



## POLICY ROUNDTABLES

# Impact Evaluation of Merger Decisions 2011

### Introduction

The OECD Competition Committee held a roundtable on Impact Evaluation of Merger Decisions in June 2011. This document includes: an executive summary and an aide memoire of that discussion; written submissions by Belgium, Brazil, Canada, Chile, Estonia, Greece, Hungary, Indonesia, Japan, Korea, the Netherlands, Norway, Poland, Romania, South Africa, Switzerland, the United Kingdom, the United States, the European Union and BIAC; as well as contributions from Oliver Budzinski and Andrew Gavil.

### Overview

Ex post evaluations are an important instrument for assessing previous merger review decisions, as well as for improving the quality of future decisions. Merger review necessarily involves making predictions about future market developments. Ex post evaluations provide an opportunity to check whether these predictions were sound, given the information available at the time, if the assumptions on which these predictions were made were sensible, and if the tools and models used to make the predictions were appropriate.

Given the growing recognition of the importance of conducting ex post assessments and the experience with review exercises, the delegates agreed on the potential benefits of a toolkit for the ex post evaluation of merger decisions. Such a toolkit should not propose a one-size-fits-all approach, but should include methodologies and examples that are appropriate and realistic for competition authorities with various levels of resources and expertise.

### Related Topics

- Remedies in Merger Cases (2011)
- Dynamic Efficiencies in Merger Analysis (2007)
- Evaluation of the Actions and Resources of Competition Authorities (2005)
- Merger remedies (2003)
- Merger Review in Emerging High Innovation Markets (2002)

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## **FOREWORD**

This document comprises proceedings in the original languages of a roundtable on Impact Evaluation of Merger Decisions held by the Competition Committee in June 2011.

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

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

## **PRÉFACE**

Ce document rassemble la documentation dans la langue d'origine dans laquelle elle a été soumise, relative à une table ronde la table-ronde sur l'évaluation de l'impact des décisions relatives aux fusions qui s'est tenue en juin 2011 dans le cadre du Comité de la concurrence.

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

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

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## EXECUTIVE SUMMARY

*By the Secretariat*

Considering the discussion at the roundtable as well as the delegates' and panellists' written submissions, several key points emerge:

- (1) *Ex post evaluations of merger decisions can help to assess whether the conclusions in a specific merger decision were correct in light of the available evidence at the time of the decision, and whether a decision was consistent with the jurisdiction's policy goals. They are an important tool that can help competition authorities to improve the quality of future decisions.*

Experts and delegates agreed during this roundtable that *ex post* evaluations are an important instrument for assessing previous merger review decisions, as well as for improving the quality of future decisions. Merger review necessarily involves making predictions about future market developments. *Ex post* evaluations provide an opportunity to check whether these predictions were sound, given the information available at the time, if the assumptions on which these predictions were made were sensible, and if the tools and models used to make the predictions were appropriate.

*Ex post* evaluations can also focus on specific aspects of previous merger decisions. In many merger decisions, the outcome may depend on a single, key argument such as the likely entry of a new competitor or the existence of sizeable merger-specific efficiencies. *Ex post* evaluations can focus on these specific aspects of merger review decisions to inform the competition authority about what data to collect and how to evaluate evidence in future merger cases where the outcome depends on similar claims. Several competition authorities have also used *ex post* reviews to examine the effectiveness of remedies in maintaining competition.

- (2) *A number of quantitative methods can be used for ex post evaluations of merger decisions, such as structural models, difference-in-difference approaches, and event studies, as well as surveys. Which method can be most usefully applied will depend on a range of factors, including data availability, resources, and expertise, and therefore there is no single, perfect method for all ex post evaluations. Using a combination of methods typically will produce the most reliable results, and experts suggest that surveys should always be included in an evaluation exercise.*

The principal three quantitative methods to conduct *ex post* evaluations are structural models, difference-in-difference approaches, and event studies. Each method has both advantages and limitations. These need to be taken into account when planning an *ex post* evaluation exercise and when determining what method(s) to apply. If the available data and the skills and expertise of the team in charge of the work do not match the requirements of the method chosen for an *ex post* review, the results of the evaluation exercise may be unreliable.

Structural models make it possible to examine how the market would have developed absent the merger. In principle, they can also be used to evaluate merger prohibition decisions. Although structural models may be considered the "state of the art" evaluation method that can produce the most reliable results, they also have limitations. They rely on standard oligopoly models and

cannot be used if competition in the market does not follow one of those models. In addition, they cannot capture any structural change in the market. Their biggest limitations, however, are their extensive data requirement and the sophisticated econometrics skills they demand.

The difference-in-difference approach relies on a comparison of the market in which a merger has taken place with development in a “control market,” which must be very similar to the market where the merger takes place, but sufficiently removed so it is not affected by the merger. This method is less data intensive, but nevertheless still requires a significant amount of data and econometric expertise. Most critically it depends on the ability to identify an appropriate “control market” for the results to be meaningful.

Event studies analyse stock market reactions after a merger has been announced, both with respect to the merging parties and their competitors. They have the advantage of requiring a limited amount of data, which is easily available and less resource intensive. However, this method has its limitations, too. For example, the parties involved in the merger and their competitors must be publicly listed firms and, if they are multi-product firms, the market affected by the merger should be the main market in which they are active. Moreover, it was argued that event studies are not a reliable evaluation method because they rely on the assumption that stock markets efficiently and swiftly process all available information and incorporate it in stock prices, an assumption that has long been dismissed in the financial economics literature. Other roundtable participants thought, to the contrary, that event studies can in the right circumstances provide useful information about past merger decisions. They have been used by several competition authorities as an evaluation tool.

Surveys of market participants are not a quantitative method, but they can support quantitative methods because surveys make it possible to gather data when data are otherwise unavailable. Further, they can be used to complement the results of other assessment exercises. Surveys may appear simple to conduct, but the questions require careful preparation to provide reliable information. Sampling design is also very important for their success.

- (3) *Previous merger decisions can sometimes also be evaluated with less resource-intensive approaches. For example, where several mergers occur in the same industry over time, later merger reviews can be used to assess the correctness of predictions in previous decisions; sector surveys can be used to focus on mergers in specific industries; or at the time the authority adopts a decision another specific merger can already be identified as a candidate for later review, which facilitates data gathering. What is important is that a competition authority is committed to a systematic and regular effort to review previous decisions to assess whether they were correct and used effective analytical tools.*

The delegates acknowledged that not all competition authorities will have the necessary resources and/or number of merger decisions to apply some of the more complex and resource-intensive evaluation methods. But the speakers emphasised that a wide spectrum of approaches to *ex post* evaluations exists and that not every competition authority has to use the most elaborate, expensive methods. Nevertheless, competition authorities should commit to systematically reviewing previous decisions, even with the more basic approaches, and avoid simply assuming that their previous interventions were successes.

Approaches to *ex post* reviews that even smaller authorities can usefully apply include, for example, reviewing a merger to examine the accuracy of earlier merger review decisions in the same industry; using limited and targeted, "mini review" exercises in key sectors in which the competition authority expects a larger number of mergers; and using a "seed planting" strategy

where another merger is already identified for future review at the time of the decision, the key issues that drove the decision are clearly identified when closing the file, and data gathering begins as the transaction is consummated. It has also been argued that qualitative methods are less resource intensive, but can still provide useful information concerning the accuracy of previous decisions.

- (4) *It is important to plan review exercises carefully to ensure that their results are reliable and to maximise their usefulness. This requires a clearly identified goal of the assessment, careful selection of the decisions that will be reviewed, identification of available data, and the choice of a method that is appropriate to the decision selected and the data available, and for which the competition authority, or its outside experts, have the skills necessary to ensure reliable results.*

Experts and delegates from competition authorities that have undertaken *ex post* evaluations concurred that careful planning is essential to maximise the benefits of *ex post* evaluation exercises. Among the first elements to consider are the goal and scope of the review exercise. The design of a review should ensure that it determines not only whether those past decisions were correct in light of the jurisdiction's policy goals and the available evidence, but also whether the analysis leading to the decision was accurate and complete.

Another point of agreement was that the decision(s) to be reviewed must be selected carefully. Close-call decisions are good candidates for *ex post* evaluations. These could include, for example, decisions in cases where there was uncertainty and perhaps even disagreement within a competition authority about how to evaluate the evidence correctly, and/or public criticism after the decision. The likely availability of data should also influence the selection of decisions for *ex post* evaluation. In addition, sufficient time should have passed since the decision was reached to ensure that the effects of a merger can be observed, but not so much time that it would be difficult to disentangle those effects from other market developments.

Another important element is the selection of the review team. Doing an *ex post* review in house can require significant resources, but at the same time may facilitate access to data because files may be confidential or parties may be unwilling to reveal data to consultants. However, since ensuring impartiality is important, if an authority decides to perform an *ex post* evaluation in house, it should be conducted by staff not involved in the original decision.

- (5) *Ex post merger reviews can also be used to estimate the benefits of merger enforcement in general and to demonstrate that the costs of a merger review regime are justified in light of the benefits it produces. Simplified methods that rely on a limited number of parameters can be used to estimate consumer benefits from the overall merger control activities of a competition authority.*

*Ex post* evaluations can also be used to estimate the overall benefits of merger enforcement. For this purpose, competition authorities can use simpler methodologies that allow them to estimate the impact of a larger number of decisions.

However, the approaches normally used to quantify the benefits of merger regimes (hence of a large number of action/no-action decisions) also have their limitations. They do not involve detailed examination of specific merger decisions, but they perform simple calculations to determine the likely benefits deriving from a large number of merger decisions. Further, they assume that the decisions adopted by the competition authority have all been correct. More importantly, the benefits are likely not to include an estimation of the deterrence effect of merger control regime because of the difficulty inherent in such an exercise.



Some delegates also made the point that only multiple detailed *ex-post* assessments may permit more general inferences about the effectiveness of merger enforcement with regard to certain types of mergers.

- (6) *Given the growing recognition of the importance of conducting ex post assessments, the challenges when conducting ex post evaluations of merger decisions, and the experience with review exercises that an increasing number of authorities have had, there appears to be a case for a more systematic effort to gather existing experiences and techniques in a single document with a view toward creating a toolbox with know-how, references, and examples for competition authorities seeking to conduct an effective ex post evaluation of merger decisions.*

Participants agreed on the potential benefits of a toolkit for *ex post* evaluations of merger decisions. Such a toolkit should not propose a one-size-fits-all approach, but should include approaches that are appropriate and realistic for competition authorities with various levels of resources and expertise. There was also agreement that it would not be appropriate to seek to collect a set of best practices, given that the experience in this area is still relatively limited and that there are significant differences among competition authorities in terms of resources, skills and expertise.

## SYNTHÈSE

*Par le Secrétariat*

Plusieurs points essentiels ressortent des débats de la table ronde, des contributions écrites des délégués et des experts à la table ronde :

- (1) *Les évaluations ex-post des décisions relatives aux fusions peuvent aider à évaluer si les conclusions auxquelles une autorité de la concurrence a abouti pour rendre une décision relative à une opération de fusion donnée étaient correctes à la lumière des éléments dont elle disposait au moment où elle a pris la décision en question ou encore si une décision donnée était conforme aux objectifs d'action publique visés par son pays. Elles constituent un outil important qui peut aider les autorités de la concurrence à améliorer la qualité de leurs futures décisions.*

Lors de la table ronde, experts et délégués sont tombés d'accord sur le fait que les évaluations *ex-post* sont un instrument important pour évaluer les décisions relevant du contrôle des fusions que les autorités de la concurrence ont prises dans le passé ainsi que pour améliorer la qualité de leurs futures décisions. Le contrôle des fusions suppose nécessairement que l'autorité de la concurrence se livre à des prédictions sur les évolutions futures du marché. Les évaluations *ex-post* offrent aux autorités de la concurrence l'occasion si les prédictions qu'elles ont faites étaient justes, étant donnée les informations dont elles disposaient au moment où elles ont rendu leur décision, les postulats sur lesquels reposaient ces prédictions et les outils et modèles utilisés pour aboutir à ces prédictions.

Les évaluations *ex-post* peuvent également être axées sur certains aspects précis des décisions relatives aux fusions rendues dans le passé. En ce qui concerne nombre de décisions, le refus ou l'agrément de l'autorité peut dépendre d'un unique argument irréfutable comme l'arrivée probable d'un nouveau concurrent sur le marché ou l'existence d'importants gains d'efficacité induits par la fusion proprement dite. Si elles sont axées sur ces aspects précis, les évaluations peuvent également indiquer aux autorités de la concurrence quelles données recueillir et de quelle manière évaluer les éléments dont elles disposent lorsqu'elles procéderont au contrôle de futures opérations de fusion dont l'agrément ou le refus dépendra d'arguments analogues. Plusieurs autorités de la concurrence ont en outre utilisé les examens *ex-post* pour confirmer que les mesures correctives demandées ont permis de préserver la concurrence aussi efficacement que prévu.

- (2) *Un certain nombre de méthodes quantitatives – modèles structurels, approche des doubles différences et études d'événement – ainsi que des enquêtes d'opinion peuvent être utilisées pour réaliser des évaluations ex-post. Le choix de la méthode qui s'avèrera la plus utile dépend d'une série de facteurs, comme la disponibilité des données et les ressources et compétences dont l'autorité est dotée. Il n'existe donc pas de méthode unique et idéale applicable à toutes les évaluations ex-post. Combiner les méthodes disponibles est un moyen d'obtenir généralement les résultats les plus fiables et les experts suggèrent aux autorités d'inclure systématiquement une enquête d'opinion dans les exercices d'évaluation.*

Les modèles structurels, l'approche des doubles différences et les études d'événement sont les principales méthodes quantitatives applicables pour réaliser des évaluations *ex-post*. Chacune

présente à la fois des avantages et des inconvénients, qui doivent être pris en compte lors de l'organisation d'un tel exercice et pour déterminer quelle(s) méthode(s) appliquer. Si les données disponibles, les qualifications et les compétences de l'équipe qui en est chargée ne correspondent pas aux exigences de la méthode retenue, cela peut compromettre la fiabilité des résultats de l'évaluation effectuée.

Les modèles structurels permettent d'analyser comment le marché aurait évolué en l'absence de fusion. En principe, ils peuvent donc également être utilisés pour évaluer les décisions de refus d'agrément. Même si les modèles structurels peuvent être considérés comme une méthode de pointe qui permet d'obtenir les résultats les plus fiables, ils ont aussi des limites. Ils reposent en effet sur des modèles d'oligopole standard et ne peuvent être appliqués à un marché n'obéissant pas à l'un d'entre eux. Ils ne peuvent pas non plus rendre compte des évolutions structurelles survenant sur le marché concerné. Quoi qu'il en soit, leur principale limite tient à l'ampleur des données nécessaires et aux compétences économétriques complexes qu'ils requièrent.

La méthode des doubles différences repose sur une comparaison du marché sur lequel la fusion a eu lieu avec l'évolution survenue sur un « marché de référence » qui doit être très similaire à celui sur lequel l'opération s'est déroulée, mais en être aussi suffisamment éloigné pour ne pas en ressentir l'impact. Cette méthode nécessite moins de données. Néanmoins, une quantité importante de données et de compétences économétriques sont tout de même nécessaires pour la mettre en œuvre. Cette méthode dépend par-dessus tout de la capacité à identifier un « marché de référence » pour que les résultats de l'évaluation soient valables.

Les études d'événement analysent les réactions du marché boursier – tant vis-à-vis des parties à la fusion que de leurs concurrents – après l'annonce d'une opération de fusion. Elles ont pour avantage de ne nécessiter qu'une quantité limitée de données facilement accessibles, ce qui exige de mobiliser moins de ressources. Toutefois, cette méthode présente elle aussi des limites. Ainsi, les parties à la fusion et leurs concurrents doivent être des entreprises cotées et, s'il s'agit d'entreprises produisant plusieurs produits, le marché concerné par la fusion doit être leur marché principal. En outre, les intervenants ont fait valoir que les études d'événement ne sont pas une méthode d'évaluation fiable car elles reposent sur le postulat que les marchés boursiers étant efficients traitent rapidement toutes les informations dont ils disposent et les répercutent sur le cours des actions ; or ce postulat a depuis longtemps été démenti par les ouvrages d'économie financière publiés. Selon d'autres participants à la table ronde, ces études peuvent, au contraire, si les circonstances s'y prêtent, fournir des informations utiles sur les décisions relatives aux fusions prises dans le passé. Plusieurs autorités de la concurrence les utilisent comme outil d'évaluation.

Les enquêtes effectuées auprès des acteurs du marché ne sont pas une méthode quantitative mais elles peuvent appuyer les méthodes quantitatives car elles permettent de recueillir des données que les autorités ne pourraient se procurer par un autre moyen. Elles peuvent en outre compléter les résultats qu'ont donnés d'autres types d'évaluations. Ces enquêtes peuvent en outre paraître simples à réaliser. En fait, les questions à poser doivent être préparées avec grand soin si l'on veut en tirer des informations fiables. La composition de l'échantillon est également très importante pour que ces enquêtes portent pleinement leurs fruits.

- (3) *Les décisions relatives aux fusions rendues dans le passé peuvent parfois être évaluées à l'aide d'approche mobilisant moins de ressources. Ainsi, lorsque plusieurs fusions ont eu lieu au fil des ans dans un même secteur d'activité, les autorités peuvent utiliser les procédures ultérieures de contrôle des fusions pour confirmer le bien-fondé des prédictions auxquelles elles se sont livrées pour rendre leurs décisions passées ; elles peuvent aussi utiliser les enquêtes réalisées auprès des acteurs de tel ou tel secteur d'activité pour centrer leurs évaluations sur les opérations de*

*fusion qui ont lieu dans le secteur en question ou bien encore, au moment où elles rendent une décision, elles peuvent déjà identifier quelle autre opération de fusion bien précise donnera lieu à un examen ultérieur, ce qui simplifie le recueil des données. Il importe surtout que les autorités de la concurrence se livrent à un effort systématique et régulier d'examen des décisions qu'elles ont prises dans le passé pour évaluer si ces décisions se sont avérées correctes et peuvent servir d'outils d'analyse efficaces.*

Un délégué reconnaît que les autorités de la concurrence ne disposent pas de toutes des ressources nécessaires et/ou n'ont pas toutes rendues un nombre suffisant de décisions relatives à des opérations de fusion pour mettre en œuvre certaines des méthodes d'évaluation les plus complexes ou qui mobilisent beaucoup de ressources. Les intervenants ont toutefois souligné qu'il existe un large éventail d'approches applicables pour mener à bien des évaluations *ex-post* et que les autorités de la concurrence ne sont pas toutes tenues de faire appel aux méthodes les plus complexes et les plus onéreuses. Elles doivent néanmoins s'engager à réexaminer systématiquement les décisions qu'elles ont rendues, fût-ce à l'aide d'approches plus sommaires, et se garder de supposer simplement que leurs interventions passées ont été fructueuses.

Il existe plusieurs méthodes que même les petites autorités de la concurrence peuvent utilement mettre en œuvre. Par exemple, elles peuvent procéder au contrôle d'une opération de fusion dans un secteur donné en vue d'évaluer la justesse des décisions qu'elles ont prises dans le passé concernant d'autres opérations dans ce même secteur. L'autorité de la concurrence peut aussi recourir à des « mini-évaluations » limitées et ciblant des secteurs d'activité importants au sein desquels elle s'attend à un grand nombre de fusions. Elle peut en outre appliquer la stratégie consistant à « semer des graines » qui consiste à considérer, au moment où elle rend une décision, que celle-ci fera l'objet d'une évaluation future. Au moment de la clôture du dossier, elle doit alors mettre clairement en évidence les principales raisons ayant motivé cette décision et commencer à recueillir, dès que l'opération de fusion est réalisée, les données qui seront nécessaires à cette future évaluation. Certains intervenants ont en outre soutenu que les méthodes qualitatives, tout en mobilisant moins de ressources, peuvent quand même fournir des informations utiles quant à la justesse des décisions rendues dans le passé.

- (4) *Il importe d'organiser avec soin les examens ex-post pour assurer que leurs résultats sont fiables et pour en maximiser l'utilité. Cela requiert de définir précisément l'objectif de l'exercice, de choisir avec soin les décisions qui feront l'objet de l'évaluation, de s'assurer que les données disponibles ont été identifiées et de choisir une méthode d'évaluation adaptée à la décision retenue ainsi qu'aux données disponibles pour laquelle l'autorité de la concurrence, ou les experts extérieurs qui procéderont à l'évaluation, sont dotés des compétences requises afin de ne pas compromettre la fiabilité des résultats.*

Les experts et les délégués des autorités de la concurrence qui ont effectué des évaluations *ex-post* sont tombés d'accord sur le fait qu'une organisation minutieuse est indispensable pour maximiser les avantages de tels exercices. L'objectif et l'ampleur de l'évaluation comptent au nombre des premiers éléments à prendre en compte. La conception même de l'évaluation doit assurer que cet exercice permettra bien à l'autorité de déterminer si les décisions qu'elle a rendues dans le passé étaient les bonnes, à la lumière des objectifs visés par les pouvoirs publics de son pays et des éléments dont elle disposait à l'époque, mais également si l'analyse qui l'a conduite à prendre la décision en question était juste et complète.

Nul n'a contesté non plus qu'il convient de choisir avec soin la ou les décisions à évaluer. Les décisions rendues alors que les avis étaient très partagés peuvent ainsi être particulièrement intéressantes à examiner. Le choix peut aussi porter, par exemple, sur les décisions prises alors

qu'au sein de l'autorité de la concurrence, les personnes qui s'en sont chargées n'étaient pas sûres de savoir comment évaluer correctement les éléments dont elles disposaient, voire ont pu être en désaccord à ce sujet, et/ou sur les décisions qui se sont heurtées à de vives critiques de l'opinion publique. La disponibilité probable des données doit également entrer en ligne de compte pour choisir les décisions qui donneront lieu à une évaluation *ex-post*. En outre, un délai suffisant doit s'être écoulé depuis le moment où la décision a été prise pour que l'on puisse assurément en observer les effets, mais il ne doit pas être trop long non plus, car il serait alors difficile de distinguer les effets en question d'autres évolutions survenues sur le marché concerné.

Le choix de l'équipe chargée de l'évaluation est également important. La réalisation d'examens *ex-post* en interne peut exiger d'importantes ressources mais faciliter dans le même temps l'accès aux données nécessaires quand les dossiers sont confidentiels ou que les parties ne sont pas disposées à les communiquer à des consultants extérieurs. Quoi qu'il en soit, dans un souci d'impartialité, si une autorité décide de procéder à une évaluation *ex-post* en interne, cette évaluation devra alors être réalisée par des collaborateurs qui n'auront joué aucun rôle dans la décision rendue à l'origine.

- (5) *Les examens ex-post peuvent également servir à évaluer les avantages engendrés par les activités d'application de la loi en général et à démontrer que les coûts d'un régime de contrôle des fusions sont justifiés compte tenu des avantages qui en découlent. Les méthodes simplifiées reposant sur un nombre limité de paramètres peuvent servir à estimer les avantages pour les consommateurs en les isolant des autres activités générales de contrôle de fusions exercées par une autorité de la concurrence.*

Les évaluations *ex-post* peuvent également servir à évaluer les avantages généraux engendrés par les activités d'application de la loi. Dans cette optique, les autorités de la concurrence peuvent recourir à des méthodes plus simples, qui leur permettent d'estimer l'impact d'un plus grand nombre de décisions.

Cela étant, les approches normalement utilisées pour quantifier les avantages des régimes de contrôle des fusions ont également leurs limites (d'où un grand nombre de décisions d'action/non-action). Elles ne comportent pas un examen détaillé des décisions de fusion spécifiques, mais effectuent des calculs simples pour déterminer les avantages probables découlant d'un grand nombre de décisions relatives aux fusions. En outre, elles reposent sur le postulat que les décisions rendues par les autorités de la concurrence sont toutes correctes. Plus important encore, les avantages en question n'incluront probablement pas une estimation du pouvoir de dissuasion du régime de contrôle des fusions en raison de la difficulté inhérente à un tel exercice.

