Paper #1438 (2012)................................ 12

M. Rysman, *The Economics of Two-Sided Markets*, *J. of Econ. Perspectives* 23(3) (2009) 9

S. Salop & S. Morton, *Developing an Administrable MFN Policy*, Antitrust (2013) 12

S. Schuh et al., *An Economic Analysis of the 2011 Settlement Between the Department of Justice and Credit Card Networks*, J. of Competition Law & Econ. (2012) 12

INTEREST OF *AMICI CURIAE*

The *amici* are eight economists – scholars and experts in competition, industrial organization, and the economic analysis of antitrust issues.[1] *Amici* respectfully submit that sound antitrust economics supports judgment in favor of the Petitioners. The Second Circuit's ruling sets new and flawed antitrust standards for analyses of two-sided markets, standards that are based on a fundamental misunderstanding of the economics of such markets. Unless corrected by this Court, the decision will result in anticompetitive distortions not only in the credit card industry, but also in the many extant and emerging industries that involve or are alleged to involve two-sided platforms.

SUMMARY OF ARGUMENT

The question presented to this Court is whether, under the "Rule of Reason," a showing that

---

[1] The attached Appendix identifies the *amici*. The amici include Joseph Stiglitz, who is currently consulting and is an expert witness for a number of national supermarket and drugstore chains that have challenged Amex's, Visa's, and MasterCard's restraints in related lawsuits pending in the District Court. See Appendix.

No counsel for a party authored this brief in whole or in part, and no party or their counsel made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amici* or their counsel made a monetary contribution to its preparation or submission.

Counsel for Petitioners and Respondents have consented to the filing of this brief through blanket consents to the filing of Amicus Curiae briefs.

the Amex Merchant Restraints[2] suppressed price competition on the merchant side of the credit card platform suffices to prove anticompetitive effects and thereby shift to Amex the burden of establishing any procompetitive benefits from the Restraints? The Second Circuit held that for the Government to prove that the Amex Restraints were anticompetitive, the Government bore the burden to show *not just* that the restraints had anticompetitive pricing effects on the merchant side, *but also* that those anticompetitive effects were not outweighed by any benefits on the cardholder side.

The amici submit that the proper analysis of the Amex Restraints is straightforward – the Restraints impede competition among credit cards in the pricing of their services to merchants. Demonstration of this paradigmatic anticompetitive effect is, amici submit, sufficient to shift to Amex the burden of demonstrating procompetitive effects from its Restraints.

In this brief, amici show that the Second Circuit was incorrect in its analysis of two-sided platforms and markets. But, more importantly, amici submit that it is unnecessary for a court to delve into the difficult economics of two-sided

---

[2] The Court of Appeals summarized the Amex Merchant Restraints (or "Amex Restraints" or "Restraints") as "barring merchants from (1) offering customers any discounts or nonmonetary incentives to use credit cards less costly for merchants to accept, (2) expressing preferences for any card, (3) disclosing information about the costs of different cards to merchants who accept them." Pet. App. 4a.

markets in the first stage of a Rule of Reason analysis of the Amex Restraints. Contrary to the Second Circuit's ruling, the proper analysis in the first stage of the Rule of Reason analysis is not whether the two-sided aspects of Amex's business lead to impacts from its Restraints on both sides. Rather, the critical determination is whether a restraint that impedes price competition among credit card companies regarding merchant fees demonstrates an anticompetitive impact, thus satisfying plaintiffs' initial burden. Amici submit that the answer is clearly that it does. If the two-sided nature of Amex's business somehow justifies such suppression of horizontal price competition at the merchant level, this should be for Amex to demonstrate in the second stage of the analysis.

A two-sided platform is characterized by a seller that brings together two different sets of users (the two sides), *and* where increased usage on each side benefits the other side (referred to in economics as two-sided externalities).[3] The Court of Appeals assumed that because Amex must attract both cardholders and merchants, it must be a two-sided platform with the requisite significant feedback effects from Amex's merchant pricing on cardholders and vice versa. But the fact that a firm such as Amex must attract two sets of users does not mean there are such feedback effects. The Court of Appeals

---

[3] The Court of Appeals characterized this as "price changes on one side can result in demand changes on the other side." *U.S. v. Am. Express Co.*, 2016 WL 5349734, at *3 (2d Cir. Sep. 26, 2016). This is not strictly correct as it is increased usage on one side that increases value on the other side. Of course, typically changes in prices change usage.

allows for a very broad conception of two-sided platforms, one under which almost every firm—ranging from grocery stores (who need food buyers and food producers) to delivery companies (who need senders and receivers)—could qualify as a two-sided platform.[4]

Regardless, assuming Amex is a two-sided platform, then its pricing on one side of its platform would impact demand on the other side. This complexity is perhaps what led the Court of Appeals to rule that the assessment of the anticompetitive impact of restraints supporting high prices to one side must consider the impact on the other side. But that is certainly not a sufficient basis to change established antitrust analysis. For example, for any firm selling complements (complements are products used together like tennis rackets and tennis balls), changes in the price of one good will change the demand for the other good.[5] The fact of such pricing interrelationships does not imply that the proper analysis of an anticompetitive act regarding one product must take account of the impact on the other products. Nor do such pricing interrelationships imply that the relevant economic market for

---

4 Before reconfiguring the established and well-understood Rule of Reason analysis for a mature network like Amex, careful analysis should be conducted to ascertain the significance of any feed-back effects from pricing to each side from the other side (two-sided externalities), and whether there are ways of appropriately incorporating the analysis of allegedly two-sided markets within the standard Rule of Reason framework.

5 This positive cross-elasticity of demand is what economically defines complements.

assessment of competitive impact should include all goods impacted by a price change of one product.

While the Court of Appeals ruling purports to be based on the economics of "two-sided markets," it departs sharply from prior antitrust analyses and rulings involving two-sided markets. Formal economic analysis of two-sided platforms is relatively new, but antitrust analysis of industries involving two-sided platforms is not. For over fifty years, courts have analyzed the competitive impact of restraints on one side of a two-sided platform by focusing on how competition among competing suppliers on that side of the market is affected.[6]

In this case, the Court of Appeals departs from this standard analysis by requiring a plaintiff to show that a competitive harm on one side of a platform (here the merchant side) is not offset by purported benefits on the other side of that same

---

[6] *See, e.g.*, *Times Picayune Pub. Co. v. United States*, 345 U.S. 594, 610 (1953) (confining competitive analysis to "advertising market, not in readership" while noting that "every newspaper is a dual trader in separate though interdependent markets."); *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (en banc) (analysis of restraints on entry of competing browsers).

