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Building a Stronger Cognizable Efficiencies Case with Economic Analysis

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I. INTRODUCTION

Efficiencies have been an important component of merger review for many years. In the United States, with each update of the *Horizontal Merger Guidelines* ("HMGs") [2] issued by the Antitrust Division of the Department of Justice ("USDOJ")and the Federal Trade Commission ("FTC") (collectively, "US Agencies"), greater attention has been devoted to explaining how the US Agencies will deal with efficiency claims in merger cases. In Europe, the prohibition against mergers that prevent, restrict or distort competition (under Article 101) is inapplicable for mergers that contribute to improving the production or distribution of goods or promote technical or economic progress, and which provide consumers with a fair share of the resulting benefits, without eliminating competition in respect of a substantial part of the products in question.[3] The *2004 European Horizontal Merger Guidelines*[4] include a lengthy section on how efficiencies will be addressed in horizontal merger cases to assist parties in understanding how the European Commission will interpret this section of the legislation.[5] In the case of vertical and conglomerate mergers, the *European Non-Horizontal Merger Guidelines* state that such transactions provide "substantial scope for efficiencies".[6]

Whenever efficiencies are advanced, the merging parties bear the burden of proving their efficiencies claims. Before accepting parties' efficiency claims, enforcement agencies require proof that efficiencies are "merger-specific" and "verifiable". In Europe, the efficiencies must also be demonstrated to "benefit consumers". Meeting these requirements can be a daunting task for merging parties. Indeed, some commentators believe the standards of proof are so high as to render efficiency claims inapplicable. In both Europe and the United States, the enforcement agencies are clear that efficiencies will not be sufficient to justify a merger to monopoly or near-monopoly.

Several cases may lend credence to this pessimistic outlook for efficiency claims. For example, the European Commission prohibited the acquisition of TNT Express NV ("TNT") by United

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[2] U.S. Department of Justice & Federal Trade Commission's *Horizontal Merger Guidelines*, dated Aug. 19, 2010. https://www.justice.gov/atr/horizontal-merger-guidelines-08192010.

[3] *Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union*, Title VII Common Rules on Competition, Taxation and Approximation of Laws, Chapter 1 Rules on Competition, Section 1 Rules Applying to Undertakings, Article 101(3), Official Journal of the European Union, (2008/C 115/01), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF.

[4] *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings*, Official Journal of the European Union, (2004/C 31/03), https://eur-lex.europa.eu/legal-content/EN/TXT/PDF ("*European Horizontal Merger Guidelines*").

[5] *European Horizontal Merger Guidelines*, at §§76-88.

[6] See § 13 of the *Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings*, Official Journal of the European Union, (2008/C 265/07), https://ec.europa.eu/competition/mergers/legislation/nonhorizontalguidelines.pdf.

Parcel Service, Inc. ("UPS") in 2013 notwithstanding the parties' submissions that substantial efficiencies would be realized by the transaction and would be sufficient to outweigh any negative effect on pricing from the merger.[7] In the U.S., efficiencies claims have been rejected by the courts in several cases, such as the Aetna merger with Humana, in which the court was not persuaded that the claimed efficiencies would mitigate the transaction's anticompetitive effects for consumers.[8]

Nevertheless, claimed efficiencies can be helpful to merging parties in achieving approval of a merger. For instance, prospective efficiencies put forward by Federal Express Corp. ("FedEx") in respect of its acquisition of TNT were accepted by the European Commission when it approved the FedEx/TNT transaction in January 2016.[9] Similarly, the FTC approved the Grifols/Talecris merger based on a remedy that retained the acquisition's expected efficiencies.[10] Likewise, USDOJ approved the SABMiller/ Molson Coors merger based largely on the verified, merger-specific reductions in variable costs put forth by the parties in that investigation.[11]

Merging parties can establish verifiable, merger-specific efficiency claims with sufficient economic evidence. Where merging parties have failed to convince enforcement agencies of the veracity of their efficiency claims, it has often been because they have relied solely or substantially on management's business judgment. If, instead, merging parties augmented management projections with economic empirical evidence, we believe they would be more likely to meet their evidentiary burden. We discuss a number of case studies where this was done. While our case studies involve matters before US Agencies and Canada's Competition Bureau, we describe how these analyses could also be advanced before the European Commission or other enforcement agencies.

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[7] See Case COMP/M.6570 *UPS/TNT Express*, Commission Decision of 30 January, 2013 ("*UPS/TNT*"). UPS successfully appealed this decision to the General Court of the EU, which issued a decision in March 2017 that annulled the Commission's prohibition decision, but not on the grounds of efficiencies. The Court's decision raised concerns about the lack of access that the merging firms had to the econometric model used by the Commission as a basis for its prohibition. See Case T-194/13 *United Parcel Service, Inc. v European Commission,* judgment of the General Court of 7 March, 2017.

[8] *United States of America, et al., v. Aetna Inc., et al.*, Civil Action No. 16-1494 (JDB) (2017).

[9] See Case COMP/M.7630 *FedEx/TNT Express*, Commission Decision of 8 January, 2016 ("*FedEx/TNT*").

