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INTRODUCTION

On 28 November 2007, the European Commission ("the Commission") adopted its long-awaited Non-Horizontal Merger Guidelines ("the Guidelines")[1], which set forth the framework for its competitive assessment of non-horizontal mergers. The term non-horizontal mergers refers to both mergers between companies operating at different levels of the supply chain (i.e., vertical mergers) and mergers between companies that are active in closely related markets (i.e., conglomerate mergers).[2] The Guidelines aim to increase the transparency and predictability of the Commission's assessment. This clarity is important for non-horizontal mergers that, unlike horizontal mergers, raise fewer competition concerns because they do not eliminate direct competition between merging parties in the same relevant market.[3] Clarification of the applicable standards was also particularly necessary, given the paucity of Commission decisions relating to non-horizontal mergers to date. Non-horizontal mergers also tend to be pro-competitive because they often produce substantial scope for efficiencies, for instance, by decreasing transaction costs or facilitating co-ordination of product design.[4]

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[1] On 13 February 2007, the Commission published draft guidelines setting forth its approach to non-horizontal mergers. It received 32 comments on the draft guidelines from third parties. The final version of the Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings, OJ [2008] C265/07, is available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:265:0006:0025:EN:PDF.

[2] Guidelines, paragraphs 4-5.

[3] *Id.*, paragraph 12.

[4] *Id.*, paragraph 14.

The publication of the Guidelines is part of the Commission's policy to apply a "more economic approach", as well as a consumer welfare standard, to all aspects of competition law, including merger control.[5] This economics-based approach follows the *Tetra Laval / Sidel*[6] and *GE / Honeywell*[7] judgments, as well as the Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentration between undertakings, in which the Commission committed to adopt clearer, economics-centred standards for the assessment of mergers. In those cases, the Commission's merger control decisions were annulled for lack of convincing evidence[8] that the merging entities had either the ability or the incentive to engage post-merger in the alleged anti-competitive practices. In *GE / Honeywell*, the CFI required that the Commission present either (i) direct evidence (e.g., emails or internal presentations) proving that the merging parties were likely to engage in the alleged anti-competitive conduct or (ii) an economic assessment demonstrating that the alleged behaviour would objectively have been in the merged entity's commercial interests.[9]

This article focuses on the first two purely vertical mergers[10] to which the Guidelines were applied: *TomTom / Tele Atlas*[11] and *Nokia / NAVTEQ*.[12] Between 2007 and 2008, the Commission analysed these two vertical merger cases in the satellite navigation industry. Following phase I investigations, the Commission found "serious doubts"[13] with respects to both mergers due to their potential anti-

[5] For instance, the effects-based approach was embraced by the recent Communication from the Commission – Guidance on the Commission's enforcement priorities in the application of Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings OJ [2009] C 45/7.

[6] Case COMP M.2416, Commission decision of 30 October 2001, OJ [2004] L38/13 on appeal Case T-5/02 *Tetra Laval v Commission* [2002] ECR II-4381, on further appeal Case C-12/03 P *Commission v Tetra Laval BV* [2005] ECR I-987 ("*Tetra Laval / Sidel*").

[7] Case COMP M.2220, Commission decision of 30 October 2001, OJ [2004] L48/1, on appeal Cases T-209/01, *Honeywell International Inc. v Commission of the European Communities* [2005] ECR II-5527; and T-210/-1 *General Electric v Commission* [2005] ECR II-5575 ("*GE / Honeywell"*).

[8] In *Tetra Laval*, the Court of First Instance ("CFI"), stated "[…] proof of anti-competitive conglomerate effects of such a merger calls for a precise examination, supported by *convincing evidence*, of the circumstances which allegedly produce those effects" (paragraph 155) (emphasis added). Similarly, in *GE / Honeywell*, the CFI stated the onus was on the Commission "[…] to provide *convincing evidence* to support its conclusion that the merged entity would probably behave in the way foreseen" (paragraph 69) (emphasis added). Similarly, the European Court of Justice ("ECJ") stated in *Tetra Laval* that, "[…] the *quality of the evidence* produced by the Commission in order to establish that it is necessary to adopt a decision declaring the concentration incompatible with the common market is particularly important, since that evidence *must support* the Commission's conclusion that, if such a decision were not adopted, the economic development envisaged by it would be plausible" (paragraph 44) (emphasis added).

[9] *GE / Honeywell*, paragraph 333.

[10] Since *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission has also applied the Guidelines to *Itema / BarcoVision* (Case COMP M.4874, Commission decision of 4 August 2008). In *BarcoVision*, the Commission once again assessed a purely vertical merger that raised similar input foreclosure concerns to *TomTom / Tele Atlas* and *Nokia / NAVTEQ*. Through the merger, Itema, a producer of textile machinery, sought to acquire its input provider BarcoVision, a manufacturer of sensors for winders. The transaction was cleared without remedies after a Phase II investigation.

[11] Case COMP M.4854 – *TomTom / Tele Atlas*, Commission decision of 14 May 2008 ("*TomTom / Tele Atlas*").

[12] Case COMP M.4942 – *Nokia / NAVTEQ*, Commission decision of 2 July 2008 ("*Nokia / NAVTEQ*").

[13] "Serious doubts" is the legal standard that is required to initiate a "Phase II" investigation (i.e., the in-depth investigation, lasting up to four months, following the shorter, initial "Phase I" investigation) (Council Regulation No. 139/2004 of 20 January 2004 on the control of concentrations between undertakings [2004] L24/1, Article 6(2) ("The ECMR Regulation")).

competitive effects. Eventually after in-depth investigations (phase II), both cases were cleared without remedies by the Commission.

The article's purpose is to determine to what extent the Commission's post-Guidelines practice, as evidenced by these vertical mergers, conforms with a "more economics-based" approach to merger control. The article will be structured as follows. Section I provides a brief overview of the Commission's pre-Guidelines practice in assessing vertical mergers. Section II focuses on the Commission's application of the Guidelines to the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions, with a specific focus on the foreclosure analysis. Finally, Section III draws together the main conclusions of the analysis.

I. The Commission's Assessment of Vertical Mergers Before the Guidelines

Prior to the Guidelines, the Commission's competitive assessment of vertical mergers focussed primarily on the parties' *ability* to foreclose rivals. The Commission rarely analysed in-depth the parties' economic incentives to foreclose rivals. Furthermore in certain cases, market power in only one of the affected markets was considered "*a sufficient condition*" to conclude that the proposed merger was likely to restrict competition in the Common Market.

For example, in *Skanska / Scancem*,[14] a merger between Sweden's largest producers of cement and construction materials (Scancem) and ready-mixed concrete, dry concrete and pre-cast concrete products (Skanska), the Commission scrutinized the ability of the merged entity to foreclose rivals where it had: (i) 80-90% of the Swedish market for cement production; (ii) 40-50% of the Swedish market in ready mix concrete; and (iii) up to 80% of the Swedish market in other building materials (e.g., plaster). Based primarily on these high market shares, the Commission concluded that the merged entity would create or strengthen a dominant position in the Swedish markets for cement, ready-mixed concrete, dry concrete and pre-cast concrete products, as a result of which competing ready-mix producers would be largely dependent on *Skanska / Scancem* for their supplies of the main raw material and cement.[15] Notably, the Commission's decision did not consider whether the parties had an economic incentive to raise rivals' costs.[16] This omission is striking because for a foreclosure strategy to be profitable, the revenues foregone by the merging parties upstream have to be

[14] Case COMP IV/M.1157, Commission decision of 11 November 1998 ("*Skanska / Scancem*").

[15] *Id*., paragraph 147. To address the Commission's foreclosure concerns, the merging parties eventually undertook to divest a part of Scancem's cement assets.

[16] See also *EDP / GDP*, which concerned a merger between on the one hand EDP, the incumbent Portuguese electricity operator, and ENI, an Italian energy company active internationally at all levels of the energy supply and distribution chain, and on the other hand GDP, the incumbent Portuguese gas operator. The Commission primarily focused on the merging entity's ability to increase rivals' costs and devoted less attention to the analysis of economic incentives to foreclose (Case COMP IV/M.3440, Commission decision of 9 December 2004 ("*EDP / GDP*")).

sufficiently off-set by increased profits downstream.[17]

In *Neste / IVO*, Neste, Finland's incumbent natural gas producer (that had an almost 100% share of the Finnish natural gas market) sought to merge with IVO, Finland's largest electricity producer (that had a 40% share of the Finnish electricity market).[18] The Commission was concerned that since natural gas was an input for electricity production, the parties could use their strong position in the natural gas market to raise competing electricity manufacturers' costs.[19] The Commission focussed its investigation on the parties' ability to raise rivals costs but downplayed the fact that only "10% of all electricity production in Finland uses natural gas".[20] As few electricity products used natural gas as an input, the economic incentive to raise rivals costs was likely to be smaller. Yet, the Commission concluded that "natural gas is strategically very important for electricity production in Finland and that its importance will continue to increase over the next years".[21]

Even when the Commission did refer to economic incentives to foreclose in its pre-Guidelines decisions, these references were typically unaccompanied with in-depth economic analysis. For example, in *Telia / Sonera* (a merger between Telia, a Swedish telecommunications and cable television operator and Sonera, Finland's largest mobile telephony operator) the Commission concluded, without the benefit of any economic assessment, that Telia would have "an incentive to distort competition to Sonera's advantage".[22] Instead, the Commission seemed to intuitively assume that it would be logical for Telia to favour its subsidiary Sonera. The decision did not consider that this "favouritism" would, at least at first, actually lower Telia's revenue. Neither did the decision examine whether the strategy would ultimately succeed in foreclosing rivals thereby allowing the merged entity to eventually recover its lost revenues.[23]

It is only in October 2007, just prior to the adoption of the Guidelines, that the Commission first devotes significant attention to the economic analysis of the merged entity's incentive to foreclose. In its decision in *Imperial Tobacco / Altadis*, a merger between two manufacturers of cigarettes and tobacco products, the Commission considered the vertical effects raised by the merging parties' distribution activities and eventually concluded that the merged entity would lack the ability to foreclose rivals. Notably, its conclusion relied on an economic study submitted by the merging

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17 Guidelines, paragraph 40.