Under the Court of Appeals ruling, in *Times Picayune* at the first stage of the Rule of Reason analysis, the government would have to show that any benefits to readers from high advertising prices do not outweigh the anticompetitive effect of those high prices. In *Microsoft*, the government would have to show that any benefits to, for example, application developers from Microsoft's monopoly over browsers, do not outweigh the adverse effects of that monopoly.

platform (the cardholder side). To the extent that a Court departs from established Rule of Reason analysis and allows harms and benefits to two distinct sets of consumers to be balanced, an approach amici do not endorse, then Amex, as the proponent and enforcer of the Restraints, is in the best position to understand and quantify any cognizable benefits to cardholders resulting from any relevant two-sidedness of its business. Requiring the government or a private plaintiff victim of a restraint of trade to prove that its harm is not offset by benefits to third parties would create an unwarranted, inefficient and unreasonable burden.

If not stymied by the Amex Restraints, credit card platforms (Amex, Visa, MasterCard, and Discover) should compete against each other on price. The price competition would be on each side of the platform. Each credit card platform offers a pair of prices consisting of the price charged to merchants for the use of the platform's card acceptance services, and a price charged to cardholders (including benefits in the form of "rewards" and other charges). One platform may choose to compete by offering a high merchant price and high rewards to cardholders. Another platform may choose to offer lower merchant fees and lower cardholder rewards, expecting that merchants will steer its customers to that platform's cards by offering discounts or other incentives at the point of sale due to the comparatively low merchant fees.

With competition in the market, each network chooses its preferred price pair. Market forces, which can include differential pricing or other benefits such as a preferred checkout line at the point of sale, would sort out how much of that platform's services will be demanded – that is, its success in the market. The Amex Restraints directly interfere with this competition among the credit card platforms. With the Amex Restraints in place, a rival credit card platform or a new entrant that attempts to compete against Amex with lower merchant fees will likely be unsuccessful. The Amex Restraints prohibit merchants from passing that low fee on to the cardholders – the people who chose which card to use. Thus, a credit card platform with lower merchant prices than Amex can garner little additional sales from its low merchant prices; it will be driven by the Amex Restraints towards Amex pricing.

Competition requires that (1) credit card platforms can freely choose their prices, (2) consumers have choices of card network rewards versus the merchant-offered discounts and incentives, and (3) competitive market forces determine how much of alternative platforms' services will be demanded. The Amex Restraints prevent the price system and competition from working properly. Prices should guide decision making. But the Restraints prevent the merchant from reflecting the high Amex price it pays in the prices it charges customers for the use of this high-priced payments service.

Amici respectfully submit that the proper analysis of restraints imposed on one side of a two-sided platform is the established Rule of Reason analysis previously recognized by the Second Circuit and adopted by many other Circuits. Under this standard analysis, the first step is to determine if a restraint, whether on one or both sides of a platform, injures competition between and among platforms on the "side" where the restraint is imposed.[7] If a plaintiff satisfies this showing, the defendant can then show procompetitive benefits that may or may not offset the anticompetitive impacts.[8]

The Second Circuit erred by disregarding the critical antitrust issue – the impacts of the Amex Merchant Restraints on competition among credit card platforms. The Second Circuit erroneously (1) assumed that the characterization of the Amex service as a two-sided platform should fundamentally change the traditional antitrust principles that govern the Amex Restraints, (2) misunderstood the nature of competition in two-sided markets, (3) incorrectly defined the relevant market in which to assess anticompetitive impact as including both merchants and cardholders, and (4) presumed that reductions in Amex cardholder prices are a procompetitive benefit, and then placed the burden on plaintiffs to prove that the harm from supra-competitive merchant fees are not outweighed by benefits to third-party cardholders.

---

[7] In the credit card market, all firms operate platforms dealing with both sides of the market. Amici hence refer to competition among platforms. In other settings, some market participants may operate on only one side. Generally, the proper inquiry at the first stage would be on the side where the restraint is imposed.

[8] As amici explain below, the impact on the prices charged to the other side of the platform is not a procompetitive benefit.

If the ruling of the Court of Appeals stands, the adverse impact will be substantial. Credit card platforms process trillions of dollars of transactions in the United States annually. More importantly, firms operating in two-sided markets using the internet, such as Amazon, Uber, Facebook, Google, and Airbnb, are multiplying in number and size. The Court of Appeals decision gives firms in these rapidly developing markets latitude to act anticompetitively through an action on one side of their platform as long as they can point to some indirect or secondary benefit on the other side of the platform populated by a different set of consumers.[9] The Court of Appeals ruling will make analyses of such conduct needlessly complex and, perhaps, effectively place such restraints beyond reach of the antitrust laws.

ARGUMENT

I. "TWO-SIDEDNESS"

As noted, a two-sided platform brings together two sets of users, in a situation where the usage by each set (side) significantly affects the other set (two-sided externalities).[10] Two-sided industries have included newspapers, television and radio, computer operating systems, dating services, and travel

---

[9] All firms that intermediate transactions between suppliers and consumers can raise aspects of two-sidedness.

[10] *See* Jean-Charles Rochet and Jean Tirole, *Two-Sided Markets: A Progress Report*, Rand J. of Econ. 37(3) (2006), pp. 645-67; M. Rysman, *The Economics of Two-Sided Markets*, *J. of Econ. Perspectives* 23(3) (2009), pp. 125-143. The literature mainly focuses on the optimal pricing of a platform, and not the more difficult issue at hand – the effect of restraints on competition among platforms.

reservation services.[11] In such two-sided industries where price on one side affects usage on the other, the profitable pricing of the two-sided platform is a simultaneous two-sided price-pair decision.

The Court of Appeals emphasized that Amex must attract both cardholders and merchants to its network.[12] But this does not distinguish Amex from other firms that need to attract two different sets of users. Nearly *any* firm intermediating between two groups could offer the Court of Appeals' flawed analysis that a restraint that raises the firm's price to the one side might pass antitrust muster if the restraint provides the firm with revenue that it spends on enhancing the quality of the products it offers to the "other side." A new antitrust doctrine should not follow from a mere labeling of a conventional impact just because it rises in a two-sided platform.[13]

---

[11] We write "have included" because as two-sided platforms mature, the externalities from each side to the other can become unimportant and insignificant, rendering the two-sidedness of no relevance. For example, a mature flight reservation system may not attract another airline if it adds more users, and vice versa. If so, there are no remaining significant two-sided externalities. *See U.S. Airways, Inc. v. Sabre Holdings Corp.*, 2017 U.S. Dist. LEXIS 40932 at 32 (S.D.N.Y. Mar. 21, 2017).