[10] Federal Trade Commission, "Grifols, S.A. and Talecris Biotherapeutics Holdings Corp.; Analysis of Agreement Containing Consent Orders to Aid Public Comment," [File No. 101 0153]. Published in Federal Register, Vol. 76, No. 110, Wednesday, June 8, 2011, pp. 33298-33301. https://www.ftc.gov/sites/default/files/documents/cases/2011/06/110608grifolsfrn.pdf.

[11] Department of Justice, "Statement of the Department of Justice's Antitrust Division on its Decision to Close its Investigation of the Joint Venture Between SABMiller PLC and Molson Coors Brewing Company," June 5, 2008. https://www.justice.gov/archive/atr/public/press_releases/2008/233845.htm.

II. WHEN ARE EFFICIENCIES GIVEN CREDENCE?

The specific criteria differ across jurisdictions, but generally enforcement agencies require the merging parties to demonstrate that their claimed efficiencies are: (i) likely (which may also require proving the savings are "timely"); (ii) verifiable; (iii) merger-specific; (iv) not "out of market"; and (v) not the result of an output or quality reduction. The HMGs refer to these as "cognizable efficiencies," which are efficiencies that can be used by merging parties as a defense against allegations that a merger will result in a reduction of competition.[12] In Europe, efficiencies must also be shown to benefit consumers.[13]

Efficiencies are generally a subset of the synergies that the merging parties expect to achieve from the transaction. Generally, they arise due to fewer resources being needed to produce the same output, or allow the merging firms to expand output using the same pre-merger inputs. While management's synergy estimates are frequently expressed as cost savings, merging parties may do better in their advocacy with enforcement agencies, especially in Europe, if they focused on how the transaction will allow the merged firm to produce more with less.

Some insight into how efficiencies are considered by an enforcement agency is provided in the study of FTC internal case files on mergers with second requests from 1997 to 2007 by Coate and Heimert.[14] Within their sample of 186 cases involving second requests, FTC staff considered efficiency arguments in 147 cases. Thus, a very large fraction of mergers with second requests make efficiency claims. Coate and Heimert find that the magnitude of efficiency claims was relatively stable over the ten-year period under review.[15] They divide efficiency claims into 12 categories, five of which are related to fixed cost savings, five of which are variable cost savings, one for dynamic efficiencies and one for generic claims. Coate and Heimert also classify any concerns expressed by staff related to efficiency claims in order to determine whether particular claims are more likely to be accepted or rejected by lawyers or economists within the FTC.

A review of their summary tables indicates that economists are more accepting of efficiency claims than the legal staff at the FTC. In total, FTC legal staff rejected 32% of the efficiency claims that they described in legal staff memoranda, while FTC economic staff rejected 12% of

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[12] The HMGs indicate that, for efficiencies to be cognizable, they must be merger-specific, verifiable, and not resulting from anticompetitive reductions in output or service. See HMGs, §10.

[13] *European Horizontal Merger Guidelines*, §§79-84.

[14] Malcolm B. Coate and Andrew J. Heimert (2009) *Merger Efficiencies at the Federal Trade Commission 1997-2007*, available at http://www.ftc.gov/os/2009/0902. Coate and Heimert's study details the amount of pages spent on efficiencies claims in staff recommendation memoranda from the agency lawyers and economists, the particular types of efficiency claims made, the number of claims brought up in each matter, and the number of claims that staff rejected.

[15] *Ibid*, page 13.

the total efficiency claims described in economic staff memoranda.[16] In many cases, no decision was made with respect to accepting or rejecting a particular efficiency claim. Where efficiency claims were rejected, legal staff rejected fixed cost efficiency claims as many times as variable cost savings were rejected, at about 30% of claims. Dynamic efficiency claims were rejected by legal staff in 27% of claims. In contrast, the FTC economic staff rejected 15% of the identified fixed cost efficiency claims and only 7% of the variable cost efficiency claims. The economic staff rejected only 12% of the dynamic efficiency claims. Interestingly, both legal and economic staff were more likely to accept dynamic efficiency claims than other types of efficiencies, notwithstanding the fact that dynamic efficiencies can be more difficult to quantify.[17]

Overall, verifiability and merger-specificity were most frequently expressed by legal and economics staff as reasons for rejecting efficiency claims.[18] The absence of evidence of pass-through and out-of-market efficiencies were the next most frequently cited reasons for rejecting efficiency claims.[19] Given the frequency with which efficiency claims are rejected because they fail to meet the burden of proof with respect to verifiability and merger-specificity, we believe merging parties can more effectively prove these elements of their claims.

In the case of Europe, a review of merger decisions between 1991 and June 2014, found that merging parties make efficiency arguments far less frequently.[20] The authors found only 40 cases out of 785 cases since 2008, or 5.1%, where the Commission considered efficiencies.[21] Of these 40 cases, 20 were deemed compatible with the internal market and allowed to proceed, 16 were subject to conditions, and 4 were rejected outright.[22] The authors do not provide details on which requirements related to efficiencies were accepted or rejected in these cases.

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[16] Bureau of Economic staff discussed slightly fewer efficiency claims than Bureau of Competition staff overall, with 311 claims identified by economics staff and 342 claims identified by legal staff.