Certains délégués ont également fait valoir que seules les évaluations *ex-post* de détails multiples peuvent permettre à des conclusions plus générales sur l'efficacité de l'application de la fusion à l'égard de certains types de fusions.

- (6) *Étant donné que l'importance des évaluations ex-post est de plus en plus admise, compte tenu des difficultés liées à la réalisation de ces examens et du fait qu'un nombre croissant d'autorités de la concurrence se sont déjà livrées à cet exercice, il convient, semble-t-il, d'envisager de s'employer plus systématiquement à compiler, dans un document unique, ces expériences et les techniques utilisées afin d'élaborer un manuel recensant les savoir-faire, indiquant des références et donnant des exemples aux autorités de la concurrence désireuses de procéder à des évaluations ex-post efficaces des décisions qu'elles ont rendues relatives à des opérations de fusion.*

Les participants sont tombés d'accord sur les avantages que pourrait procurer un manuel consacré aux évaluations *ex-post* des décisions relatives aux fusions. Ce manuel ne saurait imposer une

approche unique, applicable à tous les cas de figure, mais devrait notamment proposer des approches qui soient applicables de manière réaliste par les autorités de la concurrence, que celles-ci soient dotées de ressources et de compétences plus ou moins importantes. Ils se sont en outre accordés à dire qu'il ne serait pas adapté de compiler un ensemble de meilleures pratiques puisque l'expérience des autorités dans ce domaine est encore relativement limitée et que l'écart entre les différentes autorités de la concurrence sur le plan des ressources, des qualifications et des compétences dont chacune dispose est important.



## CALL FOR CONTRIBUTIONS



DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS  
Competition Committee

**The Chairman**

COMP/2011.57

24 March 2011

### TO ALL COMPETITION DELEGATES AND OBSERVERS

**Re: Roundtable on "Impact Evaluation of Merger Decisions"**  
**Competition Committee (29-30 June 2011)**

Dear Delegate/Observer,

This February we agreed to hold a roundtable discussion on how to evaluate the impact of merger decisions by competition authorities at the Competition Committee's June 2011 meeting. This letter is an invitation for written submissions to the roundtable.

As you are aware, the Committee will also hold a roundtable on Compliance with Competition Law in the June 2011 session. To avoid overlap with that discussion, I propose that we deal with all of the impact evaluation issues related to merger decisions in this roundtable, including both the methodology for doing the evaluations and the meaning of the results that have emerged from evaluations that have already been done. The Compliance roundtable will not cover mergers at all.

This roundtable will look first at various methodologies that can be/have been applied to assess whether a competition authority's predictions of the likely effects on consumer welfare of their decisions regarding reviewed mergers turned out to be accurate. By "decisions," we mean to include both decisions to intervene and not to intervene. In all instances, we are interested in whether the decision turned out to be welfare-enhancing, necessary, or perhaps detrimental. We are also interested in how various methodologies make the trade-off between feasibility/practicality and accuracy. But impact evaluations raise a number of other methodological questions, including who should undertake them (outsiders, other government agencies, or competition authority staff), how to select the merger decisions that should be included, how to collect and handle the data required for such studies, and steps a competition authority can take to ensure that the results of studies lead to better future decision making in merger review.

We will also consider the results of such studies: what they concluded about the effects of previous decisions in merger cases; how the competition authority interpreted the results; whether the results were specific enough and "useful," in the sense that they allowed the competition authority to improve merger review in future cases; and whether we can derive general lessons about the usefulness and accuracy of merger review from these studies.

Given the nature of the topic, the quality and utility of the roundtable will critically depend on the written contributions from members and observers, so I look forward to your submissions. Several committee members have undertaken evaluation studies of merger review in the past. I hope that when you report about your experiences you can inform the Committee not only about how you did things and how you benefitted from the studies, but also about problems and weaknesses, perhaps even mistakes that were made, and things that you want to improve in future studies. These types of experiences would be particularly informative for committee members





and observers. Even if your authority has not yet done a formal *ex-post* impact evaluation study of merger decisions your written contributions would be valuable, for example if you describe any informal ex post reviews of the effect of merger decisions you have undertaken in the past, explain what has prevented you from undertaking formal impact evaluations even though you would consider them useful, or identify questions you have about such studies.

Professors Oliver Budzinski (University of Southern Denmark) and Andrew Gavil (Howard University Law School) will attend the roundtable, present their views, and discuss any questions. There will be no background paper for this roundtable.

To help you to prepare your contribution, I am attaching a number of issues and questions that you should feel free to respond to and discuss in your submission. This is not intended to be a restrictive or comprehensive list. Delegations are encouraged to raise and address other issues as well, based on their own experience in this area. A suggested bibliography is also attached.

Please advise the Secretariat **by 15 April 2011 at the latest** if you will be making a written contribution. Written submissions are due **by 6 June 2011**. Failure to meet that deadline could result in a contribution not being distributed to delegates over OLIS in a timely fashion in advance of the meeting.

All communications regarding documentation for this roundtable should be sent to Ms. Erica Agostinho [Tel. - (331) 45 24 89 73; Fax - (331) 45 24 96 95; E-mail – [erica.agostinho@oecd.org](mailto:erica.agostinho@oecd.org)]. Jeremy West would be pleased to answer any substantive questions you may have about the roundtable. His phone number and e-mail address are: (331) 45 24 17 51 and [jeremy.west@oecd.org](mailto:jeremy.west@oecd.org).

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Frédéric Jenny'. The signature is stylized with a large initial 'F' and a long horizontal stroke.

Frédéric Jenny  
Chairman  
Competition Committee



### Suggested Issues and Questions for Consideration in Country Submissions

#### 1. Methodologies

- What methodologies can be used to evaluate the impact of merger review by competition authorities, i.e. to assess whether the decision(s) taken by the competition authorities in a merger case or a series of mergers was consistent with consumer welfare goals and was superior to alternative decisions the competition authority could have taken?
- What are the advantages/disadvantages of various methodologies, in particular in terms of the data they require and the trade-off between practicality/feasibility and accuracy/credibility of results? Are certain methodologies more suitable for certain types of ex post reviews than for others? For example, are there particularly data-intensive methodologies that might be more suitable for studies of a very limited number of merger review decisions, and other methodologies that are more useful for studies of a larger number of merger decisions?
- If the direct impact of merger decision on consumer welfare is difficult to assess, are there useful proxies that can be used instead?
- What methodologies have you used in previous studies? Did they produce meaningful results?

#### 2. Designing Impact Evaluation Studies

- How frequently have you done/are you doing impact evaluation studies? Are review exercises held in reaction to specific events, are they a regular exercise, or are they dependent on other factors (available budget, for example)? Should competition authorities be required to undertake such studies regularly (and be given the resources to do so)?
- What types of merger decisions could be most usefully included in an ex post impact study? Merger decisions with remedies could be an obvious choice because they involve predictions not only of the likely effects of a transaction but also about effectiveness of the required cure. But there may be other selection criteria: For example, have you focused on merger decisions involving "close calls," where the competition authority had to make an intelligent guess about a proposed transaction's effects and ultimately cleared the transaction? Is it useful to focus on previous merger decisions in a specific industry to assess whether merger review affected market performance? What have you done in the past, and why?
- Who was (should be) involved in designing the impact evaluation study?
- What factors must be considered when designing the impact evaluation study?

#### 3. Conducting the Impact Evaluation Study

- Who conducted the study: outsiders, other government agencies, or competition authority staff?
- Where did the data required for impact evaluation studies come from? Can publicly available data be sufficient? If non-public information must be obtained from industry participants, what powers do you have to get the data? If the competition authority does not have specific powers to obtain non-public information from industry participants for this type of study, can impact evaluation studies still produce useful results for merger review?
- How did industry participants react to impact evaluation studies if they were required to produce data? Were they cooperative to some extent because they considered these studies beneficial; were they neutral; sceptical? Did you work with industry participants to improve their understanding of the exercise and willingness to cooperate?
- Was there internal opposition to such studies (e.g. staff who were not eager to see their decisions reviewed), and if so, how was it addressed?



4. *Results & Lessons Learned*

- What did the studies conclude about the effects of your previous decisions in merger cases? In particular, where studies were done by outsiders, how did you interpret the results, and to what extent did you agree/disagree with the outside reviewers' conclusions?
- How have you used the results of impact evaluation studies? Were all results published? What were the reactions, inside the competition authority and outside?
- Have the outcomes of impact evaluation studies been used to improve merger review? If so, what changes have you made, and have they made a difference?
- What lessons have you learned from previous studies in terms of things that went really well and led to useful results, and things that did not go well? Were there things in the design and actual operation that could have been done better and that you want to improve in the next study? Were there studies that did not produce any useful, informative results?
- Are there any general lessons from impact evaluation studies you conducted in non-merger areas that could be used to improve studies on the impact of merger review?
- Can you identify good practices that should inform all studies evaluating the impact of merger review?
- Can we derive general lessons about the usefulness and accuracy of merger review from past impact assessment studies?



### Suggested Bibliography

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## APPEL À CONTRIBUTIONS



DIRECTION DES AFFAIRES FINANCIERES ET DES ENTREPRISES  
Comité de la Concurrence

Le Président

COMP/2011.57

24 Mars 2011

### À TOUS LES DÉLÉGUÉS ET OBSERVATEURS

**Objet: Table ronde sur “l'évaluation de l'impact des décisions relatives aux fusions”**  
**Comité de la Concurrence (29-30 juin 2011)**

Cher délégué / observateur,

En février 2011, le Comité de la Concurrence a convenu de tenir une discussion lors de sa réunion de juin sur les modes d'évaluation de l'impact des décisions relatives aux fusions utilisées par les autorités de la concurrence. Cette lettre est un appel à contributions pour cette table ronde.

Comme vous le savez, le Comité organisera, lors de la session de juin 2011, une table ronde sur la promotion de la conformité au droit de la concurrence. Pour éviter tout chevauchement avec cette discussion, je propose que nous traitions, lors de la table ronde consacrée à l'évaluation de l'impact des décisions relatives aux fusions, de toutes les questions se rapportant à ce sujet et notamment des méthodologies utilisées et de la signification des résultats des évaluations déjà réalisées. La table ronde sur la promotion de la conformité ne portera pas du tout sur les fusions.

La table ronde consacrée à l'évaluation de l'impact des décisions relatives aux fusions s'intéressera dans un premier temps aux différentes méthodologies qui peuvent être appliquées, ou qui l'ont été, pour évaluer si les prévisions d'une autorité de la concurrence relatives aux effets probables, sur le bien-être des consommateurs, de ses décisions relatives aux opérations de fusion qu'elle a contrôlées se sont avérées exactes. On entend ici par « décisions » les décisions d'intervenir comme celles de ne pas intervenir. En tout état de cause, ce qui nous intéresse, c'est de savoir si les décisions prises ont eu pour effet d'accroître le bien-être, si elles ont été utiles ou parfois préjudiciables. Nous voulons également savoir comment ces méthodes permettent de concilier faisabilité/praticabilité des évaluations et exactitude de leurs résultats. Cela étant, les évaluations d'impact soulèvent un certain nombre d'autres questions méthodologiques, notamment celles de savoir qui doit les réaliser (des intervenants extérieurs, d'autres organismes publics ou le personnel de l'autorité de la concurrence), comment choisir les décisions relatives aux fusions sur lesquelles doivent porter les évaluations et comment recueillir et traiter les données indispensables pour les mener à bien. Il s'agit en outre de recenser les mesures que les autorités de la concurrence peuvent prendre pour assurer que les résultats de ces évaluations débouchent sur une amélioration des décisions qu'elles rendent dans le cadre du régime de contrôle des fusions.

Nous examinerons par ailleurs les résultats de ces évaluations : quelles en ont été les conclusions concernant les effets des décisions rendues dans le passé dans des affaires de fusion ; comment les autorités de la concurrence ont-elles interprété ces résultats ; ces résultats ont-ils été suffisamment précis et « utiles » au sens où ils ont permis aux autorités de la concurrence d'améliorer les procédures de contrôle des fusions lors d'affaires suivantes ; et peut-on tirer de ces évaluations des enseignements généraux sur l'utilité et l'exactitude de ces procédures.



Compte tenu de la nature du thème traité, la qualité et l'utilité de la table ronde dépendront essentiellement des contributions écrites des membres et observateurs. J'attends donc vos présentations avec intérêt. Plusieurs membres du Comité ont entrepris, dans le passé, des évaluations des procédures de contrôle des fusions. J'espère que lorsque vous ferez part au Comité de vos expériences en la matière, vous serez en mesure de lui rendre compte de vos réalisations et de la manière dont vous les avez mises à profit, mais aussi des problèmes et des lacunes que vous avez pu rencontrer, voire des erreurs qui ont été commises et des mesures que vous souhaitez prendre pour améliorer les futures évaluations. Des données d'expérience de ce type seraient particulièrement instructives pour les membres du Comité et les observateurs. Même si l'autorité de la concurrence de votre pays n'a encore procédé à aucune évaluation *ex post* formelle de l'impact des décisions relatives aux fusions, vos contributions écrites seraient riches d'enseignement si vous y décriviez, par exemple, les examens *ex post* informels des décisions relatives aux fusions que vous avez pu réaliser dans le passé, si vous y expliquiez ce qui vous a empêché de procéder à des évaluations formelles, même si vous les jugiez utiles, ou si vous y énumérez les questions que vous vous posez sur ce type d'exercice.

MM. Oliver Budzinski (de l'université du Danemark du Sud) et Andrew Gavil (de la faculté de droit de l'université Howard) participeront à cette table ronde, exposeront leurs vues et débattront des questions qui y seront soulevées. Aucune note de référence ne sera préparée à l'issue de cette table ronde.

A titre d'inspiration, je joins un certain nombre de questions plus spécifiques que vous devriez aborder dans votre contribution. Cependant, cette liste n'est pas exhaustive. Les délégations sont ainsi invitées à aborder d'autres questions en fonction de leur propre expérience. Les premières recherches suggèrent que la littérature dans ce domaine spécifique est limitée, mais vous trouverez ci-joint une brève bibliographie.

Nous vous remercions de bien vouloir indiquer au Secrétariat d'ici **le 15 avril 2011** si vous comptez soumettre une contribution écrite. Elles devront nous parvenir **le 6 juin 2011** au plus tard. En cas de non-respect de ce délai, votre contribution risque de ne pas être diffusée sur OLIS à temps pour la réunion.

Toutes les communications relatives à la documentation pour cette table ronde doivent être envoyées à Mme Erica Agostinho, tél. - (331) 45 24 89 73, Fax - (331) 45 24 96 95, E-mail - [erica.agostinho@oecd.org](mailto:erica.agostinho@oecd.org). Jeremy West répondra volontiers à toutes les questions de fond sur cette table ronde. Son numéro de téléphone et adresse e-mail sont les suivants: (331) 45 24 17 51, [jeremy.west@oecd.org](mailto:jeremy.west@oecd.org).

Cordialement,

Frédéric Jenny  
Président  
Comité de la concurrence



### Thèmes proposés et questions à prendre en considération pour les contributions

#### 1. Méthodologies

- Quelles méthodologies peut-on utiliser pour évaluer l'impact des procédures de contrôle des fusions suivies par les autorités de la concurrence, autrement dit s'agit-il d'évaluer si la ou les décisions qu'elles ont rendues dans le cadre d'une affaire de fusion ou d'une série d'opérations de fusion étaient compatibles avec les objectifs de bien-être des consommateurs ou si ces décisions étaient meilleures que d'autres décisions qu'elles auraient pu rendre ?
- Quels sont les avantages/inconvénients des différentes méthodologies, en particulier en ce qui concerne les données à recueillir et l'équilibre à trouver entre la praticabilité/la faisabilité de l'exercice et l'exactitude/la crédibilité de ses résultats ? Certaines méthodologies sont-elles plus adaptées que d'autres à certains types d'évaluations *ex post* ? Peut-on dire par exemple que certaines méthodologies nécessitant en particulier de recourir à un très grand nombre de données pourraient être plus adaptées pour évaluer un très petit nombre de décisions relevant de la procédure de contrôle des fusions alors que d'autres méthodologies seraient plus utiles pour réaliser des évaluations portant sur un plus grand nombre de décisions ?
- S'il est difficile d'évaluer l'impact direct d'une décision sur le bien-être des consommateurs, d'autres paramètres présentant un intérêt peuvent-ils être utilisés à la place ?
- Quelles méthodologies avez-vous utilisées pour vos évaluations ? Ont-elles abouti à des résultats intéressants ?

#### 2. Élaboration des évaluations d'impact

- À quelle fréquence avez-vous réalisé /réalisez-vous des évaluations d'impact ? Ces exercices font-ils suite à des événements particuliers, s'agit-il d'un exercice périodique ou dépendent-ils d'autres facteurs (budget disponible par exemple) ? L'autorité de la concurrence devrait-elle être tenue de procéder périodiquement à ces exercices (et donc faut-il lui allouer les ressources nécessaires à cette fin) ?
- Sur quels types de décisions serait-il le plus intéressant de faire porter une évaluation *ex post* ? Les décisions assorties de mesures correctives pourraient paraître un choix évident car elles prédisent notamment les effets probables d'une opération de fusion, mais aussi l'efficacité des mesures correctives imposées. Cela étant, d'autres critères peuvent être retenus : avez-vous ainsi fait porter les évaluations sur les décisions pour lesquelles les avis ont été très partagés et au sujet desquelles l'autorité de la concurrence a dû se livrer à des conjectures éclairées sur les effets que pourraient avoir un projet de fusion qu'elle a finalement approuvé ? Est-il intéressant de faire porter les évaluations sur les décisions passées concernant un secteur donné afin d'évaluer si la procédure de contrôle des fusions a eu une incidence sur la performance d'un marché ? Comment avez-vous procédé dans le passé et pour quelles raisons ?
- Qui a pris (ou devrait prendre) part à l'élaboration de l'évaluation ?
- Quels facteurs doivent-ils être pris en compte lors de l'élaboration de l'évaluation ?

#### 3. Réalisation de l'évaluation

- Qui a réalisé l'évaluation : des intervenants extérieurs, d'autres organismes publics ou le personnel de l'autorité de la concurrence ?
- D'où provenaient les données nécessaires à l'évaluation ? Les données publiquement accessibles peuvent-elles suffire ? S'il faut se procurer, auprès d'acteurs du secteur, des données qui n'ont pas été rendues publiques, de quels pouvoirs disposez-vous pour les obtenir ? Si l'autorité de la concurrence n'est dotée d'aucun pouvoir précis lui permettant d'obtenir, auprès d'acteurs du secteur, des informations qui ne sont pas dans le domaine public pour réaliser ce type d'exercice, les évaluations peuvent-elles quand même produire des résultats présentant un intérêt aux fins du contrôle de fusions ?





- Comment les acteurs du secteur ont-ils réagi aux évaluations dans les cas où ils ont été contraints de fournir des informations ? Jugeant ces évaluations utiles, se sont-ils montrés coopératifs jusqu'à un certain point ? Ont-ils réagi sans idée préconçue ? Se sont-ils montrés sceptiques ? Avez-vous coopéré avec les acteurs du secteur pour leur faire mieux comprendre l'intérêt de l'exercice et pour les inciter à coopérer davantage ?
- Vous êtes-vous heurté en interne à une opposition vis-à-vis de ces évaluations (par exemple de la part de membres du personnel qui n'étaient guère désireux de voir leurs décisions réexaminées) et, le cas échéant, comment avez-vous réglé ce problème ?

4. *Résultats et enseignements*

- Quelles ont été les conclusions des évaluations, concernant les effets des décisions que vous aviez rendues dans le passé dans des affaires de fusion ? En particulier, lorsque les évaluations ont été réalisées par des intervenants extérieurs, comment en avez-vous interprété les résultats et dans quelle mesure étiez-vous d'accord ou non avec les conclusions des intervenants ?
- Vous êtes-vous servi des résultats de ces évaluations ? Tous les résultats ont-ils été rendus publics ? Quelles ont été les réactions au sein et en dehors de l'autorité de la concurrence ?
- Les résultats des évaluations ont-ils été utilisés pour améliorer le régime de contrôle des fusions ? Le cas échéant, quels changements avez-vous apporté et ces changements ont-ils été décisifs ?
- Quels enseignements avez-vous tiré des évaluations antérieures concernant ce qui a vraiment bien fonctionné et donné des résultats intéressants ou, au contraire, ce qui n'a pas fonctionné ? Y a-t-il des aspects de l'élaboration ou du déroulement de l'évaluation que vous auriez pu mieux aborder et que vous souhaiteriez améliorer pour les évaluations suivantes ? Certaines évaluations n'ont-elles abouti à aucun résultat utile ou instructif ?
- Certains enseignements généraux que vous avez tirés d'évaluations ne portant pas sur des décisions relatives à des fusions pourraient-ils servir à améliorer les évaluations de l'impact des procédures de contrôle des fusions ?
- Pouvez-vous recenser des pratiques exemplaires qui devraient être appliquées à toutes les évaluations de l'impact des procédures de contrôle des fusions ?
- Peut-on tirer des évaluations passées certains enseignements généraux sur l'utilité et l'exactitude des procédures de contrôle des fusions ?



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**BELGIUM\*****1. Methodologies**

*What methodologies can be used to evaluate the impact of merger review by competition authorities, i.e. to assess whether the decision(s) taken by the competition authorities in a merger case or a series of mergers was consistent with consumer welfare goals and was superior to alternative decisions the competition authority could have taken?*

The Belgian Competition Authority wants to highlight that the methodology used to assess decisions taken by the competition authorities in a merger case may depend on the relevant counterfactual. For instance, the methodology used may depend on whether the benchmark against which the impact of the decision is evaluated is

- the absence of merger review – the merger would have been cleared without review;
- another decision by the competition authority – e.g., what would have happened if the competition authority had required more or less stringent remedies.

In its annual report, the Belgian Competition Authority uses (since 2008) an extremely simple methodology to quantify the useful effect of its actions. In doing so, we have until now focussed on restrictive practices and use the same methodology as the European Commission (see box 1 below). In essence, the useful effect of our activity would not have been very different if we had included merger review, because the useful effect (in the Commission's methodology) derives from remedies or prohibitions, and Belgian Competition Authority has not prohibited any merger and has imposed remedies in one occasion since 2008.<sup>1</sup>

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\* Submitted by the Competition Authority- Directorate General, Belgium.

<sup>1</sup> Decision 2010-c/c-08: Mobistar/KPN Belgium Business (25/03/2010).

**Box 1: Simple methodology to evaluate the effects of merger activity**

To evaluate the useful effect of its activity, the Belgian Competition Authority uses the methodology developed by the European Commission. For what concerns concentrations, the methodology focuses on decisions where remedies are imposed on the undertakings concerned and decisions that prohibit the merger in progress<sup>2</sup>.

The thresholds for merger notification raised significantly in 2006. The objective the Belgian legislator was to reduce resources dedicated to merger review and increase resources available for restrictive practices. Since then, the Belgian Competition Authority reviews a limited number of mergers per year and has only imposed remedies in two decisions, where behavioural remedies were imposed on telecom operators,<sup>3</sup> one of which also included structural remedies (the sale of the fiber network).<sup>4</sup>

Following the European Commission we consider that the concentration would have created or strengthened a dominant position—in the absence of remedies—that would have had the effect of increasing prices on the relevant market by 10%. Therefore, the useful effect is 10% of the relevant market.

The Belgian Competition Authority only seeks to evaluate the effect of its merger review activity against an absence of merger review and has not yet tried to evaluate whether alternative decisions would have led to a superior consumer welfare outcome. We, nevertheless, believe that the latter exercise would be extremely relevant and would very much welcome additional work along these lines.

Such empirical investigations are likely to help drawing the attention of policy makers, competition authorities and practitioners on the most relevant characteristics of mergers that are most likely to affect consumer welfare. In addition to the useful suggested bibliography provided in the suggested issues and questions, we found the following article useful, as it sets out a methodology to generate evidence to guide merger enforcement:

- Ashenfelter, O. C., D. Hosken and M. Weinberg (2009), ‘Generating Evidence to Guide Merger Enforcement,’ CEPS WP 183.

