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FOREWORD

This document comprises proceedings in the original languages of the Roundtable on Two-Sided Markets held by the Competition Committee in June 2009.

It is published under the responsibility of the Secretary General of the OECD to bring information on this topic to the attention of a wider audience.

This compilation is one of a series of publications entitled "Competition Policy Roundtables".

PRÉFACE

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à la table ronde sur les Marchés Bifaces qui se sont tenues en juin 2009 dans le cadre du Comité de la concurrence.

Il est publié sous la responsabilité du Secrétaire général de l'OCDE, afin de porter à la connaissance d'un large public les éléments d'information qui ont été réunis à cette occasion.

Cette compilation fait partie de la série intitulée "Les tables rondes sur la politique de la concurrence".

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EXECUTIVE SUMMARY

By the Secretariat

Considering the discussion at the roundtable, the delegates' submissions and the background paper, several key points emerge:

- (1) *There is not yet a universally accepted definition of a two-sided market. However, a consensus about the fundamental aspects of firms operating in these markets is starting to emerge.*

Firms operating in two-sided markets are more aptly called “two-sided platforms” because of their differences with firms that operate in one-sided markets. A two-sided platform is characterized by three elements.

The first element is that there are two distinct groups of consumers who need each other in some way and who rely on the platform to intermediate transactions between them. A two-sided platform provides goods or services simultaneously to these two groups.

The second element is the existence of indirect externalities across groups of consumers. That means that the value that a customer on one side realizes from the platform increases with the number of customers on the other side. For example, a search platform is more valuable to advertisers if it is more likely that it will reach a larger number of potential buyers. At the same time, it is more valuable to potential buyers if the platform has more advertisers because that makes it more likely that a buyer will see a relevant advertisement.

The third element is non-neutrality of the price structure, i.e., the price structure of the platform affects the level of transactions. The price structure is the way prices are distributed between consumers on the two sides of the market. The platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount. Since the price structure matters, the platform must design it so as to induce both sides to join the platform.

- (2) *Defining two-sided markets is a complicated and unsettled issue. However, there is general agreement that accounting for the linkages between the two sides of the market is important.*

Given that two-sided markets involve two different sets of customers, a question arises as to how to treat the two sides when defining the relevant product market. Or to put it differently, there is the question of whether the two sides should be analyzed jointly or separately.

There seems to be an emerging consensus that a precise relevant product market definition is less important than making sure the linkages between the two sides, and the complexity of the interrelationships among customer groups, are taken into account. Mechanical market definition exercises that exclude one side usually lead to errors. Since two-sided platforms face a different profit maximization problem from the one that single-sided firms face, the traditional competition

analysis methods and formulas from single-sided analysis, like the hypothetical monopolist test, do not apply to two-sided markets unless they are modified.

- (3) *Two-sided platforms have to balance the interlinked demands of two types of consumers. This may require a very skewed price structure, which raises the issue of whether two-sided platforms are socially efficient. In general, the profit maximizing price structure is not socially optimal. However, it does not exhibit any obvious bias, either.*

Two-sided platforms face two different groups of consumers and sell two products. In addition, there are indirect network externalities across groups of consumers and there might be joint costs for providing services to both types of consumers. This has several very important implications that may lead the profit maximizing price of a two-sided platform to differ substantially from marginal cost.

In the presence of indirect network externalities across groups of consumers, the marginal revenue associated with each group of consumers has a direct and an indirect component. First, by joining the platform a consumer directly generates revenues for the platform by paying fees to it. Second, by joining the platform a consumer increases the value of the platform to consumers on the other side. This enables the platform to charge more to consumers on the other side. Thus, the profit maximizing condition for a two-sided platform is marginal revenue equals marginal cost, where the marginal revenue is corrected for the existence of indirect network externalities across groups of consumers. The group of consumers that generates the highest level of indirect network effects will be charged relatively less. In fact, consumers on one of the sides might pay a price below marginal cost, or even below zero, whereas consumers on the other side will be charged prices considerably above marginal cost, which will generate most of the platform's revenues.

The fact that profit maximizing price structures may be very skewed raises the issue of whether they are socially inefficient. While, in general, the profit maximizing price structure of a two-sided platform is not socially optimal, it does not exhibit any obvious bias toward any side of the platform, compared to the welfare maximizing price structure. Furthermore, even when the profit maximizing price structure is not socially optimal, it may be difficult to determine in which direction it would be beneficial for it move.

Unbalanced measures like putting price caps on one side of the market may not unambiguously improve consumer and social welfare. Interventions to reduce prices on one side of the market may have unexpectedly negative effects. Any change in the price balance away from the monopoly optimum with no reduction in the price level will hurt average consumers on at least one side of the market. However, balanced interventions and interventions that reduce price levels could improve consumer welfare on both sides of the market.

The price level, i.e., the sum of all prices, rather than individual prices or the price structure, is the appropriate means of measuring the competitiveness of a market and should be the focus of policy analysis.

In many countries, competition authorities regulate some of the prices associated with two-sided markets, such as interchange fees and interconnection prices. It is unclear on which basis they should intervene, and which standard should they use when setting regulated prices, though. In traditional industries, regulators set prices in line with incremental costs. However, this approach does not work well in markets where two-sided platforms operate, due to the presence of indirect network externalities and joint costs. An alternative is to use the Ramsey pricing principle, which

states that prices across the various services should be set so that the price-marginal cost margins are inversely related to the sensitivity of demand to prices. Accordingly, more revenue is recovered from the side with inelastic demand. This approach can work in markets with two-sided platforms. However, the interdependence between the two complementary sides has to be incorporated in the analysis. That means the optimal prices have to be based on demand-side considerations, including indirect network effects, as well as cost-side considerations. That makes the regulator's job much more difficult.

- (4) *Although predatory or excessive pricing may occur in two-sided markets, identifying such practices is a delicate issue. Given the typical price skewness of these markets, if a competition authority treats the two sides of the market as separate, it is possible to find predatory pricing on one side of the market and excessive pricing on the other side, even though the platform earns a competitive return overall.*

Applying the standard tools of competition analysis to markets where two-sided platforms operate may be misleading, particularly regarding pricing abuses. In many jurisdictions, e.g., the EU, it can be an abuse of dominance to set prices too low (predatory pricing) and to set prices too high (excessive pricing). Given the typical price skewness of two-sided markets, if a competition authority treats the two sides of the market as separate, it is possible to find predatory pricing on one side of the market and excessive pricing on the other side, even though the platform earns a competitive overall return. It may be privately and socially optimal for prices on one side of the market to be below some measure of cost on that side, with the other side of the market being responsible for the platform's revenues.

Consider extending the test of predatory pricing to two-sided markets. The test applied in the United States, for example, has two cumulative conditions: (i) price is below cost, and (ii) the firm has a reasonable prospect of recouping predatory losses.

Start with the first condition. In markets where two-sided platforms operate one needs to compare the total price, the sum of the prices charges to both sides, with the total marginal cost, the sum of the marginal cost of servicing both sides. In some markets, like matchmaking markets, it is straightforward to analyze this condition. In other markets, like free-to-air television markets, comparing total price and total marginal cost is harder. The problem is that there might not be a natural unit of account for comparing prices and costs.

Now examine the second condition. For markets with two-sided platforms, one needs to consider whether there is a large probability that the firm will raise its total price high enough and for long enough to recoup its losses during the alleged predatory phase. In other words, one needs to look at recoupment possibilities on both sides of the market, not just on the side with the product whose low prices initially attracted suspicion.

The empirical evidence indicates that below cost pricing is common in markets with two-sided platforms, and is therefore not designed mainly for the purpose of foreclosing competition. Hence, any presumption that below cost pricing by two-sided platforms is anticompetitive is probably incorrect. It is possible for a two-sided platform to engage in predatory pricing by setting its price on one side very low to deny other platforms access to that side of the market. It is also possible for a two-sided platform to engage in two-sided predatory pricing by charging a below cost price overall (taking both sides into account) with the purpose of foreclosing competitors. Cost-based tests make some sense in the latter case. However, it is hard to see how they could be used to analyze an allegation of one-sided predation. Likewise, it is possible for a two-sided platform to abuse its market power and charge excessive prices. However, to

determine whether or not that is the case one has to look simultaneously at both sides of the market. Seemingly excessive prices on one side of the market may simply be the mirror image of seemingly predatory prices on the other side, and both prices may be the results of the balancing act that the platform must do to attract both sides of the market.

- (5) *Firms sometimes use non-price strategies, such as exclusive contracts and product tying, to limit competition or foreclose the market to rivals. These practices have been at the centre of several important competition cases involving two-sided markets.*

Tying is a fundamental business strategy in a wide variety of markets, including two-sided platform businesses. Most platforms design their products in a way that combines things that could, in principle, be sold separately. Examples of this are payment card platforms, media platforms and exchanges.

These ties obviously foreclose customers on one side or the other from certain choices that may prove beneficial to them. However, they enable the platform to internalize externalities and, therefore, provide a more valuable group of interrelated products and services to the diverse customer communities they serve.

In cases involving two-sided platforms, one needs to consider how conduct on one side of the market affects the other side of the market. Successfully foreclosing a competitor on one side of a market could also prevent that firm from succeeding on the other side, and thereby deter platform entry. In addition, one needs to consider whether the efficiencies from tying or exclusive contracts offset possible costs from reducing competition. Tying may be innocuous or even procompetitive in some circumstances. Media platforms require subscribers to buy advertising as well as content. Exchanges require sellers to buy specific auction services as well as access to potential buyers.

It is possible for a two-sided platform to use exclusive contracts to exclude competitors. However, the welfare consequences of these contracts are not clearly harmful. Exclusive contracts may foreclose the market in a socially harmful way if one firm has exclusivity over most or all of the market and the exclusivity is persistent. However, exclusive contracts may be procompetitive if they allow entrants to attain critical mass at the expense of the incumbents.

- (6) *In traditional markets, an increase in market concentration may lead to an increase in the firms' market power and thereby to a decrease in social welfare. In two-sided markets, due to the indirect network effects between the customer groups, an increase in concentration may increase welfare even if it increases market power.*

The central concern of merger investigations is whether the transaction will create or enhance market power, or facilitate its exercise. Markets with two-sided platforms tend to be concentrated. Thus, mergers in these markets are more likely to raise interest among competition authorities.

To determine the impact on market power of a merger that involves a two-sided platform, one has to take into account the interrelated effects on both customer groups served by the platform. This implies that some of the traditional tools for merger analysis, such as concentration indices, diversion ratios, or critical loss, do not apply unless appropriately reformulated to account for linkages between the two-sidedness of the market.

A merger of two-sided platforms will affect the relative base of consumers on both sides of the market, and thereby the balance of indirect network externalities across the two sides of the

market. This implies that the merger will affect not only the price level but also the price structure. Conceivably, the equilibrium post-merger prices could result in some prices increasing and others falling.

In addition, if the merger increases the relative customer base on one side, it increases the value of belonging to the platform to the customers on the other side. Therefore, consumer welfare may increase even though prices increase on one side or in total.

Competition authorities also examine whether a merger will generate efficiencies. If it does, these can be weighted in as a mitigating factor against the merger's impact on market power. In the case of two-sided platforms, given the frequent economies of scale and the indirect network effects across groups of consumers, there is conceivably more scope for mergers to generate efficiencies.

SYNTHÈSE

du Secrétariat

Au vu des discussions menées lors de la table ronde, des contributions des délégués et du document de référence, plusieurs points clés se dégagent :

- (1) *Il n'existe pas encore de définition universellement reconnue des marchés bifaces. Néanmoins, un consensus commence à se dégager quant aux principales caractéristiques des entreprises présentes sur ces marchés.*

Les entreprises implantées sur des marchés bifaces sont plus précisément appelées des « plateformes bifaces » compte tenu de leurs différences par rapport aux entreprises opérant sur des marchés monofaces. Une plateforme biface présente trois caractéristiques clés.

La première caractéristique est qu'il existe deux groupes distincts de clients qui dépendent l'un de l'autre dans une certaine mesure et s'appuient sur la plateforme pour gérer leurs transactions réciproques. Une plateforme biface propose des produits ou des services à ces deux groupes de clients simultanément.

La deuxième caractéristique est l'existence d'externalités indirectes entre les groupes de clients, ce qui signifie que la valeur tirée par un client d'un côté de la plateforme augmente parallèlement au nombre de clients présents de l'autre côté de la plateforme. Par exemple, un moteur de recherche présente un plus grand intérêt aux yeux des annonceurs s'il leur offre la possibilité d'atteindre un plus grand nombre d'acheteurs potentiels. Parallèlement, le moteur est plus intéressant pour les acheteurs potentiels s'il compte plusieurs annonceurs, dans la mesure où il y a plus de chances que l'acheteur y trouve des publicités pertinentes.

Enfin, la troisième caractéristique repose sur le fait que la structure de prix n'est pas neutre, à savoir qu'elle exerce une influence sur le volume des transactions. La structure de prix correspond à la manière dont les prix sont distribués entre les clients des deux côtés du marché. La plateforme peut influencer sur le volume des transactions en pratiquant des prix plus élevés d'un côté du marché et en réduisant ses prix d'un montant équivalent de l'autre. Compte tenu de l'importance de la structure de prix, elle doit être conçue de manière à inciter les deux groupes de clients à rejoindre la plateforme.

- (2) *La question de la définition des marchés bifaces est complexe et n'a pas été finalisée. Néanmoins, on s'accorde sur le fait qu'il est important de tenir compte des liens entre les deux côtés du marché.*

Étant donné que les marchés bifaces impliquent deux groupes de clients distincts, le problème consiste à déterminer comment traiter ces deux groupes pour définir le marché de produits en cause. Autrement dit, faut-il analyser ces deux groupes ensemble ou séparément ?

Un consensus semble se dégager sur le fait qu'une définition précise du marché de produits en cause est moins importante que le fait de s'assurer que les liens entre les deux groupes de clients,

ainsi que la complexité des relations entre ces deux groupes, sont bien pris en compte. Les exercices mécaniques de définition du marché qui négligent l'un des deux côtés conduisent généralement à des erreurs. Étant donné que les plateformes bifaces sont confrontées à des problématiques différentes que celles des entreprises traditionnelles en matière de maximisation des bénéfices, les méthodes et formules traditionnelles d'analyse de la concurrence, comme le test du monopole hypothétique, ne s'appliquent pas aux marchés bifaces, à moins de procéder à des modifications.

- (3) *Les plateformes bifaces doivent concilier les demandes interdépendantes de deux types de clients. Or des structures de prix asymétriques sont parfois nécessaires pour y parvenir, ce qui pose la question de l'efficacité des plateformes sur le plan social. En règle générale, la structure de prix permettant de maximiser les profits n'est pas optimale du point de vue social. Néanmoins, elle n'est pas non plus faussée à première vue.*

Les plateformes bifaces ont affaire à deux groupes de clients et doivent vendre deux produits. En outre, il existe des externalités de réseau indirectes entre les groupes de clients et la prestation de services à ces deux types de clientèle peut entraîner des coûts communs. Ces éléments ont plusieurs implications très importantes qui peuvent conduire à ce que le prix permettant de maximiser les profits sur une plateforme biface diffère sensiblement du coût marginal.

En présence d'externalités de réseau indirectes entre les catégories de clients, la recette marginale associée à chaque catégorie a une composante directe et une composante indirecte. Tout d'abord, en rejoignant la plateforme, le client génère directement des revenus en s'acquittant d'une commission. Deuxièmement, lorsqu'il adhère à la plateforme, le client en augmente l'intérêt pour les clients de l'autre côté du marché. Cela permet à la plateforme de faire payer davantage aux clients de l'autre côté du marché. De ce fait, la condition de maximisation du bénéfice pour une plateforme biface est la règle voulant que la recette marginale soit égale au coût marginal, lorsque la recette marginale est corrigée de l'existence d'externalités de réseau indirectes entre les différentes catégories de clients. La plateforme fera payer relativement moins la catégorie de clients générant le niveau le plus élevé d'effets de réseau indirects. En fait, les clients de l'un des deux côtés peuvent payer un prix inférieur au coût marginal, voire inférieur à zéro, alors que ceux de l'autre côté paieront des prix considérablement supérieurs au coût marginal, prix qui génèrent la plus grande part du chiffre d'affaires de la plateforme.

Du fait de la grande asymétrie de certaines stratégies de maximisation du bénéfice, on peut se demander si elles sont socialement inefficaces. Même si, en général, la structure de prix axée sur la maximisation du bénéfice n'est pas socialement optimale, elle ne favorise pas non plus de façon manifeste un côté de la plateforme par rapport à une structure de prix axée sur la maximisation du bien-être. De plus, même si la structure de prix axée sur la maximisation du bénéfice n'est pas socialement optimale, il peut être difficile de déterminer dans quelle direction il serait avantageux de la faire évoluer.

Des mesures déséquilibrées, comme un plafonnement des prix pour les clients d'un côté du marché, ne devraient pas améliorer sans ambiguïté le bien-être des consommateurs et le bien-être social. Les interventions visant à faire baisser les prix d'un côté du marché peuvent ainsi avoir des effets négatifs imprévus. Tout changement de l'équilibre des prix s'écartant de l'optimum du monopole, sans aucune réduction du niveau du prix lèsera les clients moyens de l'un des côtés du marché au moins. Cependant, des interventions équilibrées et des interventions qui réduisent le niveau du prix pourraient garantir une amélioration du bien-être des consommateurs des deux côtés du marché.

Le niveau de prix, c'est-à-dire la somme de tous les prix plutôt que les prix individuels ou la structure de prix, est le moyen adéquat pour évaluer la concurrence d'un marché et doit être au centre de l'analyse des politiques publiques.

Dans de nombreux pays, les autorités de la concurrence régissent certains des prix associés aux marchés bifaces, comme les commissions d'interchange et les coûts d'interconnexion. Toutefois, des incertitudes demeurent quant à la base sur laquelle elles doivent intervenir et aux normes qu'elles doivent utiliser pour fixer les prix réglementés. Dans les secteurs traditionnels, les autorités de tutelle déterminent les prix en fonction des coûts marginaux. Cependant, ce principe ne s'applique pas aux marchés sur lesquels les plateformes bifaces opèrent en raison de la présence d'externalités de réseau indirectes et de coûts conjoints. Une autre solution consiste à utiliser le principe de formation des prix de Ramsey, selon lequel les prix des différents services doivent être fixés de sorte que les marges prix-coût marginal soient inversement liées à l'élasticité de la demande par rapport aux prix. C'est par conséquent le côté inélastique de la demande qui génère des recettes plus importantes. Ce principe s'applique aux marchés sur lesquels les plateformes bifaces exercent leur activité. Cela étant, l'analyse doit tenir compte de l'interdépendance des deux côtés complémentaires du marché, ce qui signifie que le prix optimal doit tenir compte non seulement de considérations du côté de la demande, et notamment des effets de réseaux indirects, mais aussi de considérations du côté des coûts, ce qui rend le travail des autorités de tutelle d'autant plus difficile

- (4) *Si des prix d'éviction ou des prix excessifs peuvent être observés sur les marchés bifaces, il reste difficile d'identifier de telles pratiques. Compte tenu de l'asymétrie traditionnelle des prix sur ces marchés, si l'autorité de la concurrence traite séparément les deux côtés du marché, elle peut en conclure que la plateforme pratique des prix d'éviction d'un côté et des prix excessifs de l'autre, même si elle enregistre un rendement concurrentiel au final.*

L'application d'outils standard d'analyse de la concurrence aux marchés où opèrent des plateformes bifaces peut prêter à confusion, surtout en ce qui concerne les prix abusifs. Dans de nombreuses juridictions, comme l'UE, le fait de fixer des prix trop bas (prix d'éviction) peut être considéré comme un abus de position dominante, de même que le fait de fixer des prix trop élevés (prix excessifs). Étant donné l'asymétrie des prix caractéristique des marchés bifaces, si une autorité de la concurrence traite les deux côtés du marché séparément, il est possible qu'elle constate des prix d'éviction d'un côté du marché et une pratique de prix excessifs de l'autre, même si la plateforme enregistre un rendement global concurrentiel. La solution optimale sur le plan privé et sur le plan social peut être que les prix d'un côté du marché soient inférieurs à un certain indicateur de coût de ce même côté, l'autre côté du marché étant chargé de générer les revenus de la plateforme.

Imaginons étendre le test de la fixation de prix d'éviction aux marchés bifaces. Le test appliqué aux États-Unis par exemple comporte deux conditions cumulatives : (i) le prix est inférieur au coût et (ii) l'entreprise a des perspectives raisonnables de récupérer les pertes dues à la pratique de prix d'éviction.

Commençons par la première condition. Sur les marchés sur lesquels opèrent des plateformes bifaces, il faut comparer le prix total, à savoir la somme des prix appliqués de chaque côté du marché, au coût marginal total, c'est-à-dire la somme du coût marginal enregistré des deux côtés du marché. On peut facilement analyser cette condition sur certains marchés, comme les plateformes visant à mettre en relation les deux catégories de clients. Sur d'autres marchés, comme la télévision gratuite, il est plus difficile de comparer le prix total et le coût marginal

total. Le problème est qu'il n'y a peut-être pas d'unité de compte naturelle pour comparer les prix et les coûts.

Examinons ensuite la deuxième condition. Pour les marchés où opèrent des plateformes bifaces, il faut vérifier s'il existe une forte probabilité que l'entreprise augmente son prix total suffisamment et pendant assez longtemps pour récupérer ses pertes pendant la phase où elle aurait pratiqué des prix d'éviction. En d'autres termes, il faut étudier les possibilités de compenser les pertes des deux côtés du marché, et pas seulement du côté du produit dont le prix peu élevé a été à l'origine des soupçons.

Des données empiriques montrent qu'il est courant, sur les marchés dotés de plateformes bifaces, de fixer des prix inférieurs aux coûts et que cette pratique n'est donc pas essentiellement conçue pour verrouiller le marché. Il est donc peut-être faux de présumer qu'une tarification inférieure aux coûts par des plateformes bifaces constitue une pratique anticoncurrentielle. Il se peut que des plateformes bifaces pratiquent des prix d'éviction en fixant les prix très bas d'un côté pour empêcher d'autres plateformes d'accéder à ce côté du marché. Il est aussi possible pour une plateforme biface de pratiquer une forme biface de prix d'éviction en facturant des prix inférieurs aux coûts des deux côtés afin de verrouiller le marché. Les tests fondés sur les coûts se justifient dans une certaine mesure pour ce dernier cas. Cependant, on voit mal comment ils pourraient servir à analyser une allégation de prix d'éviction d'un seul côté. De la même manière, il est possible qu'une plateforme biface abuse de son pouvoir de marché et facture des prix excessifs. Cependant, pour déterminer si c'est le cas ou non, il faut examiner simultanément les deux côtés du marché. Des prix en apparence excessifs d'un côté du marché peuvent simplement refléter ce qui semble être des prix d'éviction de l'autre côté, et les deux prix peuvent être le résultat de la recherche par la plateforme d'un point d'équilibre nécessaire pour attirer les deux côtés du marché.

- (5) *Parfois, les entreprises ont recours à des stratégies indépendantes des prix, comme les contrats d'exclusivité et les ventes liées, pour limiter la concurrence ou empêcher des concurrents d'accéder au marché. Ces pratiques ont été au cœur de plusieurs affaires importantes en matière de concurrence sur les marchés bifaces.*

Les ventes liées constituent une stratégie commerciale courante dans une grande variété de marchés, y compris les activités des plateformes bifaces. La plupart des plateformes conçoivent leurs produits de façon à combiner des éléments qui, en principe, pourraient être vendus séparément. Parmi les exemples les plus courants figurent les plateformes de cartes de paiement, les plateformes de médias et les plateformes d'intermédiation.

Ces ventes liées empêchent manifestement les clients d'un côté ou de l'autre de faire certains choix qui pourraient s'avérer avantageux pour eux. Cela étant, elles permettent à la plateforme d'internaliser des externalités et, par conséquent, de proposer une meilleure offre de produits et de services interdépendants à leurs diverses catégories de clients.

En ce qui concerne la concurrence entre plateformes bifaces, il faut examiner comment un comportement d'un côté du marché affecte l'autre côté. Le fait de parvenir à bloquer l'accès à une entreprise concurrente d'un côté du marché peut empêcher cette entreprise de réussir de l'autre côté et dissuader par là-même l'entrée d'une plateforme. En outre, il faut se demander si les efficiences dues aux ventes liées ou aux contrats exclusifs compensent les coûts éventuels de la réduction de la concurrence. Les ventes liées peuvent être inoffensives ou même favorables à la concurrence dans certaines circonstances. Les plateformes de médias exigent des abonnés qu'ils achètent aussi bien la publicité que le contenu. Les plateformes d'intermédiation exigent

des vendeurs qu'ils achètent des services d'enchères spécifiques ainsi que l'accès à des acheteurs potentiels.

Une plateforme biface peut utiliser des contrats d'exclusivité pour exclure des concurrents. Toutefois, les conséquences de ces contrats sur le bien-être ne sont pas manifestement préjudiciables. Ces contrats peuvent verrouiller le marché de façon socialement préjudiciable si une entreprise détient l'exclusivité sur une bonne partie ou l'ensemble du marché et ce à long terme. Cependant, les contrats d'exclusivité peuvent avoir une incidence positive sur la concurrence s'ils permettent aux nouveaux arrivants sur le marché d'atteindre la masse critique au détriment des opérateurs historiques.

- (6) *Sur les marchés traditionnels, un renforcement de la concentration peut entraîner une augmentation du pouvoir de marché des entreprises et donc avoir des conséquences négatives sur le bien-être social. Sur les marchés bifaces, compte tenu des effets de réseau indirects entre les groupes de clients, un accroissement de la concentration peut être bénéfique du point de vue social s'il augmente le pouvoir de marché.*

Les enquêtes sur les fusions se préoccupent surtout de savoir si l'opération va créer un pouvoir de marché, le renforcer ou faciliter son application. Les marchés sur lesquels opèrent des plateformes bifaces tendent à être concentrés. Les fusions sur ces marchés retiennent donc tout particulièrement l'intérêt des autorités de la concurrence.

Pour déterminer l'impact du pouvoir de marché à l'issue d'une fusion concernant une plateforme biface, il faut prendre en compte les effets interdépendants sur les deux catégories de clients desservies par la plateforme. Cela implique que certains des instruments classiques d'analyse des fusions, comme les indices de concentration, les ratios de diversion ou la perte critique, ne s'appliquent pas, sauf à les reformuler convenablement pour tenir compte du caractère dual du marché.

Une fusion de plateformes bifaces affecte le volume relatif de la clientèle des deux côtés du marché et donc l'équilibre des externalités de réseau indirectes entre les deux côtés du marché. Cela implique que la fusion affecte non seulement le niveau de prix mais aussi la structure de prix. On peut imaginer que les prix d'équilibre après la fusion aboutissent à une augmentation de certains prix et à la baisse d'autres prix.

En outre, si la fusion entraîne une augmentation du volume relatif de la clientèle d'un côté, elle fait monter la valeur de l'appartenance à la plateforme pour les clients de l'autre côté. Par conséquent, le bien-être des clients peut s'améliorer même si les prix progressent d'un seul côté ou globalement.

Les autorités de la concurrence vérifient également si une fusion va générer des efficiences. Si c'est le cas, elles peuvent être prises en compte, comme facteur d'atténuation compensant l'impact de la fusion sur le pouvoir de marché. Dans le cas de plateformes bifaces, compte tenu des économies d'échelle et des effets de réseau indirects entre les différentes catégories de clients, il est possible que les fusions aient plus de chances de générer des efficiences.

BACKGROUND NOTE*

1. Introduction

This Note provides a brief introduction to the economics of two-sided platforms, and the implications for competition policy.

A two-sided platform helps the members of two distinct groups of customers to get together in a way that generates value for these customers and that these customers could not get as efficiently, or possibly at all, without the platform. The platform typically internalizes indirect network effects between the customer groups. Many platforms, especially those in the web-based economy, have more than two sides; the insights obtained for two-sided platforms apply more generally to multi-sided ones.

Two-sided platforms are not a new species of business. The village matchmaker was a two-sided business that helped men and women find suitable marriage partners. Ancient Athens had an insurance exchange where shippers who needed insurance and financing met with investors who were willing to assume risk and lend (Pfeffer, 1966). Advertising-supported newspapers which helps get advertisers together with customers go back several centuries. However, the recognition that businesses across a diverse set of industries have these two-sided features and that these two-sided features have important economic implications is not even a decade old. The theory on two-sided platforms was initiated by the seminal article Rochet and Tirole (2003), which started to circulate in about 2000, and their subsequent article (2006). Other important contributions to the early literature include Armstrong (2006), Caillaud and Jullien (2003), Evans (2003a, b), Parker and Van Alstyne (2005).

The theory of two-sided markets has been a central feature of the competition policy investigations into the pricing in payment schemes. In particular, a number of competition authorities have examined the setting of interchange fees by payment card associations.¹ A bank receives interchange fees whenever consumers pay for purchases with a card that was issued by that bank. Some recent cases analyzed by competition authorities include: the investigation of the Reserve Bank of Australia on credit cards,² the case of the European Commission against MasterCard on interchange fees,³ the case of the European Commission against *Newspaper Publishing*,⁴ the Carlton Communications/Granada merger,⁵ and Google's acquisition of DoubleClick which was reviewed by both the U.S. Federal Trade Commission and the European Commission.⁶

The combination of three factors is likely to increase the use of two-sided market analysis by competition authorities. First, the economics of two-sided markets has developed significantly over the last decade and has entered the mainstream of economics. Second, it is apparent that a number of sectors that

* This note was prepared for the Secretariat by David EVANS Vice-Chair of LECG-Europe.

¹ See <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1959>.

² See "Reserve Bank of Australia, Reform of Credit Card Schemes in Australia IV, Final Reforms and Regulation Impact Statement", 2002.

³ See http://ec.europa.eu/internal_market/payments/docs/newsletter-2008_03_11_en.pdf.

⁴ Case No. IV/M.423 –Newspaper Publishing, (1994).

⁵ See U.K. Competition Commission, CARLTON Communications PLC/GRANADA PLC: A Report on the Proposed Merger, Cm 5952 (2003).

⁶ See Evans & Noel (2008) for details of the operation.

are frequent subjects of competition inquiries are either two-sided, or participate in a business ecosystem in which two-sided platforms play significant roles, including financial and, non-financial, media, communications, payment systems, and software platforms. Third, as a result of the expansion of the internet economy spurred by lower communication costs, reductions in the cost of computing, and software technology advances there has been significant entry of web-based businesses many of which are two-sided.

Two-sided platforms must coordinate the interdependent demands of two distinct groups of customers, who need to interact with each other. To internalize the indirect network externalities across these two groups they resort to price and non-price strategies that can be very different from those of firms that do not serve different mutually dependent customer groups.

To attract both sides of the market a two-sided platform has to choose both the price level and the price structure. If the indirect network externalities across groups are very unbalanced, the pricing structure that balances the relative demands of both sides of the market can be very skewed. One side may be charged nothing, or charged a price below the average or marginal cost incurred for customers on that market side, and the other side of the market may be responsible for most of the platform's revenues. Thus, the profit maximizing price to customers on either side of the platform is not based on a markup formula, such as the Lerner condition, and price does not track marginal cost.⁷ In addition, in many cases, the joint provision of a good that services the two groups of customers makes the assignment of costs to any one side arbitrary.

The economics of platform competition has implications for analyzing competition policy in markets where two-sided platforms operate on a wide range of topics, such as exclusionary practices, coordinated effects, and merger analysis. We discuss some of these topics in this article. Next we consider briefly two examples: market definition and anti-competitive pricing.

Typically, the analysis of market definition focuses on the effect of a price change on demand in a narrowly defined market. Since two-sided platforms have to coordinate demand among two interdependent customer groups, a price change on one side of the market has positive feedback effects on the other sides of the market. Thus, the analysis must consider these feedback effects to determine the overall effect of a price change on profits.

The pricing structure that internalizes the indirect network externalities across groups of consumers can be skewed, with only one side being charged and the other being subsidized. An analysis that ignores the two-sided nature of the business might conclude, erroneously, that the platform is engaging in predatory pricing on one side of the market, and on excessive pricing in the other. Or it may conclude that low prices on one side are being used to obtain, or maintain, market power on another side.

In our discussion of the implications of the economics of two-sided platforms for competition policy we emphasize how traditional tools of competition analysis, such as the small but significant and non-transitory increase in price test, or the critical loss analysis, are either invalid or should be reformulated.⁸

Our emphasis does not imply any presumption that anti-competitive conduct is less frequent, or less harmful, in markets where two-sided platforms operate than in traditional markets. Firms can and do engage in anti-competitive conduct in markets where two-sided platforms operate, as they do in traditional markets, and their behavior can be equally harmful. Two-sided platforms may have different

⁷ The pricing equilibrium conditions of a two-sided platform can be reinterpreted in terms of Lerner's condition (Lerner, 1935), if the opportunity cost is defined appropriately.

⁸ See Wright (2004) for a discussion of common fallacies about markets where two-sided networks operate.

anticompetitive strategies available to them than single-sided firms. Our analysis does not imply either that, given our current state of knowledge, competition authorities should be more lenient, or more reluctant to intervene, in markets where two-sided platforms operate than in traditional markets. In two-sided markets firms should be subject by competition authorities to the same scrutiny and standards as in traditional markets.

What our emphasis does imply is that competition analysis in these markets must incorporate the economic principles of two-sided platforms to evaluate the firms' conduct. Price and non-price strategies that would be exclusionary and harmful in traditional markets, in markets where two-sided platforms operate might neither have the intention of excluding rivals, nor cause any harm. These strategies might emerge naturally in these markets, due to the need to internalize the indirect network externalities across groups of consumers. The opposite is true as well. Price and non-price strategies that might be benign in traditional markets might have exclusionary effects and reduce consumer welfare when used in two-sided markets. Exclusionary strategies that deny rival platforms sufficient liquidity to survive may be particularly problematic.

Similar difficulties apply to regulatory analysis. Regulators have followed the principle of setting prices in line with incremental costs. However, this principle does not apply in markets where two-sided platforms operate due to the presence of indirect network externalities, and joint costs. An alternative is to use Ramsey pricing principle, which states that the prices across the various services should be set so that the price-marginal cost margins are inversely related to the price elasticities of demand. Accordingly, more revenue is recovered from the side with inelastic demand. This principle applies to markets where two-sided platforms operate. However, the interdependence between the two complementary sides has to be incorporated in the analysis.⁹ That means the optimal prices have to be based on demand-side considerations, including indirect network effects, as well as cost-side considerations. That makes the regulators job much more difficult.

The remainder of this article is organized as follows. Section 2 describes four examples of two-sided markets: advertising-supported media, exchanges, payment systems, and software platforms. Section 3 presents a definition of two-sided markets. The remaining sections analyze several competition implications of the economics of two-sided markets. Section 5 discusses market delineation and market power; section 6 discusses anti-competitive pricing; section 7 discusses non-price exclusionary practices; section 8 discusses coordinated effects; and section 9 discusses mergers. Finally, section 10 concludes.

The main points of this paper are:

- Some businesses have a two-sided nature. They service simultaneously two interdependent groups of customers, which need the intermediation of the platform to internalize the indirect network externalities across groups. Two-sidedness is a matter of degree. Sometimes the two-sided nature of the business is critical for the analysis, other times it is irrelevant.
- Two-sided platforms must coordinate the interdependent demands of two distinct groups of customers. Doing so requires price and non-price strategies that can be very different from those of traditional firms.
- The price structure that internalizes the indirect network externalities across groups of consumers can be very skewed. One side of the market may be charged almost nothing, while the other side of the market is responsible for most of the platform's revenues. In particular, the profit

⁹ Regulating prices according to the Ramsey principle is very demanding in terms of information, and, to our knowledge, has not been applied seriously anywhere.

maximizing price to customers on either side of the platform is not based on a markup formula such as the Lerner condition, and price does not track marginal cost.

- Firms can engage in anti-competitive conducts in two-sided markets, as they do in traditional markets, and their behavior should be subject to the scrutiny of competition authorities. However, competition analysis in these markets must incorporate the economic principles of two-sided platforms to evaluate those conducts. This means that some of the traditional tools of competition analysis are either invalid or should be used with care.

2. Four Examples

Next we describe four motivating examples of two-sided businesses. See Evans (2003) and Evans and Schmalensee (2007) for a more detailed account of these examples, or for more examples.

2.1 Advertising-Supported Media

Advertising-supported media platforms, such as magazines, newspapers, free-to-air television, and web portals, cater simultaneously to two different groups of customers: viewers and advertisers. The platform either produces or buys content. In either case, the content is used to attract viewers, and the viewers are used to attract advertisers.

There is an indirect network effect between advertisers and viewers. Advertisers value platforms that have more viewers because they get more exposure. Viewers value platforms with more advertisers, either because they value advertisements, or because platforms with more advertisers offer better content.¹⁰

Typically, advertising-supported media earn much of their revenues from advertisers. In addition, advertisers are usually charged based on the circulation or subscriber base of the media platform, aside from the size or length of the advertisement.¹¹ The fees that media platforms collect from advertisers pay for the content that the media presents to viewers. Some platforms, such as free-to-air television, charge viewers only an implicit price: the cost of having to watch commercials or waiting for the show to resume. Other platforms, such as magazines and some newspapers, charge the audience an explicit price. However, the readers are heavily subsidized paying close to or below the marginal cost of printing and distribution.

2.2 Exchanges

The term “exchange” covers various matchmaking activities such as financial exchanges, auction houses, brokers, employment agencies, publishers, literary agents, travel services, ticket services, dating services, internet sites for business-to-business, person-to-business, and person-to-person transactions. Exchanges cater simultaneously to two different groups of customers, who can generally be considered “buyers” and “sellers”. Exchanges provide participants with the ability to search over participants on the other side, and the opportunity to consummate matches.

There is an indirect network effect between buyers and sellers. Having large numbers of participants on both sides increases the probability that participants will find a valuable match. Depending on the type of exchange, however, a larger number of participants can lead to congestion. That is the case of physical

¹⁰ It is unclear whether viewers like or dislike advertisements. Probably they do both, depending on the circumstances.

¹¹ For example, full-page ads cost more than quarter-page ones, and television ads that run during hit shows or special programs, like the Super Bowl, cost considerably more than those that run during non-prime-time slots.

platforms, such as singles clubs or trading floors. Moreover, participants may benefit from the exchange exercising the gatekeeper function of pre-screening participants to increase the likelihood of quality matches.

There is a wide range of price structures for exchanges, perhaps reflecting the large variety of institutions encompassed.¹² Some exchanges charge only one side. Others exchanges charge both sides. In either case, the prices charged to each side, typically, bear little relation to side-specific marginal costs.

2.3 *Payment Systems*

Payment systems, such as cash, bank checks, and payment cards, cater simultaneously to two different groups of customers: buyers and sellers.¹³ They provide customers with the ability of transacting goods and services without having to resort to barter. A payment system is viable only if both buyers and sellers use it.¹⁴

There is an indirect network effect between buyers and sellers. A payment system is more valuable to sellers if more buyers take the tender, and more valuable to buyers if more sellers take the tender.

There is a wide range of price structures for payment systems reflecting the large variety of underlying institutions. Cash involves no direct charges to either side, but might involve substantial implicit costs like those associated with inflation, storage, or the risk of theft. In some countries checking services are paid by the seller and involve no costs to the buyer; in other countries both parties are charged. Payment cards might involve charges to both sides, with sellers paying most of it.

2.4 *Software Platforms*

Software platforms play an important role in several industries, such as: personal computers, personal digital assistants, mobile telephones, video games, and digital music devices. A software platform provides services for two groups of customers: application developers and users. Application programs need to perform many similar tasks. Rather than each application developer writing the code for performing each task, the software platform producer incorporates code into the platform, and thereby avoids duplication costs. The functions of that code are made available to application developers through an application program interface. The user also benefits directly from the software platform since it reduces the overall amount of code required on the computer, reduces incompatibilities between programs, and reduces learning costs. An important consequence of this reduction in cost is an increase in the supply of applications for the platform, an increase in the value of the software platform to end users, and positive feedback effects to application developers.

¹² Only sellers pay directly for the services provided by eBay or for real-estate sales in the United States. Auction houses charge commissions to buyers and sellers. Insurance brokers charge both insurance customers and insurance providers in some types of transactions. Internet matchmaking services charge everyone the same. Physical dating environments sometimes charge men more than women.

¹³ Payment systems played a fundamental role in the development of the theory of markets where two-sided firms operate. For a more detailed account of this industry, we refer the reader to the following articles and the references therein: Rochet and Tirole (2002), Rochet and Wright (2008), Rysman (2007), Schmalensee (2002), and Wright (2003).

¹⁴ Governments can pass laws that require businesses and people to accept money for discharging debts. Whether or not the currency is accepted is another story. It is not hard to find examples of countries where foreign currency is preferred to the local currency even for local transactions.

There is an indirect network effect between application software developers and users. For software developers, writing applications for a software platform is only valuable if the users run the software platform on their hardware. For users, running the software platform on their hardware is only valuable if software developers write applications for the software platform.

Usually software platforms make most of their revenue from the user side. Developers generally get access to platform services for free, and obtain various software products that facilitate writing applications at relatively low prices. Videogame console manufacturers are an exception. Typically, they sell the videogame console at close to or below manufacturing cost, and receive most of their revenue from licensing access to the software and hardware platforms to game developers.

3. What Is a Market for Two-Sided Platforms?

In this section we present and discuss the definition of a market for two-sided platforms.

3.1 *Definition*

The expression “two-sided markets” was introduced by Rochet and Tirole (2003). The authors used it to refer to situations in which firms cater simultaneously to two interdependent groups of customers. However, the way the term “market” is used does not agree with how it is used in competition policy.

To clarify the terminology, we distinguish between firms, to which we refer to as “two-sided platforms”, and the markets in which they operate. Note that two-sided platforms often compete with single-sided firms, and sometimes compete on one side with two-sided platforms that serve a different second side. Next we present a definition of a “two-sided platform”. Section 4 addresses the issue of how to define, from a competition policy perspective, the market on which two-sided platforms compete.

The following definition is inspired by Rochet and Tirole (2006). Consider a platform where: **(i)** there are two distinct groups of consumers which need to interact with each other, and **(ii)** there are indirect positive externalities across the two consumers groups. Let the price level be the sum of the per-interaction prices charged to the two sides of the market and let price structure be the decomposition, or allocation, of the price level between consumers on the two sides of the market. Let total welfare be the sum of the welfare of both groups of consumers and the platform. The platform is one *one-sided*, if total welfare varies with the price level but not with the price structure, i.e., welfare is insensitive to reallocations of total price between the two groups of consumers. The platform is *two-sided* if total welfare varies with the price level and the price structure.

This definition, while useful, is not necessarily general. Weyl (2009) adopts the looser view that the two-sided markets consists of models of firm behavior in which the interdependencies between the two sites is an important feature. Evans (2003a) uses two-sided platforms to refer generally to situations in which there are two customer groups who benefit from interacting and for whom a platform can provide efficient intermediation services between the two groups.

Two-sidedness is a matter of degree. Sometimes the two-sided nature of a business is critical for the analysis. Other times it is an interesting aspect of the industry that should be thought about but that is not fundamental. And still other times it is irrelevant.

3.2 *Discussion of the Main Elements*

Next we discuss the three fundamental elements of a two-sided platform.

3.2.1 *Two Groups of Consumers*

The first fundamental element of a two-sided platform is the existence of two distinct groups of customers, who need each other in some way, and who rely on the platform to intermediate transactions between them. A two-sided platform provides goods or services simultaneously to these two groups.

The linkage between the sides is obvious in the case of exchange platforms, such as Euronext or eBay. It is less clear in the case of other platforms. The Sony PlayStation provides software code that eliminates the need for game developers to write all code themselves and provides a standard environment for consumers to run games. A free-to-the-air television channel uses content to attract viewers, and then sells access to those viewers to advertisers. The platform reduces the cost to advertisers of reaching viewers.

3.2.2 *Indirect Network Effects across Groups*

The second fundamental element of a two-sided platform is the existence of indirect externalities across groups of consumers.¹⁵ That means that the value that a customer on one side realizes from the platform increases with the number of customers on the other side. (There could also be an “externality in use”: a customer and a merchant benefit when each of them takes the same tender type regardless of how many other people do.)

A search platform is more valuable to advertisers if it is more likely that it will reach a larger number of potential buyers. It is more valuable to users looking to buy something if there are more advertisers attracted to the platform because that makes it more likely that the user will see a relevant advertisement.

It is often the strength of these indirect network effects that determines whether the two-sidedness matters enough to have a substantive effect on the results of economic analysis, or whether it is only an interesting curiosity.

3.2.3 *Non-Neutrality of the Price Structure*

The third fundamental element of a two-sided platform is the non-neutrality of the price structure. The platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount. Since the price structure matters the platform must design it so as to bring both sides on board. For the allocation of the price level between consumers on the two sides of the market to matter, it must be the case the two groups of consumers cannot compensate directly the other side for the benefit they receive from the interaction. This might occur because monetary transfers between them are not feasible. Or, monetary transfers between members of the two groups of consumers may be technically feasible, but transaction costs prevent an efficient outcome.¹⁶

¹⁵ *Direct Network effects* arise when the value of a good to a consumer increases directly with the number of people using that good. Telephony services are more valuable for a given consumer, the larger the number of other consumers that also use them, because he can communicate with more people. *Indirect Network effects* arise when the value of a good to a consumer increases with the number of people using that good, but only indirectly. The larger the number people that use telephony services, the larger of number firms that offer services like weather forecasts through the telephone. The consumer benefits directly from the availability of these services, and the number of users of telephony services only matter to the extent that they contribute for the service being made available. See Farrell and Klemperer (2007) for a survey of the literature on network effects.

¹⁶ In some circumstances the platform simply forbids or constrains the consumers’ ability to negotiate directly. One example is a no-surcharge rule imposed by a payment system: the merchant’s price must be

Consider the example of an employment agency. Prospective employers and employees want to be able to search for matches among a large number of opposites. It is hard to conceive of a practical mechanism for prospective employers to reward prospective employees who come to an employment agency but who they reject. Likewise, for the other two-sided platform industries we consider it is difficult, if not impossible, for customers on one side to make side payments to customers on the other side. Consequently, the platform owner can create a pricing structure that promotes indirect network effects, and it is not feasible for customers to defeat this pricing structure through arbitrage.

In contrast, in the textbook wheat market there are no externalities connecting buyers and sellers, and the price structure does not matter. A tax on wheat levied on buyers has the same effect on quantity as the same tax levied on sellers.

4. The Economic Principles of Two-Sided Platforms

In this section we discuss briefly some of the main economic principles of two-sided platforms.¹⁷

4.1 Profit Maximization

As is well known, if firms compete on prices, they maximize profits by setting a price such that marginal revenue equals marginal cost, or alternatively, that the price-marginal cost margin equals the inverse of the price elasticity of demand, which is the well known Lerner condition. Under perfect competition, i.e., if firms face an infinitely elastic demand curve, marginal revenue equals price, and hence the profit maximizing condition is that price equals marginal costs. Under certain technical conditions, price equaling marginal cost is socially efficient. Thus, perfect competition is socially efficient.¹⁸

If, instead, firms face downward sloping demand curves, the profit maximizing price is higher than the marginal revenue.¹⁹ Hence, the price is also higher than the marginal cost. This results in a net social waste in a static sense. Price being above marginal cost generates benefits for firms smaller than the associated consumer losses. The size of the social waste, called deadweight loss, is increasing in: **(i)** the sensitivity of demand to price, i.e., on the price elasticity of demand, and **(ii)** on the difference between price and marginal cost. This gives a theoretical justification for measuring departures from socially optimal outcomes by the size of the price-marginal cost margin. Competition is expected to bring down price to marginal cost.

If firms can identify different groups of consumers they might want to price discriminate between them, i.e., they might want to charge each group of consumers a different price. The group of consumers

the same whether the customer uses cash or a card. Another example is a price cap of 99 cents imposed by Apple for iPod song downloads.

¹⁷ For some of the issues discussed in this section it matters whether the benefits and costs refer to membership or to transactions. A platform's usage fees affect the two sides' willingness to trade once on the platform; the platforms' membership fees affect the two sides' willingness to join the platform. Giving a full account of the implications of the distinction between membership and transaction externalities is beyond the scope of this article. For a model of membership see Armstrong (2006) and Weyl (2008a), and for a model of transactions see Rochet and Tirole (2003) and Weyl (2008a, 2008b). Rochet and Tirole (2006) and Weyl (2008a) try to unify these two models, but much progress still needs to be made.

¹⁸ This result is known as the first fundamental theorem of welfare economics.

¹⁹ Consider a point of the demand curve. If a firm wants to sell an additional unit it has to reduce its price, moving along the demand curve. However, it will reduce the price of the marginal unit and also the price of all the infra-marginal units. As a consequence, the marginal revenue will decrease faster than the demand curve.

whose demand is more elastic will be charged a lower price. By charging each group of consumers a different price firms can increase their profits. In some circumstances consumer welfare also increases. For a price discriminating oligopolist the socially efficient outcome is for the price charged to each group of consumers to equal marginal cost. Hence, unless the marginal cost differs across consumer groups, the socially optimal pricing rule remains unchanged.

A multi-product firm selling, say products *A* and *B*, also maximizes profit by equating the marginal revenue to marginal cost for each product. However, the marginal revenue has an additional component. The firm must account for the interactions between the demands for its two products. If products *A* and *B* are substitutes, i.e., if an increase in the price of product *B* increases the quantity demanded of product *A*, then the firm sets higher prices for these products than firms selling only one of these products would. If the firm raises the price of product *A*, it earns a higher margin on product *A*, but loses some sales of product *B*. However, product *B* is also owned by the firm. If products *A* and *B* are complements, i.e., if an increase in the price of product *B* decreases the quantity demanded of product *A*, then the firm sets lower prices for these products than firms selling these products separately would. If the firm decreases the price of product *A*, it earns a lower margin of product *A*, but increases the sales of both product *A* and product *B*. The socially optimal pricing rule remains unchanged.

In the presence of fixed costs, the profit maximizing condition continues to be that marginal revenue equals marginal cost.²⁰ However, the socially optimal pricing rule can no longer be that price equals marginal cost; otherwise the firm will have losses. With fixed cost the socially optimal condition, in a static sense, is the Ramsey pricing principle which states that the prices across the various services should be set so that the price-marginal cost margins are inversely related to the price elasticities of demand. Accordingly, more revenue is recovered from the side with inelastic demand. Since the less elastic the demand the lower the deadweight loss, this rule guarantees that the fixed costs are covered at the lowest possible social cost. The Ramsey price structure does not correspond to a fair cost allocation. Like the profit maximizing price structure it aims at getting both sides on board. The main difference between the profit maximizing and Ramsey price structures is that the latter takes into account the average net surplus created on the other side of the market when attracting an end user on one side.

Two-sided platforms also face two different groups of consumers and sell two products. However, there are two important differences between a two-sided platform and a one-sided price multi-product firm: (i) there are indirect network externalities across groups of consumers, and (ii) there might be joint costs for providing services to both types of consumers. This has several very important implications that lead the profit maximizing pricing rule of a two-sided platform to differ substantially from price, or marginal revenue, equaling marginal cost.

In the presence of indirect network externalities across groups of consumers, the marginal revenue associated with each group of consumers has a direct and an indirect component. First, by joining the platform a consumer generates directly revenues to the platform associated to the fees he pays. Second, by joining the platform a consumer increases the value of the platform to consumers on the other side. This enables the platform to charge more to consumers on the other side. Thus, the profit maximizing condition for a two-sided platform is marginal revenue equals marginal cost rule, where the marginal revenue is corrected for the existence of indirect network externalities across groups of consumers.²¹ The group of consumers that generates the highest level of gross group indirect network effects will be charged relatively less. In fact, consumers on one of the sides might pay a price below marginal cost, or even below zero, whereas consumers on the other side will be charged prices considerably above marginal cost, that

²⁰ Subject possibly to the constraint that the firm at least breaks even.

²¹ See Lerner (1935).

generate most of the platform's revenues. Casual empiricism shows that the price structure in markets where two-sided platforms operate is very often quite skewed; see Evans (2003b).

With a proper reinterpretation, pricing for a two-sided platform obeys the Lerner condition. The key insight is the reinterpretation of marginal cost as an opportunity cost.²² In practice, one does not observe that opportunity cost directly and the simple Lerner index that is based on the incremental profit margin is no longer correct.

Finally, if there are joint costs for providing services to both types of consumers, it is neither profit maximizing or socially efficient for the price level in either side to equal the marginal cost.

4.2 *Price Skewness*

In markets where two-sided platforms operate, internalizing the indirect network externalities across groups of consumers may lead to very skewed price structures. In other words, even though usage costs are shared or similar for the two sides, one of the sides may pay very little, and the other side may be responsible for most of the platform's revenues. This may occur if the indirect network externalities across groups are very imbalanced.²³

The fact that these profit maximizing strategies are very skewed raises the issue of whether they are socially inefficient. While, in general, the profit maximizing price structure is not socially optimal, it does not exhibit any obvious bias toward any side of the platform, compared to the welfare maximizing price structure. Furthermore, even when the profit maximizing price structure is not socially optimal, it may be difficult to determine in which direction it would be beneficial for it move.²⁴

Under certain technical conditions, competition, price controls and subsidies always lower the price level, but their effects on the price structure, and even the direction of their effect on individual prices depends on the details of the intervention and market conditions. Interventions that are balanced across the two sides of the market, such as subsidies, competition of equal intensity on the two sides and controls on the price level, reduce prices to both groups of consumers.²⁵

In particular, a rise in market power on one side of the market increases usage prices on that side of the market and decreasing usage prices on the other side of the market. Consider a monopolist credit card company that charges a per transaction fee to both merchants and card-holders. The more it charges merchants, the greater incentive it has to persuade consumers to use their cards, by reducing their usage fee or increasing their amenities. The merchant's price acts as a subsidy to the firm in serving consumers. This is the see-saw effect or the topsy-turvy effect.

As a consequence, unbalanced measures like price caps on consumers on one side of the market do not unambiguously improve consumer and social welfare. Interventions to reduce prices on one side of the market may have unexpectedly negative effects. Any change in the price balance away from the monopoly optimum will hurt average consumers on at least one side of the market. Only balanced interventions can be guaranteed to improve consumer welfare.

²² See, e.g., Rochet and Tirole (2006).

²³ I.e., if the two-sided usage benefits are very imbalanced.

²⁴ See Rochet and Tirole (2003) and Weyl (2008b).

²⁵ See Weyl (2008b). The technical conditions are that the demands on both sides of the market are log-concave. Log-concavity is equivalent to pass-through being less than 1-for-1.

The price level, rather than individual prices or the price structure, is the appropriate means of measuring the competitiveness of a market and should be the focus of policy analysis.

4.3 Platform Differentiation and Multi-Homing

Platforms can differentiate themselves from each other by choosing certain features and prices that appeal to particular groups of customers, i.e., through horizontal differentiation. Platforms can also differentiate themselves from each other by choosing particular levels of quality, i.e., through vertical differentiation.

The economics literature uses the terms “multi-homing” to refer to the case where customers use two or more platforms for the same service, and “single-homing” to the case where they use just one. Multi-homing can occur on only one side of the platform, or on both sides. Personal computer operating systems have multi-homing only on one side. Most end-users rely on a single software platform for their personal computers, while many developers write for several platforms. Credit cards are an example of multi-homing on both sides. Most merchants accept credit cards from several systems. Many cardholders carry multiple cards.

Horizontal differentiation can result in customers choosing to join and use several platforms. Customers may find certain features of different competing platforms attractive, and therefore may rely on several.²⁶

Competition on both sides of the platform can limit profits. Consider a market without multi-homing. Now suppose that there is limited competition on side *A* because customers cannot easily switch between vendors of that side, but there is intense competition on side *B* because customers can and do switch between vendors based on price and quality. If competitors on side *B* cannot differentiate their products and otherwise compete on an equal footing, the ability to raise prices on side *A* will not lead to an increase in profits. Any additional profits on side *A* will be competed away on side *B*. This is different from a simple multi-product setting, since the platform cannot stop serving side *B* without leaving the business entirely. This point is especially relevant for assessing incentives and recoupment. It is also worth noting that the possibility of multi-homing on side *B* will permit positive profits, since it reduces the intensity of competition. With multi-homing on side *B*, no platform can give to consumers on side *A* exclusive access to consumers on side *B*. This reduces the platforms’ incentives to cut prices on side *B* to attract consumers.

4.4 Market Concentration

Typically, a small number of firms compete in markets where two-sided platforms operate. However, it is also uncommon for a two-sided platform to be a monopoly. Thus, there seem to be factors favoring and opposing concentration in these markets.

Two major factors favor concentration: **(i)** large fixed costs, or scale economies, and **(ii)** indirect network externalities.

For many two-sided platforms there are significant fixed costs. This should lead to scale economies, at least over some range of output. Card payment systems have to maintain networks for authorizing and settling transactions for cardholders and merchants. The costs of developing, establishing, and maintaining these networks are somewhat independent of volume. There is a large fixed cost of developing a software platform, and a low marginal cost of providing the platform to developers and end users. In some cases the

²⁶ See Argenziano (2008) and Ambrus and Argenziano (forthcoming) for the analysis of product differentiation in markets where two-sided platforms operate.

scale economies occur mostly on one side. There is a high fixed cost of creating a newspaper, and a relatively low marginal cost of reproducing and distributing it, i.e., there are scale economies in providing newspapers to readers, but there are no scale economies in providing space to advertisers.

One of the defining characteristics of a two-sided platform is the existence of indirect network effects across consumer groups. Indirect network effects between the two sides promote larger and fewer competing two-sided platforms. Platforms with more customers of each group are more valuable to the other group. More users make software platforms more valuable to developers, and more developers make software platforms more valuable to users. A payment card system whose cards are taken at more merchants is more valuable to card users, and the more card users that carry the cards the more valuable the cards are to merchants. First movers have an advantage, all else equal. The platform that obtains a lead tends to widen that lead as a result of positive feedback effects. Other firms can compete with this advantage only if they offer consumers on either side something that offsets the first mover's size advantage.

Two major factors oppose concentration: **(i)** horizontal differentiation, and **(ii)** congestion.

The existence of heterogeneous consumers on one or on both sides of the market creates the opportunity for platforms to differentiate themselves from each other by choosing features and prices that appeal to particular groups of customers. Horizontal differentiation allows the coexistence of several platforms, each catering to different groups of customer on each side of the market.

Some platforms initially have scale economies. However, after a certain point diseconomies set in on one or both sides. Physical platforms, such as trading floors, singles clubs, auction houses, and shopping malls, help customers search for and consummate mutually advantageous exchanges. But after a given size, expanding the number of customers on the platform can result in congestion that increases search and transaction costs. It may be possible to reduce congestion by increasing the size of the physical platform, but that in turn may increase search costs. To optimize searching for partners, two-sided platforms may find that it is best to limit the size of the platform and prescreen the customers on both sides to increase the probability of a match.

4.5 Welfare Analysis

Evaluating the impact on social welfare of policy measures in markets where two-sided platforms operate can be very challenging for at least three reasons.

First, price variations might not track welfare variations. As discussed in section 4.1, in markets where one-sided firms operate prices and social welfare loss, i.e., the deadweight loss, move in the same direction. Hence, welfare changes can be inferred from price changes. In markets where two-sided platforms operate, or more generally in markets with externalities, this need not occur. Prices and consumer welfare may move in the same direction, and consequently prices and social welfare loss may move in opposite directions.²⁷ This implies that in two-sided markets one ought to measure welfare variations directly, which is more demanding than measuring price variations.

Second, at least to economists, the welfare of all parties should be taken into account. This means that the welfare of the platform, as well as the welfare of consumers on both sides of the market should be included. This requires analyzing much more information, on both sides of the market, rather than just tracking simple proxies like the price paid by a particular consumer group. In addition, the prices paid by

²⁷ We discuss this possibility in more detail in section 9.

the consumers on both sides of the market, or more generally their welfare, might move in opposite directions in response to the policy measure. Balancing out these effects might be complicated.

Third, the welfare maximizing conditions for markets where two-sided platforms operate are more much complex than those for one-sided markets. This implies that data requirements necessary to characterize the social optimum can be very demanding. In practice it might be hard, if not impossible, to characterize the social optimum. But more importantly, even when it is clear that a given situation it is not socially optimal, given that in these markets the price structure plays a balancing act of internalizing the indirect network externalities across consumer groups, it might be extremely hard to determine which direction policy measures should take to increase welfare. Welfare improving measures might involve changing several prices in opposite directions.

5. Market Definition and Market Power

The definition of the relevant product market and the analysis of market power, are typically a fundamental component of competition analysis.²⁸ Often, to determine whether a firm's conduct is anticompetitive, or whether it caused harm, it is necessary to establish first that the firm has, or could obtain, significant market power. Business practices engaged unilaterally by firms that either lack market power, or are unlikely to acquire it, are often presumed benign. The notion of market power, in turn, is defined in reference to a particular relevant market. The economics of two-sided platforms provides several insights into the analysis of market delineation and market power.

5.1 Market Definition

In competition analysis, a market is a collection of products and geographic locations, delineated as part of an investigation whose purpose is to make inferences about market power and anticompetitive effect. A market defined for this purpose is often termed a "relevant market". This notion need not coincide with the use that is commonly given to the term "market" in the economics or marketing literatures.

For abuse of dominance cases, market definition helps to determine whether a firm has enough market power to engage in anticompetitive behavior, and whether that behavior increases or maintains its market power. For merger cases, market definition helps to identify the firms that could constrain possible price increases by the merging parties, and thereby helps to determine whether the merging parties will increase their market power.

Market definition determines whether a firm's product is in or out of the market by looking at substitution in demand or supply.²⁹ A standard approach to determining whether a firm is in the market is commonly used by many analysts.³⁰ Analysts start with the firm under consideration and add competitors to the market. The market boundary is determined, in a geographic or product dimension, when the collection of firms could, acting as a monopolist, raise price by a small but significant non-transitory amount, often taken to be five to ten percent. If the collection of firms could do so, then presumably the firms "outside of the market" do not substantially constrain the firms "inside the market". This method is known as the hypothetical monopolist test, or the small but significant increase in price, SSNIP, test.³¹

²⁸ *Market Power* is the ability to profitably raise price above marginal cost.

²⁹ It is a somewhat controversial whether supply substitution should be included in the analysis, or to put it differently, at what point of the analysis it should be considered. See Baker (2007).

³⁰ See, e.g., the "1992 Horizontal Merger Guidelines" on <http://www.ftc.gov/bc/docs/horizmer.htm>.

³¹ See Evans and Noel (2007) on how to extend critical loss analysis to markets where two-sided platforms operate.

This approach must be used with special care in markets where two-sided platforms compete. The pricing analysis must consider the two sides of the market and their interactions.

U.S. Department of Justice v. First Data Corporation and Concord EFS provides a useful example. The case involved a challenge to an acquisition under which First Data, which owned the NYCE pin-debit card system, wanted to purchase the much larger STAR pin-debit card system from Concord. Debit card systems serve both consumers who use the card for payment, and merchants who take the card for payment. PIN debit refers to cards for which the consumer types in a personal identification number at the merchant point of sale for authentication. The MasterCard and Visa systems also operate signature-debit systems in which consumers sign at the merchant point of sale to authenticate themselves. Most banks issue cards that can work with both pin and signature systems and can be used either way at merchants that have contract with the relevant system.

The Justice Department focused on the PIN debit networks as providers of services to merchants on the one hand, and financial institutions, who in turn provided services to their depository customers, on the other hand. According to the Justice Department, the “PIN debit network services market is characterized by significant network effects. Financial institutions are more likely to join networks that are accepted by many merchants. Conversely, merchants are more likely to accept networks that have many large financial institutions as members because the value of a particular PIN debit network depends in great measure on the breadth of its acceptance and use.” In effect, the Justice Department recognized PIN debit networks as two-sided platforms.

The Justice Department and the defendants disagreed on how to define the relevant market. The Justice Department asserted that “there is no legal or economic support for the notion that the hypothetical monopolist test should be discarded simply because the PIN debit market is two-sided in nature...” That statement is technically true in the sense that one can construct, as discussed above, a proper two-sided SSNIP test. However, the government’s economic expert appears to have applied a one-sided SSNIP test that examined whether an increase in the price to merchants would force merchants to leave the PIN debit card market.³² The government concluded that “[a] 5-10 percent increase in the fees the merchants pay for PIN debit would not change any of the above... Consequently, the overwhelming majority of merchants would not reject or discourage customers from executing PIN debit transactions in response to a moderate increase in the price of the product.”³³ The result of this analysis was to exclude from consideration the cardholder-side of the market and the effect of the transaction on competition between competing two-sided platforms. The court did not issue a decision because FDC agreed to divest NYCE as a condition of the merger.

The error of treating each side of the market in isolation is even easier to make when in one of the sides the product is priced at zero. In that side one does not think of firms as competing for sales. Thus, it is easy to think of shopping malls as renting space to retailers, ignoring the services offered to shoppers; Adobe as selling document production software, ignoring the services offered to readers; Palm as selling software and hardware systems for personal data management, ignoring the services offered to application developers, and television stations as selling advertising, ignoring the services offered to viewers. In all these cases, the pricing and production decisions are inextricably intertwined.

³² Transcript of Hearing at 24:11-30:19, *United States and Plaintiff States v. First Data Corp. and Concord EFS, Inc.*, No. 1:03CV02169, (D.C. Dec. 5, 2003).

³³ Plaintiff’s Pre-Trial Brief, *United States and Plaintiff States v. First Data Corp. and Concord EFS, Inc.*, No. 1:03CV02169 (RMC), (D.C. Dec. 10, 2003).

5.2 *Market Power*

Measuring market power is a genuinely a complicated issue in one-sided markets, and more so in two-sided markets.

For a two-sided platform each side is a complement for other side. Prices and profits for two sides are interlinked. Profit maximization decisions are based on platform as a whole, rather than on sides taken separately.

The indirect network externalities between the customers on the two sides affect the price elasticity of demand and thus the extent to which a price increase on either side is profitable. It therefore necessarily limits market power, all else equal. Consider two sides *A* and *B*. An increase in the price to side *A* reduces the number of customers on side *A*. This reduces the value of the platform for customers on side *B*. As a consequence, both the price that side *B* will pay and the number of customers on side *B* decreases. The reduction in the number of customers on side *B*, in turn, decreases both the demand on side *A* and thus the price that customers on side *A* will pay. These positive feedback effects may take some time to work themselves out. However, as shown above, even if, say, customers on side *A* are not very sensitive to price, all else equal, including the behavior of those in side *B*, demand from side *A* may nonetheless end up being very price-sensitive indeed when these feedback effects work themselves out.

A two-sided platform maximizes total profit coming from the interlinked sides, and does so by adjusting price levels and price structure. Price equaling marginal cost, or average variable cost, on a given side is not a relevant economic benchmark for two-sided platforms for evaluating market power. As we saw in section 4.1, the profit-maximizing price on each side is a complex function of: (i) the elasticities of demand on both sides, (ii) indirect network effects, and (iii) marginal costs on both sides. Thus, it is incorrect to conclude that deviations between price and marginal cost on one side provide any indication of pricing to exploit market power or to drive out competition.

If the purpose of the market power inquiry is to assess the state of competition in the industry, it might make more economic sense, to look at the risk-adjusted rate of return on investment.³⁴ For two-sided platform markets, that analysis should consider the total returns and the total investment in all sides.³⁵

6. **Anti-Competitive Pricing**

Applying the standard tools of competition analysis to markets where two-sided platforms operate is a delicate issue, particularly regarding pricing abuses. In many jurisdictions, e.g., the EU, it can be an abuse of dominance to set prices too low, i.e., predatory pricing, and to set prices too high, i.e., excessive pricing.³⁶ Given the typical price skewness of two-sided markets, if a competition authority treats the two sides of the market as separate, it is possible to find predatory pricing on one side of the market and excessive pricing on the other side, despite the platform earning a competitive return.

³⁴ In some circumstances this amounts to seeing if the price level exceed what would be expected in a competitive market. See Rochet and Tirole (2003) and Weyl (2008b) for the importance of focusing on the price level on markets for two-sided platforms. See also Emch and Thompson (2006).

³⁵ See Franklin and McGowan (1984) for the difficulties of measuring the rate of return.

³⁶ See the European Commission's text "Guidance on the Commission's Enforcement Priorities in Applying Article 82 EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings" at: <http://ec.europa.eu/competition/antitrust/art82/guidance.pdf>.

6.1 *Predatory Pricing*

The recognition that in markets where two-sided platforms operate, business strategies, and their effects on consumers, must be evaluated with respect to both sides of the market, has implications for the analysis of predation.³⁷ Competitive prices can be erroneously taken as predatory when looking at only one side of the market. As discussed in sections 4.1, 4.2, e 4.5, it may be privately and socially optimal for prices on one side of the market to be below some measure of cost on that side.³⁸

To clarify the issues, let us consider extending the test of predatory pricing to two-sided markets. That test has two cumulative conditions: (i) price is below cost, and (ii) the firm has a reasonable prospect of recouping predatory losses.³⁹

Let us start with the first condition. In markets where two-sided platforms operate one needs to compare the total price with the total marginal cost.

It is straightforward to analyze this condition in matchmaking markets. One can look at the total price incurred by both sides for a transaction, and compare that total price to the marginal cost of providing that transaction to both sides.

Consider the American Express corporate charge card. The cardholder pays nothing for a transaction and often receives various inducements that make the effective price of a transaction negative. The merchant pays about 2.7 percent of the transaction price to American Express. For each transaction, American Express incurs costs for authorizing and settling the transaction with the merchant, billing the cardholder, incurring some risk of fraud or non-payment, awarding airline reward miles to the cardholder, and other expenses. It may be possible to calculate the total price as a percentage of a typical transaction, and the incremental cost for that transaction. That comparison is relevant for the first condition of the test. The fact that cardholders pay a negative price is not relevant. This is a consequence, and quite possibly a socially efficient one, of the two-sided nature of the business.

Comparing total price and total marginal cost is harder in markets where two-sided platforms operate that do not involve matchmaking. The problem is that there might not be a natural unit of account for comparing prices and costs.

Consider free-to-air television. Consumers get access to programming at the price of having to watch advertisements, or having to wait for the program to resume. Advertisers are charged a positive price to advertise. There is no economically meaningful way to combine these two prices. The channel, or network, incurs a fixed cost for producing or buying programming. It incurs a small per viewer cost for distributing programming and advertisements. But with no common unit of account there is no way to add these costs up. Thus, one cannot compare total price with total marginal cost.

One could compare the total revenues received from the two sides of a non-matchmaking market, with the total variable costs incurred for providing the multiple products. In the case of free-to-air television, that would mean comparing the total revenues from viewers and advertisers, with the total variable costs of servicing these clients. This would identify extreme forms of predation, but not all situations where marginal costs are less than marginal revenue.

³⁷ See Weyl (2008a) for a preliminary analysis of predatory pricing in markets where two-sided platforms operate.

³⁸ That is particularly true during the initial stage of the industry when firms resort to penetration pricing.

³⁹ See *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* 509 U.S. 209, 222-24 (1993).

Now let us examine the second condition of the test of predatory pricing. For markets where two-sided platforms operate, one needs to consider whether there is a large probability that the firm will raise its total price high enough and for long enough to recoup its losses during the alleged predatory phase. In other words, one needs to look at recoupment possibilities on both sides of the market, and not just on the side of the product whose low prices initially attracted suspicion.

Suppose that the alleged abuse occurred on side *A*. If after the rival's exit the platform raises the price on side *A*, the number of customers on that side decreases. This reduces the value of the platform for customers on side *B*, and thereby reduces the price that the platform can charge to those consumers. The price decrease on side *B* may more than offset the increase in profits caused by the initial price increase on side *A*. Thus, being able to increase the price on side *A* is not enough. To guarantee recoupment, the platform has to be able to raise the price on side *A*, and to, at least, be able to maintain the price on the other side *B*.⁴⁰

In section 4 we argued that to internalize indirect network externalities two-sided platforms may have a price structure such that the price offered on one side is below cost, or even below zero. The empirical evidence indicates that below cost pricing is common, and is therefore not designed mainly for the purpose of foreclosing competition. Hence, any presumption that below cost pricing by two-sided platforms is anticompetitive is incorrect.

It is possible for two-sided platforms to engage in predatory pricing by setting its price on one side very low to deny other platforms access to that side of the market. It is also possible for a two-sided platform to engage in two-sided predatory pricing by charging below cost overall on both sides with the purpose of foreclosing competitors. Cost-based tests make some sense in the latter case. However, it is hard to see how they could be used to analyze an allegation of one-sided predation.

6.2 *Excessive Pricing*

The issue of excessive prices has come up in a series of cases in Europe.⁴¹ Sectoral regulators have found mobile telephone operators to have charged excessive prices for terminating on their networks calls originated either on fixed-line carriers, or on other mobile carriers.

Sectoral regulators recognize that the profits from these excessive prices are competed away in part through low prices for handsets and call origination. The U.K.'s telecommunications sectoral regulator, the Office of Communications, recognized that mobile telephone platforms were highly competitive, at least on the mobile subscriber side, i.e., on call origination, and did not overall earn supra-competitive returns.⁴² Although the Office of Communications did not analyze the market as a two-sided business, and did not

⁴⁰ Or, if the price on side *B* does decrease, the profit increase in side *A* has to be larger than the profit decrease in side *B*.

⁴¹ There have also been several cases in Europe on excessive pricing in the payment cards industry regarding interchange fees, often at the instigation of large retailers' associations. See, e.g., <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1959>.

⁴² See U.K. OFFICE OF TELECOMMUNICATIONS, DISCONTINUING REGULATION: MOBILE ACCESS AND CALL ORIGINATION MARKET §1.2 (2003), available at http://ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/discon1103.pdf ("no mobile network operator, either individually or in combination with one or more other mobile network operators, has [significant market power] in that market.").

apply two-sided analysis; it did provide an “indirect network externality” component to the regulated price it imposed on the mobile termination side.⁴³

It is possible for a two-sided platform to abuse its market power and charge excessive prices.⁴⁴ However, to determine whether or not that is the case one has to look simultaneously at both sides of the market. Seemingly excessive prices on one side of the market may simply be the mirror image of seemingly predatory prices on the other side, and both prices may be the results of the platform’s balancing act required to attract both sides of the market.