[17] Dynamic efficiency claims were accepted by FTC legal staff in 23% of the claims, while fixed-cost and variable-cost savings were each accepted by legal staff in 7% of the claims. FTC economic staff accepted 43% of the identified dynamic efficiency claims, which exceeds the acceptance rates of 21% of fixed-cost efficiency claims and 30% of variable-cost efficiency claims by economic staff.

[18] Of the total 109 efficiency claims rejected by FTC legal staff, 69 had concerns expressed about verifiability and 74 had concerns expressed about merger-specificity. Of the total 37 efficiency claims rejected by FTC economics staff, 20 had concerns expressed about verifiability and 24 had concerns expressed about merger-specificity. See Table 5, at page 38 of Coate and Heimert (2009).

[19] Of the total 109 efficiency claims rejected by FTC legal staff, 20 had concerns expressed about the absence of pass-through and 18 had concerns expressed about being out-of-market efficiencies. Of the total 37 efficiency claims rejected by FTC economics staff, 11 had concerns expressed about the absence of pass-through and 5 had concerns expressed about being out-of-market efficiencies. See Table 5, at page 38 of Coate and Heimert (2009).

[20] Petri Kuoppamäki and Sami Torstila, "Is there a future for an efficiency defence in European merger control?", *Mimeo*, November 20, 2015, available at https://papers.ssrn.com/sol3/papers.cf?abstract_id-2727171.

[21] *Ibid.*, at page 31. Of these 40 cases, the merging parties brought forward efficiencies claims in 27 cases.

[22] *Ibid.*, at page 32.

III. VERIFICATION OF EFFICIENCIES

US Agencies' Standards to Verify Efficiencies

It is incumbent on the merging parties to provide substantiating evidence to support their claimed efficiencies, however, the HMGs do not prescribe specific standards, methods, or tests that should be used to verify efficiency claims. Cognizable efficiencies claims cannot be vague, speculative, or otherwise unverifiable by reasonable means.[23] All else equal, the US Agencies are more likely to accept a claimed efficiency if the parties provide substantiating evidence that is logical, grounded on facts and business experience, and based on appropriate methods and realistic assumptions,[24] and the US Agencies can verify the claimed efficiency by assessing the analytical methods, the accuracy of the data, the reasonableness of the assumptions, and the robustness of the analysis.[25]

A set of criteria for the verification of merger efficiencies that has been utilized by efficiencies experts engaged by the US Agencies test whether merging parties have:[26]

a) Provided adequate documentation to support and explain each of the claimed efficiencies;

b) Used standard, widely accepted and reliable principles, methods, and analyses to measure the claimed efficiencies and employed them appropriately; and

c) Used facts and data (foundation) to support the inputs and assumptions used in these analyses.

Naturally, the type of evidence that must be put forth to substantiate a claimed efficiency depends on the nature of that efficiency. However, efficiencies whose quantification is substantially dependent on management's business judgement will typically not be viewed as cognizable by the US Agencies. For instance, in *U.S. v. Oracle Corporation*, much of the parties' efficiency case was based on headcount reductions that were based on the management business judgment of Oracle CEO Larry Ellison and President Safra Catz.[27] The court did not accept the claimed efficiencies, stating that the claimed cost savings were flawed and unverifiable, and that Catz and Ellison's personal estimations regarding the potential cost savings

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[23] HMGs, §10.

[24] U.S. Department of Justice & Federal Trade Commission's *Commentary on the Horizontal Merger Guidelines*, dated March 2006 ("Commentary"), §4.

[25] *Ibid*.

[26] *U.S. v. Oracle Corp.*, 331 F. Supp. 2d 1098 (2004); *U.S. v. First Data Corp. and Concord EFS, Inc.,* No. 03-2169 (D.D.C. 2004); *U.S. v. H&R Block, Inc., et al*., 833 F. Supp. 2d 36 (D.D.C. 2011).

[27] *U.S. v. Oracle Corporation*, 331 F. Supp. 2d 1098 (2004), pp. 160-162.

were too speculative to be afforded credibility.[28] Similarly, the court in *U.S. v. H&R Block, Inc., et al.* concluded that the parties' efficiency claims relied up "manager's experiential judgment" rather than a factual analysis. As a result, the court held that they were not cognizable.[29]

In order for an efficiencies claim to be credited by the US Agencies, the substantiating evidence must be grounded in accepted methodologies and have a factual basis for its inputs. Claims substantially based on management's business judgment typically will not viewed as cognizable by the US Agencies or by US courts.

The European Commission's Standards to Verify Efficiencies

The Commission's standards for verifying efficiencies are similar to those used in the U.S. with respect to quantification and proof that the efficiencies are "likely to materialize".[30] Thus, the Commission will rely on evidence from the parties' internal documents, statements to financial markets, historical examples of efficiencies, and pre-merger external experts' studies.[31]

However, the Commission also requires efficiencies to be timely, noting that "the longer the start of the efficiencies is projected into the future, the less probability the Commission may be able to assign to the efficiencies actually being brought about."[32] In practice, US enforcement agencies are also likely to give less weight to efficiencies that are projected far into the future, but this is not explicitly stated. Second, the parties need to quantify the resulting benefit to consumers from the efficiencies. If it is not possible to make this quantification, the parties are still required to demonstrate "clearly identifiable positive impact on consumers, not a marginal one"[33] from the claimed efficiencies in order for the Commission to verify claimed efficiencies.