Finally, the Belgian Competition Authority believes that more work is necessary on a related issue: assessing the tools used by economists to predict post-merger effects. Indeed, competition authorities rely increasingly on merger simulation techniques in assessing the effects of mergers, but surprisingly few studies have evaluated the predictive effect of such techniques. Exceptions are for instance:

- Hosken, D. (2011), ‘*Ex-post* merger review: what is it and why do we need it?’ Oxera Agenda, March 2011.
- Peters, C. (2006), ‘Evaluating the Performance of Merger Simulation: Evidence from the US Airline Industry,’ *Journal of Law and Economics*, 49: 627-49.
- Weinberg, M. and D. Hosken (2008), ‘Using Mergers to Test a Model of Oligopoly,’ WP Federal Trade Commission.
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<sup>2</sup> See eg, Commission (2010), ‘DG Competition Management Plan 2010,’ 12 May 2010.

<sup>3</sup> Decision 2010-c/c-08: Mobistar/KPN Belgium Business (25/03/2010) and 2008-c/c-59 : Belgacom/Scarlet (07/11/2008).

<sup>4</sup> Decision 2008-c/c-59 : Belgacom/Scarlet (07/11/2008).

*What are the advantages/disadvantages of various methodologies, in particular in terms of the data they require and the trade-off between practicality/feasibility and accuracy/credibility of results? Are certain methodologies more suitable for certain types of ex post reviews than for others? For example, are there particularly data-intensive methodologies that might be more suitable for studies of a very limited number of merger review decisions, and other methodologies that are more useful for studies of a larger number of merger decisions?*

As developed in point 1., the Belgian Competition Authority believes that a (overly?) simplistic methodology can be used to quantify the useful effect of merger review. Such a methodology is not rigorous, but is extremely easy to apply. It enables the authority to explain how resources are used.

The Belgian Competition Authority has no specific experience to share concerning more sophisticated methodologies (but would welcome more work on these issues). The studies cited above can be of interest.

*If the direct impact of merger decision on consumer welfare is difficult to assess, are there useful proxies that can be used instead?*

No specific experience to share, but the studies cited above can be of interest.

*What methodologies have you used in previous studies? Did they produce meaningful results?*

No experience to share.

## **2. Results and lessons learned**

As developed in point 1. and 2., the Belgian Competition Authority uses a very simple methodology to quantify the useful effect of its merger review activity. Such a methodology is not rigorous, but enables the authority to explain how resources are used.

The Belgian Competition Authority would welcome empirical studies that evaluate whether alternative decisions would have increased consumer welfare. Such studies are expected to help policy makers and competition authorities to focus resources on the most relevant mergers, and reach better decisions. Moreover, the Belgian Competition Authority would studies assessing the tools used by economists to predict post-merger effects.



## CANADA

### 1. Introduction

Merger review is inherently a forward-looking predictive exercise. This is especially true in Canada where the *Competition Act* (the “Act”) prohibits the Commissioner of Competition from challenging a merger under the merger provisions of the Act more than one year after it has been substantially completed.<sup>1</sup> This increases the importance of ensuring, *ex-ante*, that appropriate information is gathered and interpreted correctly, so that mergers that will likely lessen or prevent competition substantially are properly identified and that appropriate remedial action is taken. Further, in cases where it is decided that enforcement action is warranted, agencies must ensure that the remedies sought will be effective in achieving their intended purpose.

While merger review is often about looking forward, much can be gained from considering past actions. When resources permit, *ex-post* studies of merger decisions support agencies in comparing their predictions with the tangible events that occurred in the market(s) of concern, and in certain cases, provide means to evaluate and improve performance. For example, a review of past enforcement decisions may cast a new light on past decisions and the veracity of key information. With this new insight, the agency may alter its information-gathering procedures to ensure that critical information is collected and tested. In other cases, the agency’s predictions may have been inaccurate because of a misinterpretation of the available information. In such circumstances, an *ex-post* review provides a mechanism to identify and learn from past mistakes. Finally, *ex-post* studies allow the competition agency to assess what analytical approaches are working well, thereby confirming the basis for the agency’s predictions and remedy design.

This submission outlines two recent *ex-post* studies. The Competition Bureau (the “Bureau”) commissioned a third party to conduct the first study, and the second study was conducted internally by the Bureau’s Mergers Branch. The first study evaluated the accuracy of the Bureau’s predictions of likely competitive effects in a small number of “borderline” cases that had raised material competition concerns, but where the Bureau ultimately decided that the merger did not merit a challenge before the Competition Tribunal (the “Tribunal”) or warrant the seeking of remedies by the Bureau. The second study examined the effectiveness of merger remedies sought by the Bureau in previous cases. The results of these studies, and other informal evaluations of past decisions, have been of significant value to the Bureau in developing policies and procedures with respect to the analysis of mergers and the design and implementation of merger remedies.

### 2. *Ex-Post* merger review study

In 2006-2007, at the request of the Bureau, CRA International (“CRA”), an economic and financial consulting firm, conducted an *ex-post* merger review study<sup>2</sup> to consider whether the Bureau applied

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<sup>1</sup> Prior to amendments made to the Act on March 12, 2009, the Commissioner of Competition could challenge a merger within three years of it being substantially completed.

<sup>2</sup> Mark Neumann & Margaret Sanderson, CRA International, “Ex Post Merger Review: An Evaluation of Three Competition Bureau Merger Assessments”, August 1, 2007. Bureau announcement and report available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02468.html>.



appropriate analytical approaches and took reasonable decisions in three separate merger reviews.<sup>3</sup> Specifically, CRA considered whether any of the markets examined in those reviews were substantially less competitive than they were pre-merger.

### **2.1 *Selecting the cases to study***

The objective of the study was to consider mergers that had raised material competition concerns, but where the Bureau ultimately decided that the merger did not merit a challenge before the Tribunal or warrant seeking a remedy from the parties. The Bureau worked with CRA to determine which cases to study. In particular, the following considerations were taken into account:

- Sufficient evidence had been gathered at the time of the review to formulate reasonably detailed predictions about likely competitive effects.
- Sufficient time had passed that the market(s) in question would have adjusted to the merger.
- The market was not in a considerable state of flux at the time of (or after) the merger such that it would be difficult to determine the response of the market to the merger.
- The participants would likely be willing to be interviewed and provide useful information.
- Useful public data about market conditions before and after the merger was available.

### **2.2 *Understanding the predicted outcomes***

The study involved understanding, as precisely as possible, the nature and the basis of the Bureau's predictions in each of the respective reviews and any overriding conditions (*e.g.*, barriers to entry, countervailing power, etc.) that were of predominant importance in the ultimate decision to either not challenge the merger, or seek remedies. To this end, CRA was provided with the Bureau's analysis, as well as supporting evidence from the relevant case files.

### **2.3 *Understanding the actual outcomes***

To determine the competitiveness of *ex-post* market conditions, CRA undertook analyses that, in many ways, paralleled the Bureau's original investigations. For example, CRA conducted interviews with market participants, determined the set of products that buyers would consider to be sufficiently close substitutes to be part of the same relevant market, measured market shares and concentration, considered barriers to entry, and the other factors influencing competition. CRA also considered post-merger changes including those affecting buyer behaviour and any supply responses by rivals or entrants, and price or service levels.

### **2.4 *Findings***

CRA found that, in general, the Bureau's analyses accurately assessed market conditions, and reasonably predicted outcomes accounting for the information that was available at the time of the Bureau's reviews. In addition, the report identified several areas where the Bureau could make incremental improvements to its merger analysis.

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<sup>3</sup> Three merger reviews were selected as part of the study: the 2000 acquisition by Corus Media of the assets of WIC Broadcasting; the 2003 merger of a number of coal companies based in western Canada, collectively referred to at the time as the Fording Group; and a 1998 joint venture between 506062 New Brunswick Ltd. (Carmeuse) and Lafarge S.A., both suppliers of building materials.

For example, CRA concluded that the Bureau may have given too much weight to the size of customers in its assessment of countervailing power in one of the cases examined. CRA observed that “size is only a proxy for the strength of a negotiating position and not *per se* the basis for a strong negotiating position. The next best alternative available to the seller and buyer are more important.”<sup>4</sup> As a result, CRA recommended that the Bureau give more critical consideration to claims of countervailing power in future cases.

CRA also recommended that the Bureau “[r]ecognize that in markets with differentiated products and the ability to reposition products that the dynamics can be complex and a straightforward application of market shares may miss some key aspects of the merger that need to be considered.”<sup>5</sup>

The Bureau recently considered these recommendations in its review of the *Merger Enforcement Guidelines* (“MEGs”).<sup>6</sup> Among other things, the revised MEGs will provide more detailed information on how the Bureau assesses the unilateral effects of a merger in markets with differentiated products, and will clarify that the size of a buyer is not the only, or a necessarily compelling, relevant factor when considering whether a buyer has countervailing power.

## 2.5 *Lesson Learned: Disentangling the impact of the merger on competition*

The competition issues are complex for most mergers of interest to agencies. Thus, where predicted outcomes differ from actual outcomes, finding the root deficiencies in the original analysis requires careful study. However, this challenge is exacerbated when changes unrelated to the merger, that were unforeseen in the original analysis, occur post-merger.

For example, in the Fording coal case, CRA noted that meteoric growth in Asian markets that was unrelated to the merger drove international coal prices up to very high levels resulting in the opening of many new coal mines in western Canada and, thus, increasing competition to Fording. As a result of these developments and, in particular, entry of new market participants, CRA noted that it was difficult to disentangle the merger’s potential impact on pricing from other events.<sup>7</sup>

Similarly, in the context of the Corus-WIC transaction, CRA noted that even very well-informed customers can find it difficult to identify the effects of a merger in a market where many other factors are changing unless that effect is large.<sup>8</sup> In such situations, interviews with customers may need to be supplemented with empirical studies that control for changes to other factors.<sup>9</sup>

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<sup>4</sup> *Supra* note 2 at p. 47.

<sup>5</sup> *Supra* note 2 at p. 48.

<sup>6</sup> “Bureau Announces Plans to Revise the Merger Enforcement Guidelines”, February 25, 2011, available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03350.html>. This decision followed roundtable consultations conducted across Canada, as well as consultations with foreign agencies, and a focused internal review. An important aspect of the consultation process was evaluating, at least informally, how well the Bureau’s analytical framework had worked in reaching appropriate merger decisions in past cases.

<sup>7</sup> *Supra* note 2 at p. 24.

<sup>8</sup> *Supra* note 2 at p. 49.

<sup>9</sup> In appropriate cases, a ‘difference-in-differences’ methodology may be employed where the effects of a merger are identified through comparison to changes observed in “control” markets.

While the Bureau made efforts to avoid encountering these problems when selecting cases for the study, the importance of the changes that had occurred in these markets was not apparent until they were reviewed in detail as part of the study.

### **3. The merger remedies study**

The Bureau recently completed an extensive merger remedies study that considered prior enforcement decisions occurring between 1986-2005. The main objective of the study was to determine the effectiveness of the design and implementation of merger remedies obtained by the Bureau. A concise public report summarizing the findings of the study is expected to be published on the Bureau's website in the second quarter of 2011. Presented below is a summary of the methodology used in the study.

The Bureau's study, in its inspiration and design, built on the experience and results of merger remedy studies conducted in other jurisdictions, in particular the U.S. Federal Trade Commission's "Study of the Commission's Divestiture Process",<sup>10</sup> the European Commission Directorate-General for Competition's "Merger Remedies Study"<sup>11</sup> and the U.K. Competition Commission's "Understanding Past Merger Remedies: Report on Case Study Research".<sup>12</sup>

#### **3.1 Selecting the cases to study**

Between 1986 and 2005, the Bureau intervened in 50 merger cases and obtained 76 remedies. Because of difficulties contacting interviewees with sufficient knowledge of remedies obtained before 1995, the Bureau limited the study to 41 individual remedies obtained in 24 merger cases between 1995 and 2005.

#### **3.2 Methodology**

In order to obtain input from a complete range of market participants, the Bureau developed questionnaires for three sets of constituents: (1) the merged entity; (2) customers; and (3) purchasers of divested assets or other beneficiaries of a remedy. Where possible, staff also interviewed representatives of third party market participants (*e.g.*, suppliers and industry associations).

To encourage participation in the study, the Bureau provided certain confidentiality assurances to participants<sup>13</sup> and agreed that information provided by participants as part of the study would be used only for the purposes of the study. Although the Bureau encouraged participation in the study by all key parties, the process was voluntary, and a number of parties declined to participate.<sup>14</sup>

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<sup>10</sup> U.S. Federal Trade Commission (Washington: 1999): <http://www.ftc.gov/opa/1999/08/divestreport.shtm>

<sup>11</sup> European Commission Directorate General of Competition (Brussels: 2005): [http://ec.europa.eu/comm/competition/mergers/studies\\_reports/remedies\\_study.pdf](http://ec.europa.eu/comm/competition/mergers/studies_reports/remedies_study.pdf)

<sup>12</sup> U.K. Competition Commission (January 2007): [http://www.competition-commission.org.uk/our\\_role/analysis/understanding\\_past\\_merger\\_remedies.pdf](http://www.competition-commission.org.uk/our_role/analysis/understanding_past_merger_remedies.pdf)

<sup>13</sup> Consistent with the Bureau's obligations under the Act, confidential information provided by interview participants is protected under section 29 of the Act and under section 24 of the *Access to Information Act*.

<sup>14</sup> A total of 135 interviews were conducted consisting of 20 merged entities, 28 purchasers or beneficiaries, 60 customers, and 27 third parties.

Consistent with the Bureau's Information Bulletin on Merger Remedies in Canada ("Remedies Bulletin"),<sup>15</sup> the study classified each remedy into one of the following four categories:

1. structural remedies;
2. quasi-structural remedies;
3. combination remedies; and
4. stand-alone behavioural remedies.

To determine whether a remedy was effective, the study

- i) critically evaluated the design and implementation of the remedy;
- ii) examined various factors, including whether the divested business was still operating or actively competing in the relevant market(s); and
- iii) asked interviewees to compare current competitive conditions against two counterfactual scenarios: (a) a scenario in which the merger had been cleared by the Bureau without any remedy; and (b) a scenario in which the merger had been blocked in its entirety.

The Bureau compiled its observations respecting the effectiveness of a remedy, based on the information provided in interviews. Following the interviews, the Bureau evaluated its findings on: (1) the effectiveness of the remedies in each case based on the input received; and (2) key observations from the case that might inform the Bureau's approach to remedies in future cases.

As noted above, the Bureau has not yet published the main findings of the study. However the results of the study will be of significant value as the Bureau develops its policies and procedures with respect to the design and implementation of remedies. The Bureau intends to use the study's results, and experience, to update its Remedies Bulletin and consent agreement template. The Bureau has already begun incorporating the study's findings into its approach to merger remedies and will continue to do so in the future.

#### **4. Conclusions**

The Bureau has conducted studies evaluating the impact of its decisions in cases where enforcement action was taken, and when the Bureau refused such action. Conducting studies is consistent with the Bureau's priority to enhance performance management and transparency, and each piece of work has contributed importantly to the development of the Bureau's enforcement policy. The Bureau will continue to explore opportunities for *ex-post* evaluations where appropriate, and when resources permit.

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<sup>15</sup> Information Bulletin on Merger Remedies in Canada", September 22, 2006, available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02170.html>



## CHILE

### 1. Introduction

Evaluation of how competition authorities' decisions impact on welfare is a relatively new issue for competition authorities in Chile. The topic is neither in the agenda of relevant stakeholders nor of think tanks on competition policy and law in the country.

The FNE<sup>1</sup> is a relatively small competition agency, with budgetary restrictions which have to be solved by strict prioritization. However, it understands that evaluating competition authorities' interventions is an increasingly important task, particularly so in a society claiming for the legitimacy of their governmental bodies.

With this in mind, two years ago, the Research Division at the FNE participated in a draft project with the support of the IDRC<sup>2</sup> aiming to develop a case-study model in order to identify whether competition authorities' interventions represent an effective contribution to the total welfare and whether society's gains from these interventions are greater than their costs.

The purpose of this contribution is to share with the rest of the delegations the experience of choosing a methodology and designing the aforementioned research. Unfortunately, due to FNE's priorities we have not been able to implement and conduct the study so far, so what follows is just limited to methodological and design aspects of the project.

### 2. Choosing an industry to consider for the study: Methodological aspects

#### 2.1 *The industry*

For the draft project, in the design of which the FNE participated, the Supermarket Industry and Competition Authorities' intervention therein was selected as a case study. The chosen industry seemed relevant considering the industry's evolution towards concentration and consolidation in the last years, the availability of information –in part, precisely because of these interventions– and the potential impacts on consumers and on industry suppliers as relevant stakeholders<sup>3</sup>.

One concern these interventions had in mind was the consolidation of purchasing power that had translated into abusive relations against supermarkets' suppliers, in particular, small and medium-sized ones, which were part of the supply chain. Given the competition risks associated with these actions and their potential negative consequences on consumers' and relevant suppliers' welfare, in 2006 the FNE

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1 FNE stands for Fiscalía Nacional Económica, the Chilean Competition Agency.

2 IDRC stands for International Development Research Center.

3 In fact, several additional changes took place in the industry in the following years including the consolidation of a third actor by means of acquisitions of regional chains, the entry of a fourth actor into relevant segments, and a major change in the ownership and control of the principal actor due to an acquisition by Wal-Mart. Furthermore, a merger between the larger actors in the retail industry and supermarkets had been blocked by the TDLC (TDLC, Decision N° 24, January 31<sup>st</sup>, 2008).

initiated a legal action against the industry's leading actors who had initiated a serial acquisitions of regional supermarket chains. Shortly after initiation, the case was settled with one of the defendants. A settlement with the other one took place much later, after hearings before the Supreme Court. The settlement set up a self-regulation structure (mainly general and fair contractual terms for small and medium sized suppliers) for each of the defendant companies. The self-regulation framework aimed at preventing purchasing power abuses<sup>4</sup>.

## **2.2 *Competition authorities' intervention to be evaluated***

The concrete interventions of competition authorities had led to the following outcomes: (i) Further acquisitions by the defendants should be submitted to notification and review before competition authorities. The hypothesis was that this scheme would turn further acquisitions more costly and hence would reduced incentives for further acquisitions. (ii) A contractual frame with general terms for exchanges between small and medium-sized suppliers and big retailers should be put in place. The hypothesis here was that such a frame would introduce fairness in the exchanges between big retailers and their small and medium-sized suppliers, which expose the latter to less risks of abuse.

## **2.3 *Methodological aspects***

Once those outcomes were identified (reduced incentives for further acquisitions and fairness in exchanges between parties), the challenge was to construct reliable indicators using data already available or data not difficult to access.

At the time of the draft, there was not enough data for evaluating the impact on retail prices downstream. This was a significant downside of the project. Industry members have claimed reduction in retail prices in time. However, an interesting hypothesis to test would have been whether these retail prices were actual efficiency gains or there were just a small proportion of surpluses taken from suppliers transferred to consumers, and hence an increase in supermarket's margin.

Thus, quantitative as well as qualitative instruments would be required in order to test the hypotheses. Some of the indicators considered were: the number of new acquisitions in the following months by the same defendants; the number of acquisitions by other actors, not subject to these regulations<sup>5</sup>; satisfaction tests and interviews to relevant stakeholders such as small and medium-sized suppliers as well as consumers –if the project extended downstream.

## **3. *Design considerations***

Developing an evaluation process is a very time and resource-consuming endeavor. Such an initiative cannot be undertaken by agencies if budgetary constraints or other reasons produce uncertainty about completion.

Once the decision is taken, the composition of the research team should be carefully defined. The work could be performed in whole or in part externally. However, we believe that involving agency members in the exercise of evaluating agency's interventions can be much richer as a learning process. In

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4 Settlement between the FNE and D&S, approved by the TDLC on December 15<sup>th</sup>, 2006. TDLC, Ruling N° 65, May 8<sup>th</sup>, 2008. Settlement between the FNE and Cencosud, approved by the Supreme Court on July 24<sup>th</sup>, 2008.

5 At the time of the draft, the successful entry of a third actor was already known. Whether this entry was or not facilitated by the regulatory burden faced by the incumbents is something not easy to define but it was an actual outcome in the industry at the time of drafting the project.

this sense, it seems that a team composed by members of the agency as well as by external consultants could represent an appropriate equilibrium, as long as external consultants are appropriately selected.

Indeed, one of the first issues that may arise from this exercise is the weakness of data management within agencies. It is not infrequent that data obtained during investigation cases are known and managed only by case-handlers members of the investigation teams. The lack of a centralized system for data management will be perceived at the beginning of the evaluation process, particularly when a baseline should be defined.

Thus, a priority task -once the decision to develop evaluation activities has been made- is to build baselines for relevant investigated industries that have been translated into competition authorities' interventions. In order to build these baselines, a centralized administration of data can be a helpful institutional arrangement within agencies.

#### **4. Final remarks: Lessons learned**

The decision of evaluating competition authorities' intervention implies the selection of appropriate cases. This selection process rests on the data available, which in turn depends on institutional arrangements for knowledge management within agencies. Thus, these considerations should be taken into account and actions should be considered long before the evaluation project design and conduction of the process are initiated.

Evaluation activities, particularly in small agencies facing budgetary constraints are submitted to an internal competition for resources in the prioritization game. Resources to evaluation activities should be committed for the entire project in order to avoid a project failure due to the lack of resources.

An appropriate selection of the members of the team for the evaluation process is crucial. We believe that a team composed by members of the agency and external consultants able to perform quantitative and qualitative analysis is the appropriate body for performing the task.





## ESTONIA

The Estonian Competition Authority has not yet carried out any formal *ex-post* impact evaluation studies of merger decisions. In a way, the Competition Authority would be in a somewhat better position to undertake such studies than outsiders, as the Competition Authority has all the information that was necessary for making such a decision, knows about the criteria for making decisions etc. But the main reason we have not yet formally evaluated the impact of any decision is the lack of resources (both human and financial), which is probably the case for many small authorities.

But the fact that we do not carry out formal studies, does not necessarily mean that we are not interested what impact our decisions to intervene or not to intervene might have had on the market.

One way to find out about the impact of a previous decision is during the proceedings of the next merger in the same market. In such a case, we generally receive a lot of information regarding how the competitive situation in the market has changed after the previous merger and when sending out inquiries, there is also a possibility to ask data from the market participants.

A couple of years ago there were two concentrations in the market for distribution polyurethane (PU) foam market. The time between the two cases was more than a year. Both the concentrations affected the market for distribution of block foam used in furniture and bedding industry. In a way, that was a perfect case where we had the possibility to analyze the impact of the first decision, which was to grant permission to concentrate. During the proceeding of the second case, more information was gathered about how the market worked and what had happened after the previous concentration. And the Competition Authority again came to the conclusion that the market for distribution of PU foam characterized a typical product market in a small country, i.e. high share of imported goods and companies located abroad selling PU foam directly to furniture producers located in Estonia, which meant that acquisition and possible closing down of the only Estonian producer would not to a significant extent restrict effective competition in the market.

There have also been several concentrations in dairy and meat production industry, which have also given the Competition Authority the possibility to learn about the impact of previous decisions to grant permission to concentrate.

There is also a merger decision in the history of the Competition Authority, which in a way had a significant impact in the pharmaceuticals' sector. The mentioned decision was made in 2003 regarding the acquisition of sole control by the largest wholesaler of pharmaceuticals of a company operating a pharmacy chain (Decision of June 5, 2003, No 16-KO *AS Magnum Medical / OÜ Parimex Invest*). The concentration broadened the range of activities of the dominant wholesaler also to the retail sector.

The reality is that the Competition Authority can only make decisions based on the legal acts in force. At that time, the criteria for prohibiting a concentration was creating or strengthening of a dominant position and there were no objective reasons for prohibition.

The criteria for prohibiting a concentration have been changed, instead of dominance test there is now SIEC test also in the Estonian Competition Act.

Also a court case was related to the mentioned concentration - the decision to grant permission to concentrate was challenged by a small competitor in the retail market, Akos Apteek OÜ (Akos). Akos claimed that the concentration placed its pharmacies into a disadvantaged position compared to the pharmacies acquired by Magnum Medical AS, as the latter could apply discriminating trading conditions to Akos' pharmacies. But probably more important than the content of the court ruling this time was the fact the court recognized the right of appeal of merger clearance decisions by third parties.