7. Non-Price Exclusionary Practices

Firms may resort to non-price strategies to limit competition or foreclose the market to rivals. Two of these strategies are: exclusive contracts and product tying. It is still very controversial whether these conducts are indeed anticompetitive, but they have been at the center of several important competition policy cases in two-sided markets. In any case, they are relevant to the issue of how the economics of two-sided platforms affects the analysis of market foreclosure strategies in the markets where these platforms operate.⁴⁵

7.1 *Tying*

Tying is a fundamental business strategy in a wide variety of markets, including two-sided platform businesses.⁴⁶ Most platforms design their products in a way that combines things that could, in principle, be sold separately. Payment card platforms require merchants to buy all of the card transactions generated by cardholders who want to use their cards at the merchant. Media platforms require subscribers to buy advertising as well as content. Exchanges require sellers to buy specific auction services as well as access to potential buyers.

These ties obviously foreclose customers on one side or the other from certain choices that may prove beneficial to them. However, they enable the platform to internalize externalities and, therefore, provide a more valuable group of interrelated products and services to the diverse customer communities they serve.

With competition among two-sided platforms one needs to consider how a conduct on one side of the market affects the other side of the market, and what the competitive effects of that conduct are. Successfully foreclosing a competitor on one side of a market could prevent that firm from succeeding on the other side, and thereby deter platform entry. This is consistent with several post-Chicago analyses of tying, which argue that a firm may attempt to force the exit of a competitor that produces a complementary good to deter future entry into the firm’s primary market. In addition, one needs to consider whether the efficiencies from tying or exclusive contracts offset possible costs from reducing competition. Tying may be innocuous or even pro-competitive in some circumstances.

⁴³ See U.K. OFFICE OF COMMUNICATIONS, WHOLESAL MOBILE VOICE CALL TERMINATION 163-72 (2004), available at http://www.ofcom.org.uk/consult/condocs/mobile_call_termination/wmvct/wmvct.pdf.

⁴⁴ In many jurisdictions, such as the US, charging a monopoly price is not illegal.

⁴⁵ For the analysis of the competitive effects of tying see: Amelio and Jullien (2007) and Rochet and Tirole (2007). For the analysis of the competitive effects of exclusive contracts see: Armstrong and Wright (2007), Hagiu and Lee (2008), and Lee (2007).

⁴⁶ *Tying* consists of conditioning the sale of a good on the simultaneous sale on another seemingly unrelated good.

A two-sided platform may impose tying on side *A* that does not benefit the consumers of that side directly and which they might even reject after comparing private benefits and costs. But tying may benefit side *B*. And if the demand increases on side *B*, tying may increase indirectly the value of the platform on side *A*. In fact, tying could increase indirectly the value so much that it provides a net benefit to side *A*. Given the complexities of determining prices in these markets, it is not possible to predict a priori how tying will affect the price level and the price structure for two or more sides. However, it is possible that the combined price paid by side *A* for the tied products could be significantly lower than the prices that would emerge if the products were not tied, because the pricing structure may pass much of the overall value of the tie to side *A* rather than *B*.

The honor-all-cards rule for payment cards is an example of a welfare enhancing tying in markets where two-sided platforms operate.⁴⁷ Card systems usually require that merchants that agree to take any of a system's branded cards, also agree to take all branded cards from that system that are presented by shoppers. Thus, merchants that have a contract to take American Express cards cannot decide to take payment by American Express corporate cards, but not American Express personal cards, or to take payment from visibly wealthy travelers, but not from locals. For at least some merchants the private cost of this requirement outweighs its benefits. However, this rule makes the system's branded card more valuable to its cardholders, who have the assurance that their card will be accepted for payment at merchants that display the system's acceptance mark. By increasing the number of cardholders it makes the card a more valuable payment device for merchants to accept.⁴⁸

7.2 *Exclusive Dealing*

One of the main Chicago School observations about exclusive contracts is that a consumer is always free not to agree to exclusivity. Hence, exclusivity in contracts must reflect consumers' judgment that the benefits outweigh the costs of only dealing with one firm. Consumers agree to the exclusive contracts on one side of the market if, at least in the short run, they gain from, or are indifferent to, exclusivity. However, they may not take into account in their decision the costs to consumers on the other side from decreased platform competition.

The potential for profits on the other side provides a possible incentive for exclusive contracts in two-sided platforms. For two-sided platforms it is at least possible that there is an externality. Exclusive contracts on one side might help a platform gain market power on other side.

It is possible, at least theoretically, for a two-sided platform to use exclusive contracts to exclude competitors. However, the welfare consequences of these contracts are not clearly harmful.

For example, in the videogame industry it is common for hardware platforms to have exclusive contracts with software providers. Lee (2007) finds that these exclusive contracts are pro-competitive at the platform level, and their presence benefits the smaller entrant platforms at the expense of the incumbents. Without exclusive contracts, high quality software titles will be developed mostly for the incumbents, due to their larger installed base. As a result, entrant platforms will not be able to offer consumers any significant benefit over the incumbent. Hence, they will not be able to gain a substantial market share. Exclusive access to certain software titles allows entrants to attract enough consumers to make the platforms viable.

⁴⁷ See Rochet and Tirole (2008) for an analysis of the honor-all-cards rule.

⁴⁸ A merchant class led by Wal-Mart contested Visa's and MasterCard's Honor All Cards rules (In re Visa Check/MasterMoney Antitrust Litigation, No. 96-CV-5238, 2003 WL 1712568, at *1 (E.D.N.Y. Apr. 1, 2003) (Wal-Mart)).

Conceivably, exclusive contracts may foreclose the market in a socially harmful way. This is a concern if one firm has exclusivity over most or all of the market and the exclusivity is persistent.⁴⁹ Consumers on the non-exclusive side could respond by moving to a competing platform, thus exerting pressure on consumers on the exclusive side to end exclusivity. Moreover, in markets with significant buyer concentration, the buyers would be reluctant to agree to exclusivity if there is some expectation that it will lead to dominance by that platform, as that will likely result in higher prices in the future for all sides.

Many markets where two-sided platforms operate have multi-homing on at least one side. Empirically, exclusive contracts that foreclose market competition do not appear prevalent in two-sided markets.

8. Coordination among Competitors

Competition law typically restricts severely cooperation among competitors. Some forms of cooperation, like price fixing, are typically considered per se illegal conducts, and rightfully so. However, cooperation among competitors in markets where two-sided platforms operate may be pro-competitive and welfare increasing.

Two-sided platforms improve efficiency by acting as intermediaries between different customer groups, and by internalizing the indirect externalities generated by these groups. Sometimes the platform is a for-profit firm, other times it is not. The platform may be a joint venture, a cooperative, or a standard-setting body. Payment card associations operate the network and set rules that result in the determination of a pricing structure. Real estate agencies have associations that operate the multiple listing services. Multi-homing also gives competitors incentives to coordinate. American Express and Visa are both members of Global Platform, an international organization that sets standards for smart card technology, and are using Global Platform standards in their respective efforts to develop smart cards.

Competition and regulatory authorities have investigated coordination among competitors in two-sided platform markets extensively in the payment cards industry, regarding the collective setting of interchange fees by associations.⁵⁰ US courts analyzed interchange fee setting in the late 1970s.⁵¹ They decided that there was enough evidence to conclude that Visa's interchange fees, on balance, were pro-competitive, and played a fundamental role in ensuring universality of acceptance, without which Visa system would not survive. The Reserve Bank of Australia reached a different conclusion in a recent investigation.⁵² It determined that Visa's interchange fees could promote socially excessive card use. Therefore, it imposed cost-based regulation. Interchange fees may not exceed the sum of certain direct costs that payment card issuers incurred on behalf of payment card acquirers.

Proprietary systems, like American Express, have two price instruments to get both sides on board: cardholder and merchant fees. Typically, these fees are set so that merchants pay most of the value. The fees do not track marginal costs on either side of the platform.

⁴⁹ See Lee (2007) for the analysis of the computer games market, where neither of these two conditions are met.

⁵⁰ *Interchange fee* is the per transaction tariff paid by the bank of the merchant, the acquirer, to the bank of the cardholder, the issuer. *Merchant fee*, or discount, is the per transaction tariff paid by the merchant to its bank, the acquirer.

⁵¹ See *Nat'l Bankcard Corp. v. Visa U.S.A., Inc.*, 779 F.2d 592, 605 (11th Cir. 1986).

⁵² See "Reserve Bank of Australia, Reform of Credit Card Schemes in Australia IV, Final Reforms and Regulation Impact Statement", 2002.

Members of cooperative systems, like MasterCard and Visa, compete for cardholders and merchants.⁵³ The collective setting of the interchange fee serves two purposes. First, it helps balance the demand of cardholders and merchants, i.e., helps internalize the cross group indirect externalities. Second, it eliminates the need for bilateral negotiations, thereby reducing the transactions cost of internalizing the externalities. Without coordination, the members would not be able to determine the pricing structure, which internalizes the indirect network externalities created by merchants for cardholders. A higher interchange fee tends to raise merchant fees and lower cardholder fees. The interchange fee that maximizes the profits of the association's members is based on the cost and demand on both sides. One cannot easily determine whether the pricing structure that emerges here is the socially optimal. There is, however, no economic basis for concluding a priori that the pricing structure established by the platform is biased toward one side or the other. More importantly, the economics literature on two-sided platforms shows that cost-based pricing rules are not in general socially or privately optimal for platforms in two-sided markets.⁵⁴

In markets where two-sided platforms operate cartels may need to coordinate on both sides of the market. Suppose that several two-sided platforms compete on an industry. If they agree to fix prices on one side only, they might end up competing away the supra-competitive profits on the other side. This has two implications. First, it is harder to form a cartel in an industry with two-sided platforms than in industries with single-sided firms, since more agreements and monitoring are required. Second, if a competition authority finds evidence of a price fix on one side it should probably look carefully for evidence on the other side also.

9. Mergers

The central concern of merger investigations is whether the operation will create or enhance market power, or facilitate its exercise.⁵⁵ As discussed in section 4.4, markets where two-sided platforms operate tend to be concentrated. Thus, mergers in these markets will naturally raise a special interest among competition authorities.

To determine the impact on market power of a merger that involves a two-sided platform, one has to take into account the interrelated effects on both customer groups served by the platform.⁵⁶ This implies that some of the traditional tools for merger analysis, such as the concentration indices, diversion ratios, or the critical loss, do not apply, unless, appropriate reformulated to account for the two-sidedness of the market.⁵⁷

A merger of two-sided platforms will affect the relative base of consumers on both sides of the market, and thereby the balance of indirect network externalities across the two sides of the market. This implies that the merger will affect not only the price level but also the price structure. Conceivably, the equilibrium post-merger prices could result in some prices increasing and others falling.

⁵³ This is true in the Single Euro Payments Area. Outside this area Visa and MC are governed as for-profit public companies with shareholders, and they are not controlled by banks.

⁵⁴ See Rochet and Tirole (2002, 2003), Schmalensee (2002), and Weyl (2008).

⁵⁵ See the "1992 Horizontal Merger Guidelines" on <http://www.ftc.gov/bc/docs/horizmer.htm> for the case of the USA and the "2004 Merger Control Regulation" on <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:024:0001:0022:EN:PDF> for the case of the EU.

⁵⁶ See Weyl (2008a, 2008b, 2008c) for the analysis of particular types of mergers involving two-sided platforms.

⁵⁷ See Evans and Noel (2007).

In addition, if the merger increases the relative customer base on one side, it increases the value of belonging to the platform to the customers on the other side. Therefore, consumer welfare may increase even though prices increase on one side or in total. The next example illustrates these points.

Consider the following hypothetical merger. There are two business-to-business electronic platforms for office equipment in region *X*: platforms *A* and *B*. The platforms cater to somewhat different clienteles. Platform *A* charges sellers \$2000 per month for admission and buyers \$0; platform *B* charges sellers \$3000 per month and gives sellers a \$500 per month in all purchases conducted through the platform. Platform *B* has been more successful because it attracts more buyers and as a result of that it attracts more sellers. In fact, it is so successful that it typically has a waiting list and can select the sellers and buyers to admit. It tries to weed out “undesirable” sellers and buyers. Assume that business-to-business electronic platforms for office equipment in region *X* is the relevant market. Platform *A* has a twenty percent share of admissions and *B* a forty percent share. Will the merger raise prices? One cannot answer that question by looking just at the demand for customers overall, e.g., by estimating the demand for admission against the average price. The mix of sellers and buyers is critically important. One would have to estimate the demand for sellers and the demand for buyers simultaneously. Then, using the theory of pricing in markets where two-sided platforms operate, together with information on cost, one could predict whether the merger would lead the combined firms to increase their total price. Let us suppose that the analysis shows that the merged entity would charge \$3200 for sellers and give buyers a credit of \$600. Assuming equal numbers of sellers and buyers, the average price charged at Platform *A* would rise from \$1000 to \$1300, and the average price charged at Club *B* would rise from \$1250 to \$1300. It is unclear whether customers are better or worse off. On average the customers pay more. But in the aggregate they could get more as well. The sellers may have a better selection of buyers to choose from, and the buyers may have a better selection of sellers to choose from.

Competition authorities also examine whether a merger will generate efficiencies. If it does, these can be weighted in, as a mitigating factor, against the impact of the merger on market power. In the case of two-sided platforms, given the economies of scale and the indirect network effects across groups of consumers, there is conceivably more scope for mergers to generate efficiencies.⁵⁸

Two empirical studies on the merger of ATM networks and yellow pages can help put the previous discussion in perspective. Prager (1999) analyzed the ATM network wave of mergers of the 1990s. She found that it did not lead to higher prices to consumers or slower output growth. However, she could not distinguish between a lack of increased market power and an offsetting of market power with efficiency. Rysman (2004) analyzed the yellow pages. He found that the net effect of mergers may be to reduce consumer welfare: The welfare losses from price increases dominate the welfare gains from the additional indirect network effects on both advertisers and shoppers.

10. Conclusion

Two-sided platforms arise in many economically significant industries, such as media, payment systems, and software. As the information technology revolution unfolds, the importance of two-sided platforms is likely to grow.

Two-sided platforms have to find the right price structure to balance the demands of the two customer groups they must attract. More generally, to internalize the indirect network externalities across groups of consumers they have to resort to price and non-price strategies that can be very different from those of traditional firms.

⁵⁸ Of course to the extent that these are truly merger specific, i.e., could not be achieved in the absence of the merger. See Farrell and Shapiro (2001).

Two-sided platforms provide enormous social value by internalizing externalities among different customer groups and, in some cases, by creating products and services that could not exist without this intermediation.

Although rarely a monopoly, markets where two-sided platforms operate tend to be concentrated. High concentration levels, associated with unusual price and non-price strategies, naturally draw the attention of competition authorities.

These businesses, like all businesses, may engage in anticompetitive strategies. However, the application of tradition tools of competition analysis has to be done with extreme care. Competition authorities need to recognize the two-sided nature of these businesses, and to consider the overall effects of competition and regulatory intervention on consumer welfare.

Competition authorities face a complicated dilemma. On the one hand, some of the fastest growing high technology industries involve two-sided platforms. Ensuring competition, and thereby and efficient allocation of resources in these industries is very important. These industries are in the forefront of economic growth. On the other hand, a misguided enforcement of competition law can destroy or harm considerably these same industries. Finding an adequate equilibrium will require a very lucid reflection on how firms compete in these industries.

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NOTE DE RÉFÉRENCE*

1. Introduction

La présente note présente une introduction succincte à l'économie des plateformes dites bifaces ou duales et à ses implications pour la politique de la concurrence.

Une plateforme duale permet de réunir les membres de deux catégories distinctes de clients de manière à créer de la valeur pour ces clients, valeur qu'ils ne pourraient obtenir aussi efficacement, voire ne pourraient pas obtenir du tout, si la plateforme n'existait pas. La plateforme internalise généralement les effets de réseaux indirects entre ces catégories de clients. Nombre de ces plateformes, surtout celles de l'économie Internet, comptent plus de deux versants ; les éléments recueillis à propos des plateformes duales s'appliquent *a fortiori* aux plateformes multi-faces.

Les plateformes duales ne sont pas une entreprise d'un genre nouveau. L'activité de la marieuse de village était une entreprise duale qui permettait aux hommes et aux femmes de trouver le conjoint qui leur convenait. Dans l'Athènes de l'antiquité, il existait une bourse de l'assurance où les transporteurs qui avaient besoin d'une couverture d'assurance et d'un financement rencontraient les investisseurs disposés à prendre en charge les risques et les opérations de prêt (Pfeffer, 1966). Les journaux financés par la publicité qui mettent en contact annonceurs et clients existent depuis plusieurs siècles. Cependant, on reconnaît depuis moins d'une décennie que des activités couvrant différents ensembles de secteurs présentent ces caractéristiques duales et que ces caractéristiques duales ont d'importantes répercussions économiques. La théorie des plateformes duales trouve son origine dans un article majeur de Rochet et Tirole (2003), qui a commencé à être diffusé vers 2000, et dans l'article qu'ils ont publié par la suite (2006). Les publications d'Armstrong (2006), de Caillaud et Jullien (2003), d'Evans (2003a, b), de Parker et Van Alstyne (2005) comptent également parmi les contributions importantes à la littérature récente sur ce sujet.

La théorie des marchés duals est au cœur des enquêtes menées par les autorités de la concurrence concernant la formation des prix des systèmes de paiement. Un certain nombre d'autorités de la concurrence ont notamment étudié les modalités de fixation des commissions d'interchange par les réseaux de cartes de paiement¹. Une banque perçoit des commissions d'interchange lorsque les clients règlent leurs achats avec une carte émise par la banque en question. Au nombre des affaires récentes examinées par les autorités de la concurrence, citons l'enquête menée par la Reserve Bank of Australia sur les cartes de crédit², le recours intenté par la Commission européenne à l'encontre de MasterCard relative aux commissions d'interchange³, le recours intenté par la Commission européenne à l'encontre de *Newspaper*

* Cette note a été rédigée pour le Secrétariat par David Evans, Vice Président LECG-Europe

¹ Voir <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1959>.

² Voir « Reserve Bank of Australia, Reform of Credit Card Schemes in Australia IV, Final Reforms and Regulation Impact Statement », 2002.

³ Voir http://ec.europa.eu/internal_market/payments/news_fr.htm.

*Publishing*⁴, la fusion Carlton Communications/Granada⁵ et le rachat de DoubleClick par Google qui a été examiné à la fois par la Federal Trade Commission américaine et par la Commission européenne⁶.

Trois facteurs conjugués sont susceptibles d'inciter de plus en plus les autorités de la concurrence à recourir à l'analyse des marchés duals. Premièrement, l'économie des marchés duals s'est considérablement développée ces dix dernières années, et fait désormais partie des classiques de l'analyse économique. Deuxièmement, il apparaît qu'un certain nombre des secteurs qui font souvent l'objet d'enquêtes de la part des autorités de la concurrence sont soit des secteurs duals, soit des secteurs qui participent à un écosystème d'entreprises au sein duquel les plateformes duales jouent un rôle important – notamment dans le domaine financier et non financier, celui des médias, des télécommunications, des systèmes de paiement et des plateformes logicielles. Troisièmement, par suite de l'essor de l'économie Internet sous l'impulsion de la baisse du coût des télécommunications et des progrès informatiques, un grand nombre d'entreprises opérant sur l'Internet, souvent duales, ont fait leur entrée sur le marché.

Les plateformes duales doivent coordonner les demandes interdépendantes de deux catégories distinctes de clients qui doivent agir en interaction l'une avec l'autre. L'internalisation des externalités de réseau indirectes entre ces deux catégories exige de mettre en œuvre des stratégies tarifaires et non tarifaires qui peuvent être différentes de celles d'entreprises ne proposant pas leurs services à différentes catégories interdépendantes de clients.

Pour attirer les deux versants du marché, une plateforme duale doit choisir à la fois le niveau de prix et la structure de prix. Si les externalités de réseau indirectes entre les deux catégories de clients sont très déséquilibrées, la structure de prix qui équilibre les demandes relatives des deux côtés du marché peut être très asymétrique. L'un des côtés peut n'avoir rien à payer ou payer un prix inférieur au coût moyen ou marginal induit par les clients de ce côté du marché tandis que l'autre côté du marché pourra avoir à assurer la majeure partie des recettes de la plateforme. De ce fait, le prix de maximisation du bénéfice imputé aux clients des deux côtés de la plateforme ne repose pas sur une formule du taux de marge, telle que la condition de Lerner, et le prix ne rend pas compte du coût marginal⁷. En outre, dans bien des cas, la fourniture conjointe d'un bien à deux catégories de clients rend arbitraire l'affectation des coûts à l'un des deux côtés, quel qu'il soit.

L'économie de la concurrence des plateformes a une incidence sur l'analyse de la politique de la concurrence dans un grand nombre de domaines tels que les pratiques d'exclusion, les effets coordonnés et l'examen des fusions lorsqu'il s'agit des marchés sur lesquels les plateformes duales opèrent. Certains de ces thèmes seront examinés ici. Nous étudierons ensuite succinctement deux exemples : la délimitation du marché et la formation anticoncurrentielle des prix.

Généralement, l'analyse de la délimitation du marché est centrée sur l'effet produit par une variation de prix sur la demande sur un marché étroitement défini. Les plateformes duales ayant besoin de coordonner la demande de deux catégories interdépendantes de clients, toute variation de prix d'un côté du marché a des effets de rétroaction positifs sur les autres côtés du marché. De ce fait, l'analyse doit tenir compte de ces effets de rétroaction pour déterminer l'effet global de la variation de prix sur le bénéfice.

⁴ Affaire N IV/M.423 – Newspaper Publishing, (1994).

⁵ Voir U.K. Competition Commission, CARLTON Communications PLC/GRANADA PLC: A Report on the Proposed Merger, Cm 5952 (2003).

⁶ Voir Evans & Noel (2008) pour plus de précisions sur cette opération.

⁷ Les conditions d'équilibre des prix d'une plateforme duale peuvent être réinterprétées au moyen de la condition de Lerner (Lerner, 1935), si le coût d'opportunité est correctement défini.

La structure de prix qui internalise les externalités de réseau indirectes entre les catégories de clients peut être asymétrique si l'on fait payer un côté de la demande tandis que l'autre côté est subventionné. Une analyse qui ignore le caractère dual de l'activité peut conclure, à tort, que la plateforme pratique des prix d'éviction pour l'un des côtés du marché et des prix excessifs pour l'autre. Ou elle peut encore conclure que la plateforme se sert des prix peu élevés qu'elle pratique sur l'un des côtés afin d'acquérir, ou de conserver, une puissance commerciale sur l'autre côté.

Dans notre examen des implications de l'économie des plateformes duales, nous soulignons combien les outils classiques de l'analyse de la concurrence, comme le critère de l'augmentation limitée mais significative et non transitoire du prix [le « critère de la SSNIP » ou *small but significant and non-transitory increase in price test*] ou l'analyse de la perte critique, soit ne sont pas valables, soit doivent être reformulés⁸.

L'accent mis dans notre analyse n'implique nullement que nous présupposons que les comportements anticoncurrentiels sont moins fréquents ou moins préjudiciables sur les marchés sur lesquels les plateformes duales opèrent que sur les marchés traditionnels. Les entreprises peuvent se livrer à des comportements anticoncurrentiels sur ces marchés, et s'y livrent, comme elles le font sur les marchés traditionnels, et leur comportement peut être tout autant préjudiciable. Les plateformes duales peuvent mettre à profit des stratégies anticoncurrentielles différentes de celles utilisées par les entreprises monofaces. Notre analyse ne signifie pas non plus qu'en l'état actuel de nos connaissances, les autorités de la concurrence doivent se montrer plus indulgentes à leur égard ou réfléchir à deux fois avant d'intervenir sur ces marchés par rapport aux marchés traditionnels. Sur les marchés duaux, les entreprises doivent être soumises à la même surveillance et aux mêmes exigences de la part des autorités de la concurrence que les marchés classiques.

La réflexion que nous mettons en avant implique en revanche que l'analyse de la concurrence sur ces marchés doit tenir compte des principes économiques gouvernant les plateformes duales pour évaluer le comportement de ces entreprises. Certaines stratégies tarifaires et non tarifaires, qui seraient des stratégies d'exclusion et qui seraient préjudiciables sur les marchés classiques ne visent, sur les marchés sur lesquels les plateformes duales opèrent, ni à exclure les concurrents, ni à causer le moindre préjudice. Ces stratégies peuvent apparaître naturellement sur ces marchés sous l'effet de la nécessité d'internaliser les externalités de réseau indirectes entre les différentes catégories de clients. L'inverse est également vrai. Certaines stratégies tarifaires et non tarifaires qui peuvent être inoffensives sur les marchés classiques peuvent avoir des effets d'exclusion et réduire le bien-être des consommateurs quand elles sont mises en œuvre sur les marchés duaux. Les stratégies d'exclusion qui privent les plateformes concurrentes de la liquidité nécessaire à leur survie peuvent être particulièrement problématiques.

L'analyse de la réglementation se heurte à des difficultés similaires. Les autorités de tutelle ont appliqué le principe selon lequel la formation des prix s'aligne sur les coûts marginaux. Cependant, ce principe ne s'applique pas aux marchés sur lesquels les plateformes duales opèrent en raison de la présence d'externalités de réseau indirectes et de coûts conjoints. Une autre solution consiste à utiliser le principe de formation des prix de Ramsey qui énonce que les prix des différents services doivent être fixés de sorte que les marges prix-coût marginal soient inversement liées aux élasticités de la demande par rapport aux prix. C'est par conséquent le côté inélastique de la demande qui génère des recettes plus importantes. Ce principe s'applique aux marchés sur lesquels les plateformes duales exercent leur activité. Cela étant, l'analyse doit tenir compte de l'interdépendance des deux côtés complémentaires du marché⁹. Cela signifie

⁸ Voir Wright (2004) pour un examen des erreurs courantes concernant les marchés sur lesquels les plateformes duales opèrent.

⁹ La régulation des prix selon le principe de Ramsey est soumise à des grandes exigences en termes d'information et, pour autant que l'on sache, n'a jamais été appliquée sérieusement.

que le prix optimal doit tenir compte non seulement de considérations du côté de la demande, et notamment des effets de réseaux indirects, mais aussi de considérations du côté des coûts, ce qui rend le travail des autorités de tutelle d'autant plus difficile.

Le reste de la présente note s'articule comme suit. La section 2 présente quatre exemples de marchés duals : les médias financés par la publicité, les plateformes d'intermédiation, les systèmes de paiement et les plateformes logicielles. La section 3 présente une définition des marchés duals. Les sections restantes analysent plusieurs implications pour la concurrence de l'économie des marchés duals. La section 5 est consacrée à la délimitation du marché et à la puissance commerciale, la section 6 aux pratiques tarifaires anticoncurrentielles et la section 7 aux pratiques d'exclusion non tarifaires ; la section 8 s'intéresse aux effets coordonnés et la section 9 aux fusions. Enfin, la section 10 présente une conclusion.

Cette note traite des principaux aspects suivants :

- Certaines entreprises ont un caractère dual. Elles desservent simultanément deux catégories interdépendantes de clients qui ont besoin de l'intermédiation de la plateforme pour internaliser les externalités de réseau indirectes entre elles. Le caractère dual est une question de degré. Parfois, la dualité de l'entreprise est essentielle pour l'analyse alors que, d'autre fois, il n'y a pas lieu d'en tenir compte.
- Les plateformes duales doivent coordonner les demandes interdépendantes de deux catégories distinctes de clients. De ce fait, elles doivent recourir à des stratégies tarifaires et non tarifaires qui peuvent être très différentes de celles utilisées par les entreprises traditionnelles.
- La structure de prix qui internalise les externalités de réseau indirectes entre les différentes catégories de clients peut être très asymétrique. L'un des côtés peut ne presque rien payer alors que l'autre côté du marché pourra avoir à assurer la majeure partie des recettes de la plateforme. En particulier, le prix de maximisation du bénéfice imputé aux clients d'un côté de la plateforme et de l'autre ne repose pas sur une formule de taux de marge, telle que la condition de Lerner, et le prix ne rend pas compte du coût marginal.
- Les entreprises peuvent se livrer à des comportements anticoncurrentiels sur les marchés duals comme elles le font sur les marchés traditionnels et leur comportement doit être soumis à la surveillance des autorités de la concurrence. Cela étant, l'analyse de la concurrence sur ces marchés doit tenir compte des principes de l'économie des plateformes duales pour évaluer de tels comportements. Cela signifie que certains outils classiques de l'analyse de la concurrence soit ne sont pas valables, soit doivent être utilisés avec circonspection.

2. Quatre exemples

Nous allons ensuite présenter quatre exemples parlants d'entreprises duales. Pour en savoir plus sur ces exemples, ou pour découvrir d'autres exemples, voir Evans (2003) et Evans et Schmalensee (2007).

2.1 Les médias financés par la publicité

Les plateformes de médias financées par la publicité comme les magazines, les journaux, les chaînes de télévision sans abonnement et les sites Internet proposent simultanément leurs services à deux catégories différentes de clients : les lecteurs/télé spectateurs et les annonceurs publicitaires. La plateforme produit ou achète des contenus. Dans un cas comme dans l'autre, elle utilise le contenu pour attirer des lecteurs/télé spectateurs et utilise les lecteurs/télé spectateurs pour attirer les annonceurs.

Il s'agit là d'un effet de réseau indirect entre les annonceurs et les lecteurs/télespectateurs. Les annonceurs apprécient les plateformes comptant le plus de lecteurs/télespectateurs car elles leur procurent une exposition plus importante. Les lecteurs/télespectateurs apprécient les plateformes comptant un grand nombre d'annonceurs, soit parce qu'ils apprécient les messages publicitaires soit parce que ces plateformes leur offrent un meilleur contenu¹⁰.

Généralement, les médias financés par la publicité en tirent une grande partie de leurs recettes. De plus, les commissions facturées aux annonceurs sont notamment fonction de la diffusion ou du vivier d'abonnés de la plateforme médiatique, et non pas seulement de la taille ou de la durée de leur message publicitaire¹¹. Les commissions que les annonceurs versent aux médias financent le contenu que les médias présentent à leurs lecteurs/télespectateurs. Certaines plateformes, comme les chaînes de télévision sans abonnement, ne font payer aux télespectateurs qu'un prix implicite, à savoir le coût de visualisation des publicités ou le coût lié à l'attente du début du programme. D'autres plateformes, comme les magazines et certains journaux, font payer à leurs lecteurs un prix explicite, mais ces lecteurs sont largement subventionnés puisque le prix qu'ils payent est proche du coût marginal d'impression et de diffusion, voire inférieur.

2.2 Les plateformes d'intermédiation

Le terme de « plateforme d'intermédiation » couvre différentes activités visant à mettre en relation l'offre et la demande comme les places boursières, les maisons d'enchères, les courtiers, les bureaux de recrutement, les éditeurs, les agents littéraires, les services de voyage, les services de billetterie, les sites et clubs de rencontre, les sites Internet spécialisés dans les transactions interentreprises, de particuliers à entreprises et de particuliers à particuliers. Ces plateformes desservent simultanément deux catégories différentes de clients, que l'on peut généralement considérer comme les « acheteurs » et les « vendeurs ». Elles offrent aux participants de l'un des côtés la possibilité de rechercher des participants de l'autre côté et de se mettre en relation avec eux.

Il y a un effet de réseau indirect entre les acheteurs et les vendeurs. Le fait de compter un grand nombre de participants des deux côtés du marché augmente la probabilité de mise en relation satisfaisante. Selon le type de plateforme d'intermédiation toutefois, la présence d'un trop grand nombre de participants peut entraîner une saturation. Tel est le cas sur les plateformes physiques comme les clubs de rencontre pour célibataires ou les parquets de négociation. En outre, les participants peuvent bénéficier du fait que la plateforme d'intermédiation exerce la fonction de « portier » en procédant au filtrage préalable des participants afin d'accroître la probabilité d'une mise en relation de qualité.

Les plateformes d'intermédiation appliquent toutes sortes de structures de prix, qui reflètent sans doute la grande diversité des institutions qu'elles recouvrent¹². Certaines plateformes ne font payer qu'un

¹⁰ On peut se demander si les lecteurs/télespectateurs apprécient ou non les publicités. Probablement les deux, en fonction des circonstances.

¹¹ Ainsi, une annonce publicitaire pleine page coûte plus chère qu'une annonce en quart de page, et les annonces publicitaires télévisées qui sont diffusées avant les programmes à succès ou les émissions spéciales, comme le *Super Bowl* aux États-Unis, coûtent considérablement plus cher que celles diffusées hors des heures de grande écoute.

¹² Seuls les vendeurs payent directement pour les services fournis par eBay ou pour les ventes immobilières aux États-Unis. Les maisons d'enchères facturent des commissions aux acheteurs et aux vendeurs. Les courtiers d'assurance facturent à la fois les clients et les prestataires de services d'assurance pour certains types de transactions. Les services de mise en relation sur Internet font payer la même chose à tout le monde. Les clubs de rencontre pour célibataires font parfois payer plus cher aux hommes qu'aux femmes.

seul côté du marché, d'autres les deux côtés. Dans les deux cas, les prix facturés à chaque côté n'ont généralement guère de rapport avec les coûts marginaux spécifiques au côté concerné.

2.3 Les systèmes de paiement

Les systèmes de paiement comme les espèces, les chèques bancaires et les cartes de paiement, proposent simultanément leurs services à deux catégories de clients : les acheteurs et les vendeurs¹³. Ils permettent aux clients de négocier des biens et des services sans recourir au troc. Un système de paiement n'est viable que si les acheteurs et les vendeurs l'utilisent¹⁴.

Il y a un effet de réseau indirect entre les acheteurs et les vendeurs. Un système de paiement présente d'autant plus d'intérêt pour les vendeurs qu'il y a d'acheteurs pour accepter leur offre et d'autant plus d'intérêt pour les acheteurs qu'il y a de vendeurs pour accepter leur offre.

Les systèmes de paiement appliquent toutes sortes de structures de prix, reflétant la grande diversité des institutions sous-jacentes. En cas de règlement en espèces, aucune des deux parties ne supporte de frais directs, mais des coûts implicites substantiels existent comme ceux associés à l'inflation, à la conservation des espèces ou au risque de vol. Dans certains pays, les services de chèques sont payés par le vendeur et n'induisent aucun coût pour l'acheteur ; dans d'autres, les deux parties en supportent le coût. Les cartes de paiement peuvent comporter des frais des deux côtés du marché, les vendeurs en assumant la plus grande part.

2.4 Les plateformes logicielles

Les plateformes logicielles jouent un rôle important dans plusieurs secteurs d'activité comme les micro-ordinateurs, les assistants numériques personnels, les téléphones portables, les jeux vidéo et les lecteurs de musique numérique. Une plateforme logicielle fournit des services à deux catégories de clients : les concepteurs d'applications et les utilisateurs. Les programmes d'application doivent exécuter de nombreuses tâches similaires. Plutôt que chaque concepteur d'application écrive le code d'exécution de chaque tâche, le constructeur de la plateforme logicielle incorpore le code dans la plateforme, évitant ainsi les coûts de duplication. Les fonctions de ce code sont mises à la disposition des concepteurs d'application par le biais d'une interface de programmation. L'utilisateur bénéficie également directement de la plateforme logicielle car elle réduit la quantité totale de codes nécessaires sur son ordinateur et elle diminue les incompatibilités entre programmes ainsi que les coûts d'apprentissage. Pour la plateforme, une conséquence importante de cette réduction de coût est l'augmentation des applications qu'elle fournit, l'augmentation de l'intérêt qu'elle présente pour les utilisateurs finaux et les effets de rétroaction positifs pour les concepteurs d'application.

Il y a un effet de réseau indirect entre les concepteurs d'application et les utilisateurs. Pour les concepteurs, l'écriture d'applications pour une plateforme logicielle n'a d'intérêt que si les utilisateurs se servent de la plateforme logicielle sur leur matériel informatique. Pour ces derniers, cela n'a d'intérêt que si les concepteurs de logiciels écrivent des applications pour la plateforme logicielle qu'ils utilisent.

¹³ Les systèmes de paiement ont joué un rôle fondamental dans le développement de la théorie des marchés sur lesquels les entreprises duales opèrent. Pour plus d'informations sur ce secteur, nous renvoyons le lecteur aux articles suivants et à leur référence mentionnée dans la présente note : Rochet et Tirole (2002), Rochet et Wright (2008), Rysman (2007), Schmalensee (2002) et Wright (2003).

¹⁴ Les pouvoirs publics peuvent adopter des lois imposant aux entreprises et aux particuliers d'accepter de l'argent pour l'apurement des dettes. Encore faut-il que la devise soit acceptée. On trouve facilement des exemples de pays où les devises sont préférées à la monnaie nationale, même pour des transactions locales.

Généralement, les plateformes logicielles tirent la plus grande part de leur chiffre d'affaires du côté des utilisateurs. Les concepteurs ont généralement accès gratuitement aux services de la plateforme, obtenant toutes sortes de produits logiciels facilitant l'écriture d'applications à des prix relativement peu élevés. Les fabricants de consoles de jeux sont une exception. Généralement, ils commercialisent les consoles de jeux vidéo à un prix proche du coût de fabrication, voire inférieur, et tirent la plus grande part de leur chiffre d'affaires des licences d'accès aux plateformes logicielles et matérielles vendues aux concepteurs.

3. Qu'est-ce qu'un marché pour plateformes duales ?

Nous présentons et examinons dans cette section la définition de ce qu'est un marché pour plateformes duales.

3.1 Définition

L'expression « marchés duaux » a été utilisée pour la première fois par Rochet et Tirole (2003). Les auteurs s'en sont servis pour renvoyer aux situations où les entreprises proposent simultanément leurs services à deux catégories interdépendantes de clients. Cela étant, la manière dont le terme « marché » est utilisé diffère de la manière dont il est utilisé dans le cadre de la politique de la concurrence.

Pour clarifier la terminologie, nous faisons une distinction entre les entreprises que nous appelons « plateformes duales » et les marchés sur lesquels elles exercent leur activité. Notons que les plateformes duales sont souvent en concurrence avec des plateformes monofaces et parfois, pour un côté du marché, avec des plateformes duales qui desservent, quant à elles, un deuxième côté différent du marché. Nous définirons ensuite la notion de « plateforme duale ». Dans la section 4, nous nous demanderons comment définir, du point de vue de la politique de la concurrence, le marché sur lequel deux plateformes duales sont en concurrence.

La définition suivante s'inspire de Rochet et Tirole (2006). Prenons une plateforme sur laquelle : **(i)** coexistent deux catégories distinctes de clients qui doivent interagir l'une avec l'autre et **(ii)** il existe des externalités positives indirectes entre ces deux catégories de clients. Posons que le niveau de prix est la somme des prix par interaction facturés aux deux côtés du marché et que la structure de prix est la décomposition ou l'affectation du niveau de prix entre les consommateurs des deux côtés du marché. Posons que le bien-être total est la somme du bien-être des deux catégories de consommateurs et de la plateforme. La plateforme est *monoface* si le bien-être total varie avec le niveau de prix, mais non avec la structure de prix, ce qui revient à dire que le bien-être n'est pas sensible aux réallocations du prix total entre les deux catégories de clients. La plateforme est *biface* ou *duale* si le bien-être total varie avec le niveau de prix et avec la structure de prix.

Cette définition, quoiqu'utile, n'est pas nécessairement générale. Weyl (2009) adopte le point de vue plus flou selon lequel les marchés duaux sont constitués par des modèles de comportements des entreprises dans le cadre desquels l'interdépendance des deux côtés est une caractéristique importante. Evans (2003a) utilise la notion de plateformes duales pour faire référence de manière générale aux situations où coexistent deux catégories de clients bénéficiant de leur interaction mutuelle et auxquelles la plateforme peut offrir des services d'intermédiation utiles.

Le caractère dual est une question de degré. Parfois, la dualité de l'entreprise est essentielle pour l'analyse. D'autre fois, il s'agit d'une composante intéressante d'un secteur donné qui mérite d'être étudiée, mais qui n'est pas fondamentale. D'autres fois encore, il n'y a pas lieu d'en tenir compte.

3.2 *Examen des principaux éléments*

Nous examinons ensuite les trois éléments fondamentaux d'une plateforme duale.

3.2.1 *Deux catégories de clients*

Le premier élément fondamental d'une plateforme duale est la présence de deux catégories distinctes de clients, qui ont besoin l'une de l'autre d'une manière ou d'une autre et qui ont recours à la plateforme pour assurer l'intermédiation des transactions entre elles. Une plateforme duale fournit simultanément des biens ou des services à ces deux catégories.

Le lien entre les deux côtés du marché est évident dans le cas des plateformes d'intermédiation comme Euronext ou eBay. Il l'est moins dans le cas d'autres plateformes. Ainsi, la PlayStation de Sony fournit un code logiciel qui permet aux concepteurs de jeu de se dispenser d'écrire tous les codes eux-mêmes et fournit aux clients un environnement standard dans lequel jouer. Une chaîne de télévision sans abonnement utilise le contenu pour attirer des téléspectateurs et pour donner aux annonceurs accès à ces téléspectateurs. La plateforme réduit pour les annonceurs le coût d'accès aux téléspectateurs.

3.2.2 *Des effets de réseau indirects entre les catégories de clients*

Le deuxième élément fondamental d'une plateforme duale est la présence d'externalités indirectes entre les catégories de clients¹⁵. Cela signifie que l'intérêt que le client d'un côté du marché retire de la plateforme augmente en fonction du nombre de clients de l'autre côté du marché. (Il peut également y avoir une « externalité d'usage » dès lors qu'un client et un commerçant tirent avantage du fait que chacun d'entre eux accepte le même type d'offre quel que soit le nombre d'autres personnes qui le font aussi.)

Une plateforme de recherche a d'autant plus d'intérêt pour les annonceurs qu'elle est susceptible de toucher un plus grand nombre d'acheteurs potentiels. Elle a d'autant plus d'intérêt pour les utilisateurs cherchant à acheter un bien qu'elle attire un plus grand nombre d'annonceurs car il est alors d'autant plus probable que l'utilisateur y trouvera une annonce correspondant à sa recherche.

C'est généralement l'intensité de ces effets de réseau indirects qui détermine si le caractère dual a suffisamment d'importance pour avoir un impact significatif sur les résultats de l'analyse économique ou si la dualité n'est qu'une curiosité intéressante.

3.2.3 *Non-neutralité de la structure de prix*

Le troisième élément fondamental d'une plateforme duale est la non-neutralité de la structure de prix. La plateforme peut avoir une incidence sur le volume de transactions en faisant payer plus cher l'un des côtés du marché et en minorant en proportion le prix versé par l'autre côté. La structure de prix ayant son

¹⁵ *Des effets de réseau directs* apparaissent lorsque la valeur d'un bien pour un client augmente directement en fonction du nombre de personnes utilisant ce bien. Les services téléphoniques ont d'autant plus d'intérêt pour un client donné que les autres clients qui les utilisent aussi sont plus nombreux, car ce client peut alors entrer en communication avec un plus grand nombre de personnes. *Des effets de réseau indirects* apparaissent lorsque la valeur d'un bien pour un client augmente en fonction du nombre de personnes utilisant ce bien, mais seulement indirectement. Plus il y a de gens qui utilisent les services téléphonique, plus il y a d'entreprises qui proposent d'autres services, comme par exemple les bulletins météorologiques, par le biais du téléphone. Le client bénéficie directement de l'accès à ces services et le nombre d'utilisateurs des services téléphoniques n'importe que dans la mesure où ils contribuent au fait que le service en question est mis à leur disposition. Voir Farrell et Klemperer (2007) pour une revue de la littérature consacrée aux effets de réseau.

importance, la plateforme doit l'élaborer de façon à amener à elle la demande des deux côtés du marché. Pour que l'allocation du niveau de prix entre les clients de deux côtés du marché ait de l'importance, il faut que les deux catégories de clients ne puissent rémunérer directement l'autre côté du marché pour l'avantage qu'elles retirent de l'interaction. Cela peut se produire si les transferts d'argent entre elles ne sont pas possibles ou encore si les transferts d'argent entre les deux catégories de clients sont techniquement possibles, mais que le coût de la transaction en empêche l'exécution efficiente¹⁶.

Prenons l'exemple d'un bureau de recrutement. Les employeurs prospectifs veulent pouvoir être mis en relation avec un grand nombre de salariés prospectifs et réciproquement. Il est difficile de concevoir un mécanisme permettant, dans la pratique, aux employeurs prospectifs de rémunérer les salariés prospectifs qui viennent au bureau de recrutement mais dont ils rejettent la candidature. De même, pour les autres plateformes duales, nous considérons qu'il est difficile, sinon impossible, que les clients de l'un des côtés du marché effectuent des paiements de compensation en faveur des clients de l'autre côté du marché. Par conséquent, le propriétaire de la plateforme peut mettre en place une structure de prix qui encourage les effets de réseau indirects et les clients n'ont pas la possibilité de rejeter cette structure de prix en procédant à un arbitrage.

En revanche, sur le marché classique du blé, il n'y a pas d'externalités liées à la mise en relation des acheteurs et des vendeurs et la structure de prix n'a pas d'importance. Une taxe sur le blé imposée aux acheteurs a le même effet sur le volume que la même taxe appliquée aux vendeurs.

4. Les principes économiques des plateformes duales

Nous examinerons succinctement dans cette section certains des grands principes économiques des plateformes duales¹⁷.

4.1 Maximisation du bénéfice

Comme on le sait, si les entreprises se font concurrence sur les prix, elles maximisent leur bénéfice en fixant un prix tel que la recette marginale est égale au coût marginal ou, autrement, que la marge prix-coût marginal correspond à une inversion de l'élasticité de la demande par rapport aux prix, la fameuse condition de Lerner. Dans des conditions de concurrence parfaite, autrement dit si les entreprises sont face à une courbe de la demande infiniment élastique, le revenu marginal est égal au prix et de ce fait, la condition de maximisation du bénéfice est que le prix est égal au coût marginal. Sous réserve de certaines

¹⁶ Dans certains cas, la plateforme empêche ou limite simplement la capacité des clients à négocier directement. La règle d'interdiction de majoration des prix qu'impose un système de cartes de paiement en est un exemple : le prix pratiqué par le commerçant doit être le même, que le client règle en espèces ou par carte. Le plafond de 99 *cents* imposé par Apple pour le téléchargement de chansons sur iPod en est un autre exemple.

¹⁷ Pour certaines questions examinées dans cette section, il importe de savoir si les avantages et les coûts sont liés à l'adhésion à la plateforme ou aux transactions. Les frais d'usage de la plateforme ont une incidence sur la propension des deux côtés du marché à venir négocier occasionnellement sur la plateforme ; les frais d'adhésion à la plateforme ont une incidence sur la propension des deux côtés du marché à adhérer à la plateforme. Il n'entre pas dans le champ de cette note de tenir compte de toutes les implications de la distinction entre externalités d'adhésion et externalités de transaction. Pour plus de précisions sur un modèle d'adhésion, voir Armstrong (2006) et Weyl (2008a), et pour plus de précisions sur un modèle de transactions voir Rochet et Tirole (2003) et Weyl (2008a, 2008b). Rochet et Tirole (2006) ainsi que Weyl (2008a) s'efforcent d'unifier ces deux modèles, mais de nombreux progrès restent encore à faire dans ce domaine.

conditions techniques, il est socialement efficient que le prix soit égal au coût marginal. Par conséquent, la concurrence parfaite est socialement efficiente¹⁸.

Si, au lieu de cela, les entreprises sont confrontées à des courbes descendantes de la demande, le prix de maximisation du bénéfice est supérieur à la recette marginale¹⁹. De ce fait, le prix est également supérieur au coût marginal, d'où un gâchis social net au sens statique. Les prix supérieurs au coût marginal génèrent pour les entreprises des avantages inférieurs aux pertes correspondantes pour le client. L'ampleur du gâchis social, appelée perte sèche, augmente en termes de : **(i)** sensibilité de la demande au prix, autrement dit l'élasticité de la demande par rapport aux prix et de **(ii)** différence entre le prix et le coût marginal. Cela justifie d'un point de vue théorique de mesurer par l'ampleur de la marge prix-coût marginal les écarts par rapport au résultat socialement optimal. La concurrence devrait ramener le prix au coût marginal.

Si les entreprises peuvent identifier différentes catégories de clients, elles peuvent souhaiter différencier ces catégories par les prix, autrement dit, elles peuvent souhaiter faire payer à chaque catégorie un prix différent. La catégorie de clients dont la demande est plus élastique paiera moins cher. En faisant payer un prix différent à chaque catégorie, les entreprises peuvent augmenter leur bénéfice. Dans certains cas, le bien-être des consommateurs augmente également. Dans le cas d'une entreprise oligopolistique pratiquant une différenciation des prix, le résultat socialement efficient veut que le prix facturé à chaque catégorie de clients soit égal au coût marginal. De ce fait, sauf si le coût marginal diffère d'une catégorie à l'autre, la règle socialement optimale de formation des prix reste la même.

Une entreprise multi-produits commercialisant, par exemple, les produits *A* et *B*, maximise aussi son bénéfice en faisant correspondre la recette marginale au coût marginal pour chaque produit. Cependant, le revenu marginal possède une composante supplémentaire. L'entreprise doit tenir compte des interactions entre les demandes pour ses deux produits. Si les produits *A* et *B* sont substituables, autrement dit si l'augmentation du prix du produit *B* accroît la quantité de produits *A* demandée, alors l'entreprise fixe pour ces produits des prix supérieurs à ceux que pratiqueraient les entreprises ne commercialisant qu'un seul de ces deux produits. Si l'entreprise augmente le prix du produit *A*, elle réalise une marge plus élevée sur le produit *A*, mais perd des ventes sur le produit *B*. Cela étant, l'entreprise possède également le produit *B*. Si les produits *A* et *B* sont complémentaires, autrement dit si l'augmentation du prix du produit *B* fait baisser la quantité de produit *A* demandée, alors l'entreprise fixe, pour ces produits, des prix inférieurs à ceux que pratiqueraient les entreprises commercialisant séparément ces deux produits. Si l'entreprise fait baisser le prix du produit *A*, elle gagne une marge moins élevée sur le produit *A*, mais augmente ses ventes à la fois du produit *A* et du produit *B*. La règle socialement optimale de formation des prix reste la même.

En présence de coûts fixes, la condition de maximisation du bénéfice est toujours que la recette marginale soit égale au coût marginal²⁰. Toutefois, la règle socialement optimale de formation des prix ne peut plus être que le prix soit égal au coût marginal ; autrement, la société essuie des pertes. En ce qui concerne les coûts fixes, la condition socialement optimale, au sens statique, est le principe de formation des prix de Ramsey qui énonce que le prix des différents services doit être fixé de sorte que les marges prix-coût marginal soient inversement liées aux élasticités de la demande par rapport aux prix. Par conséquent, l'entreprise tire davantage de recettes du côté où la demande est inélastique. Puisque moins la

¹⁸ Ce résultat est connu pour être le premier théorème fondamental de l'économie du bien-être.

¹⁹ Prenons un point de la courbe de la demande. Si une entreprise veut vendre une unité supplémentaire, elle doit réduire son prix, en suivant la courbe de la demande. Cela étant, elle réduira le prix de l'unité marginale, mais aussi le prix de toutes les unités infra-marginales. De ce fait, la recette marginale baissera plus vite que la courbe de la demande.

²⁰ Règle qui peut être soumise à la restriction que l'entreprise soit au moins à l'équilibre.

demande est élastique, moins la perte sèche est élevée, cette règle garantit que les coûts fixes soient couverts au moindre coût social possible. La structure de prix de Ramsey ne correspond pas à une allocation équitable des coûts. À l'instar de la structure de prix axée sur la maximisation du bénéfice, elle vise à amener sur la plateforme les deux côtés du marché. La principale différence entre la structure de prix axée sur la maximisation du bénéfice et la structure de prix de Ramsey est que cette dernière prend en compte l'excédent net moyen créé de l'autre côté du marché quand un utilisateur est attiré sur un côté.

Les plateformes duales sont également confrontées à deux catégories différentes de clients et commercialisent deux produits. Cependant, il existe deux différences importantes entre une plateforme duale et une entreprise multi-produits dont les prix ne concernent qu'un côté du marché : (i) il existe des externalités de réseau indirectes entre les catégories de clients et (ii) des coûts conjoints éventuels associés à la fourniture des services à ces deux catégories. Cela a plusieurs implications très importantes qui aboutissent au fait que la règle de formation des prix axée sur la maximisation du bénéfice d'une plateforme duale diffère significativement de la règle voulant que le prix, ou la recette marginale, soit égal(e) au coût marginal.

En présence d'externalités de réseau indirectes entre les catégories de clients, la recette marginale associée à chaque catégorie a une composante directe et une composante indirecte. Premièrement, en rejoignant la plateforme, le client génère directement des recettes pour la plateforme associées aux commissions qu'il paye. Deuxièmement, lorsqu'il adhère à la plateforme, le client en augmente l'intérêt pour les clients de l'autre côté du marché. Cela permet à la plateforme de faire payer davantage aux clients de l'autre côté du marché. De ce fait, la condition de maximisation du bénéfice pour une plateforme duale est la règle voulant que la recette marginale soit égale au coût marginal, lorsque la recette marginale est corrigée de l'existence d'externalités de réseau indirectes entre les différentes catégories de clients²¹. La plateforme fera payer relativement moins la catégorie de clients générant le niveau le plus élevé d'effets de réseau indirects bruts. En fait, les clients de l'un des deux côtés peuvent payer un prix inférieur au coût marginal, voire inférieur à zéro, alors que ceux de l'autre côté paieront des prix considérablement supérieurs au coût marginal, prix qui génèrent la plus grande part du chiffre d'affaires de la plateforme. L'empirisme montre occasionnellement que la structure de prix sur les marchés sur lesquels les plateformes duales opèrent est très souvent relativement asymétrique ; voir Evans (2003b).

En procédant à une réinterprétation appropriée, on constate que la formation des prix pour une plateforme duale obéit à la condition de Lerner. L'idée essentielle est de réinterpréter le coût marginal comme un coût d'opportunité²². Dans la pratique, on n'observe pas ce coût d'opportunité directement et l'indice simple de Lerner qui repose sur la marge bénéficiaire supplémentaire n'est plus correct.

Enfin, en présence de coûts conjoints associés à la fourniture de services à deux catégories de clients simultanément, le fait que le niveau de prix, appliqué à un côté ou à un autre du marché, soit égal au coût marginal n'a pas pour effet de maximiser le bénéfice pas plus qu'il n'est socialement efficient.

4.2 *Asymétrie des prix*

Sur les marchés sur lesquels les plateformes duales exercent leur activité, l'internalisation des externalités de réseau indirectes entre les différentes catégories de clients peut donner lieu à des structures de prix extrêmement asymétriques. En d'autres termes, même si les coûts d'usage sont partagés ou s'ils sont les mêmes pour les deux côtés du marché, l'un des deux côtés paiera très peu et l'autre côté pourra

²¹ Voir Lerner (1935).

²² Voir, par exemple, Rochet et Tirole (2006).

être à l'origine de la majeure partie du chiffre d'affaires de la plateforme. Cela peut se produire si les externalités de réseau indirectes entre les catégories sont très déséquilibrées²³.

Du fait de la grande asymétrie de certaines stratégies de maximisation du bénéfice, on peut se demander si elles sont socialement inefficaces. Même si, en général, la structure de prix axée sur la maximisation du bénéfice n'est pas socialement optimale, elle ne favorise pas de façon manifeste un côté de la plateforme, en comparaison avec une structure de prix axée sur la maximisation du bien-être. De plus, même si la structure de prix axée sur la maximisation du bénéfice n'est pas socialement optimale, il peut être difficile de déterminer dans quelle direction il serait avantageux de la faire évoluer²⁴.

Dans certaines conditions techniques, la concurrence, les contrôles des prix et les subventions font toujours baisser le niveau des prix, mais leurs effets sur la structure de prix, voire l'orientation de leur impact sur les prix individuels, dépendent des spécificités de l'intervention et des conditions du marché. Lorsqu'elles sont équilibrées entre les deux côtés du marché, les interventions telles que les subventions, une concurrence de même intensité des deux côtés du marché et les contrôles du niveau de prix, font baisser les prix pour les deux catégories de clients²⁵.

En particulier, l'amplification de la puissance commerciale sur un côté du marché augmente les prix d'usage de ce côté du marché et les fait baisser de l'autre côté. Prenons pour exemple une société de cartes de crédit en position de monopole qui facture à la fois aux commerçants et aux titulaires de cartes une commission à la transaction. Plus elle fait payer cher les commerçants, plus ils sont incités à convaincre les clients d'utiliser leurs cartes, en réduisant leur commission d'usage ou en leur proposant plus d'avantages. Le prix pratiqué par le commerçant fait office de subvention permettant à l'entreprise d'offrir ses services aux clients. Il s'agit là de l'effet de balancier (*see-saw effect* ou *topsy-turvy effect*).

Par conséquent, des mesures déséquilibrées, comme un plafonnement des prix pour les clients d'un côté du marché, n'améliorent pas de toute évidence le bien-être des consommateurs et le bien-être social. Les interventions visant à faire baisser les prix d'un côté du marché peuvent avoir des effets négatifs imprévus. Tout changement de l'équilibre des prix s'écartant de l'optimum du monopole lèsera les clients moyens de l'un des côtés du marché au moins. Seules des interventions équilibrées peuvent garantir une amélioration du bien-être des consommateurs.

Le niveau de prix, plutôt que les prix individuels ou la structure de prix, est le moyen approprié pour évaluer la concurrence d'un marché et doit être au centre de l'analyse des politiques publiques.

4.3 *Différenciation des plateformes et multi-hébergement*

Les plateformes peuvent se différencier les unes des autres en optant pour certaines caractéristiques et certains prix susceptibles de plaire à des catégories données de clients : il s'agit alors de différenciation horizontale. Les plateformes peuvent aussi se différencier les unes des autres en optant pour des niveaux de qualité spécifiques : il s'agit alors de différenciation verticale.

La littérature économique utilise le terme de « multi-hébergement » pour renvoyer aux situations où les clients utilisent au moins deux plateformes pour un même service et de « mono-hébergement » pour les situations où ils n'utilisent qu'une seule plateforme. Il peut y avoir multi-hébergement d'un côté de la

²³ Autrement dit, si les avantages liés à l'utilisation de la plateforme duale sont très déséquilibrés.

²⁴ Voir Rochet et Tirole (2003) et Weyl (2008b).

²⁵ Voir Weyl (2008b). Les conditions techniques sont que les demandes des deux côtés du marché soient log-concaves. La log-concavité est égale à un taux de répercussion inférieur à 1 pour 1.

plateforme seulement ou des deux côtés. Les systèmes d'exploitation des micro-ordinateurs font l'objet d'un multi-hébergement d'un côté seulement. La plupart des utilisateurs ne se servent que d'une seule plateforme logicielle pour leurs micro-ordinateurs alors que les concepteurs écrivent des applications pour plusieurs plateformes. Les cartes de crédit sont un exemple de multi-hébergement des deux côtés. La plupart des commerçants acceptent les cartes de plusieurs systèmes et de nombreux titulaires de cartes possèdent plusieurs cartes.

La différenciation horizontale peut avoir pour conséquence que les clients choisissent de rejoindre et d'utiliser plusieurs plateformes. Ils peuvent trouver attrayantes certaines caractéristiques proposées par différentes plateformes concurrentes et donc en utiliser plusieurs²⁶.

La concurrence des deux côtés de la plateforme peut limiter le bénéfice. Prenons un marché sans multi-hébergement. Supposons maintenant qu'il n'existe qu'une concurrence limitée du côté *A* car les clients ne peuvent pas facilement changer de vendeurs de ce côté, mais qu'il y a une concurrence intense du côté *B* car les clients peuvent changer de vendeurs en fonction du prix et de la qualité, et le font. Si les concurrents du côté *B* ne peuvent différencier leurs produits et se faire concurrence autrement sur un pied d'égalité, leur capacité à augmenter les prix du côté *A* n'entraînera pas d'augmentation de leur bénéfice. Tout bénéfice supplémentaire du côté *A* sera éliminé par la concurrence du côté *B*. La situation est différente de celle d'une simple structure multi-produits, puisque la plateforme ne peut cesser de proposer ses services au côté *B* sans renoncer à la totalité de son activité. Cet aspect est particulièrement intéressant pour évaluer les incitations et la récupération des coûts. Il convient aussi de noter que la possibilité de multi-hébergement du côté *B* donnera lieu à des bénéfices positifs, car elle réduit l'intensité de la concurrence. Avec le multi-hébergement du côté *B*, aucune plateforme ne peut donner aux clients du côté *A* un accès exclusif à ceux du côté *B*. Les plateformes sont donc moins incitées à réduire les prix du côté *B* pour attirer les clients.

4.4 *Concentration du marché*

Généralement, un petit nombre d'entreprises se font concurrence sur les marchés sur lesquels les plateformes duales opèrent. Pour autant, il est également rare qu'une plateforme duale soit en position de monopole. Il semble donc qu'il existe certains facteurs qui favorisent la concentration de ces marchés et d'autres qui y font obstacle.

Deux grands facteurs favorisent la concentration : **(i)** des frais fixes importants, ou des économies d'échelle et **(ii)** des externalités de réseau indirectes.

De nombreuses plateformes duales supportent d'importants coûts fixes. Cela devrait donner lieu à des économies d'échelle, du moins sur une certaine partie de la production. Les systèmes de cartes de paiement doivent assurer la maintenance des réseaux d'autorisation et de règlement des transactions pour les titulaires de cartes et les commerçants. Les coûts de mise au point, de construction et de maintenance de ces réseaux sont, dans une certaine mesure, indépendants du volume des transactions. La mise au point d'une plateforme logicielle s'accompagne d'importants coûts fixes et la fourniture de la plateforme aux concepteurs et aux utilisateurs finaux d'un coût marginal peu élevé. Dans certains cas, les économies d'échelle sont générées en majeure partie d'un seul côté du marché. La création d'un journal implique des coûts fixes élevés et l'impression et la distribution un coût marginal relativement faible, autrement dit, la diffusion des journaux aux lecteurs est associée à des économies d'échelle tandis que la fourniture d'espaces aux annonceurs ne l'est pas.

²⁶ Voir Argenziano (2008) et Ambrus et Argenziano (à paraître) pour l'analyse de la différenciation par les produits sur les marchés sur lesquels les plateformes duales opèrent.

L'une des caractéristiques qui définissent une plateforme duale est l'existence d'effets de réseau indirects entre les différentes catégories de clients concernées. Les effets de réseau indirects entre les deux côtés du marché jouent en faveur des grandes plateformes duales, n'ayant que peu de concurrents. Plus le nombre de clients de chaque catégorie est important, plus la plateforme présente d'intérêt pour l'autre catégorie de clients. Plus il y a d'utilisateurs, plus les plateformes logicielles ont d'intérêt pour les concepteurs et plus il y a de concepteurs, plus elles ont d'intérêt pour les utilisateurs. Un système de cartes de paiement dont les cartes sont acceptées par un plus grand nombre de commerçants présente plus d'intérêt pour les titulaires de cartes et plus il y a d'utilisateurs porteurs de cartes, plus les cartes en question ont d'intérêt pour les commerçants. Toutes choses égales par ailleurs, les premiers entrants détiennent un avantage. La plateforme qui arrive en tête renforce généralement sa position de tête par suite d'effets de rétroaction positifs. Les autres entreprises ne peuvent concurrencer cet avantage que si elles proposent aux clients de l'autre côté du marché un élément qui compense l'avantage de la taille qu'auront acquis les premiers entrants.

Deux facteurs font obstacle à la concentration : **(i)** la différenciation horizontale et **(ii)** la saturation.

La présence de clients hétérogènes d'un côté ou des deux côtés du marché donne aux plateformes la possibilité de se différencier les unes des autres en optant pour des caractéristiques et pour des prix susceptibles d'attirer des catégories particulières de clients. La différenciation horizontale permet la coexistence de plusieurs plateformes, chacune proposant ses services à différentes catégories de clients de chaque côté du marché.

Certaines plateformes bénéficient d'emblée d'économies d'échelle. Cela étant, passé un certain stade, des déséconomies apparaissent d'un côté ou des deux côtés du marché. Les plateformes physiques, comme les parquets de négociation, les clubs de rencontre pour célibataires, les maisons d'enchères et les centres commerciaux, permettent aux clients de rechercher et de réaliser des transactions mutuellement avantageuses. Cela étant, passée une certaine taille, la croissance du nombre de clients sur la plateforme peut entraîner une saturation qui alourdit les coûts de recherche et de transaction. On peut réduire cette saturation en accroissant la taille de la plateforme physique, mais cela peut aussi augmenter les coûts de recherche pour les clients. Pour optimiser la recherche de partenaires, les plateformes duales peuvent juger plus judicieux de limiter leur taille et de procéder à un filtrage préalable des clients des deux côtés du marché afin de renforcer la probabilité de mise en relation.

4.5 Analyse du bien-être

Évaluer l'impact sur le bien-être social de mesures prises par les pouvoirs publics sur les marchés sur lesquels opèrent les plateformes duales peut être très difficile pour trois raisons au moins.

Premièrement, les variations de prix peuvent ne pas suivre les variations de bien-être. Comme on l'a vu dans la section 4.1, à propos des marchés sur lesquels opèrent les plateformes duales, les prix et la perte de bien-être social, autrement dit la perte sèche, vont dans le même sens. Par conséquent, les variations de bien-être peuvent être déduites des variations de prix. Sur les marchés sur lesquels opèrent les plateformes duales, ou plus généralement sur les marchés à externalités, cela ne se produit pas nécessairement. Les prix et le bien-être des consommateurs peuvent évoluer dans le même sens et donc les prix et la perte de bien-être social peuvent aller dans des directions opposées²⁷. Cela implique que sur les marchés duaux, il faut mesurer directement les variations de bien-être, ce qui est beaucoup plus difficile que de mesurer les variations de prix.

²⁷

Cette possibilité est examinée plus avant dans la section 9.

Deuxièmement, du moins pour les économistes, le bien-être des deux parties doit être pris en compte. Cela implique d'intégrer le bien-être de la plateforme, ainsi que le bien-être des consommateurs des deux côtés du marché. Cela nécessite d'analyser une quantité bien plus grande d'informations sur les deux côtés du marché, plutôt que de suivre de simples variables indicatrices comme le prix payé par une catégorie de clients donnée. De plus, les prix payés par les clients des deux côtés du marché, ou plus généralement leur bien-être, peuvent évoluer dans des directions opposées en réaction à des mesures des pouvoirs publics. Il peut être difficile de contrebalancer ces effets.

Troisièmement, les conditions de maximisation du bien-être pour les marchés sur lesquels les plateformes duales exercent leur activité sont bien plus complexes que pour les marchés monofaces. Cela implique que les règles concernant les données nécessaires pour décrire l'optimum social peuvent être beaucoup plus exigeantes. Dans la pratique, il peut être difficile, sinon impossible, de décrire l'optimum social. Mais surtout, même quand une situation donnée n'est à l'évidence pas socialement optimale, sachant que sur ces marchés la structure de prix vise à parvenir à un équilibre en internalisant des externalités de réseau indirectes entre les catégories de clients, il peut être extrêmement difficile de déterminer dans quel sens orienter les mesures des pouvoirs publics pour augmenter le bien-être. Les mesures visant à améliorer le bien-être peuvent impliquer de modifier plusieurs prix dans des directions opposées.

5. Délimitation du marché et puissance commerciale

La délimitation du marché pertinent de produits et l'analyse de la puissance commerciale sont généralement des composantes fondamentales de l'analyse de la concurrence²⁸. Souvent, pour déterminer si le comportement d'une entreprise est anticoncurrentiel, ou si elle a provoqué des préjudices, il faut d'abord établir que la société a acquis, ou pourrait acquérir, une puissance commerciale importante. Des pratiques commerciales appliquées unilatéralement par des entreprises qui, soit n'ont pas de puissance commerciale, soit ont peu de chance d'en acquérir, passent souvent pour inoffensives. La notion de puissance commerciale, quant à elle, est définie en se référant à un marché pertinent spécifique. L'économie des plateformes duales permet de mieux comprendre l'analyse de la délimitation du marché et de la puissance commerciale.

5.1 Délimitation du marché

Dans une analyse de la concurrence, un marché est constitué d'un ensemble de produits et de lieux, délimités dans le cadre d'une enquête dont le but est de tirer des conclusions sur la puissance commerciale et l'impact anticoncurrentiel. Un marché délimité à cet effet est souvent appelé « marché pertinent ». Cette notion ne coïncide pas forcément avec le sens habituellement donné au terme de « marché » dans les textes traitant d'économie ou de marketing.

Dans les cas d'abus de position dominante, la délimitation du marché aide à déterminer quelle entreprise dispose d'une puissance commerciale suffisante pour adopter un comportement anticoncurrentiel et si ce comportement renforce ou maintient sa puissance commerciale. Dans les cas de fusion, la délimitation du marché aide à repérer les entreprises qui pourraient empêcher d'éventuelles hausses de prix par les entités qui fusionnent et, par conséquent, à déterminer si les entités fusionnant augmenteront leur puissance commerciale.

²⁸ *La puissance commerciale* est la capacité à augmenter de façon rentable le prix au-delà du coût marginal.

La délimitation du marché détermine si le produit d'une entreprise fait partie ou non du marché en examinant la substituabilité du côté de la demande ou de l'offre²⁹. De nombreux analystes utilisent une approche standard pour déterminer si une entreprise fait partie du marché³⁰. Les analystes commencent par l'entreprise étudiée et ajoutent des concurrents au marché. Le périmètre du marché est déterminé, sur le plan géographique ou des produits, quand le groupe d'entreprises pourraient, en agissant en tant que monopoleur, augmenter les prix à hauteur d'un montant faible mais significatif et durable, que l'on situe souvent entre 5 à 10 %. Si le groupe d'entreprises peut le faire, les entreprises vraisemblablement « hors du marché » ne contraignent pas de façon significative les entreprises « appartenant au marché ». Cette méthode est connue sous l'appellation de test du monopoleur hypothétique, ou le test SSNIP³¹.

Il faut être particulièrement prudent dans l'utilisation de cette approche sur des marchés où des plateformes duales sont en concurrence. L'analyse des prix pratiqués doit tenir compte des deux côtés du marché et de leurs interactions.

L'affaire *U.S. Department of Justice contre First Data Corporation et Concord EFS* donne à cet égard un exemple utile. Cette affaire portait sur la remise en cause d'une acquisition dans le cadre de laquelle First Data, qui possédait le système de cartes de débit à code PIN, NYCE, voulait acheter à Concord le système bien plus grand de cartes de débit à code PIN, STAR. Les systèmes de cartes de débit sont utiles tant aux clients qui se servent de la carte de paiement qu'aux commerçants qui l'acceptent. Un débit avec code PIN se réfère aux cartes pour lesquels le client doit taper un numéro d'identification personnel au point de vente du commerçant pour une authentification. Les réseaux MasterCard et Visa proposent aussi des systèmes de débit avec signature qui exigent du client une signature au point de vente du commerçant pour authentification. La plupart des banques émettent des cartes qui fonctionnent aussi bien avec les systèmes de codes PIN qu'avec les signatures et peuvent être utilisées indifféremment chez les commerçants qui ont conclu un contrat pour l'utilisation du système correspondant.

Le ministère américain de la Justice s'est intéressé aux réseaux de débit à codes PIN en tant que prestataires de services, d'une part, aux commerçants et, d'autre part, aux institutions financières, elles-mêmes fournissant des services à leurs clients dépositaires. Selon le ministère de la Justice, le « marché des services de réseaux de débit à codes PIN se caractérise par des effets de réseau significatifs. Il est plus probable que les institutions financières rejoignent les réseaux qui sont acceptés par de nombreux commerçants. Inversement, il est plus probable que les commerçants acceptent les réseaux qui comptent parmi leurs membres de nombreuses grandes institutions financières, car la valeur d'un réseau spécifique de débit à codes PIN dépend en grande partie de son acceptation et de son utilisation. » De fait, le ministère de la Justice reconnaît que les réseaux de débit à codes PIN sont des plateformes duales.

Le ministère de la Justice et les défenseurs ne se sont pas entendus sur les modalités pour délimiter le marché pertinent. Le ministère de la Justice a affirmé qu'« il n'existe pas de fondement économique permettant d'étayer l'idée que le test de monopoleur hypothétique doit être écarté simplement parce que le marché du débit à codes PIN est de nature duale... » Cette affirmation est vraie sur le plan technique dans la mesure où l'on peut concevoir, comme on l'a vu plus haut, un critère dual satisfaisant de la SSNIP. Cela étant, l'expert économique du gouvernement semble avoir appliqué, sur un côté du marché, un test SSNIP vérifiant si une augmentation du prix facturé aux commerçants les obligerait à se retirer du marché des

²⁹ On peut se demander s'il faut inclure dans l'analyse la substitution de l'offre, autrement dit, à quel stade de l'analyse on devrait en tenir compte. Voir Baker (2007).

³⁰ Voir par exemple, the « 1992 Horizontal Merger Guidelines » à l'adresse Internet suivante <http://www.ftc.gov/bc/docs/horizmer.htm>.

³¹ Voir Evans et Noel (2007) sur l'extension de l'analyse de la perte critique aux marchés sur lesquels opèrent des plateformes duales.

cartes de débit à code PIN³². Les pouvoirs publics ont conclu qu'« [une] augmentation de 5-10 % des commissions que versent les commerçants pour le débit à code PIN ne changerait rien de ce qui précède... Par conséquent, la grande majorité des commerçants ne rejeterait pas ou ne découragerait pas les clients qui souhaitent effectuer des opérations de débit à code PIN en réaction à une légère hausse du prix du produit »³³. Cette analyse a eu pour résultat d'exclure la prise en compte du côté du marché représenté par les titulaires de cartes et les effets de la transaction sur la concurrence entre les deux plateformes duales rivales. Le tribunal n'a pas rendu de décision car First Data Corporation a accepté de céder NYCE comme condition à la fusion.