This high burden of proof has made it difficult for merging parties to convince the Commission to fully accept their claimed efficiencies. A case in point is *UPS/TNT* which the parties argued would generate very significant economies of density and scope, improve service quality and produce transactional efficiencies by combining complementary networks.[34] Yet the Commission was unable to verify many of the parties' claimed efficiencies, often because the management's estimates were insufficiently detailed and documented to meet the Commission's standards.

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[28] *U.S. v. Oracle Corporation*, 331 F. Supp. 2d 1098 (2004), p. 162.

[29] *U.S. v. H&R Block, Inc., et al.*, 833 F. Supp. 2d 36 (D.D.C. 2011). p. 84.

[30] *European Horizontal Merger Guidelines*, §86.

[31] *European Horizontal Merger Guidelines*, §88.

[32] *European Horizontal Merger Guidelines*, §86.

[33] *Ibid.*

[34] *UPS/TNT*, §817.

Consider, for example, pick-up and delivery costs, which include the costs of operating vehicles that transport parcels from local centers to and from customer locations, operating the local centers and final stage sorting facilities.[35] Management focuses on maximizing the number of deliveries a driver/vehicle can make in a day by increasing the stops of the vehicle and the number of packages in the vehicle as much as possible.[36] While acknowledging that savings in pick-up and delivery costs could be realized with a larger customer base, the Commission did not find these savings were calculated with sufficient detail in that for many countries only a broad estimate was applied at an aggregate level to the cost base of TNT as opposed to building up the cost savings from the bottom up for each country.[37] In addition, the Commission concluded that there was insufficient supporting documentation provided to explain these savings, which were based on downward revisions to prior estimates.[38] Similar problems also led the Commission to reject the parties' claimed efficiencies in respect of outside service providers, facilities savings, and line-haul savings.[39]

In contrast, the Commission did verify – and accept – the parties' claimed savings in respect of their European air network, including related savings for ground handling services but the Commission did not verify the claimed transatlantic air cost savings or common carriage savings.[40] In the case of the air network savings which were verified, these were derived from economies of scale and re-optimized routes across a combined network.[41] UPS documented the calculations and methodology for its claimed air network savings to the Commission's satisfaction in part because the savings were derived from UPS's normal optimization process.[42]

With respect to the parties' management and administration overhead costs, these cost savings were acknowledged by the Commission, but because they are savings in fixed costs, the Commission determined that they were unlikely to benefit consumers so ultimately were not "verified".[43]

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[35] *UPS/TNT*, §50.

[36] *Ibid*.

[37] *UPS/TNT*, §§851-853.

[38] *UPS/TNT*, §854.

[39] *UPS/TNT*, §§856-868.

[40] *UPS/TNT*, §§876, 880, 890.

[41] *UPS/TNT*, §§869, 871-872, and 874.

[42] *UPS/TNT*, §874.

[43] *UPS/TNT*, §§891-892.

In contrast to the *UPS/TNT* case, the Commission accepted far more of the claimed efficiencies in the *FedEx/TNT* case.[44] FedEx claimed significant efficiencies from the integration of its relatively inefficient intra-European Economic Area ("EEA") operations into TNT's network, which would generate savings in the markets for international intra-EEA express delivery services.[45] FedEx claimed significant savings in pick-up and delivery costs (as UPS had done) but FedEx provided a more detailed estimate, which was based on transferring packages from the higher cost delivery party to the lower cost delivery party in each country. The pick-up cost per pack for each of FedEx and TNT were documented for each country, with the total number of packs that could be shifted from one party to the other. Similarly, delivery costs would be reduced by migrating packages from FedEx's network to TNT's network, or vice versa, depending on the delivery costs currently incurred by each of the parties in each delivery country.[46] Examples were provided that were specific to each country within the EEA and each country outside the EEA. Data was provided to the Commission to allow it to verify FedEx's claims.

FedEx provided details on the costs that would be need to be incurred to enable the merged firm to make these pack volume shifts. The Commission considered the implementation costs to be "one off fixed expenses related to the migration to TNT's network which should not be taken into consideration as they do not impact the variable cost of international intra-EEA express services".[47]

Like UPS, FedEx also claimed air network cost savings from acquiring TNT. FedEx's cost savings estimates were based on its costs per aircraft and overall aircraft requirements pre- and post-transaction.[48] The Commission confirmed that FedEx had sufficient available capacity to accommodate TNT packs on FedEx flights between Europe and the U.S. in addition to accommodating any third party volumes occasionally shipped on FedEx's network.[49]

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[44] However, it is also the case that the Commission concluded that the *FedEx/TNT* transaction would not give rise to a significant impediment to effective competition, whereas the Commission reached a very different conclusion on the likely competitive effects of the *UPS/TNT* transaction.

[45] *FedEx/TNT*, §§509-510.

[46] *FedEx/TNT*, §782.

[47] *FedEx/TNT*, §781, footnote 627.

[48] *FedEx/TNT*, §792.

[49] *FedEx/TNT*, §795.