Five years later, in 2008, the first concentration was prohibited in the history of Estonian Competition Authority. The case concerned the acquisition by a pharmacy chain Terve Pere Apteek OÜ (that belongs to the largest wholesaler of pharmaceuticals in Estonia – AS Magnum Medical) of a small pharmacy (Decision of May 8, 2008, No 3.1-8/08-020KO *Terve Pere Apteek OÜ / OÜ Saku Apteek*).

The concentration was prohibited due to the anticompetitive tendency, although the target's market share on the market for retail sale of pharmaceuticals was below 1%. The tendency was that vertically integrated groups (one group owns both wholesale level and pharmacies) were little by little acquiring control of pharmacies. The result of such transactions was strengthening of market power horizontally in the market for pharmacies' services and vertically on the wholesale level, as pharmacies belonging to the group could not choose their suppliers anymore.

So, the aim of the decision to prohibit the concentration was to stop the tendency leading to restriction of competition and in a way, the tendency was started with the decision the Competition Authority made in 2003. As the pharmaceuticals' sector have become quite concentrated in Estonia and during the years we have had several concentrations in that sector, we have also had the possibility to see the gradual change in the market structure, as a result of the decisions made by the Competition Authority.

It should also be mentioned, that as in 2008 the Competition Authority was merged with two sector regulators (the Energy Market Inspectorate and some departments of the Communications Board) that are now also under the roof of the Competition Authority, we are now in a better position to analyze markets in the energy, telecommunications and postal sector already during the proceedings of a concentration and also get feedback on the impact of the decisions *ex-post* from the Regulatory Divisions.

To conclude it can be said that informal methods of reviewing the effect of merger decisions are occasional and cannot be considered as a systematic gathering of information, depending mainly on the fact whether there are more concentrations in a specific sector. Formal *ex-post* impact evaluation studies of merger decisions would definitely be of greater value, but if information "comes to us" or it is easy to obtain, it would be useful to also informally analyze the impact of the decisions in at least some economic sectors.

## GREECE

### 1. Introduction

During the last few years, the importance of a thorough and coherent *ex-post* merger review by competition agencies and courts has been increasing. Although it is widely acknowledged by economists and government officials that addressing the competition concerns, which stem from consummated mergers, is a costly and time-consuming process, and that remedies (e.g. either structural or behavioural), when adopted, are often imperfect at best, sophisticated quantitative techniques are now available for competition agencies, attorneys and courts to help them assess the impact of a merger and the efficacy of related enforcement decisions, thus leading to improved decision making.

To evaluate the impact of merger review, that is, to assess whether the enforcement action was consistent with the consumer welfare goal and whether it was the best available option, competition authorities employ various techniques. This report aims at shedding light on the role of such evaluation studies employed in the context of merger decisions, and, to this aim, it focuses on the main relevant quantitative techniques (merger simulation models, event studies, structural models, etc.) used in merger review in the US and the European Union (EU).

### 2. Types of evaluation methods

Quantitative merger analysis broadly falls under two main categories, namely *ex-post* and *ex-ante* merger analysis. In an *ex-ante* quantitative analysis, economists evaluate in advance possible anti-competitive effects of a proposed merger, consisting either in the creation or strengthening of a dominant position in a relevant market and/or in the substantial lessening of competition by unilateral or coordinated conduct. On the other hand, the *ex-post* quantitative investigation of merger decisions usually serves two fundamental goals:<sup>1</sup> a) to establish whether competition authorities have reached the right enforcement decision, namely whether the market structure arising from the decision is more suitable to pursue the economic goal of the EU Merger Regulation than the market structure which could have arisen from alternative decisions available to the competent authorities, and b) to assess whether the analysis adopted by the competent authorities to reach the decision was correct (absence of Type I or II errors).

The main techniques used for the purposes of merger review involve: a) structural models and simulations, b) event studies, c) difference-in-differences models (D-in-D) and d) evaluation methods. Such techniques are not mutually exclusive; on the contrary, it would often be preferable to use a combination thereof in order to mitigate the risk of evaluation errors. The majority of these techniques seek to assess the price effects of a merger in the relevant market(s) concerned. However, it is important to note that prices are not the only competitive variable which may be affected by a merger. The competitive effects of a merger may well extend to product improvements, new product introduction, advertising and promotion, research and development, etc.

The following sections shall focus on the elaboration of the four aforementioned techniques.

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<sup>1</sup> Apart from quantitative techniques, there are descriptive studies (often qualitative) used in order to investigate if the conclusions or assumptions made as part of the merger review were correct. Analysis of such methods is though far beyond the scope of this report.

## 2.1 Merger simulation models (MSM)

MSM, which are based on the theory of industrial organisation, are used to predict the effect of a proposed merger on prices and product quantities through the application of modern econometric techniques (such as “almost ideal demand system” (AIDS), log-linear model, multi level demand analysis, etc.), thus, allowing researchers to assess whether a merger may lead to a substantial lessening of competition in one or more relevant markets. In order to predict the post-merger price evolution, simulation models use pre-merger market data (e.g. prices, product quantities, cost evolution, etc.) to make different assumptions with regard to the post-merger conduct and interaction of the merging firms and their rivals.

MSM have been generally employed by antitrust authorities and merging entities as well as by courts to assess the pro- or anti- competitive effects of mergers under scrutiny.<sup>2</sup> Analysis based on merger simulation models is appealing to competition agencies throughout the world for various reasons. More specifically, the development of sophisticated econometric techniques used in the context of economic analysis, during the last decade has allowed researchers to apply even more complex simulation models based on real market data. Furthermore, simulation-based techniques are quite flexible and able to integrate the traditional focus on factors such as market definition, efficiencies, and potential competition. Moreover, merger simulation models can evaluate the impact of a divestiture, which constitutes a significant structural remedy. Finally, simulation models allow the simplest counterfactuals to be considered.<sup>3</sup>

The use of MSM in markets of diversified products involves a dynamic four-stage process. In stage one, consumer demand is estimated through econometric methods applied to data on actual transactions, if such data is available. The most commonly used econometric models include AIDS, the linear model, the log-linear model, the probability models, such as logit or probit, and the multi-level demand estimation. Depending on the specifications of the demand equation, own- and cross- price elasticities are estimated. In this respect, it should be noted that, according to economic theory, possession of large shares by the merging entities or the existence of relatively high cross-price elasticities between their products tend to result in large (unilateral) price effects. On the other hand, small shares, low cross-price elasticities, and/or large efficiencies tend to produce small or even negative (unilateral) price effects.<sup>4</sup>

In stage two, the model is calibrated (i.e. through price selection for the model parameters) in order to check if its results are in alignment with the statistical data of the relevant market under scrutiny. The calibrated parameters are set in a way that estimated elasticities can yield the prices and market shares actually observed in the pre-merger market. In order to ensure the validity of MSM, the estimated own-price demand elasticities must have a negative sign, while the cross-price elasticities can be either positive (substitutes) or negative (complements).

In stage three, supply is estimated through the application of an oligopoly model which best describes the conditions of competition between the rivals. The most common oligopoly model used in this context is

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<sup>2</sup> See, generally, O. Budzinski and I. Ruhmer, “Merger Simulation in Competition Policy: A Survey”, 6 *Journal of Competition Law and Economics* 277 (2009), p. 278; J. Baker and D. Rubinfeld, “Empirical Methods in Antitrust Litigation: Review and Critique”, 6 *American Law and Economics Review* 386 (1999), p. 388.

<sup>3</sup> A situation in which the merger is blocked or in which the merger is unconditionally cleared. See LEAR, *Ex-post Review of Merger Control Decisions, A Study for the European Commission*, December 2006, para. 2.23.

<sup>4</sup> O. Ashenfelter, D. Hosken and M. Weinberg, “Generating Evidence to Guide Merger Enforcement”, NBER Working Paper No. 14798, March 2009.

the so called “Bertrand” model. The classic Bertrand model assumes that firms compete purely on price, while ignoring non-price competition. Each firm decides independently the prices to be charged for its products. Both firms stand ready to deliver any quantity of the product. Therefore, in the Bertrand Oligopoly, even with only two firms, there is a competitive equilibrium price, whereas in other equivalent models, such as the so-called “Cournot” Oligopoly, increases in output lead to gradually lower prices, and firms get to have extra-competitive profits. The Bertrand model can be extended to include product or location differentiation, however, in such cases, the main conclusion – i.e. that price is driven down to marginal cost – is no longer valid.

Finally in stage four, the new (post-merger) equilibrium can be simulated using the model calibrated with pre-merger empirical data, but adjusting market shares to the post-merger situation.

In view of the aforementioned, it is obvious that the MSM methodology has high data requirements, a fact which constitutes one of the method’s major drawbacks. The data usually required to perform MSM includes: a) prices and quantities, b) input factor prices, c) demand and consumers characteristics (i.e. income, education, age, sex, employment, etc.) and d) data on the main observable product characteristics (i.e. brand recognition, customer loyalty, etc.).

## 2.2 *Event studies (ES)*

ES rank among the most successful tools of econometrics in competition policy analysis. They evaluate the welfare implications of private and public actions<sup>5</sup> through the assessment of the reactions of stock markets to an event (i.e. merger announcement, phase II decision or derogation from suspension of concentration, decisions of antitrust enforcement agencies).

One approach to ES investigates the effect of the announcement of mergers and the suspension of derogation from concentrations (Article 7 of Regulation 139/2004) on shareholder value both in the target firm and in the bidder. The main result of this approach is that the announcement of the event increases the value of the acquired firm and decreases (or at least does not affect) the value of the acquiring firm, thus, offering the shareholders of target firms gains, whereas the shareholders of the bidding firms “do not gain”.<sup>6</sup>

Another ES approach evaluates the competitive effects of merger announcements on the merging entities and their competitors in the relevant product market in which the merger occurs, by analysing the price of the merging and non merging firms’ shares around the announcement date of the event.<sup>7</sup>

ES rely on two assumptions, i.e., that financial markets are efficient and that the agents’ expectations are rational, therefore, a firm’s stock price should always represent the discounted value of its flow of profits, and when an event is announced, which is expected to affect a firm’s profits, the stock price should adapt to reflect this expectation. Any change in the stock prices of the firms operating in the affected

<sup>5</sup> F. Wenston, S. Kwang and S. Juan, *Takeovers, Restructuring, and Corporate Governance* (New Jersey, Prentice Hall, 1998), pp. 93-106.

<sup>6</sup> E. Maynes and J. Ramsey, “Conducting Event Studies with Thinly Traded Stocks”, 17 *Journal of Banking and Finance* 147 (1993); P. Fotis, M. Polemis and N. Zevgolis, “Robust Event Studies for Derogation from Suspension of Concentrations in Greece during the Period 1995-2008”, 11 *Journal of Industry Competition and Trade* 67 (2011), p. 72; P. Fotis, M. Polemis and N. Zevgolis, “Stock Price Performance as an Argument for Derogation from Suspension of Concentrations: Reality or Myth?”, 30 *European Competition Law Review* 219 (2009).

<sup>7</sup> See, *inter alia*, L. Beverley, “Stock Market Event Studies and Competition Commission Inquiries”, Centre for Competition Policy Working Paper No. 08-16.

markets, relative to the value which would have been observed had the event not occurred, is referred to as “abnormal results”.

There are several methods to estimate abnormal results, i.e. the trade-to-trade method, the “single” method, or the so-called “lumped” or “uniform” method, the first one being the most commonly-used approach.

More specifically, the trade-to-trade approach<sup>8</sup>

*“uses all available information about total stock and market returns over time and no bias is introduced by attempting to estimate unobserved daily stock returns as occurs with the lumped or uniform techniques. However, since trade to trade returns ignore information about daily market returns over non-trading periods, it is not clear that it is theoretically superior to the lumped method”.*

For instance, let’s assume that daily continuously compound stock return for firm  $j$  is calculated as follows:

$$R_{j,t} = \ln(P_{j,t}) - \ln(P_{j,t-1}) \quad (1)$$

By assuming one day stationarity in the return generating process, the multi-period return for firm  $j$  ending on date  $t$  is:

$$R_t = \ln \left[ \begin{matrix} P_{j,t} \hat{P}_{j,t-1} \dots \hat{P}_{j,t \dots n_t+1} \\ \hat{P}_{j,t-1} \hat{P}_{j,t-2} \dots \hat{P}_{j,t \dots n_t} \end{matrix} \right] \quad (2)$$

where  $n_t$  is the length of the interval of non trading dates (the period of trading dates between the trade in period  $t$  and the previously successful traded date) ending on date  $t$  and  $\hat{P}_{j,t-u}$  is the unobserved stock price of firm  $j$  for date  $t-u$  ( $u = 1, \dots, n_t - 1$ ). Therefore, the trade- to-trade return equals the sum of  $n_t$  unobserved one day returns. Following equation (1) the adjusted trade-to-trade return is as follows:

$$R_{j,t} = \frac{\ln(P_{j,t}) - \ln(P_{j,t-n_t})}{n_t} \quad (3)$$

In all cases, in such situations, analysts should decide whether to use daily, weekly or monthly returns so as to reliably conduct event studies.<sup>9</sup>

<sup>8</sup> E. Maynes and J. Rumsey, “Conducting Event Studies with Thinly Traded Stocks”, 17 *Journal of Banking and Finance* 145 (1993); J. Barthodly, D. Olson and P. Peare, “Conducting Event Studies on a Small Stock Exchange”, 13 *European Journal of Finance* 227 (2007).

<sup>9</sup> P. Fotis, M. Polemis and N. Zevgolis, “Robust Event Studies for Derogation from Suspension of Concentrations in Greece during the Period 1995-2008”, 11 *Journal of Industry Competition and Trade* 67 (2011), p. 74.

Conclusively, even though ES are well developed, and the data required to apply this methodology is quite limited and easy to acquire, there is some concern regarding its effectiveness for small stock exchanges with thinly traded stocks (infrequent trading or lumped returns phenomenon).<sup>10</sup> Moreover, not all affected agents are firms and that not all firms' stock is traded on the market, therefore such data shall not always be available. This constitutes the main limitation of this methodology.

### 2.3 *Difference in Differences models (D-in-D)*

The D-in-D methodology is a non-experimental technique which measures the effect of a treatment at a given period in time. D-in-D constitutes the most common technique of evaluating merger price effects.

More specifically, the price effect of the merger is isolated through the comparison of price fluctuations in the market affected by the merger as against prices in a competing market ("control" product or geographic area), in which price is affected by economic factors other than the merger. Thus, pre- and post-merger changes in price in the "control" product or area provide an indication of the effect of such other economic factors. Price changes in the "control" product or area are subtracted from price changes in the affected product or area, and one can, thus, assess the merger impact.

The D-in-D method is useful, so long as the following three conditions be satisfied:

- the "control" product or area must be unaffected by the merger,
- economic factors, other than the merger, must have a similar impact on both the "control" and affected products or areas, and
- any factors affecting price, which are unique to the affected or control products or areas, cannot be correlated with the merger.

One of the main advantages of this method is that competition authorities and courts do not have to estimate the cost and demand factors which affect the pricing mechanism. In other words, the researcher assumes that changes in those factors equally and identically affect the merger market and the comparison market. However, the key difficulty in these studies is to identify a suitable proxy variable (i.e. a comparison market) for the merger market. While this approach has been frequently used by competition authorities, the number of court cases remains relatively small.<sup>11</sup>

The great appeal of the D-in-D estimation derives from its simplicity as well as its potential to circumvent many of the endogeneity problems which typically arise when making comparisons between heterogeneous individuals.<sup>12</sup> However, there are some serious drawbacks involved, mainly consisting in the fact that the D-in-D estimation uses many years of data and focuses on serially correlated outcomes, but it ignores that the resulting standard errors are inconsistent, leading to serious over-estimation of t-

<sup>10</sup> The infrequent trading phenomenon appears when some stocks do not trade daily in the stock exchange. In such a case, the estimated variance and co-variance of the stock performance will positively correlate with their trade frequency.

<sup>11</sup> D-in-D analysis has been used in the USA in order to analyse the effect of airline alliances (Continental/America West and Northwest/Alaska) on airline fares. The main result of this study was the decrease of the average fares by 5-7% due to the existence of the alliances. See D. Rubinfeld, "Econometric Issues in Antitrust Analysis", 166 *Journal of Institutional and Theoretical Economics* 62 (2010).

<sup>12</sup> M. Bertrand, E. Duflo and S. Mullainathan, "How Much Should we Trust Differences-in-differences Estimates?", M.I.T. Working Paper 01-34, p. 2.



statistics and significance levels,<sup>13</sup> and that the selection of “control” variables entered in the regression model can matter. To be more specific, the inclusion of more covariates (such as controls) in the regression can improve the accuracy of the model if movements of the control variables are correlated with the treatment group. Finally, D-in-D models may be subject to certain biases (mean reversion bias, etc.).

## 2.4 Evaluation methods

The evaluation methods, which encompass various estimation techniques, consist in the comparison between the behaviour of two groups of agents: the control group and the experimental group. The basic principle is that, on condition that all other factors are equal, the policy effect, namely the effect of the competition authority’s decision, consists in the difference in performance between the two groups.<sup>14</sup> This methodology evaluates merger effects on several competitive variables, and not just price effects.

The data requirements of this set of methods can be summarised as follows: a) data on the merging firms and their competitors (i.e. market shares, pricing policy, discounts, etc.), b) data on one outcome variable (i.e. prices, profits, R&D expenditure); c) data on the exogenous covariates (i.e. demand and cost shifters, such as income, population density and input prices) and d) data on other exogenous variables.

Even though the academic literature on the use of evaluation methods in merger control is quite limited, the logic of this instrument is extensively used (*ex ante*) by antitrust authorities, since it appears to be quite simple to use, at least in its most basic form.<sup>15</sup>

## 3 The Greek experience

### 3.1 Relevant cases and methodology employed

As already analysed under section 2.2 above, the evaluation of merger decisions through event studies may, inter alia, be performed either by an *ex ante* estimation of the announcement effects of mergers on the merging and rival entities or by an *ex post* evaluation of the balance sheet profit effects of mergers on the merging and rival entities for a certain period of time, post-merger.<sup>16</sup> The latter methodology has been employed by the Hellenic Competition Commission (HCC) on several occasions.

In the two cases summarised further below, i.e. the *PPC-Halyvourgiki* joint venture and the *Delta-Chipita* merger, the HCC Directorate General conducted *ex post* merger evaluation studies through the application of event study analysis on the basis of publicly available data (i.e. stock prices, general market index), in order to investigate the impact of the respective HCC decisions (and the effectiveness of the behavioural remedies imposed by the HCC in the first case).

More specifically, the analysis conducted in these two cases evaluated the statistical (market) model

$$AR_{\tau} = R_{j,\tau} - E(R_{j,\tau} / X_{\tau}) \quad (4)$$

<sup>13</sup> *Ibid*, p. 3.

<sup>14</sup> LEAR, *Ex-post Review of Merger Control Decisions, A Study for the European Commission*, December 2006, para. 2.26.

<sup>15</sup> *Ibid*, para. 2.28.

<sup>16</sup> T. Duso, K. Gugler and B. Yurtoglu, “Is the Event Study Methodology Useful for Merger Analysis? A Comparison of Stock Data and Accounting Data”, GESY Discussion Paper No. 163, September 2006.

where  $AR_{\tau}$  is the Abnormal Return,  $R_j$  is the actual return of firm  $j$  on day  $\tau$  and  $E(R_j / X_{\tau})$  is the expected or conditional return given event on day  $\tau$  under normal conditions.

The assumptions of *efficient market hypothesis* and *rational expectations* imply that the market model forecasts that firm  $j$ 's stock return at time  $\tau$  (normal return) is proportional to a market return. That is,

$$E(R_{j\tau}/R_{m,\tau}) = \alpha + \beta R_{m\tau} + \varepsilon_{j\tau} \quad (5)$$

where  $R_{m\tau}$ : the return on the market index for day  $\tau$  in the event window.

The estimated values of the model's parameters<sup>17</sup> were set to predict what firm  $j$ 's stock return would have been, had the merger not been announced ( $\hat{R}_{j\tau}$ ). Therefore,

$$\hat{E}(R_{j\tau}/R_{m,\tau}) = \hat{\alpha} + \hat{\beta} R_{m\tau} + \varepsilon_{j\tau} \quad (6)$$

Subtracting the predicted return of firm  $j$  on day  $\tau$  from equation (4), we get the Abnormal Return/Residual around the merger announcement day  $\tau$  ( $AR_{j\tau}$ ).

The factual background of the cases concerned was as follows:

### 3.1.1 The PPC-Halyvourgiki joint venture

On 16.2.2009, companies PPC S.A. and Halyvourgiki S.A. notified the formation of a joint venture to the HCC, pursuant to Article 4b of the Competition Act. The joint venture would undertake the construction and operation of two power plants with a total capacity of 880MW, within the facilities of Halyvourgiki S.A. Halyvourgiki S.A. would own 51% of the joint venture share capital, whereas PPC would own the remaining 49%. The formation of the joint venture was announced on 12 February 2009, and a Phase-II referral took place on 12 March 2009. On 29.5.2009, the HCC cleared the notified concentration imposing certain remedies intended to ensure an effective level of competition in the relevant market of production of electricity.

The following conclusions were drawn in the context of the event study analysis conducted by the HCC Directorate General:

- the stock price of PPC indicated a significant positive abnormal return of approx. 0.34% prior to the announcement date of the formation of the joint venture. Moreover, PPC shares experienced a cumulative abnormal positive return of 0.98% around the announcement date,
- it took the stock market two days to fully absorb the impact of the announcement, with the merging entities' stock prices increasing by around 0.26% on the announcement date, whereas a further increase of 0.38% was noted on the following day,
- the rival entities' stock prices (Terna and Mytilinaios) experienced negative abnormal results at a rate of -5.26% on the day following the announcement date.

<sup>17</sup> The Greek parameters  $\alpha$  &  $\beta$  of equation (5).

As the above analysis suggests, the fact that the share prices of the merging entities' competitors illustrated negative significant abnormal returns indicates that investors expected the merger to be profitable for the merging companies, and not for the rivals, and, thus, it was unlikely that such merger would induce adverse effects on competition in the post-merger oligopolistic relevant market (production of electricity).

It is worth mentioning that, according to economic theory, insignificant or negative abnormal returns for the merging entities' rivals around the announcement date suffice to conclude that the market expects the merger to be cost-reducing, and not price-increasing. A decrease in the market value of the merging entities' rivals, as in the case of the *PPC-Halyvourgiki* joint venture, strongly suggests that concentration in the relevant market is unaffected, since it may be due to a relevant decrease in the ability of firms to coordinate production and pricing decisions, which in turn generates a positive impact on competition in the relevant market. Such positive impact might be due to the absence of horizontal and vertical effects (conglomerate merger).

### 3.1.2. *The Delta-Chipita merger*

On 17.4.2006, Delta Holdings S.A. (Delta) and Chipita International S.A. (Chipita), both active in several segments of the food sector, notified their merger to the HCC. Upon fulfilment of the conditions provided for in the share purchase agreement, Delta would fully absorb Chipita's subsidiaries (i.e. Goody's S.A., General Foods S.A. and Delta Foods S.A.) and acquire full control of Chipita. Following completion of the merger, the acquiring company would change its name to Vivartia S.A. On 17.5.2006, the HCC initiated a Phase-II investigation on the basis that the transaction could raise serious competition concerns in certain affected relevant markets. Based on the evidence gathered during investigation, the HCC concluded that the notified transaction could not potentially impede effective competition through the creation or a strengthening of a dominant position in the relevant markets concerned. The concentration was cleared by the HCC on 10.7.2006.

In this context, the event study analysis conducted by the HCC Directorate General evidenced that the HCC did not commit a Type II error. In other words, the HCC allowed a merger, which the stock market considered pro-competitive (i.e. a merger which did not reduce consumer surplus).

Again, as in the case of the *PPC-Halyvourgiki* joint venture analysed above, in this conglomerate merger case, a statistically significant negative cumulative average abnormal return (CAAR) in the market value of the merging entities' competitors on the day after the announcement of the merger evidenced that competition in the relevant market remained unaffected.