18 Both Ivo and Neste were owned by the Finnish State but were considered independent for the purposes of the ECMR Regulation.

19 Case COMP IV/M.931, Commission decision of 2 June 1998, paragraph 47 ("*Neste / Ivo*").

20 *Neste / Ivo*, paragraph 33.

21 *Id.*, paragraph 34.

22 Case COMP M.2803, Commission decision of 10 July 2002, paragraph 89 ("*Telia / Sonera*").

23 See Section II.B.a for the analysis of the input foreclosure test Guidelines, paragraphs 32-57.

parties showing that foreclosure would not be profitable and that alternative distribution channels existed. The Commission accepted the study's conclusions that "a foreclosure strategy would be profitable for the merged entity only under very extreme conditions, namely a very big increase in sales that is extremely unlikely in a market whose size is relatively stable".[24]

II. The Commission's Assessment of Vertical Mergers Under the Guidelines: *TomTom / Tele Atlas* and *Nokia / NAVTEQ*

As previously mentioned, the Guidelines purport to introduce a "more economics-based approach" to the Commission's assessment of non-horizontal mergers. Accordingly, the Guidelines prescribe, based on a consumer welfare standard, that the Commission should assess foreclosure in vertical mergers as anti-competitive if it fulfils all the element of the following three-part test: (i) ability to foreclose; (ii) incentive to foreclose; and (iii) likely impact on effective competition. Notably, and in contrast to past practice, the Guidelines elevate the parties' economic "incentive" to foreclose as a central and required element in the Commission's merger assessment.

The Commission first applied this new foreclosure test to purely vertical mergers in its reviews of the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions.[25] The Commission's decisions in those cases demonstrate that the application of the Guidelines does lead, in practice, to a "more economics-based approach" to merger control.

A The *TomTom / Tele Atlas* and *Nokia / NAVTEQ* Transactions

a. Background and Industry Overview

The *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions both concerned the navigable digital map database industry. Navigable digital maps consist of several layers of digital data, including geographic information (e.g., street names, addresses, driving directions).[26] Map data are used to obtain directions in navigation devices including personal navigation devices ("PND" - commonly

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24 Case COMP M.4581, Commission decision of 18 October 2007 ("*Imperial Tobacco / Altadis*").

25 Subsequent to its decisions in *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission analysed another vertical merger under its new Guidelines, *Itema / BarcoVision*. *Itema / BarcoVision* involved a backward vertical integration in which Itema (a manufacturer of winding machines) acquired its input provider BarcoVision (a supplier of sensors). Like the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions, the relevant upstream market in *Itema / BarcoVision* was dominated by two large producers with elevated market shares: BarcoVision (30-40% global market share) and User Technologies AG (55-65% global market share).

26 The data is gathered from a variety of sources and using a multitude of means. For instance, data may be purchased from official government sources or derived from satellite images and aerial photographs. Data is also collected physically by "field forces" that drive customized vehicles on roads to collect information about road features using specialized computer equipment. Increasingly, certain types of data, such as Points of Interests (data indicating the location of landmarks such as restaurants, hotels and petrol stations) are available for purchase from third parties or supplied free on-line. Also, customers buy maps from different suppliers (*Nokia / NAVTEQ*, paragraph 20).

known as GPS), mobile handsets and the Internet (e.g., through Google maps). A navigable digital map alone cannot function on a navigation device. It is a relational database that must be combined with navigation software and geographic positioning information from a Global Positioning System-receiver to provide directions.[27] A navigable digital map, as opposed to a non-navigable digital map, is more detailed and contains extra data (e.g. street direction) required for precise turn-by-turn navigation.[28]

The *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions concerned the purchases of the two largest global suppliers of navigable digital map databases: Tele Atlas and NAVTEQ.[29] Tele Atlas was purchased by TomTom, the largest European PND supplier. NAVTEQ was purchased by Nokia, a leader in the mobile handset market. Both transactions involved a backward vertical integration whereby a downstream manufacturer (i.e., TomTom and Nokia) acquired one of its input providers (i.e., Tele Atlas and NAVTEQ, respectively). Both TomTom and Nokia integrate the navigable digital maps they purchase from Tele Atlas and NAVTEQ with navigation software. Subsequently, the combined product (i.e., software and database) is included in the PNDs and/or mobile handsets that TomTom and Nokia sell to end-users.

The Commission deemed that both Tele Atlas and NAVTEQ accounted for virtually all sales of navigable digital map databases with EEA coverage, each company having similar market positions and offering products of similar quality.[30] The Commission also observed that Tele Atlas had almost no presence as a supplier of digital navigable maps to mobile handset manufacturers, such as Nokia. Conversely, NAVTEQ had a very limited presence as a provider of digital navigable maps to PND makers, such as TomTom.[31] In other words, most PND manufacturers purchased their maps from Tele Atlas and most mobile handset manufacturers purchased their maps from NAVTEQ.

Overall, the Commission investigations into both *TomTom / Tele Atlas* and *Nokia / NAVTEQ* lasted considerably longer than the corresponding investigations undertaken by the U.S. antitrust

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[27] The navigation software acts as an interface between the database and the device display. It uses an algorithm to calculate routes from the raw digital map data, which it then displays on the device's screen, sometimes accompanied with voice instructions.

[28] For the description of a navigable digital map see Section II.A.b below.

[29] On 1 October 2007, Nokia announced its proposed USD 8.1 billion acquisition of NAVTEQ. Later in the month, TomTom launched its EUR 2.9 billion cash tender offer for Tele Atlas. Although *TomTom / Tele Atlas* and *Nokia / NAVTEQ* were announced roughly at the same time, the Commission made it clear from the outset that its assessment of the *TomTom / Tele Atlas* case would not take into consideration the proposed merger between Nokia and NAVTEQ, as this second merger had not yet been approved.

[30] *TomTom / Tele Atlas*, paragraphs 20 and 73; *Nokia / NAVTEQ*, paragraph 148.

[31] *Nokia / NAVTEQ*, paragraphs 399 and 400.

authorities.[32] Some of the difference in the length of investigation on both sides of the Atlantic is attributable to the use of the Article 4(5) reference procedure under the ECMR Regulation[33]. Yet, the difference is also indicative of the Commission's interest in carefully analyzing each aspect of the first two vertical mergers to be reported under its new Guidelines.

b. The Relevant Upstream Market – Navigable Digital Map Databases

In its reviews of *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission determined that there were three levels of relevant product markets affected by the mergers: (i) the **upstream market** consisting of navigable digital map databases and, in the case of the *Nokia / NAVTEQ* transaction, also non-navigable digital map databases; (ii) the **intermediate market** consisting of navigation software; and (iii) the **downstream market** consisting of mobile handsets or PNDs and, in the case of the *Nokia / NAVTEQ* merger, also navigation applications for mobile handsets. All the relevant geographic markets were found to be at least as large as EEA-wide if not worldwide.

In both cases, the Commission's antitrust concerns were confined to the navigable digital map database market. Navigable digital map databases are sold through several different distribution channels. They may be sold directly to the customer (i.e., PND manufacturers, mobile handset manufacturers, mobile network operators ("MNO") or on-line application providers). Navigable digital map databases are also sold to navigation software suppliers. These navigation software suppliers then combine the map data with their navigation software and resell the entire package to customers. Most manufacturers of mobile handsets, for example, purchase their map data in combination with navigation from software suppliers.[34]

B A Common Theory of Harm

In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the theory of harm relied on potential concerns relating to: (i) input foreclosure; (ii) access to map customers' commercially sensitive information; and (iii) co-ordinated effects. The following analysis will focus on the Commission's input

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32 The U.S. Department of Justice approved the *TomTom / Tele Atlas* transaction on 17 October 2007, within the 15-day waiting period prescribed for cash tender offers. Similarly, the U.S. Federal Trade Commission cleared the *Nokia / NAVTEQ* merger on 6 December 2007. The Commission cleared *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions on 14 May 2008 and 28 June 2008, respectively.

33 Article 4(5) of the ECMR Regulation allows the parties to a concentration that is capable of being reviewed under national competition laws of at least three Member States to make a reasoned submission (i.e., Form RS) that it should be examined by the Commission. The Commission will transmit the submission to the Member States without delay which may disagree with the request within 15 working days. If there is no disagreement within the stipulated period, the concentration is deemed to have a Community dimension and subject to the ECMR rules.