IV. MERGER-SPECIFICITY OF EFFICIENCIES

US Agencies' Standards to Determine Merger-Specificity

The HMGs define "merger-specific" as efficiencies that are likely to be accomplished with the merger and are unlikely to be accomplished absent the merger.[50] A claimed efficiency may be considered merger-specific even if it is technically feasible by other means, for example, because it is not practically feasible or involves substantial transaction costs.[51] On the other hand, a claimed efficiency may not be considered merger-specific if it could be attained by practical alternatives that do not have competitive concerns, such as divestiture or licensing.[52]

Examples of the types of claimed efficiencies generally not considered merger-specific are previously planned business efficiencies that are unrelated to the transaction. A claimed efficiency related to a reduction in headcount that is the same as the reduction the merging party was planning prior to the negotiation of the merger is generally not considered merger-specific because the claimed cost savings could be realized absent the merger. Also, a claimed efficiency in a segment of a merging party that is unrelated to the business of the other party to the transaction, and with no plans to integrate this segment with the operations of the other party, is generally not considered merger-specific because the claimed efficiency is not the result of the merger.

When the claimed efficiency results from combining resources of both merging parties, however, the assessment of merger-specificity is more complex. In a situation of perfect information and no transaction costs to contracting, efficiencies could often be captured by a properly crafted contract without the need for parties to merge. Given the more common situation of imperfect information and non-zero transaction costs to contracting, the assessment of merger-specificity typically revolves around the impediments to achieving the relevant cost savings by contract or similar measure.

Industry practice may provide evidence on the practicality of achieving claimed cost savings absent the proposed merger. For instance, consider an efficiencies claim that one of the parties can produce and supply intermediate products at lower cost than the other party can purchase them or produce them itself. In order to demonstrate merger-specificity, the merging parties provide evidence on the impediments to the intermediate product being sold between the parties absent the transaction. The absence of a market in the intermediate product may be evidence

[50] HMGs, §10.

[51] Commentary on the Horizontal HMGs, §4.

[52] HMGs, §10.

supporting the claim that cost savings from the transfer of intermediate products is merger-specific.

Another type of claimed efficiency relates to the transfer of "best practices" between the parties. The merger-specificity of best practices efficiencies naturally revolves around the alternative ways that the receiving firm can obtain the relevant knowledge. In order to demonstrate merger-specificity, the merging parties provide evidence that the knowledge transferred is not attainable by the receiving firm absent the merger; for instance, the party receiving the best practices could not hire third party consultants who can could communicate the "best practices" absent the merger.

Knowledge-transfer efficiencies could be considered merger-specific if the knowledge is proprietary and protected by, for instance, patent or trade secret.[53] In this type of case, the parties provide evidence that the knowledge would not be transferred absent the merger. Again, industry practice may be useful evidence in such situations.

In summary, for some claimed efficiencies, evidence directly indicates that one of the parties could achieve the claimed efficiency by itself, which is naturally evidence against the merger-specificity of the claimed efficiency. For other claimed efficiencies, where the two parties must combine resources to achieve the claimed efficiency, assessing merger-specificity involves an assessment of the transaction costs or other barriers that prevent the parties from achieving the efficiency via contract or by other non-merger means.

The European Commission's Standards to Determine Merger-Specificity

The European Horizontal Merger Guidelines describe similar standards to those of the U.S. for determining if claimed efficiencies are specific to the merger. In particular, the European Guidelines indicate that the "Commission only considers alternatives that are reasonably practical in the business situation faced by the merging parties having regard to established business practices in the industry concerned."[54] Nevertheless, several Commission decisions have rejected efficiency claims on the grounds that less anticompetitive means were available to achieve similar cost savings. Two such cases of note are *Western Digital/Viviti Technologies*[55] and *Hutchison 3G Austria/Orange Austria*.[56] In both of these cases, the Commission also

[53] Commentary on the Horizontal HMGs, §4.

[54] *European Horizontal Merger Guidelines*, §85.

[55] Commission Decision of 23 November, 2011 in Case No. COMP/M.6203 Western Digital Irland/Viviti Technologies ("*Western Digital/Viviti*").

[56] Commission Decision of 12 December, 2012 in Case No. M.6497 Hutchison 3G Austria/Orange Austria ("*Hutchison 3G/Orange*").

rejected the verifiability of the claimed efficiencies, so their efficiency claims were not rejected solely due to a failure to meet the merger-specificity requirement.

In the case of *Western Digital/Viviti*, the Commission found that there is "currently a multitude of R&D cooperation agreements"[57] applying to the relevant markets of competitive concern, which include cooperation agreements between competitors such as cross-licensing agreements as well as joint research and development programs. This case is an example of evidence of industry practice being utilized in assessing merger-specificity of the efficiencies claim. In the case of other claimed efficiencies in respect of incentives to increase yield, improve quality and reduce inventories, the Commission found that these incentives would be present absent the merger.[58]

In *Hutchison 3G/Orange*, the Commission rejected the parties' merger-specificity claims even though Hutchison presented evidence that it had previously sought to negotiate a network sharing agreement with T-Mobile that had failed.[59] In rejecting Hutchison 3G's claims, the Commission stated that it "cannot rule out alternatives just because they might be more cumbersome or expensive for H3G to implement. If some other alternative is realistic and attainable, only the incremental benefit from a full merger can be considered as a merger-specific efficiency."[60] The alternatives noted by the Commission included a domestic roaming agreement with other mobile network operators, a joint venture to develop long-term evolution ("LTE") high-speed wireless communications, or a merger only of the parties' networks.[61]