[12] *See* Pet. App. 49a-50a.

[13] In a recent paper co-authored by one of the *amici*, the authors conclude that "[t]he two-sidedness of credit card markets does not require a new set of economic principles for assessing competition policy because the difference between the credit card setting and a conventional one-sided market is essentially a matter of labeling.... Creating different legal rules for the same economic conduct depending on whether the

The economic literature analyzing two-sided platforms is new, complex, and evolving.[14] If the Court of Appeals were correct that different and novel economic analysis is required in two-sided markets – a proposition with which *amici* disagree – such analysis should be applied only after a rigorous and careful demonstration that two-sided market characteristics exist and are important to the competitive impact of a restraint.

This is especially important in the case of Amex. Only recently has the economic literature considered the impact of restraints on competition that allow a firm like Amex to charge higher prices to one side (here, merchants), which results in increased prices charged to *all* the merchants' customers, and which, through competition on the other side (cardholders), may result in lower prices to

---

market can be described as one-sided or two-sided is a mistake that could lead to widespread confusion in the evaluation of vertical restrictions." D. Carlton & R. Winter, *Vertical MFN's and the Credit Card No-surcharge Rule*, at 40 (working paper available at https://goo.gl/kKd2Ck).

[14] As an example of its incomplete understanding of aspects of two-sided platforms, the Court of Appeals cites a 2013 working paper by Filistrucchi et al. (Since published in J. Comp. Law & Econ., 2014.) *See* Pet. App. 7a n.3 (citing Lapo Filistrucchi et al., *Market Definition in Two-Sided Markets: Theory and Practice 5*). The analysis therein emphasizes a possible important distinction for competitive analysis between two-sided *transactions* markets (where, as with payment cards, the two sides directly interact with one another), and two-sided *non-transactions* markets (where, like newspapers, the two sides do not interact with one another). While noting this paper, the Court of Appeals court simply disregards the distinction.

that side.[15] The Court of Appeals analysis and ruling fails to account for this recent learning.[16]

Instead, the Court of Appeals took a novel and unprecedented approach to analyzing the competitive impact of the Amex Restraints. Rather than determining whether the Restraint injured competition among platforms – that is, among competing credit card firms – on the one side, the court ruled that the proper antitrust analysis must "consider the two-sided net price accounting for the effects of the [restraints] on both merchants and

---

[15] The price to the cardholder side may include annual fees, transactions fees net of discounts, and rewards. There can be no presumption that restraints leading to higher prices charged to merchants result in lower cardholder prices, much less an overall lower "total price." Nonetheless, as Amici emphasize below, even if there is a reduction in the total price, that does not imply increased efficiency.

[16] The recent economic literature finds that restraints such as the Amex Restraints "typically raise platform fees and retail prices, and also curtail entry or skew positioning decisions by potential entrants pursuing low-end business models." A. Boik & K. Corts, *The Effects of Platform Most-Favored Nation Clauses on Competition and Entry*, J. of Law & Econ., Abstract (2016). *See*, also, S. Schuh et al., *An Economic Analysis of the 2011 Settlement Between the Department of Justice and Credit Card Networks*, J. of Competition Law & Econ. (2012); S. Salop & F. Scott Morton, *Developing an Administrable MFN Policy*, Antitrust (2013); Lear, *Can "Fair" Prices Be Unfair? A Review of Price Relationship Agreements*, UK Office of Fair Trading, Paper #1438 (2012); J. Johnson, *The Agency Model and MFN Clauses* (Jan. 25, 2017) (available at https://goo.gl/Vbj3tV); D. Carlton & R. Winter, *Vertical MFN's and the Credit Card No-surcharge Rule* (available at https://goo.gl/kKd2Ck).

cardholders."[17] Furthermore, the Court held that it was the plaintiffs' burden to show that the Amex Restraints had an adverse net effect, defined by the Court as the sum of the prices to merchants and cardholders. Only after the plaintiff has passed this hurdle would Amex be obligated to come forward with any evidence of a procompetitive justification.

II. PLATFORM COMPETITION IN TWO-SIDED MARKETS

The Court of Appeals' emphasis on the net two-sided price does not assess the competitive impact of the Amex Restraints. If a market were demonstrated to consist of two-sided platforms, and if benefits to consumers using one side of a platform (here cardholders) result from restraints that harm the other side (merchants), then a simple summing of these benefits and harms is *not* informative as to the restraint's impact on competition.

The correct approach is rather to determine whether a restraint on one side of a two-sided market interferes with competition among platforms in the market. The competitive impact of restraints such as those imposed by Amex – restraints that directly alter and impede horizontal competition among platforms – is properly demonstrated by showing the interference with competitive setting of the platforms' pricing, whether on one side or both. The Court of Appeals disregarded this most critical, and amici submit dispositive, economic issue – how the Amex restraints affect competition among Amex, Visa, MasterCard, Discover, and potential new

---

[17] Pet. App. 49a.

entrants by distorting the competitive process leading to the platforms' prices.[18]

To better understand competition in two-sided markets, consider the example of platforms intermediating between hotels and travelers. These platforms can be two- sided if the demand for the services by travelers increases when more and better hotels use the service, and vice versa. If a platform lowers its price to travelers and this increases the number of travelers using the platform, then the platform can be more valuable to hotels. Similarly, lowering the platform fee charged to hotels can increase the number of hotels using the platform, making the platform more valuable to travelers. In this situation, the hotel booking service providers are competing in a two-sided market.

Two-sided platforms compete, in part, via the prices offered by each platform to each side they serve. For example, one hotel booking service may charge a high price to hotels and a relatively low price to travelers, while other platforms may expect more equal prices to be more profitable, resulting in a better mix of hotels and travelers. Competition is likely to result in competing platforms offering different price pairs, and those offering the price-pairs that best satisfy consumer preferences will thrive.

---

[18] Visa and MasterCard operate as what is called four-party systems (cardholders, merchants, issuers, and acquirers, *see* Figure 2 at Pet. App. 55a-56a) in which the Visa and MasterCard platforms deal with acquiring banks that compete for merchants and issuing banks that compete for cardholders. This difference from Amex and Discover does not impact our analysis.