34 *Nokia / NAVTEQ*, paragraph 16.

foreclosure analysis.[35] Importantly, as previously mentioned, since the Commission's assessment in both cases was based on its new Guidelines, the Commission analysed *both* the ability and incentive of the merged entities to foreclose their downstream competitors, as well as the overall effects of the mergers in downstream markets.[36] By doing so, the Commission often embraced a more economics-based approach which departed from its pre-Guidelines practice of largely limiting its analyses to the companies' ability to foreclose rivals.

a. The Input Foreclosure Test: Partial Input Foreclosure

In its Guidelines, the Commission states that mergers result in foreclosure "where actual or potential rivals' access to supplies or markets is hampered or eliminated as a result of the merger, thereby reducing these companies' ability and/or incentive to compete".[37] The Commission will only consider foreclosure anti-competitive "where the merging companies – and, possibly, some of its competitors as well – are as a result able to profitably increase the price charged to consumers".[38]

Whilst the Guidelines identify two possible types of foreclosure (customer and input)[39] in its Guidelines, the Commission's concerns in *TomTom / Tele Atlas* and *Nokia / NAVTEQ* only related to input foreclosure. The Commission considered as unlikely the possibility of a total input foreclosure strategy whereby the merged entity would entirely cease supplying maps to its acquirer's downstream competitors (i.e., Nokia's mobile handset producer competitors or Tele Atlas' PND manufacturer competitors).[40] Instead, prompted by concerns expressed on the one hand by "PND manufacturers"[41] in *TomTom / Tele Atlas* and on the other by "mobile telephone manufacturers, MNOs and navigation software providers"[42] and "less consistent[ly]"[43] by on-line map users in *Nokia / NAVTEQ*, the Commission focussed its investigation on partial input foreclosure strategies.[44] In particular in both

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35 According to the Commission, input foreclosure occurs "where, post-merger, the new entity would be likely to restrict access to the products or services that it would have otherwise supplied absent the merger, thereby raising its downstream rivals' costs by making it harder for them to obtain supplies of the input under similar prices and conditions as absent the merger. This may lead the merged entity to profitably increase the price charged to consumers, resulting in a significant impediment to effective competition" (Guidelines, paragraph 31).

36 Carles Esteva Mosso, Michal Mottl, Raphael de Coninck and Franck Dupont, 'Digital maps go vertical: TomTom/Tele Atlas and Nokia/NAVTEQ', Competition Policy Newsletter, No. 3 (2008).

37 Guidelines, paragraph 29.

38 *Id*.

39 For customer foreclosure see Guidelines, paragraphs 58-59.

40 *Nokia / NAVTEQ*, paragraph 265; *TomTom / Tele Atlas*, paragraph 193.

41 *TomTom / Tele Atlas*, paragraph 190.

42 *Nokia / NAVTEQ*, paragraph 264.

43 *Id*., paragraph 266.

44 In its analysis of potential input foreclosure in *Nokia / NAVTEQ*, the Commission acknowledged that the relevant market actors' concerns "presented a high degree of variety". Furthermore, the Commission stated "this could be considered as an element supporting the arguments of the notifying parties who claimed that such concerns were hardly substantiated". Nevertheless, the Commission accepted the market actors' concerns, stating that the variety in the theories of input

cases, the Commission investigated whether the merging parties were likely to foreclose rivals "by increasing prices, by providing degraded map sets, by delaying access to latest maps or [data] attributes or by reserving innovative features".[45]

As set forth in the Guidelines, the Commission's assessment of the likelihood of partial input foreclosure dealt specifically with three factors:

- "first, whether the merged entity would have, post-merger, the **ability** to substantially foreclose access to inputs,
- second whether it would have the **incentive** to do so, and
- third, whether a foreclosure strategy would have a significant **detrimental effect on competition downstream**".[46]

In *Nokia / NAVTEQ*, the Commission considered all three factors even after it concluded that the company's ability to foreclose was "unclear".[47] As such, even though theoretically a lack of evidence underpinning one factor (e.g., no ability to foreclose) should alone be sufficient to negate the possibility of foreclosure, the Commission's practice is to consider all three factors. This approach is confirmed in the Guidelines, where the Commission states "these factors are often examined together since they are closely intertwined".[48] Companies should therefore present arguments on all three factors and not simply focus on one. For example, notifying parties should show both that the merged entity will have no ability to foreclose — which requires less evidence — and that the new entity will have no incentive to foreclose — which requires more technical economic evidence (e.g., cost analysis).

1. Ability to Foreclose

According to the Guidelines, the Commission considers three factors in determining whether a merged entity will have the ability to foreclose post-merger:

- first, that "the vertically integrated firm resulting from the merger must have a significant degree of **market power** in the upstream market";[49]
- second, that the "[i]nput foreclosure may raise competition problems only if it concerns an

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foreclosure between market actors could be explained by the fact that the provision of navigation services on mobile handsets was still a nascent activity in which numerous business models abounded (paragraph 267).

45 *Nokia / NAVTEQ*, paragraph 264.

46 Guidelines, paragraph 32 (emphasis added).

47 *Nokia / NAVTEQ*, paragraph 328.

48 Guidelines, paragraph 32.

49 *Id*., paragraph 35 (emphasis added).

important input for the downstream product”;[50] and

- third, “whether there are effective and timely **counter-strategies** that the rival firms would be likely to deploy”.[51]

As will be described below, in the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions the Commission reached different conclusions on the two merged entities’ ability to foreclose. In *TomTom / Tele Atlas*, it concluded that post-merger TomTom was “likely to have the ability to increase prices or degrade quality or delay access for some PND manufacturers and navigation software providers competing with TomTom”.[52] Whereas in *Nokia / NAVTEQ*, the Commission determined that this was “unclear”.[53] It is important to note that though the Commission found an ability to foreclose in the *TomTom / Tele Atlas* case it did not, unlike in its pre-Guidelines practice, rely solely on this holding to find that foreclosure was likely. This demonstrates that under the post-Guidelines regime the Commission’s analysis will tend to be more economically robust, relying on both analyses of the ability and incentive to foreclose.

i Market Power in the Upstream Market

Absent market power in the upstream market, input foreclosure cannot raise any anti-competitive concerns.[54] The Commission held that both NAVTEQ and Tele Atlas had a significant degree of market power in the market for navigable digital map databases because they each had around 50% of the market. The Commission supported its conclusion by citing Tele Atlas’ and NAVTEQ’s ability to sell digital map databases above marginal cost.[55] Furthermore, the Commission considered NAVTEQ to be “the only other provider of navigable digital map databases with a similar coverage and quality level”.

The Commission’s inference of a significant degree of market power based on high combined market shares is somewhat of a throwback to its earlier decisional practice. By contrast, the parties in *Nokia/*

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50 *Id.*, paragraph 34 (emphasis added).

51 *Id*., paragraph 39 (emphasis added).

52 *TomTom / Tele Atlas*, paragraph 210.

53 *Nokia / NAVTEQ*, paragraph 328. See also *Itema/BarcoVision*, in which the Commission concluded that “the merged entity is unlikely to have the ability to raise downstream competitors' costs. Indeed, even without the competitive constraint currently exerted by BarcoVision, Uster's prices [Barco Vision’s main competitor] will still be disciplined inter alia by the reaction of downstream demand as well as by the threat of vertical integration from Murata/Schlafhorst [downstream players]” (paragraph 70).

54 The merged entity must be in a position to “[…] have a significant influence on the conditions of competition in the upstream market and thus, possibly, on prices and supply conditions in the downstream market” (Guidelines, paragraph 35). It is worth nothing that the Guidelines also provide for a “safe harbor” stating that anti-competitive concerns are unlikely to arise where the merging parties’ shares in the upstream and downstream markets are below 30% and the post-merger Hirschman-Herfindahl Index is below 2000 (paragraph 25).

55 *TomTom / Tele Atlas*, paragraph 195; *Nokia / NAVTEQ*, paragraph 273.

NAVTEQ deployed fundamentally economic arguments[56] to demonstrate NAVTEQ and Tele Atlas did not have market power. In particular, the parties submitted that both NAVTEQ and Tele Atlas' high market shares, in and of themselves, were deceptive. In the navigation sector, market shares are not a good proxy for market power because the marginal cost of selling another copy of a navigable digital map database is small for both NAVTEQ and Tele Atlas; therefore, the corresponding incentive to sell further copies is great. In short, NAVTEQ would find it difficult to commit to increased prices by curtailing its sales and, in fact, NAVTEQ and Tele Atlas would both compete aggressively. Additionally, NAVTEQ's historic financial performance was poor and its prices consistently declined, further negating the possibility that NAVTEQ held any significant degree of market power. Finally, the presence of navigation software suppliers with long-term supply contracts from NAVTEQ – who resold NAVTEQ map data combined with navigation software – further diluted NAVTEQ's ability to implement partial foreclosure strategies involving the supply of degraded maps, the delay of access to the latest map data or the reservation of innovative map features to Nokia.[57]

However, in the end the Commission took the view that parties had a significant degree of market power. Interestingly, on the face of its decision, the Commission did not appear to rely on in-depth economic analysis in arriving at its conclusions. First, while acknowledging that "limited incremental costs imply that both Tele Atlas and NAVTEQ face no capacity constraints to expand their sales", the Commission still reaffirmed that "the ability to price well above marginal cost is indicative of market power".[58] Choosing marginal costs as a proxy to determine market power seems inappropriate since navigable digital map suppliers have significant fixed costs (i.e., creating a database) and very low marginal cost (i.e., creating a copy). Second, the Commission observed that a company's inability to generate substantial returns on its investment is characteristic of nascent activities and does not reflect its market power. Furthermore, the Commission noted that Nokia's proposed purchase price for NAVTEQ suggested future returns would be largely positive. Finally, relying on responses from its market investigation, the Commission stated that software providers do not eliminate map suppliers' market power even though it acknowledged that they "add value" to digital maps.[59] However, later in its analysis the Commission seems to take a different view

[56] In *TomTom / Tele Atlas*, the Commission summarised the parties' principally legal arguments as follows: (i) an ability to foreclose may not be found where there is at least one other equivalent input source on the market (i.e., NAVTEQ); and (ii) the legal concept of "a significant degree of market power" should be interpreted to coincide with or approximate market dominance. However, the Commission considered these arguments as being incompatible with previous Commission practice and the Guidelines (*TomTom / Tele Atlas*, paragraph 196).

