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It only takes working through a single matter that involves a two-sided market to recognize that the antitrust analysis can be a bit more complicated than with standard one-sided markets. The principle reason for the complication is evident from the descriptive moniker given these markets: they have two sides or, put more practically, they have two sets of independent customers. Generally, two-sided markets are characterized by

(1) the presence of two distinct classes of customers for a vendor's product or service, both of which are necessary for the existence of the product or service, and

(2) indirect positive externalities between different classes of customers, meaning that the value of the product or service to one class of customer increases with the level of usage by the other customer class, at least up to a point.[1]

1 *See* D. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. REG. 325, 332 (2003); R. Roson, *Two-Sided Markets: A Tentative Survey*, 4 REV. NETWORK ECON. 142 (2005) ("In two-sided markets, two (or more) parties interact on a platform, and the interaction is affected by special 'indirect' network externalities.").

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But why do these features make a difference in terms of the application of standard antitrust principles to these markets? Or, more colloquially, why is everyone talking about two-sided markets?

Two-sided markets do present certain unique practical problems. Not surprisingly, the complexity primarily arises from the presence of two unique, but interdependent, classes of customers. In a traditional market, the analysis centers around the responses of a single set of customers to changes in supply (either price or output) and the responses of the vendors to changes in demand. In a two-sided market the analysis becomes multi-dimensional. The analysis needs to account for

(1) the responses of two sets of customers to the vendors,

(2) the vendors' responses to two sets of customers, and

(3) the responses of one class of customers to changes in the others' behavior and vice versa.

This multi-dimensionality affects each step of standard antitrust analysis, from product market definition, to entry and efficiencies. It does not, however, dictate abandoning the typical tools that one applies in the analysis of single-sided markets.

I. Defining Relevant Product Markets

The standard technique for defining markets is the hypothetical monopolist test set forth in the U.S. Federal Trade Commission and U.S. Department of Justice Horizontal Merger Guidelines.[2] The test, however, is designed to examine the reactions of one set of customers, not two, to changes in price. The test has no direct mechanism to account for the two sets of customers involved in two-sided markets, or the reactions of one class of customers to price changes imposed on the other. For example, even though a hypothetical monopolist would profitably impose a small but significant and non-transitory increase in the price (SSNIP) on one side of the market in isolation, the other side of the market might respond to the SSNIP by reducing demand for

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2 *See* U.S. Dep't of Justice & Federal Trade Comm'n, Horizontal Merger Guidelines (1992, revised 1997) *available at* http://www.ftc.gov/bc/docs/horizmer.htm. The test takes the smallest possible group of competing products and asks whether a hypothetical monopolist that sells those products could profitably impose a small (5-10 percent) but significant and non-transitory price increase, commonly referred to as a SSNIP. *Id.* at § 1.11.

the product, rendering the SSNIP unprofitable.[3] If this effect is not taken into account, the analysis could yield an improperly small relevant product market. Consequently, some have argued that the hypothetical monopolist test is not the appropriate market definition tool for two-sided markets.

Despite these challenges, both scholarship and recent public and private antitrust litigation have demonstrated that it is possible to apply the SSNIP test in two-sided markets. Most recently, the U.S. Department of Justice (DOJ) applied the SSNIP test to define a relevant product market of PIN debit network services in *United States v. First Data Corp. and Concord EFS*.[4]

II. Evaluating Barriers to Entry

The interdependency of the two customer groups also impacts the analysis of the likelihood and success of new entry in two-sided markets. First, because both sides of the market are needed for the product or service to function (i.e., the provider must get both sides of the market on board), new entrants face a form of the chicken-and-egg problem. This problem is probably fairly easy to overcome in some two-sided markets, but quite difficult in others. For example, the owner of an attractive new nightclub may find it relatively easy to get the necessary critical mass of both men and women customers. In contrast, a new payment network likely would find it considerably more difficult to obtain the required critical mass of both issuers and merchants.

The difficulty of entry is further increased in some two-sided markets because of the presence of indirect network effects (i.e., the value of the product or service to one class of customers often increases directly with the level of usage by the other customer class). Thus, not only must the new entrant simultaneously convince both sets of customers to purchase its product, but it must also overcome the challenge that for many customers the value of purchasing the product or service from the established provider is likely significantly greater than from purchasing from the start-up.

Obtaining the information needed to analyze these issues is often complex. For example, what critical mass of both sides of the market does a new entrant need to compete effectively? Does conduct by incumbents designed to get both sides of the market on board (e.g., a payment network signing bonuses to issuers) increase the difficulty of entry, and potentially constitute unlawful exclusionary conduct?

3 In the electronic payment network context, for example, it is possible (but unlikely) that while merchants would reduce their demand only slightly in response to a SSNIP imposed by a hypothetical payment network monopolist, issuer demand for the payment service would be so sensitive to even a modest decline in merchant volume that it would be sufficient to make the merchant SSNIP unprofitable.

4 United States v. First Data Corp., 03 Civ. 02169 (D.D.C. 2003).

Answering these types of questions is difficult, but it can be done through careful focus on the two-sided nature of the market. The DOJ's case in *United States v. Microsoft Corp.*[5] was built in part on its conclusion that network effects present in the two-sided operating system market made both new entry and expansion by existing market participants very difficult.

III. Assessing Competitive Effects

Finally, the characteristics of two-sided markets increase the difficulty of analyzing the competitive effects of mergers and other conduct. For example, a merger may slightly reduce competition among vendors on one side of the market, but produce substantial pro-competitive gains from efficiencies for the customers on the other side of the market. Deciding how to balance these offsetting effects is not easy. A related problem is that it is possible to confuse vigorous competition for one set of customers for the exercise of market power against the other. Payment networks have long argued that increases in interchange fees for merchants are largely due to intense competition for issuers.[6]

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Nevertheless, the existence of a two-sided market has not prevented proof of competitive harm in litigated cases. For example, the DOJ successfully demonstrated harm to competition in both *United States v. Microsoft Corp.* and *United States v. Visa*,[7] each of which involved assessing harm to competition in the context of a two-sided market.

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

6 In *United States v. First Data Corp.*, the defendants (through their economic experts) asserted that the Division's application of the hypothetical monopolist test was faulty because it purportedly ignored competition between PIN and signature debit networks for the business of card issuers. *See* Transcript of Hearing (Dec. 5, 2003) at 97:12 to 98:12, United States v. First Data Corp., 03 Civ. 02169 (D.D.C. 2003) (testimony of Professor Michael Katz, expert for the defendants), *available at* http://www.usdoj.gov/atr/cases/f201900/201902a.htm. The parties maintained that the increase in interchange rates was the result of head-to-head competition between PIN and signature debit networks for issuer customers rather than a reflection of the exercise of market power by PIN debit networks against merchants. *See id.* at 102:12-22.

7 United States v. Visa U.S.A. et al., 98 Civ. 7076 (S.D.N.Y. 1998).

IV. In Summary

The dialogue over two-sided markets has been fueled in part by a growing scholarship that has increased understanding of these markets, combined with a number of significant antitrust cases that involved two-sided markets. This dialogue will continue. The greater complexity associated with analysis of two-sided markets and the potential for mistakes of consequence to the overall outcome of a matter should increase the care and diligence that goes into analyzing these markets.