V. ANTICOMPETITIVE REDUCTIONS IN OUTPUT

The final criterion for cognizable efficiencies under U.S. standards or verifiable efficiencies under European requirements is that the efficiencies are not the result of reductions in output or service.[62] In essence, cost savings that arise from producing less output or service, or lower quality output or service, will not be considered cognizable efficiencies. This criterion essentially follows from the basic definition of cost savings or efficiency; if a cost reduction arises solely due to producing lower volume or lower quality, then the production function hasn't shifted due to the merger. Rather, the parties would simply be proposing to produce at a different cost/quantity/quality point on the pre-merger production curve.

[57] *Western Digital/Viviti*, §1011.

[58] *Western Digital/Viviti*, §1012.

[59] *Hutchison 3G/Orange*, §416.

[60] *Hutchison 3G/Orange*, §417.

[61] *Hutchison 3G/Orange*, §418.

[62] HMGs, §10.

Generally, merging parties do not claim that cost savings arising from a reduction in output or quality as merger efficiencies. A potential exception arises, however, in the area of research and development ("R&D"). The parties plan to reduce allegedly duplicative research and development, while reducing costs, may not result in a cognizable efficiency. An argument against such R&D reductions serving as cognizable efficiencies might be that two teams researching the same issue have a greater likelihood of success than one team operating alone. If so, reduction of the merged firm's R&D budget below the level of the two standalone firms could reduce the expected future benefits of that R&D. If so, then any such R&D cost savings are arguably the result of a reduction of output or quality, and would not represent a cognizable efficiency.

VI. PASSING ON OF COST SAVINGS TO CONSUMERS

The European Requirement that Efficiencies be Passed on to Consumers

In Europe, merging parties must demonstrate that their efficiencies will benefit consumers in the markets where competition concerns would occur, and that the efficiencies are substantial and timely.[63] Savings in variable or marginal costs that lead to lower prices are more likely to meet this test. The *European Horizontal Merger Guidelines* do not completely reject savings in fixed costs,[64] although the Commission's decision in *UPS/TNT* shows that it typically finds that savings in fixed costs will not meet the "benefit to consumers" requirement. The Guidelines note that incentive to pass on cost savings to consumers will be related to the competitive pressure remaining in the market post-merger, including from potential entry.[65]

In two recent cases, the merging parties argued their transactions directly lowered customers' costs, without claiming that the merging firms' cost structures would be reduced. This argument was one of several made in *Hutchison 3G/Orange*, where the parties claimed that the merger would lead to improved network quality and coverage and faster LTE rollout. As noted above, the Commission rejected these efficiencies claims on the grounds that they were not merger-specific.

In Deutsche Börse/NYSE Euronext,[66] the Commission found that the merger would have led to a near-monopoly in European exchange-traded derivatives. With respect to the claim of direct benefit to consumers, the parties argued that the merger would reduce the costs of operating on cash and derivatives exchanges, users would have to pledge less collateral to clear transactions,

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[63] *Ibid*.

[64] *European Horizontal Merger Guidelines*, §80.

[65] *Ibid*, §84.

[66] Commission Decision of 1 February, 2012 in Case No COMP/.6166 Deutsche Börse/NYSE Euronext ("*DB/NYSE*").

and users would benefit from greater liquidity and therefore lower implicit trading costs.[67] The merging parties' efficiency claims in these areas were ultimately rejected on the grounds of a lack of verifiability. But, as well, the Commission expressed concern that with the merged firm facing limited competition post-merger from remaining firms in the market and potential entry, the merged firm can "in principle increase any explicit fee so as to partially or wholly claw back any cost savings at [the] customer level."[68] Commentators have expressed concern that the Commission does not bear the same standard of proof for any possible "claw back" concern as the merging parties bear with respect to demonstrating their efficiencies will be passed on to consumers.[69]

The Pass Through of Claimed Efficiencies in the US

Similar to the European requirements, the US Agencies consider the extent to which claimed efficiencies will be passed on to consumers. The US HMGs state that the greater the potential harm to competition of a merger, the greater must be the cognizable efficiencies, and "the more they must be passed through to customers," for the US Agencies to conclude that the merger will not harm competition.[70] All else equal, this provision favors the cognizability of variable cost efficiencies, which are more likely to be passed through to consumers in the form of lower prices, than fixed cost efficiencies. Nevertheless, as documented in the Coate and Heimert FTC study, fixed cost savings are often considered by the US Agencies.[71]

VII. ECONOMIC ANALYSIS TO SUBSTANTIATE EFFICIENCY CLAIMS

Economic evidence is fundamental to the competitive effects assessment of any merger transaction. In our view, greater use of economic analysis should also form part of merging parties' efficiencies claims. In particular, economic evidence can assist agencies in verifying management's projections of cost savings.

Management's involvement is naturally required in order to develop an efficiencies submission. However, management's decision-making is often based on analyses that employ "rules of thumb", assumptions, and other heuristics that balance the need for precision with the cost of

[67] *DB/NYSE*, at §1145.