[57] *Nokia / NAVTEQ*, paragraph 274.

[58] *Id*., paragraph 275.

[59] *Id*.

regarding Garmin, a navigation software provider (as well as PND manufacturer) which it concluded "will limit the profits that Nokia could capture on the downstream market if it engaged in input strategy".[60]

ii The Importance of Navigable Digital Maps As an Input for PNDs and Mobile Handsets

The Commission next analysed the importance of navigable digital map databases for the downstream product (i.e., PNDs for TomTom and mobile handsets for Nokia). According to the Guidelines, an input is important, for example, when it "represents a significant cost factor relative to the price of the downstream product", when the input is "a crucial component without which the downstream product could not be manufactured or effectively sold on the market" or when it represents "a significant source of product differentiation for the downstream product".[61]

The parties' arguments in *TomTom / Tele Atlas* and *Nokia / NAVTEQ* diverge on this point. The parties in *TomTom / Tele Atlas* did not contest that navigable digital map databases are a critical PND component even though they account for only 10% of PND costs.[62] By contrast, the parties in *Nokia / NAVTEQ* did challenge the importance of navigable map databases as inputs in mobile handsets. First, the parties submitted that navigation services on mobile handsets were competitively constrained by location-based services ("LBS") that used non-navigable maps. The parties noted that consumers are expected to use access maps on their mobile handsets primarily for pedestrian navigation, not vehicular navigation. As such, consumers probably viewed LBS (based on non-navigable maps) as substitutable for navigable maps.[63] This means NAVTEQ could not profitably cease supplying navigable map data to Nokia's competitors since these competitors could still purchase LBS from numerous suppliers. Second, the parties observed that mobile handsets are first and foremost a communication device, not a navigation device. Consumers consider a number of features in purchasing a mobile handset including its price, design, mobile TV, music player, video

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[60] *Id*., paragraph 338.

[61] Guidelines, paragraph 34.

[62] *TomTom / Tele Atlas*, paragraphs 182 and 198. Instead, the parties submitted that Tele Atlas could not degrade the quality of its maps or delay the release of map updates because it only possessed one core digital navigable map database for a given geographic area (paragraph 198). The parties also observed that a significant number of Tele Atlas' customers had concluded licensing agreements obliging Tele Atlas to update its maps at least every 1-10 months (paragraph 200). The Commission did not accept both *TomTom / Tele Atlas* parties' arguments. First, it observed that though Tele Atlas possessed a single database, this fact alone would not prevent it from duplicating the database or delaying the release of updated versions of the database if it had an incentive to foreclose (paragraph 199). The parties in *Nokia / NAVTEQ* also presented a similar argument based on NAVTEQ's possession of a single core database, which the Commission the Commission did not accept for the same reasons (*Nokia / NAVTEQ*, paragraph 293). Secondly, the Commission held that a review of Tele Atlas' customer contracts confirmed that only a minority of customers had negotiated clauses requiring frequent map data updates. Furthermore, the terms of many customer contracts were not long enough to ensure customers would obtain map updates without delay.

[63] *Nokia / NAVTEQ*, paragraph 278.

player and navigation services. Therefore, a mobile handset without navigable maps is not necessarily at a competitive disadvantage to a mobile handset with such maps.[64]

The Commission's assessment of the parties' arguments underlined the importance of economic evidence in merger filings. The Commission took the view that the first of the parties' arguments was not *substantiated*. In particular, the Commission stated the parties had not proved that mobile handsets will be used exclusively or even principally for pedestrian navigation in the future[65], especially since in the Commission's market investigation, many MNOs stated vehicular navigation would be the most popular navigation service on mobile handsets. Non-navigable map data cannot be used for vehicular navigation services. The Commission did not arrive at a conclusion on the second argument.[66]

iii. Absence of Timely and Effective Counter-Strategies

In the two cases, the Commission came to different conclusions on the existence of timely and effective counter strategies. In *TomTom / Tele Atlas*, the Commission found that there were no effective and timely counter-strategies that could eliminate the merged entity's ability to increase prices or degrade quality of navigable digital map databases.[67] By contrast in *Nokia / NAVTEQ*, the Commission stated that the existence of such strategies could not be "excluded", though they would protect neither navigation software providers nor on-line providers of navigation services from foreclosure.[68]

(i) Likelihood that Post-Merger NAVTEQ and TomTom will Continue Competing Preventing any Partial Input Foreclosure

In *TomTom / Tele Atlas*, the Commission acknowledged it expected NAVTEQ to continue competing with Tele Atlas post-merger, but stated it still believed that NAVTEQ would follow any price increase by Tele Atlas.[69] It was argued that NAVTEQ would be unlikely to follow any Tele Atlas price increases since, due to a lack of market transparency, NAVTEQ would be unaware of its increased market power and would have no reason to raise prices.[70] However, the Commission took

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64 *Id.*, paragraph 286.

65 *Id.*, paragraph 279.

66 With regards to the second argument, the Commission considered that navigation applications were only one service among other services embedded in a multifunctional device and so "it is unclear whether navigable digital map databases are a critical input in the market of mobile handsets" (*Nokia / NAVTEQ*, paragraph 288).

67 *TomTom / Tele Atlas*, paragraph 202.

68 *Nokia / NAVTEQ*, paragraph 326.

69 In arriving at this conclusion, the Commission assumed that post-merger, Nokia would not acquire NAVTEQ.

70 *TomTom / Tele Atlas*, paragraph 204.

a different view and stated, without more, that "NAVTEQ will nevertheless realize that the demand it faces changes as a result of Tele Atlas's partial foreclosure tactics".[71]

Likewise, in *Nokia / NAVTEQ*, the Commission concluded that though Tele Atlas would continue to compete with NAVTEQ post-merger, it was likely to follow a NAVTEQ price increase. In particular, the parties submitted that NAVTEQ could not commit to foreclose Nokia's downstream competitors at any price higher than the pre-merger equilibrium. This is because at higher prices, NAVTEQ had an incentive to slightly undercut Tele Atlas to make additional sales of navigable digital map databases, particularly since marginal costs were so low. However, referring to its own economic analysis the Commission came to a different conclusion and held that post-merger equilibrium prices may be different from pre-merger prices because the merger itself would alter NAVTEQ's incentives to undercut.[72] The Commission's use of economic analysis in this instance seems to indicate it is cautious in its analysis of purely vertical mergers.

The Commission's analyses of NAVTEQ and Tele Atlas' incentives to undercut each others' prices in the case of attempted foreclosure are not based on persuasive economic analysis. In *TomTom / Tele Atlas*, the Commission simply states as established fact, without supporting evidence, that NAVTEQ would become aware of its increased market power if Tele Atlas attempted to foreclose PND manufacturers by decreasing map quality. However, the Commission does not demonstrate that the navigation sector is actually so transparent as to allow NAVTEQ to become aware of any of Tele Atlas' potential anti-competitive conduct. Similarly, in *Nokia / NAVTEQ*, the Commission does not consider that if Tele Atlas were to follow a NAVTEQ price increase, Tele Atlas' sales of navigable digital maps would decrease causing it losses it would be uncertain of recouping through higher PND prices. Again, the Commission does not state how the market is so transparent that Tele Atlas would be able to responsibly risk certain upstream losses knowing its increased market power would allow it to reap profits through increased downstream prices. In fact in both cases, the Commission acknowledges there is limited price transparency of digital navigable map databases.[73]

Overall, the Commission's analysis of the competition between NAVTEQ and Tele Atlas indicates an implicit view that a duopolistic market is inherently conducive to tacit collusion. In this case, such a conclusion is in fact negated by market characteristics. Importantly, there is little transparency in the navigable digital map database market. The negotiation process between the map suppliers, Tele Atlas and NAVTEQ, and their customers is conducted in secret. Prices are not standardized across

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[71] *Id.*

[72] *Nokia / NAVTEQ*, paragraph 299.

[73] *TomTom / Tele Atlas*, paragraph 280; *Nokia / NAVTEQ*, paragraph 403.

the industry and it is common for one customer, depending on a number of factors particularly its volume of purchases, to negotiate prices that are lower than those of another customer. Additionally, products are not homogenous, as customers generally do not purchase all map data attributes on offer but instead pick and choose only those suited to their needs. Given this lack of transparency, a history of price wars and consistently declining prices, the market appears to encourage undercutting rather than price hikes. Furthermore, NAVTEQ's prices have been historically higher in the market due to a perceived quality difference.[74] As such, if Tele Atlas were to raise prices even to equal, not to mention surpass, NAVTEQ's prices, it would most likely lose all its sales to NAVTEQ.

(ii) Competitive Constraints Exercised by Garmin

The Commission then turned its analysis of timely and effective counter-strategies to Garmin's role in the market. In *TomTom / Tele Atlas*, the Commission observed that Garmin, a US-based PND manufacturer and navigation software supplier, had concluded with NAVTEQ a long-term contract (valid until 2015 and unilaterally extendable until 2019) which granted Garmin the right to resell the NAVTEQ data it purchased, in combination with its own navigation software, as a package to other market actors. As such, if Tele Atlas did attempt to foreclose TomTom's competitors in the PND market, Garmin could not be affected by such actions due to its long-term contract. Furthermore, Garmin would be able to compete against Tele Atlas for the sale of map data/software packages to those PND manufacturers that did not have in-house software capabilities, which according to the Commission includes about one-third of the PND market. Notwithstanding the foregoing, the Commission held that approximately half the PND market could be affected by any foreclosure strategy pursued by Tele Atlas.[75]

As in *TomTom / Tele Atlas*, the Commission acknowledged Garmin's protection from price increases due to its long-term contract with NAVTEQ, as well as its ability to resell NAVTEQ data in combination with its software.[76] The Commission also acknowledged Garmin's ability to combat any foreclosure strategy deployed by NAVTEQ, noting the company already sold navigation solutions on mobile handsets and in January 2008 Garmin had announced its own entry into the mobile handset market.[77]

Furthermore, the Commission confirmed Garmin could potentially become a credible supplier of

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74 CIBC, *World Markets, Initiating Coverage, NAVTEQ*, 16 April 2007.