L'erreur consistant à traiter chaque côté du marché isolément est encore plus facile à commettre quand, d'un côté, le produit est facturé à un prix égal à zéro. De ce côté, on ne pense pas aux entreprises en termes de concurrence pour les ventes. Il est donc facile de considérer les centres commerciaux comme des entités qui louent des surfaces aux commerçants, sans tenir compte des services offerts aux clients, ou Adobe comme le fournisseur de logiciels de production de documents, sans tenir compte des services offerts aux lecteurs, Palm comme le fournisseur de logiciels et de matériel pour la gestion de données personnelles, sans tenir compte des services offerts aux concepteurs d'applications, ou encore les chaînes de télévision comme régies publicitaires, sans tenir compte des services proposés aux téléspectateurs. Dans tous ces cas, les décisions sur les prix pratiqués et la production sont inextricablement imbriquées.

5.2 *Puissance commerciale*

L'évaluation de la puissance commerciale est une tâche extrêmement compliquée sur les marchés monofaces, et encore plus sur les marchés duaux.

Dans le cas d'une plateforme duale, chaque côté est un complément de l'autre. Les prix et les avantages pour les deux côtés sont interdépendants. Les décisions de maximisation du profit reposent sur la plateforme dans son ensemble, plutôt que sur les côtés pris séparément.

Les externalités indirectes de réseau entre les clients des deux côtés affectent l'élasticité de la demande par rapport aux prix et donc la rentabilité d'une augmentation des prix d'un côté ou de l'autre. Cela limite donc nécessairement la puissance commerciale, toutes choses égales par ailleurs. Prenons deux côtés *A* et *B*. Un relèvement du prix pour le côté *A* réduit le nombre de clients du côté *A*. Cela réduit la valeur de la plateforme pour les clients du côté *B*. Par conséquent, le prix que paiera le côté *B*, de même que le nombre de clients du côté *B*, vont diminuer. La réduction du nombre de clients du côté *B* va elle-même entraîner à la fois une baisse de la demande du côté *A* et donc du prix que paieront les clients du côté *A*. Ces répercussions positives peuvent prendre du temps à se manifester. Cependant, comme on l'a montré plus haut, même si, par exemple, les clients du côté *A* ne sont pas très sensibles aux prix, toutes choses égales par ailleurs, y compris le comportement des clients du côté *B*, la demande du côté *A* peut cependant finir par être très sensible aux prix quand ces répercussions se manifestent.

Une plateforme duale maximise l'avantage global dû à l'imbrication des deux côtés et elle le fait en ajustant les niveaux de prix et la structure de prix. Le fait que le prix soit égal au coût marginal, ou au coût variable moyen, en un sens, n'est pas une référence économique pertinente pour évaluer la puissance commerciale des plateformes duales. Comme on l'a vu à la section 4.1, le prix de la maximisation du bénéfice de chaque côté est une fonction complexe des éléments suivants : (i) les élasticités de la demande des deux côtés, (ii) les effets de réseau indirects et (iii) les coûts marginaux des deux côtés. Par conséquent,

³² Transcription d'audience, 24:11-30:19, United States and Plaintiff States v. First Data Corp. and Concord EFS, Inc., No. 1:03CV02169, (D.C. 5 décembre 2003).

³³ Plaintiff's Pre-Trial Brief, United States and Plaintiff States v. First Data Corp. and Concord EFS, Inc., n°1:03CV02169 (RMC), (D.C. 10 décembre 2003).

il est faux de conclure que les écarts entre le prix et le coût marginal d'un côté témoignent d'une fixation du prix destinée à exploiter la puissance commerciale ou à évincer la concurrence.

Si le but de l'enquête sur la puissance commerciale est d'évaluer les conditions de la concurrence dans le secteur, il est sans doute plus judicieux, sur le plan économique, d'examiner le taux de rendement des investissements corrigé du risque³⁴. Dans le cas des marchés duaux, cette analyse doit prendre en compte le total des rendements et le total des investissements de tous les côtés³⁵.

6. Fixation de prix anticoncurrentiels

L'application d'outils standard d'analyse de la concurrence aux marchés où opèrent des plateformes duales constitue un problème délicat, surtout en ce qui concerne les prix abusifs. Dans de nombreuses juridictions, par exemple l'UE, le fait de fixer des prix trop bas, notamment des prix d'éviction, peut être un abus de position dominante, de même que le fait de fixer des prix trop élevés, par exemple la pratique de prix excessifs³⁶. Étant donné l'asymétrie des prix caractéristique des marchés duaux, si une autorité de la concurrence traite les deux côtés du marché séparément, il est possible qu'elle constate une fixation de prix d'éviction d'un côté du marché et une pratique de prix excessifs de l'autre, même si la plateforme enregistre un rendement concurrentiel.

6.1 Fixation de prix d'éviction

Le fait de reconnaître que, sur les marchés sur lesquels opèrent des plateformes duales, les stratégies commerciales et leur impact sur les clients doivent être évalués en tenant compte des deux côtés du marché, a des conséquences pour l'analyse du phénomène d'éviction³⁷. Des prix concurrentiels peuvent être interprétés à tort comme des prix d'éviction si l'on n'examine qu'un seul côté du marché. Comme on l'a vu dans les sections 4.1, 4.2, et 4.5, la solution optimale sur le plan privé et sur le plan social peut être que les prix d'un côté du marché soient inférieurs à un certain indicateur de coût de ce même côté³⁸.

Pour clarifier ces aspects, imaginons que nous étendons le test de la fixation de prix d'éviction aux marchés duaux. Ce test comporte deux conditions cumulatives : (i) le prix est inférieur au coût et (ii) l'entreprise à des perspectives raisonnables de récupérer les pertes dues à la pratique de prix d'éviction³⁹.

Commençons par la première condition. Sur les marchés sur lesquels opèrent des plateformes duales, il faut comparer le prix total au coût marginal total.

³⁴ Dans certaines circonstances, cela revient à vérifier si le prix dépasse le montant que l'on pourrait attendre sur un marché concurrentiel. Voir Rochet et Tirole (2003) et Weyl (2008b) sur l'utilité de veiller aux niveaux de prix sur les marchés en ce qui concerne les plateformes duales. Voir aussi Emch et Thompson (2006).

³⁵ Voir Franklin et McGowan (1984) pour les difficultés à évaluer le taux de rendement.

³⁶ Voir le texte de la Commission européenne, « Orientations sur les priorités retenues par la Commission pour l'application de l'article 82 du traité CE aux pratiques d'éviction abusives des entreprises dominantes » à l'adresse : <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:FR:PDF>.

³⁷ Voir Weyl (2008a) pour une analyse préliminaire de la fixation de prix d'éviction sur les marchés sur lesquels opèrent des plateformes duales.

³⁸ C'est particulièrement vrai au stade initial du secteur, quand les entreprises ont recours à une tarification leur permettant de pénétrer le marché.

³⁹ Voir *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* 509 U.S. 209, 222-24 (1993).

On peut facilement analyser cette condition sur les marchés visant à mettre en relation les deux catégories de clients. On peut examiner le prix total encouru par les deux côtés pour une transaction et comparer ce prix total au coût marginal de la prestation de cette transaction aux deux côtés.

Prenons la carte accréditive professionnelle d'American Express. Le titulaire de la carte ne paie rien pour une opération et reçoit souvent diverses incitations qui rendent négatif le prix effectif d'une opération. Le commerçant paie environ 2.7 % du prix de l'opération à American Express. Pour chaque opération, American Express engage des frais pour l'autorisation et le règlement de l'opération auprès du commerçant, la facturation du titulaire de la carte, prenant un certain risque de fraude ou de non-paiement, octroyant au titulaire de la carte des bonus sous forme de miles sur des compagnies aériennes, et autres dépenses. On peut éventuellement calculer le prix total en pourcentage d'une opération type, ainsi que le coût différentiel pour cette opération. Cette comparaison est pertinente pour la première condition du test. Le fait que les titulaires de la carte paient un prix négatif n'est pas pertinent. C'est la conséquence, et sans doute une conséquence socialement efficiente, de la nature duale de cette activité.

La comparaison du prix total et du coût marginal total est plus difficile sur les marchés sur lesquels des plateformes duales opèrent et qui ne visent pas à mettre en relation deux catégories de clients. Le problème est qu'il n'y a peut-être pas d'unité de compte naturelle pour comparer les prix et les coûts.

Prenons une chaîne de télévision sans abonnement. Les clients obtiennent l'accès à la programmation et, en contrepartie, doivent regarder de la publicité, ou doivent attendre que les émissions reprennent. Les annonceurs se voient facturer un prix positif pour passer leur publicité. Il n'y a pas de moyen économique significatif pour combiner ces deux prix. La chaîne, ou l'opérateur, a des frais fixes pour produire ou acheter les programmes. Cela génère un faible coût par téléspectateur pour la diffusion des programmes et des publicités. Mais en l'absence d'unité de compte commune, il n'y a aucun moyen d'additionner ces coûts. On ne peut donc pas comparer le prix total avec le coût marginal total.

On peut comparer les recettes totales perçues des deux côtés d'un marché ne visant pas mettre en relation les deux catégories de clients, aux coûts variables totaux encourus pour fournir les multiples produits. Dans le cas de la chaîne de télévision sans abonnement, cela reviendrait à comparer les recettes totales provenant des téléspectateurs et des annonceurs aux coûts variables totaux pour fournir la prestation à ces clients. Cela permet d'identifier les formes extrêmes d'éviction, mais pas toutes les situations où les coûts marginaux sont inférieurs aux recettes marginales.

Maintenant examinons la deuxième condition du test de fixation de prix d'éviction. Pour les marchés où opèrent des plateformes duales, il faut vérifier s'il existe une forte probabilité que l'entreprise augmente son prix total suffisamment et pendant assez longtemps pour récupérer ses pertes pendant la phase où elle aurait pratiqué des prix d'éviction. En d'autres termes, il faut étudier les possibilités de compenser les pertes encourues des deux côtés du marché, et pas seulement du côté du produit dont le prix peu élevé a été, au départ, à l'origine des soupçons.

Supposons que l'abus présumé se soit produit du côté *A*. Si, après la sortie du rival, la plateforme augmente le prix du côté *A*, le nombre de clients de ce côté diminue. Cela fait baisser la valeur de la plateforme pour les clients du côté *B*, et réduit ainsi le prix que la plateforme peut facturer à ces clients. La baisse du prix du côté *B* peut largement neutraliser l'augmentation des bénéfices dus à la hausse initiale du prix du côté *A*. Par conséquent, la possibilité d'augmenter le prix du côté *A* ne suffit pas. Pour être certaine de compenser ses pertes, la plateforme doit être en mesure d'augmenter le prix du côté *A*, et, au moins, de maintenir le prix du côté *B*⁴⁰.

⁴⁰ Ou, si le prix du côté *B* diminue malgré tout, l'augmentation du bénéfice du côté *A* doit être supérieur à la contraction du bénéfice du côté *B*.

Dans la section 4, nous avons avancé que pour internaliser les externalités de réseau indirectes, les plateformes duales doivent avoir une structure de prix telle que le prix proposé d'un côté soit inférieur au coût, voire inférieur à zéro. Des éléments économétriques montrent qu'il est courant de fixer des prix à un niveau inférieur aux coûts et que cette pratique n'est donc pas essentiellement conçue pour verrouiller le marché. Il est par conséquent faux de présumer qu'une tarification inférieure aux coûts par des plateformes duales est une pratique anticoncurrentielle.

Il se peut que des plateformes duales pratiquent des prix d'éviction en fixant les prix très bas d'un côté pour empêcher d'autres plateformes d'accéder à ce côté du marché. Il est aussi possible pour une plateforme duale de pratiquer une forme duale de prix d'éviction en facturant des prix inférieurs aux coûts des deux côtés afin de verrouiller le marché. Les tests fondés sur les coûts se justifient dans une certaine mesure pour ce dernier cas. Cependant, on voit mal comment ils pourraient servir à analyser une allégation de prix d'éviction d'un seul côté.

6.2 *Prix excessifs*

Le problème des prix excessifs s'est présenté dans toute une série de cas en Europe⁴¹. Les autorités de tutelle du secteur ont constaté que les opérateurs de téléphonie mobile ont facturé des prix excessifs pour la terminaison d'appels provenant soit d'opérateurs de ligne fixe, soit d'autres opérateurs de téléphonie mobile.

Les autorités de tutelle du secteur reconnaissent que les bénéfices tirés de ces prix excessifs sont éliminés en partie par la faiblesse des prix facturés pour les appareils et les départs d'appels. L'autorité de tutelle du secteur des télécommunications au Royaume-Uni, l'Office of Communications, a reconnu que les plateformes de téléphonie mobile étaient extrêmement concurrentielles, au moins du côté des abonnés aux services de téléphonie mobile, autrement dit pour les départs d'appels, et que, dans l'ensemble, elles ne dégagent pas de rendements supraconcurrentiels⁴². Bien que l'Office of Communications n'ait pas analysé le marché en tant qu'activité duale et n'ait pas appliqué d'analyse des deux côtés, il a intégré une composante « externalité de réseau indirecte » dans le prix réglementé qu'il a imposé au côté de la termination d'appels de téléphonie mobile⁴³.

Il est possible qu'une plateforme duale abuse de sa puissance commerciale et facture des prix excessifs⁴⁴. Cependant, pour déterminer si c'est le cas ou non, il faut examiner simultanément les deux côtés du marché. Des prix en apparence excessifs d'un côté du marché peuvent simplement refléter ce qui semble être des prix d'éviction de l'autre côté, et les deux prix peuvent être le résultat de la recherche par la plateforme d'un point d'équilibre nécessaire pour attirer les deux côtés du marché.

⁴¹ Plusieurs cas de prix excessifs se sont aussi présentés en Europe dans le domaine des cartes de paiement concernant les commissions d'interchange, souvent à l'instigation de grandes associations de commerçants. Voir, par exemple, <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1959>.

⁴² Voir U.K. Office of Telecommunications, Discontinuing Regulation: Mobile Access and Call Origination Market, paragraphe 1.2 (2003), disponible à l'adresse http://ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/discon1103.pdf (« aucun opérateur de téléphonie mobile, que ce soit individuellement ou avec un ou plusieurs autres opérateurs de téléphonie mobile, n'a [une puissance commerciale significative] sur ce marché. »).

⁴³ Voir U.K. Office of Communications, Wholesale Mobile Voice Call Termination 163-72 (2004), disponible à l'adresse http://www.ofcom.org.uk/consult/condocs/mobile_call_termination/wmvct/wmvct.pdf.

⁴⁴ Dans de nombreuses juridictions, comme les États-Unis, la facturation d'un prix de monopole n'est pas illégale.

7. Pratiques d'exclusion hors prix

Les entreprises peuvent avoir recours à des stratégies indépendantes des prix pour limiter la concurrence ou empêcher les concurrents d'accéder au marché. Parmi ces stratégies figurent les contrats exclusifs et les ventes liées de produits. La nature anticoncurrentielle ou non de ces pratiques est un sujet encore très controversé, mais elles constituent des aspects essentiels dans plusieurs affaires importantes en matière de politique de la concurrence dans les marchés duales. En tout état de cause, elles sont pertinentes pour savoir comment l'économie des plateformes duales affecte l'analyse des stratégies de verrouillage des marchés sur lesquels opèrent ces plateformes⁴⁵.

7.1 Ventes liées

Les ventes liées constituent une stratégie commerciale fondamentale sur une grande diversité de marchés, y compris les activités des plateformes duales⁴⁶. La plupart des plateformes conçoivent leurs produits de façon à combiner des éléments qui, en principe, pourraient être vendus séparément. Les plateformes de cartes de paiement exigent des commerçants d'accepter toutes les opérations par carte générées par les titulaires de cartes qui utilisent leurs cartes chez ces commerçants. Les plateformes de médias exigent des abonnés qu'ils achètent aussi bien la publicité que le contenu. Les plateformes d'intermédiation exigent des vendeurs qu'ils achètent des services d'enchères spécifiques ainsi que l'accès à des acheteurs potentiels.

Ces ventes liées empêchent manifestement les clients d'un côté ou de l'autre de faire certains choix qui pourraient s'avérer avantageux pour eux. Cela étant, elles permettent à la plateforme d'internaliser des externalités et, par conséquent, de proposer un ensemble de produits et de services interdépendants plus précieux à leurs diverses catégories de clients.

En ce qui concerne la concurrence entre plateformes duales, il faut examiner comment un comportement d'un côté du marché affecte l'autre côté du marché, et quels sont les effets concurrentiels de ce comportement. Le fait de parvenir à bloquer l'accès à une entreprise concurrente d'un côté du marché peut empêcher cette entreprise de réussir de l'autre côté et dissuader par là-même l'entrée d'une plateforme. Ce phénomène est conforme à plusieurs analyses post-Chicago sur les ventes liées, dont il ressort qu'une entreprise peut tenter de forcer un concurrent qui produit une marchandise complémentaire à quitter le marché pour le dissuader d'entrer ultérieurement sur son marché primaire. En outre, il faut se demander si les efficacités dues aux ventes liées ou aux contrats exclusifs compensent les coûts éventuels de la réduction de la concurrence. Les ventes liées peuvent être inoffensives ou même favorables à la concurrence dans certaines circonstances.

Une plateforme duale peut imposer au côté A des ventes liées qui ne présentent pas d'avantages directs pour les clients de ce côté et qu'ils peuvent même rejeter après avoir effectué une comparaison des avantages et des coûts sur le plan privé. Cependant, les ventes liées peuvent profiter au côté B. Et si la demande s'accroît du côté B, les ventes liées peuvent augmenter indirectement la valeur de la plateforme du côté A. En fait, les ventes liées peuvent entraîner indirectement un tel accroissement de la valeur que le côté A en tire un bénéfice net. Compte tenu des difficultés à déterminer les prix sur ces marchés, il est impossible de prévoir *a priori* comment les ventes liées affecteront le niveau de prix et la structure de prix pour deux côtés ou davantage. Toutefois, il se peut que le prix combiné payé par le côté A pour les produits

⁴⁵ Pour l'analyse des effets concurrentiels des ventes liées de produits, voir : Amelio et Jullien (2007) et Rochet et Tirole (2007). Pour l'analyse des effets concurrentiels des contrats exclusifs, voir : Armstrong et Wright (2007), Hagiu et Lee (2008), et Lee (2007).

⁴⁶ Les *ventes liées de produits* consistent à faire dépendre la vente d'un produit de la vente simultanée d'un autre produit apparemment sans rapport.

liés soit nettement inférieur aux prix qui seraient pratiqués si les produits n'étaient pas liés, car la structure de prix peut transmettre une bonne partie de la valeur globale des ventes liées au côté *A* plutôt que *B*.

La clause obligeant à accepter toutes les cartes de paiement émises par un même réseau (*honor-all-cards rule*) est un exemple de ventes liées qui sont favorables au bien-être sur des marchés où opèrent des plateformes duales⁴⁷. Les réseaux de cartes exigent généralement des commerçants qu'ils conviennent d'accepter toutes les cartes de ce réseau que leur présentent les clients. Les commerçants qui ont un contrat pour accepter les cartes American Express ne peuvent donc pas décider d'accepter un paiement à l'aide de cartes professionnelles American Express, mais pas à l'aide de cartes personnelles American Express, ou d'accepter un paiement de voyageurs manifestement fortunés, mais pas de personnes résidant dans la région. Pour certains commerçants au moins, le coût encouru sur le plan privé du fait de cette exigence est supérieur aux avantages. Cependant, cette clause confère une plus grande valeur à la carte du réseau pour ses titulaires, qui ont l'assurance que leur carte sera acceptée pour un paiement chez les commerçants qui affichent qu'ils acceptent les cartes du réseau. En augmentant le nombre de titulaires de cartes, elle fait de la carte un mode de paiement que les commerçants ont davantage intérêt à accepter⁴⁸.

7.2 *Distribution exclusive*

Une des principales constatations de l'École de Chicago concernant les contrats exclusifs est qu'un client est toujours libre de ne pas accepter le principe d'exclusivité. Par conséquent, l'exclusivité dans les contrats reflète forcément la conviction des clients que les avantages compensent les coûts de ne traiter qu'avec une seule entreprise. Les clients acceptent les contrats exclusifs d'un côté du marché si, du moins à court terme, ils tirent profit de cette exclusivité ou bien y sont indifférents. Toutefois, ils ne prennent sans doute pas en compte dans leur décision les coûts, pour les consommateurs de l'autre côté, d'une moindre concurrence sur la plateforme.

Le potentiel de bénéfices de l'autre côté constitue une éventuelle incitation en faveur de contrats exclusifs sur les plateformes duales. Pour les plateformes duales, il est du moins possible qu'il y ait une externalité. Les contrats exclusifs d'un côté peuvent aider une plateforme à acquérir une puissance commerciale de l'autre côté.

Il se peut, du moins théoriquement, qu'une plateforme duale utilise les contrats exclusifs pour exclure des concurrents. Cependant, les conséquences de ces contrats, en termes de bien-être, ne sont manifestement pas préjudiciables.

Par exemple, dans le secteur des jeux vidéo, les plateformes de matériel ont souvent des contrats exclusifs avec les fournisseurs de logiciels. Lee (2007) conclut que ces contrats exclusifs sont favorables à la concurrence au niveau de la plateforme et leur existence profite aux plateformes plus petites arrivant sur le marché au détriment des plateformes déjà en place. Sans contrats exclusifs, des logiciels de grande qualité sont conçus essentiellement pour les plateformes existantes, compte tenu de la vaste clientèle dont elles disposent déjà. En conséquence, les plateformes qui arrivent sur le marché ne sont pas en mesure de proposer aux clients un quelconque avantage significatif par rapport aux plateformes existantes. Elles ne peuvent donc pas acquérir de grosses parts de marché. L'accès exclusif à certains logiciels permet aux nouveaux venus sur le marché d'attirer suffisamment de clients pour rendre leurs plateformes viables.

⁴⁷ Voir Rochet et Tirole (2008) pour une analyse de cette clause.

⁴⁸ Un collectif de commerçants mené par Wal-Mart a contesté les clauses obligeant à accepter toutes les cartes de paiement (*Honor All Cards*) émises par Visa et par MasterCard (In re Visa Check/MasterMoney Antitrust Litigation, n°96-CV-5238, 2003 WL 1712568, au *1 (E.D.N.Y. 1^{er} avril 2003) (Wal-Mart)).

On peut concevoir que les contrats exclusifs verrouillent le marché de façon socialement préjudiciable. Ces contrats posent un problème si une entreprise a l'exclusivité sur une bonne partie ou l'ensemble du marché et que cette exclusivité persiste⁴⁹. Les clients du côté non exclusif peuvent réagir en se tournant vers une plateforme concurrente, exerçant ainsi des pressions sur les clients du côté exclusif afin de mettre un terme à l'exclusivité. De plus, sur les marchés à forte concentration d'acheteurs, les acheteurs sont réticents à accepter le principe d'exclusivité s'il y a des raisons de penser que cette exclusivité entraînera une domination par cette plateforme, ce qui risque de donner lieu ultérieurement à une hausse des prix pour tous les côtés.

De nombreux marchés où opèrent des plateformes duales ont un multi-hébergement au moins d'un côté. D'après des données économétriques, les contrats exclusifs qui bloquent la concurrence sur les marchés ne semblent pas répandus sur les marchés duaux.

8. Coordination entre concurrents

Habituellement, le droit de la concurrence restreint rigoureusement la coopération entre concurrents. Certaines formes de coopération, comme la fixation des prix, sont généralement considérées en soi comme des pratiques illégales, et à raison. Cependant, la coopération entre concurrents sur les marchés sur lesquels opèrent des plateformes duales peut être favorable à la concurrence et au bien-être.

Les plateformes duales améliorent l'efficacité en servant d'intermédiaires entre différentes catégories de clients et en internalisant les externalités indirectes générées par ces catégories. Parfois, la plateforme est une entreprise à but lucratif, mais ce n'est pas toujours le cas. La plateforme peut être une co-entreprise, une coopérative ou un organisme de normalisation. Les groupements de cartes de paiement exploitent le réseau et fixent des règles qui aboutissent à la définition d'une structure de prix. Les agences immobilières ont des associations qui exploitent les services de listes multiples. Le multi-hébergement incite aussi les concurrents à se coordonner. American Express et Visa sont tous deux membres de Global Platform, organisme international établissant des normes pour la technologie des cartes à puce, et utilisent les normes de Global Platform dans le cadre de leurs efforts respectifs pour développer les cartes à puce.

Les autorités de la concurrence et les autorités de tutelle ont procédé à un examen approfondi de la coordination parmi les concurrents sur les marchés duaux des cartes de paiement, sous l'angle de la fixation collective des commissions d'interchange par des groupements⁵⁰. Les tribunaux américains ont analysé la fixation des commissions d'interchange à la fin des années 70⁵¹. Ils ont décidé qu'ils disposaient de suffisamment d'éléments pour conclure que les commissions d'interchange de Visa étaient, dans l'ensemble, favorables à la concurrence et jouaient contribuaient de façon fondamentale à assurer l'universalité de l'acceptation, sans laquelle le réseau Visa ne survivrait pas. La Reserve Bank of Australia est parvenue à une conclusion différente dans une récente enquête⁵². Elle a conclu que les commissions d'interchange de Visa pouvaient favoriser une utilisation des cartes socialement excessive. Elle a donc imposé une règle basée sur les coûts. Les commissions d'interchange ne peuvent dépasser la somme de

⁴⁹ Voir Lee (2007) pour l'analyse du marché des jeux d'ordinateur, sur lequel ni l'une ni l'autre de ces deux conditions n'est remplie.

⁵⁰ Les *commissions d'interchange* correspondent au tarif par transaction payé par la banque du commerçant, l'acquéreur, à la banque du titulaire de la carte, l'émetteur. Les *commissions commerçants (merchant fees)*, correspondent au tarif par transaction payé par le commerçant à sa banque, l'acquéreur.

⁵¹ Voir *Nat'l Bankcard Corp. v. Visa U.S.A., Inc.*, 779 F.2d 592, 605 (11th Cir. 1986).

⁵² Voir « Reserve Bank of Australia, Reform of Credit Card Schemes in Australia IV, Final Reforms and Regulation Impact Statement », 2002.

certains coûts directs que les émetteurs de cartes de paiement ont engagés au nom des acquéreurs de cartes de paiement.

Les réseaux exclusifs, comme American Express, disposent de deux instruments de tarification pour susciter l'intérêt des deux côtés du marché : les commissions s'appliquant aux titulaires de cartes et celles s'appliquant aux commerçants. Généralement, ces commissions sont fixées de sorte que les commerçants en paient la plus grosse part. Les commissions ne suivent pas les coûts marginaux d'un côté ou de l'autre de la plateforme.

Les membres de réseaux coopératifs, comme MasterCard et Visa, se font concurrence pour les titulaires de cartes et les commerçants⁵³. La fixation collective des commissions d'interchange a deux objectifs. Premièrement, elle aide à équilibrer la demande des titulaires de cartes et des commerçants, autrement dit, elle aide à internaliser les externalités indirectes entre les différentes catégories de clients. Deuxièmement, elle élimine la nécessité de négociations bilatérales, réduisant ainsi le coût des transactions correspondant à l'internalisation des externalités. Sans coordination, les membres ne seraient pas en mesure de déterminer la structure de prix, qui internalise les externalités de réseau indirectes créées par les commerçants pour les titulaires de cartes. L'augmentation de la commission d'interchange tend à entraîner une hausse des commissions commerçants et une baisse des commissions appliquées aux titulaires de cartes. La commission d'interchange qui maximise les bénéfices des membres du groupement repose sur le coût et la demande des deux côtés. Il est difficile de déterminer si la structure de prix qui émerge en l'occurrence est celle qui est socialement optimale. Il n'y a cependant pas de fondement économique sur lequel s'appuyer pour conclure *a priori* que la structure de prix établie par la plateforme favorise un côté ou l'autre. Mais surtout, les travaux économiques sur les plateformes duales montrent que les règles de fixation des prix fondées sur les coûts ne sont, en général, pas optimales sur le plan social ou sur le plan privé en ce qui concerne les plateformes sur les marchés duaux⁵⁴.

Sur les marchés sur lesquels opèrent des plateformes duales, les cartels peuvent avoir besoin de se coordonner des deux côtés du marché. Supposons que plusieurs plateformes duales se fassent concurrence dans un secteur. Si elles s'entendent pour fixer les prix d'un seul côté, elles peuvent finir par chasser les bénéfices supraconcurrentiels de l'autre côté. Cela a deux conséquences. Premièrement, il est plus difficile de conclure une entente dans un secteur où sont en présence des plateformes duales que dans des secteurs où des entreprises monofaces exercent leurs activités, car suppose des accords plus nombreux et un contrôle plus rigoureux. Deuxièmement, si une autorité de la concurrence trouve des preuves d'entente sur les prix d'un côté, elle cherchera sans doute attentivement des preuves également de l'autre côté.

9. Fusions

Les enquêtes sur les fusions se préoccupent surtout de savoir si l'opération va créer une puissance commerciale ou renforcer cette puissance, ou encore faciliter son application⁵⁵. Comme on l'a vu dans la section 4.4, les marchés sur lesquels opèrent des plateformes duales tendent à être concentrés. Les fusions sur ces marchés retiennent donc tout particulièrement l'intérêt des autorités de la concurrence.

⁵³ C'est vrai dans l'Espace unique de paiements en euros (SEPA). En dehors de cet espace, Visa et MC sont des sociétés faisant appel à l'épargne publique et à but lucratif ayant des actionnaires et elles ne sont pas contrôlées par des banques.

⁵⁴ Voir Rochet et Tirole (2002, 2003), Schmalensee (2002) et Weyl (2008).

⁵⁵ Voir les « 1992 Horizontal Merger Guidelines » [Instructions relatives aux fusions horizontales 1992] à l'adresse <http://www.ftc.gov/bc/docs/horizmer.htm> pour le cas des États-Unis et le « Règlement relatif au contrôle des concentrations entre entreprises 2004 » à l'adresse <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:024:0001:0022:FR:PDF> pour le cas de l'UE.

Pour déterminer l'impact de la puissance commerciale à l'issue d'une fusion concernant une plateforme duale, il faut prendre en compte les effets interdépendants sur les deux catégories de clients auxquelles la plateforme propose ses services⁵⁶. Cela implique que certains des instruments classiques d'analyse des fusions, comme les indices de concentration, les ratios de diversion ou la perte critique, ne s'appliquent pas, sauf à les reformuler convenablement pour tenir compte du caractère dual du marché⁵⁷.

Une fusion de plateformes duales affecte le volume relatif de la clientèle des deux côtés du marché et donc l'équilibre des externalités de réseau indirectes entre les deux côtés du marché. Cela implique que la fusion affecte non seulement le niveau de prix mais aussi la structure de prix. On peut imaginer que les prix d'équilibre après la fusion résultent de l'augmentation de certains prix et de la baisse d'autres prix.

En outre, si la fusion entraîne une augmentation du volume relatif de la clientèle d'un côté, elle fait monter la valeur de l'appartenance à la plateforme pour les clients de l'autre côté. Par conséquent, le bien-être des clients peut s'améliorer même si les prix progressent d'un seul côté ou globalement. L'exemple qui suit illustre ces différents points.

Considérons la fusion hypothétique suivante. Il existe deux plateformes électroniques interentreprises pour le matériel de bureau dans la région *X* : les plateformes *A* et *B*. Les plateformes proposent leurs services à des clientèles quelque peu différentes. La plateforme *A* facture 2 000 USD par mois aux vendeurs pour leur admission et 0 \$ aux acheteurs ; la plateforme *B* facture 3 000 USD par mois aux vendeurs et donne 500 USD par mois aux vendeurs pour tous les achats réalisés par l'intermédiaire de la plateforme. La plateforme *B* remporte plus de succès car elle attire plus d'acheteurs et, en conséquence, elle attire plus de vendeurs. En fait, elle a tant de succès qu'elle a généralement une liste d'attente et peut choisir les vendeurs et les acheteurs qu'elle admet. Elle essaie de filtrer les vendeurs et les acheteurs « indésirables ». Posons que les plateformes électroniques interentreprises pour le matériel de bureau dans la région *X* est le marché pertinent. La part des admissions de la plateforme *A* est de 20 % et celle de la plateforme *B* de 40 %. La fusion va-t-elle provoquer une hausse des prix ? On ne peut pas répondre à cette question en se contentant d'examiner la demande globale de clients, par exemple en estimant la demande d'admissions par rapport au prix moyen. L'ensemble composé par les vendeurs et acheteurs a une importance décisive. Il faut effectuer simultanément une estimation de la demande de vendeurs et de la demande d'acheteurs. Puis, en utilisant la théorie de la fixation des prix sur les marchés sur lesquels opèrent des plateformes duales, ainsi que les informations sur les coûts, on peut prévoir si la fusion incitera les entreprises regroupées à relever leur prix total. Supposons que l'analyse montre que l'entité issue de la fusion facturerait 3 200 USD aux vendeurs et donnerait un crédit de 600 USD aux acheteurs. Si l'on part de l'hypothèse que les acheteurs et les vendeurs sont en nombres égaux, le prix moyen facturé par la plateforme *A* monterait de 1 000 USD à 1 300 USD et le prix moyen facturé par la plateforme *B* augmenterait de 1 250 USD à 1 300 USD. On ne sait pas vraiment si les clients s'en trouvent mieux ou moins bien lotis. En moyenne, les clients paieraient davantage. Mais, en termes agrégés, ils pourraient aussi obtenir davantage. Les vendeurs pourraient disposer d'un meilleur vivier d'acheteurs dans lequel puiser et les acheteurs pourraient disposer d'un meilleur choix de vendeurs.

Les autorités de la concurrence vérifient également si une fusion va générer des efficacités. Si c'est le cas, elles peuvent être prises en compte, comme facteur d'atténuation compensant l'impact de la fusion sur la puissance commerciale. Dans le cas de plateformes duales, compte tenu des économies d'échelle et des

⁵⁶ Voir Weyl (2008a, 2008b, 2008c) pour l'analyse de types particuliers de fusions en rapport avec des plateformes duales.

⁵⁷ Voir Evans et Noel (2007).

effets de réseau indirects entre les différentes catégories de clients, il est possible que les fusions aient plus de chances de générer des efficiences⁵⁸.

Deux études économétriques sur la fusion des réseaux de guichets automatiques de banque (GAB) et des pages jaunes peuvent aider à mettre en perspective l'examen qui précède. Prager (1999) a analysé la vague de fusions de réseaux de GAB dans les années 90. Elle a conclu que ces fusions n'ont pas entraîné une hausse des prix pour les clients ou un ralentissement de la croissance du volume des opérations. Cependant, elle n'a pas pu distinguer entre l'absence d'une accentuation de la puissance commerciale et la diminution de la puissance commerciale avec efficacité. Rysman (2004) a analysé les pages jaunes. Il a conclu que l'impact net des fusions pourrait être de réduire le bien-être des consommateurs : la perte de bien-être due à la hausse des prix est supérieure à l'amélioration du bien-être due aux effets de réseau indirects supplémentaires pour les annonceurs comme pour les clients.

10. Conclusion

Des plateformes duales apparaissent dans de nombreux secteurs importants sur le plan économique, comme les médias, les systèmes de paiement et les logiciels. À l'heure de la révolution des technologies de l'information, les plateformes duales vont probablement gagner en importance.

Les plateformes duales doivent trouver la structure de prix satisfaisante pour équilibrer les demandes des deux catégories de clients qu'elles cherchent à attirer. Plus généralement, pour internaliser les externalités de réseau indirectes, elles doivent recourir à des stratégies de prix et des stratégies hors prix qui peuvent être très différentes de celles des entreprises classiques.

Les plateformes duales apportent une énorme valeur sociale en internalisant les externalités entre différentes catégories de clients et, dans certains cas, en créant des produits et des services qui ne pourraient pas exister sans cette intermédiation.

Bien qu'ils soient rarement des monopoles, les marchés sur lesquels opèrent les plateformes duales tendent à être concentrés. Ces fortes concentrations, conjuguées à des stratégies de prix et des stratégies hors prix, ont évidemment retenu l'attention des autorités de la concurrence.

Ces entreprises, comme toutes les entreprises, peuvent mettre en œuvre des stratégies anticoncurrentielles. Cependant, les instruments classiques de l'analyse de la concurrence doivent être appliqués avec une extrême prudence. Les autorités de la concurrence doivent reconnaître le caractère dual de ces entreprises et examiner les effets globaux de la concurrence et de l'intervention des autorités de tutelle sur le bien-être des consommateurs.

Les autorités de la concurrence sont confrontées à un dilemme complexe. D'un côté, des plateformes duales existent dans certains des secteurs des hautes technologies connaissant la plus forte croissance. Il est très important de veiller à la concurrence et, par là même, à une allocation efficace des ressources dans ces secteurs. Ce sont les fers de lance de la croissance économique. D'un autre côté, une application mal inspirée du droit de la concurrence pourrait détruire ces mêmes secteurs ou leur porter un préjudice considérable. Trouver un juste équilibre nécessitera une réflexion très lucide sur la façon dont les entreprises se font concurrence dans ces secteurs.

⁵⁸ Bien entendu dans la mesure où elles sont vraiment spécifiques à la fusion, autrement dit où elles n'auraient pas pu être obtenues en l'absence de la fusion. Voir Farrell et Shapiro (2001).

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AUSTRALIA

1. Introduction: Summary

The *Trade Practices Act 1974* (TPA) exists to enhance the welfare of Australians through the promotion of competition and fair trading, and by providing for the protection of consumers. Among other things, the Act applies to unfair market practices, industry codes, mergers and acquisitions, price monitoring and to the regulation of markets where competition is less effective, for example some communications markets. The Australian Competition and Consumer Commission (ACCC), is the independent statutory authority responsible for enforcing the provisions of the TPA.

This submission examines the flexibility of the TPA in dealing with issues of market definition and market power in the presence of two-sided platforms. The submission draws upon the insights provided by several case studies to suggest potential lessons for competition agencies dealing with similar issues in the presence of two-sided platforms.

Issues arising in two-sided markets are assessed by the ACCC and dealt with under the TPA using an equivalent approach as toward other markets. This approach involves the ACCC defining the market/s under consideration in terms of product and geographic space and proceeding to consider the competitive constraints on the market.

Under the TPA, the substitutability of goods and services is central to the definition of a market. The ACCC takes a purposive approach to market definition, meaning that the definition of a relevant market cannot be separated from the particular matter under investigation. In the case of a two-sided platform, the ACCC first defines markets separately for each customer class, and considers the potential relevance of any indirect network effects as part of the subsequent competition analysis.

The capacity for a two-sided platform to exercise market power on one side can depend on the competitive restraints faced on the other. For a two-sided media platform, the attractiveness of the platform to advertisers is dependent on the number of consumers using the platform to access content. If a price rise on the consumer side reduces readership, this will lead to lost revenue on the advertising side, and so limit the extent to which the platform can profitably exercise market power over consumers. On the other hand, two-sided platforms face a type of 'chicken-and-egg' problem, reflecting the need to get both sides on board in order to be viable. This difficulty means that if competition is reduced on one side, it can lead to reduced competition on the other. The two-sided nature of a platform can either prevent or exacerbate competition issues depending on the circumstances of the particular markets in which it is involved.

This submission includes two examples of merger cases in two-sided media markets. The TPA prohibits acquisitions where they would have the effect, or likely effect, of substantially lessening competition. The two-sided nature of the market is relevant in merger cases to the extent that it may prevent or exacerbate a substantial lessening of competition.

The first merger example involves a proposal from Fairfax to acquire Rural Press. These firms overlapped in the area of free and paid community publications. Using the approach described above, the ACCC defined markets for the supply of advertising and the supply of content to consumers separately and considered the likely effect of the proposed acquisition on each of the markets in isolation. However, the

analysis also recognised that the incentive to exercise market power in the supply of content to consumers would be offset by the potential loss of revenue from advertisers, having a procompetitive influence on the market.

The second merger example involves a proposal for the acquisition of Southern Cross Broadcasting by Macquarie Media Group. Macquarie Media owned commercial radio licences in regional Australia while Southern Cross owned broadcasting licences for television and radio. In many areas, radio and television were found to be in competition with each other both for advertising and for audience. In areas where significant alternatives were not available to advertisers, the two-sided nature of the market was not sufficient to prevent a substantial lessening of competition in markets for the supply of content to consumers.

The third example involves exclusive dealing restrictions used by Eastern Suburbs Newspapers (ESN), the publisher of a weekly community newspaper, the *Wentworth Courier*. ESN offered discount prices to advertisers subject to the condition that advertisers place 75 per cent of their total real estate advertising in the *Wentworth Courier*. The ACCC considered the implications of this restriction on both sides of the market, accounting for the interaction between the two sides. The capacity for a newspaper to attract readers was found to depend to some extent on its ability to attract real estate advertising. The ACCC found that by restricting competition in the advertising market the conduct also significantly reduced competition or potential competition in the reader market by constituting a significant barrier to entry for establishing a competing rival newspaper. The ACCC recognised that indirect network effects were important for considering the full competitive implications of this conduct.

Overall, the ACCC's experience suggests it has been able to take actions under the TPA in markets characterised by two-sided platforms which are appropriate to its analyses of the issues presented in each case. The experiences indicate that two-sided platforms can create unique challenges for competition agencies. However it appears that the existing legislative framework has been sufficiently flexible to date in accommodating the consideration of two-sided platforms and the issues they create for market analyses.

2. Market definition and competition analysis in the presence of two-sided platforms

Two-sided platforms have two distinguishing characteristics. First, the platform (or the provider of the platform) serves two distinct classes of customers. Second, the value of the platform to one class of customers depends on the use of the platform by the other class of customers (known as indirect network effects). Newspapers are an often-cited example of two-sided platforms. Newspapers provide readers with access to information and views. Newspapers also provide advertisers with access to readers. The value of the newspaper (platform) to advertisers depends on the number and type of readers the newspaper attracts.

The characteristics of two-sided platforms create two unique challenges in antitrust analysis.

The first challenge stems from the indirect network effects. An attempt by a provider of a two-sided platform to exercise market power over one class of customers will have implications for the other class of customers. These implications may in turn constrain the exercise of market power in the first instance. For example, consider the pricing decisions of a newspaper. Suppose the owner of the newspaper attempts to raise the cover price for readers. Such a price increase may initially seem profitable. Although the newspaper may lose some subscribers, this may not be sufficient to offset the increase in revenues from the subscribers that continue to purchase the newspaper.

However, this is not the end of the story. To the extent the newspaper loses some readers, advertisers may place a lower value on advertising with the newspaper and either seek lower prices or spend their advertising dollar elsewhere. The combination of the loss of subscribers and the reduction in advertising

sales may make an increase in the cover price unprofitable. Failing to account for the effect of the price increase on customers of the other side of the platform will often result in underestimating the competitive constraints faced by the provider of a two-sided platform.

The second challenge results from the heterogeneity of competitors faced by a provider of two-sided platforms. Providers of two-sided platforms can face competition from:

- other providers of the same type of two-sided platform;
- providers of two-sided platforms that serve a different second-side; and
- providers of single-sided products.

For instance, a local newspaper may compete:

- against other local newspapers for readers/consumers and advertisers
- against television networks for readers/consumers and advertisers
- against letter drops/flyers or providers of billboard advertising

Failure to explore substitution possibilities by consumers on both sides of the platform can often result in underestimating the competitive constraint faced by the provider of a two-sided platform.

The ACCC has recently considered several matters in the media industry involving two-sided platforms. These examples illustrate how the ACCC defines markets and analyses competition concerns under the *Trade Practices Act 1974* in relation to two-sided markets.

2.1 ACCC approach to market definition

The concept of a market is a key element to considering a variety of matters under the *Trade Practices Act 1974* (TPA). Section 4E of the TPA defines a market as including the goods or services that are substitutable or otherwise competitive with the goods and services under analysis.

Identifying relevant markets is an important element in merger analysis. Section 50 of the TPA prohibits acquisitions that “would have the effect, or be likely to have the effect, of substantially lessening competition in a market”. Markets are defined according to the areas of activity where competitive harm could occur as a result of the merger. The ACCC’s Merger Guidelines describe the ACCC’s approach as follows:

Market definition establishes the relevant ‘field of inquiry’ for merger analysis, identifying those sellers and buyers that may potentially constrain the commercial decisions of the merger parties and the merged firm, and those participants, particularly customers, that may be affected if the merger lessens competition. (para. 4.2)

Market definition is purposive, which means that the definition of a relevant market cannot be separated from the particular matter under investigation. In assessing the relevant product market, the ACCC commences with the product of interest to the matter investigated and considers demand and supply-side substitution.

A product is a demand-side substitute if consumers would switch to that product in the event of an increase in the price of the product of interest. A product is a supply-side substitute if producers of that product would switch production capacity to the product of interest in the event of an increase in its price.

Identifying demand and supply-side substitutes typically involves using the “hypothetical monopolist test” (HMT) as a conceptual framework. This test involves finding the smallest set of products over which a hypothetical monopolist could profitably impose a Small but Significant Non-transitory Increase in Price (SSNIP), over a certain period of time. The price increase considered significant, is usually between 5 and 10 per cent. The empirical estimation required for the strict application of HMT is not always possible. The HMT is therefore often used as a way of approaching market definition, rather than a tool to definitively determine market boundaries.

Importantly, the ACCC’s Merger Guidelines note that “While market definition is a useful tool for merger analysis, by itself it cannot determine or establish a merger’s impact on competition.”¹

2.2 ACCC approach to market definition in the presence of two-sided platforms

The ACCC has typically approached market definition in the presence of two-sided platforms by defining separate markets for each customer class. The impact of indirect network effects is normally taken into consideration as part of the competition analysis.

This approach is outlined in the ACCC paper, *Media Mergers*. For mergers in the media industry, the ACCC’s approach has typically been to consider three separate product classes; the supply of advertising opportunities to advertisers, the supply of content to consumers, and the acquisition of content from content producers.

As noted in the *Media Mergers* paper, the importance or otherwise of interactions between each product market is relevant to the competition analysis in so far as the interactions prevent, or exacerbate, a substantial lessening of competition. Therefore market definition would normally be impacted only where two-sided characteristics are influential for the competition analysis.

3. Three recent matters examined by the accc involving two-sided platforms

This section details three recent matters examined by the ACCC involving two-sided platforms. The purpose of these examples is to demonstrate the issues and challenges faced by ACCC and the approach adopted.

Two of these matters were assessments of proposed mergers or acquisitions. Under section 50 of the TPA, mergers are prohibited that would have the effect, or be likely to have the effect, of substantially lessening competition a market. The third matter involved an assessment of a ‘notification’ lodged with the ACCC, regarding conduct that can risk breaching the TPA. Immunity for conduct known as exclusive dealing may be obtained by lodging a notification with the ACCC. The ACCC may revoke a notification for exclusive dealing conduct (other than third line forcing) where it is satisfied that the conduct had the purpose, effect or likely effect, of substantially lessening competition. In revoking such notifications, the ACCC must also be satisfied that the conduct does not result, or is not likely to result, in a public benefit

¹ Para 4.3, *Merger Guidelines November 2008*

that would outweigh the detriment to the public, constituted by any lessening of competition resulting from the conduct.²

3.1 *Fairfax proposed acquisition of Rural Press*

In 2007, the ACCC considered a proposal by Fairfax to acquire Rural Press. Fairfax is a newspaper publishing group with a number of major metropolitan newspaper titles, a national business daily and a number of business magazines. Fairfax also publishes a number of local and community newspapers. Rural Press was a large publisher of mainly community publications including free and paid newspapers.

The main areas of overlap between Fairfax and Rural Press were free and paid community publications with circulation in metropolitan and regional areas within the state of New South Wales. The ACCC examined whether the proposed acquisition would lessen competition in the supply of advertising opportunities to advertisers (advertising market), the supply of content to consumers (reader market) and the acquisition of content from content providers. Markets for the supply of advertising and for the supply of content to consumers were generally defined according to geographical areas of circulation. The community newspapers primarily supplied their own local content. Very little content was acquired, other than national or international news from press agencies.

Although the ACCC examined the likely effect of the proposed acquisition on competition in each of these markets separately, it recognised the close relationship between the supply of content to consumers and advertising markets. A newspaper publisher which attempted to exercise market power in a reader market by increasing the price (or reducing quality) would first be likely to lose readers. However, advertisers are likely to respond to this reduction in readers by substituting to alternative means of advertising, where these are available. Consequently, the ACCC considered that both the loss of revenue from readers and from advertising must be considered in the context of assessing the profitability of an exercise of market power. By taking account of lost revenue in advertising, it is more likely that a small price increase (or quality reduction) in the reader market will be rendered unprofitable.

The ACCC did not find that the indirect network effects were particularly strong in the opposite direction. That is, the potential to lose readers did not constrain a potential exercise of market power over advertisers. The ACCC concluded that this merger was likely to raise significant competition concerns in several of the geographical markets for the supply of general display advertising. Fairfax offered court-enforceable undertakings to divest several businesses to a purchaser or purchasers approved by the ACCC. On this basis, the ACCC formed the view that the merger was not likely to result in a substantial lessening of competition in contravention of section 50 of the TPA.

3.2 *Macquarie Media Group proposed acquisition of Southern Cross Broadcasting*

The ACCC made similar considerations when assessing the proposed acquisition of Southern Cross Broadcasting (Southern Cross) by Macquarie Media Group (MMG) in late 2007.

MMG owned 87 commercial radio licenses in areas across regional Australia and in all states. The significant assets controlled by Southern Cross included commercial radio broadcasting licenses, commercial television broadcasting licenses and television syndication businesses.

MMG proposed purchasing all of the shares in Southern Cross Broadcasting and an additional nine radio stations from Fairfax. Fairfax purchased the Southern Cross radio and syndication assets from MMG.

² The ACCC can revoke a notification for third line forcing conduct where it is satisfied that the public benefits from the conduct will not outweigh the public detriment.

The proposed acquisitions would have led to the aggregation of Southern Cross regional television stations and MMG radio licenses in 33 regional areas in Tasmania and the eastern states of Australia.

The ACCC's approach to market definition in relation to this matter followed the analytical framework detailed in *Media Mergers*, considering separately each of the separate product classes for the supply of content to consumers, advertising opportunities, and the acquisition of content. The geographical and product dimensions of the relevant markets were then considered on the basis of information provided.

In certain geographical areas the ACCC recognised that radio and television platforms competed in the same market. On the advertising side, the ACCC noted that the similarity of potential audience populations meant from the viewpoint of a significant proportion advertisers, television and radio advertising were substitutes. Within a subset of these areas, the ACCC concluded that on the consumer side, radio and television were close constraints also in the supply of content. In other geographical areas, separate 'platform-specific' markets were considered for radio and for television in the supply of content to consumers.

The ACCC recognised that in many areas a significant number of advertisers would be likely to face a reduction in competition. The ACCC formed the view that a substantial lessening of competition was likely to occur as a result of the merger in these advertising markets. This contributed to the finding that a substantial lessening of competition for readers/viewers in these areas was likely. The two-sided nature of platforms was insufficient to prevent the exercise of market power over readers/viewers due to the limited potential for substitution by advertisers, in addition to the lack of effective alternatives for consumers.

In other geographical areas, where platform specific markets for the supply of content to consumers were considered, no competition concerns were raised. In these markets, the ACCC instead recognised that alternative providers of single-sided products, (publicly funded, non-commercial radio and television) represented effective substitutes to the merger parties' products. Despite finding a substantial lessening of competition in the market for advertising in these areas, competition concerns were not raised in relation to these markets for the supply of content to consumers.

The ACCC accepted court-enforceable undertakings from the merger parties to divest certain assets, addressing competition concerns in relation to both advertising markets, and markets where it also held concerns regarding the supply of content to consumers. On this basis, the ACCC formed the view that the merger was not likely to result in a substantial lessening of competition in contravention of section 50 of the TPA.

3.2.1 Did two-sided characteristics reduce competition concerns?

In the two merger matters described above, the two-sided nature of competition had in certain circumstances a pro-competitive influence on the ACCC's conclusions in relation to the markets for the supply of content to consumers.

For example, the ACCC found that in reader markets affected by the merger of Fairfax and Rural Press, media platforms were less likely to have had the ability or incentive to exercise market power wherever advertisers had effective alternatives. The loss of revenue from advertisers had a direct impact on the profitability of an increase in price (or reduction in quality) for content supplied to consumers.

However, this effect was conditional on advertisers having viable alternatives. In the analysis of MMG's acquisition of Southern Cross, the ACCC found this potential constraint to be small or non-existent in markets where advertisers would have no effective alternatives if advertising effectiveness declined. The extent to which two-sided considerations diminished the ACCC's assessment of any

competition concerns in reader markets rested, at least to some extent, on there being sufficient alternatives for advertisers.

3.3 *Exclusive dealing notification by Eastern Suburbs Newspapers*

Section 47 of the TPA prohibits conduct known as exclusive dealing. Broadly speaking, exclusive dealing involves one person imposing restrictions on another person's freedom to choose with whom, in what or where they deal. Businesses may obtain immunity for conduct that might risk breaching section 47 by lodging a 'notification' with the ACCC.

One form of exclusive dealing is the supply of goods or services on condition that the buyer will not acquire, or will limit the acquisition of, goods or services from a competitor of the supplier. The ACCC may proceed to revoke a notification for this type of exclusive dealing where it is satisfied that the conduct had the purpose, effect or likely effect, of substantially lessening competition. In revoking such notifications, the ACCC must also be satisfied that the conduct does not result, or is not likely to result, in a public benefit that would outweigh the detriment to the public, constituted by any lessening of competition resulting from the conduct.

Eastern Suburbs Newspaper (ESN) lodged a notification with the ACCC regarding conduct involving contracts offered to real estate agents in respect of advertising with ESN's publication, the *Wentworth Courier*. The *Wentworth Courier* is a weekly community newspaper delivered free to households and businesses in the eastern suburbs of Sydney. ESN offered real estate agents lower prices, subject to the condition that the agent place at least 75 per cent of his/her total advertising by centimetre volume, in relation to property situated in the eastern suburbs of Sydney, with the *Wentworth Courier*.

The ACCC found that both the market for readers of community newspapers in the eastern suburbs of Sydney (reader market), and the market for supply of advertising services to real estate agents in eastern Sydney (advertiser market) were relevant in assessing the conduct. The two-sided nature of competition was specifically relevant to the ACCC's competition analysis.

ACCC found that by restricting competition in the advertising market, the conduct also significantly reduced competition or potential competition in the reader market. Specifically, the conduct constituted a significant barrier to entry for establishing a rival community newspaper. The capacity to attract readers was found to have required a certain amount of real estate advertising and revenue. To the extent the conduct restricted the ability for a prospective entrant to attract a significant level of advertising, the conduct was found to also restrain the capacity of a rival newspaper to attract a sufficient readership.

The conduct's effect of reducing the potential to establish a sufficient readership contributed to the finding of a likely substantial lessening of competition in the advertising market. This indicates that indirect network effects between advertisers and readers requires the assembly of sufficient scale before a publication will be viewed as 'must have' from the perspective of advertisers. Readers interested in buying property tend to seek out the newspaper with the most real estate advertisements, which makes it more important for real estate agents to advertise in that newspaper, which in turn attracts more readers to that newspaper. The ACCC's decision indicated that indirect network effects can make it more difficult for a rival newspaper to compete for advertisers at the margin, further reducing the competitive tension applied to the incumbent newspaper in the advertising market.

The impact of these network effects differentiates this analysis from an approach more suitable to single-sided markets. The extent to which publications in the relevant markets could attract a significant readership impacted significantly on the competitive conditions in the supply of advertising opportunities to real estate agents. If a one-sided approach was employed, the impact in the market for readers would be

discounted or ignored, concentrating instead on the direct effect of the conduct in the market for advertising. An outcome of this could have been to place a smaller emphasis on the requirement to assemble a sufficient readership, which would be likely to underestimate the impact of the conduct on the conditions necessary to compete effectively for advertisers.

The ESN decision also indicates that the re-distribution of profits by a platform business from one market to another can be a key element in the competition analysis. The ACCC found that the capacity to attract readers required an amount of real estate advertising and revenue. This revenue was used to fund the 'acquisition' of content and the cost of publishing the paper (the publication was distributed free to readers). The conduct was found to have had the potential to reduce the quality of content and layout provided to readers of newspapers. Such assessments recognise that a competitive tension can apply in the reader market which requires the redistribution of profits from advertising.

In removing immunity for the conduct, the ACCC was satisfied that the conduct was likely to have had the effect of substantially lessening competition, and that any benefit to the public likely to result from the conduct would not outweigh the detriment. However revoking immunity does not, in itself, necessarily remedy any competition concerns. The primary mechanism through which the ACCC remedies this type of competition concern is through court enforcement of the prohibition on exclusive dealing conduct, contained in section 47 of the TPA.

Nevertheless, the analysis of the ESN notification is indicative of the reasoning the ACCC would employ in seeking to remedy similar conduct involving two-sided platforms.

4. Conclusions

The matters discussed above illustrate how the ACCC has defined markets and analysed competition issues involving two-sided platforms. This experience suggests that the indirect network effects characterising two-sided platforms can create unique challenges. These include recognising the potential competitive constraints faced by the provider of a two-sided platform, stemming from the effect a price change may have on customers on the other side of the platform. The experiences also indicated that two-sided competition can contribute to further concerns, if effective competition depends on conditions in other markets.

In relation to the Fairfax acquisition of Rural Press, two-sided characteristics were recognised as part of the assessment of the potential for a newspaper to exercise market power over readers. The availability of substitutes for advertisers was recognised as constraining the potential for the merged firm to raise prices for readers. A similar constraining effect stemming from the reader market was not found in relation to the potential to exercise market power over advertisers. That is, the influence of indirect network effects over advertisers was greater than the influence over readers/viewers.

The analysis of MMG's acquisition of Southern Cross found that the merger was likely to lead to competition concerns in the markets for the supply of content to consumers, in geographical areas where advertisers also faced limited substitution possibilities. In this case, the two-sided nature of the platform was insufficient to prevent a substantial lessening of competition over readers/viewers. However in other geographical areas, it was the existence of effective alternatives in the supply of content to consumers that were instrumental to finding that no competition concerns were raised in relation to the supply of content to consumers.

The ACCC's analysis of the ESN matter indicated that a reduction of competition in one market can, in the presence of two sided platforms, lead to a reduction in competition in other markets. Indirect network effects further exacerbated the conduct's effect on competition in relation to real estate display

advertising, as a result of a foreclosing effect in relation to the market for community newspapers. This suggests that the re-distribution of profits in a two-sided business model can be important in such analyses.

FINLAND

1. Introduction

This paper presents some of the cases where the FCA has faced issues concerning two-sided markets. Two-sidedness has been background information for cases in hand and there have not been any guidelines or methodologies in assessing the issue. Most of the cases were dealing with alleged abuse of dominance. However, one recent merger case is also included.

2. Suomen Numeropalvelu Oy, Abuse of Dominance

In the recent case involving Suomen Numeropalvelu Oy (SNOY), the FCA found an abuse of dominance, where two-sided markets were involved. SNOY handles the national database of telephone subscriber information and it operates on the wholesale level. It is basically owned by two firms, Fonecta Group Oy and Finnet-Media Oy, who offer various directory services to customers. After a competitor, Oy Eniro Finland Ab, launched a new web-based directory service which was usable free of charge, SNOY refused to sell the subscriber information on the basis of data and privacy protection. SNOY set down a rule according to which a web based directory service should have a registration and it could not be used free of charge.

The FCA considered the said practice an abuse of dominance and the purpose of it was to prevent new innovative services from entering the market. SNOY itself had nothing to gain from the abuse, so the FCA concluded that it was its owners' interests that were protected. On 17 of May 2005, the FCA made a proposal to the Market Court on imposing a fine of 150 000€ on SNOY. On 29 of April 2009, the Market Court gave a decision in which a fine of 100 000€ was imposed. As to date, the case is pending at the Supreme Administrative Court.

Although neither in the FCA's proposal to the Market Court nor in the Market Court's decision the issue of the two-sidedness of the directory services market was specifically addressed, the basic principles of the efficiency enhancing effect of it were realised. Providing directory services to customers for free was seen as manifestation of an efficient market outcome. That in turn implies that the subvention from the other side of the market was understood and approved, even though it was not explicitly mentioned or explained. Pricing below costs (for free) to one side of the market was not seen as a problem. Even though the main antitrust concern was namely a refusal to deal, the decision of the Market Court clearly implies that when two-sided markets are concerned the effects to both sides must be taken into account.

3. TV4 AB/C More Group AB, Merger

On 8 of July 2008, TV4 AB notified the FCA of an acquisition of C More Group Ab. In Finland, TV4 broadcasts both pay-tv and free-to-air TV-channels whereas C More broadcasts only pay-TV channels. In the FCA's analysis, the different business logic between pay-TV and free-to-air channels financed through advertising was one of the key factors when the relevant markets were defined. The two-sidedness of commercial broadcasting was not specifically addressed since the overlap in the merging parties businesses was in the pay-TV segment and in the buying of broadcasting rights.

One crucial aspect in the analysis of the merger was the markets for broadcasting rights of key content. Especially sports rights (Premier League football, SM-League ice hockey and Formula 1) are so expensive that in practice it is impossible to finance them solely on commercial revenues. Therefore the number of potential buyers of those broadcasting rights to Finnish audience is very limited. On March 27 2008, the FCA approved the merger with conditions, one of which was the sub-licensing of the SM-league

ice hockey broadcasting rights. TV4 appealed against the decision to the Market Court, where it is still pending as to date.

4. Helsinki Exchanges Group Ltd Oy, Abuse of Dominance

The Helsinki Stock Exchange changed its pricing basis for broker fees for year 2000. A group of customers made a complaint to FCA according to which the Helsinki Stock Exchange is abusing its dominance by discriminating against small-scale investors. Previous pricing was based on volumes whereas the new one was based on transactions.

Although in its decision given on 8 of January 2001 the FCA notices that the Helsinki Stock Exchange offers services to investors, corporations and traders, the two-sidedness did not much affect the analysis. The Helsinki Stock Exchange itself argued that the purpose of the change was to increase liquidity. Liquidity and low per transaction cost were dependent on keeping big series of shares in Helsinki. The Helsinki Stock Exchange gave brokers an optional pricing basis (which also was based on transactions but with different parameters) after which the complaint was withdrawn. It would have been possible to justify the new pricing scheme with efficiency and two-sidedness of the market, but the case was closed before the matter actualized.

The FCA came to the conclusion that the Helsinki Stock Exchange had justifiable reasons to change its pricing basis and because of the withdrawal of the complaint it was not necessary to investigate the matter at hand any further.

5. Lapin Kansa Oy, Abuse of Dominance

Lapin Kansa Oy publishes a local newspaper called Lapin Kansa and free paper called Uusi Rovaniemi. Roi-Press Oy operates at the same area and publishes a free paper called Roi-Press. On 8 of April 1996, it made a request for action to the FCA according to which Lapin Kansa abuses its dominance with its pricing of advertising fees.

In its proposal to Competition Council (the predecessor of Market Court), the FCA notices that when considering the position of Lapin Kansa in the market for advertising, it must be taken into account that the newspaper simultaneously operates in two markets which are connected to each other. On the one hand it offers newspaper to public and on the other hand it sells advertising space to advertisers. Furthermore, the FCA concluded that the greater the number of readers, the more likely it is that advertisers are willing to advertise in the newspaper. The two-sidedness of the market was well understood and it somewhat affected the definition of the relevant market. The relevant market was the local newspaper advertising market and Lapin Kansa was seen as a dominant firm.

Lapin Kansa argued that annual contracts are advantageous to a newspaper, since all the resources (number of journalists and assistants, printing capacity etc.) are planned according to the papers yearly number of pages. Furthermore, the number of editorial pages is defined proportionally to the advertising pages. More editorial pages increase the public's interest in the paper and affects its competitiveness. However, the FCA did not find efficiency gains to be a justification to the pricing scheme, which in turn was tying, foreclosing, discriminating and non-transparent. The Competition Council confirmed both the dominance and its abuse, but did not impose a fine since Lapin Kansa had changed its pricing scheme in collaboration with the FCA during the process.

6. Conclusions

The question has been raised whether in the two-sided platforms competition in one side of the market limits the market power or its abuse on the other side. In both the Lapin Kansa and TV4/C More cases, the

issue was at least partly turned upside down. A firm involved in both sides of the two-sided markets has different business logic than one involved only in one side and that has been seen as a source of market power. The definition of the relevant markets must always be done case-by-case and it relates to a specific antitrust concern being investigated. A different business model or logic can be a source of differentiation thus reducing the competitive pressure.

FRANCE¹

Les marchés bifaces mettent en relation deux groupes d'agents qui ont des gains potentiels à interagir. Une plateforme ou un intermédiaire rend possible ou facilite les transactions (en réduisant leur coût). Cette activité engendre des externalités indirectes : le bénéfice d'un agent dépend du nombre d'agents de l'autre groupe.

Les exemples les plus classiques de ces marchés mettent en relation des vendeurs et des acheteurs (agences immobilières), des lecteurs et des annonceurs publicitaires (médias), des commerçants et des détenteurs de cartes bancaires (systèmes de paiement).

Une des difficultés associées au fonctionnement de ces marchés bifaces est liée au fait que le marché ne dégage des revenus qu'en attirant les deux groupes d'agents simultanément, ce qui du point de vue concurrentiel pose des questions relatives au niveau et à la structure des tarifs (I), à la compréhension des stratégies non tarifaires susceptibles d'être mises en œuvre par les acteurs et à la structure de marché la plus efficace (II).

1. Instruments tarifaires :

Il peut exister une tarification différenciée suivant le groupe d'utilisateurs : ainsi, une agence immobilière fait payer les vendeurs, mais non les acheteurs. La différenciation peut reposer sur des caractéristiques identifiables ex ante ou bien révélées ex post par l'usage. Le prix peut être payé à l'inscription ou à l'abonnement (comme dans le cas des cartes de crédit pour les porteurs) ou bien à la transaction (comme dans le cas des cartes de crédit pour les commerçants). Cette tarification des deux côtés du marché permet de tenir compte des élasticités-prix éventuellement différenciées selon les groupes. Il est ainsi possible de subventionner un groupe par les paiements de l'autre, comme c'est le cas avec la presse « gratuite » où les revenus tirés des annonceurs financent la consommation des lecteurs. Ceci explique que, dans un marché biface, les tarifs et les coûts ne soient pas corrélés : un tarif peut être inférieur au coût marginal de l'accès, nul ou même négatif en cas de subventionnement direct.

Cette répartition des charges d'usage entre les deux groupes a une incidence sur la réalisation des transactions.

Une illustration de la prise en compte de ces stratégies tarifaire sophistiquées est donnée par l'avis rendu par le Conseil de la concurrence sur le projet de concentration SIPA-Soc presse (Avis 05-A-18 du 11 octobre 2005 relatif à l'acquisition du pôle Ouest de la Société Socpresse et de fonds de commerce de la SEMIF par la Société SIPA). Dans son analyse des effets unilatéraux de l'opération, le Conseil examine les risques que l'entité fusionnée augmente les prix des journaux qu'elle contrôlerait. Compte tenu de la double présence des annonceurs et des lecteurs sur chacun des côtés du marché, une augmentation du prix de vente sur le marché des lecteurs entraîne un classique effet d'augmentation de la marge et de diminution de la demande, dans une proportion qui dépend de l'élasticité-prix. A ces effets s'ajoute la diminution de la disponibilité des annonceurs à payer pour des espaces publicitaires qui seront lus par un nombre réduit de lecteurs. Le Conseil en conclut que le risque d'une augmentation du prix de vente des journaux contrôlés par l'entité fusionnée est réduit par le jeu de ce double mécanisme d'effets sur la demande, caractéristique des marchés bifaces.

¹ Cette note a été préparée par Anne Parrot, Vice présidente de l'Autorité de la Concurrence française.

2. Structures de marché

La situation diffère suivant que prévaut l'accès des agents à une seule plateforme (« singlehoming ») ou que l'accès à plusieurs plateformes est possible (« multihoming »).

Dans le cas de l'accès exclusif à une plateforme, il est crucial pour chaque plateforme en concurrence d'attirer au moins un groupe d'agents pour faire venir l'autre groupe. Les externalités exacerbent la concurrence car il est encore plus profitable, lorsque ces externalités existent, de baisser ses prix et de pratiquer des tarifs agressifs sur un groupe d'agents pour renforcer l'attractivité sur l'autre groupe. Cette situation conduit donc à des prix et des profits faibles.

Toutefois, cette situation concurrentielle peut basculer vers le monopole, structure de marché efficace du fait des externalités dont il renforce l'ampleur. On peut analyser en ces termes la concentration intervenue entre les plateformes satellitaires TPS et Canal +, analysée (Avis du Conseil de la concurrence 06-A-13 du 13 juillet 2006 relatif à l'acquisition des sociétés TPS et Canalsatellite par Vivendi Universal et Groupe Canal Plus) : l'accès à un satellite fait clairement partie des marchés où une situation d'accès unique prévaut, les consommateurs s'abonnant en règle générale à un opérateur unique. Dès lors, les consommateurs ont intérêt à choisir la plateforme qui leur offre la plus grande variété de programmes. Symétriquement, les chaînes qui sont rémunérées en fonction du nombre d'abonnés ont intérêt à être présentes sur la plateforme satellitaire comportant le plus d'abonnés possibles. Dès lors, les forces qui tendent à la constitution d'un monopole biface sont bien présentes. Des économies de coûts, incluant celles réalisées sur les coûts de transaction, accompagnent cette concentration du marché.

Dans l'affaire Mediavision (décision du Conseil de la concurrence 06-D-18 du 28 juin 2006 relative à des pratiques mises en œuvre dans le secteur de la publicité cinématographique), la dimension biface du marché est également abondamment argumentée. Elle sert en particulier à distinguer les marchés de la régie publicitaire cinématographique pour la publicité locale et nationale. Dans le cas de la publicité nationale, il est ainsi noté que chaque exploitant de salle de cinéma a intérêt à appartenir à la plus grande régie, qui négocie les campagnes pour le plus grand nombre de salles possibles : en effet, les annonceurs nationaux sont alors attirés par la perspective de voir leur campagne passer sur un grand nombre d'écrans. Cette situation est caractéristique des effets de réseaux croisés propres aux marchés bifaces. Cet argument ne vaut évidemment pas pour la publicité locale, qui ne recherche que l'exposition auprès de consommateurs situés dans un périmètre restreint. Les effets de réseaux ne jouent pas et le fonctionnement de ces marchés de dimension locale ne fait pas intervenir d'externalités liées à la taille.

Dans le cas du multihoming, les choses sont tout à fait différentes. Comme il est impossible d'attirer un groupe de façon exclusive, chaque agent pouvant choisir d'être client de plusieurs plateformes, les incitations à baisser les prix payés par l'un ou l'autre des deux côtés du marché sont réduites. Le multihoming, au contraire des situations à accès unique, réduit donc l'intensité de la concurrence en prix. On devrait donc observer une plus faible intensité de la concurrence sur des marchés tels que les cartes bancaires ou encore des médias (journaux, chaînes de télévision) concurrents.

En pratique, ce panorama montre que les marchés bifaces conduisent les autorités de concurrence à devoir affiner les réponses traditionnellement apportées sur toute une série de points :

- en matière de définition des marchés pertinents, l'impact de la variation du tarif d'un groupe sur les profits réalisés sur l'autre groupe d'acheteurs rend difficile l'application des tests habituels de monopoleur hypothétique ;

- la déconnexion des structures de prix et de coûts complique l'application des tests habituels en matière de prédation, certains prix pouvant s'avérer inférieurs aux coûts marginaux sans qu'il y ait pour autant stratégie d'éviction. ;
- une marge élevée sur un côté du marché ne traduit pas nécessairement un défaut de concurrence, mais peut s'expliquer par une répartition des prix adaptée au mode de concurrence entre deux plateformes ;
- il est peut être plus difficile d'avoir une idée du degré de concurrence qui prévaut sur de tels marchés bifaces du fait de la difficulté à appréhender un « prix total » ;
- les structures de marchés les plus efficaces du point de vue des économies de coût et de l'intérêt des consommateurs peuvent parfois être des structures monopolistiques. Celles-ci, une fois constituées, si elles sont même efficaces, n'échappent pas toujours aux incitations à augmenter les prix ;
- l'exclusivité conduit à une concurrence plus intense que le multihoming, mais les autorités de la concurrence ont peu de prise sur cette caractéristique de la demande ;
- les ententes pourraient prendre la forme d'une coordination non seulement sur les prix, mais aussi sur les structures de prix, mode de coordination peut-être moins apparent et plus difficile à détecter pour les autorités.

GERMANY

1. **Introductory remarks**

The concept of two-sided markets, though relatively new, has already been relevant in several competition cases in Germany. It seems worth mentioning, however, that the underlying idea of the two-sided market model already had some practical relevance even before the academic debate in industrial organization literature gained significant momentum some years ago. This is most evident in the newspaper sector. The so-called “circulation spiral” is a phenomenon that has been known well before this phenomenon was discussed under the heading of two-sided platforms and indirect network externalities.¹

Of course, it is helpful to have an economic theoretical framework at hand that is more general and applicable to all sectors of the economy. Such a model may be refined and adapted to numerous situations. Another benefit of having a consistent theoretical framework that is applicable to different sectors of the economy is that it also allows for a more consistent policy across sectors.

The following contribution will focus first on some important issues to be considered in the course of the practical implementation of the current theoretical debate on two-sided markets. In a second step, the practical relevance in recent enforcement practice of the Bundeskartellamt will be described briefly.

2. **The concept of two-sided markets: issues to be considered**

Though the discussion on two-sided markets in the academic world and between academics and practitioners is very fruitful, it turns out that even the definition of two-sidedness is not unambiguous. In addition, the development of suitable investigatory tools as well as a consistent analytical framework to assess the competitive relevance of two-sidedness in individual competition cases is still at its very beginning.

2.1 *Defining two-sidedness*

Defining what a two-sided market is and – related to that – which markets are two-sided and which markets are not, is far from trivial. A definition that focuses on the fact that there are two different customer groups and that there are externalities between these two turns out to be too general. Basically, any undertaking that is active on an upstream market and a downstream market can be seen as the supplier of a platform, because demand on both the upstream and the downstream market depends on the turnover of the other market. An often-cited example is supermarkets. On the upstream market, supermarkets offer shelf-space. On the downstream market, they offer goods placed on these shelves to the final consumer. Obviously, network effects are crucial in order to understand the functioning of a trading platform. The more sellers there are, the more attractive the platform for (potential) buyers, the more buyers there are, the more attractive the platform for (potential) sellers. However, these effects stem exclusively from direct network externalities because the role of a trader (whether he/she is a buyer or a seller) is not predetermined and may change for each transaction.