## HUNGARY

The present contribution of the Hungarian Competition Authority (Gazdasági Versenyhivatal, GVH) is based on the questions posed, but follows a slightly different structure. We first discuss our general views on the subject, highlight some of the challenges we see in applying ex post evaluations in the case of a smaller country / competition authority and then our limited experience with ex post evaluations.

### 1. The goals of impact evaluations

In our view, the answers to the practical questions depend a lot on the main goals the competition authority expects to achieve by conducting impact evaluation studies. Below, we present two possible goals. Naturally, one can choose to pursue both at the same time as they are not contradictory to each other, but there may be some trade-offs that need to be considered in implementation.

The first objective may be called "internal", that is, providing information for the agency itself. Conducting impact evaluation studies may provide useful feedback that can help the agency improve the quality of its work in future cases. This may be especially true in industries with high merger activity (for example, telecommunications or retail), where direct lessons can be drawn from analysing the impact of previous mergers. In the case of a primarily internal focus for impact evaluation, cases can be chosen based on how "interesting" or "useful" the results are expected to be.

The second objective may be called "external", that is, providing information on, or justifying, the agency's work for third parties. If an agency routinely conducts impact evaluation studies, these may help to improve the agency's reputation, justify its importance, or have direct effects on its budget. There are two possible approaches to case selection in this case: either the agency could attempt to measure the overall positive impact of merger control on consumer welfare by analysing all cases, or it could focus on certain more important or more "problematic" cases, in order to establish whether the agency's assessment was "correct".

### 2. Impact evaluation methods

The choice of methods depends, to some extent, on the number of cases where an impact evaluation study is carried out. When all cases are investigated, it is probably the best to employ simulation methods to a degree (as in the practice of the OFT). This speeds the process and facilitates comparing cases to each other, but still requires a dedicated staff with this main responsibility. However, simulation requires many assumptions and simplifications, leading to possibly less robust results. Because of this statistical property, we think that a sufficiently large number of cases are required to derive reliable estimates. In our view, these arguments favor larger jurisdictions with more cases and resources to successfully implement the general impact evaluation of merger control.

When only selected cases are investigated, a more detailed approach can be implemented, ideally using quantitative *ex-post* studies. In our view, the conceptual framework should be based on correct factual-counterfactual comparisons, by controlling for other market characteristics and developments. If possible, this would mean a quantitative approach in a difference-in-differences (DID) spirit; even if explicit econometric estimations could not be carried out. Whenever possible, it is preferred to complement the analysis with qualitative data, for example by using customer questionnaires.

In our view, one should be very careful when using financial market data to evaluate the impact of a competition authority's merger decision. First, there are many theoretical and measurement concerns, as event studies measure the impact of merger decisions on consumer welfare in an indirect and imperfect way. Second, many merging or rival firms' shares are not quoted, especially in transactions that are investigated in smaller jurisdictions.<sup>1</sup>

### **3. Case selection for impact evaluation**

If not all cases are investigated, the question of the approach to case selection arises. In our view, especially when first commencing the use of impact evaluation studies or if resource allocation is an important consideration, it may make sense to conduct them in cases where ample data is available on the industry. These may be, for example, industries where list prices are employed (like telecommunications or FMCG). Also, in "problematic" mergers, the Competition Authority is likely to have access to more data than usual during the merger investigation – although acquiring the data may be harder for the post-merger period.

Perhaps the most trivial approach to case selection is to investigate mergers where the agency has identified competition concerns. It is not trivial, however, to identify "problematic" mergers. It is possible to employ certain screening methods: for example, conducting impact evaluation studies based on whether a merger was Phase II, or whether there were remedies. A further advantage of remedies is that they are often employed in cases where possible counterfactual situations have been defined in more detail, thus facilitating a DID approach. Impact evaluation might be simpler in the case of structural remedies, as opposed to behavioral, especially if the divestiture concerns only some of the affected markets.

However, selecting the cases based on simple statistical criteria can lead to bias in identifying "important" cases – it is quite possible that in a complex merger, detailed analysis was performed already during pre-notification or Phase I, and the merger was finally cleared. It is also worth considering that analyzing more complex cases also leads to a higher margin of error in the results of impact evaluation. It therefore may make sense to also investigate some "simpler" cases – but selecting them will then be somewhat subjective.

### **4. The GVH's experience with impact evaluation in mergers**

The GVH has not yet conducted a full-scale impact evaluation study in a merger case where it made the decision itself. As we discussed above, impact evaluation studies may be less effective and relatively more costly to carry out (in terms of agency resources). The number of mergers investigated per year is relatively low (34 in 2009 and 37 in 2010, of which only 2 and 1 were remedied). This means that the possible sample size of mergers where impact evaluation could be conducted is also relatively small, implying that general conclusions about the agency's effectiveness would be hard to draw reliably.

The GVH has commissioned, in a handful of cases, surveys pertaining to how well-known a given case is to the general public. In such studies, respondents are also sometimes asked about their thoughts on the impact of a given decision. One such study was conducted in relation to a merger on the market for tabloid newspapers.<sup>2</sup> The survey contained questions relating to consumers' perceptions of the likely effects the merger would have had, first on the content of the two papers, second on their respective prices,

<sup>1</sup> The merger might also impact only a relatively small division of a large international company, in which case no significant stock market reaction can be expected, even if it may have had a significant effect on the affected markets.

<sup>2</sup> Ringier/Hid Radio (Vj-155/2008). The GVH had issued a Statement of Objections in the case, and no suitable remedies could be found. The parties finally withdrew the merger before the GVH could take a formal decision.

and also, whether the acquired paper would have been shut down. While many consumers could not answer the questions, the majority of those who gave answers believed that the papers would have become more similar to each other, that their prices would have increased, and many also believed that the acquired paper would, eventually, have been pulled from the market. Such a survey is of course no substitute for an impact evaluation study.

A detailed impact evaluation concerning two mergers in the Hungarian retail gasoline markets was conducted in 2007. The basic motivation to start with this evaluation was another transaction in this market in 2009,<sup>3</sup> and the GVH wanted to thoroughly check the effects of previous mergers on Hungarian retail prices. Note however, that the two mergers in 2007 were part of larger transactions involving multiple countries and so were investigated by the European Commission.<sup>4</sup> The study ran fully fledged difference-in-differences estimations and developed a methodology to separate the effects of the two mergers that happened almost simultaneously.<sup>5</sup> The study used a detailed, publicly available database containing daily retail gasoline prices (for 24 monthly, during 2007-2008) for each gas station.<sup>6</sup> The study found that both mergers had a statistically significant but minimal effect on prices (all price effects were smaller than 1%), and these results were robust to various specifications.

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<sup>3</sup> Shell/Tesco (Vj-17/2009), approved unconditionally in Phase II.

<sup>4</sup> The acquisition of Esso stations by Agip in case Eni/Exxon Mobil (COMP.M.4723), and the acquisition of Jet stations by Lukoil in transaction in case Lukoil/Conocophillips (COMP.M.4532), both cases cleared unconditionally in Phase I.

<sup>5</sup> A publicly available paper written on the subject is Csorba-Koltay-Farkas (2011), "Separating the ex post effects of mergers: an analysis of structural changes on the Hungarian retail gasoline market"

<sup>6</sup> [www.holtankoljak.hu](http://www.holtankoljak.hu) ("Where Should I Refuel?" in Hungarian), a website run by a private company to help consumers to compare gasoline prices at various stations.



## JAPAN

### 1. Introduction

The Japan Fair Trade commission (hereinafter, “the JFTC”) employs two approaches related to the impact evaluation of merger decisions. One is the evaluations conducted by the staff in charge of merger reviews (Mergers and Acquisitions Division, hereinafter referred to as “M&A Division”) and the other one is conducted by the Competition Policy Research Center (hereinafter, “CPRC”)<sup>1</sup> in which external experts participate.

The M&A Division evaluated past cases from the viewpoint of further elaborating the merger reviews and published a report. In this evaluation, analyses of publicly available data and interviews with the parties concerned were employed as the evaluation method.

Outside experts played central roles in conducting the analyses in the evaluation by the CPRC, with a view to actively introducing economic analyses to the enforcement of the AMA and the planning/designing of competition policies. The purpose of the analyses was to focus mainly on the aspect of “efficiency” achieved by mergers. The analyses were attempted on the extent of achievements of efficiencies resulting from mergers and on the changes in market performance after mergers through actually applying economic methods by referring to the methodologies conventionally employed by economists and the competition authorities in the U.S.

In the following, we will introduce “*Ex-post* evaluation of the merger review” (Japan Fair Trade Commission, 22 June 2007 )<sup>2</sup>, which summarizes the analyses by the M&A Division, and “Empirical Studies of the Effects of Mergers and the Implications for Competition Policy” conducted by the CPRC.

### 2. *Ex-post* evaluation of the merger review

In this report, analyses were made mainly from two viewpoints.

One is the “*ex-post* evaluation of import pressures.” In this analysis, import data was analyzed across items with regard to cases in which import pressures were evaluated as a factor to promote competition. In addition, detailed data analysis and interviews about the degree of import pressures after the mergers were conducted with regard to a past case in which potential import pressures were positively evaluated.

Another is the “*ex-post* evaluation of remedies” in which the licensing of patent rights as a remedy in a past case was reviewed. More detailed data analyses and interviews were conducted about the status of the implementation of a remedy after mergers and its effects, etc.

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<sup>1</sup> The Competition Research Center, established in June 2003, has the objective to reinforce theoretical and empirical foundations for enforcing the AMA and related laws as well as planning, proposing, and evaluating competition policies. Its activities are developed with a view to build functional and sustainable cooperative platforms through joint studies among outside researchers, practitioners, and staff of the JFTC.

<sup>2</sup> Available at <http://www.jftc.go.jp/pressrelease/07.june/070622-tenpu.pdf> (Japanese version only).



## 2.1 *Ex-Post evaluation of import pressures*

In this analysis, assessment of import pressures during the merger review was evaluated *ex-post*.

More specifically, with regard to past cases in which import pressures had been recognized as having high possibility of working after the mergers, evaluations were made on whether import pressures were actually realized by analyzing the trends of import ratio across products and conducting detailed examination of a case in which the existence of import pressures was evaluated as a factor to be considered.

### 2.1.1 *Analyses on the trends of import ratios across items*

First, the analysis focused on the trends of import ratios across products with regard to 20 cases/26 products for which data can be easily gathered from public information, etc., extracted from cases in which import pressures were evaluated as having high possibility of working after the mergers (27 cases/49 products). The sample was selected from major merger cases in each year (hereinafter referred to as “major published cases”) which were published by the JFTC over a decade from 1994 until 2003 (119 cases/280 products).

As a result, imports were realized for 7 products after mergers and a certain amount of imports was observed for 8 products. For these products, it was considered that a certain degree of import pressures had functioned after mergers except for cases in which import products cannot be substituted for domestic products due to their low quality.

On the other hand, the ratio of imports after mergers remained at low levels for 11 products. It is necessary to determine the existence of import pressures after analyzing the reasons why the ratio of imports remained so low in each case.

### 2.1.2 *Analysis on a case in which import pressures were evaluated positively*

In response to the results of the above 2.1.1, detailed analysis was conducted for a chemical product called “phenol” in a merger case between Mitsui Petrochemical Industries and Mitsui Toatsu Chemicals<sup>3</sup> in which import pressures remained at a low level despite the positive evaluation on import pressures at the time of the merger review<sup>4</sup>.

The above analysis focused, in terms of the ease of substitution between domestic and import products, on points such as degree of institutional barriers, degree of import-related transportation costs and existence of problems in distribution, degree of substitutability between imported products and domestic products, potential for supply from overseas, and correlation between domestic and overseas prices.

As a result, with regard to “phenol”, the ratio of imports was low at the time of the merger review and remained at a low level except for imports of certain goods.

However, it was evaluated that there were potential import pressures from overseas because certain conditions are satisfied such as little differences in product brands, grades and qualities between domestic and overseas goods, low switching costs resulting from repeated use, etc., and existence of many relatively-large-scale users observing overseas markets through their overseas operations.

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<sup>3</sup> Available at <http://www.jftc.go.jp/ma/jirei2/9nendo.pdf> (page3-5)(Japanese version only).

<sup>4</sup> Interviews were conducted during January and February 2006.

### 2.1.3 *Conclusion*

As a result of the analyses in the above 2.1.1, in terms of the cases where import pressures were positively evaluated in merger reviews, it was suggested that they are in fact a mixture of two types of cases, that is, cases where import pressures are regarded to actually work and those where import pressures are not.

Therefore, in future merger reviews, it is important to evaluate import pressures deliberately through data analyses and detailed interviews, especially in cases where the ratio of imports is low.

## 2.2 *Ex-post evaluations of remedies*

These analyses reviewed the contents and effects of remedies.

More specifically, the analyses categorized/sorted out the characteristics and the effects of remedies by type and evaluated a past case by gathering documents/data as well as interviewing parties' competitors and users.

### 2.2.1 *Categorization and analysis of past remedies*

Contents of remedies were analyzed with regard to the published cases during the decade from 1996 to 2005.

As a result, competitive problems were pointed out or some kinds of remedies were proposed in advance by the parties for approximately 40% of the cases, while approximately 25% of the total was approved on condition that remedies are implemented.

Therefore, in light of the results of the past merger reviews, it was shown that (1) competitive concerns were solved by some kinds of remedies in many cases and (2) secure implementation of remedies were important for maintaining competitive markets.

### 2.2.2 *Analysis of a case in which remedies were implemented*

In this analysis, "Acquisition of shares of Sanyo Electric Vending Machine CO., LTD. by Fuji Electric CO., LTD."<sup>5</sup> was reviewed as a case where the licensing of patent rights as one of the remedies was taken.

It evaluated "the decision on substantial restraint of competition" and "the design for remedies" through gathering documents/data and conducting interviews from parties, competitors and users<sup>6</sup>.

- Evaluation regarding the decision on substantial restraint of competition

In the field of vending machines sales, shares of the parties had declined after the merger. Factors such as the continuation of users' policies to purchase from a plurality of sellers and various attempts concerning purchasing methods such as bidding/joint purchase were identified as the background of the decline.

As a result, the overall sales prices of the product declined and it was considered unlikely that the merger substantially restrained the competition. Therefore, it was considered that the view on the impact on sales competition by the merger was reasonable.

<sup>5</sup> Available at <http://www.jftc.go.jp/ma/jirei2/H13jirei9.html> (Japanese version only).

<sup>6</sup> Interviews were conducted during November and December 2005.

- Evaluation regarding the necessity of remedies

Because there had been no application by competitors for the licensing of patents at the time of the analysis, it was possible to view the remedy as being unnecessary.

However, another view was considered possible that convenience for users and consumers is achieved as a result of ensuring entry pressures through securing the disclosure of patents by the party because of the existence of indispensable patents for new entry.

### 2.2.3 *Implications from the evaluation*

The results of the evaluation suggest the following points to be remembered for future cases in which remedies will be necessary. Firstly, it is important to consider whether remedies are sufficient to solve competitive concerns resulting from mergers. In addition, when a remedy such as the licensing of patent rights is implemented, there is a possibility that such a remedy does not function properly if extremely high license fees are required in applying for the license. Therefore, it is necessary to examine the conditions on disclosing technologies to other companies, such as the fee and the period, as well as to revise such conditions in response to changes of market conditions, etc.

Moreover, it was pointed out that, when remedies are implemented after mergers, it is necessary to publicize the remedies and research in advance of potential candidates applying for licenses.

## 3. **Empirical studies of the effect of mergers and the implications for competition policy**

This study was conducted by a team consisting of several researchers (including outside experts) of the CPRC, which is a research institute belonging to the JFTC, and made public at an international symposium regarding competition policies convened on March 4, 2011.

During the period of this study, a merger between the two biggest companies in the iron steel industry in Japan (the business integration of Nippon Steel and Sumitomo Metal) was announced on February 3, 2011.

According to the press release, both parties concerned aimed at the following: “Improvement of the profitability”, “High evaluation from shareholders and capital markets”, “Competitiveness in technology, quality, and cost”, “Better response to the needs of customers”.

To analyze the achievements of such aims in past mergers, this study conducted empirical studies on the effects of mergers on (1) profitability, (2) stock prices, (3) R&D, and (4) selling prices.

However, these analyses had the following limitations.

First, although the study was based on public information except for the price study, the number of samples was limited because many actual merger cases concern non-public firms for which financial reports and share price data were unavailable. Second, because of short post-merger periods, there is a possibility that it is insufficient for the mergers to exert their effects. Finally, because the motives and types of mergers are diverse and quite a few seem to have been made to rescue failing companies for example, there is a possibility that the mergers do not have enough impacts.

For these reasons, it should be noted that the conclusions of this study cannot necessarily be determinative.

### 3.1 *Empirical results*

#### 3.1.1 *Evaluation on the effects of mergers on profitability*

In this section, direct influence of mergers on corporate performances (profitability) was evaluated. Analyses were made on six mergers among first regional banks and second regional banks consummated between the period of 2000 and 2006.

The change in corporate performances was analyzed by employing the propensity score matching method in which control firms, that is, firms that have similar characteristics to the merged firms except for experiencing mergers, were selected to compare financial indicators of merged firms to those of control firms. The method was used because a simple comparison of pre- and post-merger changes in financial indicators between merged firms and non-merged firms may not capture the effects of mergers alone.

The results of the analyses revealed that although statistically-significant differences were not found, there were many cases in which their ROEs deteriorated after mergers. They suggest that mergers rarely contribute to increases in profitability.

#### 3.1.2 *Evaluation of effects on stock prices*

In this analysis, the extent of influences of a merger on stock prices was analyzed by employing an event study method.

By applying the stock market model, the rates of returns on respective stocks were estimated as linear functions of the rate of return on the market portfolio by controlling the effects of the price changes of overall market portfolio. Abnormal rate of returns (AR) were calculated as the difference of the actual rate of return from the expected rate of return obtained by the above procedures and then cumulative abnormal rate of returns (CAR) were worked out. As the object of analyses, 15 cases in which the parties were listed on the first section of the Tokyo Stock Exchange and available for analysis were selected out of the merger cases after 2000.

The result of the analyses revealed that there were many cases in which stock prices rose on the day of the merger announcement but eventually became negative after several days. Therefore, the cumulative influences were not significantly different from 0 in the majority of cases.

Theoretically, a merger is expected to raise the efficiency of the merging firm and thereby its long-run profitability so that the merger announcement should raise its stock price and result in a positive CAR. However, such effects were not found in these cases.

#### 3.1.3 *Evaluation of effects on R&D expenditures*

To analyze the impact of mergers on innovation, R&D expenditures and the number of published patent applications were studied.

As the objects of the analysis, 39 major cases were selected from merger cases in the manufacturing industry in Japan after 2000.

The result of the analyses revealed that although both the R&D intensity and the number of published patent applications decreased in many cases, increases in R&D intensity were found in some cases, especially in R&D-intensive industries.

However, a detailed survey, such as a review on specific cases, should be necessary because R&D intensity and the number of published patent applications alone were not sufficient as indices for such studies.

### 3.1.4 *Evaluation of effects on prices*

In this study, price effects of mergers were examined by analyzing how retail prices of goods in the market changed before and after the mergers.

As the data for the analyses, scanner data was used for 3 selected items such as household flavor seasoning, sugar, and instant noodles.

Although the number of items subject to the survey was limited to three, average market prices (including products by companies other than the parties) increased to a greater or lesser extent (0.16% in household flavor seasoning, 5.28% in sugar) in two of them and the average product prices of the parties increased further in all three.

In addition, in product differentiated industries, there were some cases in which the parties used both price increases and price cuts depending on the brand to further differentiate itself among the brands sold by the parties concerned.

It was suggested that it is necessary to examine not only the effects on the average price but also the effects on the product composition and positioning that a merger may cause, which means the necessity of considering the possibility that some of the consumers may benefit whereas others may be hurt from the mergers.

## 3.2 *Conclusion*

These empirical studies suggested that the priority for competition agencies should be to watch the impacts on prices, that is, the impacts on the users (consumers) in merger reviews. On the other hand, the parties need to show detailed plans together with the scope of their implementations concerning the improvements of efficiencies and ‘long-term competitiveness.’

Moreover, it was pointed out that more economic and quantitative evaluations should be exploited based on econometric analyses because merger reviews in Japan have tended to be based on qualitative evaluations based on interviews, etc.

## 4. **Final conclusion**

As presented above, there are two types of impact evaluations of merger decisions in Japan, that is, the ones conducted by the JFTC and the ones conducted by outside experts.

Both of them were voluntarily conducted to refine merger analyses<sup>7</sup>. Although certain suggestions were obtained from them with regard to the merger review, some limitations concerning the analyses, such as the number of cases, data, the periods for evaluations, etc., were pointed out.

Therefore, accumulation of *ex-post* evaluation cases and studies regarding evaluation methods are expected in the future.

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<sup>7</sup> Note that policies are evaluated in Japan according to the “Government Policy Evaluations Act” (Act No. 83 of 2001, and hereinafter referred to as “the Act”) so that swift (within 30 days with regard to the first reviews and within 90 days with regard to the second reviews) and appropriate reviews on mergers (acquisition of shares, mergers, divisions, joint transfers of shares, acquisitions of businesses, etc.) are conducted in order to maintain and promote fair and free competition by preventing certain mergers that may be substantially to restrain competition in a particular field of trade. In addition thereto, evaluation of achievements is implemented with regard to transparency in merger reviews by publishing major merger cases, etc.

## KOREA

### 1. Introduction

In merger regulation, imposition of effective remedies as well as the reasonable definition of the relevant markets and correct assessment of anticompetitive effects is important aspects for preventing potential anticompetitive effect of a merger. The effectiveness of remedies can be improved by reviewing the impact of remedies imposed in the past enforcement cases. Therefore, the starting point for imposing proper merger remedies is empirical analysis of effects on the merging parties and impact on the relevant markets by the remedies issued in previous cases.

The following will discuss the KFTC's experience of conducting comprehensive analysis on the impact of its previous merger decisions.

### 2. Korea's impact evaluation study of merger enforcement

#### 2.1 Overview

The KFTC does not regularly evaluate the impact of merger decisions. However, in 2006 it conducted an evaluation on impact of remedies imposed in previous merger cases handled since Korea's competition law, the Monopoly Regulation and Fair Trade Act (MRFTA), was enacted. The goal of this evaluation, carried out by an independent researcher, was to ensure consistency and effectiveness in merger remedies and compliance of such remedies by merging parties.

#### 2.2 What were evaluated?

The 2006 evaluation was conducted on merger cases handled from the time of the enactment of the MRFTA in 1980 to the 1<sup>st</sup> half of 2006 that resulted in decisions to impose remedies. Among the total 31 such cases identified, however, 2 early cases handled in 1982 was excluded from the evaluation since there was a difficulty in acquiring relevant data as the cases took place long time ago.

Out of the 29 cases reviewed in the impact evaluation, 21 were about horizontal merger, 7 were vertical merger and 1 conglomerate.

#### 2.3 How were they evaluated?

For the impact evaluation, the report first summarized case overview including the state of relevant markets, anticompetitive effect of the proposed transactions, and remedies imposed in each case, and proceeded to analyze effect and significance of the remedies.

The most important task in the process was obtaining relevant data on changes in market environment and in profitability of the merging firms after the remedies were imposed and other information necessary to assess how the imposed remedies affected competition in the markets.

As the evaluation report was to be publicized, the independent researcher's collection of data was limited to publically available documents such as market state analyses provided by, for instance, financial

authorities, or business reports produced by merging firms. To facilitate the process, however, the KFTC provided researchers carrying out the evaluation with part of the documents submitted by merging firms for monitoring of compliance with the imposed remedies.

## 2.4 *What were the results?*

### 2.4.1 *Overall result*

The impact evaluation study concluded that the KFTC's overall enforcement performance in merger cases was quite positive considering its relatively short history in merger enforcement. It pointed out, however, that the merger enforcement focused on structural remedies in the early days changed the course after the Asian financial crisis, preferring behavioral remedies in many cases for years. The study said this change in enforcement approach to prefer behavioral remedies was hard to consider appropriate given the common practice in imposing remedies in merger cases.