The important economic point is that in two-sided markets, the relevant competition occurs at the platform level (*i.e.,* competition among the credit card companies). A competitive two-sided market, through consumers' choices, will effectively decide the preferred and competitive prices to each side, which, of course, determines the overall "price levels" (the sum of the prices) for the two sides. It is this platform competition that is directly interfered with by the Amex restraints on the merchant side of the Amex platform.

Rather than asking whether the Amex Restraints prevented competitive market forces from determining the price pairs offered by the competing credit card platforms, the Court of Appeals focused only on the impact of the Amex Restraints on the *sum* of the Amex prices to both sides of its platform. This is a fundamental economic error. Whether the sum of the prices remains the same or even falls does not indicate whether restraints are or are not anticompetitive. The total price, or change in total price, simply does not indicate whether the restraints are distorting and interfering with competition among platforms. When restraints hamper the process of platform competition, anticompetitive harm follows because the restraints alter the price pairs themselves, regardless of whether the sum of the prices increases, decreases, or remains unchanged.[19]

---

[19] *See* P. Areeda & H. Hovenkamp, Antitrust Law § 562e, p. 101 (Supp. 2017) (stating that the Court of Appeals erred because "competition should choose the optimal mix of revenue between the two sides").

III. THE AMEX RESTRAINTS HARM HORIZONTAL COMPETITION AMONG CREDIT CARD PLATFORMS

The Amex Restraints bar merchants purchasing Amex services from differentially pricing the use of Amex cards versus other credit cards. The Restraints even bar merchants from providing their customers with accurate information about the prices charged to merchants by Amex and alternative cards. This interferes with transparency in prices, a hallmark of competitive and efficient markets. The Amex Restraints are vertical restraints, imposed by a supplier on its customers. However, the Amex vertical restraints have direct horizontal effects because they interfere with horizontal competitors' pricing.

The required competitive analysis of a vertical price restraint is set forth in *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007), and summarized in the Court of Appeals' decision.[20] *Leegin* concerned resale price maintenance (RPM). This well-established analysis of RPM finds the first stage of the Rule of Reason satisfied by showing an increase in the retail price. The burden then shifts to the supplier imposing the restraint to show offsetting procompetitive benefits. The Court of Appeal failed to follow this approach, and its failure to do so is not justified by sound economic principles.

With RPM, the suppression of competition at the retail/merchant level, is a cost to the supplier imposing the restraint, because the direct effect is

---

[20] Pet. App. 30a-31a.

reduced demand for the supplier's product from the higher retail price. Therefore, to be of benefit to the supplier, the decision to impose RPM can be presumed to have some non-price, demand-enhancing effects. In contrast, Amex's suppression of price competition at the retail/merchant level provides first-order benefits to Amex – the Restraints effectively impede its credit card competitors from competing against Amex's price to merchants. Because of this direct and intended reduction in horizontal price competition among Amex and its competitors, the Amex Restraints, unlike RPM, cannot be presumed to be motivated by non-price, overall demand-enhancing effects.

Additionally, the direct impact of RPM on competing suppliers is to increase the demand for the competitors' products. In contrast, the Amex restraints provide no direct benefits to Amex's platform competitors; rather, the restraints directly interfere with the other credit card platforms' ability to compete with Amex in pricing to merchants. Yet for analysis of RPM, simply showing an increase in the retail prices to the buyers is sufficient to satisfy the first prong of the Rule of Reason analysis – an anticompetitive impact. It is not sound economics to reject the rebuttable presumption that the Amex Restraints are anticompetitive simply because the services may be two-sided.

The practical effect of the Amex Restraints is to force merchants that purchase Amex services (and pay the merchant fee) to set no (or equal) prices for the use of all cards, regardless of their relative cost to the merchant. The result is that merchants' customers paying with credit cards perceive no difference in selecting one credit card rather than another, and the customers will be motivated to choose the card considered to offer the highest cardholder benefits. Consequently, as the district court below correctly found, if a payment card platform seeks to compete for transactions with Amex by offering an identical net price, but with lower prices on the merchant side, then its effort will be impeded, not because there is no demand for the platform's services, but because the Amex Restraints effectively suppress the use of prices to drive demand on the merchant side.[21] Therefore, platforms (such as Discover) that attempt to compete with Amex by charging lower merchant fees and equal or possibly lower rewards will realize little benefit from the low merchant fees.[22] As a consequence, the Amex Restraints suppress horizontal competition among credit card platforms to increase transactions by charging lower merchant prices. Similarly, the Amex Restraints impede competition on the cardholder side by preventing platforms from offering lower prices to merchants in exchange for merchants offering more immediate and more valuable benefits or discounts to cardholders at the point of sale.

As a result, with the Amex Restraints in place, competing platforms will be motivated to raise their merchant price – that is, they will be driven towards the Amex business model. In so doing, the platforms will have to abandon other competitive business

---

[21] *See* Pet. App. 194a-203a.

[22] *See* Dist. Ct. Op., Pet. App. 203a-207a (holding that Amex's merchant restraints effectively deny other networks the opportunity to pursue a business model that differentiates itself by offering merchants a low price for greater volume).

models that they, the retail consumers, the cardholders, and the merchants might prefer.[23] The Amex Restraints directly interfere with competitors' ability to compete with alternative platform models offering different and potentially efficient price pairs. This is regardless of whether such competitive price pairs have equal, lower, or even higher total two-sided net prices.

The competitive impact of merchant pricing restraints like Amex's on new entry is also far reaching. The Amex Restraints result in all credit card networks competing for transactions mainly through the issuing side of the platform where card issuers (Amex, Discover, and the thousands of Visa and MasterCard issuing banks) provide cardholder benefits at some future point in time. Cardholder benefits can be a way to reduce the net prices paid by the cardholders. But at best, the benefits are a discount on the credit card bill from the issuer, and the discount accomplishes a price reduction only with a lag in time. The Amex rules prohibit a merchant from accepting payment cards from a competing network that offered rewards in the form, for example, of a point-of-sale discount or other benefits received at the time of the sale such as a preferred checkout line. Under the Amex Restraints, any such point-of-sale benefits would be considered differential pricing, which is not allowed. Thus, the Amex Restraints directly interfere with possible entry of innovative and potentially efficient alternative

---

[23] *See* Dist. Ct. Op., Pet. App. 216a-217a (finding that without the Amex Restraints, all four card networks' merchant prices would decrease).

platform pricing systems, and this adverse entry effect of the restraints occur in an industry in which the Court of Appeals notes "continues to be characterized by formidable barriers to entry."[24] This important anticompetitive impact was not given proper weight by the Court of Appeals.[25]

With Restraints in place that impede horizontal competition regarding pricing to merchants, competition on the cardholder side may or may not increase, and such competition might or might not result in a change to the net prices summed over the two sides. However, such a reduction in the cardholder price, if it occurs, is not a "pro-competitive" or an efficiency-enhancing benefit that offsets the interference with competition on the merchant side. It is, rather, a further economic distortion and inefficiency directly due to the Amex Restraints, enhancing Amex's market power and ability to charge supra-competitive prices and impose anticompetitive restraints.