75 *TomTom/Tele Atlas*, paragraph 209. However, the Commission does not make explicit in its findings what TomTom's position would be relative to the approximately 50% of the PND market that could be subject to a Tele Atlas foreclosure strategy.

76 *Nokia / NAVTEQ*, paragraph 307.

77 *Id*., paragraph 309.

NAVTEQ data to all mobile handset manufacturers that produce GPS-enabled mobile handsets since none of these currently produced navigation software in-house.[78] In fact, Garmin had already announced a partnership with Samsung to introduce its navigation solutions on Samsung mobile handsets in Europe.[79] Similarly, the Commission also held that Garmin could act as a credible supplier of NAVTEQ data to MNOs. Nevertheless, the Commission concluded Garmin would not be able to supply NAVTEQ data to navigation software suppliers due to its contractual obligation to only sell NAVTEQ data in combination with its own software.

(iii) Competitive Constraints Exercised by Mobile Network Operators

The Commission came to different conclusions in *TomTom / Tele Atlas* and *Nokia / NAVTEQ* about the competitive constraints exercised on the parties by intermediaries and rival firms. In *TomTom / Tele Atlas*, the Commission found that several market actors did not possess the ability to deploy timely and effective counter-strategies.[80] By contrast in *Nokia / NAVTEQ*, the Commission was less certain, concluding that some intermediaries did constitute a credible competitive constraint whereas others may not.

In *Nokia / NAVTEQ*, it was argued that a successful foreclosure strategy must encompass all competitors active in the downstream market and not just mobile handset manufacturers. In other words, to foreclose maps from Nokia's competitors, NAVTEQ must cease selling maps not only to mobile handset manufacturers, but also to all other customers that exercised competitive constraints on it. For instance, if Nokia attempted to foreclose mobile handsets without foreclosing MNOs, MNOs could undermine the strategy by continuing to provide navigation services to non-Nokia handsets on their network.[81] Indeed, as MNOs purchase and help commercialize a large share of Nokia handsets to consumers, MNOs could retaliate against any attempted foreclosure by curtailing their support for Nokia handset sales.[82]

Partly due to a lack of customer preference surveys, the Commission was not able to take a view on the parties' arguments.[83] Nevertheless, the Commission held that the substitution of technical and commercial solutions offered by market actors other than mobile handset manufacturers for

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78 *Id.*, paragraph 310.
79 *Id*., paragraph 309.
80 *TomTom / Tele Atlas*, paragraphs 207 to 210.
81 *Nokia / NAVTEQ*, paragraph 301.
82 *Id*., paragraph 319.
83 *Id*., paragraph 304.

navigation services was likely to be imperfect.[84] According to the Commission, NAVTEQ could foreclose customers who preferred their navigation services installed directly on their handsets by manufacturers and who would refuse for example, to download these services from MNOs separately.

The Commission also acknowledged that MNOs' strategic position in the distribution of handsets granted them a degree of countervailing buyer power against Nokia.[85] However, it questioned whether MNOs would exercise this power if NAVTEQ successfully foreclosed mobile handset manufacturers and navigation software providers. MNOs might choose to support Nokia handsets regardless because this would allow them to offer the best navigation services on the market.[86] Furthermore, the Commission found that MNOs' navigation service business models were still in flux at this early stage of the market's development, and so it was unclear what their eventual competitive role would be.[87] Still, it is surprising that the Commission could not hold that the commercially influential MNOs exercise a competitive constraint on navigation service providers on their networks.

iv The Commission's Entry Analysis

The Commission assesses entry in vertical mergers according to the same standard as horizontal mergers.[88] According to the Commission's Notice on Horizontal Mergers, "for entry to be considered a sufficient competitive constraint on the merging parties, it must be shown to be likely, timely and sufficient to deter or defeat any potential anti-competitive effects of the merger".[89]

In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission took the view that potential or actual competitive market entry did not constitute a timely and effective counter-strategy. The Commission's analysis of market entry in *Nokia / NAVTEQ* was, in substance, not significantly different from its assessment of the issue in *TomTom / Tele Atlas* and therefore the below summary will refer only to the different aspects of the Commission's more detailed entry analysis in the *TomTom / Tele Atlas* transaction.[90]

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[84] *Id*., paragraph 303.

[85] *Id*., paragraph 323.

[86] *Id*., paragraph 324.

[87] *Id*.

[88] In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission's entry analysis was based on the relevant applicable standard of its Notice on Horizontal Mergers (Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentration between undertakings [2004] C31/03 ("Notice on Horizontal Mergers")). Indeed, the Guidelines, at footnote 53, refer back to the Commission's analysis of entry in section VI of its Notice on Horizontal Mergers.

[89] Notice on Horizontal Mergers, paragraph 68.

[90] *TomTom / Tele Atlas*, paragraphs 108 to 161.

(i) Cost of Entry

In its investigation of potential entry, the Commission first analysed the historic cost of market entry. Tele Atlas had invested approximately EUR 1 billion over 20 years in building and maintaining its navigable digital map database.[91] The parties in *TomTom / Tele Atlas* submitted that the historic cost of entry was not representative of current costs for two reasons. The incentives to enter the navigable digital map database market were now much greater than they had been given the exponential growth of the navigation sector. The parties also pointed to technological advances that allowed for cheaper assembly of map data (e.g., aerial photography, satellite images and feedback from end-user communities).[92]

However, the Commission stated that the greater incentives for entry did not improve the odds of successful market entry.[93] The Commission also concluded the cost savings from improved technology were "minor".[94] Instead, the Commission found entry unlikely because it would be: (i) resource-intensive, requiring substantial up-front investments to produce navigable digital map databases comparable in quality to those of NAVTEQ and Tele Atlas;[95] and (ii) time-consuming.[96]

(ii) Likelihood of New Entry

The Commission also analysed but considered unlikely the possibility of market entry by:

- suppliers of navigable digital map databases with smaller, regional geographic coverage (e.g., map data from a single or few European countries); and
- suppliers of navigable digital map databases with global coverage, including Asian map data suppliers, and two specific companies, AND and Facet.

First, the Commission considered unlikely the possibility of market entry by suppliers of navigable digital map databases with smaller, regional geographic coverage (e.g., map data from a single or few

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91 *Id*., paragraph 114.
92 *Id*., paragraph 111.
93 *Id*., paragraph 117.
94 *Id*., paragraph 119.
95 *Id*., paragraph 122.
96 The Commission disputed the results of a minimum viable scale model prepared by the parties that showed, in quantitative terms, that entry costs were surmountable and profitable market entry was feasible. Instead, the Commission underlined the need to use expensive field forces to physically collect data for high-quality maps by driving thousands of miles of roads to (*TomTom / Tele Atlas*, paragraphs 121 and 124). Generally, the Commission preferred the time estimates of respondents to the market investigation, including customers of map data suppliers such as a provider of internet-based mapping solutions, who argued that entry would require between five and ten years (*TomTom / Tele Atlas*, paragraphs 128 and 131).

European countries).[97] The Commission judged these maps to be of low-quality and stated that since navigable map databases made up a fraction of the total cost of a PND, device markers were unlikely to jeopardize the overall commercial success of their devices by using them.[98] The Commission also argued that to provide devices with "seamless" navigation service across national borders at a lower cost, device makers tended to source all their data for an entire region from a single supplier. This practice also allowed device makers to obtain increased volume discounts from one supplier.[99]

Second, the Commission found unlikely the viability of entry by Asian map data suppliers and two specific companies, AND and Facet, into the navigable digital map database market.[100] First, the Commission accepted Japanese and South Korean digital map database providers' responses that they had no intention of entering the European market.[101] Second, the Commission stated AND[102], a provider of map data located in the Netherlands and India, was not a credible market entrant. According to the Commission, AND's products were not of sufficiently high-quality to place a competitive constraint on NAVTEQ and Tele Atlas' products.[103] In this regard, the Commission cited the response of a PND manufacturer who believed AND lacked the financial and staff resources to extend coverage in Europe.[104] The Commission also considered entry by Facet[105], a US-based provided of map data, into the European market in the short or medium term unlikely, although Facet had already announced plans to create a navigable digital map database with European coverage.[106] In this case, the Commission relied on a consultancy firm report that had failed to identify Facet as a potential entrant.[107] The Commission also doubted Facet had the financial resources to build a database in a timely fashion.[108]

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97 *Id*., paragraph 133.

98 *Id*., paragraph 134.

99 *Id*., paragraph 135.

100 *Id*., paragraphs 136 to 155.

101 *Id.*, paragraph 157.

102 AND released navigable map data for the BENELUX countries and Germany. It also announced plans to release navigable map data for the rest of Western Europe in 2008 (*TomTom / Tele Atlas*, paragraph 138).

103 The Commission stated it could not identify any device maker or software producer that used AND's map data in its products. The Commission cited the responses of a PND manufacturer, a navigation device manufacturer and an internet-based mapping solution provider who stated AND's products were of low quality (*TomTom / Tele Atlas*, paragraphs 141, 143, 147 and 148.

104 *TomTom / Tele Atlas*, paragraph 145.