The study also emphasized that behavioral remedies could have characteristics of direct regulation and urged great caution on this. Of course, this does not mean that structural remedies should be always chosen over behavioral ones even when behavioral measures are needed. However, it went on to say that the fact that remedies issued in the course of merger regulation, the most fundamental area of antitrust enforcement aimed for the free market, could have the effect of direct regulation deserves close attention by competition authorities.

### 2.4.2 *Empirical analysis of merger cases: Muhak-Daesun merger (Jan. 28, 2003)*<sup>1</sup>

#### 2.4.2.1 *Case overview*

In 2002 Muhak Co., the main soju (Korea's traditional liquor) producer in Busan city, additionally acquired 33.77 % stakes in Daesun Distilling Co., the biggest soju producer in Gyeongnam province, to own 41% of Daesun, raising competitive concerns in the soju markets of Busan and Gyeongnam. Those two regional soju markets- Busan and Gyeongnam markets- had highly concentrated structure with the markets dominated by the two merging parties. The combined market share of the merging parties was 92.5% in Busan and 97.2% in Gyeongnam.

#### 2.4.2.2 *Merger remedies*

The KFTC practically blocked the Muhak-Daesun merger deal by ordering Muhak to sell its entire stakes in Daesun to the third party within one year.

#### 2.4.2.3 *Impact assessment of remedies*

The KFTC analyzed changes in the relevant market share during the period of 2001-2004, and found that the level of market competition had been maintained or increased modestly.<sup>2</sup>

<sup>1</sup> KFTC Resolution 2003-No. 027 (Jan. 28, 2003)

<sup>2</sup> Changes in Market Share in Busan and Gyeongnam

<b>Busan (2001→2004)</b>		<b>Gyeongnam (2001→2004)</b>	
Daesun	84.4 → 86.0	Muhak	84.4 → 80.0
Muhak	7.1 → 7.4	Daesun	12.9 → 15.8
Jinro	7.2 → 5.4	Jinro	2.7 → 4.1

Regarding this, the study concluded that the state of the market after the imposition of the remedies showed there was no problem in the KFTC's decision. This conclusion is based on the fact that the KFTC's decision aimed to prevent already meager elements of competition from being totally lost from the merger rather than introducing or strengthening effective competition in the market.

### 2.4.3 *Empirical analysis of merger cases: Hyundai Motor- Kia Motors (Apr. 7, 1999)*<sup>3</sup>

#### 2.4.3.1 *Case overview*

After the 1997 Asian financial crisis when Korea strived to handle the problem of insolvent companies, Hyundai Motor Co. acquired new stocks in Kia Motors Corp. amounting to 51% of the company. At that time, Korea's auto market was dominated by Hyundai, Kia and Daewoo Motor under the strong oligopoly structure, and new entry to the market was not seen as feasible. Regarding the merger deal, the KFTC carried out a review by defining the relevant market as passenger car, truck and bus markets and found that the transaction would substantially lessen competition in each relevant market. Nevertheless, the KFTC determined that the competitive harm could be repressed, being outweighed by its beneficial effects such as rationalization of the industry and strengthened competitiveness in the global market given that the rival Daewoo accounted for 36.8% and 25.8% of the passenger car and bus markets respectively with strong export performance.

#### 2.4.3.2 *Merger remedies*

Regarding the merger transaction, the KFTC imposed behavioral remedies restricting price increases, instead of structural remedies such as divestiture of the truck division. Under the price increase restriction, defendants had to keep the prices increase rate of trucks they manufactured and sold in the domestic market lower than the foreign-currency-denominated price increase rate of their exported vehicles of the same standard for 3 years.

#### 2.4.3.3 *Impact assessment of remedies*

The study analyzed the remedies imposed in this case in two aspects; a problem caused by imposition of behavioral remedies instead of structural ones and the post-merger market changes.

First, regarding the price restriction, the study raised a problem of its effectiveness in that it was not easy for a competition authority to monitor the implementation of that remedy due to various factors to consider including terms of trade. Also, the evaluation study found that the three-year price increase restriction was not enough to remedy the harm from the eliminated competition given that prices of compact vehicles rose by 27.3% and turnover of Hyundai soared in the short period of time.

Regarding the post-merger market change, it said the auto makers' share of the domestic market did not show significant change, even though the merged firm's market share somewhat increased right after the transaction.

## 2.5 *Use of impact assessment study*

The impact evaluation study conducted by outside researchers was the first of this kind aimed to comprehensively assess the effect of remedies imposed in the previous merger cases handled after the MRFTA was enacted.

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<sup>3</sup> KFTC Resolution 99-No. 43 (Apr. 7, 1999)



This evaluation study is particularly noteworthy in that it set up the basic framework of imposing merger remedies by identifying principles and things to be improved in crafting and imposing merger remedies. In fact, in December 27, 2006 the KFTC established the “Guidance on Imposing Merger Remedies” specifying the types of remedies and criteria for imposing such remedies based on the study.

### **3. Conclusion**

Evaluating the impact of merger remedies *ex post* is not an easy task. But without empirical analysis of the impact of remedies, a competition authority cannot identify problems nor explore ways to address such problems. Improvement of the merger enforcement is possible only after the close analysis of actual effect of remedies imposed in the previous cases.

In this regard, a competition authority’s voluntary effort to periodically review impact of merger remedies is essential. It needs to be noted, however, that a successful impact evaluation requires careful consideration regarding, such as, on what grounds impact of merger remedies will be judged and who will conduct the evaluation and how to design the evaluation methodology.

## NETHERLANDS

### 1. Introduction

In this paper, the Netherlands Competition Authority (NMa) sets out one of the methods it uses to measure the impact of its merger decisions. This paper also presents the method the NMa uses to determine to what extent its decisions influence the decisions of companies to i) proceed with certain merger plans and notify them to the NMa; ii) modify such merger plans before notifying; or iii) to abandon the merger plans.

Recently, there has been an increased interest in the evaluation of competition authorities' activities. As a result, an increasing number of competition authorities are beginning to measure the effects of their enforcement actions in their jurisdiction. The reason they carry out such impact studies may vary. Some possible reasons for carrying out such assessments include i) the added benefit of using results in their advocacy efforts; ii) in order to learn lessons from past experiences by understanding what the impact of certain enforcement activities are, and iii) utilizing this information to improve enforcement activities.

Different types of techniques may be used to shed light on the impact of competition authorities' decisions.<sup>1</sup> The different methods range from i) using score cards to compare different authorities<sup>2</sup> and ii) using threshold values to calculate the effects<sup>3</sup>; to iii) carrying out econometric *ex-post* studies.<sup>4</sup> Generally, authors agree that *ex-post* studies are the most credible way to assess the competitive effects of completed mergers.<sup>5</sup> Although well-resourced *ex-post* evaluations and other impact assessment methods have a variety of highly practical uses, a general concern remains, that such evaluations will not be able to measure deterrence or anticipation<sup>6</sup> accurately. This is an important weakness since, arguably, deterrence or anticipation is the most important effect of competition law enforcement. For instance, Neven and Zenger stated that: "*The impact that enforcement decisions have on other potential cases is not observed either. As long as decisions are sound, neglecting their deterrent effect might, however, significantly underestimate their effectiveness. Indeed, one could argue that a competition policy implemented solely or*

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<sup>1</sup> Buccrossi, P., L. Ciari, T. Duso, S-O. Fridolfsson, G. Spagnolo and C. Vitale (2008), A short overview of a methodology for the *ex-post* review of merger control decisions, *De Economist*, 156 (4): 453-475. Davies, S. (2010), *A review of the OFT's impact estimation methods*, OFT 1164, London: OFT.

<sup>2</sup> Bergman, M.A. (2008), Quis custodiet ipsos custodes? Or measuring and evaluating the effectiveness of competition, *De Economist*, 156 (4): 387-409.

<sup>3</sup> Kemp, R.G.M., M. Mulder en J. Van Sinderen (2010), Outcome of NMa activities: a description of the calculation method, *NMa Working Papers*, no 1., Den Haag: NMa. OFT (2010), *A guide to OFT's impact estimation methods*, OFT 1250, London: OFT.

<sup>4</sup> Kemp, R.G.M and A. Severijnen (2010), *Price effects of Dutch hospital mergers: An ex-post assessment of hip surgery*, NMa Working Papers, no 2., Den Haag: NMa. *International Journal of the Economics and Business* (2011), Special issue: Hospital mergers and antitrust policy, 18 (1).

<sup>5</sup> Weinberg, M. (2008), The price effects of horizontal mergers, *Journal of competition law and economics*, 4(2), 433-447.

<sup>6</sup> Deterrence is more related to anti-trust, anticipation more to merger control.

*very largely through deterrence would be most effective.”<sup>7</sup> Neven and Zenger have further stated that: “Neglecting the deterrence effect of enforcement may significantly bias the evaluation of consumer benefits downwards. Estimates of the deterrence effect are rare and crude. Nonetheless, there are indications that it is substantial in size.”<sup>8</sup>*

This paper will therefore first present the results and experiences of *ex-post* studies performed in the Netherlands and then expand upon the idea that when one measures the impact of competition authorities’ decisions, it is also important that one considers some indications of the effect of this deterrence, particularly in terms of anticipation. The NMa believes that when determining outcome vis-à-vis merger policy effects, in essence, calculating the number of actual interventions in merger cases may result in a study which simply considers the ‘tip of the iceberg.’ By only considering the impact of the actual interventions, additional effects of competition enforcement (for example companies not notifying their merger plans as a response to previous merger decisions) are not fully taken into account.<sup>9</sup>

## **2. Ex-post research in the Netherlands**

In the Netherlands, *ex-post* studies on the impact of merger regulations have to date been done on an ad-hoc basis. Two *ex-post* studies have been carried out since the NMa’s inception in 1998. The first study was done by an external research company, NEI, as part of the evaluation of the Dutch Competition Act in 2002. The sponsor of this study was the Ministry of Economic Affairs. The second study was done by NMa staff in 2009. These studies both focus on supervision. Both studies will be discussed in short, followed by an examination of the practical issues of the NMa’s *ex-post* study.

### **2.1 NEI-study<sup>10</sup>**

The NEI-study was part of an evaluation of the Dutch Competition Act. In the study, ten competition cases were studied, of which five were merger cases. Of these five merger cases, one was prohibited, while the other four were cleared. Of the four which were cleared, three were authorized conditional upon remedies.

The NEI-study is qualitative in nature, as interviews were used as the main method to collect data and evidence. Indicators of competition were studied and evaluated by considering what the structure of the relevant markets is following the merger, and what the structure of the markets would have been had the NMa not intervened at all (i.e. the current situation compared with a counterfactual). Of the five mergers which were studied, NEI concluded that the merger which was approved (without remedies) did not influence the level of competition in the market (i.e. the decision to approve was a good one). The assessment of two of the mergers which were approved - conditional upon remedies - concluded that the remedies proved to be unnecessary. The assessment of the final merger case, cleared conditional to remedies, showed that these remedies had in fact ensured that competition had remained stable in the market post merger – and that without the remedies, the level of competition would have dropped. This is also true for the prohibited merger where it was concluded that without the prohibition, the level of competition would have decreased in that market.

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<sup>7</sup> Neven, D. and H. Zenger (2008 ), Ex-post evaluation of enforcement: A principal-agent perspective, *De Economist*, 156 (4): 478.

<sup>8</sup> Neven, D. and H. Zenger (2008 ), Ex-post evaluation of enforcement: A principal-agent perspective, *De Economist*, 156 (4): 482.

<sup>9</sup> Davies, S, and A. Majumdar (2002), The development of targets for consumer savings arising from competition policy, Economic discussion paper 4, report prepared for OFT.

<sup>10</sup> NEI (2002), Eindrapport evaluatie mededingingswet, Rotterdam: NEI.

## 2.2 NMa-study<sup>11</sup>

In this study, the price effects of two hospital mergers were assessed (the assessment was based on one treatment - namely hip surgery) (hereafter NMa Study). Both mergers were finalized at approximately the same time in 2005. One merger decision had not been controversial at all, while the other merger decision had led to a lot of debate and criticism from scholars and politicians, who generally put a lot of emphasis on the relevant geographical market. The results for the first merger showed the price effects (a small decrease in price) to be insignificant. The econometric results for the second merger showed that there was a significant price increase for hip surgery of 3.5% to 5% as a result of the merger.

As the NMa Study is more recent, we will discuss some relevant practical issues of performing the quantitative *ex-post* study in more detail.

### 2.2.1 Methodology

In the NMa Study, the “Differences-in-Differences” method was used.<sup>12</sup> This type of quantitative study is often used for *ex-post* studies and more in particular to evaluate the effects of hospital mergers.<sup>13</sup> When sufficient data is available, this is an especially good methodology to use, particularly as it controls for sector-wide developments. Such a study allows one to isolate the price effect of the merger. In this study, sufficient data was available, as it had already been collected by the Dutch Healthcare Authority (NZA) for their regulation activities. In order to complete the study, the NMa selected only one treatment, hip surgery, as it has a large share in the total revenues of the competitive segment. This competitive segment is in 2005 approximately 20% of the total hospital care revenue. Given time constraints and potential answering biases, the NMa did not combine the quantitative study with interviews with market parties and other stakeholders.<sup>14</sup>

### 2.2.2. Design

Two merger cases were selected for scrutiny for the NMa Study. Because the NMa had two mergers in the same sector and in the same year, they were integrated in one analysis. For the first case, the decision was relatively straightforward (Phase I decision); after the merger enough effective competition remained, therefore, the merger was no problem. For the second case, it was more of a ‘close call’ (Phase II decision) with some evidence pointing to a clearance and other evidence pointing to a prohibition. Assessing the evidence was especially difficult as competition was still in its early development stage in this sector. Some of the parameters considered in the NMa assessment of the hospital case included: i) are patients willing to travel and how far; ii) will differences in quality between hospitals become transparent; iii) will patients use this information in their choice of hospital; iv) will insurance companies try to direct their insured to visit contracted hospitals; and v) will insurance companies use selective contracting. Naturally, different assumptions or expectations could result in opposing conclusions.

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<sup>11</sup> Kemp, R.G.M., and A. Severijnen (2010), *Price effects of Dutch hospital mergers: An ex-post assessment of hip surgery*, NMa Working Papers, No. 2, The Hague: NMa.

<sup>12</sup> Woolridge, J.M. (2002), *Econometric analysis of cross section and panel data*, Cambridge, Massachusetts: MIT Press; Bertrand, M., E Duflo and S. Mullainathan (2004), How much should we trust differences-in-differences estimates?, *Quarterly Journal of Economics*, 119(1), pp. 249-275.

<sup>13</sup> See for instance *International Journal of the Economics and Business* (2011), Special issue: Hospital mergers and antitrust policy, 18 (1).

<sup>14</sup> There is an increased risk of socially desirable answers if NMa-staff do the interviews. An option could have been to outsource this qualitative research to a research company.

### 2.2.3 *Conducting the NMa Study*

The NMa Study was performed by staff of the Office of the Chief Economist of the NMa. The case-handlers who had assessed these cases were not involved in the actual research of the study, although they were consulted in order to understand some of the finer details of the cases. As data were provided by the NZa, NMa case-handlers were also not involved in the data preparation. The NZa was also not involved in the actual research. As a result the study was carried out without any prejudice or bias.

Besides the NZa data, some publicly available data was also included (number of beds, proxies for quality, etc). No extra information was required from the merging parties or other industry participants. Industry participants were also not informed that the *ex-post* study was being conducted.

### 2.2.4 *Results and lessons learnt*

The main objective of the study was to determine the price effect of the merger and how that related to the size of the geographical market. If there had been a price increase, this would be an indication that the geographical market had been defined too broadly, i.e. the hospital is not effectively constraint by the other hospitals. The objective of the study was not to evaluate whether the decision was correct or not. Had this been the objective, a different type of evaluation would have been necessary.

The study showed that in one merger, the prices of hip surgery of the two merging parties had increased by 3.5% and 5% respectively post-merger. This could be an indication that the geographical market had been too broadly defined in the decision. The study showed that in the other merger, no significant price effects for hip surgery were found, which could indicate that the merger did not have an anti-competitive effect.

After an internal check for confidentiality, the results were anonymously presented at an academic seminar. After internal deliberation, it was decided that - as it is important to undertake these types of studies - one also ought to present the results externally. Furthermore, the results were also discussed internally and extra attention was paid to the definition of the geographical market for future cases. As a result of the analysis of the results of this study, a project was set up within the NMa to evaluate new methods for geographical market delineation. This was done in order to determine whether and how the study's findings could be used to improve the assessment of future healthcare mergers.

Furthermore, it was also decided that market research which studies the switching intentions of patients (stated preferences) should be evaluated with more care. Both of these considerations should improve the assessment of future hospital merger cases.

Six months after the initial presentation a newspaper article appeared - based on the results of the NMa Study - stating that hospital mergers result in higher prices. The article led to a significant amount of debate in Parliament. In the view of the NMa, the article had exaggerated and misinterpreted the results, particularly as it was a study of only one treatment, whereas hospitals perform thousands of different treatments. When the NMa had completed the NMa Study, it felt that because its study was simply based on one treatment, it needed to keep the results in context in order not to give too much attention to a study on one segment of a much larger market. Despite this, the hospitals involved were not amused when the newspaper article appeared, as they felt they had to 'defend' themselves. A lesson learnt from the debate that followed the newspaper article is that communication of the results of these types of research should be done more proactively, explicitly framing the context and informing the merging parties and other stakeholders involved beforehand as well as explaining more carefully why such studies are worthwhile and important to perform.

### 2.3 *Conclusion ex post studies*

The NMa believes it is important to perform *ex-post* studies. They can help to improve the internal decision making and contribute to how evidence can be interpreted. Furthermore, the NMa believes that it is important to publish these results and discuss the results with external parties. This will result in better analyses and show the public that the NMa wishes to learn continually and to improve its decision making.

## 3. **Deterrence and anticipation of competition law enforcement**

Besides these *ex-post* studies, it is also important to study the ‘opposite’, i.e. how do the decisions of the NMa influence the behaviour of companies so that they refrain from (potential) anti-competitive mergers. As stated before, this is perhaps one of the most important, and yet least understood, aspects of competition control. Below we will therefore present a study on the deterrence and anticipation effect of competition law enforcement.

### 3.1 *Literature*

As mentioned earlier, when determining outcome of competition enforcement, it is also important to consider anticipation/deterrence effects. Several authors have studied the deterrence effect of competition enforcement.<sup>15</sup> Whereas most literature focuses on collusion and anti-cartel policies, the anticipation effect of merger control is less researched.

The deterrence effect on merger control may result in two effects: a frequency-based effect (merger plans being forsaken) and a composition-based effect (merger plans being shaped differently).<sup>16</sup> Stigler found that in the US a stricter merger policy reduced the number of horizontal mergers relative to the number of conglomerate and vertical mergers, i.e. a composition-based effect.<sup>17</sup> Eckbo argued that merger plans which may have anticompetitive effects are deterred by a more aggressive antitrust policy, however, he is concerned that mergers that are not anti-competitive are also deterred.<sup>18</sup> In a later study, Eckbo could not directly identify whether a change in policy would impact future merger plans of companies.<sup>19</sup> In 2005, the NMa commissioned a study on the anticipation effect of the NMa’s merger control activities.<sup>20</sup> Interviews with 16 competition lawyers learned that companies are aware of the NMa’s competition enforcement and that companies do in fact aim to minimise the probability of intervention by the NMa. As such, merger proposals are often modified or even abandoned when there is a high probability that the NMa will not authorise the merger proposal. Furthermore it was calculated that approximately 12% of the

<sup>15</sup> Seldeslachts, J., Clougherty, J. and Barros, P. (2009), Settle for Now but Block for Tomorrow: The Deterrence Effects of Merger Policy Tools, *Journal of Law and Economics*, 52 (August): 607-634. Buccrossi, P., Ciari, L., Duso, T., Spagnolo, G. and Vitale, C. (2009b). Deterrence in Competition Law. Governance and the Efficiency of Economic Systems (GESY). Discussion Paper No. 285.

<sup>16</sup> Aaronson, R. (1992) Do companies take any notice of competition policy?, *Consumer Policy Review*, 2(3): 140-145. Cited in: Seldeslachts, J., Clougherty, J. and Barros, P. (2009), Settle for Now but Block for Tomorrow: The Deterrence Effects of Merger Policy Tools, *Journal of Law and Economics*, 52 (August): 607-634.

<sup>17</sup> Stigler, G.J. (1966). The Economic Effects of the Antitrust Laws. *Journal of Law and Economics*, 9 (October): 225-58.

<sup>18</sup> Eckbo, B.E. (1989), The role of stock market studies in formulating antitrust policy towards horizontal mergers: *Comment, Quarterly Journal of Business and Economics*, 28: 22-38.

<sup>19</sup> Eckbo, B.E. (1992), Mergers and the Value of Antitrust Deterrence, *Journal of Finance*, 47 (July): 1005-1029.

<sup>20</sup> Twynstra Gudde (2005), Research into the Anticipation of Merger Control, a report prepared for the Netherlands Competition Authority (NMa), available at [www.nmanet.nl](http://www.nmanet.nl).

initiatives are amended and that 6% of the initiatives are abandoned. This implies that for every 100 notifications, there are approximately six plans abandoned and 12 modified. In 2007, the OFT commissioned a study of the deterrence effect in the UK, which concluded that, based on the answers of the lawyers, for each merger in which the OFT intervened, five merger proposals were modified or abandoned without intervention by the OFT. Based however, on the answers of the companies, the deterrence effect is more than double: for each merger in which OFT intervened twelve merger proposals were modified or abandoned without intervention by the OFT.<sup>21</sup>

To better understand the impact of the anticipatory effect of merger control in the Netherlands, the NMa recently commissioned SEO Economic Research<sup>22</sup> to investigate the magnitude of this effect. In this contribution, we will limit the presentation to the results of this study as they relate to mergers.<sup>23</sup>

### 3.2 *The SEO Economic Research study*<sup>24</sup>

#### 3.2.1 *Introduction*

The NMa enforces the Dutch Competition Act (*Mededingingswet*). This enforcement involves, amongst other tasks, monitoring mergers and acquisitions. The aim of competition enforcement is to influence the behaviour of businesses in such a way as to prevent mergers and acquisitions that restrict competition. This aim is partially achieved where businesses themselves modify their behaviour without direct intervention by the competition authority. Therefore, when determining the effect of enforcement activities in the area of merger control, the effect is measured not only by the extent to which the NMa acts on anti-competitive mergers, but indeed also by the extent to which companies modify or abandon their plans in advance of intervention.<sup>25</sup>

In order to understand the magnitude of the anticipation effect, questionnaires were used. The use of questionnaires, however, has limitations. For example, there is no certainty concerning the reliability of the information provided by the respondents. Managers, for example, may be reluctant to indicate that the anticipatory effect is low in order to avoid stricter enforcement action in the future (strategic bias). Managers may also be reluctant to provide information about anti-competitive activities. As the term cartel has a strong negative connotation, the answers may be distorted by a desire for respectability. This potential distortion on anti-competitive behaviour will be lower where the answers are provided by an adviser (such as a competition economist or lawyer).<sup>26</sup> This strategic answering bias may also be lowered by asking for facts (numbers of merger plans, adjustments of plans, etc.).

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<sup>21</sup> OFT (2007), 'The deterrent effect of competition enforcement by the OFT – discussion document', OFT 963, London: OFT.

<sup>22</sup> Van der Noll, R., B. Baarsma, N. Rosenboom and J. Weda (2011), *Anticipating cartel and merger control*, SEO-rapport nr. 2010-076, Amsterdam: SEO, available at [www.nmanet.nl](http://www.nmanet.nl).

<sup>23</sup> The study also investigate the impact of anti-cartel control, but that is beyond the scope of this paper.

<sup>24</sup> This section is based on Van der Noll et al(2011).

<sup>25</sup> For instance, in the UK companies are not obliged to notify their merger plans, therefore deterrence of anti-competitive merge plans is even more relevant in the UK.