The Court of Appeals recognized that in two-sided markets, a platform must "find an effective method for balancing the prices on the two sides of

---

[24] Pet. App. 17a.

[25] The Court of Appeals described Amex's entry strategy in the 1950s – "Amex … attracted merchants by setting its merchant fee slightly lower than the contemporary Diner's Club merchant fee." Pet. App. 11a. The Amex Restraints protect Amex from other competitors following this same entry strategy.

the market."[26] This is the essence of competition in two-sided markets – identifying and offering a price pair that attracts both sides to use the platform. Selecting and offering a preferred price pair, however, is quite different from the situation in which restraints on one side of the market allow for price increases that, through competition on the other side, may lead to price reductions to the second side. Even if the total two-sided price were unaffected, which is unlikely, the resulting price pair is distorted, other platforms' pricing is distorted, and, as discussed further below, the higher merchant fees distort merchants' prices to all their customers.

The potential adverse consequences of the Court of Appeals' approach – in which indirect effects on the second side of a two-sided platform must be taken into account in the initial assessment of anticompetitive effects – can be readily understood by viewing the court's analysis through the lens of traditional anticompetitive conduct. Consider a case in which Amex, Visa, MasterCard, and Discover agree to fix prices by charging higher and perhaps equal merchant fees. The obvious anticompetitive harm is the direct interference in platform competition regarding the prices paid by merchants. And with merchant restraints in place like those of Amex, which effectively restrain other credit card platforms incentives to offer lower merchant prices, competition through entry cannot solve the problem. However, if this hypothetical cartel of credit card platform suppliers does not control competition on

[26] Pet. App. 8, n.4 (citing J. Rochet & J. Tirole, *An Economic Analysis of the Determination of Interchange Fees in Payment Card Systems*, 2 Rev. Network Econ. 69, 71 (2003)).

the cardholder side, then the result is likely to be increased cardholder benefits with reduced cardholder prices, and in the long run, perhaps (but unlikely given the small number of credit card competitors) full dissipation of all the profits earned from the high merchant fees. There is no reasonable basis to consider the dissipation of profits from price fixing through competition on one side of the platform to be an offsetting procompetitive benefit from fixing the price on the other side.[27]

There is substantively no economic difference between the dissipation of profits from merchant fees propped up by the Amex Restraints compared to the dissipation of profits from price fixing. In addition, the hypothetical collusive price fix among credit card platforms would not be considered benign if the "net" price were unchanged because of the full dissipation of the cartel profits extracted from the merchant side through competition on the cardholder side.[28] The outcome of "competition" with restraints such as those imposed by Amex is little different from what would emerge from the collusion example – a non-

---

[27] Consider, for example, increased the product quality that will be expected in a cartel that can control price more effectively than product amenities. The increased product quality does transfer some of the cartel profits from the cartel members to the buyers. But this also results in a welfare loss, in that the buyers' value of the increased quality is lower than that costs incurred to supply that higher quality (otherwise it would be supplied under competition). Thus, society ends up with lower overall welfare for two reasons – 1) higher prices than the efficient level with the resulting loss of consumer surplus, and 2) increased quality that costs more than its value.

[28] That a price fix would likely be judged under a *per se* standard is irrelevant to the economic point.

competitive *price pair* that may or may not alter the sum of the prices.

Whether from collusion or from vertical restraints on differential merchant pricing, Amex and its competitors may benefit during the transition to long-run equilibrium and the full dissipation of profits earned from the supra-competitive merchant prices. Those consumer cardholders that are fortunate enough to meet the credit and income requirements for high rewards cards may also benefit. However, the merchants paying higher prices to Amex, and the merchants' customers using other payment means, are harmed. More importantly, economic efficiency is impeded as price signals are distorted regarding choice of payment means. Customers will be motivated to use their rewards cards even when cash, debit, or check would otherwise benefit them, and customers will be motivated to take inefficient actions to qualify for the high rewards cards.

The Court of Appeals decision would impose on those challenging the Restraints the burden of proving that the harm suffered is not outweighed by any benefits to card holders, on the other side of the platform. This requirement would have substantial adverse impacts on antitrust enforcement. First, as amici have emphasized, the effects on cardholders should not be considered offsetting *procompetitive* effects of anticompetitive restraints directed at merchants. Any such benefits to cardholders flow from the merchant restraints that support the supra-competitive merchant fees. Foreclosure of competition on some consumers should not be justified by some of the excess profits being dissipated to other consumers as a result of competitive forces somewhere else.

Second, even if offsetting effects are considered, the merchant restraints are imposed by Amex, and Amex is the party best able to understand and quantify any relevant offsetting competitive benefits from its restraints. Perverse incentives would be created if a platform could avoid antitrust liability for harm to one side of the platform as long as the victim could not prove that the spoils were not fully passed on to the other side.

Third, the Court of Appeals overly broad conception of two-sided markets could allow any supplier suppressing retail competition through a vertical restraint to point to the possibility of incentives for higher quality, thus shifting the burden from the defendant where it traditionally has been placed, to the plaintiff. Because suppression of price competition in any context carries the possibility of increased competition in non-price dimensions,[29] antitrust enforcement in these settings would become needlessly complex, expensive, and uncertain.

IV. CROSS-MARKET EXTERNALITIES

The Amex Restraints increase the prices that merchants pay to Amex and thereby raise merchants' costs.[30] The Restraints prevent the merchants from differentially raising retail prices to only Amex

---

29 *See* G. Stigler, *Price and Non-Price Competition*, 76 J. Pol. Econ. 149, 149-54 (1968).