105 Facet had previously entered the US navigable digital map database market in April 2008. Facet, a US-based company, got its start in the digital map data industry by producing digital imagery for the United States Census Bureau and Microsoft (*TomTom / Tele Atlas*, paragraph 151).

106 *TomTom / Tele Atlas*, paragraph 153. Facet has since patented new sophisticated image analysis software that it claims will allow it to create, at significantly lower prices, map data that is more accurate than either NAVTEQ or Tele Atlas' products (*TomTom / Tele Atlas*, paragraph 152).

107 *Id*., paragraph 154.

108 *Id*., paragraph 155.

Overall, the Commission's entry analysis was largely sceptical of the parties' claims, indicating that the Commission is likely to require a high standard of proof before accepting viable entrants in vertical mergers. For instance, the Commission did not give much weight to the parties' argument that the threat of market entry alone would dissuade both Tele Atlas and NAVTEQ from attempting to foreclose the market. In particular, the Commission did not consider that an incumbent in the market might go to great lengths to avoid entry because once a new competitor has invested the millions required to construct a navigable database, it would likely remain in the market for good. As such, incumbents were not likely to knowingly create favourable economic conditions to invite entry by raising prices.

The Commission also found it unlikely that the entry of AND and Facet, companies that primarily lacked financial but not technical, resources, could be sponsored. In both cases, the parties submitted that the most likely entrants or sponsors of entry into the market were internet-based navigation service providers such as Google and Microsoft. These companies already had the technical know-how and financial wherewithal to enter successfully. In fact, Microsoft's activities in the sector had already led to Facet's acquisition of technical knowledge sufficient to enter the US market. PND and mobile handset manufacturers who found themselves partially foreclosed would also have an incentive to sponsor entry. In this regard, Google, which has recently entered the market for mobile handset operating systems, would be doubly interested in ensuring that mobile handsets are not foreclosed from navigable map data. Nevertheless, the Commission dealt with the issue of sponsored entry only briefly by stating that none of the respondents considered sponsored entry as a viable option and that, in any case, such entry was unlikely to occur in a timely fashion due to the time-consuming nature of the map-building process.[109]

(iii) The Commission's Assessment of Contract Duration in its Entry Analysis

The Commission's entry analyses in both *TomTom / Tele Atlas* and *Nokia / NAVTEQ* also failed to assess the role of Tele Atlas' and NAVTEQ's contract duration in facilitating entry. Many Tele Atlas and NAVTEQ contracts have long terms (of up to five years).[110] As such, any attempt by either company to foreclose its customers would have to be implemented over the course of several years as its customer contracts expired. Such a strategy would be costly and time-consuming: the map suppliers would have to give up profits immediately and wait for years to recoup their losses once all their customer contracts had expired and foreclosure was complete. Meanwhile, potential competitors would already be on notice of the foreclosure strategy from the date when Tele Atlas or

[109] *TomTom / Tele Atlas*, paragraph 160; *Nokia / NAVTEQ*, paragraph 231.

[110] *TomTom / Tele Atlas*, paragraph 95; *Nokia / NAVTEQ*, paragraph 175.

NAVTEQ first began foreclosing its customers, and would have the time to prepare an entry. Accordingly, the lengthy contracts concluded by Tele Atlas and NAVTEQ partly answer the Commission's concerns that entry would take too long to act as a competitive constraint on Tele Atlas and NAVTEQ.

(iv) The Commission Did Not Take Into Account the Fact That Switching Costs Are Minimal

In markets where switching costs are minimal, the potential for market entry is greater because customers will not be hindered from switching between competing map suppliers by the costs of changing databases.

In both cases, the Commission failed to consider switching costs in its entry analysis. The parties in both cases submitted that switching costs were low[111] and the parties in *Nokia / NAVTEQ* also stated that the knowledge required to switch databases was publicly available on the internet.[112] Both NAVTEQ and Tele Atlas provided their databases in common formats, thereby making it easier for customers to switch between competing navigable databases.[113] The Commission also acknowledged that switching had occurred in the recent past[114] and at least one market respondent confirmed it was not time-consuming.[115] Still, the Commission stated there were reconfiguration costs associated with switching.

2. Incentive to Foreclose

The second factor examined by the Commission in investigating the potential of input foreclosure is whether the parties have an incentive to foreclose post-merger. The Guidelines explain that "the incentive to foreclose depends on the degree to which foreclosure would be profitable".[116] "The merged entity faces a trade-off between the profit lost in the upstream market due to a reduction of input sales (to actual or potential) rivals and the profit gain, in the short or longer term, from expanding sales downstream or, as the case may be, being able to raise prices to consumers".[117] "Other things constant, the lower the margins upstream, the lower the loss from restricting input sales. Similarly, the higher the downstream margins, the higher the profit gain from increasing

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111 *TomTom / Tele Atlas*, paragraph 101; *Nokia / NAVTEQ*, paragraph 182.
112 *Nokia / NAVTEQ*, paragraph 182.
113 *TomTom / Tele Atlas*, paragraphs 99 and 100; *Nokia / NAVTEQ*, paragraphs 179 and 180.
114 *TomTom / Tele Atlas*, paragraph 106.
115 *Id*., paragraph 104.
116 Guidelines, paragraph 40.
117 *Id.*

market share downstream at the expense of foreclosed rivals".[118] Additionally, "the incentive for the integrated firm to raise rivals' costs further depends on the extent to which downstream demand is likely to be diverted away from foreclosed rivals and the share of that diverted demand that the downstream division of the integrated firm can capture".[119]

For both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission's analysis of the parties' incentives to foreclose were crucial to their clearances, as the Commission concluded that the merged entities had no incentive to foreclose their downstream competitors post-merger.[120] Importantly, the Commission's conclusions were largely economics-based.

i The Merging Parties Had No Incentive to Foreclose

Though the Commission's primary focus under the Guidelines will be on economic analysis, qualitative analysis will still play a role under the Commission's new approach. In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission examined a series of qualitative factors[121] that predicted failure for any input foreclosure strategy based on increasing prices, degrading map quality or delaying access to map features.

In *TomTom / Tele Atlas*, the Commission found that if Tele Atlas increased its map prices or degraded map quality, it would lose significant sales to NAVTEQ, while gaining only limited extra sales of PNDs.[122] Tele Atlas was especially liable to lose sales to NAVTEQ because its PND manufacturer customers could switch to NAVTEQ maps without significant cost.[123] Additionally, the low cost of navigable digital map databases relative to the wholesale price of PNDs (roughly 10%) meant that map prices would have to increase substantially before the price of competitors' PNDs as a whole would increase sufficiently for TomTom to capture PND market share. Map price increases may in reality need to be higher still since at least some of TomTom's competitors told the Commission they would not pass on the entire cost of Tele Atlas' price hike to its end-consumers.[124] A Tele Atlas input foreclosure strategy was also likely to be unsuccessful because one of TomTom's

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118 *Id*., paragraph 41.

119 *Id.*, paragraph 42.

120 *TomTom / Tele Atlas*, paragraph 230; *Nokia / NAVTEQ*, paragraph 334.

121 Similarly, qualitative factors played a critical role in *Itema / BarcoVision*. The Commission held that the potential vertical integration of Schlafhorst and/or Murata was a credible threat since the combined entity could prevent upstream suppliers from increasing prices significantly. Uster (another input provider) and other market participants confirmed: (i) following the merger there would be strong price pressure upstream; and (ii) the potential vertical integration by Schlafhorst and/or Murata would also allow the development of alternative sources of supply such as in-house development or sponsored entry (paragraph 68).

122 *TomTom / Tele Atlas*, paragraph 215.

123 *Id.*, paragraph 219.

124 *Id.*, paragraph 216-217.

major rivals, Garmin, was immune to price increases through a long-term map supply contract with NAVTEQ.[125] Finally, if Tele Atlas attempted to foreclose its rivals by degrading its map data, the foreclosed PND manufacturers could still purchase good-quality map data from NAVTEQ.[126] Unlike a price increase strategy, NAVTEQ would have no incentive to follow a map degradation strategy that would not result in higher margins for its products.

The Commission's arguments in *Nokia / NAVTEQ* were largely similar to those just mentioned in *TomTom / Tele Atlas*, except the Commission noted two additional qualitative reasons that negated the existence of an incentive to foreclose. First, customers choose to purchase mobile handsets based on a number of factors, only one of which is the navigation service installed on the handset.[127] Second, Garmin was protected from foreclosure by (i) its long-term map data contract with NAVTEQ; (ii) its active role in the mobile market; and (iii) its recent agreement with Samsung to offer a navigation solution on mobile handsets.[128]

ii The Commission's Economic Appraisal

In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission conducted a series of empirical analyses[129] aimed at testing the parties' incentives to conduct either a total foreclosure strategy or a partial foreclosure strategy.[130]

In both the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* cases, the Commission found that the merged entities would not have sufficient incentive to implement a total foreclosure strategy. The Commission conducted econometric estimations of downstream price elasticity that measured the downstream sales the merged entities could capture.[131] It found that TomTom would gain very few PND sales (and Nokia very few mobile handset sales) with a total foreclosure strategy because map data only represented a minor proportion of the total device price. In fact, for a total foreclosure

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[125] *Id.*, paragraph 218.

[126] *Id.*, paragraph 220.

[127] As such, increasing prices or degrading map quality for competing mobile handset manufacturers would not necessarily decrease the competitiveness of rival handsets. Competitors might simply seek to improve different features on a mobile handset to enhance their consumer appeal (*Nokia / NAVTEQ*, paragraph 337).

[128] *Nokia / NAVTEQ*, paragraph 338.