¹ An indication of the impact of the “circulation spiral” is the fact that there is a similar technical term for the phenomenon in German that has been used in numerous merger cases, “Auflagen-Anzeigen-Spirale”.

Against this background it seems appropriate to stick to a more narrow definition of a two-sided market such as the one brought up by Rochet and Tirole². Accordingly a market should only be considered to be “two-sided” if the volume of transactions generated on both sides markets of the platform depends not only on the level of prices on both sides but also on the price structure. According to this definition, pure trading platforms would not be considered as two-sided markets.

2.2 *Assessing the relevance of two-sidedness in case handling*

Due to the very nature of indirect network externalities, two-sidedness may have an impact on the assessment of the effective competitive constraints on the company under scrutiny. Whether the economics of two-sided platforms can assist in determining whether a merger or business practice is anticompetitive, however, is an empirical question. As with market power generally, two-sidedness is a matter of degree. A detailed analysis should be confined to cases in which indirect network externalities are so strong that it is clear that ignoring them would mean to miss some of the core elements of the competitive assessment. In this regard, besides the level also the degree of symmetry of the indirect network externalities should be taken into account. The externalities may be positive or negative. Possibly, they are positive in the one, negative in the other direction. With respect to symmetry, in an extreme case it may even be that no externality exists in the one, but large and positive/negative externalities in the other direction.

As the theory of two-sided markets is relatively new, there are not, as yet, any simple recipes, proved and tested for application. In particular, there is still very little experience of how to gather the relevant evidence needed to assess whether and how a certain level of indirect demand externalities translates into effective competitive constraints. Accordingly, the empirical knowledge on case scenarios in which the explicit recognition of two-sidedness is decisive for the competitive assessment of a single case has not yet been established.

3. *Practical cases*

In August 2008, the Bundeskartellamt blocked a merger between two professional journals in cosmetics.³ Besides the high level of concentration and the relevant market share increment of the merger in both relevant markets (i.e. the reader market and advertising market), the Bundeskartellamt based its conclusion on several elements derived from the concept of two-sidedness. In this regard, the Bundeskartellamt considers the markets for print media to be an example of two-sided markets in which network externalities are extremely asymmetric. Readers care only to a very limited extent about the sort and the amount of ads in a newspaper or journal. Thus the network externality coming from the advertising market can most likely be neglected. Advertisers, however, do care for the number (and selection) of readers, which is also reflected in the pricing structure for ads which typically set prices as a sum per thousands of readers, possibly in a certain age range. The Bundeskartellamt furthermore concluded that barriers to entry are higher in two-sided than in conventional markets. In order to enter either market, it is necessary to successfully enter the corresponding market of the platform as well. In particular, the Bundeskartellamt stressed that entering the advertising market for professional cosmetic journals was only feasible if it was possible to quickly gain a considerable market share in the reader market. In addition, the Bundeskartellamt took into account that the parties to the transaction were also the leading providers of specialized trade fare services for cosmetics, i.e. another very important platform were the two relevant customer groups for professional cosmetic journals regularly interact.

² This definition was first elaborated in the pioneering work by Rochet and Tirole, which began circulating as a discussion paper in 2001; the final version of the paper is published in: Rochet, Tirole, Platform Competition in Two-Sided Markets, in: Journal of the European Economic Association, 1 (2003), S. 1 – 22.

³ <http://www.bundeskartellamt.de/wDeutsch/download/pdf/Fusion/Fusion08/B6-52-08.pdf?navid=74>

The concept of two-sidedness also played a role in a merger case in the TV sector. In January 2006, the Bundeskartellamt blocked a merger between *Springer*, a large German publisher, and *ProSieben/Sat1*, a large German TV broadcasting company.⁴ The decision was based – among others – on the conclusion that the merger would strengthen the collectively dominant position of *RTL* and *ProSieben/Sat1* on the German market for TV commercials. Both companies currently have a joint market share of 80 % to 90 % on the German market for TV commercials. In December 2008, the decision of the Bundeskartellamt was upheld by the Higher Regional Court of Düsseldorf; the court in its decision i.a. confirmed that the fact that both companies may to a certain extent compete for viewers is not sufficient to conclude that the possibility of a collectively dominant position on the other market side of the platform (i.e. the market for commercials) is excluded.

⁴ The full text of the decision (in German) can be downloaded here: <http://www.bundeskartellamt.de/wDeutsch/download/pdf/Fusion/Fusion06/B6-103-05.pdf?navid=72>

JAPAN

1. Introduction

When investigating a case or surveying a market, the Japan Fair Trade Commission (JFTC) has not given special consideration about whether a market has the characteristic features of a two-sided market.

However, there are some cases in which the JFTC has taken legal measures and conducted surveys concerning goods and services generally regarded as having the characteristic features of two-sided markets. In addition, the Competition Policy Research Center (CPRC) established within the JFTC has conducted some studies on the analytical methods and competition policy implications related to two-sided markets. This contribution paper summarizes these efforts.

2. JFTC activities

In the services generally regarded as having the characteristic features of two-sided markets (such as web-based businesses, media), the JFTC conducts fact-finding surveys and evaluates the results from the viewpoint of competition policy. In addition, the JFTC has taken actions in some cases concerning goods and services generally regarded as having the characteristic features of two-sided markets (such as PC operating systems (OS), video game consoles, newspapers). However, it should also be mentioned that in these efforts, the characteristic features of two-sided markets are not necessarily points of issue or objects of analysis.

2.1 *Web-based businesses*

2.1.1 *Fact-finding Survey of B2C E-Commerce such as Electronic Shopping Malls (published in December 2006)*

Regarding the businesses of so-called electronic shopping malls, which constitute one form of electronic commerce for consumers (hereinafter referred to as “B2C E-commerce”), the JFTC surveyed (i) transactions between operators of so-called electronic shopping malls and entrepreneurs running shops (“shop owners”) in such malls, and (ii) the relationships between entrepreneurs aspiring to enter and develop their business in the B2C E-commerce field and existing entrepreneurs. Subsequently, the JFTC published its opinions under competition policy and the Antimonopoly Act (AMA).

The features of the market

The B2C E-commerce business, whose scale is expanding yearly, is conducted by entrepreneurs opening virtual shops on the Internet, operators managing virtual shopping malls that are composed of virtual shops on the Internet and consumers. The existence of B2C E-commerce is important, for example, because the expansion of sales channels and an increase in sales are advantages for shop owners and the wide selection of goods and the low prices are merits for consumers. The B2C E-commerce transactions are concentrated in the top three operators.

While the scale of operation of the top three operators is large, smaller entrepreneurs account for a large share of shop owners. In addition, as the top three operators dominate transactions, shop owners depend very heavily on electronic shopping mall transactions in general and sometimes have difficulty changing business partner operators. Hence, there is an operator that holds a dominant bargaining position in dealing with its shop owners among the top three operators.

Evaluation viewed from competition policy

Based on the survey findings, the JFTC showed the perspective of the AMA on transactions between operators and shop owners, including the following points: (1) restrictions on business activities including sending direct mails, (2) the unilateral change of commission rate, (3) the imposition of bearing excessive funds for reward systems, and (4) the obligatory use of a card transaction service offered by operators. In addition, the JFTC pointed out that such acts by operators might pose problems with the AMA. Based on its survey findings, the JFTC also suggested that related entrepreneurs involving operators need to improve the B2C E-commerce business overall, including to inspect trade practices and to review restrictive practices on competition.

2.2 *Media*

2.2.1 *Fact-finding Survey on Transactions in the Advertising Industry (published in November 2005)*

The Japanese advertising trade is conducted mainly by advertising companies, media companies (television stations, newspaper publishers, etc) and advertisers. Problems such as the lack of transparency in the advertising space trade (trade by advertising companies involving the selling of the advertising space of television stations, newspaper publishers, etc. to advertisers) have been identified by small and medium-sized advertising companies. Given this situation, the JFTC presented its viewpoint of these problems based on competition policy, while also illustrating current conditions and problem areas in the structure and trade practices of the advertising industry, with a focus on the advertising space trade of television and newspapers, which were the major forms of media.

The features of the market

The market structure of advertising companies is polarized into major advertising companies and other small and medium-sized advertising companies, and the total share of the top three companies is increasing. In the advertising space trade, the commission system is the major system used by media companies (television stations, newspaper publishers, etc) to pay a reward to advertising companies.

Evaluation viewed from competition policy

As results of the survey, the JFTC highlighted the trade practices of the advertising industry, including the following points: (1) in the television advertising (program commercials) trade, television stations are not disclosing necessary information enough, therefore it is very difficult for new advertising companies to enter the trade; and (2) in the television advertising (spot commercials) trade, disparities in the reward payments among advertising companies (maximum of 20%) result in differences in the price competitiveness of advertising companies. Furthermore, based on the survey findings, the JFTC issued some proposals from the standpoint of promoting fair and free competition, including (1) to further disclose information concerning the program commercial trade, (2) to establish standards for calculating the rate of reward payments for advertising companies and (3) to improve trade practices among media companies, advertising companies and advertisers.

2.3 *OSs for PCs*

2.3.1 *Case against Microsoft Corporation (hearing decision issued on 16 September 2008)¹*

The features of the market

¹ <http://www.jftc.go.jp/e-page/pressreleases/2008/September/080918.pdf>

Microsoft Corporation (hereinafter referred to as “Microsoft”) has a dominant position in the market of PC OSs. In the year 2000, the PC OS, named “Windows” and owned by Microsoft, represented 90% of all PC OSs worldwide and this percentage was increasing yearly. Obtaining a license for OEM sales of Windows was indispensable for PC manufacturers in order to continue in the business of manufacturing and selling PCs.

Outline of violations

When executing licensing agreements for OEM sales of Windows, Microsoft forced licensed PC manufacturers to execute agreements containing a clause according to which they agreed not to initiate any lawsuit against Microsoft or any other licensee arising out of any infringement of the patent rights for the relevant PC OS, and did business with OEMs on terms that unjustly restricted their business activities.

The JFTC found these actions may adversely affect the fair competitive environment in the PC AV technology market and they tend to impede fair competition, fall within Section 13 (Trading on Restrictive Terms) of the “Designation of Unfair Trade Practices”, and are in violation of the provisions of Article 19 of the AMA. Therefore, the JFTC issued a hearing decision against Microsoft.

2.4 *Video Game Consoles*

2.4.1 *Case against Sony Computer Entertainment Inc. (hearing decision issued on 1 August 2001)*

The features of the market

Sony Computer Entertainment Inc (hereinafter referred to as “SCE”)’s shipment values in 1996 for sales of game consoles and game software attained first place in the market. As a game software seller, SCE was the dominant supplier of software for PlayStation (hereinafter referred to as “PS Software”), a home video game console sold by SCE. Consumers had high expectations of PS products as Sony, one of the joint investors in SCE, had its own brand power as an electronic manufacturer. In addition, as people already knew that certain predominant game software manufacturers would launch the development and production of new PS software, there was a growing recognition among video game console sellers that carrying PS products was advantageous for doing business or necessary for their assortment planning.

Outline of violations

- SCE forced retailers to provide new PS software to consumer at recommended retail prices in principle, and made wholesalers provide PS Software to customer retailers at recommended retail prices in principle.
- SCE forced retailers to provide PS software to only general consumers, and made wholesalers provide PS software to only retailers as well as made such retailers provide PS software to only general consumers.

The JFTC found these acts to be in violation of the provisions of Article 19 of the AMA (falling within Section 12 (Resale Price Restriction) and 13 (Trading on Restrictive Terms) of the “Designation of Unfair Trade Practices”) and issued a hearing decision against SCE.

2.5 *Newspapers*

2.5.1 *Case against Hokkaido Shimbun Press (Consent decision issued on 28 February 2000)*

The features of the market

Hokkaido Shimbun Press published a general daily newspaper in Hokkaido. Their newspaper issues accounted for over half of the morning newspaper issues in the Hokkaido area, as well as the majority of the total issues of general daily newspaper publications in the Hakodate area.

Outline of violations

When Hakodate Shimbun tried to enter the evening newspaper market in the Hakodate area, Hokkaido Shimbun carried out the following actions:

- filing applications for trademark registrations of newspaper title lettering considered to be used by Hakodate Shimbun;
- implicitly pressuring Jiji Press Co. not to agree with news distribution requests from Hakodate Shimbun; and
- lowering the rate for advertising fees in the local information edition (e.g. to bring down the fee for inserting basic advertisements in the local information edition to half the price of the main edition of the newspaper) with the intention of making it difficult for Hakodate Shimbun to acquire and assemble advertisements.

Through these acts, Hokkaido Shimbun excluded Hakodate Shimbun activities and substantially restricted competition in general daily newspaper operations in the Hakodate area.

The JFTC issued a recommendation against Hokkaido Shimbun as these acts violated provisions of Article 3 (Private Monopolization) of the AMA. Hokkaido Shimbun appealed for a hearing procedure against this recommendation but later accepted the consent decision. The JFTC then issued the decision without the later hearing procedures.

3. Competition Policy Research Center studies

The CPRC recognizes that the issue of two-sided markets has aroused public notice recently, and conducts collaborative research related to two-sided markets.

3.1 Platform Competition and Vertical Restraints -Based on an Analysis of the Sony Computer Entertainment Case-² (published on 31 March 2009)

In this study, the authors focus on a case of resale price maintenance by Sony Computer Entertainment (SCE) (2(4) above). They explain the background and the decision in the SCE case in detail. Then, on the basis of the background of the case, they aimed to make it clear how the resale price maintenance by the platform can be evaluated based on economic theory and to analyze the meaning of the behavior from the viewpoint of competition policy.

3.1.2 Summary of the report

The platform typically faces two-sided markets in which usages by customers from each side create cross-group network externalities, and the benefits enjoyed by a customer of one side depends upon how well the platform does in attracting customers of the other side. So far, the central topic of economic analysis concerning the platform and the two-sided markets was the elucidation of the price structure that

² Tamada, Ishida, Yamagata, Yokota, Uno (CPRC Report 05-08, 2009.3.31) (available at <http://www.jftc.go.jp/cprc/english/reports.html>)

the platform assigns on each side. Typically, the optimum price structure has a property that the platform assigns a low price on one side in order to enlarge the size of the customer group and assigns a high price on the other side to treat it as the profit center. In addition, because this price structure internalizes the network externality across both sides, there is no big inconsistency with economic welfare. However, there are only a few studies that concern the vertical restriction by the platform.

The decision in the SCE case has not been conscious of the role of the videogame as a platform explicitly from the viewpoint of a two-sided market. Considering the circumstances of the videogame market of that time, however, the distribution policy adopted by SCE was considered to be based on the following three purposes: (1) prevention of price falling of the software, (2) reduction of the demand uncertainty risk faced by game developers and retailers and (3) reduction of the distribution margins. In this study, the authors conduct economics analyses on these three issues.

As results, this study suggests that the resale price maintenance by the platform can internalize the network externalities, which may result in an increase of economic welfare on theoretical grounds. It is also suggested that analyzing two-sided markets in view of the externalities is important. The competition policy challenge for the future is to verify which of the likelihoods proposed in this study is the most likely scenario that is consistent with the reality.

3.2 *“Economic analysis on two-sided markets”*

This study, one of the collaborative research projects begun in FY 2008, is conducted with the aim of providing a suggestion on what competition policy should be in two-sided markets and platform businesses, through a case study of the magazine market in Japan.

More specifically, while estimating the price elasticity of the demand function in the magazine and advertisement market, CPRC researchers are analyzing the importance of indirect network effects in the magazine and advertisement industry, which is currently suffering from a decline in sales, and assessing the competitive effects of hypothetical mergers by using simulation methods.

The report of this study is scheduled to be published in 2009.

KOREA

1. Introduction

A two-sided market may be defined as a market where there exist businesses operating “two-sided platforms” that enable members of two distinct customer groups to get together and make transactions. In a two-sided market, a platform operator act like a match maker who helps two distinctively different customer groups make transactions¹.

Two-sided markets are set apart from one-sided markets for the following three conceptual features².

First, a two-sided market should have at least two distinct customer groups. That is, two different customer groups or more should exist in a market or transaction.

Second, there should exist indirect network effects (or cross-network effects) between two different customer groups. In other words, at least one customer group on one side of the market should see higher utility as another customer group on the other side grows in size³.

Third, there should exist businesses that operate two-sided platforms. In theory, two distinct customer groups could make direct transactions through their own efforts. However, such attempts might incur costs of information collection concerning the transactions and actual transaction cost and cause free riding, rendering the whole efforts inefficient. Therefore, it makes more economic sense when the two customer groups make transactions via platform operators rather than doing so directly.

Korea Fair Trade Commission (hereafter called “KFTC”) saw a burgeoning discussion on two-sided markets in 2008 while handling the case concerning abuse of market power by NHN Corp., the nation’s leading Internet portal, and reviewing the merger case between eBay and Gmarket.

So this paper will introduce these cases focusing on issues related to two-sided markets mainly based on the discussion between the KFTC and the concerned parties that took place during the KFTC examination.

2. NHN Corp.’s abuse of market dominance

2.1 Case summary

NHN Corp. inked a contract with 9 video contents providers including Pandora TV Inc. for the supply of indexed video database during the period from May 2006 to March 2007. During this process, NHN Corp. attached a condition to the contract that the video contents providers cannot post ads on videos that come up as a result of its search service without prior consultation with NHN Corp. Accordingly, the contents providers could not post ads on the very ads that they had provided.

¹ A good example of a two-sided market is matchmaking consulting firms that attract single men and women as members and set them up for date. In this case, such firms are seen to operate “two-sided platforms” and single men and women are two distinct customer groups that require each other.

² David S. Evans, 2002, 「Antitrust economies of two-sided markets」

³ Customer groups on one side of the market do not necessarily have to see direct network effects where as the size of the market they belong to grows bigger, utility increases as well.

The KFTC concluded that NHN Corp. leveraged its dominance in the Internet portal market to restrain major source of revenues for video contents providers and constrain fair competition in the video contents supply market.

2.2 *Market definition*

Internet portals provide various services ranging across from communication services (e.g. search, e-mail and messenger), community services (e.g. mini homepage and blogs) to contents services (e.g. news and property information) to their users for free. By doing so, they aim at luring more users so as to make themselves recognized as an attractive window for advertisers to sell their ads and for contents providers to market their contents.

Regarding market definition of this case, the KFTC and NHN Corp. made conflicting arguments.

The KFTC saw that in this case, the Internet portal had a characteristic of a two-sided platform linking the Internet portal service user market and online ad & video contents supply markets. Subsequently, the KFTC observed that NHN Corp., based on its market power in the portal service user market, banned video contents providers from posting ads on videos and so the KFTC defined “Internet portal service user market” as a relevant market and determined dominance of NHN Corp. in the relevant market⁴.

The KFTC concluded that due to indirect network effect, which is one of the features of a two-sided market, dominance of the Internet portal in the portal service user market could serve as a source of power to exert its dominance in the online ads & video contents supply market on the other side.

Meanwhile, HN Corp. argued that when it comes to market definition in this case, the relevant market should be not a two-sided but a one-sided market and went on to argue that the relevant market should be confined to the “video outlink service market.”⁵

It was thought that in case the relevant market was defined as NHN Corp. insisted, its market share would go remarkably down, stripping the firm of market dominant status⁶.

The KFTC reasoned that NHN Corp.’s act would have been impossible without its dominance in the Internet portal service market that requires many users and it would make more sense to define the relevant market as a two-sided market, accordingly, dismissing NHN Corp.’s argument.

2.3 *Outcome of illegality judgment and imposed remedies*

With regard to a one-sided market, the conventional question for dominance assessment would be focused on whether the party under consideration can set prices in excess of marginal cost in the concerned market to some considerable extent⁷.

⁴ According to the KFTC, as the market share of the examinee as of the turnover in 2006 reached 48.5% and the combined market share of the top 3 firms including the examinee took up more than 75%, the examinee was assumed to be a dominant firm in the Internet portal service user market.

⁵ Users search video clips they want through Naver, the examinee’s Internet portal, and access the website of the video contents provider in charge of the concerned clip (outlink service).

⁶ As NHN Corp. argued, where the relevant market is confined to the video outlink service market, the examinee’s market share would become just 6.02%, making the firm non-dominant.

On the other hand, when it comes to a two-sided market, the question should consider both the sides of the market concerned. In other words, in a two-sided market, a platform operator would set prices in consideration of supply and demand on both sides of the market because of indirect network effect between the two sides. Therefore, as far as a two-sided market is concerned, dominance assessment through analysis of price-setting practices cannot be completed with examination of supply and demand on one side of the market alone.

In particular, as seen in the free-of-charge search or community services offered by Internet portals or free access to PDF Reader program provided by Adobe, platform operators in a two-sided market often employ a certain strategy to maximize their profits. That is, in order to create demand of customer groups on one side (A), they provide services to customer groups on the other side (B) of the market for free by subsidizing the groups and raise demand of the customer groups on the side B. Then influenced by this increase, the demand of the customer groups on the side A would go up as well and then they charge prices on services provided to the side A to maximize profits.

As evidenced in the case mentioned above, platform operators often set prices below marginal cost as profit maximization in one side of the market only is not their target. In this case, according to the conventional theory, as their dominant features would go unnoticed, the platform operator would be regarded as non-dominant firm, which would be a mistake. To draw a conclusion, dominance assessment in a two-sided market should be carried out in full consideration of both sides of the market.

The KFTC considered these features of two-sided markets to determine abuse of market dominance in the NHN Corp. case.

Internet portals which have features of two-sided markets provide various services such as search, community and contents services for free to their users in order to enlarge their network on the user side market. By doing so, they might abuse their dominance in the other side of the market- online ad or video contents supply market based on the larger network of the user side market,.

The KFTC reasoned that the Internet portal NHN Corp. banned video contents providers from running ads within videos by abusing its dominance in the Internet portal service user market and with this, NHN restrained business activities of video contents providers in the other side of the market- online ad and video contents supply markets.

Through this practice, NHN Corp. disrupted growth of video contents providers in the video contents supply market while in the online ad market, it undermined fair competition against video contents providers providing ad service riding on video contents, thereby maintaining and strengthening its dominance⁸.

⁷ The value of the Lerner Index indicating the ratio of (P-MC) and (P) shows market dominance of a monopoly firm, which serves as a measure to how much the monopoly firm has raised prices in excess of marginal cost.

⁸ Provided that NHN Corp. provided videos it produced or secured on its own, apart from acquiring search-based video contents outlink service, to video contents providers and ads are an important source of revenue for Internet portals also, Internet portals and video contents providers are analyzed to be in competition in the video contents supply and online ad markets.

With this reasoning, the KFTC decided that NHN Corp. abused its dominance by unfairly obstructing business activities of video contents providers, imposing a cease and desist order⁹.

3. eBay-Gmarket merger case

3.1 Merger summary

eBay signed an MOU with Interpark, the largest shareholder of Gmarket¹⁰, to acquire 50% or more of Gmarket shares and on May 24, 2008, it asked the KFTC to conduct preliminary merger review. After signing the share acquisition contract, eBay officially notified the merger of the KFTC on April 16, 2009.

Regarding this, the KFTC first conducted preliminary review of the merger and approved on September 24, 2008 the merger with a condition attached that banned sales commission raise for the following 3 years. And with respect to the official merger notification, the KFTC made a final decision on April 22, 2009 to impose the same remedies as the ones for preliminary review case¹¹.

3.2 Market definition

When it comes to market definition concerning mergers in a two-sided market, it's important to decide whether to regard both sides of the market as a single market or to define the markets on each side considering potential competition.

Basic principles guiding market definition aim at grasping the markets where competition actually exist, which includes the potential markets where competition is likely to take place in a meaningful manner as well. Therefore, as far as two-sided markets are concerned, it is reasonable to see whether or not markets can be defined on each side independently.

To begin with, while reviewing this merger case, the KFTC saw that Internet open market as having features of two-sided markets for the following reasons.

First, in the Internet open market, as sellers register products online to sell them while consumers buy registered products, in this market, there exist two distinct customer groups that are sellers and consumers.

Second, indirect network effect exists between the two customer groups. That is, the more sellers use the market, the more various kinds of products the market could stock, which would intensify competition among sellers and this would pull down sales prices and increase the consumer's utility. Likewise the more consumers use the market, the more likely products would be sold, which increases the seller's utility.

Third, as it is difficult for sellers and consumers to make direct transactions, they need platform operators in-between. Where sellers wish to directly sell their goods to consumers, they have to bear marketing and promotion costs for themselves while consumers have to take time and cost to search the

⁹ The KFTC imposed only a corrective order on NHN Corp. considering that the firm had voluntary efforts to rectify its business practices like permitting video contents providers to post ads within videos after June 2007.

¹⁰ It is Korea's flagship Internet open market, a.k.a. online market place where anyone can sell or purchase goods through the Internet for a certain amount of sales commission.

¹¹ As the contents filed for reviews on April 2009 and on May 2008 were the same and the market condition was not altered in a notable manner, the KFTC imposed a remedy identical with the one imposed during the preliminary merger review.

goods they want and run risks accompanying transactions. In contrast, using Internet open market services, both sellers and buyers can greatly save such costs.

Regarding market definition of this case, the KFTC and eBay had conflicting arguments.

eBay admitted that the relevant market in this case had features of a two-sided market. But when it comes to merger review, it's important to assess impacts on consumers, and impacts on sellers are just derivative or reflection of those on consumers by nature. Therefore there's no need to analyze markets for consumer and seller markets separately.

However the KFTC differed in opinion. Where Internet open markets operate two-sided platforms (consumers and sellers) and the impact they have on each side of the market is also distinctively different, the two sides should be analyzed separately.

To illustrate, on the seller side, open markets are competing to secure more sellers, which in turn induces price competition among sellers, and have more various products available. Meanwhile on the consumer side, they are vying to provide more convenient purchase services so that more consumers make purchase in their market¹². Thus the KFTC viewed that markets should be defined on each consumer and seller market.

3.3 *Outcome of illegality judgment and imposed remedies*

Considering the relevant market has features of two-sided markets in this case, the KFTC examined anti-competitive effects looking at the possibility that Internet open markets which are platform operators would increase price (sales commission).

Due to the indirect network effect of two-sided markets, with large number of consumers, the open markets have market dominance on the seller side and are likely to ask sellers to pay higher price abusing its power.

The KFTC observed that open market services provided by the merging parties- Auction¹³ and Gmarket- enjoyed high preference¹⁴ of many consumers and showed an unmatched high usage frequency compared to other open market operators. So the KFTC reasoned that they were likely to leverage their influence on consumers to establish dominance over sellers and by doing so, increase prices.

In response, eBay argued that price (sales commission) raise by the post-merger firm would be nearly impossible as the post-merger firm's revenue would decrease for the following reasons.

¹² Specifically, the KFTC defined the Internet open market and general online shopping malls as the same relevant product market as they are mutually substitutable from the consumer market perspective. Then, from the seller market perspective, converting from open market to general online shopping malls has a structural barrier like the range of responsibility; source of income, etc. thus the KFTC defined the two markets as two separate relevant markets.

¹³ Auction, an affiliate of eBay holding 99% of its shares in Korea, is a firm engaged in wholesale/retail, auction and brokering goods via online.

¹⁴ The KFTC analyzed consumer preference of open market operating firms' websites by looking at the total visit duration time, the average duration time for a certain period of time and the average number of re-visits for a certain time period. For instance, as of December 2007, the total visit duration time on Auction and Gmarket was 1,567,442,000 minutes and 1,357,706,000 minutes respectively, whereas their competitors GS e-store and Maple showed mere 35,408,000 minutes and 33,460,000 minutes respectively.

That is, under circumstances where so-called multi-homing through which sellers transact with multiple open markets has become already active, the post-merger firm's price raise would trigger sellers' purchase conversion. Also sellers would pass considerable amount of the raise on to sales prices, and when sales prices increase, high price elasticity on the part of consumers would drive out consumers.

Yet, the KFTC reviewed the following issues and consequently reached a conclusion that unlike eBay's argument, there's high possibility of price raise by the post-merger firm.

First of all, although sellers had been transacting with multiple open markets, the merging parties-Auction and Gmarket- took up more than 90% of the total sales revenue sources for sellers, which means that sellers' conversion of transaction partners (to other open markets) is virtually limited. All things considered, the KFTC analyzed that there's possibility of sales commission raise by the post-merger firm.

Second, it was analyzed that within the same open market, when multiple sellers were in competition, chances that sellers would pass sales commission raise on to sales prices were not high. And the KFTC analysis also showed that price raise by the post-merger firm would not lead to a large margin of drop in consumer's purchase.

Third, the KFTC observed that many sellers recognized that services provided by Auction and Gmarket, the merging parties, were highly substitutable with each other and thus, the two firms were in fierce competition and as a result, the merger between the two firms would restrain competition in the relevant market and lead to price raise.

Still, the KFTC saw that its exercise of dominance would be largely limited because of the high possibility of dynamic changes in Internet open markets as follows.

First, the Internet open markets underwent a sea change in market structure. Since 2003, entry into and withdrawal from open markets has been frequently taking place, and Gmarket, launching its business in early 2000 and introducing a new business model in 2003, continued to grow and now takes up the top market share of the Internet open markets.

In particular, since February 2008 when "11 Street," a competing firm of Auction and Gmarket, newly entered into the market, the new player has been witnessing its market share notably increasing while its competitors' are dropping, an indicator of a dynamic change in the market structure of the relevant market¹⁵.

Second, also in other countries, there have been cases where new market entrants in the Internet shopping market managed to succeed in a short period of time, outperforming the incumbent dominant players, as evidenced by Amazon.com of the US and Taobao.com of China.

Third, the Internet open markets were analyzed to be the place where various new business models could surface through linkage to IPTV(Internet Protocol Television) or mobile shopping and late comers could emerge to become a viable competitor to the incumbent, armed with new business models.

Therefore, the KFTC acknowledged that in the long term, given the dynamic market change possibility, the post-merger firm's price raise could be constrained. In other words, the KFTC decided

¹⁵ 11 Street saw its market share increase to 10.7% in the Q1 of 2009 from 4.0% of the same period of 2008 whereas the combined market share of Auction and Gmarket diminished from 87.5% of Q1 of 2008 to 80.8% of the same period of 2009.

regarding the eBay-Gmarket merger that in the short term, anti-competitive effects could take place, but they might not last for the mid- or long-term.

Finally the KFTC approved of the merger with a condition of a 3-year-long sales commission raise ban attached in order to prevent any anti-competitive damage to the market by the merger for the period during which it saw the possibility of such damage might happen.

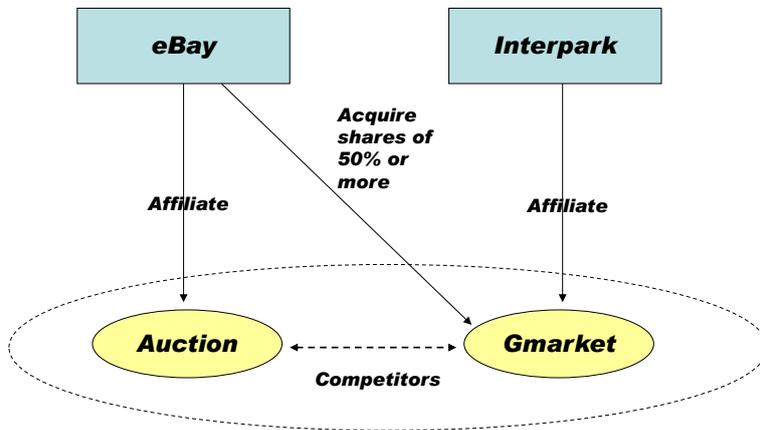
4. Conclusion

Currently, in Korea, discussion on two-sided markets is in its early stage, but several types of two-sided market models are likely to surface based on the IT industry.

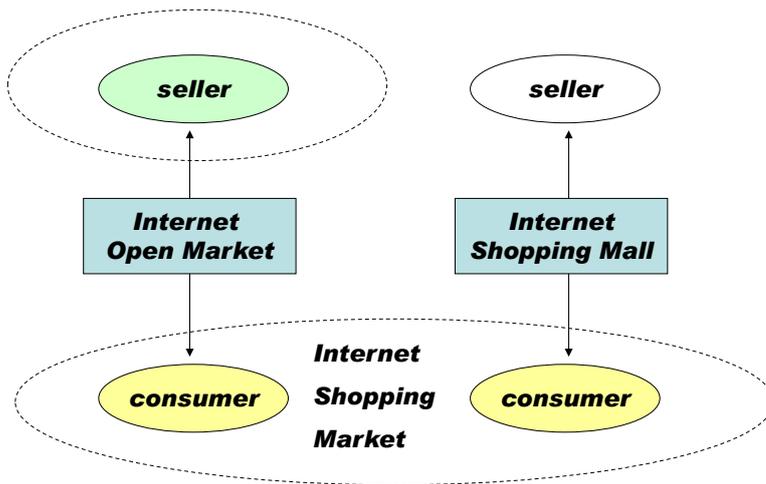
Like other countries, Korea has yet to reach a conclusion on the definition or the analysis principles of two-sided markets, so the KFTC and the party concerned often confront with conflicting arguments in specific cases.

Despite this, the KFTC is vigorously searching for ways to enforce competition law in a manner to prevent consumer damage that might arise in various market models. Therefore, the KFTC expects its enforcement cases through two-sided market analysis to further increase in the years to come.

- eBay-Gmarket Merger Overview



- Market Definition



NORWAY

1. Introduction

Internet portals are highly efficient mediums for communication. A large and increasing share of services is offered through such electronic networks. One of these services is related to advertising and searching for residential properties for sale.

Advertising and searching for residential properties for sale on internet portals has increased substantially the last decade in Norway, and can be seen as a separate product market.¹ This is an example of a two-sided market, in which the internet portals compete to attract searchers and advertisers on both sides of their platform.

In Norway, all major internet portals such as Finn.no, Tinde.no and Zett.no have a practice which permits only estate agents (including lawyers licensed to practice as estate agents) to advertise residential properties for sale.²

Consequently, sellers of residential properties who wish to advertise on an internet portal are forced to use an estate agent. The Norwegian Competition Authority (NCA) has received several complaints against the internet portals' refusal to supply and has assessed whether the practice is an infringement of the antitrust rules in the Norwegian Competition Act.

The NCA is of the opinion that the internet portals' refusal to supply leads to anti-competitive effects in services related to the purchase and sale of residential property. However, the Authority has not found basis in the antitrust rules of the Norwegian Competition Act to intervene against the portals' practice. The NCA has therefore proposed a regulation which will ensure open access to advertising residential properties for sale on the portals.

As an introduction, some key features in platform competition are briefly explained below in section II.³ Section III describes the assessments made by the NCA in its investigation of the internet portals' refusal to supply. Finally, section IV provides a description of the NCA's proposed intervention to promote competition in services related to the purchase and sale of residential property.

2. Platform competition in two-sided markets

Platform competition in a two-sided market is characterized by some factors that normally are not as important when competing in a one-sided market.

¹ Case 2006/1738

² For some of the portals the refusal to supply does not include second homes or residential properties abroad.

³ See e.g. Armstrong, M., 2006, "Competition in Two-Sided Markets", *Rand Journal of Economics*, 37(3), 668-691, and Rochet, J. and J. Tirole, 2003, "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association*, 1(4), 990-1029.

A key challenge for the owner of a platform is to find the optimal price structure. The aim of the platform is to maximize profit by setting prices in a way that make both sides of the market (typically sellers and buyers) wanting to interact via the platform. In some markets the optimal price structure may imply charging only agents on one side of the platform a positive price, while agents on the other side may use the platform for free. The need for a pricing structure, and not only a pricing level, distinguishes industries based on two-sided markets from industries based on one-sided markets.

When determining an optimal price structure a platform must consider among other factors the relative size of network effects. A network effect in a two-sided market occurs when a member of one group's benefit from joining a platform on one side of the market depends on the size of the other group that joins the platform on the other side of the market.

Another important factor is the degree of homing, which can vary between different types of two-sided markets. Two-sided single-homing occurs when agents on both sides of the market choose to join a single platform, while two-sided multi-homing occurs when agents on both sides of the market choose to join more than one platform. However most two-sided markets are characterized by one-sided multi-homing, i.e. agents on one side of the market join a single platform, while agents on the other side join more than one platform.

The importance of network effects in platform competition depends on the degree of differentiation between the platforms. In markets with strong network effects and a low degree of differentiation between the platforms, barriers to entry are normally high. Under such market conditions, it will normally be difficult for new entrants to get both sides of the market on board and achieve the required critical mass to remain in the market. Such markets are therefore often highly concentrated.

Depending on the strength of the network effects and the degree of differentiation, platform competition can tip an industry to monopoly.⁴ Such an outcome does not, however, necessarily reduce social welfare. An assessment of the competitive effects must thus be done on a case-to-case basis.

3. Access to advertising of residential properties for sale on internet portals

3.1 The two-sided market for advertising and searching for residential properties

Advertising and searching for residential properties for sale on internet portals is an example of a two-sided market where platforms compete to attract searchers (buyers) and advertisers (sellers) on both sides of their platform.

In the Norwegian market, Finn is decidedly the largest internet portal. The NCA's investigation in the merger of Media Norge in 2007 indicated that more than 90 percent of the residential properties sold through estate agents were advertised on Finn.⁵ Many of these properties are also advertised on Tinde and Zett. However, Finn has substantially more searchers on their portal.

One-sided multi-homing is probably the best description of how searchers and advertisers interact via the portals, since most searchers single-home and most advertisers multi-home. This may explain why Finn as the largest portal has more searchers relatively to advertisers compared to the other portals.

⁴ The competition between VHS and Betamax is a good example of the importance of network effects and how an industry may tip to monopoly.

⁵ Case 2006/1738

The number of searchers or advertisers is important when agents choose to join a portal. The more searchers that visit a particular platform, the more attractive it is for advertisers to use the platform, and vice-versa. Network effects are therefore presumably strong on both sides of the portals.

The degree of differentiation between the internet portals is in principle relatively low. However, each of the internet portals is owned by different media corporations, and has therefore connections to different local- and regional newspapers. Some searchers will therefore prefer the internet portal that has connection to their preferred newspaper. In addition, some estate agencies are minority shareholders in Finn, which presumably affects their preferences when choosing which portal to advertise on.

The probability of tipping in the market is reduced by the advertisers' multi-homing and some agents' heterogeneous preferences. However, the existence of strong network effects nevertheless results in a concentrated market and makes it difficult for new entrants to achieve the required critical mass to remain in the market. The importance of network effects therefore implies that it is unlikely that competition can lead to a less concentrated market in the future.

A concentrated industry with few internet portals providing advertising and searching for residential properties for sale does not necessarily reduce social welfare. However, anti-competitive behavior such as refusal to supply may reduce social welfare. In well-functioning markets, competition normally restricts companies' possible anti-competitive behavior. In principle a well-functioning competition should discourage both existing portals and potential new entrants from limiting its supply of advertising space to estate agents only, given that this would be profitable for the platform. However, in markets with strong network effects, competition may not necessarily restrict anti-competitive behavior from the established players.

3.2 *The NCA's antitrust cases*

The antitrust rules in the Norwegian Competition Act of 2004 are harmonized with the EC competition rules. Section 11 of the Competition Act of 2004 corresponds to the prohibition against abuse of a dominant position in the EC Treaty Article 82 and the EEA Agreement Article 54. Likewise, Section 10 of the Competition Act corresponds to the prohibition against agreements between undertakings that restrict competition in the EC Treaty Article 81 and the EEA Agreement Article 53.

The NCA has reviewed the internet portals' refusal to supply under both Sections 10 and 11 of the Competition Act. As described below, the Authority has not found a basis for intervening.

3.2.1 *Section 11 – Abuse of dominant position*

In 2005 the NCA assessed whether Finn's refusal to supply was in violation of Section 11.⁶ When defining the relevant product market, the NCA did not conclude on whether advertising on internet portals constitute a separate product market, or if advertising in number-one newspapers is part of the same market. The reason being that, irrespective of the market definition, Finn did not, at that time, have a dominant position in the market for advertising of residential properties.

The NCA also assessed whether Finn's refusal to supply could constitute an abuse of a dominant position. According to EC-practice under Article 82 a refusal to supply may only be an abuse of a dominant position if there is no actual or potential substitute to the refused product.⁷ On this basis, the

⁶ Decision A2005-33

⁷ Case C-7/97 Oscar Bronner v Mediaprint Zeitungs- and Zeitschriftenverlag

NCA stated that advertising in newspapers was a potential substitute to internet portals and Finn's refusal to supply therefore was not an abuse of a dominant position.

3.2.2 Section 10 – Agreements between undertakings that restrict competition

In 2007 the NCA assessed whether Finn's refusal to supply was a result of a horizontal or vertical agreement in violation of Section 10.⁸ The NCA concluded that it is not likely that there exist horizontal agreements in violation of Section 10, neither between the internet portals nor between estate agents.

In addition, the NCA investigated the possibility of vertical agreements between the internet portals and estate agents. Finn defended its practice claiming that their refusal to supply is a unilateral conduct based on commercial considerations only, and not on an agreement with estate agents. The company argued that adapting their product to the professional estate market improves the company's earnings, since almost all of the residential properties are sold through estate agents. Furthermore, Finn stated that the refusal to supply is important to protect the quality of their brand. Tinde and Zett provided similar arguments for their refusal to supply.

On this basis the NCA concluded that it is not likely that there exist vertical agreements between internet portals and estate agents in violation of Section 10.

4. Regulation in order to promote competition

As explained above, the NCA has not found basis in Sections 10 or 11 to intervene against the internet portals' refusal to supply. However, the NCA is of the opinion that this practice limits the available options for persons who do not wish to sell residential property through an estate agent, and reduces competition in the market for services related to the purchase and sale of residential property.

In addition to the prohibitions in Sections 10 and 11, the Norwegian Competition Act Section 14 provide legal basis for intervention by regulation against market conduct which restricts competition contrary to the purpose of the Competition Act. Section 14 states as follows:

“If necessary to promote competition in the markets, the King may by regulation intervene against terms of business, agreements or actions that restrict or are liable to restrict competition contrary to the purpose of the Act.”

Under the instructions of the Ministry of Government Administration and Reform, the NCA has assessed whether there is a basis for applying Section 14 in order to impose an end to the internet portals' practice. Section 14 only applies if two main conditions are satisfied: a) A regulation is necessary to promote competition in the markets, and b) There is a business practice that restricts or is liable to restrict competition contrary to the purpose of the Competition Act (i.e. in this case the internet portals' refusal to supply). The NCA is of the opinion that these conditions are satisfied on the basis described below.

It follows from the preparatory works of the Competition Act that a regulation to promote competition is necessary only if certain conditions are satisfied. The preparatory works mention the following situations where a regulation may be relevant; the antitrust rules are not applicable, it is difficult to prove an infringement of the antitrust rules, and an individual decision would not be a sufficient means to prevent the anti-competitive behavior in the market.

⁸ Decision A2007-7

The NCA has found that these situations apply to this case: a) Sections 10 or 11 have not been found applicable to intervene against the internet portals' refusal to supply, b) The existence of anti-competitive agreements is difficult to prove, especially when considering that other plausible explanations of the internet portals' practice exist, and c) An individual decision does not prevent that estate agents migrate their advertisements to portals on which the individual decision do not apply to, thus causing unstable market conditions.

The second condition, the restriction of competition, calls for a competition analysis, of which the main considerations are provided in the following.

When selling a residential property, the seller typically needs a number of different services related to the sale, e.g. estimation of value, marketing, organizing open house and round of bids, transfer of ownership insurance, contract and settlement. Many of these services can be bought separately from different types of suppliers in the market, but most estate agents offer these services mainly in bundled packages.

Marketing of a residential property for sale is mainly done through advertising in newspapers and on internet portals. Even though these two channels can be seen as complementary products, access to advertising on the internet portals has become an almost inevitable channel to reach most of the potential buyers. The inevitability of the internet portal suggests that it is a distinct product market. In the merger of Media Norge in 2007 the NCA stated for the first time that advertising of residential properties for sale on internet portals constituted a separate product market.⁹

Due to the internet portals' practice, sellers of residential properties who wish to advertise on internet portals are forced to use an estate agent. About 95 percent of all of residential property sales in Norway is done through estate agents. This may indicate that some sellers find it difficult to sell their residential property without having access to advertising on internet portals.

Thus, access to internet portals represents an important quality factor for suppliers of services related to the purchase and sale of residential property. The refusal to supply therefore constitute a considerable barrier to entry for participants who is not an estate agent, but wants to enter the market for services related to the purchase and sale of residential property.

This result in a limited choice of services offered to sellers of residential property and less innovation of new services in the market. For many customers the consequence is that they are forced to buy more extensive packages of services from estate agents than they in principle demand.

In addition to limitation of consumers' available options and reduced innovation, the internet portals' practice may contribute to higher prices for services offered by estate agents. A better variety of services would increase buyer power and may lead to lower prices.

On this basis the NCA believes that the internet portals' practice reduces competition in the market for services related to the purchase and sale of residential property. This reduction leads to higher transaction costs related to purchase and sale of residential property, which reduces the number of residential property transactions and may hinder transactions which are social efficient.

Access to advertising on the internet portals without having to go through an estate agent may lead to estate agents meeting increased competition, both from other professional actors and individuals who wish

⁹ Case 2006/1738

to sell residential property themselves. Increased competition should result in more options and lower prices for sellers of residential property.

More options and lower prices will reduce transaction costs related to purchase and sale of residential property, and may promote transactions that are social efficient. This benefits both buyers and sellers of residential property.

On this basis the NCA has proposed that the Ministry of Government Administration and Reform establish a regulation that requires internet portals to provide general access to residential property advertisements on non-discriminatory conditions. The regulation should apply to all internet portals who offer residential property advertisements. This will ensure a level playing field in the market.

The proposal was sent on a public hearing 25th March 2009, with a deadline of 26th June 2009 for submission of comments. The Ministry of Government Administration and Reform will thereafter take a decision on the proposal.

SPAIN

1. Introduction

This paper concerns the contribution of the Spanish Competition Authority (CNC) to the OECD Roundtable on Two Sided Markets, to be held on June 10-11th, 2009. The CNC considers that the analysis of two-sided markets constitutes a very timely and appropriate topic given the recent policy and academic developments. New technologies facilitate the interaction between different economic agents and the emergence of two-sided platforms such as electronic markets or electronic modes of payment. The interaction between the different sides of such platforms makes their analysis complex. It is important to understand how these markets work in order to be able to apply competition policy and merger analysis in an effective way.

The views of the CNC regarding two-sided markets are not dogmatic, in the sense of establishing a dichotomy between two-sided markets and other of markets. In fact, the two-sided character of a market is a matter of degree: while some markets, such as payment cards, are clearly two-sided, others such as standard-setting organizations are multisided and others might have some elements of two-sided markets. Moreover, the degree to which firms can exploit the two-sided character of a market in order to maximise their profits also differs from market to market depending on the type of interaction between the two sides and on the market power at each side of the market.

Thus, rather than defining two-sided markets, one should focus on how to carefully analyse the actual interactions between the different sides of a market and to what extent the strategies in one market affect other connected markets. The degree of such interactions and the market power at each side of the platform, amongst other factors, will determine the extent to which each side of the market is relevant from a competition policy point of view. It is therefore difficult to establish general rules for the analysis of two-sided markets since the casuistic is very wide.

The Spanish competition authorities have dealt with a number of cases involving two-sided markets being the one regarding payment cards the most prominent one. In other cases involving pay-TV operators the potential two-side character of the market has played a minor role¹.

¹ In 2002, Canal Satélite Digital and Via Digital, two satellite pay-TV networks, proposed to merge. Television platforms might be understood as two-sided markets where, on the one side, they provide services to viewers and, on the other side, they sell advertising. In the case of pay-TV, the role of advertising is minor since revenues are mostly obtained from the fees charge to the viewer. Therefore, the remedies imposed in the merger were related to the acquisition of contents and the commercialization of pay-TV. Similarly, a recent commercialization agreement between two pay-TV platforms is being analysed from the contents and commercialisation side.

2. The case of payment cards networks in Spain

The recent decisions of the European Commission to open formal antitrust proceedings against Visa Europe in relation to its multilateral interchange fees (MIF)² and of MasterCard Europe to reduce sharply its Multilateral Interchange Fee (MIF)³, show the relevance of the payment card sector is a current event. Such relevance arises mainly from two factors: first, the significant effects this sector has on consumers, and second, the growing academic literature on two-sided markets which provides more tools to approach its analysis. In particular, part of this literature was specifically devoted to the study of the payment card system as a paradigmatic two-sided platform.

Before we discuss the Spanish case, it seems useful to explain briefly the functioning of this two-sided market. Payment card networks facilitate transactions between customers and merchants. An increasing number of card users provides incentives to merchants to join a network. Similarly, an increasing number of merchants accepting cards provides incentives to customers to have a card. At the core of this mechanism, it is situated the interchange fee which is paid between the bank issuer of the card and the bank of the merchant. The first source of competitive failure is that merchants may be willing to accept cards even at prices that exceed their transactional benefits. Merchants are obliged to accept cards because otherwise they would lose customers to competitors that do accept cards. This merchants' high willingness to accept card payments is exploited by banks setting their interchange fees at high levels. The interchange fee allows banks to transfer profits from the acquiring side (merchants) to the issuing side (users). In the end, however, such interchanged fees are (partially) passed through to end customers in the form of a price increase. Since such price increase affects both card users and users of other modes of payment, this does not send any price signal to card users. Therefore, card networks might find more profitable to increase their MIF and decrease their issuing fees in order to increase card use and their profits. In conclusion, hidden pricing in payments provoked by high interchange fees, favours inefficient and higher-cost means of payment. It reduces the incentives for users to select efficient means of payment, restricts price competition and divides costs unevenly among users.

This general description of the market can perfectly be applied to the Spanish case. Besides, in Spain, the national card scheme is run by the main domestic banks, which own the three payment cards platforms operating in Spain: Servired, 4B and Euro6000. In April 2005, the Spanish Competition Authority opened formal proceedings against the three payment card operators. The proceedings were opened upon a formal complaint by the main merchant associations accusing the three firms of colluding to set their interchange fees.

After the opening of the formal proceedings, the payment cards systems and the merchant associations entered into negotiations to set mutually satisfactory interchange fees. Such negotiations were supervised by the Spanish Competition Authority. The case was closed via a settlement agreed by the parties and supervised by the Competition Authorities in November 2006. This agreement ended the formal proceedings, as established in the Spanish Competition Law, which allows the parties to terminate a case upon the conclusion of a settlement approved by the Competition Authority.

The agreement only included one of the two sides of the market: the merchants. It did not involve the customers. The agreement established the MIF which would apply for the years 2006 to 2008,

2

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/09/151&format=HTML&aged=0&language=EN&guiLanguage=en>

3

<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/515&format=HTML&aged=0&language=EN&guiLanguage=en>

distinguishing between credit card and debit card fees. The agreement established three categories of merchants with different fees depending on the size of their sales. The fees were decreasing along the years. The agreement established that from 2009 on, the fees would be determined according to the costs of the different payment card systems, approved by the CNC. In absence of such explicit approval, the agreement established the fees for the period 2009-2010.

Since the conclusion of the agreement, there have been important developments both in the academic literature and in the jurisprudence concerning the determination of the MIF. The economic literature on two-sided markets, especially on the payment card market has flourished, providing the authorities with more tools to approach the issue. In particular, the studies by the central banks of the Netherlands, Belgium and Sweden calculating the costs of the different means of payment, and the methodology so-called the *tourist test* developed by Rochet and Tirole (2007)⁴, moved the discussion a step further. In parallel, the European Commission prohibited the MasterCard's MIF on December of 2007 on the basis that MasterCard could not prove their benefits on consumers⁵. The Commission has recently approved the provisional fees proposed by Mastercard based on merchants' transactional benefits.⁶

⁴ Jean-Charles Rochet & Jean Tirole, 2007. Must-Take Cards and the Tourist,"DNB Working Papers 127, Netherlands Central Bank, Research Department.

⁵ A decision which was appealed against the European Court of First Instance, and which led to the recent sharply decrease in the MasterCard MIFs mentioned above.

⁶ The fee is determined in such a way that merchants are indifferent between payment instruments.

SWITZERLAND

1. Introduction

Like in other European countries, the theory of two-sided markets has been – implicitly or explicitly – considered in several antitrust cases by the Swiss Competition Commission (Comco). In particular, the investigations concerning multilateral interchange fees (MIF) in credit and debit card schemes dealt explicitly with some issues of the theory of two-sided markets.

Most mentionable is probably the investigation concerning the MIF of Visa and MasterCard in the Swiss credit card market which ended with an amicable agreement between Comco and the parties in 2005. In this case Comco concluded that the national card committees did not use the MIF in the considered period to balance the two sides of the market as predicted by theory. Rather, there was evidence that the MIF was used to deter entry in the acquiring market by raising rivals' costs and increasing rents in the issuing business. Therefore, the amicable agreement focused primarily on the objective to limit the MIF to the actual network costs of the issuers. Since the case was however already presented at the OECD-roundtable on payment cards in 2006, it will only be discussed in brief in this contribution (see section 2)

A current evaluation of Comco's 2005 decision indicates that the chosen cost-based approach in the amicable agreement has – to some extent – given an impetus for more effective competition in the Swiss credit card market. Further, some of the results of the evaluation seem not to be in line with standard predictions of models of two-sided markets. In particular, the enforced decrease of the MIF went hand in hand with a decrease of annual cardholder fees and the introduction of new attractive bonus programs for card holders. Furthermore, despite the decrease of the MIF a continuous growth of the credit card market has been observed in Switzerland since 2005 (see section 3).

For debit cards, so far, no domestic multilateral IF (DMIF) are in place in Switzerland. Both V Pay (the debit card of Visa) and Maestro (the debit card of MasterCard) recently notified separately their plans to introduce a DMIF in Switzerland. As V Pay is not yet present in the Swiss debit card market the notified DMIF has been authorised by the Comco for a transitory period in order to enable the new product to enter the market. The introduction of a multilateral IF for Maestro is currently analysed by the competition authorities. The case is receiving considerable attention especially due to the extremely high market share of Maestro in Switzerland (see section 4).

2. The Credit Card Case and the Amicable Agreement

2.1 *Description of the Case*

The domestic multilateral interchange fees (DMIF) in the four-party systems of Visa and MasterCard were the subject of a decision by Comco in 2005. These fees were multilaterally agreed between the domestic issuers and acquirers in two separate committees. Since all Swiss issuers and acquirers are licensees of Visa and MasterCard, the members of the two committees were however mostly identical.

Comco argued in its decision that the DMIF is not an end price but rather a price component. It amounted on average to around 70% of the merchant service charge (MSC) that merchants had to pay to the acquirers. Among the card issuers, around a fifth of the revenues came from the DMIF and, consequently, they had a considerable influence on the level of the card fees. Based on these facts Comco judged the fixing of the DMIF by the card committees as a price-fixing agreement. Under the Swiss Cartel Act (ACart) a price fixing agreement is presumed to be unlawful and, since 2004, is threatened by direct sanctions. In the present case, the legal presumption of eliminated competition (see art. 5 para. 3 ACart)

could however be rebutted due to the existing price competition in the acquiring market. Yet, the remaining competition in the credit card industry was –in the opinion of the Comco – not strong enough to exclude a significant affection of effective competition (see art. 5 para. 2 ACart).

Comco examined therefore whether in a four-party system, the multilateral procedure of negotiating the DMIF (compared to a bilateral system) can be justified on grounds of efficiency. One could assume that the elimination of multilateral negotiations of the DMIF promotes effective competition in the credit card business, resulting in efficient levels of interchange fees. However, it has to be noted that the relationship between issuers and acquirers is not a common relationship as usually observed in markets. In particular, due to the “Honour-all-cards rule” (HACR)¹ in the four-party systems, each acquirer is obliged to conclude an agreement with each issuer. In a bilateral system it can therefore not be excluded that, due to the negotiation power of the issuers, the DMIF would be increased to an inefficient level. Comco argued in its decision that a system of multilateral negotiations on the DMIF might, for efficiency reasons, be superior to a bilateral system.

2.2 *Do Multilateral Negotiations Result in an Optimal Level of the DMIF?*

In the credit card case the parties brought forward several arguments in favour of multilaterally agreed IF. In essence these arguments advocate that there is a good chance that multilateral negotiations result in adequate levels of interchange fees, rendering unnecessary any form of market intervention. In particular the three following views concerning the purpose of IF were advanced:

- i) service-orientated view;
- ii) joint-production view;
- iii) network-orientated view.

While the first two views are basically unrelated to the theory of two-sided markets, the network-orientated view relies heavily on this theory. In its decision Comco analysed whether these views are in line with the observed developments in the credit card market. The base for this analysis was the fact that the domestic standard interchange fee for MasterCard was increased in Switzerland by roughly 20%, which caused an increase in the average DMIF in the considered period.

2.2.1 *Service-orientated View*

According to this view, interchange fees represent a compensation for certain services (e.g. transaction processing or fraud prevention) provided by the issuers to the acquirers, from which the merchants profit as well. It is basically an argument which stipulates the existence of a wholesale market. In this scenario interchange fees should be in due proportion to the provided services. In Switzerland the average unit costs of the issuers (costs per credit card) were decreasing in the considered period. Furthermore, there were no signs of new or improved services provided by the issuers to the acquirers. In a competitive market, one would therefore expect decreasing - or at least stable – interchange fees. An increase in the average DMIF is however not compatible with the service-orientated view.

2.2.2 *Joint-production View*

The joint-production view holds that the issuers and the acquirers jointly provide payment services to merchants and card holders. The interchange fee serves as a mean to allocate a fair share of the aggregate

¹ The HACR stipulates that an acquirer must accept all payment cards from a certain card scheme regardless of the issuing company.

costs and benefits to the issuers and acquirers. As the service-orientated view, this view seems to contradict the observed developments in the market: the issuers increased their margins in the considered period, while the acquirers faced shrinking margins. According to the joint-production view this would imply a decrease not however an increase in the DMIF as observed in reality.

2.2.3 Network-orientated View

According to this view, a four-party system exhibits the characteristics of a network, or more specific, of a two-sided market. To make it attractive for consumers to hold a certain credit card it is essential that a sufficient number of merchants accept this credit card. By the same token, it gets more attractive for the merchants to accept credit cards the more diffused they are in the population. The two sides of the market, issuing and acquiring, are consequently interdependent.

According to the theory of two-sided markets, the IF ensures an optimal dispersion of a credit card scheme by influencing and balancing the equilibriums in the two markets as well as internalising network-externalities. The mechanism can be described as follows: An increase in the IF raises the profits of the issuers. Under the assumption of competitive markets, at least a part of these higher profits will be passed on to the card holders in the form of lower card fees. This raises *ceteris paribus* the demand for credit cards. On the acquiring side, an increase in the IF lowers profits. If the market is competitive, acquirers will have to increase the MSC, which lowers the acceptance of credit cards in the system. Of course, a decrease of the IF will have the opposite effect. The welfare maximising IF in such a two-sided market is determined by several economic factors, such as demand elasticity on the issuing and acquiring side, costs of the issuers and acquirers, net utility of the two customer groups.

Unfortunately the information to determine empirically the welfare maximising IF is hardly ever available. An empirical approach to check whether an IF is welfare maximising is therefore, at least within the scope of an antitrust procedure, not a realistic option. Given that markets are - at least to a certain degree - competitive, the theory of two-sided markets nevertheless allows the formulation of a simple hypothesis: If the IF is used to balance the two markets and thereby optimise the aggregate system, each increase (decrease) of the IF should cause – *ceteris paribus* – an increase (decrease) in the average MSC and a decrease (increase) in the average card holder fees.

In Switzerland the increase of the average DMIF did not result in a decrease of average card fees. In contrary, official list prices for different brands and types of credit cards remained stable in the considered period, while actual card fees (including interest payments and other credit card related earnings) increased. This implies that the increased revenues from the DMIF were not passed on to the card holders. On the acquiring side, in spite of the increasing DMIF-payments, a decreasing average MSC was observed. Yet, this development most probably was the result of increased price competition in the acquiring market due to market entry of foreign acquirers.

In summary, at the time, Comco did not find evidence for the DMIF used as a “balancing device” in two-sided markets in the Swiss credit card industry. Rather, Comco concluded that – in the considered period – the DMIF was used strategically to deter entry in the acquiring market respectively squeezing out foreign entrants by raising rivals’ costs and increasing rents in the national issuing business. This conclusion was substantiated by statements found in the minutes of the national card committees where the increase of the standard IF of MasterCard was *inter alia* justified as a defense strategy against market entry in the acquiring business. This suggests that the increase of the interchange fee was primarily motivated by the market entry of new aggressive acquirers and not by the balancing arguments advocated by the theory of two-sided markets.

3. Developments in the Credit Card Market after the Amicable Agreement

A current evaluation of Comco's 2005 decision indicates that the chosen cost-based approach in the amicable agreement has – to some extent – given an impetus for more effective competition in the Swiss credit card market.

The Swiss National Bank's statistics demonstrate that since the decision, the credit card market has, with respect to the number of credit cards, the number of transactions and the transaction volumes, continually grown. The growth has accelerated even more since 2006.

The most important developments in the credit card issuing are the entry into the market of three new competitors (GE Money, PostFinance, and Jelmoli), new forms of cooperation between banks and non-bank establishments (Migros, Coop, SBB), the launch of "free" credit cards (without an annual fee), and many credit-card related products (VERDE, Orange Collect Card). Generally, many diversified products came onto the market (such as credit cards for senior citizens or party-goers). In addition to the above mentioned elements, various innovations (e.g. contactless payments, credit cards with entry options, such as a ski pass) were observed. Furthermore, new attractive bonus programs were introduced also with respect to free credit cards. Regarding the annual fees, the situation has strongly changed with respect to the list prices. Today, there are standard and also gold products without any annual fees for card holders and where the issuer asks for an annual fee, there are many different list prices. The decrease of the IF has so far not led to compensation via an increase through the annual fees.

On the merchant side, the inquiries of the competition authorities have revealed that the reduction of the domestic IF via price decreases of the MSC were passed on to the merchants. Therefore, all the branches as well as big and small merchants could profit from the price decreases. With respect to the decrease of the domestic IF, one may conclude that since the decision and according to current knowledge, the merchants are relieved of an aggregate amount in the high double-digit millions. At the same time, the significance of the decrease should take into account an increase in transaction volume. To what extent Comco's decision resulted in the decrease of the costs for the merchants, and to what extent this price decrease will be awarded to the consumers remain to be seen. Further an expansion of credit-card acceptance can be observed in the market. Today, for example, the big distributors accept credit cards in the whole of Switzerland.

Even though one cannot directly link these developments to the Comco's decision in 2005 it seems that the intervention of the Comco in the credit card market resulted in a general vitalisation of the market, in innovations as well as in price decreases for merchants and cardholders (annual fees). It is interesting to note that some of the above results seem not to be in line with standard predictions of models of two-sided markets. In particular, the enforced decrease of the IF went hand in hand with a decrease of annual cardholder fees and the introduction of new attractive bonus programs for card holders. Furthermore, despite the decrease of the MIF a continuous growth of the credit card market has been observed in Switzerland since 2005.

4. Debit Cards and Introduction of a DMIF

Contrary to the credit card market, no domestic multilateral IF are implemented for debit cards in Switzerland. In the years 2004-2006, Comco examined two notifications in the debit card market, the first aiming at the introduction of a DMIF for Maestro (the debit card of MasterCard) transactions, the second designed to replace the existing pricing model for merchant service charges. In its final report, the Secretariat refused to clear the planned pricing scheme and the introduction of a DMIF for Maestro debit cards in Switzerland.

Just recently Maestro notified their plans to introduce a DMIF in Switzerland anew. The introduction of a DMIF for Maestro is currently analysed by the competition authorities. The case is receiving considerable attention especially due to the extremely high market share of Maestro in Switzerland.

In the same period V Pay (the debit card of Visa) notified their intention to enter the Swiss debit card market with a DMIF. So far, V Pay is not present in the Swiss debit card market. The project of Visa Europe to introduce their debit card in Switzerland with a DMIF was notified to the Comco, in order to avoid direct sanctions. The Comco allowed the new debit card to enter the market with a DMIF. The notified DMIF has however only been authorised for a transitory period in order to enable the new product to enter into the market. This decision was partly driven by theoretical insights from the literature on networks and two-sided markets. In particular, without a DMIF and given the market dominance of the Maestro debit card in Switzerland, Visa seemed unable to persuade issuers to include V Pay cards in their card portfolio. In such a situation the DMIF may be seen as an instrument to overcome the “Chicken and Egg-Problem”² present in the start-up phase of payment card schemes.

² The “Chicken and Egg-Problem” in payment card markets implies that cardholders will not acquire a new payment card, because they expect that no merchant will enter the network and no merchant will enter the new network because he expects that no cardholder will use it.

TURKEY

Two sided markets are generally considered to act as a common ground that brings two sides of the market together. However, this definition is not restrictive enough and may lead to some markets being inaccurately defined as two sided. The Turkish Competition Authority (TCA), in its definition of a two-sided platform business, relies on the existence of two distinct groups of customers for the product, indirect network effects between these customer groups and an intermediary internalizing the externalities created by one group for the other, as suggested in literature¹. For example, in its *Yemek Sepeti* decision², an internet portal providing “online meal order service” was described as an intermediary (a platform) between the customers and the restaurants that provide takeaway service. The presence of network effects was explained by the fact that the more restaurants would be willing to register in the relevant internet portal, the higher the number of customers using that portal. In the same way, the more customers would be willing to use the portal, the higher the number of registered restaurants. Based on this assessment, online meal order service was acknowledged as a two-sided platform business.

In line with this approach, several other platform businesses were identified by the TCA in several other decisions. In the *Star TV* decision³, “nationwide television broadcasting business”, and in the *Vatan Newspaper* decision⁴, “nationwide daily political newspaper publishing business” were analysed as two-sided platform businesses having two interdependent customer groups: advertisers and viewers in the first case, and advertisers and readers in the second. In the TCA’s decision concerning the *World Credit Card Program Cooperation Agreement between Yapı ve Kredi Bank and Anadolubank*⁵, “credit card market” was defined as a two-sided market having two distinct customer groups, namely cardholders and merchants, with interconnected demands. Therefore, in this decision, a payment system such as credit cards was interpreted as a two-sided platform.

When defining the relevant market in two-sided markets, the TCA takes both sides of the market into account. One such decision was concerned with the allegation of *a concerted practice between several media groups to jointly determine the prices of their political newspapers (Hürriyet, Milliyet, Sabah) and sports papers (Fanatik, Tarafar-Fotomaç)*⁶. In this decision, newspapers were first classified according to their contents and their publication periods. Afterwards, it was questioned whether these different classes of newspapers were substitutable with each other in the view of customer groups, readers and advertisers alike. In the end, it was concluded that demand substitution for nationwide daily political newspapers and nationwide sports papers did not exist on either the reader side or on the advertiser side, hence the relevant product market was defined accordingly as two separate product markets; “market for nationwide daily political newspapers” and “market for nationwide sports papers”.

Another example of a decision in which the relevant product market was defined according to analyses on both sides of the market is the *Yemek Sepeti* decision mentioned above. In this decision, it was first assessed whether the restaurants considered online meal order service provided by Yemek Sepeti’s website substitutable by other methods of receiving orders, for example receiving orders by telephone or

¹ EVANS, D. S. (2003), “The Antitrust Economics of Two Sided Markets” Yale Journal on Regulation, Vol. 20.

² Dated 20.9.2004 and numbered 04-60/869-206.

³ Dated 25.10.2005 and numbered 05-73/984-272.

⁴ Dated 10.3.2008 and numbered 08-23/237-75.

⁵ Dated 14.8.2008 and numbered 08-50/727-286.

⁶ Dated 17.7.2000 and numbered 00-26/291-161.

setting up their own websites to get online meal orders. Having concluded that this was not the case, the TCA examined the issue from the customer perspective and decided that online meal order service constituted a separate relevant market in the view of the customers as well. Based on this assessment, “online meal order service market” was defined as the relevant product market.

Likewise, the TCA adopts a methodology that takes both sides of the market into account in its examination of issues that arise in an antitrust matter. The *Yemek Sepeti* decision provides an example in this respect as well. In this case, the TCA was concerned with the exclusive agreements between the relevant undertaking (Yemek Sepeti) and the restaurants for registration to its internet portal, which were also part of Yemek Sepeti’s plan to set up a more extensive exclusive system.

At the time of the investigation, the TCA determined that both the agreements that had been signed so far and the ones that Yemek Sepeti was planning to sign with new customers, individually qualified for block exemption. On the other hand, it underlined that buyers (restaurants) signing an exclusive agreement with the supplier upstream (Yemek Sepeti) no longer had the opportunity to make deals with other suppliers in the market or the potential ones that would enter the market and therefore, in case such agreements covered a significant part of the relevant market, concerns relating to foreclosure of the market would arise. Further on, the TCA mentioned Article 6 of the Block Exemption Communiqué on Vertical Agreements (Communiqué No: 2002/2) which provides for the revocation of an exemption granted to an agreement by the Communiqué in case it is established that the relevant agreement has effects incompatible with the conditions stated in Article 5⁷ of the Act on the Protection of Competition (The Competition Act). Accordingly, the TCA decided to analyse whether the exclusive system that Yemek Sepeti was planning to set up would qualify for an exemption under Article 5 of the Competition Act. In this case, while weighing the anticompetitive effects of such a system against the benefits that might be achieved, the TCA examined the market power of Yemek Sepeti from various angles. To that end, market shares of Yemek Sepeti and its rivals, the first mover advantage of Yemek Sepeti, several advantages related to Yemek Sepeti’s restaurant base (such as brand image of its restaurants), the sunk costs related to marketing and advertising that rivals would have to incur to attract customers to their own websites, the extent of barriers to market entry, the immaturity of the market which necessitated a stricter approach against foreclosure were all among the factors that were evaluated. However, as far as two-sided markets are concerned, the case is most significant in that it provides an example of how the TCA approaches the issue of market foreclosure in a two-sided market.

In this decision, the TCA regarded the network effects between the two sides of the market as a factor intensifying the anticompetitive impact of exclusive agreements. The TCA first stated that having a high number of customers as users, and restaurants with brand image as members, of its website strengthened Yemek Sepeti’s position in the market. It was further contemplated that the customers willing to give orders via internet would opt for the websites with a restaurant portfolio of high brand image like that of Yemek Sepeti. The websites expanding user and transaction volume in this way would be able to direct

⁷ According to Article 5 of the Competition Act, the Competition Board may decide to exempt agreements, concerted practices between undertakings and decisions of associations of undertakings from application of provisions of Article 4 (which renders agreements, concerted practices and decisions of associations having the object or the effect of preventing, distorting or restricting competition illegal) in case the conditions cited in Article 5 are fulfilled. These conditions are as follows:

- a) Ensuring new developments and improvements, or economic or technical development in the production or distribution of goods and in the provision of services,
- b) Benefitting the consumer from the above-mentioned,
- c) Not eliminating competition in a significant part of the relevant market,
- d) Not limiting competition more than what is compulsory for achieving the goals set out in (a) and (b).

more orders to the restaurants and consequently strengthen their position on the restaurant side of the market. The current or potential rivals of Yemek Sepeti on the other hand, being unable to achieve such a portfolio as a result of exclusive agreements signed by Yemek Sepeti, would not manage to attract users, which in turn would lessen their chances of making deals with reputable restaurants. Based on these assessments, the TCA concluded that Yemek Sepeti's exclusive agreements violated Article 4⁸ of the Competition Act and therefore provided that the block exemption that Yemek Sepeti's exclusive system had benefited at the time be revoked.

As regards the analysis of a merger in a two-sided market, the *Vatan Newspaper* decision⁹ is informative of the TCA's approach. This case was concerned with the takeover of Bağımsız Gazeteciler Yayıncılık A.Ş. and Kemer Yayıncılık ve Gazetecilik A.Ş. (publishers of the Vatan Newspaper) by another media group Doğan Gazetecilik A.Ş. (Doğan Group).

In this case, the TCA underlined the two-sided character of the "nationwide daily political newspaper market" by stating that the potential customers of a newspaper publisher are not only readers but also advertisers as well. Hence, in order to determine possible competition concerns that could arise post merger, the Herfindahl-Hirschman Index (HHI) levels were calculated on the basis of both net sales of newspapers and the revenues from advertisements. In the said case, in terms of net sales, the HHI level and the change in the HHI level (delta) amounted to 1676 and 294 respectively. In terms of the revenues from advertisements, the figures were 3984 for the HHI level and 506 for the delta. Therefore, the TCA, citing the approach of the European Commission found in *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*¹⁰ and that of the Department of Justice (DOJ) and the Federal Trade Commission (FTC) in the *Horizontal Merger Guidelines*¹¹, pointed out that the HHI levels indicated a high risk concentration level when based on the revenues from advertisements and a medium risk concentration when based on net sales. It was also mentioned that, with the takeover of the Vatan Newspaper, the Doğan Group would benefit from portfolio and synergy effects which would probably result in even higher market shares for the group.

As is known, the HHI Index is a commonly used measure to assess the degree of competitiveness of the market and the ability of the firm in question to increase prices post merger. On the other hand, it is asserted that this approach must be used with special care when multi-sided platforms are involved and that the pricing analysis must consider not only all sides of the market but their interactions as well¹². Consistent with this approach, having considered both sides of the market in the measurement of the HHI levels, the TCA, proceeded to analyse the interactions between the two sides of the market so as to determine the pricing level and pricing structures.

Given the fact that the demand for most of the newspapers published by the Doğan Group was price elastic, the TCA was of the view that an increase in the prices of newspapers published by the Doğan Group would distract customers away from the group's newspapers which in turn would lead to a decline in the customer volume on the other side of the market, namely, advertiser volume and a loss in the revenues from advertisements. Therefore, the TCA regarded an increase in the price of newspapers post merger improbable. As regards the advertiser side, the TCA first mentioned that the takeover of the Vatan Newspaper by the Doğan Group would indisputably strengthen the position of the group vis-à-vis the

⁸ See footnote 7.

