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Google/DoubleClick: The search for a theory of harm

In March 2008, the European Commission cleared Google's proposed acquisition of DoubleClick, a leading online advertising technology company.[1] Despite the absence of any horizontal overlap between the parties, the merger was the subject of a large amount of public attention (focused on issues related to privacy as well as to competition) and faced significant opposition from third party complainants.

Interestingly, although most of the concerns put forward to the Commission were based on exclusionary theories, some complainants suggested that the new entity would be able to raise prices unilaterally even in the absence of foreclosure. Whilst the notion of a non-horizontal merger giving rise to unilateral effects without foreclosure may appear counter-intuitive and is not explicitly covered in the EC non-horizontal merger guidelines, this concern was based on sound economics and, therefore, it could not be dismissed a priori.

This Brief examines how by testing this theory against the facts the Commission was able to dismiss this concern, as well as other more familiar non-horizontal theories put forward by third parties that were based on the exclusion of competitors.[2]

The online advertising industry

The main actors in the online advertising industry are publishers, who sell advertising space on their websites, and advertisers, who buy advertising space in order to reach internet users.

Defining the relevant product market in which online ad space is sold is a complex task. First, online advertising appears in a variety of different formats. Google predominantly sells simple text ads, but the industry also comprises static graphic ads and more advanced rich media ads (collectively referred to as display ads).[3] Second, online advertising can either be sold directly by a publisher to an advertiser or indirectly through ad networks or ad exchanges, which act as two-sided intermediation platforms matching advertisers with publishers providing suitable ad space. For example, Google sells ad space on the websites of third party publishers that make use of its ad network, AdSense.

The parties were of the opinion, as were most of the complainants to the merger, that ads appearing in different formats, targeted by different methods and sold through different channels are all substitutable and therefore that the relevant market should at least comprise the sale of all online ad space. The Commission agreed that different types of advertising are substitutable to a certain extent although it did not reach a firm conclusion as to whether the substitutability was sufficient to justify a single relevant market for all types of online advertising.[4]

Once a publisher has agreed to sell advertising space on its website to an advertiser (either directly or indirectly) ad serving technology is used to deliver an ad from the advertiser to the ad space, as well as playing various other important supporting roles on behalf of both advertisers and publishers.[5] Since ad serving is an input into the provision of ad space, suppliers of advertising space and suppliers of ad serving solutions sell complementary products and therefore do not compete in the same relevant markets.

1
See Google/DoubleClick, case COMP/M.4731, 12 March 2008. RBB Economics advised the parties throughout the investigations by the European Commission and the Federal Trade Commission.

2
The Commission also considered a number of concerns that we do not discuss in this Brief. For example, the Commission addressed, and rejected, the concern that the merger might eliminate potential competition between Google and DoubleClick in each others' markets.

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Online ads are also differentiated by the way in which they are targeted. For example, an ad can be targeted according to a search query entered by a user (search ads), according to the content on the page on which it appears (contextual targeting), according to the user's past viewing behaviour (behavioural targeting) or according to various other indicators such as the user's geographic location or the time of day the user is viewing the website.

4
The Commission did conclude however, that a separate market could be defined for the provision of ad intermediation.

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DoubleClick provides services to advertisers via its advertiser-side ad serving solution (DFA) and to publishers through its publisher-side ad serving solution (DFP).

Importantly, although all online ads, of any format, require some ad serving technology to place them on a website, the basic technology used to serve text ads is not substitutable for the more advanced technology, such as that provided by DoubleClick, used to serve display ads. This implies that there was no straightforward horizontal overlap between Google – a seller of ad space along with integrated (basic) ad serving for text ads, and DoubleClick – a seller of stand alone display ad serving solutions. The absence of horizontal overlaps between the parties' operations did not, however, rule out the possibility that the post-merger entity could have an immediate incentive to raise prices unilaterally.

Unilateral effects without foreclosure?

Both the parties and complainants to the merger agreed that advertisers and publishers see text advertising and display advertising as substitutes. Complainants alleged that this created a "diagonal" relationship between Google and DoubleClick that would make unilateral price increases profitable for a combined entity.