30 Pet. App. 51a..

cardholders to cover the cost increase those cardholders impose on the merchants. The Amex Restraints then motivate other credit card platforms to raise their prices to merchants, further increasing the merchants' costs.[31] Merchants incurring higher costs in turn raise their prices to all their customers.[32] The result is higher retail prices to all the merchants' customers, including those who use low-cost cash or debit cards. These customers, who tend to have incomes or credit scores too low to qualify for high rewards credit cards, will thus end up subsidizing the rewards of more affluent cardholders.[33] This is further evidence of inefficient pricing and adverse impacts on consumers that are not Amex card users. These harms occur even if Amex passed on all its high merchant fees to cardholders through higher rewards, and they are amplified when other credit card platforms increase their merchant prices and cardholder benefits in response to the Amex Restraints.

---

[31] Dist. Ct. Opp., Pet. App. 207a-209a.

[32] The retail markets mainly impacted by the Amex Restraints are competitive to a first approximation such that the cost increase caused by higher merchant credit card fees can be presumed to be fully, or nearly fully, passed on to consumers. However, it is possible that in the full market equilibrium, the final product prices could increase by more the supra-competitive component of the Amex merchant fees. See A. Dixit and J. Stiglitz, *Monopolistic Competition and Optimum Product Diversity,* Am. Ec. Rev., (1997). The significant point is that the analysis of the full effects on consumers of restraints such as Amex's is very complex and places an unreasonable burden on plaintiffs if such full analysis is required.

[33] *Id.* at 210a-212a.

The Court of Appeals requires that analysis in two-sided markets go beyond the direct effects on competition on the side of the platform where a restraint is imposed. If it is economically relevant to consider the competitive impact beyond that side of the platform, then proper analysis should also consider effects beyond the platform itself, as the restraint can have broad and arguably anticompetitive effects on consumers who do not participate on either side of the platform operated by the firm that imposes the restraint.

However, there is a sound economic basis to retain the established Rule of Reason analysis in a two-sided market – a traditional analysis that focuses on the direct effects of the restraint on the targeted side of the platform. If the plaintiff succeeds in demonstrating that the challenged Restraints adversely impact competition among platforms, then the plaintiff's initial burden should be satisfied. With this initial burden satisfied, the defendant should be required to demonstrate not simply that the other side of the platform is affected, but that there is a beneficial impact on competition among platforms – that is, a procompetitive benefit.

In this regard, it is important to distinguish reactive changes on the other side of the market from procompetitive pricing to both sides. A two-sided platform firm may offer a price pair that efficiently subsidizes one side with price above marginal costs to the other side. Consider the classic example of a two-sided market – newspapers, which bring together advertisers and readers. A newspaper may compete by offering free papers to readers with pricing to advertisers above the costs of running additional ads, or might alternatively try a pricing strategy of high subscription fees with little advertising. With competing newspapers, the market will "solve" efficient pricing, with readers and advertisers choosing their preferred platform based on the value offered.

A more complex situation occurs when the two sides of the market directly interact, for example, hotel booking platforms noted above. Assume one booking service charges high fees to hotels, with low fees to the travelers. When the traveler shows up at the hotel, the service of the platform has been consumed. Hence, when the traveler checks in, the hotel can attempt to "undo" the platform pricing by imposing a charge on the traveler. This describes a classic free riding problem in which the hotels seek to consume the valuable service of the platform that assembles desirable travelers without paying for that service.

Courts have significant experience in addressing vertical restraints that may solve free-riding problems. Consider resale price maintenance discussed above. Once the plaintiff has shown that the restraint causes higher retail prices, the defendant can demonstrate that the RPM is necessary to prevent free-riding that could make point-of-sale services non-viable. And supporting such point-of-sale services can allow the supplier imposing the RPM to compete with other suppliers – a procompetitive impact. Under the standard Rule of Reason approach, the plaintiff can then counter that the procompetitive effect does not outweigh the anticompetitive effect.

In the context of the Restraints, a hotel booking service charging high prices to hotels for its services may argue that a restraint requiring that hotels using its services charge the same price to travelers even if booked through another service is necessary for its viability. However, because of such a restraint, alternative platform models with lower prices to hotels become non-viable. The restraint does not therefore increase competition, but rather supports the business model of a particular competitor, rather than the market deciding the preferred business model.

Like hotels facing high fees from a travel booking service, merchants facing high fees from Amex deal directly with the other side of the market, the cardholders. Absent the Amex Restraints, merchants could attempt to reverse a high merchant price–low cardholder price offering by imposing a charge on the card users at the time of purchase for use of the Amex card. However, it is not clear that there can be any significant free-riding for most merchants. In contrast with hotels, retail merchants deal with many repeat customers. If the value of the Amex services offered to cardholders exceeds any benefit the merchant can offer for use of alternative payment means, then the cardholders will likely, henceforth, patronize merchants that do not levy such charges. Thus, the market is likely to solve the efficient pricing, and the Amex Restraints are unnecessary. Regardless, Amex is certainly in the best position to demonstrate whatever procompetitive benefits it believes might result from its Restraints.

In addition to not allowing the use of prices to steer consumer choices, the Amex Restraints don't even allow the merchants to inform their customers of the costs to the merchants from the customers' choice among credit cards. Far from being the least restrictive means of preventing any (unproven) merchant free-riding, the Amex Restraints impede price competition among platforms for the merchants' business. Such restraints that effectively eliminate competition among horizontal competitors are anticompetitive.[34]

V. MARKET POWER, MARKET DEFINITION AND INSISTANCE

To cause competitive harm, a firm must have market power. "[M]arket power exists whenever prices can be raised above the levels that would be charged in a competitive market,"[35] or whenever a seller can "require purchasers to accept burdensome terms that could not be exacted in a completely competitive market."[36] Direct proof of competitive harm demonstrates market power.[37]

---

[34] With the inability of merchants to steer, the credit card merchant prices may continue to escalate to the point where additional increases lead to merchants not accepting the cards. This is analogous to a pure monopolist being constrained in pricing because at high enough prices, customers will stop buying the product.

[35] *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 27, n. 46 (1984).

[36] *United States Steel Corp. v. Fortner Enterprises, Inc.*, 429 U.S. 610, 620 (1977).