[129] By contrast, in *Itema / BarcoVision*, the Commission did not significantly rely on economic quantitative analysis in its decision. Rather, the Commission primarily relied on qualitative criteria in its appraisal of both the ability and incentive to foreclose. Based on economic analysis, the Commission did conclude that the loss of upstream sales and profits would not be sufficiently offset by additional profits downstream (paragraphs 72-73). This conclusion was further corroborated by substantial qualitative evidence showing that in any event any foreclosure strategy attempted by the merging parties would fail.

[130] For an economic analysis of the total and partial foreclosure issues raised in the *Nokia / NAVTEQ* case, see Majumdar and Mullan, 'Nokia / NAVTEQ – Navigating the Non-Horizontal Merger Guidelines' [2009] ECLR 487.

[131] *TomTom / Tele Atlas*, paragraph 221; *Nokia / NAVTEQ*, paragraph 346.

strategy to be profitable, NAVTEQ (in the *TomTom / Tele Atlas* case) and Tele Atlas (in the *Nokia / NAVTEQ* case) would have to increase prices by several hundred percent. The Commission found these scenarios unlikely.[132]

In both cases, the Commission also conducted an econometric analysis of the trade-offs between the merged entities' profits lost in the upstream market and the profits gained in the downstream market. As with its total foreclosure analyses, the Commission checked the robustness of its "simple profit test" by adapting it to a number of alternative assumptions relating to the pass-through rate, the upstream and downstream price elasticity and the share of the map database in the total price. The Commission confirmed the parties' submissions by concluding that any significant price increase would be unprofitable.[133]

The Commission's economic conclusions confirm the Guidelines' statement that the Commission's analysis of the ability and incentive to foreclose is "intertwined".[134] In particular, the Commission considers a number of the same facts in its analyses of both elements. For example, in its analysis of the timely and effective counter-strategies in *Nokia / NAVTEQ*, the Commission considered the parties' argument that Tele Atlas was unlikely to follow a price increase by NAVTEQ because NAVTEQ could not commit to foreclose its own customers due to the strong incentive to undercut Tele Atlas. At that point in its analysis, the Commission only noted that post-merger equilibrium prices may differ from pre-merger ones because the vertical integration may modify NAVTEQ's incentive to undercut. It only took a view on the same point in its economic analysis of the incentives to foreclose.

3. Detrimental Effects on Competition

The Commission then examined the effects (both detrimental and beneficial) of both mergers on the market. In its Guidelines, the Commission observes that "a merger will raise competition concerns because of input foreclosure when it would lead to increased prices in the downstream market thereby

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132 In both cases, the Commission also came to the same conclusions after making alternative calculations that took into account the possibility that map database costs would increase relative to the total production costs of PNDs and mobile handsets.

133 *TomTom / Tele Atlas*, paragraph 227; *Nokia / NAVTEQ*, paragraph 351. The Commission also tested a couple of alternative hypotheses and concluded that these strategies would also be unprofitable. First, in *TomTom / Tele Atlas* only the Commission tested the profitability of a strategy whereby TomTom raised prices downstream rather than attempting to increase downstream sales. Second in both cases, the Commission analysed whether a partial foreclosure strategy would still prove to be unprofitable if the merged entity's competing map provider also raised its prices. It noted that in this second scenario, the rival map supplier would actually have an incentive to undercut any significant map price increases implemented by the merged entity. In other words, NAVTEQ would be likely to undercut Tele Atlas if the latter raised prices and vice versa (paragraph 351).

134 Guidelines, paragraph 41.

significantly impeding effective competition”.[135] In this regard, the Commission notes that “foreclosing rivals in the upstream market may have an adverse impact in the downstream market and harm consumers. By denying competitive access to a significant customer base for the foreclosed rivals’ (upstream) products, the merger may reduce their ability to compete in the foreseeable future”.[136] Additionally, according to the Guidelines, “effective competition on the upstream market may also be significantly impeded by raising barriers to entry to potential competitors”.[137]

Based on a series of qualitative factors, many of which were mentioned previously in its analyses, the Commission concluded that both the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* mergers were unlikely to have any detrimental anti-competitive effect on the downstream market.[138] The Commission cited the relatively small cost of maps compared to the total production cost of the device, limited switching costs between map databases and the continued competition with the rival map supplier. In *TomTom / Tele Atlas*, the Commission also recalled its finding that competing PND manufacturers were not likely to pass through price hikes completely,[139] whereas in *Nokia / NAVTEQ*, the Commission noted the merger’s effect would be limited because the parties lacked an incentive to foreclose competitors.

In both cases, the Commission pointed to Garmin as a credible downstream competitor whose input costs could not be increased. According to the Commission, Garmin would continue to be competitive against Tele Atlas in the PND market. It would also continue to compete in the navigation software market by selling map data combined with navigation software in competition with NAVTEQ.[140] In the NAVTEQ case only, the Commission also referred to Motorola as exercising a competitive constraint on NAVTEQ’s ability to foreclose.[141]

The Commission also stated that some PND manufacturers, mobile handset manufacturers and MNOs benefited from additional protection from foreclosure due to the role of navigation software suppliers, in particular Garmin, who could act as alternative suppliers of map data combined with navigation software.[142] Additionally, the Commission referred to its economic profit trade-off analysis as proof that the device markets would not be affected in any significant way by vertical

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[135] *Id.*, paragraph 47.
[136] *Id.*, paragraph 72.
[137] *Id.*, paragraph 75.
[138] *TomTom / Tele Atlas*, paragraph 232; *Nokia / NAVTEQ*, paragraph 356.
[139] *TomTom / Tele Atlas*, paragraph 232.
[140] *TomTom / Tele Atlas*, paragraph 233; *Nokia / NAVTEQ*, paragraph 358.
[141] *Nokia / NAVTEQ*, paragraph 318.
[142] *TomTom / Tele Atlas*, paragraph 234; *Nokia / NAVTEQ*, paragraph 361.

integration.[143] Finally, for the same reasons, the Commission found a partial foreclosure strategy based on degrading map quality unlikely. Such a strategy would also be unlikely because it would not bring higher margins upstream.[144]

4. The Commission's Analysis of Efficiencies

Although in both decisions the Commission had already found the merger was unlikely to raise competition concerns due to input foreclosure, it still examined efficiencies arising from the mergers, as set forth in its Guidelines.[145] Nevertheless, the Commission stated explicitly in both decisions that its conclusion that the transactions would not lead to any anti-competitive harm on the downstream market did "not rely on the fact that the vertical integration will give an incentive for the merged entity to decrease prices since it eliminates double mark-ups".[146]

As stated in the Guidelines, "for the Commission to take account of efficiency claims in its assessment of the merger, the efficiencies have to benefit consumers, be merger-specific and be verifiable. These conditions are cumulative".[147] It is also up to the parties to prove the existence of efficiencies.[148]

i Price Efficiencies

The Commission concluded that both the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* transactions would result in price efficiencies. The Commission found that both merged entities would be able to internalise pre-existing double mark-ups resulting from the merging parties setting their prices independently pre-merger. The parties could then use the resulting higher profits to expand sales of their downstream product (PNDs or mobile handsets) to the benefit of consumers.[149] The Commission also confirmed that the efficiencies generated by the elimination of the double mark-up were merger-specific and could not be achieved solely through agreements with the map suppliers. It examined and rejected the possibility that either TomTom or Nokia could conclude contracts with Tele Atlas or NAVTEQ that could provide it maps at non-linear pricing with a price for marginal units close to the marginal cost of map databases. In the case of Tele Atlas, having concluded its review of the customer contracts of both map suppliers, the Commission found that the volume

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143 *TomTom / Tele Atlas*, paragraph 235; *Nokia / NAVTEQ*, paragraph 362.
144 *TomTom / Tele Atlas*, paragraph 236; *Nokia / NAVTEQ*, paragraph 363.
145 Guidelines, paragraph 77.
146 *TomTom / Tele Atlas*, paragraph 237 and *Nokia / NAVTEQ*, paragraph 364.
147 Guidelines, paragraph 53.
148 The efficiency defence may indeed serve to offset any anti-competitive concern.
149 *TomTom / Tele Atlas*, paragraph 240; *Nokia / NAVTEQ*, paragraph 366.

discounts common in the industry were too small to substantially eliminate double mark-ups.[150] The Commission in *Nokia / NAVTEQ* also anticipated that similar volume discounts would become common in the nascent market for digital map databases for mobile applications.[151]

Finally, in *TomTom / Tele Atlas* only, the Commission verified the overall effect of the proposed transaction (including eliminated double mark-ups) by estimating pre- and post-merger equilibrium prices using a simple model with linear demand. The Commission agreed with the parties' economic submissions that the overall effect of the merger including the elimination of the double mark-ups would be a slight decline in average PND prices.[152]

ii Non-price Efficiencies

Though both *TomTom / Tele Atlas* and *Nokia / NAVTEQ* dealt with the same price efficiencies, they presented different non-price efficiencies.[153] For instance, the parties in *TomTom / Tele Atlas* submitted that their merger would allow them to produce better maps faster. Post-merger the parties intended to use feedback data gathered by TomTom from its large customer base to update Tele Atlas' map database.[154] The parties submitted a study that quantified their claimed efficiency benefits in two ways. The first approach calculated the cost savings achieved by the use of customer feedback data in providing a pre-merger level of database quality. The second method calculated the additional costs necessary to achieve with pre-merger technology the same level of map database quality that would be achieved with the use of customer feedback post-merger.[155]

The Commission did not take a position on *TomTom / Tele Atlas*' non-price efficiencies based on increased use of customer feedback. The Commission acknowledged that more frequent and comprehensive map updates would be beneficial to consumers.[156] The Commission also observed that the efficiencies were "at least in part, merger specific".[157] Additionally, the Commission acknowledged that though part of the efficiencies could be achieved through contract, neither of the parties was likely to make investments of the same magnitude outside the context of a vertical

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150 *TomTom / Tele Atlas*, paragraph 241, referred to in *Nokia / NAVTEQ*, paragraph 369.