⁹ See footnote 4.

¹⁰ OJ C 31, 5.2.2004, p. 5–18.

¹¹ Issued on 2 April 1992.

¹² See footnote 1.

advertisers since the Vatan Newspaper possessed an established brand name and reader mass/profile and that the takeover of this newspaper would not only broaden the group's portfolio but also enable the group to match the leading newspaper of its closest rival, the Sabah Group. Afterwards, the TCA took into account the group's opportunity to conduct tying practices (such as providing advertisement space in one newspaper upon the condition that advertisement space in another group paper is also purchased) or to provide discounts in its sale of advertisement space on the condition of exclusivity. The probability of an anticompetitive impact occurring on the advertiser side of the market due to the portfolio effect of having a new newspaper was also investigated thoroughly taking other country examples and the views of the advertisers and the rivals into account. As a result of these analyses, it was decided that it was not possible to assume existence of buyer power on the part of the advertisers. Potential competition, the vertically integrated structure of the newspaper publishing business of the Doğan Group and its supporting activities in radio and TV broadcasting were other issues dealt with in the course of the analysis. Based on these assessments, the TCA reached the conclusion that the transaction would lead to a lessening of competition as a result of strengthening of a dominant position. However, the TCA authorised the transaction as it accepted the failing firm defense brought forward by the parties but only on several conditions to maintain the competitive structure of the market.

The *Cevahir Shopping Mall* decision¹³ is another example of cases in which the TCA dealt with two sided markets. This time, the issue was an allegation of an abuse of a dominant position. In this case, it was claimed that Cevahir Shopping Mall charged local retailers much higher than their foreign counterparts for rental space which led to the former's not being able to compete with the latter. Article 6 of the Competition Act states that *"The abuse, by one or more undertakings, of their dominant position in a market for goods or services within the whole or a part of the country on their own or through agreements with others or through concerted practices, is illegal and prohibited..."*. Following this provision, the Article lists some exemplary abusive cases one of which is *"making direct or indirect discrimination by offering different terms to purchasers with equal status for the same and equal rights, obligations and acts"*. Therefore, the TCA set out to examine whether the practice of Cevahir Shopping Mall constituted an infringement in accordance with this provision of Article 6 of the Competition Act. In the end, the TCA concluded that this was not the case. Part of this conclusion was based on the determination that the two sided character of the market rendered the mentioned practice a rational competitive business strategy. In the decision, it was first mentioned that, reputable retailers with a brand image and a loyal customer base provided the shopping malls with the potential of more profits in the long term as they attracted more customers to the shopping mall. Based on this premise, it was considered to be rational for a shopping mall to offer more favourable conditions to foreign retailers with a wider customer base so as to increase the number of its visitors. Therefore, this case shows that the TCA is of the view that the business strategies and their effects on the consumers must be evaluated with regard to both sides of the market when it comes to the analysis of cases relating to abuse of dominant position as well.

¹³ Dated 15.6.2006 and numbered 06-447540-142.

UNITED KINGDOM

1. Executive summary

This is a joint submission of the Competition Commission (CC) and Office of Fair Trading (OFT) to the OECD. Both authorities have examined issues related to two-sided markets in the course of their competition work and are pleased to make this submission. This is a topic which has become increasingly important in our work as more business models show such characteristics.

Two-sided market concepts are relevant to many markets including: stock exchanges, payment card systems,¹ newspapers, television broadcasters, directories, telecommunication networks and estate agents. These examples cover very diverse industries affecting many different aspects of consumers' lives.

The two-sided nature of these types of markets impacts on several issues of importance to both competition policy and consumer policy. The key messages we have drawn from the literature and our case work are as follows:

- The two-sided nature of markets has implications for pricing incentives of firms operating in the market in both the structure and level of prices set. The structure of prices can be as important an issue as the level of prices.
- Observed behaviour can be very different to other types of markets and this needs to be recognised in order to avoid erroneous decisions. In particular, price/cost indicators can be poor measures of either predation or monopolisation. This issue needs to be seen in light of the potential for Type I and II errors.
- Two sided-markets may create issues of cross-subsidy and allocative inefficiency which also have implications in other areas, in particular in relation to consumer policy. We see it as increasingly important to harmonise the analysis of these issues across both competition and consumer areas given that the issues can affect the development and operation of large and important markets for consumers.
- Two-sidedness is also a matter of degree. It can be present in many markets but it may only give rise to such strong effects as to have significant implications for competition analysis or for consumer policy in a few cases.

In the remainder of this paper we briefly discuss implications drawn from the economic literature and case examples, examine how the UK has dealt with these issues in practice and draw out what we believe are the key considerations.

¹ The OFT is investigating interchange fee arrangements for UK domestic point-of-sale transactions made using MasterCard/Maestro and VISA consumer payment cards under the Competition Act 1998 and Article 81 of the EC Treaty. For further information see: http://www.offt.gov.uk/oft_at_work/markets/services/interchange-fees/.

2. Definition

A two-sided market is characterised by a platform serving (at least) two groups of customers, such that the participation of at least one of these groups raises the value of participation for the other(s). Two-sided platforms join different sets of customers and determine the two-sided pricing structure according to their own private objectives. It should be noted that this pricing structure may or may not be socially efficient.

Two-sided markets are typically characterised by network externalities - these externalities do not benefit (or harm) consumption of customers on the same side of the market but affect the consumption of customers on the opposite market side. Advertising markets are an example of this – advertisers benefit from the size of the audience of the media being advertised in. In some media markets the consumers directly benefit from the number of advertisers (such as directories), whereas in other media markets high levels of advertising harm consumers (consumers may dislike advertising in their favourite TV programmes).

One aspect relevant to whether or not a market has two-sided features is the extent to which efficient transactions between the two sides of the market are feasible absent the platform.² If a customer values an additional person joining on the other side of the market but can pay them directly, then many of the two-sided implications will not apply. Side payments allow the parties on both sides to internalise the benefits they receive from the others' participation. In many instances however something inhibits or prevents them from paying that person directly for the value they gain (and thus how the platform splits charges between the two goods or services matters). This difficulty may be derived from the sheer complexity of arranging payment.³

3. Literature and theory

Two-sided markets are one of the areas of considerable recent economic study and literature in the field of Industrial Organisation. We do not intend to explore the two-sided market literature in detail⁴ but draw out what we believe are the key points for policy considerations:

- **Pricing in two-sided markets.** Pricing incentives and structures differ in two-sided markets compared to more traditional (or one-sided) markets. This can have important implications for interpreting prices which differ to other (one-sided) markets. For example, below-cost pricing is less likely to equate to predation, and pricing is less likely to be regarded as excessive or to be linked to exclusionary abuses. Differences in price levels across sides also raise issues of cross-subsidisation.
- **Network externalities.** Externalities are an important aspect in analysing behaviours and outcomes in two-sided markets due to network effects. One implication of this is that a 'chicken and egg' problem can arise – members of the group on one side of the market will only join if they expect many members from the other side to also join.

² A point raised in Rochet, J. and Tirole, J., 'Two-sided Markets: An Overview', 2004.

³ For an example of where an analogous mechanism was found to be possible involving call termination see: OfCom, NCCN500, August 2008 available at www.ofcom.org.uk

⁴ Several surveys of the literature exist, for example see Roson, R., 'Two-sided Markets: A Tentative Survey', Review of Network Economics Vol.4 Issue 2, June 2005.

- **Single and multi-homing.** Another important differentiation to consider is between single and multi-homing markets. Market power is more likely to arise where one side single-homes.

These issues are explored in turn below.

3.1 *Pricing in two-sided markets*

Price structures matter in two-sided markets. How a platform decides to set prices relatively between the two groups of customers can matter as much as the level of prices to the market outcome. Relative pricing on both sides is influenced by:

- balancing supply and demand (as with normal markets);
- internalising network externalities: all else being equal, if a customer benefits from an additional member joining on the other side of the market, then their price should increase and the price on the other side of the market should decrease;
- competition: all else being equal, where one side of the market has a choice of intermediary this will put downward pressure on that side's prices, likewise where one side of the market has no choice,⁵ this will put upward pressure on that side's prices.

Optimal pricing here can be complex⁶ and could consist, for example, of a mixture of fixed fees and usage fees which may differ on each side. Thus the price structure as well as the price level can be important in reaching an optimal position. One side may pay nothing or may even receive payments to join. This can make analysing potentially abusive conduct complex; prices below marginal cost may not imply exclusion and prices above average total cost⁷ may not imply monopolisation. These two results/implications increase the potential for a competition authority to incur Type I and Type II errors if the two-sided nature of the market is not taken into account within the analysis.

Another implication of subsidising one side of the market whilst recouping costs (and profits) on the other side of the market relates to efficiency. Subsidising one side can be an efficient means of ensuring that the market serves the largest number of customers when there are fixed costs. However it can also raise concerns. Prices may only slightly offset each other and cross-subsidy issues can arise (a topic we address later in this paper⁸). Such concerns can raise significant challenges for a competition authority, for example determining what the structure of prices should be in the counterfactual is a very difficult task.

⁵ For example see Armstrong, M., 'Competition in Two-sided Markets', *Rand Journal of Economics*, 37, 668-691, 2005.

⁶ For an example concerning commission rates see OFT889, *Competition in markets with commission rates*: Prepared for the OFT by DotEcon Ltd, January 2007. Paras 4.5 to 4.25.

⁷ Different cost tests are appropriate in different cases. The measures used will depend on the characteristics of the market(s) in question. The costs used here are not meant to represent the appropriate cost tests applied under Competition Law.

⁸ See paragraph 0.

3.2 *Network Externalities*

Externalities are a defining feature of two-sided markets. In general the literature has identified two types of network externalities:⁹

- **Direct network effects.** These are generated through a direct relationship between the value of the product and the number of purchasers in the market. For example, fax machines are more useful the greater the number of people who own one.
- **Indirect network effects.** These are 'market mediated effects' where increased usage of the product increases the incentives to produce complementary goods, and hence increases the value of the original product. For instance, with computer operating systems, indirect network effects can arise from the increased quality and availability of complementary applications software.

A key implication is that if pricing incentives on both sides of the market are not set at the right levels, the network may be smaller than is efficient. The literature on network effects is also important here,¹⁰ for example where there are strong network effects markets may be vulnerable to tipping,¹¹ resulting in competition for the market with one network becoming dominant.

It also raises 'chicken and egg' issues, initially a platform will not be able to attract customers on one side of a market if it does not have sufficient customers on the other side of the market. For example, no advertiser would be attracted to a newspaper which has no readership. This can lead to access to the product/platform being given for free, at least initially.

3.3 *Single or multi-homing*

A key issue in understanding the competition impact of two-sided markets is whether they are single or multi-homing. In single-homing markets, users on one side of the market will only choose to use one intermediary. This may occur due to a lack of choice or reflect other factors such as high joining or switching costs.¹²

In multi-homing markets users can choose to use several suppliers/intermediaries. This allows for greater competition and consequential pressure on price, quality and service. Either side of the market can be single- or multi-homing.

The impact of homing can be important – where one side of the market is single-homing, this may create bottleneck issues¹³ and hence create durable significant market power. Likewise, where

⁹ A network effect arises where an increased use of a commodity or service increases its value to others. This becomes an externality when the market price fails to reflect this effect.

¹⁰ For a summary see Farrell, J. and Klemperer, P., 'Coordination and Lock-In: Competition with Switching Costs and Network Effects', Handbook of Industrial Organisation Volume III, Chapter 31, North Holland, 2007.

¹¹ For example see OFT377, Innovation and Competition Policy: Report prepared for the Office of Fair Trading by Charles River Associates, March 2002, paragraphs 3.23 to 3.31.

¹² For example, switching between one games console to another incurs the cost of buying another console, likewise switching between one mobile phone network operator and another incurs the cost of informing business, friends and family of your new phone number (absent number portability).

¹³ By this we mean that a single supplier/intermediary controls access to a network which companies wish to supply to or consumers wish to access.

multi-homing can occur on both sides, customers' ability to switch generates competitive pressure and hence tends to lower prices.

4. Implications for Competition Analysis

4.1 Market Definition

Given the implications of two-sidedness for pricing incentives, it is possible that the two-sided nature of a market can impact on the SSNIP test.¹⁴ This holds true for market definition in abuse of dominance cases, anti-competitive agreements cases and merger cases.

In particular if cross-elasticities exist across the two sides of the market, this may mean that a SSNIP test could (although not necessarily) lead to a market being defined too widely or too narrowly. On a practical level – if a firm only considered one side of a market when setting prices, it would fail to consider the impact of the loss of revenues from the other side of the market in maximising its profits.

An example of where it may be more difficult to conduct a hypothetical monopolist (or SSNIP) test is with empirical calculations of both actual and critical losses. These would need to take into account the size of any externality across customer groups, and this will typically increase the uncertainty of a specific empirical measure. Furthermore, firms may adopt radically different business strategies, while still competing for the same customers. For example, a free, advertising-funded newspaper may still compete for the same readers and advertisers as one sold for a price. Understanding the scale of any externalities between groups of customers in such cases provides the OFT and CC with an indication of how strategies and competitive constraints may evolve in the future as a result of the merger.¹⁵

The difficulties raised above could be circumvented by examining profit changes across both sides of the market through the definition of a single market. However in practice the UK has tended to define separate markets on each side of a two-sided market¹⁶ and then thought through the implications of the two-sided nature of the market in analysing the possibility of anti-competitive conduct. We believe that by being cognisant of the potential inaccuracies inherent in defining markets which are two-sided, errors are avoided in practice.¹⁷ This includes thinking through the impact of a price increase on the demand response of the other side of the market.

For example, in *Aberdeen Journals*,¹⁸ a predation case, the OFT defined an advertising market rather than a newspaper market covering sale of the newspaper to both readers and advertisers. This decision was upheld by the Competition Appeals Tribunal (CAT).¹⁹ *Aberdeen Journals* involved free newspapers which

¹⁴ Small but Significant Non-transitory Increase in Price (SSNIP), the standard market definition methodology. See OFT403 (2004), Market Definition. available at www.oft.gov.uk.

¹⁵ Merger Assessment Guidelines: A joint publication of the Competition Commission and the Office of Fair Trading – Consultation Document, April 2009.

¹⁶ This is not always the case, Ofcom defined a single market in considering Number Translation Services on the grounds that the existence of the mechanism referred to at footnote 4 above made it unnecessary to define separate markets for the purposes of assessing BT's conduct.

¹⁷ For an example of where the two-sided nature of a market has been taken into account in defining a market see Competition Commission (2007), Acquisition by British Sky Broadcasting Group plc of 17.9 per cent of the shares of ITV plc: a report sent to the Secretary of State (BERR), para 4.6.

¹⁸ CA98/14/2002, 16 December 2002

¹⁹ *Aberdeen Journals Limited v The Office of Fair Trading* (formerly the Director General of Fair Trading), [2003] CAT11. The functions of the Tribunal include to hear appeals on the merits in respect of decision

made it more straightforward to analyse the predation aspect of this case. However, if the newspapers had not been free – given the market definition – it would have been important to consider the impact of revenues from newspaper sales as well as from advertising in analysing the predation.

Overall the OFT's approach tends to reduce the importance of market definition and to increase the importance of the other substantive analysis where the case concerns two-sided markets. The greater the impact of the network externalities within the market being examined, the greater the 'two-sidedness' and the more important it will be to take this into account in any competition analysis.

4.2 *Market power*

One aspect of assessing market power in two-sided markets is how and where competition arises. For example, in single-homing markets, competition may initially be intense in order to gain significant numbers of customers on one or both sides of the market. Understanding how, where and when competition occurs can be important in ascertaining where market power (if any) resides. It will also be important in analysing any complaints about abuse of that market power. An example discussed later arises in newspaper distribution – here competition incentives appear greater between newspaper publishers for readership than between retailers in selling newspapers. This is driven by the two-sided nature of the market – increased readership means increased advertising revenue for the publishers but not for the retailers.

There are some further general points we can draw out about market power in two-sided markets:

- The creation of market power as a reward to innovation can occur in two-sided markets. High positive network effects can make such markets tip to monopoly where one side single-homes. In these cases competition can occur for the market where the most efficient firm wins the battle.²⁰ However one of the aspects of the Yellow Pages case²¹ (in the text box below) was that the position was inherited from a previously government owned business²² rather than from innovation.
- Market power can arise where the intermediary becomes a bottleneck for one or both sides of the market.²³ Even where the market power is a reward for innovation, competition authorities may still be concerned if that dominance is used to exclude potential competitors – dampening incentives for others to innovate.
- The presence of cross group externalities can act to intensify competitive pressure between platforms. Losing a customer can lead to lost revenue from other customers as well.

made under the Competition Act 1998 (as amended) by the Office of Fair Trading, and the regulators in the telecommunications, electricity, gas, water, railways and air traffic services sectors.

²⁰ A good example here is the format wars for videotapes and the successor to DVDs. However see Farrell and Klemperer (2007) on why such 'wars' may not lead to the most efficient outcome.

²¹ See Competition Commission, Classified Directory Advertising Services market investigation, December 2006. Available at www.competition-commission.org.uk

²² The General Post Office (GPO), Yellow Pages was established by the GPO in 1966.

²³ Armstrong (2006) links this to at least one side of the market single-homing and this being a common cause for market failure in two-sided markets. Call termination on mobile networks is an example of this. Armstrong, M., 'Competition in Two-Sided Markets' RAND Journal of Economics, vol. 37(3), pages 668-691, 2006,

Classified Directory Advertising Services (CDAS)

CDAS (or Yellow Pages) is an example of where the UK has found significant market power to exist in a two-sided market. Yellow Pages is the main directory of local service providers delivered to households across the UK. Local service providers (such as plumbers, taxis and a variety of others) pay to be included within the directory whereas households receive the directory for free. There are competing directories which tend to be more niche – most notably the Thomson Local directories.

Directories are an example of a two-sided market with multi-homing. Suppliers could choose to advertise in one or more of these directories and it is relatively costless for consumers to hold more than one. Here the CC found that Yellow Pages held significant market power. Yellow Pages held an incumbency position as the most recognised directory, hence consumers were most likely to turn to Yellow Pages which made it the most valuable directory for suppliers to advertise within. This had a reinforcement effect – Yellow Pages was more valuable to consumers precisely because it was more popular with suppliers. The CC found Yellow Pages to hold market power and this was largely attributable to the network effects flowing out of the two-sided nature of this market.

4.3 Vertical agreements

A substantial vertical assessment was carried out by the OFT into Newspaper and Magazine Distribution – a two-sided market. Here vertical restrictions including territorial exclusivity in distribution agreements as well as maximum cover prices were in place. The reason provided for this was that supporting distribution to customers on one side of the market (newspaper readers) primarily benefitted customers on the other side of the market (advertisers). The textbox below discusses this case.²⁴

²⁴ Within the scope of this paper we do not discuss other important factors in the guidance. For a full discussion see OFT1025, Newspaper and magazine distribution: Opinion of the Office of Fair Trading – guidance to facilitate self-assessment under the Competition Act 1998, October 2008. Available at www.of.gov.uk

Newspaper and Magazine Distribution (NMD)

In 2008, the OFT published the results of three inter-related strands of work on the distribution of newspapers and magazines in the UK. This included an Opinion which provided guidance on the legality of absolute territorial protection (ATP) in newspaper and magazine distribution agreements—whereby wholesalers in one region cannot sell to customers outside that region.

A key factor in these analyses was the two-sided nature of newspaper and magazine product markets. Publishers receive revenue from both readers and advertisers for sales of their publications. As a result, publishers generally want higher circulation for their titles through lower prices and wider availability than wholesalers and retailers. Our analysis considered this was a key factor in determining the 'publisher-led' nature of the supply chain. Through this publishers exercise a high degree of control over copy allocation to retailers, the risks borne by retailers, and the prices charged by retailers (via cover prices).

The work also highlighted important differences between newspapers and magazines in terms of the proportion of revenue achieved from advertising (magazines lower than newspapers). This meant the two-sided market was likely to create different incentives for newspaper and magazine publishers in terms of the extent and nature of their distribution control. These considerations, alongside our assessment that competition between publishers was robust, were important for our assessment of the costs/benefits of a number of supply chain practices or restrictions. For example:

- As a result of the two-sided market, publishers had greater incentives than retailers to pass on to consumers any efficiencies achieved in their distribution agreements with wholesalers. Those incentives were likely to be stronger for newspapers than for magazines.
- The two-sided market means that a publisher set cover price is very likely to be lower than an unconstrained retailer-set price.

4.4 *Interconnection / cooperation agreements*

One way to address the bottleneck issues which can arise is through interconnection and cooperation agreements. When competitors create a network and can foresee potential bottleneck issues, they can set up interconnection and cooperation agreements to forestall this issue²⁵. As with any agreement between competitors, there is a danger of such agreements operating in a way which reduces or eliminates competition or facilitates other coordination between the parties. Likewise, interconnection agreements can heighten barriers to entry and thus exclude new entrants. However, given their potential benefits in addressing bottleneck issues, such risks need to be assessed on a case by case basis. As well as voluntary agreements, there are many examples of regulators requiring interconnection.

4.5 *Network externalities*

The CC considered such issues in respect of termination rates for mobile network operators.²⁶ This inquiry concerned the benefit that an extra mobile subscriber conferred on existing mobile and fixed telephony users. The purpose of this inquiry was to determine the prices that can be charged for interconnection (the termination charges). The difficulty arises from a competitive bottleneck. Once

²⁵ This is particularly relevant for the internet – for a UK study on the London Internet Exchange see D'Ignazio, D. and Giovannetti, E. 'Asymmetry and discrimination in Internet peering: evidence from the LINX', International Journal of Industrial Organisation, May 2009.

²⁶ See Competition Commission, Vodafone, O2, Orange and T-Mobile: Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks. December 2002. Available at www.competition-commission.org.uk

consumers lock themselves into their network this effectively provides the network operator with a monopoly on access to that subscriber (a single homing market).

The CC concluded prices should be cost reflective but this should include a mark-up to reflect the positive externality additional subscribers generate for callers, who ultimately pay the termination charge. This was quantified by estimating the ratio of the marginal social benefit of an additional subscriber to the marginal private benefit. Ofcom reviewed these charges in 2007 and this was appealed to the CC. Following the appeal, it was decided that the network externality surcharge (NES) was no longer justified.²⁷

4.6 Mergers

As explained earlier, market definition in two-sided markets can be complicated. However, the OFT and CC may incorporate the two-sided nature of the market directly into the competitive assessment of the merger as appropriate. This section gives some background and discusses a recent case where the OFT and CC have adopted this approach.

In unilateral effects cases, where appropriate (and in particular where market definition has been very complicated), the OFT and CC have eschewed market definition and instead focussed on the direct competitive constraint being removed by the merger.²⁸

The OFT and CC have adopted this approach to analyse mergers in two-sided markets. In such cases, the OFT and CC have chosen not to conclude on the precise boundaries of the two-sided market and instead have taken into account any indirect constraint from one side of the market to the other when undertaking the competitive assessment of the merger.

For example, in the Global/GCap radio merger,²⁹ the OFT felt that the potential direct adverse effects (for example, price) felt by advertisers and the potential indirect adverse effects (for example, programming) felt by listeners were inter-related because of the two-sided nature of radio. For example, if listeners switch off because they do not like the programming, then radio as a medium for advertising will also be less valuable to advertisers. Conversely, changing radio station formats could work in the opposite direction: programming improves so more listeners tune in, therefore advertisers are able to reach more listeners and radio is more valuable to them. In both these examples, the competitive effect (the first negative, the second positive) of the merger on either side of the market is mutually reinforcing.

Conversely, the OFT felt that the competitive effects may also be inversely related. An increase in prices that harms the advertising side of the market may actually benefit the listener side of the market if it

²⁷ See http://www.competition-commission.org.uk/appeals/communications_act/mobile_phones_determination.pdf

²⁸ See, for example, *Anticipated acquisition by LOVEFiLM International Limited of the online DVD rental subscription business of Amazon Inc*, OFT decision ME/3534/08, 15 April 2008. In this case, the OFT considered that the combination of high diversion ratios between the merger parties and high gross margins gave rise for the OFT to a rebuttable presumption that the merger would give rise to unilateral effects, regardless of market definition. The parties successfully rebutted the OFT's presumption in this case and the merger was cleared unconditionally. In *Hamsard/Academy Music*, Hamsard 2786 Ltd / Academy Music Holdings Ltd – 2007 the CC did not conclude on the precise product or geographical market for live music venues in London but looked at the competitive constraints from other venues on each of the venues owned by the parties.

²⁹ See *Completed acquisition by Global Radio UK Ltd of GCap Media plc*, OFT decision ME/3638/08, 8 August 2008.

restricts advertising output (total airtime), to the extent that listeners do not listen to the radio primarily to hear advertisements. In this case, the inverse relationship between the competitive effects on either side of the market is countervailing and adverse effects on one side of the market are balanced by benefits on the other to some extent.

Absent compelling evidence to the contrary, the OFT proceeded in Global/GCap on the basis that (i) it is advertisers who will primarily and most directly feel any adverse effects arising from a commercial radio merger and (ii) any possible countervailing effect on this from the listeners side of the market, while theoretically plausible, must meet stringent efficiency evidence requirements rather than merely be assumed to be sufficient.

4.7 Potentially distortive pricing structures

An issue which can arise within two-sided markets is cross-subsidies. Market power on one side of a market can lead to cross-subsidy from the less competitive side of the market flowing to the competitive side, all other things being equal. This may also occur absent market power through cross-group externalities.

This raises several issues:

- prices of one side of the market may be subsidised by the other side of the market;
- prices will tend to be lower on the side with greater competition (all other things remaining equal); and
- firms can themselves affect the amount of competition on one side (for example they may prevent interconnection).

Where there are very low charges on one side of the market, the question arises as to whether these low charges are compensated for by high charges on the other side of the market (a type of waterbed effect)?³⁰ In effect, rents earned in the monopoly market may be competed away in the competitive market. This waterbed issue raises strong parallels with issues which can occur in after-markets. These are markets with a primary good and secondary goods where the sales of the secondary goods are linked to sales of the primary good. Typically the secondary good only provides utility for a consumer who already owns a primary good. Issues of cross-subsidy can arise in after-markets where one group of consumers consume more of the expensive secondary goods than others and thus effectively cross-subsidise them. The OFT has developed its thinking quite substantively in aftermarkets and the annex to this paper describes this.

Where concerns of this type are present - an important consideration is whether or not there is an appropriate remedy whereby the benefits outweigh costs. An example of how these effects can be analysed in practice is set out in the PPI market inquiry where the CC carried out a detailed analysis of the impact of 'waterbed effects' on overall consumer welfare.³¹

³⁰ In analyzing two-sided markets it is important to distinguish between a firm seeking to internalize externalities in order to increase the overall market size and exploiting market power.

³¹ Competition Commission, Market investigation into payment protection insurance, 2009. Available at www.competition-commission.org.uk

5. Consumer Policy

The issues discussed above arise not only in competition work but in the OFT's consumer work. For example, similar concerns have arisen in respect of after-markets. Complaints about particular companies can arise in both areas, and the OFT sees it as important to harmonise the analyses between them to ensure consistency. A coherent approach to the issues in both the competition and consumer areas also allows for more flexibility in choosing the right tool to address specific cases. Competition law may not always be the best tool for addressing some of the adverse effects of the pricing issues in two-sided markets raised within this paper, and by joining up competition and consumer work the OFT can pick the right tool for the issue at hand.

As a final note, consumer policy can also play an active part in assisting new internet based two-sided markets grow. Where consumer confidence is reduced (for example, through internet based scams), this can impact upon the ability of internet network business models from reaching critical mass. Consumer policy can help maintain confidence by providing consumers with protection on the internet.³² Such growth can assist the growth of rivals and thus reduce the potential for competition issues to arise.

³² For a fuller discussion of these issues see Digital Britain – Consumer protection in the online world, a speech by John Fingleton, Chief Executive of the Office of Fair Trading, April 2009. Available at www.offt.gov.uk

ANNEX: AFTERMARKETS ANALYSIS

The UK has gained a great deal of experience on aftermarkets and add-on markets over the past few years³³. The key questions that have emerged have been:

- Does consumer behaviour in the primary market constrain behaviour in the secondary market? Do consumers make sensible estimations of whole-life costs and take this into account? This may be a more reasonable assumption where the customers are other firms but may not hold where they are consumers.
- Do consumers have reasonable alternatives to buying the aftermarket product/service or triggering terms/conditions, which they can choose (i.e. can consumers choose different secondary providers to their primary market supplier)?
- Is there consumer detriment in the secondary market because of consumer behaviour within it?

Behavioural biases among consumers can be very important here, especially in terms of the ability of consumers to reasonably foresee additional costs and the ability of these costs to be competed away in the primary market.³⁴ This is an issue which has arisen in the Personal Current Accounts study where consumers may have difficulties in foreseeing the likelihood of going into overdraft where they incur significant costs.³⁵ The ability of consumers to learn can also be important in determining consumer harm. Therefore aspects such as product characteristics and frequency of purchase are relevant to behavioural biases.

One important issue with after-markets, as with two-sided markets, is where there are very low charges in the primary market. A key question arising from this is whether these low charges are compensated for by high charges on the secondary market (a type of waterbed effect)?³⁶ In effect, rents earned in the monopoly market may be competed away in the competitive market.

Where there is a waterbed effect of this type, it is not always the case that rents will be fully competed away. Furthermore, even if they are fully competed away this does not mean there is no consumer detriment. A very low price in a primary product can lead to excessive consumption, whilst a high price in the secondary product can lead to inefficiently low consumption unless the price reflects externalities. In both markets deadweight losses can occur. Whilst this could be seen as a secondary and less important

³³ Most notably in Payment Protection Insurance (which is typically a secondary product to mortgages, for example) and unauthorized overdraft charges in personal current accounts. The discussion here is highly condensed and many further considerations apply.

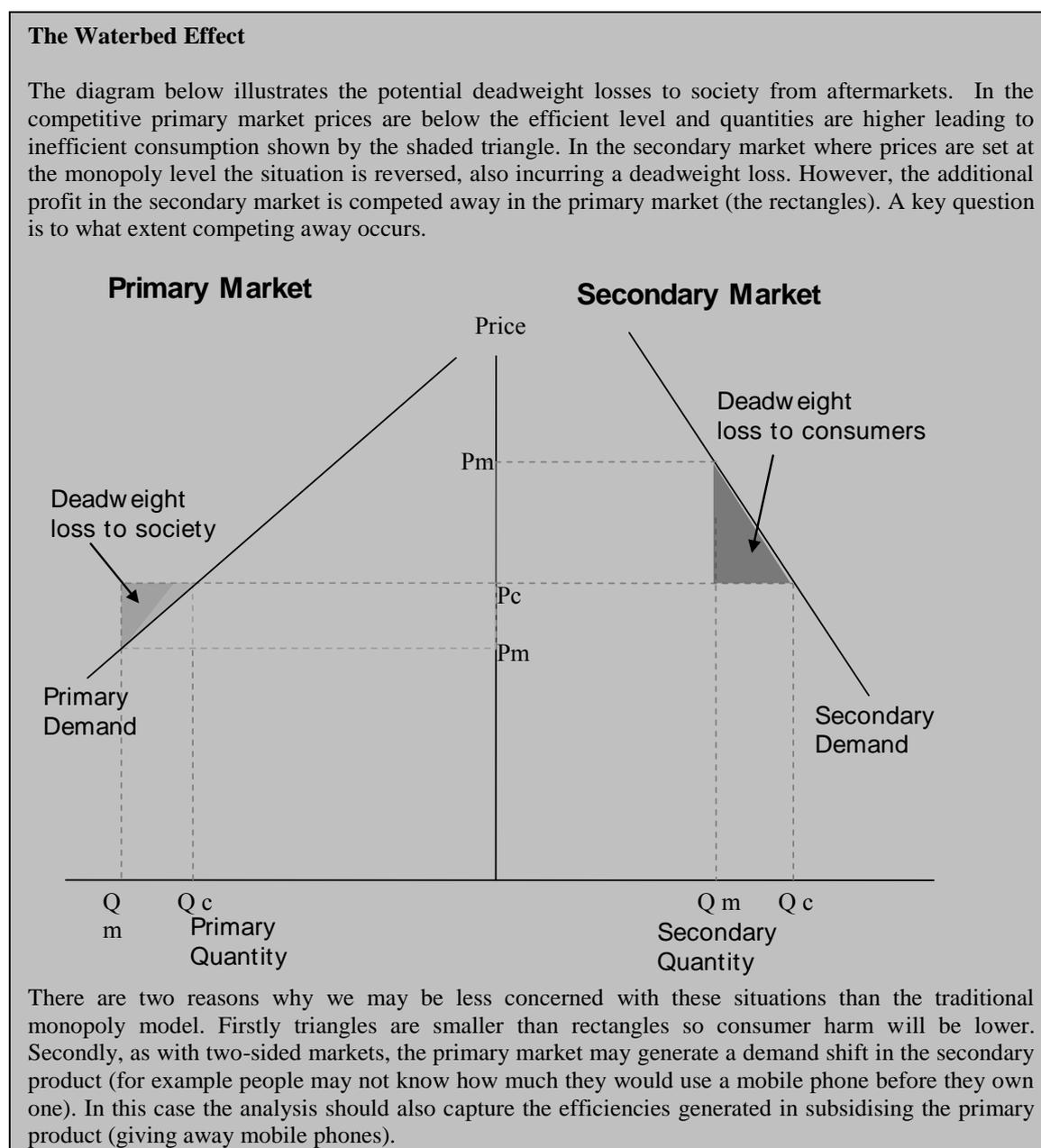
³⁴ For example see Gabaix, Xavier and David Laibson. 'Shrouded Attributes, Consumer Myopia, And Information Suppression In Competitive Markets', Quarterly Journal of Economics, 2006, vol 121, 505-540.

³⁵ OFT1005, Personal current accounts in the UK: an OFT market study, 2008. Paragraph 6.3. Available at www.of.gov.uk

³⁶ In analyzing two-sided markets this can be trying to distinguish between a firm seeking to internalize externalities in order to increase the overall market size and exploiting market power.

effect, the detriment can be significant in very large markets. The text box below illustrates these deadweight losses.³⁷

One key difference between after-markets and two-sided markets here is that, within two-sided markets, the difference in pricing between the two-sides of the market may just represent cross group externalities. To the extent that it does this would not represent an efficiency loss (and the shaded areas in the diagram below would represent the harm caused if an authority inappropriately intervened). However, this may also (at least partially) represent a lack of competitive pressure on one side of the market.



³⁷

It can also have dynamic effects for example high prices in PPI were leading to market decline as a result of bad publicity. A lack of selection pressure can lead to poor quality secondary market products and inefficient business practices in the secondary market may persist.

UNITED STATES

1. Introduction

The economics of two-sided markets is increasingly informing the antitrust analysis of markets such as electronic payments, computer operating systems, Internet services, real estate, and newspapers. At issue is how antitrust analysis should account for settings in which two-sided markets are present.

In two-sided markets, firms or “platforms” connect two different groups of customers, allowing the groups to interact. Customers in each group obtain value from interacting with customers from the other group, and this value is greater when more customers use the platform. In the jargon of economics, there are network externalities that operate across the two groups of customers. For example, in electronic payments, a brand of credit card is more valuable to a merchant, the more cardholders carry the card; conversely, a brand of credit card is more valuable to a cardholder, the more merchants accept the card. A commercial website (such as eBay or Craigslist) is more valuable to sellers if more potential buyers visit the site, and is more valuable to buyers if more sellers offer products and services using the site. Similarly, if more Internet users are connected to an advanced broadband network, the network will be more valuable to providers of applications and content that require data transmission at very high speeds; and users are more likely to value an advanced broadband network if they can access more content and applications using it.

An important function of platforms is to attract both groups of customers in sufficient numbers or in a suitable balance. If a platform were to attract only one group of customers (e.g., service providers but not consumers of such services), there would be no interactions between groups. If one group of customers is more difficult to attract than another, platforms may structure their pricing so that one group pays less than the other. In some cases, one group of customers may be paid to participate in the platform. In the economics literature, a market is considered two-sided if the volume of interactions on a platform depends on the way in which the platform allocates prices across the two groups of customers, as well as on the total price charged to the two sides.¹

The two-sidedness of a market is a matter of degree. In some markets, the network interactions between the two sides are so significant that both sides of the market are important for economic analysis. In newspaper markets, methods that account for network interactions between newspaper readers and advertisers have been used in economic analysis for decades.² In other markets, the interactions between

¹ This definition of two-sided markets follows Jean-Charles Rochet and Jean Tirole, “Two-Sided Markets: a Progress Report,” *RAND Journal of Economics*, 37, 645-667 (2006). For early work on network externalities, see Michael Katz and Carl Shapiro, “Network Externalities, Competition and Compatibility,” *American Economic Review*, 75, 424-440 (1985); Joseph Farrell and Garth Saloner, “Standardization, Compatibility and Innovation,” *RAND Journal of Economics*, 16, 70-83 (1985); and Marc Rysman, “Competition Between Networks: A Study of the Market for Yellow Pages,” *Review of Economics Studies*, 71(2), 483-512 (2004).

² For early foundational research on newspapers, see James M. Ferguson, *The Advertising Rate Structure in the Daily Newspaper Industry* (1963); and **JAMES N. ROSSE**, “Daily **NEWSPAPERS**, Monopolistic Competition, and Economies of Scale,” *American Economic Review*, 57, 522-33 (**1967**). For more recent research, see Ambarish Chandra and Allan Collard-Wexler, “Mergers in Two-Sided Markets: An Application to the Canadian Newspaper Industry,” Leonard N. Stern School of Business Working paper No. EC-07-03 (2008) available at <http://ssrn.com/abstract=985581>; and Patrick J.G. Van Cayseele and Stijn Vanormelingen, “Prices and Network Effects in Two-Sided Markets: The Belgian Newspaper Industry,” (2009) available at <http://ssrn.com/abstract=1404392>.

the two sides of the market may be insignificant or may not be relevant for a particular antitrust issue. In *United States v. Microsoft Corp.*,³ the U.S. Department of Justice (DOJ) alleged that Microsoft had taken actions to impede the distribution of Netscape Navigator. Although computer operating systems are a two-sided market with respect to PC users and application developers, the two-sidedness was not central for this part of the case.

2. Skewed Pricing Structures in Two-Sided Markets

A feature of many two-sided markets is a highly skewed pricing structure. That is, one group of customers pays a high price to use the platform, while the other group pays a very low or even negative price. For example, newspapers, web portals (e.g., Google or Yahoo.com), and websites offering information or entertainment content are often provided to readers for free, while advertisers pay the fees that cover the newspaper's or website's costs of production. In credit card systems, the transactional services (those services associated with the physical process of making a payment, as distinct from the supply of credit) are sometimes provided to cardholders for free. For credit cards that carry reward programs, the cost of the transactional services is subsidized by the rewards so that the effective price to a cardholder for using the card is negative. Merchants, on the other side of the market, however, often pay substantial fees for credit card transactions.

In a traditional market, prices either significantly above or significantly below production cost can raise antitrust concerns. In a two-sided market, however, a highly skewed pricing structure may be efficient. In order to maximize volume in the network, a platform may set prices above production cost on one side of the market in order to subsidize the other side. Perhaps the most basic reason for this is that the nature of externalities often differs across the two groups of customers.⁴ If one group gains more from interacting with the other group than vice versa, platforms will tend to charge that group more. In newspaper markets, advertisers subsidize readers because they place higher value on the interaction.

To illustrate these concepts formally, consider a simple model of a payment network. Payment networks connect two groups of customers, issuing banks and acquiring banks. The issuing bank is the cardholder's bank, while the acquiring bank is the merchant's bank. A payment network charges two prices for a payment transaction: price p_I is charged to the issuing bank, and price p_A is charged to the acquiring bank. An important distinction in the economics literature is between the price level and the price structure. The *price level* is the sum of the prices that the network receives for each transaction: $p = p_I + p_A$. The *price structure* is the allocation of the price level across the two groups.

Let the marginal cost of a transaction be $c = c_I + c_A$ where c_I is the marginal cost of providing network services to the issuing bank and c_A is the marginal cost of providing network services to the acquiring bank. A basic feature of payment networks is that it may be efficient for price to be below marginal cost on one side of the market (e.g., $p_I < c_I$) and above marginal cost on the other side of the market ($p_A > c_A$). The profit margin of the network, $p - c$, does not depend on how the total price is split between the two sides of the market, except to the extent that the split functions to balance the participation in the network among cardholders, merchants, and their respective banks. In credit card markets in the United States, the price split is typically structured by the network so that merchants effectively subsidize participation by cardholders.

³ *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 20 (D.D.C. 1999) (Findings of Fact), 87 F. Supp. 2d 30 (D.D.C. 2000) (Conclusions of Law), 97 F. Supp. 2d 59 (D.D.C. 2000) (Order), 353 F.3d 34 (D.D.C. Cir. 2001) (en banc). See http://www.usdoj.gov/atr/cases/ms_index.htm.

⁴ The nature of competition and market power also affect how price is allocated between the two sides of the market. See Mark Armstrong, "Competition in Two-Sided Markets," *RAND Journal of Economics*, 37, 668-691 (2006) and footnote 6 below.

3. Competition in Two-Sided Markets

A central question for competition policy is how competition affects prices. One of the most basic notions in economics is that competition drives prices toward the marginal cost of production, increasing economic efficiency and consumer surplus. In a two-sided market, it is possible for competition between platforms to have different effects on each side of the market, making conclusions about prices less clear.

One possibility is that competition reduces market power and prices on both sides of the market.⁵ The price decrease may be stronger on one side of the market than the other, but consumers on both sides of the market benefit. Another possibility, however, is that competition reduces market power and price on one side of the market, but leads to the same or higher price on the other side of the market.⁶

Credit card markets offer an example where competition has the potential to decrease price on one side of the market, while raising it on the other. Credit card networks set two important sorts of fees for each payment transaction: switch fees and interchange fees. The issuing and acquiring bank each pay a switch fee that is retained by the network as revenue. The acquiring bank also pays an interchange fee that is not retained by the network, but rather is paid out to the issuing bank of the cardholder, subsidizing the issuer's card operations. Competition for issuing banks may lead a credit card network to raise its interchange fee - effectively decreasing the price to issuing banks while increasing the price to acquiring banks. Thus, competition drives price on one side of the market up as it drives price on the other side of the market down.

In *United States v. Visa U.S.A., Inc.*, the DOJ had to consider this possibility when it challenged exclusionary rules that restricted the ability of American Express and Discover to compete for issuing banks.⁷ Because American Express sets the highest prices to merchants of all of the credit card networks, it seemed possible that a ban on the exclusionary rules would drive Visa and MasterCard to raise their interchange fees to be closer to the merchant fees of American Express. This would, however, have occurred as part of an increase in competition. Since the banning of the exclusionary rules in 2004, Visa

⁵ Conversely, a reduction in competition can increase market power and prices on both sides of the market. In 2001, for example, Attorney General Janet Reno approved a joint operating arrangement between two daily newspapers in Denver despite a concern that prices to both subscribers and advertisers would rise. The arrangement was approved under the Newspaper Preservation Act to prevent failure of one of the papers while preserving editorial and reportorial independence of both newspapers. See Press Release, Department of Justice, "Attorney General Approves *Denver Rocky Mountain News* And *The Denver Post* Joint Newspaper Operating Arrangement," (January 5, 2001) available at http://www.usdoj.gov/atr/public/press_releases/2001/7222.htm. Also see Report of the Assistant Attorney General in Charge of the Antitrust Division in the Matter of: Application By The E.W.Scripps Company and MediaNews Group, Inc. For Approval Of A Joint Operating Arrangement Pursuant To The Newspaper Preservation Act, 15 U.S.C. §§ 1801-1804, Public File No. 44-03-24-15, 4-5 (2000), available at www.usdoj.gov/atr/cases/f6500/6508.pdf.

⁶ E. Glen Weyl, "The Price Theory of Two-Sided Markets," Harvard University (2009), available at <http://ssrn.com/abstract=1324317>, refers to this scenario as "unbalanced" competition. Weyl uses the multiplicative-demand monopoly model of Jean-Charles Rochet and Jean Tirole "Platform Competition in Two-Sided Markets," *Journal of the European Economic Association*, 1, 990-1029 (2003). Weyl models greater competition as a reduction in market power on one or both sides of the market. He derives conditions on the demand system such that a decrease in market power (defined as the price divided by the elasticity of demand) on just one side of the market causes the price on that side of the market to fall while the price on the other side of the market rises. He also considers a notion of balanced competition in which market power falls on both sides of the market and both prices fall in the new equilibrium.

⁷ *United States v. Visa U.S.A., Inc.*, 163 F. Supp. 2d 322 (S.D.N.Y. 2001), *aff'd*, 344 F.3d 229 (2d Cir. 2003). See <http://www.usdoj.gov/atr/cases/indx57.htm>.

and MasterCard have introduced premium cards with higher interchange rates targeted at the same high-end consumers that American Express targets.⁸ This may have happened for a variety of reasons, but it is consistent with a conclusion that increased competition with American Express led to an increase in interchange fees.

The nature of competition may also be very different on each side of a two-sided market. Competition may prevail on one side of the market, while the other side of the market may be subject to monopoly or oligopoly market power. For example, consumers in some areas of the United States may soon be able to choose among several different broadband Internet access services. This may lead to competitive pricing for the provision of access services to end-users. Such competition, however, may not be accompanied by competition for the providers of Internet content and applications who are on the other side of the market. A provider of Internet content or applications can address a *particular* consumer only if the provider obtains access to the broadband network to which the consumer has chosen to subscribe. This essentially gives the network operator a monopoly over access to its end-users.⁹ The network operator may thus have the leverage to extract supra-competitive prices from providers of applications and content. This problem, sometimes referred to as the “terminating access monopoly,” is at the core of recent “network neutrality” debates in the United States.¹⁰

⁸ See H. Michael Jalili, “Visa: Competition Dictated Decision To Adjust Rates,” *American Banker*, April 19, 2007.

⁹ This illustrates the “competing bottlenecks” model of Mark Armstrong, “Competition in Two-Sided Markets,” *RAND Journal of Economics*, 37, 668-691 (2006). Consumers on one side of the market use only one platform (Internet users have one service provider), while consumers on the other side of the market use multiple platforms (content and applications providers use multiple platforms). A platform has monopoly power over its multi-homing customers (content and applications providers), because it is the only provider of access to its single-homing customers (Internet users).

¹⁰ See FTC Staff Report, “Broadband Connectivity Competition Policy,” pp. 89-95 (June 2007) (available at <http://www.ftc.gov/reports/broadband/v070000report.pdf>); Concurring Statement of Commissioner [now Chairman] Jon Leibowitz Regarding the Staff Report, “Broadband Connectivity Competition Policy,” available at (<http://www.ftc.gov/speeches/leibowitz/V070000statement.pdf>) (“There is a real reason to fear that, without additional protections, some broadband companies may have strong financial incentives to restrict access to content and applications.... If broadband providers begin to sell, to application and content providers, the right to access their customers, then the broadband market will become what some economists call a ‘two-sided market.’ The concern arises because the broadband provider’s market power when it sells its service to the application and content providers dwarfs its market power on the other ‘side’ of the market (where they sell that service to consumers). Once a consumer chooses a broadband provider, then that provider has monopoly power over access to that consumer for any application or content provider that wants to reach that customer. If a large national broadband provider were to begin charging Internet application and content providers to reach its customers, it would have monopoly power over access to potentially millions of customers nationwide.... As the Report notes, the dangers from this monopoly power include increased prices being charged by Internet content and applications providers to consumers (to cover those providers’ new costs of paying for access to those same consumers) and a reduction in the long run incentives for those application and content providers to develop new products, as the broadband firms would be able to expropriate the value of those new products.”). See also Nicholas Economides & Joacim Tåg, *Net Neutrality on the Internet: A Two-Sided Market Analysis* (May 2009) (available at http://www.stern.nyu.edu/networks/Economides_Tag_Net_Neutrality.pdf); *Formal Complaint of Free Press and Public Knowledge Against Comcast Corp.*, Memorandum Opinion and Order, 23 FCC Rcd 13028 (2008), appeal pending.

4. Merger Analysis in Two-Sided Markets

In the United States, merger review uses the framework of the *Horizontal Merger Guidelines* (Guidelines)¹¹ issued jointly by the DOJ and the Federal Trade Commission (FTC). The methodology in the Guidelines aims to identify mergers that are likely to create or enhance market power or to facilitate its exercise.

4.1 Market Definition

The purpose of market definition is to identify a relevant market in which firms could effectively exercise market power if they were able to coordinate their actions. The market definition test in the Guidelines asks whether a hypothetical profit-maximizing monopolist, not subject to price regulation, would impose at least a small but significant and nontransitory increase in price (a SSNIP), assuming the terms of sale of all other products are held constant. A relevant market is a group of products and geographic area that is no bigger than necessary to satisfy this test.

In a two-sided market, there are several prices that a hypothetical monopolist might increase.¹² In the simple model of electronic payments above, a platform sets two per-transaction prices, p_I to issuers and p_A to acquirers. The hypothetical monopolist exercises market power by raising the price level $p = p_I + p_A$. The SSNIP test is naturally applied to this price level. The monopolist can impose the price increase on one or both sides of the market by increasing p_I or p_A . It is also possible that the profit-maximizing monopolist might increase the price on one side of the market, while reducing it on the other side.

The issue of how to apply the hypothetical monopolist test in a two-sided market arose in *United States v. First Data Corp.*¹³ In 2003, the DOJ challenged First Data's acquisition of Concord EFS because it would have combined the two PIN debit networks, STAR and NYCE.¹⁴ PIN debit is an electronic payment method where a debit cardholder enters a personal identification number (PIN) to authorize its issuing bank to debit funds from the cardholder's bank account to complete a purchase. Like the credit card market, this is a two-sided market. Merchants value a brand of debit more, the more cardholders carry the card; debit cardholders value a debit brand more, the more merchants accept it. PIN debit networks set similar sorts of fees to those of the credit card networks. The acquiring bank and issuing bank each pay a switch fee to the network. The price level is the sum of these two switch fees. This is the network's revenue for a transaction. The acquiring bank also pays an interchange fee that is not retained by the network, but rather is paid out to the issuing bank.

¹¹ The Guidelines are available on the Agencies' websites at <http://www.usdoj.gov/atr/guidelines/hmg.pdf> and <http://www.ftc.gov/bc/docs/hmg080617.pdf>.

¹² For a discussion of the hypothetical monopolist test in payment card networks, see Eric Emch and T. Scott Thomson, "Market Definition and Market Power in Payment Card Networks," *Review of Network Economics*, 5, 45-60 (2006).

¹³ *United States v. First Data Corp. and Concord EFS, Inc.*, No. 03-CV-02169 (D.D.C.2003). See <http://www.usdoj.gov/atr/cases/first0.htm>. See also the FTC's statement on closing its Google/DoubleClick investigation - Statement of Federal Trade Commission Concerning Google/DoubleClick, FTC File No. 071-0170, available at <http://www.ftc.gov/os/caselist/0710170/071220statement.pdf>.

¹⁴ First Data had a controlling ownership interest in NYCE and Concord owned STAR. The merger agreement was executed in April 2003, and the DOJ filed its complaint in October 2003. The parties settled on the eve of trial, when First Data agreed to divest the NYCE network. The Final Judgment was entered in May 2004.

In establishing that PIN debit constituted a relevant antitrust market, the DOJ applied the hypothetical monopolist test. The DOJ argued that a hypothetical, profit-maximizing monopolist would raise prices to acquiring banks (and hence to merchants) by at least 5% to 10%, holding the price set to issuing banks fixed. This approach applied the 5% to 10% price increase to the sum of the acquiring bank's switch fee and the interchange fee. Because the interchange fee is much larger than the switch fee, this was a much larger price increase than a 5% to 10% increase in the total switch fees.

4.2 Market Power and Consumer Welfare

The aim of merger review in the United States is that a merger should not be permitted to create or enhance market power or to facilitate its exercise. A two-sided platform has market power when it has the ability to raise its price level above the competitive level for a significant period of time. In the model of payments above, the exercise of market power is reflected in the profit margin $p - c$, where p is the sum of the prices p_I and p_A set to the issuing banks and the acquiring banks and c is the marginal cost of a payment transaction.

The effect of a merger on the prices set to each side of a two-sided market depends on the nature of competition. A merger can increase market power and increase price on both sides of the market. In this case, customers on both sides of the market are harmed by the merger. A merger can also increase market power primarily on one side of the market. In this case, price may increase for one group of customers, with either no change in price or a price decrease for the other group.

Due to the complexity of pricing in some two-sided markets, it may be difficult to make predictions about how a merger will change prices.¹⁵ An alternative approach is to predict how a merger will impact transaction volume. In many economic models of two-sided markets, when a merged platform raises the price level (the sum of the prices to each side), the volume of interactions between customers falls.¹⁶ Even if the price falls on one side of the market, a reduction in competition causes transaction volume to fall because of the increase in price on the other side of the market.

5. Civil Non-Merger Analysis in Two-Sided Markets

5.1 Network Effects and Joint Ventures

Network effects in two-sided markets sometimes motivate firms to form joint ventures. Antitrust authorities may decide not to challenge these joint ventures when the procompetitive network effects are significant. However, antitrust concerns may arise over particular rules maintained by a joint venture that limit competition between the member firms.

In real estate markets, for example, there are very strong network externalities associated with listing services (databases of houses available for sale). A listing service is more valuable to a buyer if more sellers list their homes on it, and is more valuable to a seller if more buyers search for homes with it. The network effects are so significant that individual realtors and real estate firms frequently join together to form a Multiple Listing Service (MLS). In the United States, it is common for almost every real estate agent in a city to be a member of the same MLS.

¹⁵ In addition to the normal complexities of pricing, the sorts of fees used may be very different on the two sides of the market.

¹⁶ This is a property of the multiplicative demand model of Jean-Charles Rochet and Jean Tirole, "Platform Competition in Two-Sided Markets," *Journal of the European Economic Association*, 1, 990-1029 (2003). See also Eric Emch and T. Scott Thompson, "Market Definition and Market Power in Payment Card Networks," *Review of Network Economics*, 5, 45-60 (2006).

Antitrust concerns frequently arise over MLS rules that limit competition between real estate brokers. In 2006, the FTC issued a Complaint against the regional MLS, Realcomp, for allegedly agreeing to withhold certain listing services from discount real estate brokers while providing these services to its traditional full-service brokers.¹⁷ The Complaint claimed that Realcomp had maintained policies to limit the public's ability to find listings of discount brokers on popular real estate websites, and to limit the ability of brokers to find such listings on the MLS system. Realcomp argued that its policies did not impair the ability of discount brokers to compete with traditional brokers. They also contended that the policies promoted efficiency by preventing home sellers who did not wish to pay full-service brokerage fees from free-riding on the cooperative efforts of brokers to develop and support the MLS. After an administrative hearing, the administrative law judge (ALJ) found that "[d]iscount listings are sufficiently accessible on the Realcomp MLS" and that the Respondent's efficiency arguments were plausible.¹⁸ He therefore concluded that the policies did not unreasonably restrain trade in the two-sided market for brokerage services. The ALJ's decision is currently on appeal with the Commission.

In 2005, the DOJ filed a Complaint against the National Association of Realtors for adopting nationwide rules that limited competition from real estate brokers using the Internet and innovative business models to offer better services to their clients. The rules allowed traditional brokers to direct that their clients' home listing not be displayed on VOWs (virtual office websites).¹⁹ In 2008, the DOJ filed a Complaint against an MLS in Columbia, South Carolina for adopting rules that required member brokers to provide a minimum set of brokerage services even when some consumers may not have wanted all of those services.²⁰ In both cases, joint venture members agreed upon rules that limited competition among real estate brokers, artificially stabilized the price of brokerage service, and deterred innovation and the emergence of new brokerage business models. In both cases, the DOJ reached settlements that eliminated the anticompetitive rules.

5.2 *Single-Firm Conduct in Two-Sided Markets*

Single-firm conduct covers a wide range of antitrust issues. The two-sidedness of a market may or may not be relevant to single-firm conduct, depending on the conduct in question.

5.2.1 *Barriers to Entry*

Conditions of entry into a market often play an important role in establishing monopoly power under Section 2 of the Sherman Act. In two-sided markets, the network externalities operating across the two customer groups can make entry difficult. A platform must attract sufficient numbers of customers on both sides of the market in order to create value. In electronic payments for example, if a new platform were to focus on winning the business of merchants, without simultaneously tackling the job of getting cards into the hands of consumers, then merchants would not value the network because it would not deliver much incremental cardholder business. Thus a new platform must solve the problem of appealing to both sides of

¹⁷ See *In the Matter of Realcomp II Ltd.*, FTC Docket No. 9320, available at <http://www.ftc.gov/os/adjpro/d9320/index.shtm>.

¹⁸ *Id.*

¹⁹ See Final Judgment in *United States v. Nat'l Ass'n of Realtors*, No. 05-C-5140 (N.D. Ill. Nov. 18, 2008), available at <http://www.usdoj.gov/atr/cases/f239600/239655.pdf>.

²⁰ See Stipulation and Proposed Final Judgment in *United States v. Consolidated Multiple Listing Serv., Inc.*, No. 3:08-cv-01786-SB (D.S.C. May 4, 2009), available at <http://www.usdoj.gov/atr/cases/f245500/245547.pdf> and <http://www.usdoj.gov/atr/cases/f245500/245550.pdf>.

the market even when it is immature. This chicken-and-egg problem is essentially a coordination problem, and it can be a difficult one for a new entrant to solve.

Two-sided network externalities played an important role in *United States v. Microsoft Corp.*²¹ Microsoft operates in a two-sided market for computer operating systems. An operating system connects two groups of consumers, PC users and applications developers. PC users value an operating system more when more applications are written to it, and software developers do not want to write applications for an operating system unless there is a sizable and stable market of PC users for the applications. The district court concluded that this chicken-and-egg problem made entry into operating systems exceptionally difficult.²² The court labeled the problem an “applications barrier to entry.”²³

5.2.2 *Predatory Pricing*

In one-sided markets, there may be a finding of predatory pricing in the United States if a firm sets its price below an appropriate measure of costs in the short term and has a dangerous prospect of recouping its investments in the below-cost prices.²⁴

In two-sided markets, pricing below production cost on one side of the market may be profitable and efficient for competitive firms both in the short term and in the long term. Predatory pricing could still be a problem, but care has to be taken about what to infer from prices. Newspapers routinely sell to readers at prices below the cost of printing them. This is not taken as evidence of predation because advertising revenues cover the newspapers’ costs of production. This pricing is procompetitive because advertisers seek to reach a wide audience of readers. By structuring prices so that advertisers subsidize readers, a newspaper efficiently expands circulation volume.

²¹ *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 20 (D.D.C. 1999) (Findings of Fact), 87 F. Supp. 2d 30 (D.D.C. 2000) (Conclusions of Law), 97 F. Supp. 2d 59 (D.D.C. 2000) (Order), 353 F.3d 34 (D.D.C. Cir. 2001) (en banc). See http://www.usdoj.gov/atr/cases/ms_index.htm.

²² See Gregory J. Werden “Network Effects and Entry Conditions,” *Antitrust Law Journal*, 69, 87-111 (2001), and cites therein.

²³ *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 18 (D.D.C. 1999) (Findings of Fact).

²⁴ See *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* 509 U.S. 209, 222-24 (1993).

EUROPEAN COMMISSION

1. Introduction

Two-sided platforms refers to a situation where two distinct user groups interact with each other through a common platform and the value of joining the platform depends on expectations about the opposite network size¹. A classic example is provided by operating systems. In deciding whether or not to purchase an operating system users consider the number of software applications that run on that OS, whereas software developers consider the number of potential users running that OS.

Other examples of two-sided platforms can be found in various industries such as credit cards (cardholders and merchants); real estate brokerage (renters and landlords), internet portals and search engines (sites, surfers); magazines (readers and writers); yellow page directories (readers and businesses); night clubs (men and women); shopping malls (shoppers and shops), publication software (authors, readers), videogame consoles (gamers and developers), as well as various types of intermediation services such as matching and employment agencies, auction houses, service vouchers networks, payment systems, some telecommunication systems, scientific journals, and many others.

Typically, these two distinct customer groups cannot contract directly. The transaction costs of the customers individually reaching enforceable agreements to internalise network effects are too high, and would result in free rider problems. As a result a third-party usually creates a place or space – a platform – where the different groups of consumers/users can get together. In such situations, the need to get on board agents on all sides of the platform creates a so-called “chicken and egg” problem in that members of each group are willing to participate in the market only if they expect many members from the other side to participate². Yellow pages, internet portals and auction houses, to name a few undertake this crucial function – they provide a platform for the two or more sides to get together and the market to develop. Following Evans (2004), "a platform constitutes the set of the institutional arrangements necessary to realise a transaction between two users groups".

The literature on two-sided platforms (e.g. Rochet and Tirole, 2003 and 2006; Armstrong, 2006), builds on the older literature on network effects in non-intermediated trade (e.g., Katz and Shapiro, 1985) and, in particular, on indirect network effects (e.g., Chou and Shy, 1990; Church, Gandal, and Krause, 2002). Initially models typically assumed that agents on each side of the platform (such as sellers) do not compete with each other to be matched with agents on the other side (such as buyers) and agents on either side are charged for access and usage of the platform. The objective of this early strand of the literature is to analyze the pricing structure on both sides of the market when the platform is owned by a single owner.

¹ In a recent paper Ordober (2007) argued that to the uninitiated, the concept of a two-sided platform is probably confusing and offers little additional analytical insight, at best. After all, is it not the case that all markets have two sides, namely buyers and sellers? Ordober suggests to use a more informative description, namely: markets with two-sided platforms. In this paper we follow this proposal and refer consistently to two-sided platforms, as opposed to two-sided markets.

² See Caillaud and Jullien, 2003.

However, as Nocke et al (2006) observe there exist widely differing institutional arrangements or ownership structures of platforms. The platform may be owned by a monopoly intermediary, by many small intermediaries, or by agents active on each side of the platform, such as buyers and sellers. Dispersed platform ownership may further be distinguished by contractual arrangements and property rights: incumbent platform owners may or may not have the right to restrict entry onto the platform.

The most recent and now burgeoning literature on two-sided platforms, addresses the challenging, and complex case of platform competition: for example, between alternative payment systems, newspapers and TV channels, intermediation services or shopping malls. A key characteristic of platform competition is multidimensionality. Whereas, in a conventional single-side market, customers may be attracted through lower prices and higher utility in one market, in a two-sided context it is possible to compete in one or the other side.

Note also that belonging to a common platform does not rule out the emergence of "within-platform" competition, (that is, competition between agents within the same platform to be matched with agents on the other side). For example, payment card networks set compensation fees between bank members, but banks remain free to compete, having freedom in the choice of final prices for their services. A shopping mall is a two-sided platform, attracting both customers and shops but shops may still compete among themselves.

Two-sided platforms present certain practical problems. The complexity primarily arises from the presence of two (or more) unique, but interdependent, classes of agents or customers. The analysis needs to account for (1) the responses of two (or more) distinct sets of agents to platform owners (2) platform owners responses to two sets of agents, and (3) the responses of one set of agents to changes in the others' behaviour and vice versa - particularly as demand conditions change on each side. This pattern of cross-responses will generally affect each step of standard antitrust analysis, from product market definition, the competitive assessment, entry, efficiencies, etc. However, as argued in this contribution, this does not imply a need to abandon the typical tools that one applies in the analysis of single-sided markets, only to adapt them.

At the outset, it is necessary to point out that the EU Commission, possibly like other competition authorities, has not yet acquired any significant experience on the assessment of competition cases involving two-sided platforms. As a result this OECD Roundtable contribution, unlike past contributions in other topics, does not provide a summary of the EU Commission's case practice regarding the competitive assessment of two-sided platforms. There are three reasons for the limited relevance of "two-sidedness" in past competition cases:

- First, and despite the prevalence of two-sided platforms in certain sectors, the large majority of competition cases concern, in fact, standard single-sided markets where sellers interact directly with buyers, at one or more levels of the supply chain. Moreover, many two-sided platforms consist of numerous, relatively small firms in what would be called competitive markets such as nightclubs, dating agencies, estate agencies and employment agencies where anti-competitive behaviour is relatively uncommon unless there is some form of coordinated activity, for example through industry associations.
- Second, and as pointed out by Roson (2005) in his "tentative survey", most of the theoretical work in two-sided platforms is still nascent. Most academic contributions, including some now considered seminal papers, have not yet been published (or only recently) in scientific peer-reviewed journals. Quite fittingly, they circulate as working papers or unpublished manuscripts, exploiting the internet and electronic repositories as a platform that brings together researchers and readers, including antitrust practitioners. Indeed, there is still some lack of general consensus

about what constitutes key characteristics of two-sided platforms, small changes in the modelling assumptions appear to lead to significant differences in the results, making it difficult to obtain general policy recommendations.

- Finally, empirical research is lacking. The very few available studies address specific issues of specific two-sided platforms. More general empirical research is indispensable.

Thus, it is still early for a competition authority to adopt any definite views, let alone concrete policies or assessment methodologies, concerning the application of competition policy in cases involving two-sided platforms. Hence, the views and comments put forward in this paper are intended to add to the ongoing debate and cannot be read as providing guidance on the EU Commission's past or future assessment of competition cases involving two-sided platforms.

It follows from the above that this contribution has modest goals. Section 2 identifies the key features that define two-sided platforms. Section 3 reflects on some important insights derived from a selected review of the economic literature regarding assessment of competition cases involving two-sided platforms. It draws heavily from the sources cited in the reference list but is intended to provide a roadmap of the most relevant insights that emerge from the literature from the perspective of a competition policy enforcer. Section 4 provides a detailed summary of some recent cases where the EU Commission has taken into consideration, explicitly or implicitly the existence of a two-sided platform.

2. Defining features of two-sided platforms

Following both Evans (2004) and Reisinger (2003) a platform (or market) is said to be two-sided "at any point in time" if there are,

- two distinct groups of agents or customers;
- the value obtained by one class of customers increases with the number of the other class of customers; and
- an intermediary is necessary for internalizing the externalities created by one group for the other group.

The relevance of the two-sided nature of platforms depends importantly on three elements³:

- a. indirect network externalities
- b. pricing structure and the
- c. pattern of adhesion ("homing") to the platform.

Under specific circumstances, and in particular when indirect network effects are negligible, the standard "single-sided" analysis of each side of the platform in isolation represents a simpler analytical framework and a reliable proxy.

³ See Vannini (2008)

2.1 *Inter-group network externalities*

One important characteristic of two-sided platforms is the presence of network externalities between the two different groups using the platform. Network externalities are said to exist when consumer utility in a certain market depends (usually, in a positive way) on consumption of the same good or service by other agents. Markets with network externalities have been widely analyzed, especially since the contributions of Katz and Shapiro (1985), Farrell and Saloner (1985), and others. However, in this literature, users belong to the same group and externalities are "intra-group" externalities whereas in a two-sided platform there are two different groups of users, and externalities are "inter-group" externalities⁴.

Inter-group network externalities do not depend on consumption of agents in the same class (for example, consumers of the same product), but on consumption of different, but "compatible", agents on an opposite side of the platform. For example, in joining an intermediation (or exchange) service platform, a buyer will take into account the number of potential sellers using the same platform, in addition to the price she should pay. The number of readers of a newspaper or magazine (or the audience of a TV broadcast) tends to attract advertisers and the number of customers of a shopping mall tends to attract the suppliers of products to be sold there⁵.

Since the opposite network size is affected by the specific price applied to that side, the indirect utility for an agent in a two-sided platform depends on *both* prices. However, if agents are allowed to make side-payments, the usage fee applied to each of them would play a rather minor role in the adoption choice. For example, if a buyer and a seller would be free to negotiate a transaction price, only the total surplus, net of

⁴ Katz and Shapiro (1985) also distinguish between direct and indirect network effects. A direct effect arises when there is "a direct physical effect of the number of purchasers on the quality of the product" (p. 424). Katz and Shapiro (1994) term networks with a direct physical effect "communication networks", and (not surprisingly) the canonical examples are communication technologies such as telephone and email networks and facsimile standards where it is intuitive that the value of joining a network depends on the number of other consumers who join by adopting the same, or a compatible, technology. When the network effect is indirect, consumption benefits do not depend directly on the size of the network (the total number of consumers who purchase compatible products) per se. Rather individuals care about the decisions of others because of the effect that has on the incentive for the provision of complementary products. For example, PC users are better off the greater the number of consumers who purchase PCs as this would stimulate demand for compatible software, which if matched by an appropriate supply response—entry by software firms—will lead to lower prices and/or a greater variety of software. In this example there is also a positive externality on members of the same group but only "indirectly" through the "inter-group" externality.

⁵ As pointed out by Roson (2005) the nature of two-sided network externalities is determined by the characteristics of interaction processes. From the demand point of view, two main sources of externality can be singled out, depending on the interaction type:

- Single interaction externality. A single matching is realized between two entities, acting on the two market sides. Network externalities exist whenever the matching quality improves when more alternatives become available. Examples of these markets can be found in real estate, dating and employment agencies.
- Multiple interaction externality. Every agent gets a benefit, possibly potential from each interaction. More interactions are possible if more partners are available. Markets of this kind can be found in telephone directories, Internet search engines and payment systems.

all transaction costs of all sides, would matter. Any cost shift, for example, from the seller to the buyer, would then be passed through, and neutralized, for example through a corresponding price reduction⁶.

Furthermore the strength of the inter-group network externalities is likely to have an influence on the pricing pattern across both sides of the market. Suppose there are two groups of agents that interact via one or more “platforms”. If a member of group 1 exerts a large positive externality on each member of group 2 then it is natural to expect that group 1 will be targeted aggressively (i.e. offered a low price relative to the cost of supply) by platforms (see also the next section)

In general terms, unless they act to drive the industry to monopoly, cross-group network externalities act to intensify competition and reduce platform profits. In order to be able to compete effectively on one side of the market a platform needs to perform well on the other side (and vice versa). This creates a downward pressure on both sides compared to the case where no cross-group effects exist. This implies that platforms may seek ways to mitigate networks effect, for example through platform differentiation.

Finally, as in all markets with network externalities, there is often the possibility that one platform will corner (both sides of) the market if the inter-group network externalities are powerful. It can be very hard for an entrant in such markets to get started. However, this outcome is not necessarily bad from a social welfare point of view when externalities are strong.

2.2 *Pricing in a two-sided platform*

In two-sided networks, users on each side typically require very different functionality from their common platform. Given these different requirements, platform providers may specialize in serving users on just one side of a two-sided platform. Nonetheless, whether a platform is trying to achieve a dominant position on one or both sides of the market, or competing against several others, it faces the problem of attracting both sides of the market simultaneously.

2.2.1 *Pricing instruments*

Rochet and Tirole’s (2004) argue that the defining feature of two-sided platforms is that there are different ways of breaking up prices across buyers and sellers, and how prices are set is not neutral. For example, newspapers sell papers to consumers at less than the marginal production cost and make money on advertisers, and eBay devotes a part of its revenue stream to providing services to large sellers. However, the ability to balance prices across the two-sides of a platform depends also on the range of pricing options available to the platform owners:

- Platforms might charge for their services on a ‘lump-sum’ basis . That is, an agent’s tariff does not explicitly depend on how well the platform performs on the other side of the market. One example is Windows OS, which is generally sold at a posted price.
- Alternatively, it may be technologically feasible to set the tariff as a function of the platform’s performance on the other side. One example of this practice is a TV channel or a newspaper that

⁶ According to the definition proposed by Rochet and Tirole (2004), such a platform should not be termed “two-sided”. More precisely, they define a platform as two-sided if, holding constant the total of prices faced by the two parties, any change in the price structure (or distribution) would affect participation levels and the number of interactions on the platform. This would occur if costs on any side cannot be completely passed through to the other side. Thus, it would become important to consider who pays what, in order to get “both sides on board”.

makes its advertising charge an increasing function of the audience or readership it obtains (to do this there must be a credible third party which can accurately estimate audiences).

- In some cases the platform owner may be able to charge for actual interactions or even sign credible contingent contracts making payments dependent on subsequent participation and transaction levels. Complicated contracts obviously have the potential to extract consumer surplus more fully, but in some circumstances could also make a dominant firm much more susceptible to entry and thus greatly limit profits. For instance, a potential intermediary could attract all buyers by promising to make large payments to them if it fails also to attract all sellers away from the incumbent intermediary. Important examples of this are credit and debit cards (where the charge paid by retailers is levied as a percentage of the revenue transacted) or telephony (where the relevant charges are levied on a per-minute basis). Also, the bulk of a real estate agent's fees are only levied in the event of a sale.

The crucial difference between these pricing instruments is that inter-group network externalities are less important with per-transaction charges. Since a fraction of the benefit of interacting with an extra agent on the other side is eroded by the extra charge incurred. For instance, when the charge for placing an advert in a newspaper is levied on a per-reader basis, an advertiser does not have to form a view about how many readers the newspaper will attract when it decides whether to place an advert. It will place an advert when its perceived benefit -which is most naturally considered to be expressed on a per-reader basis exceeds the per-reader charge, and this calculation does not depend upon the total number of readers. Because network effects are lessened when advertisers pay charges on a per-reader basis it is plausible that platform profits are higher when this form of charging is used.

At the same time charging on a per-transaction basis may be an excellent entry strategy for a competing platform. If an agent has to pay a new platform only in the event of a successful interaction, then that agent does not need to worry about how well the new platform will do in its dealings with the other side. That is to say, to attract one side of the market the new platform does not first have to get the other side "on board".

2.2.2 *Pricing structure across customer groups*

It is often observed that in two-sided platforms the price structure to get both sides on board and optimise usage of the platform is usually asymmetric with prices on one side substantially above those on the other side. Moreover, different firms choose different beneficiaries. In streaming video, portable documents, and advertising, for example, the industry norm is to subsidize content consumers and charge content developers. The opposite, however, holds true for operating systems and multiplayer games in which content developers receive subsidies and consumers pay to join the network.