[37] In *Amex,* the district court found that Amex both possessed and exercised its ability to charge supra-competitive

If there is insufficient direct proof of competitive harm, defining a relevant economic market can be useful to identify the firms that compete in providing the relevant products or services to the affected customers. Having identified the competitors, one can then assess whether a firm or collection of firms controls enough of the market to take actions detrimental to competition and to customers.[38] Market definition is a fact-intensive inquiry guided by economic analysis, and it turns on the commercial realities facing customers who purchase the product or service at issue from the supplying firms.[39]

Relevant market analysis properly focuses on one level of an economic chain and includes the firms that compete to sell the product or service to the customers at that level.[40] This established relevant market analysis has been applied to firms that operate as intermediaries in a distribution or production chain. Retailers are intermediaries in

---

prices and impose burdensome terms on the merchants that it would not be able to require in a competitive market. *United States v. Am. Express Co.*, 88 F. Supp. 3d 143, 187-207 (EDNY 2015). These findings, which were not disturbed by the *Amex* panel, established market power.

38 *See* Jonathan Baker, *Market Definition: An Analytical Overview*, 74 Antitrust L.J. 129 (2007).

39 *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 482 (1992); *Todd v. Exxon Corp.*, 275 F.3d 191, 199-200 (2d Cir. 2001) (Sotomayor, J.).

40 *See Times-Picayune Pub. Co. v. United States*, 345 U.S. 594, 610 (1953).

transactions between suppliers and consumers; manufacturers are intermediaries in transactions between input suppliers and goods purchasers. The fact that such firms transact with two distinct groups does not imply the need to define a two-sided market. The anticompetitive harm that occurs, for example, when retailers collusively raise the prices of final goods sold to customers is properly assessed within the relevant economic market defined by the close substitutes for the final goods—a one-sided market.

Credit card companies compete for merchant transactions and for cardholder usage. The possibility that increased prices on one side (the merchant side) may result in some benefits to the other side should not alter the established market definition analysis. Amex's services to cardholders are in no way substitutes for its services to merchants. And while there may be some interdependence in the pricing to cardholders and merchants, such interdependence in pricing provides no justification for including distinct and non-substitutable services in the same relevant market.[41]

Consider a firm offering complementary services, for example, a pharmacy that dispenses drugs and also offers in-store physician consultation and prescriptions. If that pharmacy can set its prescription drug prices at supra-competitive levels, the demand for, and profit maximizing price of physician services will fall. This is neither a pro-

---

[41] *See* Phillip E. Areeda & Herbert Hovenkamp, Antitrust Law: An Analysis of Antitrust Principles and Their Application ¶ 565, at 104 (Supp. 2017) ("[T]he fact that a firm obtains its profits from two different, non-substitutable groups does not serve to place the two groups into the same market.")

competitive offset to the supra-competitive pricing, nor a reason to combine the services for the purposes of assessing market power. If the pharmacy can set supra-competitive prices for prescriptions, it has market power and the sale of prescription drugs is a relevant product market.[42] Analogously, if Amex can set supra-competitive prices to merchants, it has market power, and the sale of credit card services to merchants is a relevant product market.

Here, the Court of Appeals also confused the source of Amex's market power. Amex cardholders may prefer to patronize merchants that offer them effective discounts via high rewards. Indeed, some of the cardholders will switch to competing merchants if one merchant charges for the card use or declines to accept Amex cards. Amex refers to this cardholder loyalty as "insistence."

To understand Amex's market power, consider Amex as a credit payment means supplier that attracts buyers by promising discounts for purchases from merchants. In expectation of such discounts some of the buyers may elect to patronize only merchants that accept Amex, and with only a small

[42] The Court of Appeals confusion on this issue may result from the fact that in two-sided markets with two-sided externalities, a supra-competitive price to one side cannot be identified without consideration of the other side. This fact, however, does not justify including both sides in the same market. Indeed, a very similar problem is present even when both sides are considered – the combined net prices of the two-sides being equal to combined marginal costs also is not sufficient to imply that either price is competitive.

number of such insistent members,[43] merchants will be incentivized to accept Amex cards even though the Amex fee is above the competitive level.[44]

The implied threat of losing the Amex-insistent card users allows Amex to charge the merchant supra-competitive fees, fees in excess of the costs of providing the payment functions, with some of those fees being rebated via rewards (discounts) to the card users. Amex does "attract customer loyalty" by discounts to those customers, and that loyalty then allows it to set fees to the merchants above the amounts of the discounts to the

---

[43] For example, assume a merchant is a typical grocery store with a gross margin of 40%. If the differential costs of accepting Amex or other high reward credit cards is 2% compared to lower costs alternative payment means, then if only 5% or more of Amex cardholders switch to an alternative merchant in response to a 2% charge, the merchant would accept the supra-competitive Amex fee.

[44] The Second Circuit asserted that "[t]here is no meaningful economic difference between 'dropping American Express'…and a decision not to accept American Express in the first place." Pet. App. at 46a-47a. This is incorrect as a matter of economics. The initial participants in Amex will likely increase their sales as some Amex cardholders switch their purchases from non-participants to participants. As participation becomes ubiquitous and nearly all merchants are offering the discount to Amex cardholders, the cardholders will re-sort themselves to their preferred stores independent of the discount, with no change in the merchants' sales. If all competing merchants in a retail sector participate in Amex, the end result is simply the perversion of the price signals related to payment means choices, and price discrimination favoring Amex (and other high reward) card users and disfavoring other customers.

card users.[45] Whether the supra-competitive portion of the merchant fees is or is not subsequently competed away on the cardholder side does not change the fact that Amex is exercising market power in its pricing to merchants. And the exercise of that market power demonstrates the existence of a relevant economic market for the pricing of Amex services to merchants – a one-sided market.

VI. INCREASED AMEX OR CREDIT CARD OUTPUT DOES NOT DEMONSTRATE THE ABSENCE OF ANTICOMPETITIVE IMPACT

The Court of Appeals suggests that Amex might justify its Restraints by a showing that Amex's "output" – that is, the volume of Amex transactions – is increased because of the Restraints.[46] However, if the Amex Restraints have effects beyond the Amex platform, as is the case here, then the Amex output alone is not a proper indicator of the welfare effect of the Restraints. A relevant analogy is an exclusive dealing contract. An exclusive dealing vertical restraint may increase the "output" of the firm imposing this restraint, but at the expense of the firm's competitors and potential entrants – the alternatives whose use is affected by the Restraints. The proper measure of output would then be the size of the market served by all competitors.

---

[45] The Court of Appeals asserts that "Cardholder insistence results not from market power, but instead from competitive benefits on the cardholder side of the platform and the concomitant competitive benefits to merchants who choose to accept Amex cards." Pet. App. 45a. Indeed, cardholder insistence is not the result of market power, rather market power is the result of insistence.