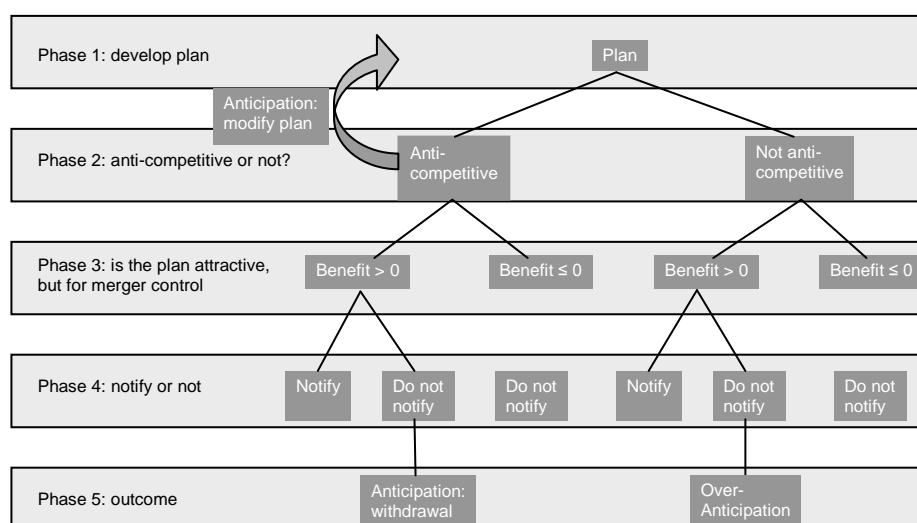
<sup>26</sup> Buccirosi, P., Ciari, L., Duso, T., Spagnolo, G. and Vitale, C. (2009b). *Deterrence in Competition Law. Governance and the Efficiency of Economic Systems (GESY)*. Discussion Paper No. 285.

### 3.2.2 The anticipation process

To start with, the NMa is, for the most part, aware only of mergers that are notified and is in many cases unaware of those that are *not* notified. Although the NMa is sometimes made aware of merger plans that are announced via media or by pre-notification contacts, there might be even more plans that are unknown to the NMa.

The anticipatory response of companies to mergers and merger control can be seen as follows; A merger may follow different paths (see Figure 1). The starting point is the preparation of a merger plan. This plan may or may not be anti-competitive. In many cases this is not entirely clear to the company concerned. After the plan has been examined in more detail it becomes clear whether it is attractive for the company or not. Once a merger has been concluded it is expected to provide a benefit, excluding the costs and uncertainties of competition enforcement. If there was no merger control, the plans with a benefit  $> 0$  would result in a merger. An impractical or unattractive plan has a negative benefit  $\leq 0$ . If the benefit is positive, it is likely that a company will wish to proceed with the merger plan, and that they will therefore notify these intentions to the relevant competition authority/authorities.

**Figure 1: Merger plans and anticipation**



Based on: Van der Noll, et al. (2011)<sup>27</sup>

Phase 4 of the above diagram represents the decision to proceed with the merger through to notification. If the merger is notified, the NMa will determine whether a licence is required. The expected payoff is the 'Likelihood of clearance x Benefit – Notification costs'. A company will notify its plan only if the 'Likelihood of clearance x Benefit – Notification costs'  $> 0$ . To estimate the likelihood of clearance, it is important to gauge how the NMa is likely to assess the merger. Previous decisions may be important in that respect.

There are two mechanisms of anticipation effects: a) anticipation because anti-competitive merger plans are not notified and b) anticipation because anti-competitive merger plans are modified and then

<sup>27</sup> Van der Noll, R., B. Baarsma, N. Rosenboom and J. Weda (2011), *Anticipating cartel and merger control*, SEO-rapport nr. 2010-076, Amsterdam: SEO, available at [www.nmanet.nl](http://www.nmanet.nl).



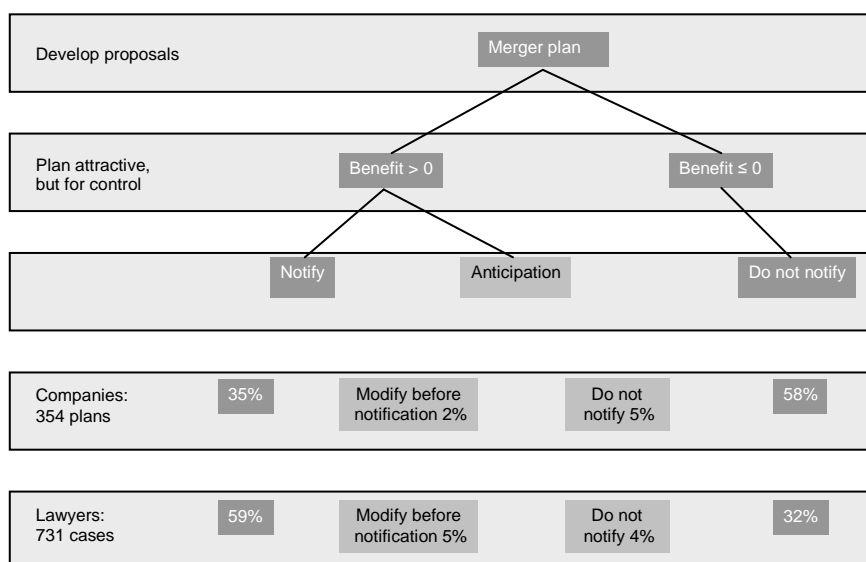
notified. ‘Business chilling’ or over-anticipation occurs when plans for mergers that do *not* restrict competition are abandoned or modified in anticipation of enforcement action.

In SEO’s survey of companies and lawyers, this framework is used to collect the information on the anticipation effect.

### 3.2.3 Results

Results of the survey of companies show that the participating companies considered a total of 354 mergers in the last five years (see Figure 2). 37% of them resulted in a notification; of these 37%, 2% were modified before notification in order to forestall potential objections on the part of the NMa; 5% of the mergers did not result in a notification and were abandoned on competition grounds. In terms of notified mergers, for each 100 notified mergers, there are 5 mergers modified before notification and 13 plans were abandoned.

**Figure 2: Results magnitude of anticipation effect**



Based on: Van der Noll, et al. (2011)<sup>28</sup>

The results of the SEO survey of lawyers showed that 64% of the proposals they had advised on, resulted in a notification, of which 5% were modified prior to notification in order to maximise the likelihood of gaining clearance. 4% of the merger proposals were abandoned because of the expected outcome of the assessment by the NMa (see also Figure 2).

Besides an estimate for the effect of anticipation, SEO also investigated which factors influence the level of anticipation by means of a conjoint analysis. In Table 1 the attributes with their respective levels are presented. In the SEO study, respondents had to evaluate and score different hypothetical situations by indicating the probability that the company would proceed with the merger plan up to notification. In all hypothetical situations, the benefit of the merger is an expected profit increase of 10%. The probability of

<sup>28</sup> Van der Noll, R., B. Baarsma, N. Rosenboom and J. Weda (2011), *Anticipating cartel and merger control*, SEO-rapport nr. 2010-076, Amsterdam: SEO, available at [www.nmanet.nl](http://www.nmanet.nl).

clearance depends on the market share and the possibility to submit remedies (does the company believe it has the ability to for instance, divest a division or plant). The other factors are outlined in the table below.

**Table 1: Setup conjoint analysis**

Dimension	Attribute (levels)
Attractiveness of the merger	<ul style="list-style-type: none"> <li>• 10% profit increase (constant)</li> </ul>
Probability of clearance after notification phase	<ul style="list-style-type: none"> <li>• Market share of combined company (less than 40%; 40% to 70%)</li> <li>• Possibility of submitting remedies during notification phase (yes; no)</li> </ul>
Cost of notification	<ul style="list-style-type: none"> <li>• Cost of notification fee (€0; €15,000; €30,000)</li> <li>• Lead time (2; 6; 12 weeks)</li> </ul>

For the companies examined, all the attributes were considered to be significant. The results showed that as regards the market share, a higher market share results in a higher probability to notify the merger, i.e. a lower anticipation effect. The possibility to submit remedies during the notification phase results in a higher probability to notify a merger. Higher notification fees lead to a lower probability to notify a merger, i.e. more anticipation. Finally, longer lead times result in a lower probability to notify a merger. Of these attributes, the unavailability of remedies has the greatest effect on the anticipation response, followed by an increase in cost from €15,000 to €30,000. In third place comes an extension of lead time from 6 to 12 weeks.

The lawyers who responded to this study stated that they believed a higher market share would reduce the likelihood that the merger plan will be continued. Where the lawyers who responded to this survey indicated that they regard market share as indicative of the expected chance of obtaining clearance, companies probably just see a higher market share as a higher profit potential. When lawyers prepare an advice for companies on a proposed merger, market share has by far the greatest effect of all the other factors they consider. In their advice, lawyers do not in general, for instance consider the costs of notification or lead time as reasons not to notify or not to merge. Compared to the current notification fee, a lower fee will result in more notifications, i.e. less anticipation. Also the availability of remedies will increase the probability of notification.

### 3.3 *Conclusion SEO Study*

The results of a study on the anticipation effects of merger control confirm the widely accepted proposition that merger control has a much larger affect than the direct effects observed. Based on the results of the SEO survey, 18% of merger plans are modified or abandoned. And these are the cases that really matter, i.e. merger plans that are perceived by companies as potentially anti-competitive. The number of abandoned plans (13 per 100 notifications) is especially important. The fact that this number is much higher than the number of remedied or blocked mergers shows that anticipation does matter.

As discussed above, for companies, the availability of potential remedies influences the decision to notify. If companies already have potential remedial solutions for foreseen discussions with authorities on competition concerns, they are more inclined to notify a merger. The level of probability for merger notification can be influenced by the notification fee and the lead time. It is clear from the answers provided by the lawyers survey that they still use market shares as an important indication of potential competition problems, despite the more economical assessment of mergers. Costs and lead time are less important for the lawyers.

#### **4. Conclusion**

This paper presents the experiences of the Netherlands with *ex-post* studies on merger decisions. It is important to review decisions regularly and study the effects of mergers on the market. The results should be used in an internal process to improve the decision making. It is also useful to publish these results externally.

This paper also considers the anticipatory effects of supervision; particularly as such results are also relevant when evaluating *ex-post* effects. As discussed above, the anticipatory effects created as a result of previous competition enforcement may in effect lead to a decrease in the number of anti-competitive mergers plans even making it to the drawing board.

## NORWAY

### 1. Background

In 2007, the Norwegian Ministry of Government Administration, Reform and Church Affairs (the Ministry hereafter) commissioned Copenhagen Economics (CE) to prepare two reports on impact evaluation; the first focused on competition indicators and methods that can be used to report the results of the Norwegian Competition Authority (the NCA hereafter), and to assess the effects of competition policy, whereas the second report focused on actually assessing the economic effects of the Competition Authority's interventions and enforcement, as well as presenting literature on approaches and experiences in this field.

Following up on the reports, the Ministry Reform asked the NCA in its assignment letter for 2008 specifically to perform *ex post* assessments of the impact of at least one decision relating to abuse of dominance, one decision relating to illegal price cooperation and one merger case. The same requirement has been expressed in subsequent years.

This contribution will elaborate on the NCA experiences with impact evaluations more generally, and impact evaluation of merger decisions more specifically. First, however, the contribution will briefly present the content and recommendations on methodology in the first CE report, as well as the legal context for impact evaluations related to competition policy enforcement and decisions in the field of mergers.

### 2. The legal context for impact evaluations

The current Norwegian Competition Act entered into force on 1 May 2004. The Act is to some extent harmonized with EU competition rules. The purpose of the Act is stated in Article 1 as "...to further competition and thereby contribute to the efficient utilization of society's resources."

The primary enforcement tools of the Norwegian Competition Act of 2004 are sections 10 and 11 (equivalent to Article 53 and 54 of the EEA agreement and Article 101 and 102 TFEU) and section 16 concerning merger control (similar to Article 57 in the EEA agreement).

The criterion for intervening against a concentration is that it "will create or strengthen a significant restriction of competition, contrary to the purpose of the Act". Since the purpose of the act is stated as the "efficient utilization of society's resources", the NCA shall accordingly apply a total welfare standard for its work in the field of mergers.

### 3. Methodology

The first of the two reports commissioned by the Ministry focused on competition indicators and methods that can be used to report the results of the Norwegian Competition Authority, and to illustrate the effects of competition policy.

In the mandate for the report, the Ministry asked CE to give a summary of national and international experience in using competition indicators and other tools in empirical analyses of the effects of

competition policy. CE was also asked review the literature about competition indicators and other tools that are suited to analyzing the effects of competition policy, and to assess the positive and negative characteristics of the different methods and identify and assess competition indicators and other methods that can be used to report the results of the Norwegian Competition Authority, and to illustrate the effects of competition policy.

Since methodologies is one of the suggested issues and questions for consideration in country submissions in the roundtable invitation, this contribution will report some of the main CE conclusions with regard to methodology. First a brief clarification on core concepts such as methods, initiatives and indicators before presenting the CE recommendations relating to these concepts.

*Methods* such as statistical and simulation models are tools that can be used to study and assess the effects of specific policy variables or competition policy initiatives. The relevant competition policy *initiatives* are mostly interventions related to the core activities of the competition authorities, i.e. merger decisions, intervention against abuse of dominant position or intervention against cartels or other agreements reducing competition. However, they can also be other initiatives of the competition authorities, for instance sector inquiries and information campaigns.

The assessment of the effect of the initiative will be done by one or more relevant competition *indicators* that try to measure the degree of competition intensity in an industry. When it comes to indicators, the report present and discusses a host of different alternatives within eight categories, i.e. measures of concentration (e.g. HHI, N-firm concentration indices), barriers to entry (e.g. establishment rates, churn-rates), mobility (e.g. concentration variance coefficient), innovation (e.g. R&D ratio, patent ratio), prices (e.g. price changes in a sector), profits (e.g. return on assets), productivity (e.g. change in labour productivity) and product quality (consumer complaints).

CE recommends that the NCA use, as far as possible, price changes as the relevant competition indicator to assess both the expected and the actual effects of competition policy initiatives. Apart from that, CE did not recommend any other competition indicators for general use, since many competition indicators are ambivalent in the sense that it is not unambiguous whether an increase or a decrease in this indicator expresses an increase in competition intensity. This can only be determined in the specific case.

When it comes to economic tools to predict the counterfactual ‘but-for’ situations, CE distinguish between five different categories:

- the ‘before-and-after’ method,
- benchmark method,
- cost structure method,
- statistical method and
- simulation method.

The ‘before-and-after’ method tries to compare the market before and after a competition policy initiative, the benchmark method compares the market with other comparable markets, but without the same competition policy initiative, the ‘cost structure method’ tries to predict how the market would have looked without the competition policy initiative based on cost structure, observed costs and profit level, the ‘statistical method’ tries to predict how the market would have looked without the competition policy initiative, based on a statistical relationship between prices and other data that can explain the price setting on the market and finally, the ‘simulation method’ implies simulation of the market price without the competition policy initiative based on modelling the price setting on the specific market.

In addition to these broad methods, qualitative interviews can also be used to assess the effects of a specific initiative are assessed by asking clients and competitors for their assessment of the evolution before and after a competition policy initiative. CE points out that by conducting interviews, it is fairly easy to obtain many answers: however, it is important to bear in mind that these answers are subjective since clients and competitors may have an interest in bringing to the fore certain answers.

When assessing the effects of competition policy initiatives, it is natural to differentiate between two groups of cases or initiatives. The first group comprises the core activities of the competition authorities, i.e. intervention against anticompetitive mergers, cartels and abuse of dominant position. The other group includes all the other decisions and initiatives that come from and are implemented by the Competition Authority. These are for instance sector inquiries, information campaigns, and the publication of guidelines.

Relating to the NCA core activity cases, CE recommends using simulation models to predict the expected effects (*ex ante*) of competition policy initiatives on price. Simulation models can be simple or more advanced IO models. What is important is to model how the market would have developed if the specific initiative had not been carried out, for example if a merger that was prohibited had been instead authorised without any conditions.

It can also be mentioned that CE distinguishes between *ex ante* and *ex post* effects. The difference is that the former is an assessment made before the competition policy initiative has generated detectable effects while the latter takes place after the initiative has, or could have, generated detectable effects.

CE recommends that the NCA carry out both types of assessments, and presents two reasons why *ex ante* assessments should be carried out. First, highlighting and visualising the expected effects of the competition policy initiatives are necessary to argue why the initiatives should be approved and carried out. Second, it is an important condition in order to appropriately highlight and visualise the actual effects after the concrete initiative has been carried out.

Furthermore, they present three reasons to carry out *ex post* assessments. Firstly, it is argued that the NCA is politically obliged to highlight and visualise the effects of their work. Secondly, it is increasingly important to document how the Norwegian society benefits from the resources used in public administration. Thirdly, it is necessary in order to give priority among the uses of public means for different purposes.

The second of the CE reports focused on actually assessing the economic effects of the Competition Authority's interventions and enforcement, i.e. the difference between the overall economic welfare before and after an intervention on a market. In the report, a distinction was made between two types of effects: direct and indirect effects. The direct effects are the effects on the market on which the specific intervention is made. The indirect effects are partly the spill-over effects on other markets than the market on which the intervention takes place, and partly the deterrence effect which is due to the NCA's pure existence and not necessarily to the specific interventions.<sup>1</sup>

English summaries of the reports are available here: <http://www.regjeringen.no/en/dep/fad/whats-new/news/2007/Reports-on-improving-the-performance-of-.html?id=498165>

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<sup>1</sup> No actual impact assessment of a merger was done in the report, just an indication of how an assessment of the Ticketmaster-case in 2005 could have been done.

#### **4. The framework for NCA's work related to impact assessment**

The NCA's main task is to enforce the competition law. The Ministry provides the framework for the NCA's activities. However, the NCA enforces the competition law independently from the Ministry.<sup>2</sup>

At the beginning of each year the Ministry states the government's priorities in the competition field in a letter of assignment to the NCA. No instructions can be given regarding the outcome of specific cases. However, the Ministry can ask the NCA to give priority to certain areas of the law and focus and assess competition concerns related to certain sectors of the economy.

As mentioned in the introduction, the Ministry has since 2008 in its letter of assignment asked the NCA to use "price or another suitable indicator to make visible the effects of the competition policy". More specifically, the NCA is asked to evaluate the impact of:

- at least one decision related to the prohibition regulations in the law,
- at least one decision related to the merger regulations in the law, and
- at least one case where the NCA have called attention to restrictive effects on competition of public measures.

It is up to the NCA to choose interventions or initiatives and markets representative of its work and activities. Finally, it is stated that the impact of the intervention on consumers must also be illuminated.

The following work has been done by the NCA to fulfil the Ministry's impact assessment requirement:

- 2008. A chapter in the NCA publication 'Competition in Norway' with a general discussion on merger policy and a presentation of i.a. two merger cases where local competition concerns were decisive in the decision.
- 2009. The Gilde – Prior merger and assessment of alleged efficiency gains<sup>3</sup>
- 2010. Mergers and acquisitions in the retail gasoline market and an econometric analysis showing the importance of competition in local markets.

Evidently, these impact assessments are primarily intended to highlight the effects of competition policy in a wider societal context. However, the experiences after a merger that has been stopped or approved can also provide the Competition Authority with a better technical basis for assessing future mergers. This guided the NCA in its choice of case for 2009.

The NCA presented the cases evaluated in its respective core areas in its annual report for 2009 and 2010. English-language summaries of the annual reports presented are available at the NCA website. The results of the work done in 2008 on impact assessment were published in the NCA publication "Competition in Norway", together with six market studies in February 2009.

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<sup>2</sup> The Ministry is the appellate body of the NCA's merger decisions and prohibitions not involving fines. The courts are the appellate body of decisions according to the prohibition regulations involving fines.

<sup>3</sup> This impact assessment analysis has not been finalized.

## 5. Challenges experienced

One of the points of doing impact assessment is to advocate and illustrate the value of competition law and the authority's work to enforce it. Sjørgard (2009) point out that "Several jurisdictions have at their own initiative quantified the expected effects of their own merger investigations. Some of them have also initiated ex post studies of the actual effect of a merger ban or a decision to allow a merger."<sup>4</sup>

The NCA have with great interest followed the work the FTC, DOJ, OFT as well as other jurisdictions contribution in this field, with, inter alia, annual reports on estimates of savings for consumers following merger bans.

One can argue that estimates of savings for consumers would not really be a relevant measure of success for a competition authority basically following a total welfare standard in its merger enforcement work. Moreover, the saved welfare loss triangle often can be quite small compared to the saved consumer surplus. Thus, the resulting figures might not really be very impressive, compared to the savings for consumers, as an indicator of our success.

The CE report recommended that the NCA use price as a suitable indicator. However, it is not an easy task to obtain price data of sufficient quality and disaggregation, which also can be publicized as part of the merger impact assessment study.

The NCA will often obtain price data as part of its merger assessment, but these price data will typically be subject to confidentiality and thus, not suitable for publication – which is one of the points of doing impact evaluation.

As part of its efforts to obtain data of good quality and at a satisfactory level of disaggregation to do impact assessment, the NCA approached Statistics Norway. There were however, clear limits implied by the law on statistics on what data Statistics Norway could supply at the level of disaggregation needed for a satisfactory impact evaluation analysis. To obtain high quality data from undertakings is very important to the work and creditability of Statistics Norway. Succeeding in this obviously depends on confidentiality and trust that the data not will be used in a way that is contrary to the undertakings' interests.

One of the major challenges related to impact evaluation in the field of mergers is obviously also the methodological, i.e. to predict how the market would have developed if a merger had not been approved), or if it had been approved.

Establishing this hypothetical market situation, which often is called the 'but-for' situation in the economics literature, is quite demanding in practice, both with respect to the competencies required, the tools used, and the data necessary for the chosen indicator.

Yet another not insignificant challenge is to identify merger cases suitable for impact assessment in a relatively small jurisdiction.

Below is a table summarizing case statistics in the field of mergers in the period 2007 to 2010:

	2007	2008	2009	2010
Notifications of mergers and acquisitions	561	444	294	415
Interventions against mergers and acquisitions	5	4	1	0

<sup>4</sup> Sjørgard, L. (2009). "Optimal Merger Policy: Enforcement vs. Deterrence", *The Journal of Industrial Economics*, vol. LVII, no. 3. Sjørgard is a former chief economist at the NCA.



Even though one could in principle do ‘but-for’ impact assessment of all the approved mergers, typically, however, cases where the authority intervened are chosen. The table shows clearly that the potential merger cases available for impact assessment are very limited. In addition, several of these merger cases where the NCA intervened were approved with some structural remedies, typically to alleviate negative effects on competition in local markets. This adds to the methodological challenges.

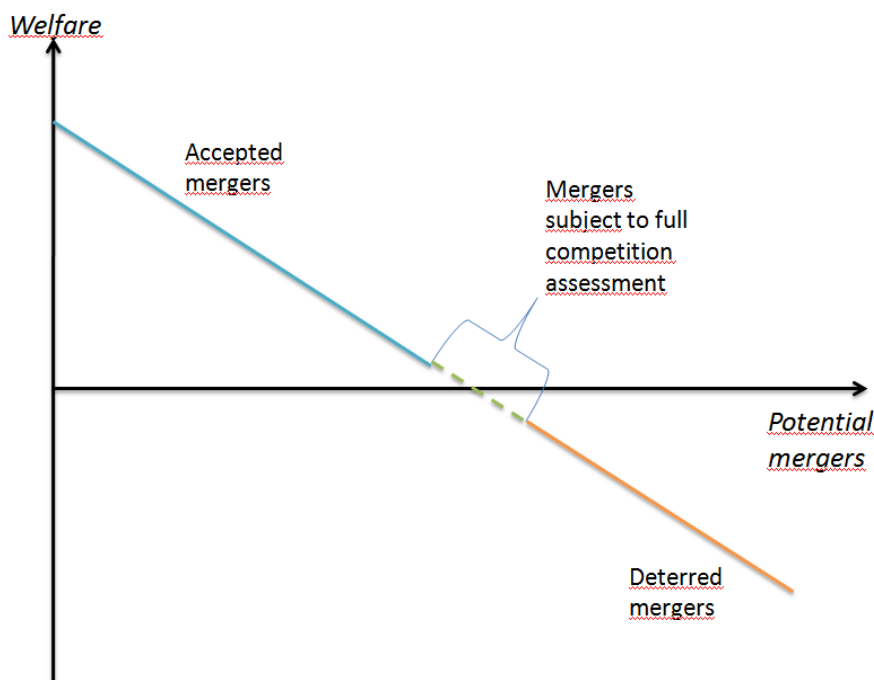
The low number of interventions, even lower number of suitable cases for impact assessment and assumed relatively low figures for saved welfare loss in these cases, does, however, not imply that the competition law and the NCA’s work in the field of mergers is insubstantial.

