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Agenda

Advancing economics in business

Quantity and quality in economic assessments under competition law

How can competition authorities make the most of the available information within a given timeframe? Alexander Italianer, Director-General at the European Commission Directorate-General for Competition, discusses the possibilities and limitations of incorporating economic analysis in competition law decisions. He describes how economics was used in three recent merger cases, and looks at some of the issues that the parties involved in such cases should bear in mind

Economic analysis is playing an increasingly important role in competition cases at the European Commission. Sometimes this development has been promoted by the Commission itself, and sometimes the European Courts have invited us to make better use of economics. Over recent years, this development has occurred in parallel with organic changes at the Directorate-General for Competition (DG Competition) that have led us to integrate economic analysis more deeply in our case-handling routine.

Law and economics intertwine in putting together a coherent 'story', and in building a solid case that would stand the courts' careful scrutiny. Below, I look in more detail at one aspect of that story, against the background of three merger cases, two of which we decided in 2011—*Olympic/Aegean* and *Western Digital/Hitachi*—and one which we have decided previously—*Ryanair/Aer Lingus*.[1] In particular, I consider the relationship between quantitative and qualitative economic analysis, and how this relates to the legal burden of proof to which the European Commission is subject. First, I contrast the case assessment we followed in *Olympic* with that previously carried out in *Ryanair*. I then share further considerations on the Commission's framework for analysis, and go into the detail of how this framework was applied in the recent *Western Digital/Hitachi* merger. All of these cases are useful illustrations of how the Commission draws from an extensive set of evidentiary elements to take its decisions.

The Commission takes into account both quantitative and qualitative information to put together a coherent story. This is similar to the old journalistic habit of explaining the 'who, what, when, where, how and why'—although, admittedly, the stories we write tend to be rather more complex. In doing this, we face a number of constraints. These relate to the availability and solidity of data, and the limits of economic knowledge—and, of course, we are also constrained by the very precise time limits of the Merger Regulation.[2] This last point should not be taken to imply that antitrust—ie, the enforcement of Articles 101 and 102 of the Treaty on the Functioning of the European Union on restrictive agreements and abuse of dominance—has no time constraints. We still have to take decisions within a timeframe that is meaningful for the conduct in question; we cannot ruminate forever. So, even though antitrust has no formal legal deadlines, we are still constrained.

Ultimately, what we are looking to establish in each case is whether there is a likelihood of consumer harm. This is the concept that governs our enforcement action and, in order to obtain an answer, we have to make the best use of the available data, within the given time, and against the background of the existing knowledge.

This means that the 'priors' must play an important role.[3] For example, we know from the economics literature and previous case-handling experience that monopoly is more problematic for competition than duopoly, and about the concerns that can arise when three market players are reduced to two. This reduction is not always a problem—3-to-2 or even 2-to-1 mergers are not always anti-competitive—but the priors indicate that it often is. This is also why we know that the higher the concentration levels, the greater the possible effects on competition.

This article is based on a speech given at the Charles River Associates Annual Conference in Brussels, December 7th 2011.

The following sections contrast what the Commission did in *Ryanair* with what it did in *Olympic*, and look at what this means for current and future practice.

Ryanair/Aer Lingus

In the *Ryanair* case, DG Competition economists conducted three sets of empirical analysis that aimed to complement and reinforce the extensive qualitative evidence that was available. They were able to do so because the data at hand was complete, accurate, and adequate for the methodologies that were used.

The quantitative analysis in *Ryanair* was intended to inform issues such as the absence of airport substitutability and the closeness of competition between the merging parties. It consisted of three complementary parts:

- a survey of passengers out of Dublin;
- a price correlation analysis, which showed that there was little substitutability between airports; and
- a price regression analysis determining the price impact of having either one or both of the carriers on a particular route.

The price regression analysis generated strong evidence that prices were significantly higher in markets in which only one of the two carriers was present. This quantitative analysis was particularly compelling because it was fully in line with the qualitative evidence that suggested that Ryanair and Aer Lingus were close competitors and that their merger would not have been a good deal for the affected passengers. The merger would have eliminated Ryanair's only significant competitor on more than 30 routes, on which 14m passengers fly each year—and this is why we prohibited it. Our theory was later upheld by the General Court in 2010.[4] The Court supported the Commission's findings but also noted that, while quantitative analysis can be useful, it is by no means mandatory. Indeed, not all cases are suitable for such sophisticated analysis.

Olympic/Aegean

In the proposed *Olympic/Aegean* merger on which we decided in January 2011, specific matters relating to intermodal substitutability arose: for instance, would ferry services constrain air services on several routes to Greek islands, and to what extent?

Our economists explored all of the available quantitative data and concluded that—as I explain below—far less data was available in this case than in that of *Ryanair*; and of the data that was available, much was unreliable. As a result, the empirical work conducted was, by necessity, less extensive and less sophisticated.