Parker & Aylstine (2000) show that the pricing structure depends on cross-price elasticities as well as the relative sizes of the two-sided network effects. The intuition is that the existence of indirect inter-group network effects implies that in order to attract one group of users, the platform owner may subsidize the other group of users. Demand curves are not fixed: with positive cross-side network effects, demand curves shift outward in response to growth in the user base on the network's other side⁷. A platform owner serving two sides of the platform can set prices more efficiently by internalizing these two-sided inter-group externalities. Independent firms serving either market separately lose this advantage. Historically, for example, Adobe's portable document format (PDF) did not succeed until Adobe priced the PDF reader at zero, substantially increasing sales of PDF writers.

⁷

See "http://en.wikipedia.org/wiki/Two-sided_market" for a graphical illustration of this effect.

Stimulating value adding innovations is another reason to subsidize adoption. Relative to Apple computer's initial pricing, Microsoft gave away software development kits and charged no royalties to applications developers leading to more rapid development of applications for MS Windows. Instead, Microsoft made its profits by charging end-users prices well above costs. This pricing strategy is sometimes referred to as "divide-and-conquer": subsidizing the participation of one side (divide), generally the more price sensitive side, and recovering the loss on the side whose demand increased more strongly in response to growth on the other side (conquer)⁸.

Thus, irrespective of the pricing instrument considered, the economic literature suggests that the optimal pricing structure for a two-sided platform depends on the following factors:

- The price elasticities of demand on each side of the platform. The side that values the platform more will pay more.
- The relative strength and characteristics of the indirect network effect between the two sides.
- The level of competition from other platforms and substitute products on both sides. These include the extent of multi-homing and product differentiation (see next section).

Note that, pricing strategies by platform owners are not necessarily designed to recover the operating costs of one side or the other but are set to maximise profits by getting both sides on board and optimising usage of the platform. As a result the two sides of the platform prices may not reflect costs on either side. Many platforms price below the marginal cost of providing the platform on one side and substantially above total cost on the other side. Consequently, profit maximising principles in single-sided platforms of setting marginal revenue to marginal cost on each side of the platform will not generally result in optimal prices for a platform owner. More generally, the relationship between the prices and costs on both sides are interdependent and complex and the simple formulae of single-sided markets do not apply⁹.

⁸ Rochet and Tirole (2004) note that demand creation - as distinct from surplus division - violates the Coase theorem (1960). This theorem states that, regardless of externalities, transactions volume will be efficient as long as property rights are clearly defined and there are no information asymmetries or transaction costs. Buyers and sellers will bargain their way to efficiency; pollution trading rights come to mind as an example. The Coase theorem fails in the case of two-sided network effects. Property rights, symmetric information, and zero-cost transactions do not suffice for efficient trading volume when it is the presence of one consumer type that itself creates value for the other type.

⁹ Parker and Aylstine (2000) introduce a simple two-sided platform model that captures the above insights. In particular they prove several simple and intuitive results. First, a firm can rationally invest in a product it intends to give away into perpetuity even in the absence of competition. The reason is that increased demand in a complementary premium goods market more than covers the cost of investment in the free-goods market. In this case, market complementarity arises from an inter-network externality. This strategy also takes advantage of information's near zero marginal cost property as it allows a firm to subsidize an arbitrarily large market at a modest fixed cost.

Second, they identify distinct markets for agents on one side (content providers) and agents on the other (end consumers) and showed that either market can be a candidate for discounting or free distribution. Deciding which market to subsidize depends on the relative network externality benefits. At a high level of externality benefit, the market that contributes more to demand for its complement is the market to provide with a free good. At lower levels, firms may charge positive prices in both markets but keep one price artificially low.

Third, they argue that, in the context of their model, consumer welfare is not harmed when firms set prices across markets with positive complementarities. Firms can manipulate total market size through choice of price in each market. Consumers then benefit to the extent that a self-interested firm sets prices more

2.3 Adhesion pattern (*Multi-homing vs. single-homing*)

Whenever there are several providers of the same type of platform, customers on each side of the platform may choose to subscribe to one provider only ("*single-homing*") or to several providers ("*multi-homing*")¹⁰. The concept of multi-homing covers both subscribers to all available platform providers ("full" multi-homing) and to more than one (but not all) of them – partial multi-homing (clearly this distinction does not arise where there is a monopoly platform). A platform's customers also may adopt different subscription policies both within and across sides, depending on preferences and possible differentiation among providers' offers. It turns out that it can make a big difference to outcomes whether agents on either side single-home or multi-home¹¹.

Multi-homing can be more easily observed when fixed costs of joining a platform are low or absent. For example, if per-transaction fee is the more significant cost element for merchants, more than one credit card will likely be accepted for payment by the same business. On the contrary, if consumers pay only a fixed subscription fee, they will tend to use a single credit card, especially if credit cards offer comparable services and have similar degrees of acceptance among merchants.

Adding multi-homing makes the analysis of two-sided platforms considerably more complex. To keep the analysis tractable, many authors just assume, on the basis of the specific characteristics of the markets at hand, which market side multi-homes. Other authors adopt special assumptions, which allow them to know in advance which side will eventually multi-home in equilibrium. For example, most people wish to subscribe to a single mobile telephony network; many have the time to read only a single newspaper per day and many people "one-stop shopping" to visiting a variety of locations for their shopping needs. In these and similar situations it may be appropriate to assume that the pattern of adhesion is exogenous to the conduct of platform providers.

As explained by Rysman (2007) the presence of multi-homing on one side of competing platforms influences the degree of competition. Whether agents at both sides of a platform participate in multiple platforms or just one has important implications for market power. If one side of a market practices single-homing, then the only way for the other side to reach those agents is through their preferred platform. Thus, platforms have monopoly power over providing access to their single-homing customers for the multi-homing side. This monopoly power naturally leads to high prices being charged to the multi-homing side and typically there will be too few agents on this side being served from a social welfare point of view¹².

efficiently but cannot capture all consumer surplus from the efficiency gains. A firm internalizes the market externality but wins only a fraction of this effect.

¹⁰ Some authors also use a slightly different terminology referring to multi-homing as "non-exclusive" interaction and single-homing as "exclusive". See for example Caillaud and Jullien (2003).

¹¹ This section heavily relies on Vannini (2008)

¹² This tendency towards high prices is tempered somewhat when the single-homing side benefits from having many agents from the other side on the platform. In that case high prices to the multi-homing side will drive away that side and thus disadvantage the platform when it tries to attract the single-homing side. However, this point is never sufficient to undermine the basic result that the price charged to the multi-homing side is too high. By contrast platforms have to compete for the single-homing customers and in many cases, the monopoly profits from the multi-homing side are passed on to the single-homing side in the form of a low price (or even a zero price) for that group. In sum, the single-homing side makes an "either-or" decision when it comes to platform choice, which makes that side of the market very competitive.

Multi-homing prevailing on one side of the platform and single-homing on the other often results where indirect network effects are asymmetric and mostly arise on the single-homing side. This is the situation identified in the economic literature as "competitive bottlenecks", which, in its most stylised version, boils down to full multi-homing on one side and single-homing with no exceptions on the other. In this case, as soon as platform providers manage to get enough of both sides on board, platform providers will be able to "tip" the market in a way allowing them to extract rents from multi-homing users. In this way, platform providers can cover subsidisation of single-homing users willing to join the platform, for which providers have to compete fiercely. Single-homing on one side supports rent extraction on the multi-homing side.

Vannini (2008) recalls that this extreme homing configuration (and related rent distribution pattern) is based on a series of assumptions: (i) that there is no differentiation among different platform providers, (ii) that customer preferences on the same side of the platform are sufficiently homogeneous and (iii) that customers on the multi-homing side have no bargaining power allowing them to limit rent extraction by the platform provider. Under these assumptions theoretical models such as Armstrong's (2006) predict intense competition between platforms on the single-homing side of the market and almost non-existent competition on the multi-homing side.

Intuitively, to get reciprocal multi-homing, it is essential that not all agents in the other side multi-home, which may occur only when platforms are horizontally differentiated on both sides of the market. As soon as *differentiation* enters into play, in e.g. the functionalities and content provided by the platform provider, simultaneous multi-homing on both sides of the platform becomes possible in equilibrium. If, say, consumers have access to the same content no matter which platform provider is chosen, subscribing to an additional platform provider does not give access to additional content and the marginal benefit does not justify the additional subscription, unless the price is very low (or zero). However, if different platforms give access to significantly different and complementary content (or functionalities), multi-homing may arise on the consumer side of the platform even in the absence of indirect network externalities¹³.

As to customers' preferences, there may well be some degree of *heterogeneity* within the same group, not only among customers belonging to different groups, so that single-homing and (different degrees of) multi-homing may coexist within the same group. For instance, some large customers need to have a backup solution in the event of technical failure of the default platform provider. Therefore, heterogeneity can also be a driver of multi-homing in the absence of indirect network externalities and differentiation.

Last but not least, customers on the multi-homing side, for whom the platform's provider represents a gatekeeper to single-homing customers, may have some countervailing *bargaining power*. For instance, they can divert some of their traffic and circumvent the platform, thereby decreasing the total rent available for extraction by the platform provider. While remaining able to extract the same rent in relative terms, as compared to the total rent available, the platform provider will still see its rent decrease in absolute terms because of the diversion. Faced with this possibility, the platform provider may well decide to make concessions to multi-homing customers in order to limit diversion (and the related erosion of the total rent

¹³ Rasch (2007) offers a model with differentiation also on the multi-homing side. He claims that with product differentiation partial multi-homing arises. As a result, platforms neither always charge this side a higher price nor leave it without any surplus from trade. This is intuitive as partial multi-homing implies that platforms are no longer local monopolists on the multi-homing side which results in a price reduction. However, when it comes to the relative prices on both sides, there are ambiguous effects as to whether platforms prefer multi-homing (which is equal to lowering the respective price even more in order to boost overall demand) or whether they do not (which is equal to making services more exclusive).

available for extraction). This is precisely the issue arising in the Worldspan/Travelport case discussed in section 0 below).

As mentioned above the reason why one side chooses to "single-home" often will depend on the specific context. In other situations the choice of joining one or more platforms should be, in principle, endogenously determined within a model of platform competition. Unfortunately, introducing endogenous platform adoption can easily make the models overwhelmingly complex, and this also explains why most authors specify ex-ante the single/multi-homing structure of the markets. There are, however, a few papers which have recently addressed special cases of endogenous adhesion patten.

In particular, Gabszewicz and Wauthy (2004) assume agents are heterogeneous and allow for an endogenous participation in each side of the market (i.e. registering to no platform is allowed, and is observed in equilibrium). However only registration fees are allowed in this model implying that it is best viewed as representing a situation where the agents in one side of the market have access to a set of transactions whose size is endogenously determined by the number of affiliated agents in the other side. In this model, one side multi-homes, whereas the other one single-homes¹⁴. This equilibrium has similar features as identified by Armstrong (2004) with the multi-homing side being "exploited" and the other being targeted "aggressively". A key-difference is that Armstrong assumes the homing structure (single-homing on one side, multi-homing in the other) whereas in Gabszewicz and Wauthy (2004) the unique equilibrium outcome emerges endogenously.

3. Assessment of competition cases involving two-sided platforms

In principle, competition concerns are the same whether firms compete in two-sided platforms, multi-sided or single-sided markets. Firms supplying two-sided platforms can exercise their market power unilaterally or through coordinated action with other firms by engaging in anti-competitive practices that harm consumer welfare and economic efficiency.

Nevertheless, as Wright (2004) points out two-sided platforms do present some problems for competition policy. For instance, an efficient price structure may not reflect relative costs; a high price cost margin is not generally an adequate indicator of market power; a price below marginal cost may be unrelated to predation and, importantly an increase in competition may lead to a less efficient or less balanced price structure, thus harming one side of the platform more than the other¹⁵.

In spite of these analytical traps that may lead a competition authority to make type I or type II errors this does not imply that a hands-off or for that matter an interventionist approach is adequate, only that extra care in the analysis is required.

3.1 Market Power

As explained above, the platform operator sets the price to each side in a manner that reflects the indirect network effects. It is often argued that market power such as the ability to raise prices above competitive levels is more constrained than in single-sided market, other factors remaining the same,

¹⁴ There cannot be reciprocal multi-homing in equilibrium. As mentioned above, the intuition is simple: there is no scope to multi-home when agents of the other side are already present in all platforms.

¹⁵ A further dimension of the problem is that the conventional tools of assessment used by competition authorities such as the SSNIP test and critical loss analysis for defining relevant markets and the methodologies for assessing market power need to be modified to take into account the interdependence of demand and indirect network effects that exist in two-sided platforms.

because of this interdependence of demand on both sides of the platform¹⁶. A rise in price on one side of the market will not only reduce sales on that side but may lead to a fall in demand on the other side arising from the indirect network effect. A fall in demand by customers on one side will reduce the value of participation in the platform on the other side. In turn the fall on the other side will trigger a further fall in demand on the side experiencing the price increase. The feedback effects could lead to a substantial fall in total demand for the platform that could make the price increase unprofitable.

As Ordover (2008) suggests, however, this reasoning is incomplete and somewhat misleading. The mirror argument is also correct: by charging a low price on one side of the platform the platform owner attracts more agents to that side, thus improving the attractiveness of the platform for the other side and reducing the elasticity of demand. As a result, at least in principle, a low price on one side of the market lessens the adverse effects of a price increase to the participants on that side. Further, depending on the factors discussed in the previous section a platform operator may exploit the relative adhesion pattern, charging a higher price to the multi-homing side and a lower price to the single-homing side¹⁷.

A second constraint often alleged to exist on market power for two-sided platforms is the need for it to be acquired and maintained on both sides of the market in order to achieve profits substantially above competitive levels. Having market power one side is not enough. If there is limited competition on side A of a market but strong competition on side B, the profits earned on side A will be competed away over time on side B.

But note this reasoning also implies that entry might be difficult. 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 platforms, but quite difficult in others. For example, 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 platforms because of the presence of particularly strong inter-group network effects. 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.

The analysis, however, is even more complex than it appears at first. As Parker and Alystine (2000) point out an incumbent firm on one side of the platform, say a content producer for one format probably does not welcome entry by a competing firm producing similar content. Buyers in the other side of the platform, however, welcome entry because it increases the prospect of a viable format should the incumbent fail. It also increases variety while possibly lowering prices. This increases both the value to

¹⁶ See, for example, Evans and Schmalensee, 2007.

¹⁷ An important complication for the analysis of market power in two sided platforms is its measurement. For example, the frequently used Lerner index, which calculates a firm's price cost margin, is not a sound measure of the extent of market power in two-sided platforms. Prices on one side of the market are not related to costs on that side but on the relative price elasticities of demand on either side, the strength of the indirect network effect and the total cost of the platform. As mentioned above, this asymmetrical price structure can result in prices being below marginal cost on one side and substantially above marginal cost on the other side. Consequently, a comparison of price to cost on either side in isolation is not an indication of market power. Formulae similar to the standard Lerner index taking into account both sides of the market have been developed (see, for example, Rochet and Tirole, 2004), though these formula lack general applicability.

individuals and the number of individuals willing to switch formats. This may lead to an expansion of the consumer side of the platform. Hence own-market entry may expand participation on the other side of each transaction. Content creators may not object to other content-providing firms if effective consumer demand rises instead of falls.

In sum, the implication from the literature is not that two-sided platforms cannot have market power but, rather, that a great deal of caution has to be exercised in inferring such market power from standard indicia of market power.

Regarding market definition the application of the SSNIP many authors have pointed out that it cannot be usefully applied to one side of the platform in isolation. For a two-sided platform, an increase in the price on one side has implications for demand on the other side and thus for the overall profitability of the platform and impact of the price increase itself. A SSNIP test based on one side of the platform alone will not capture the effects of the constraints on a price increase from the interdependence of demand on both sides and can lead to a market being too narrowly defined. A similar problem applies to the application of critical loss analysis (CLA) which is often used in conjunction with the SSNIP test. However, as Ordober (2007) again explains, this is not an unfamiliar complication: in the presence of complementary components a hypothetical monopolist must consider how a price increase on one component may lower demand, and revenues in the market for its complement. Of course it is somewhat more complicated when the link depends on inter-group network effects since generally the hypothetical two-sided platform must not only find the optimal price level but also the optimal price structure. However, these problems are not insurmountable and (certainly as a guiding concept) both the SSNIP test and CLA can still be applied with modifications.

3.2 *Cross-market welfare effects*

The characteristics of two-sided platforms increase the difficulty of analyzing the competitive effects of mergers and other conduct. For example, a merger of exchange or intermediation platforms 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.

However both the merger guidelines as well as the guidelines on Article 81(3) leave open the possibility of taking cross market efficiencies into consideration in assessing the overall competitive effects of a merger or agreement. Paragraph 79 of the Horizontal Merger Guidelines states that “*The relevant benchmark in assessing efficiency claims is that consumers will not be worse off as a result of the merger. For that purpose, efficiencies should be substantial and timely, and should, in principle, benefit consumers in those relevant markets where it is otherwise likely that competition concerns would occur*”. Note that the wording clearly suggests that in some (possibly exceptional) circumstances the Commission would take into account efficiencies that benefit one set of consumers as partially offsetting harm to another group. Two-sided platforms may indeed be one of such circumstances.

The guidelines on Article 81.3 contain similar wording in paragraph 43: “The assessment under Article 81(3) of benefits flowing from restrictive agreements is in principle made within the confines of each relevant market to which the agreement relates”. However, this paragraph further specifies that “where two markets are related, efficiencies achieved on separate markets can be taken into account provided that the group of consumers affected by the restriction and benefiting from the efficiency gains are substantially the same”. In the case of two-sided platforms, it is clear that the two sides are related. However, agents on each side are in general not substantially the same. Still, benefits on one side of the platform may lead, through the inter-group network effects to compensating benefits to agents on the other side.

It also worth pointing out that, as mentioned in footnote 57 "...the Court of First Instance held that Article 81(3) does not require that the benefits are linked to a specific market and that in appropriate cases regard must be had to benefits 'for every other market on which the agreement in question might have beneficial effects, and even, in a more general sense, for any service the quality or efficiency of which might be improved by the existence of that agreement'. However, in the same footnote it is also indicated that in the case in question in fact the customers in both related markets were substantially the same.

3.3 *The limits of competition policy*

In the model proposed by Armstrong (2006) and discussed in section 0 platforms exploit their monopoly position on the multi-homing side by setting high charges to that group. How high these charges are depends on how much the single-homing group cares about the volume of business on the multi-homing side. The profits from the multi-homing side are used to fund aggressive marketing efforts towards the single-homing side.

Armstrong points out that even if the platforms do not make excessive profits overall, the multi-homing side faces too high a charge from the point of view of social welfare. Bolt and Tieman (2006) in a comparatively simple two-sided platform model, obtain a similar result. They show that in the social optimum, platform pricing leads to an inherent cost recovery problem. This result is driven by the inter-group network effect of participation that users on either side of the market exert on the opposite side. The contribution of this positive externality to social welfare leads the social planner to choose a corner solution, in terms of full participation of the more elastic buyers' side of the market and recovering costs from the price-inelastic sellers' side. In fact a social planner will price below marginal costs, leading to an under-recovery of costs and hence an operational loss for the platform. The positive network externalities operate like economies of scale on demand, analogous to the case of a natural monopoly. It follows that even adequate competition policy enforcement alone may not always lead to best outcomes. This suggests, at least in some instances regulation may be pertinent.

In particular, since the platform network generates positive social welfare, compensation through external subsidies from the social planner or cross-subsidization from other sources of income could be warranted. As Bolt and Tieman (2006) also point out, however, in a dynamic perspective, subsidies may enhance the rapid development of more advanced networks, but could stifle innovative potential if they induce monopoly platforms to remain idle and "have a quiet life". Another possibility would be to facilitate the use of more complex pricing mechanism such as two-part tariffs. Alternatively, the social planner might instruct the platform to implement Ramsey pricing, that is, to set prices that optimize social welfare under a balanced budget constraint. However, these types of solutions have second-best distortionary side effects, which should be taken into account.

3.4 *Anti-competitive foreclosure in two-sided platforms*

Typically, large two sided platforms, especially in the "new economy" display substantial economies of scale arising from large fixed costs in developing and maintaining a platform and relatively low marginal costs in serving both sets of customers. Where substantial economies of scale exist, the typical market structure is likely to consist of a few large firms each with significant market power. Strong network effects reinforce the trend towards a concentrated market structure. Platforms with more customers on one side are more valuable to customers on the other side and become more valuable as the demand from each side grows. In a platform with large economies of scale, unit costs fall as demand grows and profit margins increase. In these market circumstances, firms that are first or early movers have a natural advantage, which combined with economies of scale, means that competition in some two-sided platforms can be a race for the market. Moreover it is worth noting that two-sided platforms can tip easily. Buyers will tend to prefer (all other things equal) the platform that offers access to the most sellers, and

sellers will tend to prefer the platform that offers access to the most buyers. Such network effects can tip the market towards being served by just one or two platforms. There is a risk that the asymmetric pricing structure described above could further increase the likelihood of such tipping occurring.

In this context, successful market foreclosure resulting from the conduct of a dominant incumbent platform, a merger or an agreement may have serious anti-competitive effects without hope that the market will self-correct within a reasonable period. Indeed it is useful to recall that the recent Guidance on Article 82 explicitly recognizes many of the factors that appear critical in assessing competition in two-sided platforms. In particular, paragraph 20 emphasizes the conditions on the relevant market for this assessment “...this includes the conditions of entry and expansion, such as the existence of economies of scale and/or scope and network effects. Economies of scale mean that competitors are less likely to enter or stay in the market if the dominant undertaking forecloses a significant part of the relevant market. Similarly, the conduct may allow the dominant undertaking to “tip” a market characterised by network effects in its favour or to further entrench its position on such a market.”

Notwithstanding the above, as Evans and Schmalensee (2005) argue, although economies of scale may exist for a wide range of output they eventually can be exhausted and diseconomies of scale in the form of rising average costs will appear on one or both sides of the market, limiting the size of individual platforms. For example, marginal costs can increase as a platform becomes more complex when it expands in size or grows in functionality and features. Software programs are an example. Further, congestion costs can increase, reducing the appeal of a platform as it grows in size and complexity¹⁸. A further constraint is product differentiation. There is often considerable scope for vertical differentiation where platforms can compete in different levels of product quality or service. Shopping malls may be upmarket or downmarket as can nightclubs and dating clubs. Alternatively, platforms can compete through horizontal differentiation by appealing to different tastes and preferences among customers. Also intra-group (negative) externalities might constraint the size of a network. Consumers, when subscribing, might not only take into account the size of the other side but also the probability to reach a match with a consumer of the other side. Thus the more the people he faces on the side he belongs the less the probability to reach a match. Thus a customer might prefer to join a less crowded platform and overall the size of a platform might be capped.

The sub-sections that follow consider the competitive effects of certain practices in the context of two-sided platform competition.

3.4.1 *Predatory pricing*

In two-sided platforms, the price charged to one side by a platform may be below marginal or average variable cost. Empirical research also confirms that below-cost pricing is relatively common in two-sided platforms. Even under pure Bertrand competition prices are not, in general, aligned to costs, despite the fact that profits are may be completely competed away. As explained in section 0 given the need to have both sides on board, a price set above marginal or average costs is not a symptom of market power, and setting a price below marginal cost or even at or below zero can be a profitable strategy by a platform to maximize participation by one side of the market, which will generate higher total consumer welfare by increasing participation on the other side. Moreover, a skewed pricing structure may not reflect anti-competitive cross subsidies (see Wright, 2003). It is therefore important to assess carefully a possible

¹⁸ Congestion constraints can be physical and on both sides of the market such as in shopping malls and nightclubs. Other congestion costs can be on one side only. For example, as the number of adverts appears in a newspaper or magazine they may crowd each other out reducing the effectiveness of each advert. Negative indirect network effects can also emerge as a platform expands on one side. A magazine having too high a proportion of adverts to content may find that some readers become increasingly averse to them and no longer buy, leading to a fall in circulation.

defense by a platform owner that its price structure of below cost pricing on one side does generate pro-competitive gains to customers on both sides of the market.

The Article 82 Guidance Paper explicitly recognized this possibility in footnote 19: "In order to apply these cost benchmarks it may also be necessary to look at revenues and costs of the dominant company and its competitors in a wider context. It may not be sufficient to only assess whether the price or revenue covers the costs for the product in question, but it may be necessary to look at incremental revenues in case the dominant company's conduct in question negatively affects its revenues in other markets or of other products. Similarly, in the case of two sided markets it may be necessary to look at revenues and costs of both sides at the same time".

It would be incorrect to assume, however, that predatory pricing by two-sided platforms can be ruled out. It can occur when prices on both sides of the market are set by a firm at a level that is insufficient to cover the total variable costs of the platform. In these circumstances, a competing platform may become unprofitable irrespective of how it structures its prices and will exit the market, allowing the predatory firm to raise its prices on both sides and earn economic profits sufficient to more than recoup its earlier losses. In this case the analysis might still focus on a comparison of incremental revenues versus incremental costs defined over packages of goods or services that serve the interests of customers on both sides of the platform. In no case, however, can a two-sided platform expect immunity from a claim of predation.

Moreover, as Fletcher (2008) recently pointed out a dominant platform may predate through asymmetric pricing between the two sides of the market. The issue is whether a given pricing structure can affect market structure, and specifically whether low pricing on one side of a market can prevent entry into both sides. As Fletcher argues, this is unlikely to be a feasible exclusion strategy where firms are entirely symmetric. In such a situation, if one firm can gain incremental revenues on one side of a market when it wins extra business on the other side, and prices accordingly, then the same opportunities and pricing incentives will apply to its competitors. However, assume competitors of the dominant platform have limited ability to turn extra business on one side of the market into incremental revenues on the other. Such firms could find it hard to compete against a very asymmetric pricing structure, and therefore may be excluded from both sides of the market.

3.4.2 *Influencing adoption strategies (use of exclusivity agreements)*

Cross-market effects are often used to explain the anti-competitive effects of exclusive dealing in a vertical context. (See Bernheim and Whinston (1998), for instance) Such cross-market effects naturally arise in two-sided platforms. When agents on one side of the market multihome, platforms might offer exclusive contracts to them to prevent them from multi-homing, thereby profiting from the increased demand from agents on the other side. Such exclusive contracts can be "cheap" to offer, since by tying up one side of the platform (say sellers), the platform attracts the other side (buyers), which reinforces the decision of sellers to sign up exclusively.

There are several examples where platforms attempt to persuade agents on one side of the market to join one platform or the other exclusively (i.e.. to single-home). For instance, a broadcaster will pay a premium to obtain attractive content (sports rights, movies, and so on) for its sole use. In a framework where one side of the market single-homes while the other multi-homes there is a unilateral incentive for a platform to obtain agents on the multi-homing side exclusively. The reason is that such a policy makes the rival platforms service to the single-homing agents less attractive, and hence allows the platform to obtain more profits from the single-homing side. This strongly suggests that a platform will be prepared to pay more (or charge less) for exclusive access to the (ordinarily) multi-homing side.

On its own, this is not enough to make the multi-homing agents agree to these exclusive terms: after all they might make more money from dealing non-exclusively with all platforms than from dealing exclusively with one platform. However, it is possible to construct models where agents who would otherwise multi-home find it in their interest to deal exclusively with a single platform. That said, it is also possible that the ability to secure exclusive deals with the multi-homing group will actually make the platforms worse off (but the multi-homing group would be made better off), since cross-group network externalities become more significant.

Caillaud and Jullien (2003) focus on two-sided platforms with a particular emphasis on relevant features of the intermediation activity on the Internet. Intermediation services usually are not exclusive, and users often rely heavily on the services of several intermediation providers. Thus they consider a case where agents who make use of the platforms are homogeneous and all agents on both sides of the market "participate" (i.e. register to one platform at least). Further, they allow for flexible pricing strategies: platforms may jointly charge registration fees (applying *ex ante*) and transaction fees (applying *ex post*). This flexibility induces more competition between platforms and a rich set of strategy profiles. This model fits the issue of matching two types of agents to form partnerships, as for example happens in the case of e-commerce. They offer some surprising results that run counter to intuition built on conventional "single-sided" markets. In particular they show that consumer welfare is higher under exclusive services than in any equilibrium with nonexclusive services, even though assuming undifferentiated but exclusive platforms, competition yields an equilibrium with a market structure that involves monopolization. This is because under exclusive services, the market is highly contestable with low (vanishing) profits. Non-exclusivity, however, induces a less severe degree of competition and allows positive profits in any type of equilibrium. In fact, intermediation platforms have an incentive to open up the intermediation market so as to allow users to turn to several intermediaries simultaneously: this moderates price competition and reinforces market power and intermediation profits.

Caillaud and Jullien (2003) argue that competition policy must be designed with care when the circumstances they model apply (primarily in intermediation markets such as the internet). First, concentration may not necessarily carry strong inefficiencies; in fact, the opposite may be true. Intermediation profits may be larger in market-sharing configurations, and the users' surplus may have better protection in concentrated markets where one large intermediary dominates, provided that there is enough contestability. Second, exclusivity actually exacerbates competition between intermediation service providers and forces profits down to zero, while non exclusivity allows a whole range of strictly profitable equilibria. So, in equilibrium, platforms would choose to allow for multiple registration.

However, alternative modeling assumptions can lead to different (and opposite) results. Armstrong and Wright (2004) consider the possible existence of strategies specifically designed to influence adoption choice, which they refer to as exclusive deals. They first derive conditions under which, in a certain two-sided platform, single-side multi-homes and the other one single-homes. They show that in the case where product differentiation arises only on one side of the market (say, the buyers), an equilibrium exists where agents on the other side (the sellers) will multihome. This case represents a "competitive bottleneck". A similar outcome can arise when there is no product differentiation on either side.

The authors then consider the possibility that a platform proposes to the agents of the multi-homing side a "discounted" price, contingent on exclusivity (single-homing on that platform). Exclusive contracts work by making it easier for a platform to unsettle an equilibrium with multi-homing on one side. With exclusive contracts, however, a platform can set arbitrarily high nonexclusive prices (so that sellers never choose to multi-home regardless of the rival platform's offer) and then offer a slight price cut relative to the rival platform to attract all sellers exclusively. The resulting positive network effect can then be exploited on the buyer side. When network effects are strong, this can lead to an equilibrium where all agents sign up exclusively to a single platform even though it sets high prices to both sides.

Where platforms can set negative prices (pay bribes), exclusive deals allow the dominant platform to raise prices and profits by making it more expensive for the rival platform to employ a “divide-and-conquer” strategy. A complete characterization of equilibria with exclusive deals, however, proves to be difficult: depending on model parameters and selection criteria. There can be equilibria with both platforms active, or only one, and with or without exclusive contracts.

Nonetheless, the model offers differing predictions for the social desirability of exclusive contracts depending on the extent of product differentiation on the buyer side. With strong product differentiation on the buyer side, exclusive contracts result in all sellers joining a single platform, but some buyers sticking to their preferred platform. Not only does this result in lower network benefits (for those buyers loyal to the excluded platform), but it also results in higher transaction costs for those buyers that do not stick to their preferred platform. They authors show that under the assumptions of the model, the added transaction costs and reduced network benefits exceed the cost savings to sellers, who no longer subscribe to both platforms. Exclusive contracts are thus inefficient. In contrast, with pure network effects exclusive contracts are efficient, since they eliminate the duplication of costs that arises under seller multi-homing, and result in maximal network benefits given buyers and sellers all subscribe to a single platform.

3.4.3 *Tying*

Formal economic analysis of tying that explicitly accounts for the peculiarities of two-sided platforms is scarce¹⁹. However, recently a few researchers have proposed theoretical papers addressing the use of tying in the context of two-sided platforms.

Rochet and Tirole (2003) provide an economic analysis of the tying practice initiated by payments card associations Visa and MasterCard in which merchants who accept their credit cards were forced also to accept their debit cards. This tie-in practice, the so-called “honor-all-cards” rule, has been challenged recently by major merchants including Walmart in a class action suit. In the class action suit on behalf of thousands of retailers, the stores argued that Visa and MasterCard unfairly required merchants to accept their debit cards, which require a customer's signature to verify a transaction, to exclude PIN-based on-line debit cards. They show that in the absence of tying, the interchange fee between the merchant's and the cardholder's banks on debit is too low and tends to be too high on credit compared to the social optimum. Tying is shown to be a mechanism to rebalance the interchange fee structure and raise social welfare.

Choi (2007), develops a preliminary model inspired by the EU Microsoft case where it was alleged that the company's tying practice of requiring Windows operating system users to accept its Windows Media Player software led to anticompetitive foreclosure. In the case of streaming media software, content providers and consumers constitute the two sides of the platform.

In Choi's model, there are two intermediaries competing for market share within each group. There is free entry in the market for content provision. Content providers are heterogeneous in their fixed cost of creating content which need to be incurred twice if they multi-home, i.e., make their contents available in digital form on both platforms. The choice of consumers' platform is analyzed by adopting the Hotelling model of product differentiation in which the two platforms are located at the two extreme points of a line. Consumers are uniformly distributed along the line and each consumer's utility of participating in a platform depends on the number of content providers on the same platform.

Choi compares the market outcomes under tying and no tying and provide a welfare analysis. There are three channels through which tying can affect social welfare due to the monopolization of both sides of the market. First, all consumers patronize the tying firm's platform. This implies that there is less variety in

¹⁹ A few exceptions are Rochet and Tirole (2003), Choi (2004) and Amelio and Jullien (2008)

the market. As a result, there are less desirable matches between the consumers and platforms, leading to higher overall “transportation costs” (or transaction costs) Second, content is provided only on the tying firm’s platform, whereas the same content was produced on both platforms in the absence of tying. Thus, there are savings in duplication costs under tying. Third, the number of entrants in the content side of the market that determines the availability of content can differ across regimes. The first effect is negative while the second effect is positive. The sign of the third effect is ambiguous. The coordination of consumers on the tying firm’s platform enhances the incentive to enter the content side of the market. However, the tying firm’s pricing decision in that side of the market can offset this positive effect. The preliminary result suggests that the welfare implications of tying depend on the relative magnitude of inter-group externalities and the extent of product differentiation. If the extent of inter-group externalities is significant compared to that of product differentiation, tying can be welfare-enhancing since the benefit from internalizing the inter-group network externalities outweighs the loss of product variety. Otherwise, tying reduces welfare.

Tying can be a very effective mechanism through which a dominant firm in a related market can penetrate one side of the two-sided platform to gain an advantage in competition for the other side. Both Rochet and Tirole (2003) and Choi (2004), however, are tailored to analyze specific cases of the payment card and media software industries, respectively. It would be desirable to develop a unified and more general framework that can encompass a variety of two-sided platform situations.

A first step in this direction is Amelio and Jullien (2007). They consider a setting in which two-sided platforms would like to set prices below zero on one side of the market in order to solve the demand coordination problem, but are constrained to set non-negative prices. Tying can then serve as a mechanism to introduce implicit subsidies on one side of the market in order to solve the aforementioned coordination failure. As a result, tying can raise participation on both sides and can benefit consumers in the case of monopoly platform. In a duopoly context tying also has a strategic effect on competition. Contrary to the monopoly case, tying may not be ex-post and/or ex-ante optimal for a contested platform. Moreover, the competing platform benefits from it if the equilibrium implicit subsidy is large enough.

Finally, Fahri and Hagiu (2008) consider a two-sided platform A and a dominant firm that has a monopoly power over another product M which is homogeneously valued by all customers on one side of A. Similarly to Whinston (1990) tying M and the purchase of the platform on this side of A then acts as a commitment to price aggressively by raising the opportunity cost of a foregone sale. In the pricing game that follows, it has the same effect as a reduction of the marginal cost of distribution of A on the side of the market, which buys M, relative to rival two-sided platforms. In a single-sided market with price competition and homogenous valuations of the tying good, tying is always a “top dog” strategy: it decreases rivals’ profits while increasing one’s own. By contrast, the result mentioned above implies that in a two-sided platform, tying can be part of a “fat cat” strategy: a profitable way to accommodate entry while at the same time being “soft” (i.e. benefitting rivals as well).

4. Significance of two-sided platforms in selected merger cases

The two- (or multi-) sided nature of a market should explicitly be considered in the evaluation of the existence and magnitude of possible anti-competitive effects. In particular if two platforms merger, the presence of the two sides must be considered. In general terms, competition policy accepts or refuses the merger in view of the evolution of prices. However, the price structure across both sides of the platform must be considered in two-sided platforms. Indeed a price increase on one side can reflect a decrease on the other in order to preserve balanced demand. So a price decrease on one side increases willingness to pay on the other side. In the end the variation in the total price may be low, although the price structure has changed significantly.

For instance, a merger analysis which concludes that a merger between platforms has no detrimental effect on competition simply because consumers in one side of the platform continue to be charged nothing would be incorrect. With buyers paying nothing, reduced competition for buyers may not increase prices for buyers, but it may increase prices for sellers instead. Similarly, an empirical analysis that tries to explain prices to sellers should include cost and product characteristics from the buyers' side even if buyers are charged nothing. For example, differences in the costs of distributing Yellow Pages to readers, or in the extent of differentiation between directories from the readers' perspective may help explain variations in how much directories charge advertisers across different markets. (See Rysman (2004) for an empirical analysis of the Yellow Pages markets.)

4.1 *Google-DoubleClick*²⁰

Many of the specific issues raised by two-sided platform competition and mentioned in previous sections have been identified and taken into consideration in a number of recent merger cases.

The *Google/DoubleClick* merger²¹ generated considerable interest as it concerned the ubiquitous search engine that most Europeans use in their daily lives. From a competition policy perspective, the case raised a number of interesting issues and, in particular, it was the first major concentration for which the Commission had to assess non-horizontal effects following its adoption of the Non-Horizontal Merger Guidelines. This case was notable in that it covered horizontal, vertical as well as conglomerate aspects.

During the investigation, the Commission received a significant number of complaints and a wide range of different theories of harm were put forward by competitors and, to a lesser extent, by some customers of the parties. The Commission assessed these complaints and theories of harm carefully. In doing so, it took into account that the *Google/DoubleClick* case concerned a transaction in a relatively new industry, which is constantly evolving at a fast pace and in which reliable market data are extremely difficult to obtain. Furthermore, the two-sided nature of the services offered was explicitly identified and many of the issues identified in the two-sided platform literature were considered, either implicitly or explicitly.

Google and DoubleClick are not direct competitors in the traditional sense. Google is a major provider of online space and intermediation services for online advertisements while DoubleClick is a leading provider of ad serving technology used to deliver ads onto websites and to produce performance metrics for these ads.

Intermediation services are offered by "ad networks" or "ad exchanges" and, to some extent, by "media agencies". An ad network is a two-sided platform serving:

- a. publishers (websites) that want to host advertisements, and
- b. advertisers that want to run ads on those sites.

Online publishers sell advertising space on their websites in order to generate revenues. Advertisers purchase such advertising space to place their advertisements. Once online advertising space has been sold by a publisher to an advertiser, either directly or through an intermediary, both parties need to ensure that the correct advertisement actually appears on (i.e. is served to) the publisher's website space at the right place at the right time. This step is performed by the ad serving tools, which also measure the performance

²⁰ This section is adapted from De Coninck and Papandropoulos (2008)

²¹ Case COMP/M.4731 Google/DoubleClick.

of the ad placement (by recording events and in some situations by ‘tracking’ the behaviour of users). DoubleClick provides such ad serving tools to both publishers and advertisers.

Google offers advertising space on its own website (Google.com) as well as intermediation services through its ad network AdSense. Ad networks match the supply of advertiser space offered by publishers and the demand for such space, stemming from advertisers.

Through its online activities, Google is mainly active in search (text) and contextual (text) ads while DoubleClick’s technology is mainly used for (graphical) display ads. Display ad serving involves sophisticated reporting metrics that are generally not offered in the context of text ad serving. Given Google’s focus on text ads (search and contextual), the parties claimed that one of the rationales for acquiring DoubleClick was to enable Google to accelerate the offering of display ads on its AdSense network. The second rationale given was to gain access to DoubleClick’s publisher base and improve the attractiveness of the AdSense network for publishers, in particular for the inventory of publishers that currently goes unsold.

There are various distribution channels through which publishers and advertisers serve online ads. Publishers can either sell their online space directly to advertisers or use intermediation platforms such as AdSense. Valuable (premium) online space (e.g. the homepage of large publishers) is usually sold directly while less valuable (remnant) online space is often sold through intermediaries to maximise the monetization prospect of the space for sale. Large publishers tend to use both direct and intermediated sales while smaller publishers tend to rely on intermediated sales²².

In the intermediated channel, intermediation services can be bundled with ad serving (this is Google’s AdSense model) or sold independently (this unbundled solution is used by ad networks such as AdLink). Hence, while the parties are not direct competitors, DoubleClick provides an input (ad serving) into distribution channels (direct and unbundled) that competes with Google’s bundled AdSense offering.

From the point of view of publishers and advertisers, the merger could raise conglomerate issues given that Google and DoubleClick offer two products (intermediation and ad serving) that are both used for online advertising. Given that ad networks (such as AdLink) competing with Google’s ad network (AdSense) use the ad serving technology to serve the ads on their platform, the merger also had a vertical dimension given that Google was acquiring a leading provider of a major input for rival ad networks.

²² Ad networks aggregate ad space inventory thus maximizing revenue opportunities and minimizing administrative costs of selling the ad space for the publisher. From an advertiser's point of view, an ad network can be considered as a "single buying point" for online inventory which often also provides handling and performance monitoring of online advertising campaigns. Ad networks generate revenues (paid by advertisers for access to publishers' ad space inventory) that are shared between the network manager (as intermediation fees) and publishers. In the EEA, Google's AdSense, Yahoo!Publisher Network, DrivePM (belonging to the Microsoft group), TradeDoubler, Zanox, AdLink, Interactive Media, AOL, Tomorrow Focus and 24/7 (belonging to the WPP group) and a significant number of other smaller players are active as ad networks.

An ad exchange provides a marketplace where advertisers and publishers buy and sell ad space on a real-time basis. The main difference between ad exchanges and ad networks is that ad networks aggregate ad inventory from publishers, which is then re-sold by the platform manager to advertisers, whereas an ad exchange is a (virtual) marketplace where publishers and advertisers can virtually meet to find and execute transactions. Networks tend to be “closed” systems with a finite number of buyers and sellers, whereas exchanges tend to be “open” systems whereby any buyer or seller can access the platform and trade. Open ad exchanges allow both advertisers and ad networks to buy ad space. In the EEA, *inter alia* Rightmedia (belonging to the Yahoo! group), AdECN (belonging to the Microsoft group), Tomorrow Focus and Quigo are active as ad exchanges.

During the investigation, complainants focused on the potential for Google AdSense to become, through the merger, an unavoidable intermediation platform in the future which would marginalise its rivals on the market for intermediation. The main worry expressed by complainants (and some respondents to the market investigation) was that post-merger, Google would be able to leverage DoubleClick's leading position in ad serving to become the dominant intermediation platform for online advertising. Google would be able to engage in a number of strategies aimed at increasing the price of DoubleClick's products when used with ad networks competing with AdSense. These strategies involved mixed bundling (offering DoubleClick's products cheaper when used alongside AdSense's intermediation services), pure bundling (selling DoubleClick's products with AdSense only), manipulation/tweaking of the ad serving software to the benefit of AdSense (i.e. the arbitration logarithm would favor

AdSense instead of rival networks), price increases (the price of DoubleClick's products would be raised if used on competing networks) and quality degradation (e.g. the new entity would fail to develop functionalities enabling DoubleClick's products to be used efficiently on rival networks). Through these strategies, Google would attract more publishers and advertisers to AdSense, ultimately leading to a "tipping" effect that would marginalise rival networks. In the long run, Google's AdSense would become the dominant intermediation platform, able to exercise market power and increase intermediation fees.

The likelihood of anti-competitive effects based on these theories hinged on a number of assumptions such as (a) the degree of DoubleClick's market power (depending in particular on the extent of switching costs for ad serving¹⁰), (b) the extent to which intermediation is characterized by direct and indirect network externalities¹¹ and (c) the impact of price changes for ad serving on the choice of ad network by publishers/advertisers. The investigation focused on gathering evidence to verify whether these assumptions could be validated.

With respect to DoubleClick's market power, the Commission found convincing evidence putting into question DoubleClick's ability to exercise market power. This evidence covered data on the extent of switching between ad serving suppliers, on the evolution of prices for ad serving and on switching costs. In particular, a large number of ad serving contracts have relatively short durations (under 2 years) and contract terms are frequently renegotiated. Switching is also frequent. Switching data provided by the parties indicated that DoubleClick's customer churn rate was about 12.6% in 2006 and ad serving prices had considerably and consistently been declining over the last few years.

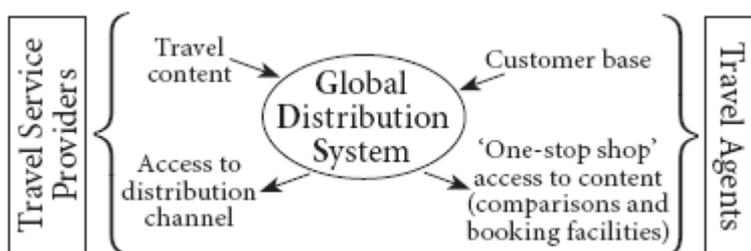
With respect to indirect network effects (i.e. the larger the number of publishers using an platform, the more attractive it is to advertisers and vice versa), the Commission found evidence that there had been significant entry and strong competition in online ad intermediation, evidence on the prevalence of multi-homing (i.e. customers using more than one intermediation platform) and evidence that ad networks competed even with a relatively small number of partners on the publisher side. The prevalence of multi-homing suggested that the participation by a publisher or an advertiser to an ad network (e.g. AdSense) does not imply that they are unable or unwilling to participate in another ad network; their participation to an ad network is not exclusive. The concern that AdSense would unavoidably become the dominant intermediation platform at the expense of rivals as a result of the merger therefore appeared unconvincing. Also, the market investigation did not provide support for the view that the merged entity would benefit from a direct network effect, such that the quality of the matching that it could undertake between publishers and advertisers would be affected by the scope and quality of its publisher customer base. Direct network effects might arise because of the ability to use information about users across different publishers. However, publishers and advertisers contractually prohibit DoubleClick from using their data to improve targeting to other publishers/advertisers. Moreover, it appeared that the type of behavioural targeting that lies at the core of these direct network effects is an emerging technology which neither DoubleClick nor Google have developed, contrary to a number of competing firms (such as Yahoo!'s ad network BlueLithium or AOL's Tacoda network).

With respect to the cost of ad serving, the Commission found that ad serving represents a small fraction of the publisher's net profits (and the advertiser's cost of purchasing online space). The price of ad serving on competing ad networks would therefore have to increase significantly to induce the scope of switching towards AdSense that might lead to the tipping effect envisaged by complainants. This was deemed highly unlikely given the competitive constraints to which DoubleClick is subject.

In any event, the new entity would continue to compete with a number of vertically integrated rivals such as Microsoft, Yahoo!, AOL as well as WPP (an ad agency) and Axel Springer (a major online and offline publisher). Indeed, these companies were offering both ad serving tools and intermediation services following a number of acquisitions made after the announcement of the Google/DoubleClick transaction.

4.2 *Worldspan/Travelport*²³

In December 2006, the US firm Travelport, a subsidiary of the Blackstone Group (a US private equity and asset management firm), agreed to acquire Worldspan Technologies Inc. (another US company). This transaction was authorised on 21 August 2007 after a 'Phase II' investigation. Both merging parties provide travel distribution services, in particular through their respective 'global distribution systems' Worldspan and Galileo (Travelport's brand). These technical platforms match travel content provided by airlines, hotel chains, car rental services, etc. on one side, and the demand for such content as conveyed by travel agents on the other side. In what follows 'GDS' (or more simply 'the platform') refers to a global distribution system, 'airlines' to the broader category of travel content providers and 'agents' to travel agents. As summarised in Figure 1, a GDS is a platform between two distinct groups of customers, airlines and agents.



On the one side of the platform, airlines provide travel content (namely prices and availabilities) to be included in the GDS offer to agents. Through the platform, airlines obtain access to a distribution channel, namely the network of agents using that GDS.

On the other side of the platform, each agent subscribing to a GDS provides its customer base to airlines via the GDS. Through the platform, agents obtain efficient access to travel content, with facilities for price/content comparisons as well as an interface for centralised bookings from different sources.

In other words, the existence of the GDS is justified by the value it creates in terms of (i) lower transaction costs (or higher efficiency) especially for agents and (ii) positive network externalities especially for airlines.

²³

This section is adapted Vannini (2008)

Reduced transaction costs mainly benefit agents by making their searches more effective and less time-consuming, as compared to searches using a number of airline-specific sources.

As regards network externalities, ‘indirect’ (i.e. cross-group) externalities for airlines make the two-sided nature of the market relevant for its analysis. In this specific case, indirect network externalities arise from the fact that the wider the network of agent outlets (and the related end customer base) reached by airlines using a given GDS, the larger the value for airlines in using that platform.

The two sides of the GDS market exhibit some distinctive features. Firstly, airlines whose content is offered via GDSs tend to have a broader (pan-European or even global) coverage than agents using GDS services (only very few having a broader than national coverage) (11). Secondly, virtually all airlines subscribe to all GDS providers (12), whereas agents generally tend to use only one GDS (13)

It should also be stressed at this point that the GDS is only one of different channels through which travel-related content can be distributed to end-consumers. However, these different channels may have different groups of customers on their respective sides. For instance, ‘supplier.coms’ (i.e. booking facilities available on some individual airline websites (14)) address end-consumers instead of agents. Also, even when addressing the same customers as GDSs (i.e. agents), the functionalities provided by web-booking facilities may be limited. For instance, an agent may have a ‘direct link’ to the booking inventory of an airline, thereby bypassing GDS providers and the related fees, but at the cost of losing the price-comparison functionalities or of having to create in-house solutions to reproduce similar functionalities. The limited substitutability between GDS platforms and alternative channels suggests considering a narrow product market for GDS, rather than a broader market including those other distribution channels as well.

4.2.1 Multi-homing and single-homing in the GDS market

The two-sided GDS market contains a number of elements characteristic of the multi-homing / single-homing configuration (or ‘competitive bottlenecks’) described in economic literature. These elements are:

- a. A limited degree of product differentiation
- b. Asymmetries in indirect network effects, with indirect network externalities generated mainly if not exclusively on the agent side and GDS providers competing to attract agents in order to generate demand on the airline side;
- c. A distribution of prices and revenues skewed towards one side of the platform, with GDS providers obtaining profits on the airline side and partially using those profits to offset net losses on the agent side. The number of ‘reachable’ agents (and the related customer base) is extremely important for airlines, because indirect network externalities generated on the agent side (e.g. in terms of booking volumes) depend on it and airlines may take advantage of this by multi-homing. For this reason virtually all airlines subscribe to all GDS providers.

If a sufficient number of airlines use multi-homing and all of them provide their full inventory, each GDS ends up providing a broadly similar content, which reduces (or removes altogether) the indirect network externalities generated on the airline side and the related added value for agents of subscribing to an additional GDS. Therefore, disregarding possible different functionalities made available by the GDS provider, agents will only need to subscribe to one GDS, especially where any additional subscription would incur significant additional costs. In fact, single-homing is the prevalent configuration observed on the agent side.

A GDS provider must be in a position to offer a sufficiently broad network of agents (and related customer base) to airlines, and offer at least as good a content as competing GDS providers to agents, for which it will compete mainly through incentives, possibly complemented by some slight differentiation in terms of sophisticated functionalities. The asymmetry in network effects and, correspondingly, in subscription policies between the two sides of the platform explains the skewed pricing policy applied by GDS providers and the related financial flows, namely the fact that agents tend to be net receivers and airlines net payers.

The larger the number of agents reachable via a given GDS, the higher the positive network externalities that are generated by that GDS and, correspondingly, the higher the price the airline will be willing to pay to distribute content via that GDS.

But GDS providers have to compete for agents, so that they have to share with them, in the form of incentives, part of (and in extreme cases all) the rents that can be extracted from airlines.

Agents become net receivers as soon as the subscription fees charged to agents by the GDS provider are more than offset by incentive payments paid to them by the GDS provider. In this relatively simplified situation, airlines are clear contributors, while the GDS and agents share in some way the rents extracted from airlines. All this is driven by the limited product differentiation and by asymmetries in network effects, generating the skewed distribution of prices and related revenue flows.

4.2.2 *Recent market developments*

The situation in the GDS market has recently evolved and is no longer so clear-cut. Until now, it has been implicitly assumed that (i) the provision of content by an airline is a discrete choice, i.e. whether or not to make an airline's entire inventory available, resulting in limited differentiation between GDS interface/providers (in terms of functionalities or technical assistance, as discussed below) and (ii) GDSs are the only distribution channel available for travel-related content.

On the first issue, airlines do have the capability to withhold specific content and even to discriminate between GDS providers in terms of the content made available to each of them. For customers, this introduces an element of differentiation between one GDS and another, which may be of great relevance to agents. The lowest fares of an airline may be available on one GDS and not on another, which would be very important in terms of sales for a given agent. In such cases, agents may decide to switch to another GDS providing all fares (including the lowest fares) or even opt for multi-homing. This scenario — albeit simplified — illustrates how a GDS that is not able to secure 'premium' travel content may lose market share on the agent side. Apart from this dimension of differentiation generated by airlines (possibly through bargaining with GDS providers, as discussed below), and apart from the size of the agent network (which depends on how successful a GDS provider is in securing agent subscriptions), other elements of differentiation among different GDS can be introduced by the providers themselves, namely in terms of optional services (such as additional functionalities for users on both sides of the platform) and the quality of technical support. Still, the crucial issue remains the travel-related content available, such as access to low-fare inventory, geographical coverage and types of 'non-airline' content included.

On the second point, as already mentioned above, alternative technological platforms (and more generally, alternative distribution channels) are already available or at least their implementation is technically and economically feasible within a relatively short term. Those platforms may allow airlines to bypass the GDS and directly access agents ('direct link') or even end-consumers ('supplier.com') (20). This has the potential to weaken considerably the position of GDS providers as gatekeepers controlling access to their network of subscribing agents (which could then be reached directly by airlines) and the related customer base (which could make use of supplier.com set up by airlines). A major implication of

this evolution in the GDS market is the change in the relative bargaining power of airlines, GDS providers and agents. In recent years, GDS providers have been faced with bargaining not only on the agent side (where they have to grant incentives in order to secure subscriptions and the agents' customer base) but also, and increasingly, on the airline side.

This results from the substantial efforts made supplier.coms are in part accessible to agents as well. Moreover, certain airlines operate specific Business to Trade ('B2T') websites. However, the use of supplier.com websites by agents is limited by the time and costs necessary for multi-channel search, as compared to one-stop-shop searches via the GDS platform. This tends to limit the use of supplier.coms (or B2T) by agents to a simple complement to GDS (or a temporary solution to system failure for single-homing agents). Supplier.com websites mainly target end-consumers, by airlines to reduce costs also by exploiting alternative distribution channels to GDSs, notably those available via the internet.

Representative of this evolution are two new types of agreements characterising the interaction between airlines, GDS providers and agents: 'full content' agreements and 'opt-in' agreements. Full content (and related discounts)

In order to make supplier.coms a viable alternative distribution channel for travel content, airlines may need to withhold some premium content, such as their lowest fares, from GDS providers and make it available only via the web. A first point is therefore that once supplier.coms exist and are viable, an element of differentiation may exist in terms of content made available selectively on one platform (supplier.com) and not on another (GDS). As a matter of fact, the number of bookings via supplier.coms has increased substantially in recent years.

This market evolution, as well as the possibility (or even the simple threat) that airlines could selectively withhold content (i.e. from one GDS provider but not from another), with a possible impact on each GDS's market shares, has obliged GDS providers to revise their strategy towards airlines. GDS providers have started to grant discounts in exchange for airlines' commitment to provide 'full content', i.e. their whole inventory, or at least the same content made available on the airline's website.

In other words, content has become the crucial element in determining the relative bargaining position between airlines and GDS providers. The development by airlines of their supplier.com websites with the ensuing possibility to withhold (or threaten to withhold) content from the GDS providers has improved the bargaining position of airlines vis-à-vis GDS providers and destabilised the pattern of rent extraction derived from the standard single-homing / multi-homing framework previously described, where GDS providers were able to extract rents on the airline side to be partially used to finance the acquisition of a customer base on the agent side

Conclusion (on the merger)

The reduction in the number of GDS providers was found not to lead to price increases on the airline side of the market even in the presence of single-homing (and a relatively high market share of the merged company) on the agent side. In fact, recent market developments, in particular the number of countervailing bargaining tools at the disposal of airlines, allow airlines to force GDS providers to lower their prices in exchange for (i) full content and/or (ii) limiting the (actual or potential) diversion of bookings towards other platforms or competing GDS providers (via surcharges and, again, the retention of premium content). Nevertheless, the improved bargaining position of airlines is not conducive to a revision of their homing policy, so that the existing configuration involving multi-homing (airline side) vs single-homing (agent side) will continue to prevail. On the agent side, a sufficient number of GDS platforms will remain available to agents, with relatively limited costs for switching GDS provider.

In addition, as just stated, single-homing is sufficient for most agents to guarantee an efficient one-stop-shop access to most travel-related content (occasionally complemented by recourse to alternative channels). The fact that GDS providers need to create and maintain a sufficiently broad network of agents in order to generate demand on the airline side leaves agents in a favourable bargaining position vis-à-vis GDS providers even after the elimination of one of these providers.

Conclusion (on the theory)

Under some conditions (mainly the existence of significant indirect effects) the two-sided nature of a market is an important element in the assessment of a merger. Failure to take it into account may lead to enforcement errors, both overstating and understating possible competition concerns. In situations where a ‘competitive bottleneck’ is identified, it has to be considered whether platform users have any countervailing bargaining power. If that is the case, the theoretical result of the ‘competitive bottleneck’ theory, stating that the platform provider can extract all rents to the detriment of multi-homing users, has to be adjusted.

5. Conclusions

As Ordoover points out "invoking a two-sided nature of the business will not get one off the hook in an antitrust case and, in some situations may make the predicament even worse [...] two-sided platforms may be a passing concept which calls for analytical vigilance but does not require a policy revolution"

The principles of competition policy remain the same whether markets are single-sided or multi-sided. The errors to avoid are a failure to identify two-sided platforms, to treat each side of the platform in isolation, to under-estimate the interdependencies of customer demand and the strength of indirect network effects, and to use analytical tools without modification in the assessment of competition in these markets. In any event, the greater complexity associated with analysis of two-sided platforms 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.

It is also too early to make any definite policy recommendations related to two-sided markets. This is because many of the conclusions from the economic models so far developed are narrow and precise in scope and their results depend on specific assumptions regarding the characteristics of competition, and individual market and industry circumstances. Further, more empirical research is necessary. For the time being a case-by-case analysis appears most appropriate. This is the approach followed by the EU Commission to date.

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BRAZIL

1. Introduction

Two-sided markets are generally defined as markets in which one or several platforms enable interactions between end-users, and try to get the two sides involved by appropriately charging each side. David S. Evans highlights that these types of markets as “*the ones which bring two distinct groups of customers who need each other together while one-sided markets basically focus on delivering a product to a given set of consumers*”¹:

Said Author mentions that two-sided firms behave in ways that seem surprising from the vantage point of traditional industries, but in ways that seem like plain common sense once one understands the business problems they must solve. He classifies the dynamic as a “chicken-and-egg” problem that has to be solved by the firms by which price levels, price structures, and investment strategies must optimise output by harvesting the indirect network effects available on both sides.

The market for interactions between the two sides is one-sided if the volume of transactions realised on the platform depends only on the aggregate price level². The indirect and the positive feedback effects, however, characterise two-sided platforms, through which more customers of each group are more valuable to the other group.

There are different examples of the two-sided market. In order to convey the concept of this type of market, papers generally give the dynamics of dating clubs as an example. Dating clubs comprise two groups of customers – men and women. These clubs sell patrons the prospect of making a match, willing to attract enough members of the opposite sex to their club to make a match likely.³

The Brazilian Competition Policy System has no cases dealing with the characteristic of two-sided markets of dating clubs, but has dealt with decisions in several other markets, such as the (i) shopping malls; (ii) media; and (iii) payment services market. All these platforms incur costs in serving both groups and can collect revenue from each and in all of them the platform’s value to any given user largely depends on the number of users on the network’s other side.

2. The Brazilian Competition Policy System’s (BCPS) experience

The Brazilian experience shows that the “*chicken-and-egg problem*” is generally analysed for assessing the relevant market; the exercise of market power; or even to justify certain measures.

Undertakings generally argue that because the set of possible consequences of policy in two-sided markets is much larger than in standard markets, intervention is more dangerous in two-sided markets than in standard markets.

Two sided-markets implications to competition in some cases justify interventions by the antitrust authority that would not be necessary in other markets, while other cases those interventions may not be as effective or important as in standard markets. CADE has dealt with both types of cases.

¹ EVANS, David E. Interview, available at www.cade.gov.br/news/n018/intrevista-ingles.pdf.

² TIROLE, Jean and ROCHET, Jean-Charles. *Defining Two-Sided Markets*, 2004.

³ Idem

2.1 *Media market*

In the Administrative Appeal # 08700.006461/2008-76, the Secretariat for Economic Law (SDE) and CADE concluded that the competition policy intervention had to be limited in that particular two-sided market related to an internet access provider company. In this market, the two sides comprise (i) consumers of the internet access service (users) and (ii) companies that want to announce their products/services.

The aforementioned case referred to a Preventive Measure of SDE. The *Telecomunicações de São Paulo S.A.* Group (Telesp Group) had automatically transferred all its clients to a “naked”⁴ internet provider platform due to a judicial decision which had decided that all the broadband internet users should have a provider. Before that, the costumers could have direct connection, without contracting an internet provider company.

The SDE considered that this conduct was possibly harming competition because the automatic migration of the client base to the internet provider market of the same economic group of Telesp was privileging said group in detriment of the free competition in the broadband internet access provider market. Therefore SDE imposed to the Telesp Group preventive measures, aiming at (i) reestablishing the competition conditions in the internet access provider market (broadband only); and (ii) generating the lowest disturb to the consumer.

According to the measures imposed by SDE, all the clients should be advised concerning Telesp’s automatic migration, and should necessarily chose one internet provider company.

CADE has overruled these measures, which were considered by the Board to potentially represent a big intervention in the market, should all the clients had a deadline to configure their computers in order to choose one internet provider company⁵. The access to the internet would, otherwise, be interrupted.

According to CADE’s decision, the internet access provider market is dynamic and companies tend to raise earnings selling advertisement and other additional services. The “naked” platform to which all the clients were transferred had no content at all, no advertisements or other types of services. Thus, the Board considered that the set of possible consequences of policy in two-sided markets are much larger than in standard markets, and therefore CADE should be extremely cautious by not interfering too much in the aforementioned market.

Therefore, CADE concluded that due to the characteristic of being a two-sided market, such an intervention as the one proposed by SDE would potentially be inefficient. Indeed, the possibility of interrupting the internet connection for thousands clients would be to detrimental for Telesp’s clients.

2.2 *Payment services market*

In the Merger Review # 08012.010734/2006-73, the partnership established between *Esso Brasileira de Petróleo Ltda.* and *Ticket Serviços S.A.* was analysed. Ticket was responsible for rendering payment services to Esso (retail gas stations). Meanwhile, the latter stopped utilising the “EssoCard” (credit card accepted only in Esso gas stations), outsourcing the service to Ticket (credit cards issuers). Thus, the deal represented a vertical disintegration between Esso and EssoCard as well as a vertical integration between Esso and Ticket.

⁴ This was the term used by the Commissioner César Mattos in his decision

⁵ It was not considered an easy task for the “average costumer”

The Secretariat for Economic Monitoring (SEAE) argued that due to the two-sided characteristic of the market, Ticket would not be interested in raising prices or lessening payment conditions due to the other side of the market – the total volume of gas sold in the gas stations. According to SEAE, Esso could even restart utilising its own card.

CADE agreed with SEAE's opinion and approved the merger without remedies.

The Merger Review # 08012.002208/2004-78 has also addressed the two-sided characteristic of the payment services market in the transaction between *Hipercard Administradora de Cartão de Crédito Ltda. and Unicard Banco Multiplo S.A.*

In order to substantiate its opinion SEAE referred to the Tirole and Rochet thesis⁶, according to which service providers have relative market power: "If end-users are served through intermediaries, the platform may try to "undo" the intermediaries' market power by charging lower access charges".

It was alleged by SEAE that due to the transaction's indirect network effect between the two sides would promote larger competition and a positive feedback should platforms with more customers of one group be more valuable to the other group. Thus, unilateral exercise of market power is less likely to occur in the credit cards industry.

2.3 *Shopping malls market*

In the Merger Review # 08012.013500/2007-69, *Brascan Shopping Centers Ltda. and the Victor Malzoni Group*, the undertakings, alleged that their chance of exercising market power would be lower due to the existence of a two-sided platform.

According to the undertakings, shopping malls need to be attractive both to consumers and to the merchants and this would restrain them from exercising market power, which could only be exercised through the leverage of the price of the rents charged to each merchant.

Disregarding the parties' defence, CADE considered that positive feedback on two-sided markets is not always an expected effect. CADE's decision stated that two-sided markets are subject to market power exercise, otherwise there would not be as many oligopolised ones. Furthermore, there were evidences brought to the Merger Review of meaningful mark-ups and anticompetitive strategies, as per market foreclosure.⁷

It was highlighted that it was mandatory analysing the relationship between the two sides of that market, aiming at defining the relevant market and the level of differentiation among the shopping malls. Additionally, CADE understood that the relationship established between shopping malls managers and the merchants is a partnership, in which market power could be exercised towards the final consumers, constraining their alternatives.

Likewise, the Administrative Proceeding # 08012.006636/1997-43 also demonstrates that shopping malls are subject to market power exercise. In said case, it was alleged that *Condomínio Shopping Center Iguatemi (Shopping Iguatemi)* was limiting merchants' action by imposing radius clauses. The two-sided

⁶ TIROLE, Jean and ROCHET, Jean-Charles. *Defining Two-Sided Markets*, 2004. Available at http://faculty.haas.berkeley.edu/hermalin/rochet_tirole.pdf

⁷ In the Merger Review # 08012.013500/2007-69, CADE's decision also refers to the Tirole and Rochet Thesis.

characteristic of the market was assessed when the demand aspect of the relevant market was estimated by the BCPS.

Consumers incur search costs when looking for products and comparing prices. These costs are lower when stores are all agglomerated and radius clauses naturally restrain this agglomeration. For merchants and shopping managers, however, radius clauses create substantial externalities, enabling them to exercise market power over consumers.

CADE concluded that market strategies tending to market foreclosure should not be considered private matters considering that they impact competition as a whole. As per affirmed above, shopping malls need to be attractive both to consumers and to the merchants, but this balance between the two-sides of the market was being disrupted by the exercise of market power by Shopping Iguatemi. Therefore, the practice of establishing radius clauses was considered illicit by CADE.

3. Conclusions

The Brazilian Competition Policy System experience shows that the two-sided characteristic of the market is generally analysed for assessing (i) the relevant market, (ii) the market share, or even (iii) the exercise of market power in several markets, such as the ones described above, the shopping malls; media; and payment services markets.

Two sided-markets implications to competition in some cases justify interventions by the antitrust authority that would not be necessary in other markets, while other cases those interventions may not be as effective or important as in standard markets.

In general, the indirect network effects between the two sides as much as the positive feedback effects justify a minimum intervention by the BCPS, and in different cases the authorities refer to the *Tirole and Rochet* thesis in order to make such a justification.

However, these positive effects are not always expected. In some of the cases described above, it was found out that parties were trying to justify the exercise of market power among other conducts such as market foreclosure, alleging that those conducts were normal practices in two-sided markets.

Although the “*chicken-and-egg problem*” has been several times assessed in BCPS’ decisions, often brought to the cases as one of the arguments, generally not explored in depth.

CHILE

1. Definition and some theoretical issues about two-sided markets

1.1. *What is a two-sided market and how can we determine this in practice?*

The initial stages of the theory of two-sided markets (2SMs) were closely related to the theories of network externalities and multi-product pricing. Products and services that bring together groups of users in networks are known as *platforms*, which provide infrastructure and/or rules that facilitate the groups' transactions and can take many different aspects. In some cases platforms can facilitate a transaction of products –as with cardholders and stores affiliated to a card-pay system, where the platform is physically the merchants' POS (point of sales or authorisation terminals)-, or of services, like shopping malls (stores on one side, potential customers on the other), newspapers (readers and advertisers), and supermarkets (providers and customers), among others.

As a result, 2SMs –also referred to as two-sided networks or broadly multi-sided markets-, are loosely defined as markets in which one or several platforms enable interactions between end-users. Since these interactions allow all user groups to benefit from trading, the platforms' owner(s) can define a proper charge scheme that might charge either or both sides.

The key issue of network externalities is that groups are linked together through the platform: neither of them would want to be there if it was not for the existence of the other side (cardholders value cards if they are accepted by stores; merchants value the access to more customers). In a 2SMs scheme, therefore, the platform's value to any given end-user depends on the number and size of users on the other side of the market. Because of network effects, then, successful platforms commonly enjoy increasing returns to scale, and so two-sided industries are sometimes dominated by a handful of large platforms. Even a single company could emerge getting hold of nearly the whole market, as does *Transbank* in the Chilean banking credit card-management industry.

Formally there is no single definition of 2SMs in the current literature¹. Rochet and Tirole (2003) put forward the following definition: "*A market is two-sided if the platform can affect the volume of transactions by charging one side of the market more and reducing the price on the other side by an equal amount; in other words, the price structure matters.*" Due to the network externalities, in 2SMs the price structure is relevant and affects economic allocations.

1.2. *Does it matter for antitrust analysis if a business has a 'two-sided markets' structure?*

It does indeed. 2SMs differ from other markets in a fundamental way: Platforms having different groups of end-users (on each side) incur in costs while furnishing both groups and can collect revenues from each, so the goal is to maximise their joint net benefit. Given that end-users are related to each other (by the network effect), and in order to define a profitable charge scheme, the platform owner must consider how an increase in the price charged to one group affects the others' willingness to be 'on board'.

¹ See, for instance, Rochet and Tirole (2003, 2005), Evans (2003), Caillaud and Jullien (2003), Wright (2004) and Armstrong (2005).

In this way the profit-maximising price for each side depends on (i) the price for the other side, (ii) the indirect network effects between the two sides and (iii) the costs on both sides. This explains why when facing platforms and 2SMs structure, usually one side of the market subsidises the other side, which might end up paying a price below marginal cost. As a consequence, the standard measures of competition for one-sided market –as, for instance, the Lerner Index for mark-ups, the consumer’s surplus analysis and the corresponding deadweight loss, or even the relevant market definition using the SSNIP test- get biased. According to the recent developments in economic theory, they should not then be used to examine how a 2SMs really works, because it does not encompass the networks externalities. The latter’s magnitude and relevance depend on the externality’s size (or the cross-effects among groups) and hence on how “two-sided” the relevant businesses really are.

The economic literature also addresses this matter: As was pointed out by Evans (2003), because of demand interactions between the two sides of the market, “*market definition and market power analyses that focus on a single side will lead to analytical errors*”.

One key element when dealing with a 2SMs is to evaluate if network effects (i.e., links between the two sides) (a) really show up, and (b) limit the extent to which a price increase on either side is profitable. A further issue when defining markets in the presence of 2SMs refers to the SSNIP test. First, when a price is increased demand will decrease as in standard markets, but there may be additional effects as well, arising from the other side that may or may not decrease the profitability of the price increase, according to the type of the network externalities involved. In addition, the cost of a product is typically not an efficient benchmark: Even the price set in a “competitive market” is not necessarily efficient, and high individual mark-ups may not necessarily indicate market power.

There is no magical formula to include the missed cross-effect, despite there is an analytical one for the Lerner Index which considers prices charged and price-elasticity for both groups, with the strong assumption that these share the same marginal cost (quite similar to the algebraic answer to a mark-up measure for a multi-product firm offering related products). Mostly, though, real world cases are more complex. Accordingly, the antitrust analysis should focus on platforms strategies’ competitive effects rather than precise market definition or measures.

2. The Chilean competition system’s experience with two-sided markets

Competition law in Chile underwent a major reform during 2004 when its Competition Act (DL 211) was subject to one of its most significant amendments. Its dual system considers, on the one hand, the competition agency (*Fiscalía Nacional Económica*, FNE), which is in charge of enforcing economic competition in domestic markets, being responsible for investigating any act which tends to restrict or hinder competition and, when necessary, submitting complaints to the decisional body. On the other hand, the Competition Tribunal (*Tribunal de Defensa de la Libre Competencia*, TDLC) is the decisional body, a highly specialised court, judiciary in nature, integrated by five expert judges –3 lawyers and 2 economists-, altogether autonomous from the government.

Since May 2004, 187 contentious causes have been submitted to the TDLC, not only by the FNE, but also by direct private complainants-, and 83 rulings have been issued. A quick overview shows that about 10 cases may have 2SMs implications, yet only one has been explicitly addressed to as such: ***FNE v/s Transbank*** (Ruling N° 29/2005), on credit-card management industry.

The TDLC has also issued 6 decisions in non-contentious procedures referred to merger and acquisition consultations², where at least 2 related industries with 2S platforms, namely, *Metropolis*

² The Chilean Competition Act provides for voluntary merger consultation before the TDLC, through the public procedure established in its article 31. Those consultations are treated as non contentious causes by

Intercom - VTR (Decision N°1/2004), on the Paid TV services, and *BellSouth – Telefónica Móviles* (Decision N°2/2005), on the mobile phone industry. Although in these two rulings no explicit approach was adopted on 2SMs, the TDLC performed in both cases an exhaustive analysis of the direct and related markets affected by the operation.

3. Case review: Banking credit card-management: *FNE v/s Transbank*

3.1. Background – Key facts

Transbank is a firm owned by the banking institutions of Chile. It operates a network of more than 60 thousand affiliated merchants, an ever increasing number in response to a recent promotion of banking services affiliating merchants in regions, focusing on medium and low-medium income people.

Established in 1986 as a support vehicle of banks, *Transbank* started managing the *Visa* credit card and affiliating commerce willing to accept card payments. After several consolidating stages –including M&A operations with similar platforms and with its computer facilities’ supplier- at present *Transbank* manages all banking credit cards issued in the country (*Visa, Mastercard, Magna, American Express* and *Diners Club*) as well as debit cards (same card used to accessing the banking ATM network), with national and international coverage (*Electrón* and *Maestro*), and also ‘*Webpay*’, the Internet payment service. Additionally, *Transbank* supplies the acquiring and operating services for cards issued by some large retailers.