To understand this unilateral effects concern it is helpful to consider a simpler and more stylised setting in which a diagonal relationship could be said to exist.[6] Zinc and copper are complementary inputs to the production of brass. Brass is a substitute for steel in certain applications. There are no customers that would consider switching from zinc to steel in the event of an increase in the price of zinc. However, these two products may nonetheless be substitutable in an economic sense: an increase in the price of zinc that results in an increase in the price of brass would cause an increase in the demand for steel. After a merger with a steel provider, a zinc provider would internalise the increase in demand for steel, providing it with an incentive to increase the price of zinc. The following three conditions would need to be satisfied in order for this effect to materialise:

- Zinc must represent an important cost in the production of brass;
- The zinc provider should not face effective competition from other zinc providers;
- Brass and steel should be close substitutes.

In the current case, complainants alleged that an increase in the price of DoubleClick's advertiser-side ad serving solution (zinc in the example above) would increase the total cost to an advertiser of purchasing display advertising space (brass) in the unintegrated channel, to which DoubleClick's product is an input. Since the unintegrated channel is viewed as substitutable for the integrated channel in which Google sells text advertising (steel), there would be some diversion of demand to this channel, and some diversion of demand to Google. This diversion would be internalised by a combined entity, leading to an incentive to increase the price of the display ad serving solution.[7]

Whilst this concern makes perfect sense in theory, a detailed empirical analysis conducted by the parties revealed that none of the three conditions described in the context of our stylised example were present.

First, in choosing between different forms of advertising (e.g. text and display), advertisers consider the total cost of one form versus the total cost of another. Advertisers might well respond to a small but significant (5–10%) increase in the total cost of display advertising, for example, by re-allocating expenditure to text advertising. However, since display ad serving constitutes a small proportion of the total cost to the advertiser of display advertising, small but significant changes in the price of display ad serving can only cause tiny changes in the total cost of display advertising relative to the total cost of text advertising. As pointed out by the Commission, such price changes are therefore very unlikely to precipitate much (if any) switching from display advertising to text advertising.[8]

6
The term diagonal merger was first used by Higgins, who is also responsible for the example of a merger between a zinc supplier and steel supplier. See Higgins, Richard S. (1997), "Diagonal Merger", *Review of Industrial Organization*, 12, pp.609–623.

7
Similarly, an increase in the price of DoubleClick's publisher-side ad serving solution (DFP) would reduce the profits to a publisher from selling ad space in the unintegrated channel, leading to an increase in the amount of ad space sold in the integrated channel – an effect that would also be internalised by the combined entity.

8
To take a concrete example, suppose an advertiser pays 5 cents per thousand impressions in display ad serving fees to DoubleClick and pays $2 per thousand impressions to the publisher for the purchase of the ad space on the website. The total cost of advertising is therefore $2.05. If the price of the advertiser tool increases by 10% (from 5 cents to 5.5 cents) this would raise the total cost of advertising by only around 0.2% (from $2.05 to $2.055).

Second, DoubleClick faced strong competition within the markets for display ad serving. For some time, DoubleClick had been forced to offer advertisers and publishers large price reductions at the point of renewing their contracts and, in addition, had lost a significant number of customers to rival display ad serving providers despite offering equally large price reductions. Competition within display ad serving implies that DoubleClick could not bring about a small increase in the price of ad serving, let alone one sufficient in size to cause any material switching to text advertising.

Third, Google supplies text ads whereas DoubleClick is an input provider to the supply of display ads. While these forms of advertising are substitutable, they are clearly differentiated to some extent. Therefore, it is unlikely that Google's integrated solution and an unintegrated solution that included DoubleClick's display ad serving technology as a component could be considered as particularly close substitutes.

The evidence set out above convinced the Commission that Google and DoubleClick did not exert a significant competitive constraint on one another and therefore that no unilateral price increase would be profitable post-merger.

More generally, due to the stringency of the conditions required for the unilateral effects concern put forward by the parties' rivals to materialise, we would expect this concern to be of little practical relevance for the assessment of non horizontal mergers going forward. This is consistent with the EC Non-Horizontal Merger Guidelines which state that anti-competitive effects "principally arise when non-horizontal mergers give rise to foreclosure"[9] of the merged entity's competitors.

9
See paragraph 18 of the EC Non-Horizontal Merger Guidelines.

Exclusionary concerns

Complainants also alleged that the parties' diagonal relationship would enable the merged entity to leverage DoubleClick's market position in ad serving to foreclose ad intermediaries that compete with Google's ad network, AdSense. Whilst a wide range of concerns were put forward, they all involved the merged entity taking some action, such as increasing the price of display ad serving when used with competing networks, that would make DoubleClick's advertiser and publisher customers favour Google's ad networks over others. It was alleged that this would lead to the marginalisation of competing ad networks and that the competitive harm would be exacerbated by the existence of network effects arising from the two sided nature of ad intermediation.