Nonetheless, our market investigation was comprehensive. The evidence gathered included hundreds of questionnaires to market players (competitors, ferry operators, customers, consumer associations, etc); minutes of meetings with the parties and third parties; industry reports; and the parties' own internal documents. Readily available quantitative data was also requested from both merging and third parties. DG Competition economists explored all of the available quantitative data and decided to carry out more modest analyses, in line with the limited value added that was expected given the data limitations. Indeed, as every economist knows, you cannot get more information out of data than what is in it in the first place. Our team therefore undertook a descriptive analysis of the quantitative data, which led to questions regarding the competitive dynamics of every route, and which was used to reconstruct several different candidate markets and to compute different indicators of market power.

This analysis proved helpful to inspect the weighted average fare evolution for the different fare classes and between the different operators that served the routes of concern. A similar exercise was pursued for passenger data. This initial analysis prompted us to send further queries to the parties, competitors, ferry operators, and the national railway company. All these insights led to a better understanding of the sophisticated yield management techniques that were used by the merging parties.

Of course, the parties repeatedly referred to the econometric and survey analysis in the *Ryanair* decision as the benchmark for a prohibition decision. Apart from the fact that, eventually, this analysis was not necessary to reach our conclusions, we could simply not replicate the level of sophistication used in *Ryanair* because three key pre-conditions for such analysis were not met, as follows.

- First, not all the necessary data was available to implement the relevant empirical methodology, and the data was not of adequate quality. For example, we had requested directional data and time-of-purchase data, but these were not available from at least one of the parties. Other data, on passengers and revenues, used by the parties for their discounted cash flow (DCF) analysis, was also not in line with the parties' own internal documents or with the data used in the counterfactual analysis (ie, the analysis of the situation that would arise in the absence of the merger).

- Second, empirical analysis in mergers necessarily involves the use of historical data. However, the historical data that was available could not tell us much in terms of the likely impact of the merger on

future competition. Indeed, Olympic Air had started operations only in October 2009, which meant that its data was limited to a few months. We accepted the parties' argument that the past—the period before the Olympic privatisation—was not a good predictor for the future in this case. In the end, time series with only eight observations were available for each route. Any analysis based on so few observations is not exactly 'robust'. By contrast, in *Ryanair/Aer Lingus* we had monthly observations for six years, so around 70 observations for each route.

- Third, there was not sufficient variability in the data to identify references for comparison. We use econometrics to discover how changes in certain variables explain changes in other variables. However, if the explanatory variables do not change—or change only very little—econometrics is not of much help.

In addition, the parties had sent us their own econometric analyses, but these submissions were subject to numerous methodological concerns. We also noted that some of their results actually supported some of our findings—for example, that there exists a differentiation between price-sensitive and relatively non-price-sensitive passengers. Their selection of routes was also problematic, as it excluded important overlap routes. Finally, the presence of Olympic was not taken into account in the estimation, due, precisely, to the absence of usable data. By contrasting these two mergers, we can see that the appropriate analytical approaches that the Commission will follow will differ substantially depending on the available data.

Framework of analysis

What does this mean for the framework of analysis in current and future case practice? It means simply that the Commission will continue to use the best evidence available, specific to each case, and in light of the particular time constraints presented by each case. We will tailor the level of sophistication of our quantitative analysis to the specific features of the case. Note, also, that economics and econometrics are not always about pure, perfect data. Figures are not everything, and very often they are fairly broad-brush. Competition policy is not based on numbers accurate to three decimal places and—as seen earlier—data is not always as reliable as necessary. Data can include errors, it can come from unreliable sources, it can be incomplete or too aggregate, and so on. This is also why it is important to choose a good methodology that fits the requirements of a particular case. We always appreciate discussions with the parties on the appropriate methodology, but in the end we must make our own choice and, of course, be ready to defend this choice in court if necessary.

This brings in issues such as the quality and accessibility of the merging parties' and third parties' data, as well as, particularly under the Merger Regulation, timing constraints. The newly adopted guidance on best practices for the submission of economic evidence already gives useful advice on how to make the tight deadlines of the procedure compatible with careful consideration of economic evidence.[5] For example, it clarifies that, where parties plan to submit data in connection with an empirical analysis conducted at their own initiative, they should warn DG Competition in advance of the planned timing and scope of such a submission. Parties should submit results that they intend to rely on or discuss in a meeting with DG Competition, including data and code to facilitate replication, at least two working days before the meeting.

In the end, we always have to take decisions based on the available evidence. This means that our cases are always about the likelihood of an anti-competitive effect arising, even if we sometimes cannot put an exact figure on that. As John Maynard Keynes put it, 'it is better to be roughly right than precisely wrong.'