3.2. Decision N° 1270/2003 and Ruling N° 29/2005

As a platform administrator for credit cards, during 2001 and 2002 *Transbank* was the sole supplier to the commercial stores accepting payment cards, and of computer facilities and operating terminals for its business. It was accused of abusing of this position by imposing a discriminatory pricing structure to card issuers and predatory and discriminatory prices to stores that accepted bank-issued cards.

The trial began before the former Antitrust Commission ‘*Comisión Preventiva Central*’, and ended before the TDLC. The final ruling includes a partial settlement between FNE and *Transbank*, which provided for the reduction of operational fees on debit and credit cards and established a self-regulation scheme (*Plan de Autorregulación, PAR*) to be periodically overseen by the FNE. It also provided some measures on the access of commerce to terminals and related services. Finally, the TDLC imposed the firm a fine of approximately US\$60.000 for its discriminatory conduct consisting in returning an amount of money based on transactions made only to their shareholders and which did not benefit non shareholders issuers.

The PAR self-regulation scheme, approved by the TDLC, was the way to ensure that the different charges made to both the merchant side (*merchant discount*) and affiliated card issuers were not abusive.

It was considered that, because this is a 2SM, its pricing structure should not necessarily be related to the costs of providing services to each side. That is why an objective pricing mechanism (as stated by the PAR), linked to economic criteria such as volume of transactions, a ticket average value and risk

the TDLC. The law does not provide for mandatory pre-merger notification, except for certain firms and markets established by decisions of the TDLC and the former Antitrust Commissions (the predecessor of the TDLC). After a voluntary consultation has been filed, transaction through a contentious procedure cannot be challenged. Finally, under article 38 of the Freedom of Opinion and Speech Act (Law 19.733), enacted in 2001, media industry undertakings require a post-merger notification to the Competition Court (subsection 1). The same provision establishes that TV and Radio undertakings require previous approval from the Competition Court (subsection 2).

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associated to each type of merchant, was applied onwards by the firm and disclosed in its institutional Web site to keep customers informed on this matter.

ISRAEL

Two-sided markets may roughly be defined as markets in which platforms enable interactions between two types of end-users. Platforms try to get the two sides “on board” by appropriately supplying and charging each side. Recent literature has tried to define and distinguish two-sided markets from other markets. For example, Tirole and Rochet (2004, 2006) define a market to be two-sided "if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount." They also argue that platform competition does not necessarily lead to an efficient pricing structure due to externalities. Evans (2002) argues that the economics of two-sided markets differ from the economics of one-sided markets in some important aspects. The first one is price-cost margins, which may be substantial on one side of the market while being small (or even negative) on the other. This is due to the fact welfare gains may be maximized by such an imbalanced pricing scheme. It is therefore arguably inappropriate to infer predation or excessive pricing by looking solely at prices charged at one side of the market. Two-sided markets also differ from one sided ones with respect to welfare gains and losses associated with market concentration levels. Arguably, in contrast to one-sided markets, price increase following a merger, may be offset by positive indirect network effects the merger may create in the absence of platform interconnection. In particular, where customers of each merging platform enjoy, post merger, from access to the customers of the other, the value of the joint platform may exceed their combined values, taken separately.

Another important issue associated with two-sided markets is the relevant market definition. According to Evans, the "hypothetical monopolist test" should be applied to both sides simultaneously. As such, the relevant market should be defined using net total price imposed by a hypothetical monopolist platform (on both sides). It is further argued that in merger analysis, an appropriate evaluation of harm to competition should be based on prospects of total price increase, rather than on price changes on each side separately. According to this argument, even if a merger would likely result in a price increase on one side of the market, one should not ignore any countervailing price decrease that may take place on the other side of that market. Evans argues that a price increase on one side makes it more likely that the price on the other side will be reduced due to an indirect reduction in the value of the service to the other side. Eventually, a merger may result in a combination of price changes in both directions and the net impact (weighted by quantities such as the number of subscribers) must be taken into account.

The Israel Antitrust Authority ("IAA") acknowledges some of the aspects described above. The IAA would normally choose to define the two, or more, sides of a platform as separate relevant markets, rather than define a single "platform" market. In our opinion, the competitive analysis of two sided markets differs from that of one sided markets by the need to explicitly take into account any externalities each side confers on the other. Competitive analysis in the presence of externalities is not, however, solely confined to two sided markets. It may also be called for in durable goods markets for which services and parts "after markets" exist. For example, it may be the case that increasing the price of new cars would injure of the demand for services and spare parts due to a decrease in sales of new cars. It is also possible that increasing the price of spare parts would negatively affect the demand for new cars, as consumers take into account the total cost of owning and using a motor vehicle.

In general, the IAA finds that intense competition on one side of a platform market cannot, in and of itself, justify harm to competition on the other sides. The IAA recognizes that indirect (cross-platform)

externalities could, and in some cases do, restrain prices. However, the IAA does not agree with a general argument that platform mergers should be approved whenever price increases on one side of the market are offset by the likelihood of price decreases (or by actual decreases) on the other side. In particular, it may be the case that price decreases on one side are induced by lower values assigned to the platform – due to the price increase (and the demand decrease that followed) on the other side. Changes in the number of customers using the platform on each side have an impact on the value customers on the other side assign to it. As such, even when price changes on either side "wash off" – it still may be the case that usage patterns change and consumer welfare gains from the platform change with it.

The IAA has had experience with two-sided markets in the context of merger reviews and decisions with respect to restrictive arrangement as illustrated hereafter:

1. Acquisition of Givataim shopping center by Azrieli Group (2009)

On February 2009, IAA Director General approved a transaction between the Azrieli group, which owns several shopping centers across Israel and the IDB group. In that transaction, the Azrieli group bought the Givataim shopping center which was previously owned by the IDB group. The IAA's economic analysis treated shopping centers as real-estate platforms attracting two types of clients: commercial businesses selling goods and services to customers on one hand; and customers who enjoy a variety of stores located at the shopping center, on the other. A shopping center therefore faces two distinct yet interdependent demand curves. In particular, demand interdependence is induced by the fact that the larger is the diversity of stores in the mall, the greater the number of customers that will visit it, and vice versa. Optimal pricing depends on the elasticity of demand on each side. In particular, the higher elasticity side would pay less for "using" the platform, relative to the side that has a lower elasticity of demand. In the case of malls and shopping centers, customers ("end-users") do not pay any fee for using the mall and its facilities due to their relatively high elasticity of demand. In contrast, sellers pay rent to the mall owner owing to the value they assign to the location of the shopping center and its attractiveness to consumers – both of which influence store profits. Considering the differences between demand characteristics and the level of competition on each side of the platform, the IAA has defined "shoppers" and "shop owners" as two distinct relevant markets. The IAA concluded that it was unlikely that the transaction would have any anti-competitive effects, mainly due to the absence of any significant geographic overlap between the purchased mall, and other malls owned by the Azrieli group and the competitive conditions faced by shop owners.

2. Merger between Yellow Pages and Dun and Bradstreet (2007)

The transaction involved two of the competitors in the market for nationwide classified directories for business-to-business usage ("**B2B directories**"). B2B directories are platforms serving two groups of customers: "Buyers" and Suppliers/advertisers. The first group usually gets the directories for free and the second group pays for advertising their goods or services. Indirect network externalities accrue due to the fact that demand on the advertisers' side of the platform is positively correlated with the number of Buyers using the directory. These externalities create significant advantages for the larger platforms, that offer more advertisers (higher value for Buyers) as well as more Buyers (higher value for advertisers). As it was determined that Buyers use multiple directories, the IAA's economic analysis focused on the advertisers' side, and defined it as a separate relevant market. The merger was approved with remedies, mostly due to the entrance of a large and significant competitor into the market: Bezeq, the Israeli telecommunications incumbent. The analysis also found that barriers to entry were not high for certain players who were already part of the internet content industry, and that substitution between web directories and printed directories is relatively high with respect to the B2B sector.

3. Credit cards interchange fee regulation (1998 – present)

Credit card systems are another typical example of two-sided markets. A credit card platform (typically) has two main business activities: issuing cards to individuals who use them to pay for their purchases; and acquiring merchants' credit card transactions. Both sides, card holders and merchants, benefit from using (and accepting) the card: card holders have the convenience of using the card as a payment instrument and benefit from credit services. Merchants benefit from the associated payment guarantee and fraud protection.

The IAA is and has been intensely involved in the regulation of interchange fees among credit cards platforms. As early as 1998, the IAA issued a decision stating that interchange fee agreements between credit card issuers and acquirers constitute restrictive arrangements under the Restrictive Practices Act¹. This is due to the fact that an interchange fee agreement serves as a coordinating mechanism concerning merchant fees. Interchange fees are a substantial component of the costs associated with acquiring transactions. As such, interchange fee rates serve as a minimum price agreement for merchant fees. For some years, the IAA granted the interchange fee agreements between the VISA companies - Visa I.C.C and Leumi Card – numerous exemptions in return for a gradual decrease in the rates of interchange fees, while the companies agreed to provide the IAA with data to establish a suitable and acceptable interchange fee rates. In September 2001, after these exemptions expired, and the data provided were found insufficient, the credit card companies applied to the Antitrust Tribunal to approve their interchange fee rates agreement. The Tribunal approved a temporary arrangement, which was supported by the IAA. The arrangement included the following provisions: a gradual reduction of merchant fees, a reduction in the level of discrimination among different business categories, and prohibiting banks from tying banking services to the acquisition or issuance of the banks' credit cards².

The main dispute between the IAA and the Visa companies relates to the methodology to be applied in setting the rate of the interchange fee. The IAA's view, accepted by the Tribunal, was that the rate should be derived from the Visa companies' acquiring costs which consist of the following components: direct costs of fraud and insolvency; costs of processing transactions; and costs of risk management. In contrast, the Visa companies' argued that the rate should be based on total issuing costs less the revenues from card holder's membership fees, as would be freely determined by each platform.

The first stage of the proceeding was completed by August 2006, when the Antitrust Tribunal approved both the "cost based" principle as well as the core components proposed by the IAA and ruled that the interchange fee rates should consist of three components, namely: costs related to the processing of the transactions, costs of payment guarantee and costs of a free credit period. The Tribunal also ruled that the different categories of interchange fees are to be abolished, with the exemption of cost based differences regarding payment guarantee. The Visa companies appealed this decision before the Israel Supreme Court. The case is scheduled to be heard in July 2009.

By October 2006 the IAA had reached a long term agreement with all three credit card companies operating in Israel on cross clearing agreements for both Visa and MasterCard brands, in addition to a gradual reduction of interchange fees rate.

¹ A "restrictive arrangement" is defined in the Law as an arrangement made between two or more persons conducting business that limits at least one party to the arrangement in a manner that may prevent or reduce competition. In addition, the law provides for a number of specific circumstances under which an irrefutable presumption of harm to competition exists (e.g. price fixing).

² All credit card companies in Israel are owned by banks. The Israeli banking system exhibits very little competition in the retail and small business sectors.

The advantages of this agreement are twofold: First, it introduces a single interchange system between all participating credit card companies. This way, retailers will no longer be obliged to engage in two separate sets of contractual agreements for Visa and Mastercard as before. Second, the agreement includes provisions for a gradual reduction in interchange fees rates over a six year period. The aggregate effect of the abovementioned provisions is expected to have a substantial impact on competition in the credit card sector as well as on consumer welfare.

The Tribunal has approved the agreement for an interim period. It was also ruled that the IAA is to appoint an expert to conduct a cost study and determine the appropriate costs associated with the aforementioned components for both the Visa and MasterCard systems in Israel. Subsequently, Dr. Yossi Bachar, former Director General of the Ministry of Finance was appointed to conduct the cost study.

The Tribunal found that the effective regulation requires prices to be based on real costs. Moreover, it ruled that cross-subsidization between merchant and interchange fees is unjustified, since each of these activities belongs to a separate relevant market, that needs to be regulated separately.

4. Declaration of IsraCard as a Monopoly (2005)

IsraCard is a local credit card brand operating as a closed, three party system. IsraCard also had exclusive rights to issue and acquire the MasterCard brand in Israel. In 2002 the IAA reached an agreement for a consent decree with IsraCard regarding its activity in the MasterCard brand. The decree was jointly filed by the parties for approval by the Antitrust Tribunal. Its objective was to open the MasterCard brand to competition and to guide the behavior of IsraCard, the dominant firm in the market which until recently was the sole acquirer of MasterCard. Among other provisions, the agreement required IsraCard to reduce the maximum fees collected from merchants. Ultimately, the consent decree expired before its authorization by the Tribunal and consequently the IAA declared in 2005 that IsraCard was a monopoly in the market for acquiring MasterCard and IsraCard credit card transactions³. These proceedings are now suspended, due to the three-sided agreement described above pending in the Courts.

In its declaration, the IAA distinguished between the two sides of the platform. Although there are three credit card companies operating in Israel, and despite the fact that card holders benefit from *some* limited competition, merchants do not benefit from any competition at all. Considering the relative high share of IsraCard/MasterCard users among credit card holders in Israel and the high usage rates of credit and payment cards in Israel, merchants have found it very difficult to exclude the IsraCard brand. The demand for acquiring IsraCard transactions is highly inelastic. Accordingly, the IAA defined the relevant market as "Acquiring MasterCard and IsraCard credit card transactions", focusing on the merchants' side of the platform.

The IAA relied on the presence and importance of indirect network externalities in the market that together with the high share of transactions involving the IsraCard brand, allowed its sole acquirer to exercise market power.

³ According to Israeli antitrust law, the concentration of more than half of the total supply or acquisition of an asset, or more than half of the total provision or acquisition of a service in the hands of one person will be deemed a **monopoly**. The director general declares a monopoly on firms meeting this threshold in order to put them under certain obligations such as a prohibition from refusal to make a deal and from abusing their dominant position.

5. Declaration of Yediot Aharonot as a Monopoly - (1995)

In 1995 the IAA declared Yediot Aharonot a monopoly in the market for printed daily newspapers in Hebrew. The IAA concluded that daily newspapers in Hebrew is a relevant market considering their unique characteristics such as content and language. The IAA also referred to the unique characteristics of newspapers activities which include three main aspects: the first is the collection and distribution of news, data and commentaries; the second is selling advertisements to private and commercial advertisers and the third is selling content to readers through printed newspapers. While recognizing the direct and indirect externalities these activities confer on one another and the interdependence between them, the IAA had nevertheless defined the readers' side as a relevant market, in which Yediot holds more than fifty percent, in terms of number of printed volumes.

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RUSSIAN FEDERATION

The retail networks are one of the best examples of «two-sided platforms» that allow members of two different groups (suppliers, producers and retail consumers) to interact with each other. Thus retail networks provide for a platform, a sort of infrastructure which allows facilitating access for consumers to the product ensuring a wide range of products and comfort buying facilities, but at the same time they provide suppliers with the access to distribution channels securing volumes of purchases under the adjusted schedules.

The system of state standards of the Russian Federation specifies the obligatory certification of domestic trade services in the Russian Federation.

The state standard of the Russian Federation №51304-99 « Retail trade services. General requirements» introduces the notion of retail trade services meaning the result of direct cooperation between a distributor and a buyer, as well as distributor's activity on satisfying the buyer's necessity to purchase goods under the sales contract. Actually the process of product sales includes the following: formation of the range of products, products delivery, providing of storage, pre-sale preparation, laying out of products, products supply to a buyer, payments, sale. Sales of products can be done inside (supermarket, specialized store and etc.) and out of a shop, including small-scale retailing networks.

Intensive development of trade networks and high rate of merger transactions are indicative for the modern world market of retail trade.

Introduction of JIT ("Just-in-time") approach into industry and its expansion on the traditional distribution systems along with modern technologies (computers, automatization, laser scanning and etc.) caused the transition from the strategy "push" - when goods are produced and kept in expectation of demand, to the strategy "pull" - when consumer's demand attracts supply of products to the market and, hereafter, all components that are necessary for satisfaction of this demand.

Disadvantage of the strategy "push" is that goods stocks often appeared either too large or, as opposite, insufficient. Implementation of JIT technology allowed reducing goods stocks and forced companies to work more actively for overcoming «bottleneck» in the products distribution network.

Nowadays, due to closeness to the consumers and, therefore, to the information on demand and level of sales, as well as to the distributors' and retailers' gaining larger independence from the production sector, and they obtained possibility to dictate terms to the suppliers. Thus, trade becomes consulting producers on issues of consumers demand.

Reduction of volumes and increase of frequency on delivery of products in retail networks forced participants of distribution networks to coordinate their activity, and in some cases to unite for executing centralized purchases in order to decrease transport and other expenses related to the goods delivery.

In many sectors there is already no classic differentiation of functions between producers, sales agents, wholesale and retail branches. Large retail companies interact directly with the producers of goods.

In this case the whole balance of market power obviously shifted from producers towards retail networks. In general, producers are more and more dependent on wholesale and retail branches which provide consummation of their products by consumers. Due to the limited space on shop shelves for new products, there is a conflict between the increasing number of new products and aspiration of retailers to maximize their profit. This conflict of interests resulted in spreading practice, when retail enterprise requires suppliers a charge for including their products into the list (range of goods sold in the shop) or participating in different discounts actions for buyers which sometimes go out of possible rate of decrease of sale price for producer. Taking into account the limitation of sales areas, products which do not belong to one or two largest suppliers are more often excluded from range of products and replaced by products under trade marks of the large retail networks. As a result, small and medium suppliers have difficulties with the access the market.

Producers whose trade marks did not succeed in occupying the appropriate position on the market are often forced to choose either to become subcontractors of large industrial companies or to produce commodities under trade mark of retail network.

In cooperation with retail networks, suppliers are forced to review a price policy, supply products at minimum prices which retail networks consider as payment for the guaranteed sale of supplier's products.

At the same time, requirements of retail networks are not always reasonable and equally reflect the interests of both suppliers and retail networks. There are requirements to the suppliers, which can not secure the receiving by suppliers of appropriate share of additional income, arising as a result of any activity in the system of distribution of products and, therefore, can negatively influence the efficiency of their activity. It may relate to such business practice as discriminatory bonus policy, free delivery of products to retail networks, participation in sales promotion, auctions on gaining the right to conclude supply agreement.

During inspections conducted by the FAS Russia there was exposed that the retail price for products was formed not only basing on production cost and mark-ups at the distribution levels (producer's mark-ups, distributor's mark-ups, retail chain's mark-ups) but also substantially bears supplier's expenses related to additional payments in favour of retail networks and expenses for providing credit on goods to the retail networks (postponements of payments).

Taking into account that the network trade mark-up for products constitute to minimum 10-15% (for many products a middle mark-up constitute to 30-40%), even at the minimum level of trade mark-up, total pressure to the final product price of all mark-ups and payments formed in retail networks, constitute from 20 to 60%, about half of the cost of goods. It should be noted that this practice is peculiar to the retail networks even with a share of the market less than 5%. It proves existence of substantial market power for relatively small-scale retail networks that is enough to influence the terms of product circulation on the neighboring markets.

As mentioned above, the modern stage of network business development is characterized by maintaining significantly strong competition for customers between retail trade entities, when networks desire to maintain the price level accessible for the wide range of customers and at the same time to increase their income by means of "hard policy" with regard to suppliers of products.

In "supplier & retailer" relationship a retailer acts as a participant of other – wholesale market of food products trade, where it acts as a buyer. Outside the borders of the relevant agglomerations there are no substantial technological and economic constrains for delivery or acquisition of food products not only for wholesale suppliers of food products but also for retail suppliers due to the modern technologies of production, packing and transportation of food products.

At the same time the «market power» of retail branch, the power of trade networks in negotiation process with producers is determined by their position in the sphere of sales of products to the final buyers, i.e. the population living on this territory.

The foresaid peculiarity of retail trade services market confirms the necessity to regulate constrains of unfair practice by retail networks in regard to suppliers, as in spite of the fact that actions of retail networks are anticompetitive due to their prevailing market power over suppliers, the current regulations of antimonopoly legislation do not allow to suppress and prevent the increasing pressure that directly influence on price rise.

It is important to adopt the Law «On the Fundamental Principles of State Regulation of Trade Activity and Development in the Russian Federation» (hereinafter – the Law) with amendments elaborated by the FAS Russia, or to introduce amendments to the Federal Law of July 26, 2006 №135-FZ «On Protection of Competition».

The basic idea of the Law is adjustment on the federal level of relations related to the organization of trade activity at the territory of the Russian Federation, creation of transparent and predictable mechanism of launching of business activity by economic entities and also removal of excessive administrative barriers in trade.

SOUTH AFRICA

1. Introduction

Issues of two-sided markets have arisen in several cases addressed by the South African authorities relating to media markets, as well as with regard to issues of payment cards covered in a Banking Enquiry established by the Commission which reported in June 2008. This submission focuses on a merger of commercial radio stations and on issues of payment cards.

At the outset it is important to be clear that two-sided markets or platforms are related to where two or more distinct groups of customers are brought together through the platform, and where there are indirect network externality effects. The value that one or both groups of customers place on the product generally depends on the number of members in the other group. This gives rise to unusual economic relationships, of which the most widely recognized is skewed pricing. Prices may be set below marginal cost for one group of customers, in order to develop the platform which is the basis for sales to the other group (on the other side of the market).

A further consideration is whether there is choice over the single best platform or over buying a basket of many platforms (sometimes termed ‘single-homing’ or ‘multi-homing’). For example, one side (or group of customers) may choose to ‘single home’ if they only have the time to read one newspaper per day or only listen to one radio station, or ‘one-stop shop’ in a shopping mall. As such, each platform holds a monopoly in providing access (e.g. to advertisers) to these single-homing customers.

Two-sided markets are a heterogeneous group. The key is to understand what is entailed in ‘two-sidedness’. As the key network effects vary in degree across markets, the degree of ‘two-sidedness’ could also be said to vary, but it is important to think of two-sided markets as ones where these effects are significant such that they impact on the business model. For example, in the case of radio stations and many newspapers, selling for free or substantially below variable cost reflects the business model, and standard price-cost tests such as for predation cannot be directly applied.

2. Commercial radio

The case in question was a merger in the form of the acquisition by Primedia (together with Capricorn Capital Partners) of New Africa Investments Ltd (NAIL).¹ NAIL is a holding company with just one investment of note, being 24.9% of Kaya FM. Primedia controls other radio stations, in particular, Highveld FM. Kaya FM and Highveld FM both broadcast in the adult contemporary music segment in the same province of South Africa (Gauteng).

¹ Competition Tribunal ruling in the matter between Primedia Ltd, Capricorn Capital Partners (Pty) Ltd, New Africa Investments Ltd, and the Competition Commission and Africa Media Entertainment, Case No. 39/AM/May06, 12 February 2007. While issues of market definition and the proper assessment of competitive rivalry were hotly debated before the Tribunal, the Tribunal ultimately did not rule on these issues as it decided that the acquisition did not give Primedia sole or joint control over Kaya FM.

In the case of radio there is an asymmetry. The advertisers care how many (and what profile) of listeners a station attracts, but the listeners do not directly get value from the demand of advertisers.² And, rather than setting a price for the listeners, the station must decide how much to spend on content in order to improve the quality of the offering to increase listener numbers, in order to attract advertisers. There is a first mover advantage here also, as the investment in building up an audience must be made before advertisers value the station as a medium to reach their potential customers.³

Given that listeners only tune to one station at a time (and, in this sense, ‘single home’), if an advertiser wants to reach the listeners of radio X they must buy advertising on this station. This is particularly important if advertisers want a time-sensitive audience such as morning drive-time (so negating any switching people may do between stations at different times). Advertisers can choose what and how much advertising to place on several stations (or newspapers) at once. This can lead to a ‘competitive bottleneck’, where agents on one side choose a single platform (and may choose to move from one to the other).

Platforms can exploit their market power by setting high charges on the multi-homing side. However, profits may be eroded by competition between platforms on the single-homing side, where through such competition the quality and utility to customers is increased by spending on improving the offering to radio listeners. This depends on the readiness to switch between platforms by this customer group. While switching between newspapers or radio stations may be relatively easy it is less easy to switch in other cases.

A further important characteristic affecting radio is that the nature of the product (or platform) offered to one set of customers (the advertisers) depends on the profile of the customers attracted to form the platform (the listeners). The differentiation is part of the business strategy of the radio station in developing an identity and profile to maximize returns, taking the links with attractiveness of the audience to advertisers into account. This was of great relevance for the stations the subject of this merger, for whom the key target was professionals in the 25-49 age bracket listening to English language stations.

2.1 *Market power, market definition and competitive rivalry*

While it is thus necessary to examine both sides - listeners and advertisers – in defining markets, these will not necessarily give the same competitive picture. And, to answer the market definition question it is crucial to bear in mind the interdependence between the two sides of the market and to recognize the difference in nature between them.

The revenue comes from the advertising side of the market and it may appear that this should be the primary side for the purposes of competition analysis, as this is where prices will increase if there is a lessening of competition. On this side, it appears that advertisers have many alternatives, including radio stations with different formats and other mediums, through which to reach a target audience.

The essential question is which products provide competitive discipline to undermine a small but significant price increase? If a station (or groups of similar stations) increases its advertising charges, what is the nature of rivalry that can undermine such an increase? In the short-term this is about whether advertisers can switch their advertising spend to other stations, and achieve the same penetration of their

² Increased advertising revenue can lead to an improved broadcast offering.

³ While entry barriers may appear low, there are issues of listener loyalty, building a brand, and of obtaining licences (an important issue in the case examined here, where licences were tightly rationed by genre).

target consumers.⁴ This is essentially a question as to whether listeners ‘single home’ or ‘multi-home’. The evidence on South African radio listeners (consistent with other countries) is that, while listeners have more than one station that they switch to, they listen to a very limited and fairly static set of stations.⁵ They may also listen to stations for different reasons (news or music), and at different times of the day. The stations thus conform more closely to the single-homing model, with each being somewhat of a monopolist over their listeners for ‘sale’ to advertisers. This is especially so if time is considered. An advertiser wanting a ‘drive-time’ urban upper income audience has to buy the stations with those listeners, and each of the stations has a monopoly with respect to selling their listeners.

But, increased advertising revenue by such stations will encourage competition for their listeners, as the advertising Rands are following the listeners. The primary active rivalry thus occurs in competing for listeners. The listener platform is then the base for competition in selling advertising time. And, a competent sales strategy should presumably be able to realize a similar value for a similar listener base no matter which station. For the related questions of market definition and competitive effects, the extent of actual and potential rivalry for listeners is the main issue. In this merger, the two stations were close rivals in that they targeted their offering to the growing middle class of Johannesburg and Pretoria, although one station had a predominantly white audience and the listeners of the other were almost entirely black.⁶

The case of commercial radio illustrates the importance of considering the interdependence between the two sides (or groups of consumers) in a two-sided market, and the importance of taking into account the nature of each group of consumers (such as whether their demand conforms more to a single-homing or multi-homing character). It also demonstrates the importance of taking account of the dynamic nature of competitive rivalry, in a context where product differentiation is itself the outcome of firms’ competitive strategies on the listener side. One implication is that evidence on the interdependency between advertisers and the listener platform and the way in which it affects the competitive behavior of radio stations is very important in such a case. Indeed, much time in the hearings were taken up with the evidence of factual witnesses on the industry.

3. Payments cards

This is a complex area which the South African Competition Commission has started to grapple with in recent years. Here we focus our observations specifically on the implications of card-holding and merchant acceptance being far from mature in South Africa. The need to encourage greater use of payment cards is against the fact that South Africa does have a sophisticated network for electronic card presentation, with electronic funds point-of-sale terminals being widespread in urban areas at least.

The usage of both credit and debit cards has been growing strongly, with Mastercard and Visa accounting for almost the entire market in terms of card schemes. The four main commercial banks are both issuers and acquirers and account for almost all of the business in these areas. Interchange is paid by the acquirer to the issuer, and a merchant service charge levied on the merchant by the acquirer. Interchange rates have been determined in multi-lateral negotiations for each of the card schemes.⁷

⁴ The evidence in this case suggested that radio had particular characteristics of value to advertisers, such as being invasive and targeted by audience. This made it a complement to other mediums for advertisers.

⁵ Radio industry experts testified that South Africans tended to listen to just 2 stations.

⁶ While the licences stipulated that they are both English language, with an adult contemporary music format. In the case of one station (KayaFM) it was also stipulated that it have a ‘African focus’ and the music format be ‘adult contemporary/jazz’, which led counsel into debates as to the definition of both ‘African’ and ‘jazz’ in this context as neither terms were defined in the licences.

⁷ Most recently, MasterCard has started to set interchange independently of the banks.

The South African Banking Enquiry was an independent public enquiry set up by the Competition Commission and did not have any formal powers under the Competition Act for its work, relying instead on voluntary cooperation and submissions from the public. Following the conclusion of its report in June 2008, a steering committee has been established of the Competition Commission, National Treasury, Reserve Bank and Department of Trade and Industry to address the various recommendations and areas requiring further analysis.

The Banking Enquiry identified high levels of profits relative to costs on credit card interchange as reflecting the market power of the banks in setting interchange (with the costs being born by the merchants) on credit card transactions as a significant concern. The main issues identified are thus with the banks, and not the card schemes. The recommendation is for specific regulation along the lines adopted in Australia, with an 'Interchange Forum'.

We recognize that the two sided nature of the market is crucial to understanding the welfare effects of interchange. Specifically higher interchange increases the incentives to issuers and hence stimulates the promotion of card payment instead of cash through being partially passed-on to cardholders in rebates and incentives for card use. In addition, the positive network externalities related to card holding and usage imply that without such an incentive there would be sub-optimal use and acceptance of cards. If there was widespread extension of payment cards, with many individuals holding more than one, as in most industrialized countries this concern may be lessened and greater attention could be paid to, for example, the mix of debit and credit card use such as in Australia. The position in South Africa is quite different, as indicated above, meaning it is very important to recognize the externality effects underlying the two-sided nature of the market and the skewed pricing in the form of interchange that results.

This is not to say that the evidence indicates vibrant and effective rivalry amongst the banks as issuers and acquirers. The point is that the skewed pricing must be evaluated in the context of the two-sided nature of the market because interchange plays a balancing role between cardholder usage and merchant acceptance. The concerns of low levels of competition may be addressed by examining the limits that have been placed on access to the payments system. These are rules/conditions stipulating that all acquirers must be significant issuers and members of the card schemes must be regulated banks. Addressing these constraints will allow that smaller banks and non-bank institutions to enter into issuing and acquiring.

4. Concluding comments

Based on the limited South African experience, the key issue with regard to understanding two-sided markets on the part of competition authorities is to understand the factors which have been identified as 'two-sidedness'. This involves the economics of the network externality effects and the ways in which these relate to the business models in specific markets and cases. In this regard, we note that while the pricing structure adopted impacts on the two or more groups of consumers, that is precisely the point of business models based on the underlying economics. Undermining the skewed pricing risks negatively affecting the building of platforms and the gains there from. We note that this is quite different from saying that there are no competition concerns. For example, there are major advantages to being a first mover in many of these markets, which is important in addressing possible abuse of dominance in markets such as web-based commerce and ticketing systems.

In addition, barriers can be raised further if a dominant platform can devise means to enhance or protect its monopoly power (over one side of the platform) by strengthening its hold on the single homing side. While there may be externalities intrinsic to the nature of the product, dominant firms have an incentive to enhance the distortions through their own strategies. For example, a shopping mall attracts customers and offers convenience as a one-stop as well as through parking, good transport links etc. and then can leverage this customer base to the rentals charged to shops. It has an incentive to pursue various

ways to entrench and extend the mall model (through influencing thinking on town planning etc), separate from any consideration of the underlying merits.

Regulations need to recognize the importance of the externality effects, while not being preoccupied by the interests of the firms in question. Using the payment card example, an authority should consider all potential benefits to cardholders, to innovation, and to social efficiencies such as the development of electronic payments system in an emerging economy, in addition to pressure from merchant groups, in intervening in interchange.

CHINESE TAIPEI

1. Introduction

Recently, there has been the insight that several, apparently different, kinds of platforms shared common features. These platforms supported different kinds of interaction, which are not mutually exclusive:

- matching users from two groups to facilitate their transactions (e.g., a job search site);
- building audiences by assembling content and services to attract viewers or users (e.g., Google search);
- collectively managing knowledge bases (e.g., Wikipedia);
- coordinating *DEMAND* or *COST SHARING* (e.g., credit card networks, operating systems), and perhaps combinations of the above.

One-sided *MERCHANTS*, who acquire goods from suppliers (sellers), combine and modify them, and re-sell them to users (buyers). The sellers and buyers do not interact with one another and the merchant takes on all the inventory risk of buying from the suppliers. Two-sided *PLATFORMS*, where the buyers and sellers interact directly, are facilitated by the platform in the middle, which offers some kind of needed resource to facilitate the interaction.

A two-sided market requires the following basic structure: two groups, a platform offering some resource they both want, a desire to have a large choice of parties on the other side to interact with, and an imbalance in the desires of the two sides that the platform can exploit through differential pricing.

With two-sided network effects, the platform's value to any given user largely depends on the number of users on the network's other side. Value grows as the platform matches demand from both sides. Because of network effects, successful platforms enjoy increasing returns to scale. Users will pay more for access to a bigger network, so margins improve as user bases grow.

This report will focus on discussing the credit card scheme in relation to the definition, market power, social welfare, abuse of dominance issues and a related competition law case involving the payment card business in Chinese Taipei.

2. Definition Issue and the Structural Characteristics of the Credit Card Market

According to statistics compiled by the Financial Supervisory Commission, the current financial competent authority, there are 40 card-issuing institutions including 35 banks and 5 specialised credit card companies as well as 20 acquiring institutions in Chinese Taipei; 32 million credit cards were in circulation in Chinese Taipei as of February 2009. In addition, there were about 277,000 contracting merchants in both urban and rural areas, thereby enhancing the accessibility of using credit cards.

The early investment in the information system of credit card services is enormous. Once the costs are sunk, they cannot be used for other purposes. Should the credit cards be carried by more customers, the marginal cost of card-issuing banks will be proportionally reduced. Such a situation is characterised by increasing returns to scale. In the meantime, the increase in credit card usage and contracting merchants will develop the interdependency between the credit card network and customers and, furthermore, will

generate profits for the financial institutions. The credit card market with two-sided platforms has a significant network effect.

In accordance with Article 14 of the Regulations Governing Institutions Engaging in Credit Card Business and related policies of the Ministry of Finance (hereinafter “the MOF”) in 1994, the National Credit Card Center (hereinafter “the NCCC”) is designated by the MOF (the related financial businesses have been supervised by the Financial Supervisory Commission since 2004) as the exclusive organisation for handling the domestic acquisition business related to local bank credit card transactions and as the centralised clearing centre that processed foreign credit card transactions. The NCCC currently enjoys a dominant position in its specific market in Chinese Taipei.

Bank credit card transactions can generally involve four different entities: (1) cardholders who use the cards to purchase goods and services; (2) merchants who accept the cards in exchange for goods and services; (3) banks that issue cards to cardholders (card-issuing banks); and (4) banks that contract with merchants to accept the credit cards (merchant-signing banks/the acquiring banks). In some instances only three parties are involved because the card-issuing bank also contracts with the merchant to accept the card (e.g., American Express).

Card-issuing banks may join the credit card network (such as VISA or Master Network) to issue the credit cards or contract with the shop owners who accept credit cards. The contracting merchants could decide to accept the credit cards from several systems, including ones that have relatively small shares of cardholders in accordance with the preferential measures, merchant discounts and brands of credit cards. The cardholders may apply to the credit card-issuing banks for the credit card as well as choose to carry multiple cards for the consumption of the goods or services provided by the contracting merchants. As a practical matter, the card-issuing and acquiring members have a mutually dependent relationship. If the revenue generated from the cardholders is insufficient to cover the card-issuers’ costs, the service will be cut back or eliminated. The result will be a decline in card use and a concomitant reduction in acquiring banks’ revenues.

Therefore, the competition analysis of credit card businesses could be based on a one-sided market. As for the completion of the transaction process, competition analysis could consider both sides at once.

3. Market Power

In accordance with the guidelines of international credit card organisations, the acquiring institutions have to pay card-issuing institutions a certain percentage of the transaction amounts as the Interchange Reimbursement Fee (IRF). For international transactions, the percentage will be determined by the international credit card organisation. However, if the acquiring institutions and the card-issuing institutions are located in a same jurisdiction, the IRF can be negotiated by regional enterprises. The NCCC currently sets the standards for related fees, including the interchange fee the acquiring institutions pay to card-issuing institutions, the reimbursement fee card-issuing institutions pay to acquiring institutions, and so on.

Taking into consideration the risks and freedom of contract, domestic acquiring institutions charge different contracting merchants different handling fees. As an example, the NCCC (as an acquiring institution) charges contracting merchants fees that include a 1.55% interchange fee paid to domestic card-issuing institutions and various allocations of its risks and costs such as costs related to personnel, equipment, bills, international organisation service fees, taxes and operation. As a result, the NCCC charges different handling fees to different types of contracting merchants.

Even though the acquiring institutions and card-issuing institutions in two-sided platforms where profits on one side may subsidise the other side, as mentioned above, the market power of credit card business are measured independently on each side. Because of this there are currently 40 card-issuing institutions and 22 acquiring institutions in the relevant markets and it is unlikely that market participants could hold significant market power in any of the two individual markets.

4. Social Welfare

Even though the NCCC designated by the MOF is the only centralised credit card clearing centre and financial institution handling acquisition businesses in Chinese Taipei, its centralised operation reduces the costs of information exchange and clearing, increases efficiency on information exchange between card-issuing and acquiring institutions and also increases the efficiency of clearing; moreover, it also lowers the overall social investment costs.

The MOF notified the NCCC and the Bankers' Association between Year 1998 and Year 2000, requiring the acquiring institutions to duly monitor contracting merchants so that they would not shift the merchant charge fees to cardholders; as a result, consumer welfare is likely not to be damaged.

5. Abuse of Dominance

Different interchange fees paid by the acquiring institutions to card-issuing institutions would result in the credit card institutions operating less efficiently and limiting credit card transactions to a smaller scale with less liquidity. Such credit card payment systems would not be competitive.

If a different interchange fee is allowed to be imposed upon different acquiring institutions, card-issuing institutions may limit their cardholders to consume at contracting merchants that have a lower interchange fee agreement with the acquiring institution. This may hamper the circulation of such credit cards and the ultimate victims will be the end-users, the cardholders and contracting merchants in the credit card system.

We think that a two-sided platform established through the NCCC, which is currently the only centralised credit card clearing centre and financial institution handling acquisition businesses in Chinese Taipei, will reduce market chaos and inefficiency; it may also be beneficial to consumers.

6. Law Enforcement Case --- Concerted Action in the Credit Card Market

In December 2006, the NCCC and its member banks applied to the Fair Trade Commission (hereinafter "the Commission") for extension approval of a concerted action exemption from the Fair Trade Act on matters that related to the following:

1. To unify the national credit card specification and service mark.
2. To centralise accounting affairs and credit card clearing.
3. To jointly authorise the NCCC for the following promotion of contracting merchants and the acquiring business that relates to the credit card system: (1) to summarise, issue and authorise a credit review with regard to lost and suspended credit card numbers; (2) to offer standardised payment facilities to contracting merchants; (3) to handle related fee applications, bills and accounting for contracting merchants. The extension period applied for the exempt concerted actions was from 1 January 2007 to 31 December 2009.

Concerted actions are prohibited under the Fair Trade Act. However, Article 14 of the Fair Trade Act specifically exempts concerted actions where the intent is to unify the specifications or models of goods for the purpose of reducing costs, improving quality or increasing efficiency, but only on the conditions that these actions are beneficial to the economy as a whole, are in the public interest and have had prior approval.

In the case at hand, after its investigation the Commission made the following decisions:

1. Regarding “unifying the national credit card specification and service mark”: a unified credit card specification helps contracting merchants to use the same terminal for credit card identification and distinguish authentic from counterfeit cards. With a unified specification, card-issuing institutions can avoid duplicating investments in card-manufacturing and lower operating costs.
2. Regarding “the centralised accounting affairs and credit card clearing”: the clearance of credit card transaction involves the card-issuing institutions and acquiring institutions; in order to exchange the data on inter-institution payment transactions and clear account payments, a centralised clearance system that calculates the net transaction amount is a necessary process for payment transfer and clearance. The NCCC has been designated by the MOF as the clearing centre for handling the transactions of foreign credit cards that are issued domestically and thereby the costs of information exchange and clearance are lowered. Moreover, card-issuing and acquiring institutions can handle inter-institution and accounting data more efficiently.
3. As to jointly authorising the NCCC in regard to the above-mentioned items in the promotion of contracting merchants and the acquiring business that is related to the credit card system, such activities can promote the use of information, avoid duplicated investments, lower operating costs and improve service quality.
4. The Commission found that the concerted actions in this case would be beneficial to the economy as a whole and in the public interest and therefore granted its approval for such companies provided that they observe certain specified conditions.

On the other hand, to resolve the concern that the approval of such a concerted action may restrict competition or result in unfair competition, and also to ensure the overall economic and public interest resulting from such a concerted action, the Commission decided to attach conditions to the approval pursuant to Article 15 of the Fair Trade Act. The applicants shall not take advantage of this approval by engaging in other concerted actions, limiting one of the applicants from starting its own system, excluding applicants from the said system or joining other credit card issuing organisations, or limiting other enterprises to join the aforesaid concerted action. The applicants may not use the approval to gain market status that imposes improper mandatory measures, obstruct fair competition or engage in other abuse of market power.

BIAC

The Business and Advisory Committee (BIAC) to the OECD appreciates the opportunity to submit these comments to the OECD Competition Committee.

"Two-sided markets" or more precisely "two-sided platforms" have been identified as a concept by economists in the relatively recent past. Professors Jean-Charles Rochet and Jean Tirole¹ are often quoted as its "inventors" although some of the markets considered have been operating for many years and there is earlier literature on some key issues specific to these markets.² Since then many articles have been published, commenting on earlier and new case law on both sides of the Atlantic, specific sections on the subject have appeared in academic textbooks and a few major cases have made the concept more conspicuous.

It is not BIAC's role to add to this already well developed literature. The only purpose of this deliberately very short paper is to state that the business community is in favour of a consistent approach by the antitrust authorities to this concept, which brings the necessary flexibility and pragmatism to antitrust analysis to such cases.

Even though there is no single unified and general definition, two sided markets typically involve two distinct types of users, interacting over a common platform.³ Most commentators⁴ agree on the following characteristics of two-sided markets:

- two sides of demand brought together by an intermediary;
- there are "network externalities" i.e. benefits that the agents on each side cannot regulate themselves (e.g. price increases on one side which reduce the demand on that side will also affect the demand on the other side);
- the intermediary ("platform") can affect the volume of transactions through pricing decisions, design decisions, regulatory decisions.

Indeed there are specific industries with these characteristics, and their impact on the global economy is significant enough to merit that appropriate attention be given to the issues they generate e.g.:

¹ Jean-Charles Rochet & Jean Tirole, "Platform Competition in Two-Sided Markets," 1 J. Eur. Econ. Ass. 990 (2003) ; see also Jean-Charles Rochet & Jean Tirole, "Two-sided markets: Where we stand," Rand Journal of Economics, vol.37 (2004).

² W.B. Baxter, "Bank Exchange of Transactional Paper: Legal & Economic Perspectives," 26 J. L. & Econ. 541 (1983).

³ Julian Wright, "One-sided Logic in Two-Sided Markets," 3 Review of Network Economics 44 (2004).

⁴ See, e.g., D.S. Evans & R. Schramlensee, "The Industrial Organization of Markets with Two-sided Platforms," Competition Policy Int., vol.3 No1, 151 (2007)); see also D.S. Evans, "The Antitrust Economics of Multi-Sided Platform Industries," Yale Journal on Regulation (2003).

- exchanges, in the broadest sense of the word, including brokers, agents, auction houses, global distribution systems (i.e. computerized reservation systems for travel agents), etc.
- advertising-supported media,
- transaction or payment systems (traveller's checks, gift checks, etc. and in particular credit cards systems),
- software platforms, providing services for application developers serving personal computer, mobile phone, video game users, etc.⁵

These markets are all growing in importance, especially those involving the use of software platforms.

In our view, in assessing businesses and industries that operate using two-sided markets, antitrust enforcement agencies reviewing mergers or business practices should be mindful of the impact of such practices on both sides of the platform. Focusing solely or primarily on one set of users (and ignoring the two-sided nature of the business) runs a real risk of not understanding the underlying business model or rationale behind a particular practice. “antitrust analysis that focuses on one side of the business in isolation from the other side is incorrect as a matter of economics, and can lead to the wrong answer when indirect network effects are significant and are relevant for assessing the practice at issue”.⁶ More generally, the manner in which such businesses contribute to the attainment of goals and objectives of competition law, such as the attainment of consumer welfare, efficiencies and incentives to innovate may be misunderstood if a "one-sided" market approach is used. In this regard, some authors have strongly cautioned against such a myopic analysis.⁷

At the same time, it has been recognized that the concept of two-sided markets does not represent a major shift in antitrust policy: “Two-sided platforms may be a passing concept which calls for analytical vigilance but does not require a policy revolution.”⁸ In any case, it is generally admitted that the two-sided nature of a market can be a matter of degree. There are cases where the two-sided nature of a market is not the predominant feature of that market. There are also cases where the competitive concerns and analysis tools used in “one-sided” markets apply to two-sided markets. In other words, being two-sided does not shelter a market from anti-competitive issues, nor does it imply that it is affected only by specific anti-competitive issues.

Clearly however, consideration of two-sided markets may affect market definition and market power assessment. For instance, the traditional tools used to measure price elasticity or marginal cost for the purposes of reviewing the effect of a practice or a transaction or for the analysis of entry barriers cannot be applied in the same way if two markets rather than one are concerned. A high price-cost margin on one side may not be indicative of market power, when both sides of the platform are considered; similarly, a price below marginal cost on one side of a market may not be indicative of predatory conduct when its relation to the overall platform is considered.

Whilst this mainly concerns merger regulation, to which most of existing relevant decisions relate, the review of coordinated or unilateral practices is similarly affected in the case of two-sided platforms, For

⁵ Other more basic examples of two-sided markets include auctions, flea markets and shopping malls.

⁶ Evans, *supra* note 4.

⁷ Wright, *supra* note 3.

⁸ J. A. Ordober, “Comments on D.S. Evans & R. Schamlensee’s ‘The Industrial Organization of Markets with Two-sided Platforms’”, *Competition Policy Int.*, vol.3 No1, 181 (2007).

instance, coordination organized between the participants on one side of the platform may result in economic efficiencies in the market on the other side, or tying practices that impact one side can benefit consumers on the other side.

However, a review of case law in various jurisdictions shows that the specificities of two-sided platforms are not systematically considered. Indeed there have been decisions based on an analysis of the indirect network effects over many years, and more often recently, in most disciplines of antitrust law and with respects to various types of two-sided markets. Among many other examples: NaBanCo/Visa applying the rule of reason to concerted practices as early as 1986 in the field of credit cards,⁹ U.S. v. Microsoft analyzing the network effects to assess the barriers at entry when reviewing unilateral practices in 2001,¹⁰ or the Commission considering the indirect network effects for content providers of including the Windows Media Player in Microsoft's standard software platform.¹¹ A number of mergers have been cleared, based at least partly on the specificities of two-sided platforms, for instance stock exchanges by the U.K. Competition Commission in 2004,¹² French press and cinema advertising in 2003, 2005 and 2006 by the Conseil de la Concurrence,¹³ global distribution systems¹⁴ and an online advertising technology supplier with a leading Internet search engine by the European Commission in 2008,¹⁵ or the Dutch Yellow Pages by NMa in 2008.¹⁶

Conversely, there seem to be a number of cases where these specificities have been ignored although the markets in question had the features of two-sided platforms. Again to quote only a few examples: in Europe, the Magill case (1995)¹⁷ in the field of advertising-supported media, or in the U.S. the XM-Sirius radio satellite merger (2008).¹⁸ In other cases, the specificities seem to have been considered, but not used as a basis for the decision, as in the First Data Corp/Concord case relating to a PIN debit card network (2003).¹⁹

Two-sided markets are explicitly recognized by certain authorities in their guidelines, for instance the merger guidelines published in 2007 by the French Ministry of Economy (before the reform transferring

⁹ National Bancard Corp. V. Visa U.S.A., Inc., 779 F.2d 592, 602 (11th Cir. 1986).

¹⁰ U.S. v. Microsoft, 253 F.3rd 34 (D.C. Cir. 2001).

¹¹ Commission decision 24 March 2004, Microsoft, 448-472 and CFI Order 22 Dec 2004, Case T-201/04 R2, Microsoft Corp.L v. Commission, 365.

¹² LSE/Euronext and Deutsche Börse (aborted for business reasons) - London Stock Exchange Ltd, Competition Commission Enquiry, 29.03.05 - 01.11.05.

¹³ Comareg/France-Antilles, avis Cons. Conc. 03-A-03 20 March 2003, SIPA/ Pôle Ouest Socpresse, avis Cons. Conc. 05-A-18 11 Oct. 2005, *Secteur de la publicité cinématographique*, Dec. Cons. Conc. 06-D-18 28 June 2006. Other markets recently identified as two-sided markets in French case law are the sale of video games consoles (Cons. Conc. 07-D-06 28 February 2007, *Secteur des consoles de jeux et des jeux vidéo* or airport commercial areas (Cons. Conc. 08-D-05 27 March 2008, *Secteur des commerces sous douane des aéroports parisiens*).

¹⁴ Case COMP/M4523, Travelport/Worldspan.

¹⁵ Case COMP/M.4731, Google/DoubleClick.

¹⁶ NMa, Gouden Gids/De Telefoon Gids, 28 Aug 2008; see P. D. Camesasca et al., *The Dutch Yellow Pages Merger Case*, 2-1 will go ! E.C.L.R. 2009, 30(1), 4-13.

¹⁷ ECJ 6 April 1995. - Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities. Joined cases C-241/91 P and C-242/91 P.

¹⁸ XM Satellite Radio Holdings Inc/Sirius satellite Radio Inc, 24 March 2008.

¹⁹ US v. First Data Corp/Concord 03 Civ.7076 (S.D.N.Y. 1998).

most of its prerogatives to the new independent authority)²⁰ and the Merger Assessment Guidelines jointly published by the UK Competition Commission and the Office of Fair Trading as a consultation document in April 2009. But they are not specifically mentioned by most, including the U.S. Department of Justice's and FTC's Horizontal Merger Guidelines and the European Commission's two sets of Guidelines on the assessment of horizontal and non-horizontal mergers.

BIAC submits that more consistency in this field is desirable and necessary to promote both legal certainty and an international level playing field. This consistency should tend towards the recognition of the concept of two-level platforms as a valid consideration in antitrust decisions. Again, being two-sided does not shelter a market from anti-competitive issues, nor does it imply that it is affected only by specific anti-competitive issues. Accordingly, not all decisions recorded so far that were based partly or wholly on the analysis of indirect network effects applied to two-sided markets have been favourable to the applicants. Nor are they systematically free of criticism, for instance with respect to the remedies imposed for merger clearance. But in sum, BIAC supports the use of a concept which makes economic sense, and brings more flexibility and pragmatism to antitrust analysis.

²⁰ DGCCRF, *Lignes directrices relatives au contrôle des concentrations*, §3.2.5, 427-442; new Guidelines are currently being drafted by the new Competition Authority but there is no reason to believe the section relating to two-sided markets will not be kept.

SUMMARY OF DISCUSSION

Competition Committee Chairman Frédéric Jenny began by introducing guest speaker David Evans of LECG and asking him for an introductory statement on the subject of two-sided markets.

1. Statement by David Evans

Evans said that instead of using the expression “two-sided market” he would use the expression “two-sided platform”. Two-sided platforms are businesses, which compete in markets, and the way to define those markets is a complicated subject. He stated that he thought of a two-sided market as a platform that creates value by intermediating between two different groups of customers that need each other for some exchange. The platform can either be physical, like the London Stock Exchange, or virtual, like E-Bay. The main economic role of most two-sided platforms is to reduce transaction costs.

Evans gave shopping malls as another example of two-sided platforms. These platforms facilitate exchanges between shoppers and retailers. They allow retailers and customers to share facilities, including parking and restrooms, and thereby reduce the duplication of costs. The two sides are interlinked so that each side is a complement for the other side. Shoppers need retailers and vice-versa. The prices and profits are interlinked between the two sides. The platform has to decide what prices to charge and what amenities to provide retailers and shoppers. Profit is earned in part from the joint investment in the creation and operation of the mall.

Evans pointed out that one interesting implication for competition policy is that the two sides are interlinked by indirect network effects across the two groups of consumers. In addition, the costs are often shared between the two sides. As a consequence one needs to analyze the two sides simultaneously. A complete welfare analysis needs to consider both groups of customers. Any change on one side will affect the other.

Evans turned to market definition. He stated that defining the relevant product market precisely is less important than making sure that the linkages between the two sides and the complexity of the interrelationships among customer groups are taken into account. Mechanical market definition exercises that exclude the other side usually lead to errors. Sometimes two-sided platforms compete among themselves. That is the case with payment cards. Other times two-sided platforms compete with single-sided firms. For example, shopping malls compete with department stores. And still other times two-sided platforms compete with multi-sided platforms, where one or some of the services are not common among the platforms. Multi-sided platforms have extra revenue streams compared to two-sided platforms. Evans observed that since firms have a different profit maximization problem, the traditional competition analysis methods and formulas from single-sided analysis, like the SSNIP test, do not apply to two-sided markets unless they are at least modified, as some of his papers with Michael Noel show.

Regarding market power, Evans observed that a two-sided platform maximizes the total profit, i.e., the interlinked profits from both sides. Following the original work by Rochet-Tirole, the platform does that by adjusting its price levels, but more importantly by adopting a pricing structure that balances the relative demands of both sides. It may take a loss on one side and make a gain on the other side. The traditional way to measure market power is through the markup, i.e., the difference between price and

marginal cost. However, the markup on one side of the market gives no information about the market power of the platform. To evaluate the market power of a platform one has to look at the markups on both sides. It is common for prices on one side of the market to be low, and in some cases less than the marginal costs. This occurs because attracting consumers on that side, through subsidies, gives the platform the ability to earn profits on the other side.

Evans observed that the literature on two-sided markets is in its infancy. The first papers of this literature started circulating in 2001. So far the literature is based on very special models and functional forms. These models are very simple relative to reality. A richer set of models is coming out now. Glenn Weyl of Harvard University is extending the models of Rochet and Tirole and of Armstrong. He has done interesting work on the impact of pass-through in two-sided markets, and is also looking at consumer heterogeneity. He is also interested in price discrimination. Evans then reported that he has been working with Dick Schmalensee on the start-up problem. Due to the chicken and egg problem it is really difficult to start a two-sided platform. To launch a two-sided platform one needs to get critical mass. To get one side on board one has to get the other side on board, and often times one needs to do both simultaneously. At the same time one has to figure out what the prices should be. In this context there are also more opportunities for established firms to engage in strategies that deny liquidity to new competitors. Robin Lee has followed an interesting line of research. He argues that exclusivity agreements are often necessary for the new firms that are coming into these businesses in order to solve this chicken and egg problem. Finally, Evans indicated that he did a three lecture course with Dick Schmalensee on two-sided markets called “It Takes 2 to Tango”, which consists of an introduction, a lecture on market definition, and a lecture on the facts. The course is available online and the lectures are free for competition authorities.

The Chairman asked Evans if the two-sided logic is a way of looking at market problems in general or a characteristic of some markets in particular. Evans replied that the definition is not settled yet in the economics literature. A recent, very loose, definition of two-sided platforms is that they are a modelling strategy that economists use and that is informative in some circumstances. He added that two-sidedness is a matter of degree. In some cases, like advertising supported media, software platforms, and credit cards, the linkages between the two sides are very important. In other cases they are irrelevant. The insight of the two-sided market literature is not that all businesses are two-sided. The important points are first that there is a large group of important industries where thinking about it as a two-sided platform is useful, and second, there is a lot of commonality among these businesses. The Chairman agreed that it is a matter of degree and raised the question of how can one recognize the right degree.

2. Security of the Payment Systems

The Chairman asked if there were any general questions prompted by Evans’ introduction.

A delegate from Portugal pointed out that the background paper, although comprehensive, did not address a major issue: the safety of two-sided platforms. Safety which concerns, e.g., payment systems, requires that the process has to be designed in a way that the payer and the payee are permanently reassured that the payment system can be trusted, that the payment gets to its destination smoothly and efficiently, with zero tolerance for failure. Competition authorities often do not give the issue its due importance. Security has to be paid for. The delegate invited Evans to comment on that issue. Evans replied that he agreed the security issue is very important, and added that it affects other businesses besides payment cards.

A delegate from Chinese Taipei asked if there is an objective criterion to evaluate whether it is justifiable for a platform to set a below-cost price on one of the sides, regardless of the intention with which the platform does that. Evans replied that with enough data one could, in theory, estimate econometrically the profit maximizing pricing structure for a platform. That would tell if a price below cost

is a sensible result. In practice this is hard to do. However, many industries with two-sided platforms have existed for a long time, or exist in many countries. If most platforms in an industry, or in several countries, engage in a certain practice, regardless of their dominance, that should give some indication that the practice results from some fundamental aspect of the industry. One should be concerned with deviations from the norm. There are also situations where companies decide to deviate from the norm without any anticompetitive motive. In the 19th century in the US, magazines had high prices and no advertising. In the late 19th century, one significant publisher decided to drop the prices of its magazines from about \$10 to \$1 and to start including advertising. Was that predatory pricing? This was a revolutionary change in the pricing structure of the magazine industry that was universally adopted. One could imagine that a competition authority might have gotten suspicious, though, especially since that particular publisher was very large.

3. Market Definition

The Chairman directed his first question on market definition to the Korean delegation, whose contribution states that “Where Internet open markets operate two-sided platforms (consumers and sellers) and the impact they have on each side of the market is also distinctively different, the two sides should be analyzed separately”. The Chairman asked what that statement meant and how that principle was applied in the eBay-Gmarket merger case, also discussed in the contribution.

A delegate from Korea described the case. eBay owned an internet open market company in Korea called Auction and signed a memorandum of understanding in April 2008 to acquire 50% or more of the shares of Gmarket, which also ran an internet open market business in Korea. Gmarket was the largest company in the market and Auction was the second largest company. An internet open market is an online market where everyone can sell goods in exchange for paying a sales commission to the open market operator. An internet shopping mall is an on-line market where the shopping mall selects and sells goods and takes full responsibility for the transactions.

The delegate said that during the merger review the Competition Authority determined that internet open markets had features of two-sided markets because there were two distinct customer groups with indirect network effects across them, and because the platform was needed for transactions between the two types of customers to occur. Regarding the relevant product market, Korea defined and analyzed the two sides of the market separately, taking into account the links between them. This does not mean, however, that Korea thinks that all two-sided markets should be defined and analyzed separately. For instance, dating services markets should include both sides.

The Chairman then asked Australia to explain how the relevant product market was defined in the case of Macquarie Media Group’s acquisition of Southern Cross Broadcasting. He noted that Australia’s contribution says that in this case two markets were defined, but that the interaction and the externalities between the two markets were examined.

A delegate from Australia stated that multi-sided platforms have not required a fundamentally different approach to the analysis of a one-sided market and that the existing Australian legislative framework has been sufficiently flexible to accommodate considerations of two-sided markets. Australia approaches the market definition of two-sided markets by initially looking at the two markets independently in a traditional analysis. In the competition analysis, though, the indirect network effects on each side of the market are specifically taken into account. Thus, if the merged firm takes an action in one side of the market, the consequences of that action in the other side of the market are taken into account in the competition assessment. If those consequences are sufficient to constrain the exercise of market power in the former side of market, then it is relevant to the assessment of competition in that former side of the market.

The case of Macquarie Media Group and Southern Cross Broadcasting involved the proposed merger of television and radio platforms. The Competition Authority looked first at the market for the acquisition of advertising. TV and radio platforms were substitutes. There would be a substantial lessening of competition on that side of the market, and the merged firm would have had market power in some geographic areas. On the market for the supply of content to consumers, several geographic markets were identified. In some of them the analysis concluded that there were separate platform-specific markets for TV and radio, so that there would be no lessening of competition. However, in other geographic markets, the analysis found that radio and TV platforms provided close constraints on each other. In some of them the presence of public broadcasters provided sufficient constraints. In others there would be a substantial lessening of competition. In the assessment of the competitive effects, the impact of the merged firms' conduct in the other side of the market (the acquisition of advertising) was taken into account. The conclusion was that the two-sided nature of the market was insufficient to prevent a substantial lessening of competition in the consumer market. In other media evaluations done in Australia the opposite result was found.

4. Is Two-Sidedness a Source of Market Power?

Still on the issue of externalities of the two sides of the market, the Chairman then turned to Finland, noting that its contribution states that: "The question has been raised whether in the two-sided platforms competition in one side of the market limits the market power or its abuse on the other side. (...). In the Lapin Kansa case, the issue was at least partly turned upside down. A firm involved in both sides of the two-sided markets has different business logic than one involved only in one side and that has been seen as a source of market power." The Chairman asked Finland to explain that comment.

A delegate from Finland briefly described the case. Lapin Kansa was the only local daily newspaper in a small market area. The market with the antitrust concern was the market for print advertising. Lapin Kansa's competitors were mainly free papers, which were printed twice a week. For some clients, especially retailers, advertising twice a week in a free paper was not enough. Thus, part of the market was competitive and part of it was not. This gave Lapin Kansa sufficient market power to abuse, and its source was on the other side of the market, i.e., the market for daily newspapers for the public. At first glance it seems that on one side of the market there is competition, and hence dominance on the other side does not matter. Then it turns out that actually the competitive pressure is not very strong. Because of the two-sidedness there is a portion of the market where there are no substitutes on the demand side, and which is therefore safe from competition.

5. Price Structure

The Chairman then moved to the issue of the price structure in two-sided markets, noting that this is of great interest in payment card cases. He raised the question of whether interchange fees are too high. South Africa's contribution argues that high interchange fees have a positive externality because they facilitate the dissemination of payment cards. But the assessment of the Competition Authority of South Africa seems to be a bit different from that of the South African Banking Enquiry, which denounced the high interchange fee as being against the general public interest. The Chairman asked a delegate from South Africa if his interpretation was correct, and how the two opposing views could be reconciled.

The delegate replied that the Chairman's interpretation was correct. The Banking Enquiry, which was external to the competition authorities, found that there were problems due to a lack of competition and that there were high prices in general. Both the interchange fee and the merchant fee were high. The Competition Commission, the National Treasury, the Central Bank, and the Trade Ministry are now evaluating the Enquiry and looking at recommendations. In the context of an economy where payment cards are far from universal, high interchange fees could have a positive effect because they induce issuers

to promote card adoption. The Competition Authority acknowledges that fees in South Africa are very high by international standards. At the same time, it is important to account for the cost involved in rolling out the infrastructure and technology. The Enquiry recommended a remedy for the interchange fees based on the Australian model. Thus, while South Africa recognizes that there are competition problems it also acknowledges the importance of promoting payment card adoption. It is yet unclear what the right balance is.

On the same subject, the Chairman then asked Spain to clarify a statement in its contribution: “interchange fees are considered to be inefficiently high, which favours inefficient and higher-cost means of payment, restricts price competition, and divides costs unevenly among users”. He also asked for an explanation of why merchant fees were too high.

A delegate from Spain clarified that the statement referred to a specific case, in which no deep analysis was conducted, because the Competition Authority was presented a settlement. In Spain there are three payment card platforms. The main merchant and hotel associations filed a complaint accusing these platforms of colluding to set interchange fees. The Competition Authority opened a formal proceeding. At the time, credit and debit cards had a relatively low penetration rate. Cash and checks were used much more. Interchange fees were set unilaterally by the issuing banks. Merchants had no information on the level of these rates and how they translated into the discount rates that they had to pay. This brought about a high level of conflict. Several cases were taken to court, and several authorization procedures regarding the determination of intra-system interchange fees were presented to the competition authority. In general these authorizations were denied. The settlement presented to the Competition Authority fixed a maximum level for the interchange fees for the next three years, which is considered a transitory period. These fees distinguish between debit and credit cards, and are adjusted according to the level of business revenues. The fees will decline overtime by as much as 46%.

The agreement proposed was found reasonable for several reasons. It substantially reduces the fees. It sets mutually satisfactory interchange fees for those parties who had been in conflict for many years. It provides transparency to the market. The merchants will be informed on a regular basis of what the interchange fee will be. Right now we are in the process of examining what to do next, even though it was determined that there were some maximum fees for the next two years if the result was not satisfactory. The Spanish Competition Authority had some concerns that this agreement left out cardholders. As a result of the decrease in the interchange fees the banks could increase the rates charged to them. These concerns were disregarded at the time, not only because the consumers’ price elasticity of demand was relatively high, but also because banks had incentives to extend the use of payment cards. Hence, the risk that the banks would try to recoup by charging higher prices to consumers was small.

6. Cost Based Regulation

The Chairman observed that in many countries competition authorities regulate some of the prices associated with two-sided markets, such as the interconnection prices. He asked on which basis they should intervene and which standard should they use when setting regulated prices. He said that there are two differing contributions on this issue. The first, from Israel, acknowledges that the economic literature says that the price should not have any relationship to cost. However, the rule that Israel followed in cases against Visa was to align the prices with costs. The Chairman asked Israel how those two facts could be reconciled.

A delegate from Israel replied that Israel acknowledges the literature, but that there is currently no consensus among scholars in this field, and the practices among competition authorities differ. Israel holds the view that two-sided markets are not immune from competition problems. In Israel there are only three credit card companies which have the franchise for the Visa and MasterCard brands. Consumers usually

have only one credit card and there are about 4.8 million active credit cards, which reflect a very high usage rate. These companies are private and fully owned by Israel's three largest banks, with an aggregate market share of about 75%. Most of the income from the credit card companies comes from the merchant interchange fees in domestic transactions. The level of competition between the three platforms parallels the poor degree of competition among the banks by which they are owned, given the high entry barriers and substantial switching costs for consumers. The market power of the payment cards platforms leads to high interchange fees, which are eventually passed on to consumers. Only the credit card companies and the banks that own them benefit from this situation.

It is unclear how to induce more competition in the payment cards industry in Israel. The Competition Authority and the tribunal concluded that under current market conditions, cost based regulation of the interchange fees was the closest thing to a first best solution. Apart from the interchange fee case, which is currently before the antitrust tribunal, the Competition Authority has reached an agreement with the credit card companies on the gradual reduction of merchant fees. We are also engaged in advocacy to open the credit cards market to new players that are not owned by the banks, such as insurance companies.

The Chairman then asked Chile to describe the Transbank payment cards case and Chile's position on cost based price regulation.

A delegate from Chile explained that Transbank is a private corporation, owned by the main banks, that supports banking functions. The banks issue credit cards and Transbank acquires and processes the transactions. Transbank provided devices for processing transactions and prohibited merchants from buying alternative devices. Transbank also imposed duplicative charges on the merchants and banks for processing transactions. Since Transbank was the only acquirer, the Competition Authority thought there was no competition in the affiliating system. Transbank offered affiliation only to all the cards at once, so merchants did not have the option to affiliate just to one of them. The fees charged by Transbank for credit and debit cards were the same in spite of the different associated costs. Transbank paid some commissions to the banks that were not paid to other issuers.

The Competition Authority filed legal charges. Most of the case was settled and the remaining part was decided by the tribunal. Transbank proposed a self-regulation plan. With respect to the criteria for defining this plan, the tribunal said that since two-sided platforms provide inter-dependent services for two types of customers, cardholders and merchants, these markets have a structure where there is no direct relation between prices and costs on each side of the market. In the absence of a direct relation between prices and costs, there is not necessarily an infringement of the competition law.

7. Predatory Pricing

The Chairman next addressed predatory pricing. He started by asking if predatory pricing may occur in two-sided markets, pointing out that the issue was discussed in the European Commission's contribution, which states: "Given the need to have both sides on board, a price set above marginal or average costs is not a symptom of market power, and setting a price below marginal cost or even at or below zero can be a profitable strategy by a platform to maximize participation by one side of the market, which will generate higher total consumer welfare by increasing participation on the other side". The EC's contribution also says that, notwithstanding the fact that prices are not aligned with costs, predatory pricing may occur.

The Chairman then raised several questions. How can one decide whether prices are predatory in a two-sided market? What is the methodology for distinguishing between cases where low prices are predatory from cases where low prices maximize welfare?

A delegate from the EC mentioned a footnote in the Commission's Article 82 guidance paper that refers to the need to embed two-sided market aspects in the Article 82 analysis. This is already a sign that the EC anticipated that specific care should be taken when analyzing prices in the context of two-sided markets. The standard one-sided price cost test can be misleading. One should adapt the previous test of predation, taking into account these two-sided market aspects. It is clear that in two-sided markets there is a good rationale for price below cost, and this could be consistent with vibrant competition and positive welfare effects. By charging one side below cost, a seller can stimulate the demand on that side. The other side also benefits from this induced participation because it leads to more adoption or usage on that side. This in turn will have feedback on the initial side, with the overall result of an increase in adoption or usage.

In this framework two points are important. First, it would be incorrect to conclude that in the context of two-sided markets it is not possible to observe predatory behaviour. A recent paper by Amelia Fletcher points towards an instance in which predation can take place. It seems that asymmetries between platforms can play a role. Second, the EC recognizes that to estimate the sacrifice within a predation strategy, one should take into account the effects on the other side, for instance the incremental revenues versus the incremental costs on the other side. However, a bright line test is quite elusive in the sense that it must include the narrative of the exclusion and the proof of consumer harm. The same remarks apply to excessive pricing.

The Chairman observed that what the delegate proposed was complicated to verify because it is highly speculative whether recoupment is going to take place or not.

8. Regulatory Capture

The Chairman asked Portugal and David Evans if they had any reactions to what had been said. A delegate from Portugal replied that it is important to rethink the way competition issues are addressed in two-sided markets. He stressed three points: i) we are faced with an intellectual challenge; ii) we are faced with possible regulatory capture by one side; and iii) we are faced with what he was tempted to call a "staff" capture.

Regarding the intellectual challenge, the delegate elaborated, there is first the issue of knowing if interchange fees should be set multilaterally or bilaterally. The US solved the question the first time it was raised by saying that it was pro-competitive to set the interchange fee multilaterally. Europe has been dealing with this issue ever since. In addition, most competition authorities tend to go for cost orientation, and we realize that this approach is not the best. We seek a competitive outcome but we do not define it in terms of two-sided market. Thus, the fundamental question is whether we are going to continue regulating interchange fees and on what grounds. By regulating interchange fees competition authorities give the impression that they are price authorities. Reading the recent literature on this matter, the authorities and the academic world are very far apart.

Regarding the issue of whether there is regulatory capture by one side, we have only complaints by merchants. There is no doubt merchants will continue complaining until the interchange fee is 0. The EC sets the interchange fee for Visa at X. Visa complied, but now there is a new case. We have to think about what the limit is for accepting complaints. The case of Europe is very curious because not only merchants complain with the EC but they have a European-wide strategy of complaining with all the national competition authorities. No one is lobbying for consumers. There are problems with consumers but more in the area of consumer protection than of competition. Competition authorities take at face value the merchants' argument that if the interchange fee is lowered, the merchant fee is also lowered and, in turn, final prices will also be lowered. So far we have not seen evidence of this.

Regarding the issue of the 'staff capture, the longer the staff of a competition authority is involved with payment card cases, the more it is difficult to close them even if no clear case can be perceived. One has to stretch the arguments and resort to this one-sided market argument. It is easier to go after credit cards than to engage in more difficult antitrust cases.

David Evans said that pricing is a complicated area for applying competition policy to two-sided markets. Cost-based notions do not apply. Predatory pricing is perfectly possible in two-sided markets, but one has to be careful to look at the price structure to see if the platform is really sacrificing profits to achieve an anticompetitive strategy. One needs to talk about recoupment on both sides, which makes issues very complicated. The interchange fee cases and the mobile termination cases are treated as competition policy cases but in fact are price regulation cases.

Regarding price regulation there are two major problems, Evans continued. The first one is that in two-sided markets it is very difficult to identify whether there is really a problem. Since prices do not track costs, deviations from costs do not necessarily indicate a breakdown in competition. As the literature shows, it is very difficult, theoretical and empirically, to determine what the right price is. But even when one is convinced that there is a problem it is very difficult to say what the solution should be. This is clear for credit cards. In the struggle to figure out what the right interchange fee people have fallen back on cost-based pricing. But one of the things we do know from the literature is that cost-based pricing is wrong in two-sided markets.

Evans agreed that regulatory capture can be a problem because of the fact that there are two sides. Either side always wants to get a lower price. If there is some way to accomplish this politically, either through competition policy or legislation, then it is possible for one side to organize in order to shift the cost of the system to the side with less power. Finally, Evans said that pricing flexibility is very important for companies to be able to launch these businesses. In the EC there is a great desire to have a third and a fourth payment system. The problem is that the Commission denies entrants any flexibility regarding the interchange fee.

A delegate from Italy asked who else should complain but merchants, since they are the ones that pay the interchange fee. He added that it is not true that when the interchange fee goes to zero, payment services disappear. In Finland and other countries, the interchange fee is zero and payment services are ubiquitous. Credit card companies complain that if the interchange fee is zero the credit cardholder will pay a lot. But in Finland, cardholders pay only 25 Euros per year. In a system like this competition can work effectively because cardholders can switch banks and there is no anticompetitive agreement on the interchange fee that sets a floor for the price that acquirers pay to issuers.

Evans replied that there is no end to this argument. One can look at other two-sided markets like search-based advertising. Maybe the advertisers in search based advertising, who pay the entire fee of the search engine, should organize themselves and persuade the competition authorities that the price of search-based advertising is too high, and some of it should be shifted to searchers.

A delegate from Belgium disagreed with the Portuguese delegate about the interchange fee cases being easy. Maybe payment systems are not a two-sided market. There are at least three players: the issuer, the merchant, and the cardholder. The consumer's decision to accept or refuse a card is based on whether shopkeepers accept the card, not on the interchange fee. The delegate (from Belgium) asked if there is an alternative to a regulatory approach.