A key argument put forward was that DoubleClick's ad serving price constituted a sufficiently high proportion of the cost of using an ad network that variation in this price could affect the relative attractiveness (to advertisers and publishers) of competing ad networks. However, as recognised by the Commission, the proportion of intermediation costs that ad serving represents is not a particularly relevant consideration for either publishers or advertisers when choosing between ad networks.

The relevant consideration for advertisers is the total cost of purchasing the ad space, and for publishers it is the total profit from selling such space. Even a relatively large increase in the price of ad serving when used with a competing ad network could not have a significant impact on these values and would therefore be very unlikely to influence advertisers' or publishers' choice of ad network.[10] Moreover, competition within the markets for display ad serving would make any substantial price increase impossible.

An important additional ingredient to the alleged foreclosure concern was that ad intermediation was prone to "tipping" due to the existence of network effects that are often present in two-sided markets.[11] In choosing to use a particular ad network, an advertiser may take into account the number of publishers using the same network, in addition to the price the advertiser must pay to use the network. Similarly, a publisher's decision to join an ad network may be influenced by the number of advertisers using the network, as well as by the price it must pay to use the network (or its share in the advertising revenue generated).

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For example, suppose that a publisher opts for a non-AdSense network and sells a $2 per-thousand-impression ad, pays 40 cents to the ad network, and pays 5 cents to the publisher-side ad serving provider. The publisher's net profits are $1.55 per thousand impressions. Now assume the price of publisher-side ad serving were to increase by 10% from 5 cents to 5.5 cents. If the publisher were to continue using the rival network to sell the ad space, its net profits would fall by only around 0.3%, from $1.55 to $1.545 per thousand impressions.

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Network effects may arise when consumer utility in a certain market depends on consumption of the same good or service by other agents. Two sided markets are characterised by a particular type of network externality whereby the externality depends on consumption of "compatible" agents on the opposite side of the market.

Complainants alleged that, using the various leveraging strategies available, the merged entity would attract so many advertisers and publishers to its ad network that other ad networks with fewer members would be marginalised. The merged entity would subsequently be able to raise prices without the constraints imposed by rival networks making such a price rise unprofitable, because other networks would be of lower "quality" from the perspective of advertisers (publishers) due to a lack of publishers (advertisers) on the other side of the market.

The concern that network effects may lead to tipping/monopolisation has been raised in other cases, most notably in relation to Microsoft's Windows operating system, but such allegations must be carefully tested in each market context where they are made. The risk of tipping is greater when customers typically use only one platform, and when network effects are not exhausted at a low level of usage.

The market evidence supplied by the parties convinced the Commission that neither of these elements was present in the online advertising industry. First, advertisers and publishers frequently use more than one platform (i.e. they "multi-home"). Given that multi-homing is attractive and costless, it is unlikely that any network effects that may exist could give rise to anticompetitive effects in the form of foreclosure of rival ad networks. This is because the attraction of an advertiser or publisher to an ad network does not make that advertiser or publisher unavailable to other networks.

Second, the evidence suggested that beyond a certain number of publishers an additional publisher joining the network provides no further benefit to advertisers already on the network. This is suggested by the observation that surveyed advertisers did not see reach (the number of unique monthly visitors to ad networks' sites as a percentage of the online population) as a key differentiating factor between ad networks despite significant variation in reach across the various alternative ad networks in the market. Hence, a rival ad network may continue to exert a competitive constraint with a relatively small number of partners on the publisher side as long as it is attractive in terms of the various other dimensions along which ad networks are judged (e.g. the targeting method used).

Conclusions

Google/DoubleClick represents an important and well reasoned decision. The Commission listened to the large number of third party complaints, but it did not endorse them uncritically to make a case against the proposed merger. Instead, it specified clearly the particular theories of harm that it considered to be plausible and that could not be dismissed a priori.

The challenge facing the Commission and the parties was then to identify the key empirical questions that would allow the plausibility of these theories to be tested against the facts of the online advertising industry. It was this complex but transparent exercise that eventually enabled the Commission to satisfy itself that the concerns put forward by third parties, despite being based on sound economics, were unjustified. As such, the Google/DoubleClick decision shows that the Commission is prepared to take a robust and objective stance in its assessment of mergers that are subject to strongly voiced opposition from third parties.