151 *Nokia / NAVTEQ*, paragraph 368.

152 *TomTom / Tele Atlas*, paragraph 243.

153 The possibility of non-price efficiencies are expressly recognized by the Guidelines: "[vertical mergers] may align the incentives of the parties with regard to investments in new products, new production processes and in the marketing of product" (paragraph 57).

154 *TomTom / Tele Atlas*, paragraph 246.

155 *Id.*, paragraph 247.

156 *Id.*, paragraph 248.

157 *Id.*, paragraph 249.

integration.[158] Still, the Commission held that the efficiencies were "difficult to quantify and the estimates provided by the parties are not particularly convincing".[159] According to the Commission, the first method used by the parties to calculate the efficiencies did not correspond to the likely post-merger outcome, as the merged entity would more likely use its feedback data to improve map databases rather than to save money while providing a pre-merger map database quality. On the other hand, the second approach was likely to overestimate the value of better map databases to customers, given that with Tele Atlas' current technology, the company did not find it profitable to produce the post-merger level of map quality.

In *Nokia / NAVTEQ*, the Commission was not persuaded by the parties' claimed non-price efficiencies because it found that the efficiencies were not merger-specific.[160] First, the notifying parties submitted that due to the merger, NAVTEQ would develop pedestrian navigation map features much faster because Nokia would share the development risk. Without the merger, NAVTEQ would wait to develop map data functionalities for the market until sales of navigation applications on mobile handsets had increased substantially.[161] Second, the parties submitted that post-merger NAVTEQ, a company that currently developed maps primarily for automotive traffic, would have a strong incentive to develop digital maps in countries, such as India, where vehicular traffic is limited but the mobile handset market is thriving.[162]

The Commission found unlikely the first non-price efficiency proposed in *Nokia /* NAVTEQ, because it held map suppliers generally do have an incentive to enter the market for pedestrian navigation and/or the market for map data in emerging countries early. This means, the merger-related aspect of both these efficiencies was limited to a gain in time that was neither identifiable nor quantifiable.[163] Similarly, the Commission was not persuaded by the second non-price efficiency because NAVTEQ may also be able to develop pedestrian functionalities through a contract with Nokia, rather than through a vertical merger.[164]

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158 The Commission came to this conclusion because of the so-called "hold-up" problem. Hold-up occurs when a party refrains from cooperating with another because it is concerned the size of its investments could make it captive to its partner and cause it to lose all its bargaining power, since the specific investments it would make would only be valuable if used with this partner (*TomTom / Tele Atlas*, paragraph 249).

159 *TomTom / Tele Atlas*, paragraph 248.

160 The Commission stated, "It is unclear whether the non-price efficiencies presented by the notifying parties would be merger specific, and whether they would be of a significant magnitude" (*Nokia / NAVTEQ*, paragraph 375).

161 *Nokia / NAVTEQ*, paragraph 371.

162 *Id.*, paragraph 372.

163 *Id.*, paragraph 373.

164 *Id.*, paragraph 374.

Accordingly, the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* cases are especially instructive in indicating the Commission's future approach to efficiencies in vertical mergers. On the one hand, the Commission accepted the elimination of the double mark-up in both mergers. This suggests that it is open to future claims of this type of efficiency. On the other hand, the cases underline the difficulty parties, who bear the burden of proof, will have in proving non-price efficiencies. This is especially striking in the *TomTom / Tele Atlas* case, where the parties presented two different economic methods to prove their claimed efficiencies and still failed to convince the Commission.

III. Conclusion

In both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the Commission assessed input foreclosure, as mandated by its Guidelines, on the basis of the following three-part test: (i) whether the merged entity would have post-merger the ability to substantially foreclose access to inputs; (ii) whether it would have the incentive to do so; and (iii) whether a foreclosure strategy would have a significant detrimental effect on competition. According to this test and in contrast to past practice, the parties' "incentive" to foreclose is recognized as a central and required element in the Commission's appraisal.

The Commission cleared both transactions after in-depth investigations, since in both cases the parties would found to have no incentive to foreclose their downstream competitors. In conformity with the "more economics-based approach" prescribed by its Guidelines, the Commission reached its conclusion by conducting a detailed economic assessment of the profit trade-off.[165] Importantly, the outcome of both *TomTom / Tele Atlas* and *Nokia / NAVTEQ* might have been significantly different had the Commission relied on its old approach, which primarily focused on the parties' ability to foreclose rivals. Indeed, although the Commission "left open" whether NAVTEQ would be able to foreclose its rivals, it concluded that Tele Atlas would have the ability to do so.

The decisions in *TomTom / Tele Atlas* and *Nokia / NAVTEQ* are significant for a number of reasons. First, from a strategic perspective, the two cases illustrate the impact that the order and timing of two merger filings affecting the same relevant markets may have on the Commission's competitive assessments. Both mergers affected the navigable map database and navigation software markets and were announced at roughly the same time. Yet, the Commission made clear from the outset that its assessment of *TomTom / Tele Atlas* would be independent of the *Nokia / NAVTEQ* notification that came later in time. In other words, *TomTom / Tele Atlas* was examined under the assumption that

[165] For a further discussion of the importance of detailed economic analysis to the quantification of incentives to engage in foreclosure, see also De Coninck and Papandropoulos, 'The non-horizontal merger guidelines in practice', *Concurrences* No. 3-2008, paras 25-27.

Nokia and NAVTEQ were not going to merge. Conversely, the Commission assumed that TomTom and Tele Atlas were already vertically integrated when conducting its investigation of the *Nokia/ NAVTEQ*.[166]

Second, it is important to note that the Commission's approach to analyzing the three factors demonstrating the likelihood of an anti-competitive input foreclosure scenario is to consider all three factors even though one factor alone may be sufficient to throw into doubt an input foreclosure strategy. For example, it is often easier to demonstrate that a company does not have the ability to foreclose because such a showing requires a primarily factual analysis. By contrast, it is generally more difficult to show that a company has no incentive to foreclose because the evidence required for this test is of a more technical, economic nature. Due to this difference in the type of proof required for both factors, it is tempting to conclude that a clear demonstration of a merged entity's inability to foreclose would be sufficient to rebut any concerns relating to input foreclosure and that no further complex economic assessment of incentives to foreclose is required. However, in practice, such a conclusion may be precipitate. As demonstrated by the Commission's analysis, in particular, of the *Nokia / NAVTEQ* transaction, the Commission in fact considers all three factors even after it has concluded that the company's ability to foreclose is "unclear". Therefore, it is important for merging parties to present arguments on all three factors with equal force regardless of the apparent strength of the evidence rebutting a single factor.

Third, both *TomTom / Tele Atlas* and *Nokia / NAVTEQ* suggest that the Commission assesses entry in vertical mergers according to the same standard as horizontal mergers. This is confirmed by the fact that the Commission does not set forth separate criteria for assessing entry in vertical mergers in its Guidelines. Rather, it refers in its Guidelines to the criteria for assessing entry in mergers already established in its Notice on Horizontal Mergers. Furthermore, the Commission's entry analysis was largely sceptical of the parties' claims, indicating that the Commission is likely to require a high standard of proof before admitting the possibility of entry in vertical mergers.

Fourth, the Commission's analyses in the *TomTom / Tele Atlas* and *Nokia / NAVTEQ* are especially instructive on the Commission's future assessment of the efficiencies defence in vertical mergers as a countervailing factor to offset any anti-competitive concern. On the one hand, the Commission accepted the elimination of the double mark-up in both mergers. Even though it had already found

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166 For a further discussion of whether two mergers affecting the same markets and notified within close time proximity should be examined together or whether the first notified merger should ignore the notification of the second merger, see J.M. Schmidt 'Spotting the Elephant in Parallel Mergers: First Past the Post, or Combined Assessment?' [2003] ECLR 183. See also Case Comp/M. 2389, *Shell/DEA*, in which the Commission opted for a combined assessment of two proposed mergers that were notified 17 days apart.

there was no anti-competitive harm in both mergers prior to arriving at this conclusion, the fact that the Commission did accept the existence of the internalization of the double mark-up at all suggests that it is open to future uses of this type of efficiency in the future. On the other hand, the Commission's rejection of the non-price efficiencies in both cases underline how difficult it is to establish the existence of such efficiencies given the onus is on the notifying parties to substantiate efficiencies. This is especially demonstrated by the *TomTom / Tele Atlas* case, where the parties appear to have taken significant pains to substantiate their claimed efficiencies through economic studies. Though the parties in *TomTom / Tele Atlas* presented two different economic methods to prove their efficiencies, the Commission still found neither convincing.

Finally, in both *TomTom / Tele Atlas* and *Nokia / NAVTEQ*, the lack of incentive to foreclose downstream competitors was crucial to clearing the mergers. The Commission reached this conclusion by conducting an econometric analysis of the trade-offs between the merged entities' profits lost in the upstream market and the profits gained in the downstream market. In both cases, the Commission checked the robustness of its "simple profit test" by adapting it to a number of alternative assumptions relating to the pass-through rate, the upstream and downstream price elasticity and the share of the map database in the total price. The Commission confirmed the parties' submissions by concluding that any significant price increase would be unprofitable. This suggests that the Commission post-Guidelines has embraced a more economics-based approach and that it will tend to conduct a robust analysis of the parties' economic incentives to foreclose. Accordingly, merging parties may need to increasingly rely on economic consultants to both support their claims and counterbalance the Chief Economist Team's allegations.