HDD case as a further example of the framework for analysis

The latest example of how economic analysis is integrated in a merger case is the *Western Digital/ Hitachi* decision adopted on November 23rd 2011, concerning the hard disk drive (HDD) industry. The planned merger would have reduced the number of players in that industry from four to three, and in some markets from three to two. As mentioned above, our priors mean that even this limited amount of information should already start to ring warning bells—at least in the markets in which the number of competitors is reduced from three to two.

Naturally, our assessment of the impact that this would have had on consumers was based on more than just these numbers. For instance, customer submissions and other qualitative evidence showed that security of supply is important for HDD customers. Given industry specificities, these customers need to use multiple sources of supply.

The Chief Economist Team in DG Competition collected commercial data on transactions of customers with the parties and their main competitors. We also collected data on the participation of the parties and their competitors in customer bids. This data confirmed that most customers indeed multi-source their HDD supplies, which supported our finding that the presence of a third supplier really *did* matter. Customers use this supplier for a part of their purchases or use its presence as a tool to get better

prices from the other two. We therefore found that if only two suppliers remained, they would be complementary supply sources and would thus have a guaranteed share of customer purchases. They would therefore compete less intensively than when the third supplier was present.

The bidding analysis also showed that Hitachi participated in most bids and was an important competitor. With the help of this analysis, we concluded that its removal from the market would result in higher prices and be harmful for consumers. We ultimately cleared the merger on the condition that Western Digital would divest assets that would allow a competitor to replace Hitachi as the third supplier in the market.

The decision is also worth reading for our analysis of the parties' efficiency claims. For instance, we looked closely at whether efficiency benefits resulting from the merger would be sufficiently passed on to consumers, and concluded that it depends on the change in the market that a merger brings about. To put it simply, the more competition there remains in a market, the more likely it is that merging companies pass efficiencies on to consumers. Consequently, as the market would have become less competitive after the merger, we could not conclude that there were efficiencies to outweigh the negative impact on prices and consumers.

This last example also shows that, when we build a case, we add to the priors the theory of harm, and a layer of data where appropriate. We use the best evidence that is available, and that we can reasonably use according to the theory of the case, and we fit data in when possible and when it strengthens the case. Indeed, our presumptions or theories of harm are not set in stone. We need to tell a story where economic evidence and analysis validate these presumptions, and we also use economic reasoning and econometric analysis to avoid relying only on the data adduced by parties.

Taken together, these factors make the robustness of the case, which can then be tested in court. When we ultimately have to prove our cases, we do this to a legal standard, not an economic one; we are using economic analysis to support the construction of legally robust cases. I strongly believe that our cases meet a very high standard and we will strive to maintain this in the coming years. The best-practices guidance for economic evidence will undoubtedly also help. It has already helped parties come forward with improved submissions over the last few months, and has helped us to gather quantitative data and to limit the scope of data requests.

Conclusion

How does this all fit into the Commission's mission in competition cases? Our primary mission is to provide an efficient, stable and predictable enforcement environment. In doing so, we have to grant parties all their relevant due process rights, but we also seek to enforce competition law without undue delay. This is in the interests of both consumers and businesses. We prevent harm from arising, but we also offer market players a predictable and quick answer to their merger plans. We thus use quantitative and qualitative data to strengthen the economics of our competition cases. These cases are often tested before the General Court, and recent judgments highlight the great intensity of the standard of review currently applied by the Court.

Finally, I want to stress that, in our experience, well-founded quantitative analysis has the capacity to lead to satisfactory results for parties—but such economic analysis takes time. This is why, in a merger process with tight deadlines, a satisfactory economic analysis will crucially have to rely on the parties and their advisers. In order to allow us to use such analysis to the best of our knowledge, it is important that the firms' legal advisers alert the Commission very early in the process about likely economic submissions, and that we discuss from the very beginning relevant data and empirical approaches. The most important point to remember, however, is that we must all work towards the best evidence available, not the best evidence imaginable.

Alexander Italianer

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[1] European Commission (2011), 'Mergers: Commission Blocks Proposed Merger Between Aegean Airlines and Olympic Air', press release, January 26th. European Commission (2011), 'Mergers: Commission Clears Western Digital's Acquisition of Hitachi's Hard Disk Drive Business Subject to Conditions', press release, November 23rd. European Commission (2007), 'Commission Decision of 27/06/2007 Declaring a Concentration to be Incompatible with the Common Market and the EEA Agreement (Case No COMP/M.4439 – *Ryanair/Aer Lingus*)', C(2007) 3104.
[2] European Commission (2004), 'Council Regulation (EC) No 139/2004 of 20 January 2004 on the Control of Concentrations between Undertakings (the EC Merger Regulation)', January 29th, pp. 1–22.
[3] Priors are prior assumptions about mergers based on theory and previous case experience.
[4] General Court of the European Union (2010), 'The Prohibition of Ryanair's Takeover of Aer Lingus is Valid', press release No 72/10, July 6th.
[5] European Competition (2010), 'DG Competition: Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases'.

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