[68] *DB/NYSE*, at §1179.

[69] François-Charles Laprévote, "Abandon All Hope, ye Who Enter Here? Efficiencies in European Merger Control: A Few Lessons from Recent Decisional Practice", *Concurrences Journal* No. 2, May 2014.

[70] HMGs, §10.

[71] Variable cost efficiencies are often viewed as more likely to be passed through to consumers than are fixed cost efficiencies. Nevertheless, in their study of FTC decisions, Coate and Heimert find that "Staff were as likely to accept fixed-cost savings as they were to accept claims of variable-cost savings." Coate and Heimert, s*upra*, note 15, p. vi.

performing detailed analysis. Such rules of thumb, assumptions, and other heuristics are generally considered "management business judgment," which are not verifiable and thus, do not result in cognizable efficiencies claims. Economic and accounting experts working with management can employ appropriate methodologies based on a strong factual foundation in order to present substantiating evidence to enforcement agencies.

Below, we present four case studies on efficiencies claims and describe the economic analysis that can be used to substantiate management's efficiency claims. We also discuss the need to ensure that any economic analyses presented to enforcement agencies in support of efficiencies' claims meet the same rigorous standards required of such analyses when addressing competitive effects.

A. Transportation Optimization Savings

In a merger of two manufacturers that each serve the U.S. national market, the production facilities of each merging party are concentrated in different regions of the U.S. The parties' management identifies transportation costs savings as an important efficiency that will result from optimizing the merging parties' delivery networks.

To quantify the efficiency, the parties engage an economist to develop the substantiating evidence to support the efficiencies claim. The economist collects and analyzes the transportation cost data, and develops a transportation optimization model in which production and delivery for the combined customer base is distributed among all of the merged firm's facilities. The economist quantifies the efficiency as the difference in transportation cost between the optimized transportation costs of the merged firm less the sum of the optimized transportation costs of each firm operating on a standalone basis. This difference provided the basis for the quantification of the claimed efficiency.

In this case, the evidence of optimized costs utilizes an appropriate optimization methodology, and utilizes factual input data on the parties' manufacturing capacity and transportation costs. The methodology is standard and widely-accepted, and thus reliable, and the inputs have a factual foundation. The companies' actual quantity and quality of demand is utilized in the optimization to ensure there is no reduction in quantity or quality of output. Finally, the optimized cost of the merged firm is compared to the optimized costs of the standalone firms. Contracts for such joint transportation optimization is not industry practice and hence no contractual arrangement is an alternative because such an arrangement requires sharing competitive data. Based on the evidence in the case, there is no basis to believe that the transportation cost savings would be jointly optimized absent the merger.

B. General & Administrative ("G&A") Headcount Reductions

The merging parties put forth a claim that there will be fixed cost savings due to the elimination of duplicate G&A costs. The claimed efficiency is the difference in salary and benefits of G&A headcount at the merged firm versus the salary and benefits of the G&A headcount at the two firms on a standalone basis.

The salary and benefits of the G&A headcount on a standalone basis is a fact that is readily available from the parties, but the figures for the merged firm need to be calculated. Management of the merging parties put forth an estimate based on headcount reductions that are calculated as a percentage of the headcount in each G&A function (e.g., a 15% reduction in human resources personnel). However, these percentage headcount reductions are based on management's business judgment, which are not verifiable, and likely would not be accepted by the relevant enforcement agency.

Economic analysis is used to calculate the G&A headcount required by the merged firm. This is done by first determining the statistical relation that exists between the number of G&A staff at a firm and the number of non-G&A staff ("Field Employees") that the G&A staff support. The statistical model explains G&A headcount as a function of the number of field employees. The statistical model has high explanatory power and demonstrates that the required number of G&A employees can be reliably estimated using the number of field employees that the G&A staff support. Having determined this relationship, the economic expert models the G&A headcount at the merged firm to be equal to the standalone headcount at one firm plus the incremental G&A headcount that would needed to support the operations of the other merging firm, and thus yields the G&A headcount required by the merged firm. This figure can then be compared to the aggregate G&A headcount of the two standalone firms, with the difference being the number of G&A headcount that could be eliminated in the merger. The dollar value of the efficiency can then be calculated using salary data of the two companies.

The economists' statistical model provides reliable substantiating evidence for the claimed efficiency. It is based on a reliable economic methodology, and the inputs into the data are historical G&A and field employee headcount, and therefore have a factual foundation. Based on management representations and a review of documents, there is no evidence that either party could have reduced headcount on a standalone basis, so merger-specificity of the claimed efficiency is credible. The companies' actual quantity of field employees is utilized in the calculation, so there is no reduction in quantity or quality of output.

C. Transfer of Proprietary Processes

Merging parties in a service industry claim efficiencies related to the transfer of proprietary processes. In this service industry, it is accepted that the unit cost at each location declines with

the annual production volume (i.e., larger facilities have lower unit costs) and due to learning curve effects (i.e., older facilities have lower unit costs). The facilities of the two merging parties differ in both size and age. The management of the acquirer believes that its proprietary processes provide it with a cost advantage that goes beyond general industry performance. Management of the acquirer intends to deploy its proprietary processes to the locations of the other merging party, and claims that efficiencies will therefore result.