[46] Pet. App. 52a.

Here, the fundamental product at issue is "payment." If one desired to determine indirectly through "output" the pro- or anti-competitive nature of a credit card platform's vertical price restraints, the proper metric would be the output of all payment methods that are impacted by the Amex Restraints. The effect of the restraints is to increase the subsidization of the users of credit card platforms by customers paying by other means. With increased cardholder benefits resulting from competition on the cardholder side in the face of high credit card merchant fees, customers will be motivated to switch from other payment forms to credit cards. Thus, the usage of credit cards may increase. But this is only evidence of distortion in the competitive process, not evidence that the restraints are procompetitive.[47] For those customers switching to credit cards only because of increased rewards, credit card use can be presumed less efficient than the prior preferred means of payment. As a consequence of the use of less efficient means of payment, the cost of transacting will increase, and the output of all payment means affected by the Amex Restraints – the proper measure of output in this context – will be expected to decline.

---

[47] *See, e.g.*, Adan J. Levitin, *Priceless? The Economic Costs of Credit Card Merchant Restraints*, 55 UCLA L. Rev. 1321, 1356 (2008) ("[B]y making credit cards appear relatively cheaper to other payment systems, merchant restraints encourage higher usage of credit cards than would otherwise occur.").

CONCLUSION

Based on the foregoing analyses, the amici respectively ask the Court to reverse Second Circuit's decision.

Respectfully submitted,

ANTHONY J. BOLOGNESE
Counsel of Record
BOLOGNESE & ASSOCIATES, LLC
1500 JFK Boulevard, Suite 320
Philadelphia, PA 19102
(215) 814-6750
ABolognese@Bolognese-Law.com

Counsel for Amici Curiae

Dated: December 14, 2017

APPENDIX

APPENDIX

Amicus **John M. Connor** is a Professor of Industrial Economics emeritus at Purdue University. Professor Connor specializes in research and teaching of empirical industrial economics and antitrust policy. His research has been cited in five court decisions and more than 75 law review articles. Professor Connor is also Senior Advisor to the American Antitrust Institute.[1]

Amicus **Martin Gaynor** is a Professor of Economics and the E.J. Barone Chair in Health Systems Management at Carnegie Mellon University. Professor Gaynor has consulted for the Federal Trade Commission and the U.S. Department of Justice, and also consulted for the Netherlands Competition Authority on issues involving vertical restraints and market definition.[2]

Amicus **Daniel McFadden** is a Nobel Laureate in economics (2000) and the E. Morris Cox Professor Emeritus of Economics and the Director of the Econometrics Laboratory at the University of California at Berkeley. Among his many honors, Professor McFadden received the John Bates Clark Medal from the American Economics Association (1975) and the Frisch Medal from the Econometrics Society (2000).[3]

---

[1] Purdue University, John M. Connor, https://goo.gl/ZaQdzU

[2] Martin Gaynor Curriculum Vitae, http://bit.ly/2fFTvQO

[3] University of California at Berkeley, Faculty Profiles, McFadden, http://bit.ly/2eoJMk9

Amicus **Roger Noll** is Professor of Economics emeritus at Stanford University and a Senior Fellow and member of the Advisory Board at the American Antitrust Institute. Before coming to Stanford, Professor Noll was a Senior Economist at the President's Council of Economic Advisers, a Senior Fellow at the Brookings Institution, and Institute Professor of Social Science and Chair of the Division of Humanities and Social Sciences at the California Institute of Technology.[4]

Amicus **Jeffrey M. Perloff** is a Professor in the Department of Agricultural and Resource Economics at the University of California at Berkeley. Professor Perloff has authored textbooks on economics including Modern Industrial Organization (with Dennis Carlton), Microeconomics, Microeconomics: Theory and Applications with Calculus, and Estimating Market Power and Strategies (with Larry Karp and Amos Golan).[5]

Amicus **Joseph A. Stiglitz** is a Nobel Laureate in economics (2001) and is University Professor at Columbia University. He is a former senior vice president and chief economist of the World Bank and a former member and chairman of the U.S. President's Council of Economic Advisors. Based on academic citations, Professor Stiglitz is the fourth-most influential economist m the world today.[6]

---

[4] Stanford University Public Policy Program, Roger Noll http://stanford.io/2fFUOiP

[5] University of California at Berkeley Department of Agricultural and Resource Economics, Jeffrey M. Perloff Brief Bio, http://bit.ly/2emKIWc

[6] Columbia University, Brief Biography of Joseph E. Stiglitz, https://goo.gl/s6tCkb

Professor Stiglitz is currently consulting and is an expert witness for a number of national supermarket and drugstore chains that have challenged Amex's, Visa's, and MasterCard's restraints in related lawsuits pending in the District Court.[7]

Amicus **Lawrence J. White** is Robert Kavesh Professor of Economics and Deputy Chair of the Economics Department at New York University's Leonard N. Stern School of Business. He has served on the Senior Staff of the President's Council of Economic Advisers, and has also served as the Director of the Economic Policy Office in the Antitrust Division of the U.S. Department of Justice. Professor White is also the General Editor of the Review of Industrial Organization, a journal that focuses on competition and monopoly in their many forms and their effects on efficiency, innovation, and social conditions.[8]

Amicus **Ralph Winter** holds the Canada Research Chair in Business Economics and Policy at the Sauder School of Business at the University of British Columbia. [9] He was previously a Professor of Economics at the University of Toronto, and has also

---

[7] Those merchants are: Ahold U.S.A., Inc.; Albertson's, Inc.; BI-LO, LLC; CVS Health, Inc.; The Great Atlantic & Pacific Tea Company, Inc.; H.E. Butt Grocery Co.; Hy-Vee, Inc.; The Kroger Co.; Meijer, Inc.; Publix Super Markets, Inc.; Raleys Inc.; Rite Aid HDQTRS Corp.; Safeway Inc.; Supervalu, Inc.; and Walgreen Co.

[8] New York University Stern School of Business, Lawrence J. White Biographical Summary, https://goo.gl/zCwff1

[9] University of British Columbia Sauder School of Business, Ralph Winter, https://goo.gl/ennG6B

served as President of the Canadian Economics Association. Professor Winter has also consulted for the U.S. Department of Justice and the Canadian Competition Bureau.[10]

---

[10] University of British Columbia Sauder School of Business, Ralph Winter Curriculum Vitae, http://bit.ly/2fPyrG9