A delegate from Portugal replied by asking whether the authorities should listen only to the complaints of merchants or if they should also take the interests of consumers into account. He added that it is possible for the interchange to be zero, but asked if that was efficient.

The Chairman observed that there is a strong argument that maybe we should not spend too much time on these cases even though they are highly interesting to discuss. There are many economic models in this area and they are very sensitive to the hypothesis. Maybe this instrument is too sophisticated for authorities to use.

9. Exclusive Dealing

The Chairman then took up the issue of exclusive dealing. He observed that exclusivity clauses might be important to get a platform started, but they can also be harmful for competition. He questioned how to balance these two aspects. He then called on Turkey to describe how the issue of exclusive dealing was analyzed in the Yemek Sepeti case.

A delegate from Turkey described the case. Yemek Sepeti is an undertaking that owned an internet portal through which consumers could place meal orders with registered restaurants and the restaurants could receive those orders. Yemek Sepeti had signed exclusive contracts with the restaurants listed on its website. Moreover, Yemek Sepeti planned to expand this exclusive network. At the time of the investigation, the market was quite immature with only three players. Yemek Sepeti, the first to enter the market, had a considerably higher number of users on both sides. This raised the concern of market foreclosure. Another important fact was that Yemek Sepeti's restaurant portfolio included restaurants with a high brand image. Having such a restaurant portfolio, Yemek Sepeti was in a position to increase the number of its registered consumers which, in turn, would enable it to increase the number of its registered restaurants due to the presence of network effects. On the other hand, Yemek Sepeti's current and potential rivals, lacking such a restaurant portfolio as a result of Yemek Sepeti's exclusive agreements, would be unable to find consumers and consequently would not be able to find reputable restaurants, either. Under such circumstances, exclusive agreements were evaluated as factors undermining the position of existing rivals and also deterring entry by others and the presence of network effects was considered to be a factor adding to the anticompetitive effect of such exclusive agreements. Therefore, the Turkish Competition Authority decided that Yemek Sepeti's exclusive dealings with the restaurants (current and potential) would eliminate competition in a significant part of the market. Based on the assessment of this case, it may be argued that a platform may be allowed to undertake exclusive dealings on one side of the market only if such dealings do not cover a significant portion of the market, and therefore do not foreclose the market.

10. Coordination

The Chairman turned next to the question of whether interchange fees should be set through multilateral negotiation between banks or through bilateral negotiations. He asked Switzerland to explain its position, noting that its contribution discusses the issue extensively.

A delegate from Switzerland answered that its analysis of the payments card industry found that market performance was not consistent with the results expected from a functioning two-sided market. The interchange fee was not used as a balancing device, but as a device against new entrants on the acquiring side, without generating any benefits to consumers. This is why the competition authority intervened four years ago. The intervention consisted of abolishing the no-discrimination rule, and imposing a cap on the interchange fee. Fixing the interchange fee multilaterally is a price fixing arrangement that can be justified by network effects. However, it also offers considerable potential for abuse.

Switzerland's contribution states that the interchange fee must be cost-oriented. This was not to defend the merchants' interests. The interchange fee is not a final price. The merchant's price, the merchant fee, and the cardholder's fee are still left to competition. As a result, the interchange fee went down but it is still relatively high by international standards. The lower interchange fee was passed on by

the acquirers to the merchants almost entirely. However, the merchants did not pass on the lower interchange fee to consumers. On the merchant's side the market became more active. On the acquiring side there was not much more competition, but it is a bit livelier. On the cardholder side there was an increase in competition. There were new market entries, new products, and innovation. Card usage continued to grow, and card fees are lower.

Summing up, the delegate stated that the market is two-sided but with single-sided competition on the issuer side more than on the merchant side. This suggests that it is good that the interchange fee pushes the competition to the issuing side rather than to the merchant where it works less. A lower interchange fee would probably limit this effect and have a chilling effect on competition. The other conclusion is that it is hard to evaluate costs. The cost structures announced by the issuers are so different that they may not be credible. In Switzerland there is no competition between Visa and MasterCard. Our decision was only for credit cards. For debit cards, we did not allow an interchange fee until now.

The Chairman then turned to Chinese Taipei, whose contribution seemingly held a different position than Switzerland's on the multilateral setting of interchange fees.

A delegate from Chinese Taipei explained that the National Credit Card Center, NCCC, was created in 1988 at the suggestion of the International Visa Organization to promote the payment cards business, and in particular to determine and collect the interchange fee for the issuing and acquiring banks. The Fair Trade Act was passed in 1991. The NCCC wondered whether the organization was in violation of the Fair Trade Act and filed an application for an exemption in 1994. The Competition Authority thinks that the multilateral setting of the interchange fees should at least should be tolerated. It reduces the transaction costs, it avoids the duplication of the fixed costs associated with the collection of the interchange fee, and in any event the credit card industry in Chinese Taipei is quite competitive; there are 47 issuing banks and 24 acquiring banks. To prevent the NCCC from abusing its power, two conditions were imposed. First, no abuse of market power will be allowed regarding the interchange fee. Second, the NCCC will be an open organization allowing members to enter or exit at any time.

11. Merger Analysis: Unilateral Effects

The Chairman then addressed the unilateral effects of mergers. The usual concern in merger analysis is the exercise of market power. With two-sided platforms the analysis is difficult because one has to take into account the interrelated effects on both sets of customers. That means that some of the traditional tools are not useful in merger cases in two-sided markets. Both France and the US talk about the unilateral effects of mergers. France's contribution discusses the merger of TPS and Canal+. The contribution states that in two-sided markets the most efficient market structure may be a monopoly, and although efficient, once a monopoly is created platforms have incentives to increase prices. The Chairman asked France to present the case and explain which market structures are efficient and welfare maximizing.

A delegate from France said that in two-sided platforms the customers on each side benefit when the number of customers on the other side increases. In the case of paid satellite television, viewers benefit from having access to more channels, and the channels benefit from having access to more viewers. These cross-group network effects may cause a merger to generate efficiency gains. But there are also disadvantages in increasing concentration. A monopoly has no reason to set prices competitively, although it is unclear what the competitive prices for a two-sided platform are. Hence there is the question of how to trade off the efficiency gains from higher concentration against the losses associated with pricing.

The same problem arises with payment cards. Is it better to have two smaller platforms competing against each other, or to have a larger platform without competition? But the similarities end there. For credit cards, there is multi-homing. For satellite TV platforms, there is single-homing, and with single-

homing there is more intense price competition. If a platform captures one of the sides of the market it will also capture the other. In fact, TPS complained about predatory pricing, which suggests that there was very vigorous price competition. With strong price competition the trade-off is harder to make. An argument in favour of the concentration was the fact that the cost of content is fixed. Thus, on the one hand, there were network effects and the fixed cost effect, which favoured concentration, and on the other hand, there was the price competition effect, which opposed the concentration. The competition authority thought that the net effect favoured the concentration.

The Chairman then called on Brazil to discuss two merger cases. The first case was in the credit card industry. Here the SEAE suggested that an anti-competitive merger was less likely in the credit card industry than in other industries. The second case involved shopping malls. Again it was argued that the merger was not anti-competitive but it seems that CADE was not convinced. The Chairman asked the Brazilian delegation why it was unlikely that the merger in the credit card industry was anti-competitive and why there was a difference between SEAE and CADE in the second case.

A delegate from Brazil said that in the payment cards merger the SEAE accepted the argument that the market was two-sided to justify the merger because there were considerable indirect network effects across the two groups of customers. In addition, the merger did not increase concentration very much. In the case of the shopping malls the decision was different. The malls claimed that they could use their market power only with merchants. CADE did not accept this argument because final consumers will be affected if the mall raises the prices it charges merchants and in response merchants increase the prices of their products. The fact that the market is two-sided is fundamental for the definition of the relevant product market and to analyze the differentiation among shopping malls. The product market was the market for shopping malls, and not only of merchants. The geographic market was limited to the city of Rio de Janeiro, due to transportation costs for consumers. These characteristics led CADE to identify a large concentration and to question the exclusivity clauses that existed.

The Chairman then observed that the US's contribution says that it is difficult to make predictions about mergers of two-sided platforms and suggests the alternative approach of focusing on transaction volume. He asked the US to comment on this point and to illustrate how it was applied in *United States v. First Data Corp.*

A delegate from the US replied that due to the complexity of markets for two-sided platforms there is a need to find simple and reliable rules. *First Data* involved a merger between two major signature PIN (personal identification number) debit networks, NYCE and Star. The analysis focused on the merchant side, where the two networks competed against each other. The DOJ found that it was much more difficult for a merchant to drop cards with both NYCE and Star than to drop one of them. Hence the merger would cause a substantial loss of competition for signing up merchants for card acceptance and bargaining power would shift away from the merchants toward the network provider.

In these markets, the delegate continued, one has to be careful about market shares. Merchants may be reluctant to drop a network even if it has only 20% of the transaction volume if it is the only network on the cards that some customers carry in their wallets. With the loss of competition on the merchant side there would be a tendency for the price to go up on that side of the market. Economic analysis indicates that if the price is pushed up because of a merger on one side of the market, there will be some offsetting response on the other side of the market, i.e., the issuing side. However, one would not expect the latter effect to be of the same magnitude as the initial effect. Visa's Interlink card, which ran on a network owned by banks, competed on the issuer side, and one would not expect a large effect to occur on that side. The price to merchants would go up and the offset on the issuing side would be much smaller. Thus, one could conclude that the merger was anticompetitive without getting into a full analysis of all the price effects on the other side. In general, it is reasonable to conclude that for payment systems the offsetting

price effect on the other side of the market in response to a merger that is anticompetitive on one side of the market will not be sufficient to make up for the harm to consumers and the increase in the overall price per transaction. So one can do the analysis on one side of the market and listen to arguments about what happened on the other side of the market but not necessarily need to do the full analysis of measuring price effects on both sides of the market, at least for payment systems.

The delegate also noted that the comment about using quantities was directed more at other two-sided markets, such as advertising supported media, where the price structures may be very different on the two sides of the market. There it is harder to balance off the price effects since there is no price per transaction. Thus, an alternative is to follow a quantity approach.

12. Merger Analysis: Coordinated Effects

The Chairman moved on to the analysis of coordinated effects of mergers and asked Germany to discuss the ProSieben Sat1 merger, in which the issue had arisen.

A delegate from Germany explained the proposed merger between Axel Springer AG and ProSieben Sat 1. Springer is a leading media group in Germany with many activities in newspapers, magazines and new media. ProSieben Sat 1 is a media group that is active in the German TV market. In the field of privately owned TV, ProSieben Sat 1 is one of the two leading firms, the other one being Bertelsmann Group.

The investigation focused on the TV market. ProSieben Sat 1 and Bertelsmann have more than 20% of the TV audience each, while public TV represents just over 40% of the audience. Regarding TV advertising, state TV plays a minor role. ProSieben Sat 1 has over 40% of the market, whereas Bertelsmann has less than 40%. Public TV stations hold 10% of the market, and due to advertising restrictions for public television there is no scope for expansion. The Bundeskartellamt concluded that on the TV advertising market ProSieben Sat 1 and Bertelsmann had a jointly dominant position before the merger. The companies have roughly similar market positions and did not compete with each other in advertising. The market shares in TV advertising of these two media groups stayed constant over the years in spite of a significant market contraction, which would have allowed for realignment in the market. There is high transparency in the market allowing an easy monitoring of rivals' behaviour. There is also scope for quick and effective retaliation in case of deviation from the non-competitive equilibrium. The price structures and price levels for advertising of the two firms are very similar. There is also high transparency in the viewer market. Programs are published, and quotas are also published regularly for each channel. Thus competitive activity and cheating can be easily identified. Springer has several overlapping activities with Bertelsmann plus a joint venture. Thus, the existing jointly dominant position between ProSieben Sat 1 and Bertelsmann would be further strengthened by the merger of ProSieben Sat 1 with Springer.

The difference between assessing coordinated effects and assessing unilateral effects in two-sided platforms are as follows. For unilateral effects, the question is whether the competitive constraints that come from the other side of the market are strong enough to restrain the parties' ability to unilaterally increase prices. For coordinated effects, the question is whether the competitive environment on one side of the platform, the viewers' side, is likely to rule out coordinated behaviour on the other side, which would be the TV advertising side. In this specific case, the Bundeskartellamt and the court concluded that the structural features of the TV viewer market were not likely to disturb coordinated behaviour in TV advertising.

13. Vertical Restraints

The Chairman then addressed vertical restraints. He asked Japan to explain a study and a related case mentioned in its contribution. The study was on platform competition and suggested that resale price maintenance (RPM) by two-sided platforms can internalize network externalities, which may result in an increase of economic welfare. On the other hand, the case, which was not examined as a two-sided platform, involved an instance where RPM violated the Antimonopoly Act.

A delegate from Japan described the Sony Computer Entertainment (SCE) case. SCE is the dominant supplier of software for Playstation and it forced retailers to provide new Playstation software to consumers at recommended retail prices. The JFTC found the conduct to be in violation of the Antimonopoly Act, which prohibits retail price restriction, and issued the decision on August 2001. The study on platform competition and vertical restraints was conducted in 2008 at the Competition Policy Research Center in the JFTC. The study is purely theoretical. It suggests that RPM by the platform can internalize network externalities, which may result in an increase of economic welfare theoretically, but it is not based on an empirical analysis. The Competition Policy Research Center is now conducting an empirical study about two-sided markets that involves a case study of the magazine market in Japan. The report of this study is scheduled to be published this year.

14. Refusal to Deal

The Chairman then moved to the last point, refusal to deal. He observed that Norway has a case dealing with the largest internet portal advertising residential properties for sale, which had engaged in a refusal to deal. The Chairman asked Norway to explain how the case was analyzed and how the two-sided nature of the market was incorporated.

A delegate from Norway explained that all major internet portals that offer advertising and searching for residential properties allow only real estate agents to advertise properties for sale. Consequently, sellers of properties who wish to advertise on an internet portal are forced to use real estate agents. In Norway about 95% of the properties are sold through real estate agents. This indicates that some sellers find it difficult to sell their property without having access to advertising on internet portals. The competition authority investigated but found no basis to intervene in the antitrust law. However the authority believes that refusal to supply leads to anticompetitive effects in services related to the purchase and sale of residential properties. Open access to advertising on the internet portals should result in more options and lower prices for sellers of the properties. This would reduce transaction costs related to the purchase and sale of the properties and may promote transactions that are socially efficient, which will benefit both buyers and sellers. On that basis, the competition authority proposed a regulation that would ensure open access to advertising of properties on internet portals.

The answer to the question regarding anticompetitive effects of refusals to deal in two-sided markets is that it depends on the market structure. In this case the market was characterized by strong network effects and slightly differentiated products. However, this does not imply that exclusive agreements or a refusal to supply cannot be pro-competitive in a two-sided market. For example, it might be essential for a platform when entering a new business to make exclusive agreements to achieve critical mass. The Norwegian Competition Authority is of the opinion that open access regulation was necessary to promote competition in this case. This does not imply that open access regulation is necessary in other two-sided markets where the refusal to supply is anticompetitive. The Norwegian Competition Act provides a basis for regulation only if two conditions are met: a business practice restricts or is liable to restrict competition, and regulation is necessary to promote competition in the market. The second condition is satisfied if the antitrust law is not applicable and if an individual decision would not be sufficient to prevent anticompetitive behaviour in the market.

COMPTE RENDU

Frédéric Jenny, Président du Comité de la concurrence, ouvre la table ronde en présentant David Evans (LECG), invité à présenter un exposé liminaire sur les marchés bifaces.

1. Exposé de David Evans

M. Evans indique qu'il préfère à l'expression « marché biface » celle de « plateforme biface ». Les plateformes bifaces sont des entreprises en concurrence sur des marchés, marchés qu'il est difficile de définir. Selon lui, un marché biface s'apparente à une plateforme qui crée de la valeur en jouant le rôle d'intermédiaire entre deux groupes de clients distincts qui ont besoin l'un de l'autre pour procéder à des transactions. Cette plateforme peut être soit physique, comme la bourse de Londres, soit virtuelle, comme eBay. La majorité des plateformes bifaces ont pour principal rôle économique de réduire les coûts de transaction.

David Evans cite également les centres commerciaux comme exemple de plateforme biface, dans la mesure où ils facilitent les transactions entre les acheteurs et les détaillants. En permettant aux commerces de détail et aux clients de partager des infrastructures, comme le parking et les toilettes, ils contribuent à réduire le cumul des coûts. Les deux groupes sont étroitement liés, chacun complétant l'autre : les consommateurs ont besoin des détaillants et vice-versa. Les prix et les bénéfices sont également interdépendants entre clients et détaillants. La plateforme doit décider des prix à pratiquer et des services à proposer aux commerçants et aux acheteurs. Les bénéfices sont en partie dégagés de l'investissement conjoint dans la création et l'exploitation du centre commercial.

Selon M. Evans, l'une des implications intéressantes des marchés bifaces en matière de politique de la concurrence réside dans le fait que les deux côtés du marché sont liés entre eux par des effets de réseau indirects entre les deux groupes de clients. Par ailleurs, les coûts sont généralement partagés entre les deux côtés du marché. Par conséquent, il convient de les analyser en parallèle. Une analyse complète de l'impact de ces marchés sur le bien-être social doit tenir compte des deux groupes de clients. Tout changement sur l'un des côtés du marché a une incidence sur l'autre.

M. Evans évoque la définition du marché : selon lui, il est moins important de définir précisément le marché de produits en cause que de s'assurer que les liens entre les deux côtés du marché et la complexité des relations réciproques entre les groupes de clients sont pris en compte. Les exercices mécaniques de définition du marché qui négligent l'un des deux côtés conduisent généralement à des erreurs. Parfois, les plateformes bifaces se font concurrence entre elles, comme c'est le cas dans le secteur des cartes de paiement. Dans d'autres cas, elles sont en concurrence avec des entreprises « monofaces », à l'instar des centres commerciaux qui rivalisent avec des grands magasins. Enfin, les plateformes bifaces peuvent faire concurrence à des plateformes « multifaces » lorsqu'un ou plusieurs services ne sont pas communs à toutes les plateformes. Ces plateformes multifaces bénéficient de sources de revenus supplémentaires par rapport aux plateformes bifaces. M. Evans souligne que, compte tenu des problématiques différentes auxquelles sont confrontées les entreprises en matière de maximisation des bénéfices, les méthodes et formules traditionnelles d'analyse de la concurrence, telles que le critère de l'augmentation faible mais non négligeable et non transitoire des prix, ne s'appliquent pas aux marchés bifaces, à moins de procéder à des modifications comme l'illustrent certains de ses articles publiés en collaboration avec Michael Noel.

S'agissant du pouvoir de marché, M. Evans constate qu'une plateforme biface permet de maximiser le bénéfice total, c'est-à-dire les bénéfices imbriqués générés par les deux côtés du marché. Selon les travaux menés à l'origine par Rochet et Tirole, la plateforme biface est capable de maximiser le bénéfice total en jouant sur le niveau des prix et, surtout, en adoptant une structure de prix permettant d'équilibrer les

demandes des deux côtés du marché. Il est donc possible d'enregistrer une perte d'un côté et de réaliser un profit de l'autre. Traditionnellement, on mesure le pouvoir de marché en fonction de la marge bénéficiaire, à savoir la différence entre le prix et le coût marginal. Cependant, la marge bénéficiaire observée d'un côté du marché ne fournit aucune information sur le pouvoir de marché de la plateforme. Dans ces conditions, il convient d'évaluer les marges bénéficiaires enregistrées des deux côtés du marché. Il arrive fréquemment que les prix soient bas d'un côté du marché, voire inférieurs au coût marginal, ce qui s'explique par le fait qu'en attirant les clients de ce côté par le biais de subventions, la plateforme est en mesure de dégager des bénéfices de l'autre.

M. Evans fait observer que la littérature consacrée aux marchés bifaces n'en est qu'à ses débuts. Les premiers articles consacrés à ce sujet ont été publiés en 2001. Jusqu'à présent, ils reposent sur des modèles et des formes fonctionnelles très spécifiques. Or ces modèles sont très simplifiés par rapport à la réalité. Un ensemble de modèles plus complet est en train de voir le jour, puisque Glenn Weyl, de l'Université de Harvard, a enrichi les modèles de Rochet, Tirole et Armstrong. Il a mené des travaux intéressants sur les effets de transmission dans les marchés bifaces et s'intéresse à l'hétérogénéité des consommateurs et à la discrimination par les prix. M. Evans poursuit en indiquant qu'il travaille avec Dick Schmalensee sur la question du démarrage d'activité. Sous l'effet d'un cercle vicieux, il est réellement difficile de lancer une plateforme biface : pour ce faire, il est en effet nécessaire d'atteindre une masse critique. Or, pour attirer les agents d'un côté du marché, il est impératif d'attirer les agents de l'autre côté et parfois simultanément. Parallèlement, il faut déterminer une politique de prix. C'est pourquoi les entreprises établies sont mieux placées pour s'engager dans des stratégies qui restreignent la liquidité disponible pour les nouveaux entrants. Robin Lee a opté pour un axe de recherche intéressant : selon lui, les contrats d'exclusivité sont souvent indispensables aux nouveaux entrants pour pallier ces difficultés. Enfin, M. Evans explique qu'il a donné un cours en trois modules avec Dick Schmalensee sur les marchés bifaces, intitulé « It Takes 2 to Tango » (introduction suivie d'une conférence sur la définition du marché et d'une conférence sur les données factuelles). Ce cours est disponible en ligne et les conférences sont disponibles gratuitement pour les autorités de la concurrence.

Le Président interroge M. Evans pour savoir si la logique biface constitue un angle d'étude des problématiques de marché en général ou une caractéristique de certains marchés en particulier. M. Evans indique que la définition n'est pas encore arrêtée dans la littérature économique. Selon une définition récente et très vague, les plateformes bifaces correspondent à une stratégie de modélisation utilisée par les économistes, instructive dans certaines circonstances. Il ajoute que cette définition repose sur une question d'intensité. Dans certains cas, comme les médias publicitaires, les logiciels et les cartes de crédit, les liens entre les deux côtés du marché sont très étroits. Dans d'autres, ils sont insignifiants. La littérature économique sur les marchés bifaces ne vise pas à nous enseigner que tous les marchés sont des marchés bifaces. Les deux éléments importants à retenir sont les suivants : 1) il existe un grand nombre de secteurs majeurs qu'il est utile de considérer comme des plateformes bifaces et 2) ces secteurs partagent un grand nombre de caractéristiques communes. Le Président convient qu'il s'agit d'une question d'intensité et s'interroge sur la manière de déterminer le degré d'intensité approprié.

2. Sécurité des systèmes de paiement

Le Président demande aux participants s'ils ont des questions concernant l'introduction de M. Evans.

Un membre de la délégation du Portugal remarque que l'étude de référence, bien que très complète, laisse de côté une question clé : la sécurité des plateformes bifaces. Compte tenu des préoccupations relatives à la sécurité, notamment au niveau des systèmes de paiement, le processus doit être conçu de manière à ce que le payeur et le bénéficiaire soient en permanence rassurés sur la fiabilité et l'efficacité du système de paiement, sans tolérer les défaillances. Souvent, les autorités de la concurrence n'accordent pas suffisamment d'importance à cette question. La sécurité se paie. Le délégué sollicite l'avis de M. Evans sur

ce point. M. Evans convient que la question de la sécurité revêt une importance cruciale et ajoute qu'elle concerne d'autres activités au-delà des cartes de paiement.

Un membre de la délégation du Taipei chinois demande s'il existe un critère objectif pour déterminer s'il est justifié qu'une plateforme fixe un prix inférieur aux coûts pour l'un des groupes de clients, quel que soit le motif qui l'incite à procéder de la sorte. M. Evans estime qu'avec des données suffisantes, il est en théorie possible d'évaluer à l'aide d'outils économétriques la structure de prix d'une plateforme générant le maximum de bénéfices, ce qui permettrait de déterminer si un prix inférieur aux coûts est justifié. Cela s'avère toutefois difficile dans la pratique. De nombreux secteurs dotés de plateformes bifaces existent de longue date ou dans de nombreux pays. Si la plupart des plateformes d'un secteur ou de plusieurs pays partagent une pratique donnée, indépendamment de leur position dominante, on peut en conclure que cette pratique est le fruit d'une caractéristique fondamentale du secteur. C'est l'écart par rapport à la norme qui doit être préoccupant. Il existe également des situations où les entreprises décident de dévier par rapport à la norme sans avoir pour objectif de limiter la concurrence. Au 19^e siècle aux États-Unis, les magazines se vendaient à des prix élevés et ne contenaient aucune publicité. À la fin du 19^e siècle, un groupe de presse important a décidé de baisser le prix de ses magazines de 10 USD environ à 1 USD et d'y ajouter du contenu publicitaire. Peut-on parler de prix d'éviction dans ce cas ? Quoiqu'il en soit, cette décision a révolutionné la structure de prix du secteur des magazines et a été imitée dans le monde entier. On peut pourtant supposer qu'une autorité de la concurrence aurait observé cela d'un œil perplexe, d'autant plus qu'il s'agissait d'un éditeur très important.

3. Définition du marché

Le Président adresse sa première question relative à la définition du marché à la délégation de la Corée, qui indique dans sa contribution : « Lorsque des marchés libres sur Internet gèrent des plateformes bifaces (mettant en relation acheteurs et vendeurs) et que leur impact sur chacun des côtés du marché est radicalement différent, il convient d'analyser séparément ces deux côtés ». Le Président interroge la délégation sur la signification de cette déclaration et sur les modalités d'application de ce principe à la fusion eBay-Gmarket, évoquée dans la contribution.

Un délégué de la Corée décrit l'affaire. eBay, qui détenait en Corée un marché libre en ligne baptisé Auction, a signé en avril 2008 un protocole d'accord pour l'acquisition de 50 % ou plus du capital de Gmarket, également propriétaire d'un marché libre en ligne en Corée. Gmarket occupait la première place du marché, suivi par Auction. Un marché libre en ligne est un site Internet qui permet à tout à chacun de vendre des biens en échange d'une commission versée à l'opérateur du marché libre. Un grand magasin en ligne est un marché électronique qui sélectionne et vend des produits et assume l'entière responsabilité des transactions.

Le délégué indique qu'au cours de l'examen de la fusion, l'Autorité de la concurrence a statué que les marchés libres en ligne partageaient des caractéristiques propres aux marchés bifaces compte tenu de l'existence de deux groupes de clients distincts reliés par des effets de réseau indirects et de la nécessité de mise en œuvre d'une plateforme pour la réalisation des transactions entre les deux types de clients. S'agissant du marché de produits en cause, la Corée a défini et analysé séparément les deux côtés du marché, en tenant compte des liens les unissant. Toutefois, cela ne veut pas dire que la Corée estime que tous les marchés bifaces devraient être définis et analysés séparément. Par exemple, les marchés de services de rencontre doivent être analysés de manière globale.

Le Président invite ensuite l'Australie à expliquer comment a été défini le marché de produits en cause dans le cadre de l'acquisition de Southern Cross Broadcasting par Macquarie Media Group. Dans sa contribution, l'Australie indique que deux marchés ont été définis dans cette affaire mais que les interactions et les externalités entre ces deux marchés ont été prises en compte.

Un délégué de l'Australie explique que les plateformes multifaces ne nécessitent pas une approche analytique fondamentalement différente de celle d'un marché monoface et que le cadre législatif australien est suffisamment souple pour prendre en compte les caractéristiques propres aux marchés bifaces. Pour la définition des marchés bifaces, l'Australie commence par analyser les deux marchés séparément selon des méthodes traditionnelles. Toutefois, l'analyse de l'impact sur la concurrence tient spécifiquement compte des effets de réseau indirects sur chaque côté du marché. Ainsi, si l'entité née de la fusion agit sur l'un des côtés du marché, les conséquences de cette action sur l'autre côté du marché sont prises en compte dans l'évaluation d'impact sur la concurrence. Si ces conséquences sont suffisantes pour limiter l'exercice du pouvoir de marché sur le deuxième côté du marché, elles sont alors pertinentes pour l'évaluation d'impact sur la concurrence du premier.

L'affaire de Macquarie Media Group et Southern Cross Broadcasting portait sur le projet de fusion des plateformes de télévision et de radio. Dans un premier temps, l'Autorité de la concurrence a examiné le marché de l'achat de publicité, les plateformes de télévision et de radio pouvant se substituer l'une à l'autre. L'examen a abouti à la conclusion selon laquelle une fusion entraînerait un affaiblissement sensible de la concurrence de ce côté du marché, la nouvelle entité bénéficiant d'un pouvoir de marché dans plusieurs zones géographiques. S'agissant du marché de la distribution de contenu aux consommateurs, on a identifié plusieurs marchés géographiques. Sur certains d'entre eux, l'analyse a conclu qu'il existait des marchés distincts au niveau des plateformes pour la télévision et la radio, ce qui signifiait qu'il n'y aurait pas d'atteinte à la concurrence. Néanmoins, sur d'autres marchés géographiques, l'analyse a montré que les plateformes de télévision et de radio s'imposaient mutuellement d'importantes contraintes. Sur certaines d'entre elles, la présence d'organes publics de radiodiffusion garantissait des contraintes suffisantes alors que sur d'autres, l'impact négatif sur la concurrence serait sensible. Pour évaluer les effets de la fusion sur la concurrence, l'impact de la conduite de la nouvelle entité sur l'autre côté du marché (achat de publicité) a été pris en compte. Il en est ressorti que la nature biface du marché était insuffisante pour empêcher une atteinte sensible à la concurrence sur le marché du grand public. D'autres évaluations réalisées dans le secteur des médias en Australie ont abouti à une conclusion inverse.

4. Une structure biface est-elle source de pouvoir de marché ?

Pour poursuivre sur le thème des externalités de chaque côté du marché, le Président se tourne vers la Finlande, qui indique dans sa contribution : « on a posé la question de savoir si, sur les plateformes bifaces, la concurrence d'un côté du marché limite le pouvoir de marché ou son utilisation abusive de l'autre. (...) ». Dans l'affaire Lapin Kansa, cette problématique a été en partie inversée. Une société présente des deux côtés d'un marché biface a une logique commerciale distincte de celle qui n'est présente que d'un côté, ce qui a été considéré comme une source de pouvoir de marché ». Le Président demande à la délégation de la Finlande d'expliquer cette affaire plus en détail.

Un délégué de la Finlande décrit brièvement l'affaire. Lapin Kansa était le seul quotidien local sur un petit marché. Or l'Autorité de la concurrence était préoccupée par le marché de la publicité presse. Les concurrents de Lapin Kansa étaient principalement des journaux gratuits, publiés deux fois par semaine. Pour certains clients, notamment les détaillants, une parution publicitaire deux fois par semaine dans un journal gratuit n'était pas suffisante. Une partie du marché était donc concurrentielle tandis que l'autre ne l'était pas. Dans ces conditions, Lapin Kansa était en mesure d'abuser de son pouvoir de marché, dont la source était située de l'autre côté du marché, à savoir la vente de quotidiens. Au premier abord, il semble que la concurrence s'exerce sur un côté du marché et qu'une éventuelle position dominante de l'autre côté n'est pas importante. Or, il s'est avéré que les pressions concurrentielles n'étaient pas très fortes. Sur une partie du marché, il n'existe pas de substitut sur le front de la demande, ce qui le protège de toute concurrence.

5. Structure de prix

Le Président aborde ensuite la question de la structure des prix sur les marchés bifaces, arguant qu'elle est primordiale dans les affaires relatives au secteur des cartes de paiement. Les commissions d'interchange sont-elles trop élevées ? Dans sa contribution, l'Afrique du Sud estime que des commissions d'interchange élevées ont un impact positif puisqu'elles facilitent la diffusion des cartes de paiement. Toutefois, l'évaluation de l'Autorité de la concurrence d'Afrique du Sud diffère quelque peu de celle de l'Enquête sur le secteur bancaire sud-africain, qui dénonce les commissions d'interchange élevées comme contraires à l'intérêt général. Le Président demande à un délégué d'Afrique du Sud si son interprétation est correcte et par quels moyens on pourrait parvenir à concilier ces deux points de vue opposés.

Le délégué confirme que l'interprétation du Président est correcte. L'Enquête sur le secteur bancaire, menée en dehors du cadre de l'Autorité de la concurrence, a conclu qu'il existait des problèmes liés à une concurrence insuffisante et que les prix étaient globalement élevés au sein du secteur. Selon les résultats de l'enquête, la commission d'interchange et la commission acquittée par les commerçants sont toutes deux élevées. La Commission de la concurrence, le Trésor, la Banque centrale et le Ministère du commerce étudient actuellement les résultats de cette enquête et ses recommandations. Dans une économie où les cartes de paiement sont loin d'être universellement adoptées, des commissions d'interchange élevées pourraient avoir un impact positif dans le sens où elles incitent les sociétés émettrices de cartes à promouvoir leur adoption. L'Autorité de la concurrence reconnaît que les commissions en Afrique du Sud sont très élevées au regard des normes internationales. Parallèlement, il est important de tenir compte du coût induit par le déploiement de l'infrastructure et de la technologie nécessaires. L'Enquête préconisait une solution s'inspirant du modèle australien pour les commissions d'interchange. Si l'Afrique du Sud est consciente des problèmes de concurrence, elle reconnaît également l'importance de promouvoir l'adoption des cartes de paiement. Des doutes persistent sur l'équilibre à trouver entre les deux.

Pour poursuivre sur le même sujet, le Président demande à l'Espagne d'apporter des éclaircissements sur un passage de sa contribution : « les commissions d'interchange sont trop élevées pour être efficaces, ce qui favorise des moyens de paiement inefficaces et coûteux tout en limitant la concurrence par les prix et en répartissant les coûts de manière inégale entre les utilisateurs ». Il souhaite également savoir pourquoi les commissions payées par les commerçants sont trop élevées.

Un membre de la délégation de l'Espagne précise que cette remarque faisait référence à un cas spécifique pour lequel aucune analyse approfondie n'avait été menée étant donné que l'Autorité de la concurrence s'était vue proposer un compromis. En Espagne, il existe trois plateformes pour les cartes de paiement. Les principales associations de commerçants et d'hôteliers ont déposé une plainte accusant ces plateformes de collusion pour la fixation des commissions d'interchange. L'Autorité de la concurrence a engagé une procédure officielle. À l'époque, les cartes de crédit et de débit n'avaient qu'un taux de pénétration relativement faible, les clients privilégiant les espèces et les chèques. Les commissions d'interchange étaient fixées de manière unilatérale par les banques émettrices. Les commerçants n'étaient pas informés du niveau de ces taux et des modalités de calcul utilisées pour leurs paiements, ce qui a engendré d'importants conflits. Plusieurs affaires ont été portées devant la justice et plusieurs procédures d'autorisation relatives à la définition des commissions d'interchange au sein du système ont été présentées à l'Autorité de la concurrence. Ces autorisations ont généralement été refusées. Le compromis proposé à l'Autorité de la concurrence fixait un plafond pour les commissions d'interchange pour les trois années suivantes, considérées comme une période transitoire. Ces commissions établissent une distinction entre cartes de débit et cartes de crédit et sont ajustées en fonction du niveau de revenus de la société. Elles diminueront à terme jusqu'à 46 %.

Cette proposition a été jugée raisonnable pour plusieurs raisons : elle réduit considérablement les commissions, elle établit des commissions d'interchange mutuellement satisfaisantes pour les parties en

conflit depuis de nombreuses années, elle apporte plus de transparence au marché et les commerçants seront régulièrement informés du niveau de la commission d'interchange. L'Espagne examine actuellement les prochaines mesures à prendre, bien qu'il ait été décidé que les commissions seraient plafonnées sur les deux prochaines années si le résultat n'était pas satisfaisant. L'Autorité de la concurrence espagnole craignait que cet accord ne laisse de côté les détenteurs de cartes : suite à la diminution des commissions d'interchange, les banques pouvaient en effet augmenter le taux qui leur est appliqué. Ces craintes ont été ignorées à l'époque, non seulement parce que l'élasticité-prix de la demande des consommateurs était relativement élevée mais aussi parce que les banques étaient incitées à développer l'utilisation des cartes de paiement. Dans ces conditions, le risque que les banques tentent de compenser la baisse des commissions d'interchange en appliquant des tarifs plus élevés aux consommateurs était limité.

6. Réglementation fondée sur les coûts

Le Président fait observer que dans de nombreux pays, les autorités de la concurrence régissent certains des prix associés aux marchés bifaces, comme les coûts d'interconnexion. Le Président s'interroge pour savoir sur quelle base elles doivent intervenir et quelles normes elles doivent utiliser pour fixer les prix réglementés. Il indique que deux contributions divergentes ont été soumises à ce sujet. La première, préparée par Israël, reconnaît que selon la littérature économique, le prix ne devrait pas être fixé par rapport au coût. Néanmoins, dans les différends portés devant la justice à l'encontre de Visa, les autorités israéliennes ont choisi d'aligner les prix sur les coûts. Le Président invite Israël à s'expliquer à ce sujet.

Un délégué d'Israël explique que les autorités israéliennes tiennent compte de la littérature existante mais qu'à l'heure actuelle, aucun consensus ne se dégage parmi les experts dans ce domaine et que les pratiques diffèrent entre les autorités de la concurrence. Selon Israël, les marchés bifaces ne sont pas épargnés par les problèmes de concurrence. Seules trois sociétés émettrices de cartes de crédit implantées en Israël sont aujourd'hui autorisées à commercialiser les marques Visa et MasterCard. En général, les consommateurs n'ont qu'une seule carte de crédit et on compte 4.8 millions environ de cartes actives dans le pays, ce qui témoigne d'un taux d'utilisation élevé. Il s'agit de sociétés privées et détenues en totalité par les trois plus grandes banques israéliennes, fortes d'une part de marché globale de près de 75 %. La plupart des revenus des sociétés émettrices de cartes de crédit sont générés par les commissions appliquées aux commerçants pour les transactions nationales. Le degré de concurrence entre ces trois plateformes reflète la faible concurrence que s'exercent les banques auxquelles elles appartiennent, compte tenu de barrières à l'entrée élevées et de coûts de transferts substantiels pour les consommateurs. Le pouvoir de marché détenu par les plateformes de cartes de paiement se traduit par des commissions d'interchange élevées, qui se répercutent sur les consommateurs. Seules les sociétés émettrices de cartes de crédit et les banques qui les détiennent tirent profit de cette situation.

Il est difficile de déterminer comment renforcer la concurrence dans le secteur israélien des cartes de paiement. L'Autorité de la concurrence et les tribunaux sont donc parvenus à la conclusion qu'au vu des conditions actuelles du marché, l'application d'une réglementation fondée sur les coûts aux commissions d'interchange constituait la solution la plus adaptée. Outre l'affaire relative aux commissions d'interchange, actuellement examinée par le tribunal en charge de l'application du droit de la concurrence, l'Autorité de la concurrence est parvenue à un accord avec les sociétés émettrices de cartes de crédit sur la diminution progressive des commissions appliquées aux commerçants. Israël mène en outre une campagne pour ouvrir le marché des cartes de crédit à de nouveaux agents non détenus par les banques, comme les compagnies d'assurance.

Le Président demande ensuite au Chili de décrire l'affaire des cartes de paiement Transbank et sa position à l'égard de la réglementation fondée sur les coûts.

Un délégué du Chili explique que Transbank est une société privée, détenue par les principales banques du pays et dont la mission consiste à assurer le support des fonctions bancaires. Les banques émettent des cartes de crédit et Transbank acquiert et traite les transactions. Transbank fournissait les appareils destinés au traitement des transactions et interdisait aux commerçants d'acquérir d'autres appareils. Transbank appliquait en outre des frais à la fois aux commerçants et aux banques pour le traitement des transactions. Transbank étant le seul acquéreur, l'Autorité de la concurrence a estimé qu'il n'existait aucune concurrence dans le système d'affiliation. Transbank ne proposait en effet qu'une affiliation groupée à toutes les cartes, les commerçants ne pouvant en choisir qu'une seule. Les commissions appliquées par Transbank pour les cartes de crédit et de débit étaient les mêmes en dépit de coûts différents. Transbank versait certaines commissions aux banques qui n'étaient pas payées à d'autres émetteurs.

L'Autorité de la concurrence a engagé des poursuites à l'encontre de Transbank. Le différend a été en grande partie réglé au moyen d'une conciliation, les poursuites restantes étant soumises à la décision du tribunal. Transbank a proposé un plan d'autodiscipline. S'agissant des critères permettant de définir ce plan, le tribunal a estimé que, dans la mesure où les plateformes bifaces proposent des services interdépendants à deux types de clients (détenteurs de cartes et commerçants), leur structure implique qu'il n'y a pas de lien direct entre les prix et les coûts de chaque côté du marché. En l'absence de relation directe entre prix et coûts, il n'y a pas nécessairement infraction au droit de la concurrence.

7. Prix d'éviction

Le Président aborde ensuite le sujet des prix d'éviction, en s'interrogeant sur la possibilité d'un tel phénomène sur les marchés bifaces. Il souligne que cette question a été traitée dans la contribution de la Commission européenne, qui précise : « Compte tenu de la nécessité d'attirer les deux groupes de clients, un prix fixé au-dessus du coût marginal ou moyen n'est pas un signe de pouvoir de marché. Un prix inférieur au coût marginal voire proche ou en deçà de zéro peut s'avérer une stratégie rentable pour une plateforme afin de maximiser la participation d'un des deux côtés du marché, ce qui améliore le bien-être total des consommateurs en stimulant la participation de l'autre côté du marché ». Dans sa contribution, la Commission européenne indique également qu'en dépit du fait que les prix ne sont pas alignés sur les coûts, on peut observer des prix d'éviction.

Le Président soulève ensuite plusieurs questions : comment peut-on déterminer si un marché biface pratique des prix d'éviction ? Quelle méthode peut-on utiliser pour distinguer les affaires où les prix bas constituent des prix d'éviction des affaires où les prix bas permettent d'augmenter le bien-être des consommateurs ?

Un délégué de la Commission européenne évoque une note de bas de page des lignes directrices relatives à l'article 82, faisant référence à la nécessité de tenir compte des caractéristiques des marchés bifaces dans l'analyse conforme à l'article 82. Cette mise en garde montre que la Commission avait prévu qu'il conviendrait d'accorder une attention particulière à l'analyse des prix sur les marchés bifaces. L'évaluation prix-coût standard peut en effet prêter à confusion pour les marchés bifaces. Il convient d'adapter le test des prix d'éviction en tenant compte des aspects propres aux marchés bifaces. Il est évident que les marchés bifaces se prêtent volontiers à la fixation d'un prix inférieur au coût, ce qui peut aller de pair avec une concurrence vigoureuse et des effets positifs sur le bien-être des consommateurs. En appliquant des tarifs inférieurs au coût d'un côté du marché, un vendeur peut stimuler la demande, ce qui profite aussi à l'autre côté du marché en favorisant une plus grande adoption ou utilisation. Les répercussions sur le côté initial sont également positives et aboutissent, au final, à une hausse de l'adoption ou de l'utilisation.

Dans ce contexte, deux points sont importants. Tout d'abord, il serait incorrect de conclure qu'il est impossible d'observer des pratiques d'éviction sur les marchés bifaces. Dans un article récent, Amelia Fletcher présente en effet un cas d'éviction. Il semble que les asymétries entre les plateformes jouent un rôle à cet égard. Ensuite, la Commission reconnaît que pour estimer le sacrifice consenti dans le cadre d'une stratégie d'éviction, il faut prendre en compte les effets obtenus de l'autre côté du marché, en comparant par exemple les revenus supplémentaires aux coûts additionnels. Toutefois, un test simple est difficile à réaliser car il faudrait disposer d'une description de l'éviction et de la preuve des effets néfastes pour le consommateur. Les mêmes remarques s'appliquent aux prix excessifs.

Le Président observe que la proposition du délégué est difficile à vérifier car elle repose sur un postulat hautement spéculatif quant à la possibilité ou non d'une récupération des coûts.

8. Captation réglementaire

Le Président invite le Portugal et David Evans à réagir sur ce qui a été dit. Un délégué du Portugal estime qu'il est important de repenser la manière dont les problématiques de la concurrence sont traitées sur les marchés bifaces. Il met en avant trois points clés : i) nous sommes confrontés à un défi intellectuel ; ii) il existe des risques de captation réglementaire sur un des côtés du marché ; et iii) il existe des risques de ce que le délégué est tenté de qualifier de « captation du personnel ».

S'agissant du défi intellectuel, le délégué explique qu'il convient dans un premier temps de déterminer si les commissions d'interchange doivent être fixées de manière multilatérale ou bilatérale. Les États-Unis ont répondu à cette question lorsqu'elle s'est posée pour la première fois en arguant qu'une fixation multilatérale des commissions d'interchange était favorable à la concurrence. Depuis, l'Europe est confrontée à la même problématique. Par ailleurs, la plupart des autorités de la concurrence tendent à privilégier l'orientation des prix en fonction des coûts, ce qui n'apparaît pas comme la stratégie la mieux adaptée. Le Portugal souhaite des résultats qui soient favorables à la concurrence, sans les définir toutefois en fonction des marchés bifaces. La question clé est donc de savoir si les autorités vont continuer à réglementer les commissions d'interchange et pour quels motifs. En réglementant ces commissions, les autorités de la concurrence donnent l'impression qu'elles sont habilitées à régir les prix. Au vu des publications récentes à ce sujet, il semble que les points de vue des autorités et des universitaires divergent sensiblement.

S'agissant de la captation réglementaire par un côté du marché, seuls les commerçants ont porté plainte auprès de l'autorité portugaise et il ne fait aucun doute qu'ils poursuivront ces démarches jusqu'à ce que la commission d'interchange soit nulle. La Commission européenne a fixé la commission d'interchange de Visa à X : Visa s'est plaint et une nouvelle plainte vient d'être déposée. Il faut réfléchir aux limites à fixer pour l'acceptation des plaintes. L'Europe constitue un cas à part puisque non seulement les commerçants se plaignent auprès de la Commission européenne mais ils ont mis en œuvre une stratégie à l'échelle européenne consistant à déposer plainte auprès de chaque autorité nationale de la concurrence. Il n'existe pas de groupes de pression agissant au nom des consommateurs. Or on a constaté des problèmes avec les consommateurs, davantage sur le plan de leur protection que de la concurrence toutefois. Les autorités de la concurrence acceptent pour argent comptant l'argument des commerçants selon lequel une baisse de la commission d'interchange entraînerait une baisse de la commission appliquée aux commerçants et, partant, une baisse du prix final. Jusqu'à présent, cela ne semble pas avoir été le cas.

Quant à la captation du personnel, le délégué estime que plus le personnel d'une autorité de la concurrence se consacre à des affaires liées aux cartes de paiement, plus il est difficile de les clore même en l'absence de raisons manifestes. On poussera le raisonnement plus loin en s'appuyant sur l'argument du marché biface. Il est plus facile de se consacrer au secteur des cartes de crédit qu'à des affaires de concurrence plus délicates.

Selon David Evans, la question de la tarification est complexe dès lors qu'il s'agit d'appliquer les principes de la concurrence aux marchés bifaces. Les concepts fondés sur les coûts ne sont en effet plus pertinents. Une stratégie d'éviction par les prix est tout à fait envisageable sur les marchés bifaces, mais il convient d'étudier la structure de prix avec attention pour déterminer si la plateforme sacrifie réellement ses bénéfices pour freiner la concurrence. Il faut donc analyser la manière dont les coûts sont récupérés des deux côtés du marché, ce qui est particulièrement compliqué. Les affaires relatives aux commissions d'interchange et les affaires liées aux tarifs de terminaison d'appels mobiles sont traitées comme des affaires de concurrence alors qu'elles relèvent de la réglementation des prix.

S'agissant de la réglementation des prix, David Evans évoque deux difficultés majeures. Tout d'abord, il est difficile de savoir si cette question pose réellement problème sur les marchés bifaces. Étant donné que les prix ne sont pas alignés sur les coûts, les écarts par rapport aux coûts ne sont pas obligatoirement le signe d'une concurrence défaillante. Comme le montrent les travaux publiés, il est très difficile, tant du point de vue théorique qu'empirique, de définir le bon prix. Néanmoins, même si l'on est convaincu qu'il y a un problème, il est très délicat de trouver la solution appropriée. C'est le cas des affaires liées aux cartes de crédit : en tentant de définir quelle serait la commission d'interchange adaptée, les autorités se sont repliées sur la tarification fondée sur les coûts. Or l'une des leçons tirées des travaux publiés est que la tarification fondée sur les coûts n'est pas adaptée aux marchés bifaces.

M. Evans convient que la captation réglementaire peut être problématique du fait de la nature biface du marché : chaque côté du marché cherche en effet toujours à faire baisser les prix. Si cela peut être accompli par le biais politique, grâce à la politique de la concurrence ou à la législation, il est alors possible qu'un des côtés du marché s'organise pour transférer le coût du système vers le côté qui a le moins de pouvoir. Enfin, M. Evans souligne que la flexibilité tarifaire est cruciale pour aider les entreprises à s'engager dans de telles activités. La Commission européenne souhaite mettre en place un troisième et un quatrième système de paiement. Or elle n'accorde aucune flexibilité aux nouveaux entrants quant aux commissions d'interchange.

Un délégué de l'Italie fait observer que seuls les commerçants se plaignent puisqu'ils sont les seuls à payer la commission d'interchange. Il ajoute qu'il n'est pas exact de dire que lorsque la commission d'interchange est nulle, les services de paiement disparaissent. En Finlande et dans d'autres pays, la commission d'interchange est nulle et les services de paiement sont nombreux. Les sociétés émettrices de cartes de crédit craignent qu'en cas de commission d'interchange nulle, les détenteurs de cartes doivent payer des montants importants. Mais en Finlande, les frais payés par les détenteurs de cartes ne s'élèvent qu'à 25 euros par an. Dans un tel système, la concurrence peut jouer à plein car les consommateurs peuvent changer de banque et il n'existe aucun accord anticoncurrentiel relatif aux commissions d'interchange qui fixe un plancher pour le prix payé aux émetteurs des cartes.

David Evans estime qu'il s'agit d'une polémique sans fin. On peut étudier d'autres marchés bifaces, comme la publicité en ligne fondée sur les moteurs de recherche. Les annonceurs de ce secteur, qui paient l'intégralité de la commission du moteur de recherche, pourraient peut-être s'organiser de manière à convaincre les autorités de la concurrence que le prix de la publicité en ligne est trop élevé et qu'il devrait être en partie transféré aux utilisateurs du moteur.

Un délégué de la Belgique conteste l'opinion du délégué du Portugal selon laquelle les affaires relatives aux commissions d'interchange sont simples. Les systèmes de paiement ne constituent peut-être pas des marchés bifaces, puisqu'ils comportent au moins trois agents : l'émetteur, le commerçant et le détenteur de la carte. La décision du client d'accepter ou de refuser une carte est fondée sur le fait qu'elle soit acceptée ou non par les commerçants, et pas sur la commission d'interchange. Le délégué (de la Belgique) s'interroge pour savoir s'il existe une alternative à une approche fondée sur la réglementation.

Un délégué du Portugal répond en demandant si les autorités doivent écouter uniquement les plaintes des commerçants ou si elles doivent tenir compte des intérêts des consommateurs. Il ajoute que la commission d'interchange peut être fixée à zéro mais s'interroge sur l'efficacité d'une telle stratégie.

Le Président fait observer que l'argument selon lequel il ne faudrait pas consacrer trop de temps à ces affaires même si elles présentent un grand intérêt est justifié. Il existe de nombreux modèles économiques dans ce secteur et ils présentent tous une forte sensibilité aux hypothèses. Il s'agit peut-être d'un instrument trop pointu pour être utilisé par les autorités de la concurrence.

9. Exclusivité

Le Président aborde ensuite la question de l'exclusivité et remarque que si les clauses d'exclusivité peuvent favoriser le démarrage d'une plateforme, elles peuvent aussi s'avérer dangereuses pour la concurrence. Il s'interroge sur la manière de concilier ces deux aspects. Il invite ensuite la Turquie à expliquer comment la question de l'exclusivité a été analysée dans l'affaire Yemek Sepeti.

Un délégué de la Turquie présente l'affaire. La société Yemek Sepeti possédait un portail Internet permettant aux consommateurs de passer commande auprès des restaurants inscrits sur le portail et à ces restaurants de recevoir les commandes. Yemek Sepeti avait conclu des contrats d'exclusivité avec les restaurants, inscrits sur son site web. De plus, il envisageait de développer ce réseau exclusif. Lorsque l'enquête a été menée, le marché était loin d'être mature et ne comportait que trois acteurs. Pionnier, Yemek Sepeti se distinguait par un nombre très élevé d'utilisateurs à la fois du côté des consommateurs et du côté des restaurants. Or, cette situation faisait craindre des risques de verrouillage du marché. Autre élément important : le portefeuille de restaurants de Yemek Sepeti comprenait des enseignes réputées. Fort d'un tel portefeuille, Yemek Sepeti a été en mesure d'accroître le nombre de ses clients enregistrés et, partant, de ses restaurants affiliés (à la faveur d'effets de réseau). En revanche, les concurrents existants et potentiels de Yemek Sepeti, du fait des contrats d'exclusivité conclus par ce dernier, se voyaient dans l'incapacité d'attirer des clients et, partant, des restaurants réputés. Dans ces conditions, les contrats d'exclusivité ont été considérés comme un facteur sapant la position des concurrents existants et dissuadant les nouvelles entrées, et la présence d'effets de réseau a été considérée comme un facteur renforçant l'impact anticoncurrentiel des contrats d'exclusivité. L'Autorité de la concurrence turque a estimé que les contrats d'exclusivité, avec les restaurants (actuels ou potentiels) éliminaient toute concurrence sur une partie importante du marché. Au vu de la décision prise dans cette affaire, une plateforme n'est autorisée à signer des contrats d'exclusivité que si ces activités ne recouvrent pas une partie significative du marché et ne contribuent pas, de fait, à le verrouiller.

10. Coordination

Le Président pose ensuite la question de savoir si les commissions d'interchange doivent être fixées par le biais de négociations multilatérales entre les banques ou *via* des négociations bilatérales. Il invite la délégation de la Suisse à expliquer sa position, qu'elle développe dans sa contribution.

Un délégué de la Suisse explique qu'au terme de l'analyse du secteur des cartes de paiement, les performances du marché ne semblent pas correspondre aux résultats attendus de la part d'un marché biface qui fonctionne. Auparavant, la commission d'interchange n'était pas utilisée comme un outil d'équilibrage mais comme un instrument à l'encontre des nouveaux entrants du côté des acquéreurs, sans que les consommateurs n'en profitent. C'est pourquoi l'autorité de la concurrence est intervenue il y a quatre ans, en supprimant la règle de non discrimination et en instaurant un plafond pour la commission d'interchange. La fixation de la commission d'interchange de manière multilatérale est un mécanisme de fixation des prix justifié par les effets de réseau. Néanmoins, elle ouvre aussi la voie à des abus potentiels.

Dans sa contribution, la Suisse estime que la commission d'interchange devait être orientée sur les coûts. Il ne s'agissait pas de défendre les intérêts des commerçants. La commission d'interchange n'est pas un prix final : le prix payé par les commerçants, la commission qui leur est appliquée et celle qui est appliquée aux détenteurs de cartes demeurent soumis à la concurrence. La commission d'interchange a donc diminué mais reste relativement élevée par rapport aux normes en vigueur à l'échelle internationale. La baisse de la commission d'interchange a été répercutée en quasi-totalité par les banques acquéreuses sur les commerçants. Néanmoins, ces derniers ne l'ont pas répercutée sur les consommateurs. Cette mesure a stimulé l'activité du marché du côté des commerçants. De l'autre côté, la concurrence ne s'est pas accrue mais a été quelque peu relancée. Enfin, du côté des détenteurs de cartes, la concurrence s'est renforcée. On a assisté à l'arrivée de nouveaux intervenants sur le marché, ainsi qu'au lancement de nouveaux produits et à une innovation renforcée. Le taux d'utilisation des cartes a continué de progresser et les frais ont diminué.

Pour résumer, le délégué indique que s'il s'agit d'un marché biface, la concurrence s'exerce davantage du côté des émetteurs que de celui des commerçants. Il est donc bienvenu que les commissions d'interchange transfèrent la concurrence vers les émetteurs plutôt que vers les commerçants, où elle est moins efficace. Une baisse des commissions d'interchange limiterait probablement ce phénomène et gênerait la concurrence. Il ressort également de cette analyse qu'il est difficile d'évaluer les coûts. Les structures de coûts décrites par les émetteurs sont tellement différentes qu'il est difficile de leur accorder du crédit. En Suisse, il n'y a pas de concurrence entre Visa et MasterCard. La décision de l'Autorité suisse de la concurrence ne porte que sur les cartes de crédit : pour les cartes de débit, elle n'a pas autorisé de commission d'interchange jusqu'à maintenant.

Le Président se tourne ensuite vers le Taipei chinois, dont la contribution faisait état d'une position différente de celle de la Suisse en ce qui concerne la fixation multilatérale des commissions d'interchange.

Un délégué du Taipei chinois explique que le National Credit Card Center (NCCC) a été créé en 1988 suite à la proposition d'International Visa Organization, afin de promouvoir les cartes de paiement et plus précisément de fixer et de collecter la commission d'interchange auprès des banques émettrices et acquéreuses. La loi sur la concurrence loyale a été adoptée en 1991. Le NCCC s'est alors demandé si Visa n'était pas en violation de cette Loi et a déposé une demande d'exemption en 1994. L'Autorité de la concurrence estime que la fixation multilatérale des commissions d'interchange devrait au moins être tolérée. Elle réduit en effet les coûts de transaction et évite le cumul des frais fixes associés à la collecte de la commission d'interchange. En outre, le secteur des cartes de crédit au sein du Taipei chinois se caractérise par une forte concurrence puisqu'il compte 47 banques émettrices et 24 banques acquéreuses. Pour prévenir tout abus de pouvoir de la part du NCCC, deux conditions ont été posées : tout d'abord, l'interdiction de tout abus de pouvoir de marché en relation avec la commission d'interchange et ensuite, l'ouverture du NCCC afin de permettre à ses membres d'en entrer ou d'en sortir à tout moment.

11. Examen des fusions : effets unilatéraux

Le Président aborde ensuite les effets unilatéraux des opérations de concentration. Dans l'examen de ces opérations, il est traditionnel de concentrer l'analyse sur l'exercice du pouvoir de marché. Avec les plateformes bifaces, cette analyse est difficile parce qu'il faut prendre en compte les effets interdépendants sur les deux groupes de clients. Dans ces conditions, certains des outils traditionnels ne sont pas utiles dans l'examen des concentrations sur les marchés bifaces. La France et les États-Unis évoquent les effets unilatéraux des fusions. Dans sa contribution, la France analyse la fusion entre TPS et Canal+ et aboutit à la conclusion selon laquelle, sur les marchés bifaces, la structure la plus efficace pourrait être le monopole. Néanmoins, aussi efficace soit-elle, une fois la structure de monopole en place, les plateformes sont incitées à augmenter les prix. Le Président invite la France à présenter cette affaire et à

faire le point sur les structures de marché efficaces et capables de maximiser le bien-être des consommateurs.

Un délégué de la France explique que sur les plateformes bifaces, les clients situés de chaque côté du marché sont avantagés lorsque le nombre de clients de l'autre côté augmente. S'agissant de la télévision payante par satellite, les abonnés ont ainsi accès à davantage de chaînes, tandis que les chaînes ont accès à davantage de téléspectateurs. Ces effets de réseau croisés peuvent se traduire par des gains d'efficacités en cas de fusion. Toutefois, les opérations de concentration peuvent également présenter des inconvénients. Un monopole n'a en effet aucune raison de fixer des tarifs compétitifs, bien que des incertitudes persistent quant à la définition des tarifs compétitifs pour les plateformes bifaces. La question est donc de savoir comment arbitrer entre les pertes liées aux prix et les gains d'efficacité générés par une plus grande concentration.

Le secteur des cartes de paiement est confronté au même problème : vaut-il mieux que deux plateformes plus modestes se fassent concurrence ou qu'une seule plateforme plus importante domine le marché ? Les similitudes s'arrêtent là toutefois. Pour les cartes de crédit, les agents ont accès à plusieurs plateformes, alors que pour la télévision par satellite, les agents n'ont accès qu'à une seule plateforme. Or avec une seule plateforme, la concurrence par les prix est plus intense. Si une plateforme capture l'un des côtés du marché, elle capture également l'autre. En fait, TPS s'est plaint de prix d'éviction, ce qui laisse à penser que la concurrence sur les prix était particulièrement intense. Dans ce cas, l'arbitrage est plus difficile. Un des arguments en faveur de la concentration est que le coût du contenu est fixe. Ainsi, on était confronté d'une part à des effets de réseau et aux effets des coûts fixes, favorables à la concentration, et d'autre part, à l'impact de la concurrence par les prix, défavorable à la concentration. L'Autorité de la concurrence a estimé que l'effet net était favorable à la concentration.

Le Président invite ensuite le Brésil à présenter deux opérations de concentration. La première affaire concerne le secteur des cartes de crédit : le Secrétariat de surveillance économique (SEAE) avait laissé entendre qu'une concentration aux effets anticoncurrentiels était moins probable dans le secteur des cartes de crédit que dans d'autres secteurs. La deuxième affaire concerne les centres commerciaux : là encore, on a considéré que l'opération n'était pas anticoncurrentielle mais il semble que ces arguments n'ont pas convaincu le Conseil administratif de défense économique (CADE). Le Président demande à la délégation du Brésil pourquoi il était peu probable que la fusion réalisée dans le secteur des cartes de crédit ait des effets anticoncurrentiels et pourquoi le SEAE et le CADE avaient des opinions divergentes au sujet de la deuxième affaire.

Un délégué du Brésil explique que dans l'affaire des cartes de paiement, le SEAE a accepté l'argument du marché biface pour justifier l'opération étant donné que la fusion entraînait d'importants effets de réseau indirects entre les deux groupes de clients. Par ailleurs, la fusion ne se traduisait pas par une augmentation significative de la concentration. S'agissant des centres commerciaux, la décision était différente. Ces derniers soutenaient qu'ils ne pouvaient utiliser leur pouvoir de marché qu'auprès des commerçants. Le CADE a réfuté cet argument, arguant que les consommateurs seraient touchés si le centre commercial augmentait les prix appliqués aux commerçants, qui réviseraient alors les prix de leurs produits à la hausse. La nature biface de ce marché est cruciale pour la définition du marché de produits en cause et pour analyser les critères de différenciation entre les centres commerciaux. Le marché en cause était celui des centres commerciaux et pas uniquement celui des commerçants. Le marché géographique était limité à l'agglomération de Rio de Janeiro, compte tenu des coûts de transports induits pour les consommateurs. Au vu de ces caractéristiques, le CADE a estimé qu'il s'agissait d'une concentration importante et a remis en cause les clauses d'exclusivité existantes.

Le Président fait remarquer que, dans leur contribution, les États-Unis considèrent qu'il est difficile d'établir des prévisions au sujet des opérations de concentration des plateformes bifaces et proposent de se

concentrer plutôt sur les volumes de transactions. Il invite la délégation des États-Unis à apporter des éclaircissements sur ce point et à expliquer comment ce principe a été appliqué dans l'affaire États-Unis contre First Data Corp.

Un délégué des États-Unis déclare qu'au vu de la complexité des marchés liés aux plateformes bifaces, il est nécessaire d'identifier des règles simples et fiables. L'affaire *First Data* concernait une opération de concentration entre deux grands réseaux de cartes de débit à code PIN (Personal Identification Number ou numéro d'identification personnel), NYCE et Star. L'examen de l'opération était axé sur le côté du marché composé des commerçants, où les deux réseaux étaient en concurrence. Le ministère de la Justice a considéré qu'il était beaucoup plus difficile pour un commerçant d'annuler son affiliation aux deux réseaux plutôt qu'à un seul. Dans ces conditions, il a été considéré que la fusion porterait sensiblement atteinte à la concurrence pour les commerçants adhérents, dans la mesure où le pouvoir en matière d'acceptation des cartes et de négociation serait transféré des commerçants vers le réseau.

Le délégué poursuit en indiquant que sur ces marchés, il faut faire preuve de vigilance en ce qui concerne les parts de marché. Les commerçants peuvent être réticents à quitter un réseau même s'il ne représente que 20 % des volumes de transactions s'il s'agit du seul réseau correspondant aux cartes détenues par les consommateurs. Compte tenu de l'affaiblissement de la concurrence du côté des commerçants, les prix auraient tendance à augmenter de ce côté du marché. L'analyse économique indique que si les prix augmentent suite à une concentration d'un côté du marché, on assiste à un effet de compensation de l'autre côté, c'est-à-dire du côté des sociétés émettrices. Néanmoins, cette compensation n'est pas totale. La carte Interlink de Visa, qui appartenait au réseau d'un groupement bancaire, figurait parmi les concurrents sur le segment des émetteurs et un effet de compensation semblait peu probable de ce côté du marché. Ainsi, les prix appliqués aux commerçants tendraient à augmenter et la compensation serait largement inférieure du côté des sociétés émettrices. Dans ces conditions, on pouvait conclure que cette concentration était néfaste pour la concurrence sans procéder à une analyse complète de tous les effets attendus sur les prix de l'autre côté du marché. En général, il est raisonnable de considérer que pour les systèmes de paiement, l'effet prix compensatoire observé d'un côté du marché en réaction à une opération de concentration anticoncurrentielle réalisée de l'autre côté n'est pas suffisant pour contrebalancer l'impact négatif pour les consommateurs et la hausse du prix global par transaction. Il est donc possible de procéder à l'analyse d'un côté du marché et de tenir compte des conséquences enregistrées de l'autre côté sans nécessairement avoir à procéder à une analyse complète des effets observés sur les prix des deux côtés du marché, tout du moins dans le secteur des systèmes de paiement.

Le délégué fait également observer que l'argument en faveur d'une approche quantitative était davantage dirigé vers d'autres marchés bifaces, comme les médias fondés publicitaires, où les structures de prix peuvent différer d'un côté du marché à l'autre. Sur ces secteurs, il est plus difficile de compenser les effets sur les prix en l'absence de prix par transaction. L'alternative consiste donc à s'appuyer sur une approche quantitative.

12. Examen des fusions : effets coordonnés

Le Président aborde le sujet de l'analyse des effets coordonnés des opérations de concentration et invite la délégation de l'Allemagne à présenter l'affaire ProSieben Sat1 pour illustrer ce propos.

Un délégué de l'Allemagne décrit le projet de fusion entre Axel Springer AG et ProSieben Sat 1. Springer est l'un des principaux groupes de médias allemands, présent dans les journaux, les magazines et les nouveaux médias. ProSieben Sat 1 est implanté sur le marché allemand de la télévision et l'un des deux principaux acteurs de la télévision privée aux côtés de Bertelsmann Group.

L'examen s'est axé sur le marché de la télévision. ProSieben Sat 1 et Bertelsmann détiennent chacun 20 % de parts d'audience, contre un peu plus de 40 % pour la télévision publique. Sur le front de la publicité, les chaînes publiques jouent un rôle mineur : ProSieben Sat 1 détient en effet plus de 40 % du marché, contre moins de 40 % pour Bertelsmann. Les chaînes publiques détiennent 10 % du marché publicitaire et ne pourront augmenter cette position compte tenu des restrictions appliquées à la publicité sur la télévision publique. Le Bundeskartellamt a estimé que sur le marché de la publicité télévisée, ProSieben Sat 1 et Bertelsmann bénéficiaient d'une position dominante conjointe avant la fusion. Les deux sociétés étaient en effet caractérisées par une position similaire sur le marché et ne se faisaient pas concurrence l'une l'autre en matière de publicité. Les parts de marché de ces deux groupes de médias dans la publicité télévisée sont restées constantes en dépit d'une contraction marquée du marché, qui aurait permis une réorganisation. Ce marché se distingue par une forte transparence, qui permet d'évaluer facilement le comportement des concurrents. Des mesures de rétorsion rapides et efficaces peuvent par ailleurs être prises en cas de déviation par rapport à l'équilibre. Les structures et les niveaux de prix dans la publicité sont très similaires pour les deux sociétés. La transparence est également élevée en termes d'audience : les programmes sont publiés, ainsi que les parts d'audience de chaque chaîne. Ainsi, l'activité concurrentielle et les tricheries peuvent être aisément repérées. Plusieurs des activités de Springer chevauchent celles de Bertelsmann et les deux groupes ont créé une entreprise commune. Dans ces conditions, la position dominante conjointe de ProSieben Sat et Bertelsmann se serait vue renforcée par une opération de concentration.

L'évaluation des effets coordonnés et celle des effets unilatéraux dans les plateformes bifaces diffèrent. Pour les effets unilatéraux, la question est de savoir si les contraintes concurrentielles exercées par l'autre côté du marché sont suffisamment fortes pour restreindre la capacité des parties d'augmenter les prix de manière unilatérale. Pour les effets coordonnés, la question consiste à savoir si l'environnement concurrentiel en vigueur d'un côté de la plateforme (téléspectateurs) peut exclure un comportement coordonné de l'autre côté, à savoir sur le marché de la publicité télévisée. Dans le cas de ProSieben Sat et Bertelsmann, le Bundeskartellamt et le tribunal ont conclu qu'il était impossible que les caractéristiques structurelles du marché des téléspectateurs empêchent un comportement coordonné sur le marché de la publicité télévisée.

13. Restrictions verticales

Le Président soulève ensuite la question des restrictions verticales. Il demande à la délégation du Japon de présenter une étude et une affaire décrites dans sa contribution. L'étude en question est consacrée à la concurrence entre les plateformes et suggère que la mise en œuvre de prix de vente imposés par les plateformes bifaces peut permettre d'internaliser les externalités de réseau, ce qui peut entraîner une amélioration du bien-être économique. Par ailleurs, l'affaire évoquée, qui n'a pas fait l'objet d'un examen en tant que plateforme biface, concernait un cas où les prix de vente imposés constituaient une infraction à la Loi anti-monopole.

Un délégué du Japon présente l'affaire Sony Computer Entertainment (SCE). En tant que premier éditeur de logiciels pour Playstation, SCE a contraint les détaillants à fournir de nouveaux logiciels pour Playstation à leurs clients à des prix de vente recommandés. La JFTC a considéré que ce comportement entraînait en infraction avec la loi anti-monopole, qui interdit toute restriction sur le prix de vente au détail, et a publié sa décision en août 2001. L'étude relative à la concurrence entre plateformes et aux restrictions verticales a été menée en 2008 au Centre de recherche de la politique de la concurrence de la JFTC. Il s'agit d'une étude purement théorique, qui suggère que la mise en œuvre de prix de vente imposés par la plateforme peut lui permettre d'internaliser les externalités de réseau, ce qui peut avoir un impact positif sur le bien-être économique en théorie, mais cette étude ne repose pas sur une analyse empirique. Le Centre de recherche de la politique de la concurrence réalise actuellement une étude empirique sur les

marchés bifaces qui comprend une étude de cas sur le marché de la presse magazine au Japon. Le rapport de conclusion de cette étude devrait être publié avant la fin de l'année.

14. Refus de vente

Le Président aborde ensuite le dernier point à l'ordre du jour, le refus de vente. Il indique qu'en Norvège, le plus grand portail Internet d'annonces de ventes de biens immobiliers résidentiels a été impliqué dans une affaire de refus de vente. Le Président invite la délégation de la Norvège à expliquer les modalités d'analyse de cette affaire, en expliquant comment la nature biface du marché a été prise en compte.

Un délégué de la Norvège explique que tous les grands portails Internet d'annonces et de publicité dans l'immobilier résidentiel n'autorisent que les agences immobilières à faire paraître leurs annonces de ventes. Par conséquent, les propriétaires qui souhaitent vendre leurs biens et passer une annonce sur un portail Internet sont contraints de passer par le biais d'une agence immobilière. En Norvège, près de 95 % des biens immobiliers sont vendus par des professionnels, ce qui laisse à penser que certains vendeurs rencontrent des difficultés pour vendre leur bien sans pouvoir passer d'annonce sur Internet. L'Autorité de la concurrence a mené une enquête sans toutefois trouver motif à intervenir en vertu du droit de la concurrence. Cependant, elle estime que le refus de vente a des effets anticoncurrentiels sur les services liés à l'achat et à la vente de biens immobiliers. L'accès illimité aux portails Internet d'annonces immobilières devrait permettre d'élargir l'offre et de faire baisser les prix pour les vendeurs. Les coûts de transaction liés à l'achat et à la vente de biens seraient donc diminués, ce qui pourrait favoriser des transactions plus efficaces sur le plan social, profitant à la fois aux acheteurs et aux vendeurs. C'est pourquoi l'Autorité de la concurrence a proposé l'adoption d'une réglementation garantissant l'accès ouvert aux portails Internet d'annonces immobilières.

La réponse à la question relative aux effets anticoncurrentiels des refus de vente sur les marchés bifaces est qu'ils dépendent de la structure du marché. Dans le cas évoqué, le marché était caractérisé par d'importants effets de réseau et des produits peu différenciés. Néanmoins, cela ne signifie pas que les contrats d'exclusivité ou le refus de vente ne peuvent pas avoir une incidence bénéfique sur la concurrence dans un marché biface. Par exemple, un nouvel entrant sur un marché peut être obligé de signer des contrats d'exclusivité pour atteindre la masse critique. L'Autorité de la concurrence norvégienne estime qu'il était nécessaire de réglementer en faveur de l'accès ouvert pour promouvoir la concurrence dans cette affaire, ce qui ne veut pas dire qu'une telle réglementation s'impose dans d'autres marchés bifaces où le refus de vente a des conséquences néfastes pour la concurrence. En Norvège, la Loi sur la concurrence n'est favorable à la réglementation que si deux conditions sont remplies : lorsqu'une société porte atteinte, ou est susceptible de porter atteinte, à la concurrence et qu'une réglementation est nécessaire pour promouvoir la concurrence sur le marché. La deuxième condition ne peut être remplie que si le droit de la concurrence n'est pas applicable et qu'une décision individuelle ne suffirait pas à empêcher un comportement anticoncurrentiel sur le marché.