Economic analysis can be used to substantiate the claimed cost advantage that the acquirer's proprietary processes provide to it. Data from each merging firm is collected on cost, volume, and facility age for several years. A regression model is developed that explains unit cost at a facility based on the facility's annual volume, age, and whether the facility is owned by the acquirer or the other merging party. The regression model confirms that, all else equal, the unit cost at the facilities of the acquirer is lower than the unit cost at the target's facilities after controlling for the facility's volume and age. As a result, there is empirical support for the acquirer's claim that its proprietary processes lead to lower costs at a given facility. The dollar value of the efficiency is equal to the cost savings per unit from the acquirer's proprietary service processes multiplied by the target's volume.

Note that the regression model does not explain why the acquirer's unit costs are lower, but it confirms management's claims that its proprietary processes give rise to lower facility unit costs. The acquirer's management must still explain why its proprietary processes serve to lower the acquirer's unit cost and management must also provide evidence regarding merger-specificity, notably that the target was unlikely to improve its cost gap in the near future.

In this efficiency claim, the economists' analysis provides documentation of the calculation of the efficiencies, it employs a standard and widely-accepted statistical methodology, and the inputs into the analysis have a factual foundation. The acquirer's management provided the evidence related to merger-specificity.

D. Economies of Scale Cost Savings

In a merger of two printing companies, regression analysis was undertaken to test for economies of scale in the acquirer's plant costs, which was used as support for the merging parties' claimed efficiencies in respect of economies of scale from combining operations with the other merging party. Data from multiple plants over several years was used to test the rate of increase in line item costs was less than a one-to-one relationship with increases in output, thereby demonstrating economies of scale exist. Line item costs included direct labor, manufacturing expenses which were further sub-divided into individual categories, rent, taxes and insurance, selling expenses and administration costs. Various regression specifications were run to test whether costs increased by less (in percentage terms) than output. Over the period of time studied there were considerable changes in output over time, as well as differences across plants

in output, thereby providing sufficient variation to test for economies of scale at the plant level. The results showed that economies of scale exist in individual plant costs, with the results robust to alternative specifications. The results provided support for the merging parties' claims with respect to how the merger would allow the parties to consolidate production across plants generating sizeable efficiencies through improved economies of scale.

E. The Need for Rigorous Regression Analyses

In the case studies above, economists, using standard and accepted methodologies, and working with technical input and data from the parties' management, provided the quantification of the efficiency and presented the substantiating evidence to US Agencies and Canada's Competition Bureau. Whenever regression analyses are presented to substantiate efficiencies claims, it is important that they meet the same rigorous standards as similar analyses used in competitive effects analyses. A regression analysis, in and of its own right, need not be accepted by the enforcement agency. Two European cases provide examples of this.

In *DB/NYSE*, the merging parties presented regressions to quantify: (i) the volume of liquidity impact of prior integrations of trading and clearing platforms of the Amsterdam, Brussels, Lisbon and Paris cash exchanges between March 2002 and November 2003 in support of their claimed efficiencies in 2011; and (ii) the volume impact of integrating all Euronext's derivatives trading platforms into a single platform between March 2003 and November 2004.[72] The Commission used its guidance in respect of "Best practices" for the submission of economic evidence"[73] to determine the weight that it should give to the parties' submitted regression analyses.[74] The Commission ultimately did not accept the claimed efficiencies based on these regression analyses, providing a detailed critique of the studies in its decision.[75] In addition to a number of technical issues with the regressions, the Commission noted that financial markets had undergone a large number of changes since the time of the prior integrations and that the post-merger environment would be considerably less competitive than at the time of the prior integrations, such that the regression results based on these earlier exchange integrations should not be directly applied to *DB/NYSE*.

In *Western Digital/Viviti*, the parties provided a regression analysis to demonstrate how savings in fixed and variable costs had been previously passed on to consumers.[76] The Commission

[72] *DB/NYSE*, at §1146.

[73] Commission Staff Working Paper entitled "Best practices for the submission of economic evidence and data collection in cases concerning the application of articles 101 and 102 TFEU and in merger cases" of 17 October, 2011.

[74] *DB/NYSE*, at §1146.

[75] *DB/NYSE*, at §§1252-1286.

[76] *Western Digital/Viviti*, at §1021.

rejected this analysis on the grounds that Western Digital's historical pass-through rate would not necessarily apply after the merger since pass-through rates depend on market structure and the competitive constraint facing Western Digital. With the Commission finding markedly less competitive conditions post-merger if the Western Digital/Viviti merger were allowed to proceed, historical pass-through rates would not apply as these were based on more competitive conditions.[77] The Commission also identified other flaws with the parties' analyses related to its use of average prices and costs which did not control for the mix of products, and the failure to control for changes in variable costs of other manufacturers.[78]

In conclusion, we believe that greater use can be made by merging parties of rigorous economic analysis to substantiate management's efficiencies claims in order to meet enforcement agencies' requirements for cognizable efficiencies, notably the requirements that efficiencies be verifiable and merger-specific.

[77] *Western Digital/Viviti*, at §1023.

[78] *Western Digital/Viviti*, at §§1024-1028.