Sørgard continues the quotation above by saying that “However, all commentators seem to agree that such studies might detect only the ‘tip of the iceberg’ when it comes to the overall impact of merger policy”.

This perspective is confirmed by a study commissioned by the NCA in 2008. The survey was inspired by a similar survey conducted by the Office of Fair Trading in Great Britain. The Norwegian survey clearly shows that competition policy does act as a deterrent. According to those surveyed, proposed mergers and acquisitions have been cancelled or significantly modified due to the risk that the transaction would otherwise have been stopped due to the current competition law.

Sørgard’s (2009) analysis is based on the notion of a model where the mergers with the clearest welfare enhancing benefits typically is cleared without further investigation, and the mergers with the largest negative impact on welfare are deterred.

The following figure can illustrate this:



Some obvious conclusions follow from this. One is noted by Sørgard in his concluding remarks: “to have a correct understanding of the overall impact of merger enforcement one should evaluate not only the

enforcement effect from those mergers that were investigated (type I and type II errors), but in addition try to measure the number of mergers being deterred.”

Secondly, given that this model is a correct representation of the reality, the mergers subject to further investigation and potential intervention are cases where the welfare benefits are in the border area of plus/minus zero. Ergo, the cases where the NCA actually intervened or approved with remedies following closer analysis, will probably not be very suitable for impact assessment at all, at least not if the purpose of the assessment is to advocate the importance of merger decisions through demonstrating big savings for consumers.

Yet another challenge is resource constraints. The NCA employs around 90 people, of which 70 are directly working on competition related cases. The NCA has been given extra resources from the Ministry to its work to fight collusion in 2008 and 2009, and this work has been given top priority in recent years. In 2010 the NCA secured evidence in four cases at 19 different locations involving a total of 11 companies. A total of 32 formal statements were taken in connection with investigations into six different cases.

On top of this come very resource-demanding court trials. For instance, the most important case in 2010 was the trial in appeal court of the Tine case. Tine is Norway’s biggest dairy undertaking. In September 2010, the Civil Court of appeal ruled that Tine violated the Competition Act. The administrative fine was set by the appeal court to 30 Mill. NOK. This corresponds to 5 mill USD. The appeals trial, as in the first instance trial, took 8 weeks and a large number of man-hours for the NCA.

Of the available NCA resources, 71 per cent were used on illegal conduct, 24 per cent on mergers and acquisitions, and 5 per cent on hearings and calling attention to any restrictive effects on competition of public measures in 2010.

Doing impact assessment in a way that withstands the scrutiny of the public and professional eye is obviously a task that is very resource demanding, and it must fight to get priority in the daily work of handling mergers according to the requirements of the law, and the work to investigate and prosecute illegal conduct.

## **6. Concluding remarks**

The above section leaves a rather gloomy perspective on the potential for impact assessment in the field of mergers. This does not imply that the NCA believes that this work is too resource demanding, futile and that it should be discontinued.

There are obviously clear challenges related to data, methodology, identifying suitable cases and indicators, as well as succeeding in giving this work priority in the everyday enforcement work.

However, to continuously advocate the importance of the work the competition authorities are doing through i.a impact assessment provides the very foundation and legitimacy for the competition authorities’ work, among the public in general and the politicians and granting authority in particular. Counterfactual price is a good indicator in this regard, when suitable cases can be found, which also is in accordance with the recommendations of CE and the requirement in the Ministry’s assignment letter that the impact of the intervention on consumers must be illuminated.

In addition, impact assessment is very valuable as a learning tool to improve the quality of future decisions in the field of mergers. Thus, the NCA will continue its work on assessing and communicating the effects of interventions related to its core areas cartels/dominance, mergers and advocacy. Not only because the Ministry continue to require that we do so in its annual letter of assignment, but also because it is an important part of our work in the field of advocacy work and to improve the quality of our decisions.



## POLAND

The impact evaluation of merger decisions is a good example of new trends in the activity of competition protection authorities. The essential element of such evaluation is to compare the market conditions resulting from the decision issued by the antimonopoly authority with a counterfactual situation which might have existed on the market if the antimonopoly authority had issued a different decision or had not issued the decision at all. The impact evaluation of merger decisions has a significant external and internal dimension. The efficacy assessment of the issued decisions can form a vital element of the actions taken by the antimonopoly authority with respect to the public opinion and budget decision-makers in that it shows the effects of advocacy actions. The impact evaluation of the issued merger decisions by the antimonopoly authority can also have an internal dimension and enhance shaping the internal decision-making procedures. However, to carry out studies on the impact evaluation of merger decisions it is necessary to develop detailed methodology and define study objectives. Furthermore, such studies could meet with the internal resistance inside the organisation.

So far, the Polish Office of Competition and Consumer Protection has not undertaken any impact evaluations strictly devoted to merger decisions. The impact evaluation of the issued decisions was one of the components of sector inquiries conducted from time to time. According to the Polish Act on competition and consumer protection sector inquiries are conducted under explanatory proceedings. Pursuant to Article 48 (1), the Polish antimonopoly authority can initiate on an ex officio basis the explanatory proceedings regarding a given branch of economy. The explanatory proceedings may in particular aim at the study of the market, including the determination of its structure and degree of concentration. Such inquiries have been conducted in relation to sectors subject to dynamic consolidation processes and at the same time under control of the Polish antimonopoly authority. The objective of the conducted inquiries was to assess market conditions and compare the existing circumstances with the analyses included in merger decisions. Two series of sectoral analyses provide a good example of such inquiries. In the years 2004-2006 an inquiry of the manufacturing and distribution market of vodka, high-quality spirits and rectified spirit was held, whereas in the period of 2004-2009 the Polish antimonopoly authority carried out an analysis of press publishing houses. The first inquiry was particularly significant as the spirits manufacturing and distribution market saw several transactions subject to assessment of the Polish antimonopoly authority. In the case of one transaction (case CEDC/Polmos Białystok), the President of UOKiK granted a conditional consent, while in the other transaction (CEDC/Polmos Jabłonna) he prohibited merger. The conducted sector inquiries were highly significant as on the one hand they provided up-to-date market data, and on the other hand they provided an opportunity to compare the analyses of market development included in the decisions with the real market conditions .

The experiences of the Polish antimonopoly authority show that an impact evaluation of merger decisions can be useful when there is a well-developed and relatively rich case law regarding a given sector. In such case the antimonopoly authority can analyse merger decisions in the context of a particular and specific sector. Undoubtedly, conditional consents are best suited for such analyses. They provide a possibility of a convenient evaluation of the assumptions underlying the decision and subsequent market development. However, it cannot be excluded that merger consents should also be subject to evaluation, in particular if the sector inquiries provided no clear-cut results when such decisions were issued. The analysis of the merger decisions issued based on a public interest test seems to be most questionable. An impact evaluation of such decisions would have to be based on different assumptions and results thereof could hardly be compared to results of analyses of any other merger decisions.

The frequency of impact evaluations of merger decisions should correspond to the current needs of the antimonopoly authority, resulting for instance from the increase in consolidation processes or the adopted plan. The frequency will also depend on organisational and budget resources of the antimonopoly authority. Such analyses are subsidiary in relation to the current and primary operations. There is no obligation to carry out such analyses under the Polish law. It seems also that introducing a statutory obligation of impact evaluations of the issued merger decisions might prove to be counter-effective.

The previously mentioned sector inquiries were conducted by employees of the antimonopoly authority. However, it is worth considering whether outsourcing impact evaluations of merger decisions to a dedicated external company would not be a good solution. Such external verification would specifically be more objective and resist the temptation to admit that the authority was right. The obstacle could be budgetary aspects and the fact that external companies could only rely on voluntary cooperation of undertakings and would not have at their disposal such coercive measures as assigned to the antimonopoly authority. So far sector inquiries have been based exclusively on the information collected from undertakings, obliged to submit such data if requested by the President of UOKiK. This obligation covered all the necessary information regarding the study objective, including the data related to the undertaking's trade secrets and confidential information. The collected information was supplemented by any publicly available data.

The results of sector inquiries were mainly used for antimonopoly proceedings relating to mergers in order to verify the validity of the conducted analyses and sources of current market data. The described sector inquiries, being analyses based primarily on business secrets of undertakings, were for internal use only and could not be published.

## SWITZERLAND

### 1. Preliminary remarks

The substantive test used in Switzerland is a *dominance test*. In general, under a dominance test, a merger may be prohibited if it results in the creation or strengthening of a dominant position which significantly impedes effective competition. According to Art. 10 Para. 2 of the Swiss Cartel Act, a merger may however only be prohibited or authorized subject to conditions or obligations if it creates or strengthens a dominant position liable to eliminate effective competition. The Supreme Court has therefore in the past advanced the view that the creation or strengthening of a dominant position which is likely to impede effective competition is not enough to block a merger. Rather, under the Swiss Cartel Act, a merger may only be prohibited if it is likely that competition in the concerned markets will be *eliminated*. In other words, in Switzerland a merger may only be blocked if it leads to an extremely high concentration in a market (e.g. a merger to monopoly). As a result, it is very difficult for the Swiss Competition Commission (ComCo) to prohibit a merger. This is highlighted by the fact that in the whole history of Swiss competition law only one merger was effectively blocked so far: in 2010 ComCo blocked a „three to two merger“ in the Swiss telecommunication market on the grounds of impending post-merger joint dominance (see below).<sup>1</sup>

Consequently, under the current Swiss merger control regime the risk of a regulation failure in the sense of a *Type I Error*, i.e. the prohibition of a welfare-enhancing merger, is minimal.<sup>2</sup> Given the legal situation, it is much more *Type II Errors*, i.e. the clearance of welfare-reducing mergers, which are of concern for Switzerland. Yet, impact evaluation studies systematically assessing the potential detrimental effects of the tolerant Swiss merger control regime on total or consumer welfare are missing so far. In particular in connection with the current discussion about a possible revision of the Swiss Cartel Act such studies would have proven valuable since one pillar of this revision envisages the amendment of the substantive test. By furnishing a sound empirical basis, impact evaluation studies surely could have supported the political decision finding process.

### 2. Impact evaluation studies

ComCo does not conduct impact evaluation studies on a regular basis and so far has only done on very specific occasions. This is primarily due to resource and time constraints. In the following Switzerland's (limited) experience with impact evaluation studies is presented and some "lessons learned" addressed.

#### 2.1 *Evaluation of the Swiss Cartel Act in 2009*

With the revision of the Swiss Cartel Act in 2003 ComCo received new competences, in particular the power to impose direct sanctions. Art. 59a of the revised Cartel Act obliged ComCo to assess the effects of the revision after five years. In the context of this assessment external experts were mandated to furnish

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<sup>1</sup> France Télécom/Sunrise Communications AG, LPC 2010/3, p. 499-561.

<sup>2</sup> Type I Errors may however be of some relevance in connection with the clearance of a merger subject to remedies.

case studies on the effects of selected decisions by ComCo.<sup>3</sup> In the field of mergers, *Pfizer Inc./Pharmacia Corp.*, a horizontal merger in the pharmaceutical industry that was cleared subject to structural remedies in 2002, was evaluated.<sup>4</sup>

The impact evaluation study primarily focused on the effects of ComCo's decision on actual and future product market competition as well as competition in innovation markets. Analytically the following tools were applied: interviews, empirical analysis and descriptive statistics. In summary, the study concluded that some of the imposed remedies were successful while for others no effect could be identified. Overall, no detrimental welfare effects of ComCo's decision were found and it is acknowledged that ComCo was correct in its assessment of the impact of the merger on competition in the Swiss pharmaceutical market.

Further, the case study pointed to some important problems with impact evaluation studies:

- First, the Swiss drug market is subject to price regulation. It was noted that the evaluation of merger effects is particularly difficult in markets with a lot of innovation and price regulation at the same time.
- Second, firms in many industry are global players. Consequently, a merger between two firms like *Pfizer* and *Pharmacia* has an international dimension and is subject to notification in several countries. The (national) competitive behavior of the merged entity therefore may be influenced by factors which are largely independent of the merger decision of a competition authority. In such a constellation it proves extremely difficult to isolate *ex post* the effects of the decision of a competition authority.
- Third, the advantage of impact evaluation studies conducted by external experts is surely the increased credibility, i.e. the avoidance of the self-assessment criticism. However, in order to fully evaluate the work of a competition authority in a particular case, detailed data (and complementary information) is necessary to allow the use of more sophisticated techniques. For external experts, such information is typically difficult to acquire, largely due to data confidentiality issues.

## 2.2 *Review of imposed remedies*

In 1998 ComCo cleared the merger *UBS/SBV* subject to remedies.<sup>5</sup> Through this merger *UBS* advanced to the largest Swiss bank and to the worldwide largest custodian at the time. The remedies were imposed due to competitive concerns in the market for corporate lending and comprised structural and behavioral elements. The most important remedy was however of structural nature and involved the divestiture of subsidiary companies and branch offices in certain Swiss regions. The remedy aimed at ensuring effective competition in those regions where the merger caused high market concentration by facilitating market entry for new players.

In 2005 the imposed remedies were reviewed.<sup>6</sup> The report primarily focused on compliance of the merged entity with the remedies. The occasion was however also seized to conduct a small impact

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<sup>3</sup> See Hüschelrath K. et. al (2009) Evaluation Kartellgesetz: Fallstudien (Bern: SECO).

<sup>4</sup> See LPC 2003/2, p. 314-366. The imposed remedies basically amounted to the divestiture of certain products and IPR's.

<sup>5</sup> See LPC 1998/2, p. 368-409.

<sup>6</sup> See LPC 2005/2, p. 409-417.

evaluation study by analyzing market data and responses to questionnaires. This assessment led to the conclusion that the success of the imposed remedies was ambiguous:

- First, it was not possible to find foreign buyers for the branch offices. Although it was envisaged to consign (parts of) the customer base of the branch offices to the new buyers, it was correctly anticipated by the potential buyers that this would only work to a very limited extent. Further, the location of the divested branch offices seemed in general not attractive enough, i.e. many of those branch offices were located in economically slow regions. The intention to introduce new players in the regional markets for corporate lending consequently largely failed.
- Second, it was noted that in certain regions the concentration in the concerned market is still very high, i.e. the remedies did not have the expected effect in these regions. In other regions competition was intensified which was however mainly due to market dynamics.

In general, remedies in merger cases often involve a time component and require some sort of monitoring. The review of remedies seems a good occasion to not only address compliance issues but as well impact evaluation of a merger since parties do not have to be approached specifically. The contact with the relevant stakeholders to monitor the remedies may be used to collect valuable data/information for impact evaluation studies.

### 2.3 *Event studies*

As mentioned above, in the history of Swiss competition law only one merger – a „three to two merger“ in the Swiss telecommunication market – was blocked so far. This was the merger project between *Sunrise* and *Orange* in 2010.<sup>7</sup> The merger was blocked due to concerns of joint dominance between the historical telecom operator *Swisscom* and the merged entity.

ComCo conducted, after the abolishment of the merger project, an internal event study to validate its decision. Although the estimated coefficients were statistically not highly significant, they showed the “right” signs: with the announcement of the merger project the share price of *Swisscom* increased while the abolishment of the merger caused a drop of *Swisscom*'s share price. In other words, the market expected that the proposed merger between *Sunrise* and *Orange* would be beneficial for *Swisscom* which seems to support ComCo's concerns of joint dominance.

Thus, event studies may be a relative simple and low-cost instrument to evaluate merger decisions. The drawback of such event studies is obviously that the merging firms and/or their competitors must be quoted on the stock exchange. Further, if an international firm is involved in a national merger in a small country like Switzerland – either as a party to a merger or a competitor –, it is often unlikely that this is reflected in the share price respectively that the effects of a proposed merger can be properly isolated. The merger cases where an event study can be conducted may therefore be rather limited.

### 2.4 *Impact evaluation studies as a reaction to complaints*

In 2009 ComCo cleared – after an in-depth investigation – a merger in the media sector between Tamedia and Presse Publications SR (PPSR).<sup>8</sup> Initially the merger raised competitive concern, in particular in the market for commuter newspapers. The situation was that Tamedia and PPSR each published a commuter newspaper in the French-speaking part of Switzerland. The parties planned to withdraw one of these commuter newspapers from the market after the merger, arguing that the market in the French-

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<sup>7</sup> See footnote 1.

<sup>8</sup> See LPC 2009/3, p. 245-330.



speaking part of Switzerland was too small to profitably publish two newspapers. The consequences of the withdrawal of one of the commuter newspaper was a quasi-monopoly for the other commuter newspaper in the concerned regional market. The merger was eventually cleared by ComCo, applying the failing division defense.

Recently ComCo has received complaints about price increases for advertisement in the remaining commuter newspaper in the French-speaking part of Switzerland. This may suggest that unilateral effects did occur in the concerned market. It is too early to say whether the complaints are justified and whether ComCo will open a proceeding. The case is however illustrative since such post-merger complaints may tell a competition authority something about the impact of a merger in a particular market. In cases where a proceeding is opened, an impact evaluation study of some sort may suggest itself since the merger is potentially causal for a price increase or other possibly anti-competitive behavior. Further, within a formal procedure the collection of the necessary data/information to conduct an impact evaluation study should be facilitated since firms are subject to a legal duty of disclosure. Whether the firms are in all cases able and willing to provide such data/information in the desired quantity and quality is however a different question.

## UNITED KINGDOM

The UK currently operates a two stage regime for investigating mergers, with the Office of Fair Trading (OFT) carrying out the first phase review (Phase I), and referring to the Competition Commission (CC) any mergers giving rise to competition concerns (Phase II)<sup>1</sup>. The OFT has the power to accept Undertakings in Lieu of a reference to the CC (UiL) from the merging parties, if these are deemed to address potential concerns highlighted in the course of its investigations.

Since 2005 there have been two *ex-post* evaluations of both Phase I and Phase II merger decisions, reviewing three Phase I decisions and 15 Phase II merger decisions and including unconditional clearance, conditional clearance (involving remedies) and prohibition (in the case of Phase II) decisions. These evaluations were both conducted by external consultants (PWC and Deloitte). The reports of these studies have been published.<sup>2</sup>

There have been two additional evaluations of Phase II merger decisions only, reviewing three further cases in total. These included clearance and prohibition decisions. One of these studies was conducted by CC staff and was published,<sup>3</sup> while the other was conducted by external consultants (LEAR) and is yet to be published. The CC has also conducted reviews of some of the remedies it has put in place<sup>4</sup> following merger decisions. These reviews focus on evaluating the experience of choosing, designing, implementing and monitoring the remedies, as well as whether the remedy had worked to address the competition concerns identified. For this paper we focus on the evaluation reports set out in paragraphs 1 and 2, as these studies sought to evaluate the CC's SLC decision.

### 1. Methodologies

The studies conducted to assess merger decisions used a variety of methodologies, both quantitative and qualitative. Qualitative methodologies involved interviews with market participants and customers of the merging parties, written questionnaires to merging parties and other market participants, desk research into developments in the market and qualitative evidence on post-merger prices (where appropriate).

These qualitative techniques were used to answer questions such as 'Were the authorities' decisions sound in light of the information available to them at the time?'; 'Was the authorities' reasoning clear, consistent and supported by the evidence available to them at the time of their decision?' and 'Were the predictions about future market developments (such as new entry) borne out in reality?'. The qualitative techniques are less well-suited to assessing directly the impact of an authority's decision (to intervene or

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<sup>1</sup> Under the Enterprise Act 2002, the OFT has the duty to review merger situations and refer to the CC any cases where there is a realistic prospect of a substantial lessening of competition (SLC) in UK markets.

<sup>2</sup> [http://www.competition-commission.org.uk/our\\_role/evaluation/ex\\_post\\_evaluation\\_of\\_mergers.pdf](http://www.competition-commission.org.uk/our_role/evaluation/ex_post_evaluation_of_mergers.pdf) and [http://www.competition-commission.org.uk/our\\_role/analysis/review\\_merger\\_decisions.pdf](http://www.competition-commission.org.uk/our_role/analysis/review_merger_decisions.pdf)

<sup>3</sup> [http://www.competition-commission.org.uk/our\\_role/analysis/evaluation\\_report.pdf](http://www.competition-commission.org.uk/our_role/analysis/evaluation_report.pdf)

<sup>4</sup> See for example, on its webpage [http://www.competition-commission.org.uk/our\\_role/analysis/evaluation\\_reports.htm](http://www.competition-commission.org.uk/our_role/analysis/evaluation_reports.htm)

not intervene) on consumer (or total) welfare, since in order to isolate the effect of the merger (or the authority's decision), quantitative data analysis will generally be necessary.

One evaluation of Phase II merger decisions<sup>5</sup> study involved a quantitative assessment of the appropriateness of two of the CC's merger decisions. For both these mergers the study examined prices to assess the impact of the CC's decisions on consumer welfare. The study used a difference-in-difference analysis<sup>6</sup> for both mergers and complemented this with standard before and after regression.

The 2009 Deloitte study also included a merger simulation exercise. However, this used only data available at the time of the merger, with the aim of bringing to light any theories of harm<sup>7</sup> that might have been overlooked or evaluated incorrectly. Hence this exercise was not aimed at assessing whether the decision taken by the CC or OFT was consistent with consumer welfare goals.

The OFT's evaluation work of mergers focused on ex ante estimation of the impact of Phase I merger decisions. For all mergers in which there was an 'intervention' (UiL agreed with OFT or merger abandoned on referral to the CC), an economic model is used to simulate how prices, demand, and market share might have changed if, in the absence of an intervention, the merger had gone ahead. The OFT uses information from the case team and conservative assumptions to estimate consumer savings from its Phase I merger decisions<sup>8</sup>.

## 2. Designing impact evaluation studies

There is no defined regular interval at which the UK authorities have conducted impact evaluations of their merger decisions although since 2005 studies of Phase II merger decisions have been carried out relatively regularly (four studies since 2005). Previous evaluation work has assessed the Phase II merger decisions in cases dating back as far as 1996.<sup>9</sup> This reflects the need for evaluation to be conducted after sufficient time has elapsed since the competition authority's decision, so that there is enough data and information following the decision to assess its impact. On the other hand, it might become more difficult to isolate the impact of the competition authority's decision if evaluation work is conducted too long after the merger inquiry, as other market developments will complicate the analysis. The time at which evaluation work is conducted will therefore be informed by the time that has elapsed since an inquiry, balancing these two effects. Resource constraints will also be important in determining the regularity of the UK authorities' future evaluation work.

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<sup>5</sup> The LEAR evaluation study identified in paragraph 3 and yet to be published

<sup>6</sup> Difference-in-difference analysis is an econometric technique used to try to isolate and measure the effect of a specific event or 'treatment' (for example, a merger). This is done by comparing the difference in the variable of interest before and after the 'treatment' – such as the difference in price – for a set of observations exposed to the 'treatment' (called the treatment group, for example a set of merging party stores in overlap areas) to the difference in that variable for a control group that does not undergo the treatment.

<sup>7</sup> A theory of harm refers to a specific mechanism by which a merger may damage competition, for example by means of unilateral effects, co-ordinated effects or vertical foreclosure.

<sup>8</sup> Merger simulation is not routinely used in the substantive decision making process or to estimate consumer savings from the cases referred to the CC.

<sup>9</sup> The PWC study in 2005 evaluated 10 CC decisions between 1996 and 2002; the CC's internal study in 2008 evaluated three CC decisions in 2000/2001; the Deloitte Study in 2009 assessed the CC's decisions in five cases dated between 2004 and 2006.

Previous evaluation studies have assessed the impact of merger decisions in a variety of cases. Two studies<sup>10</sup> looked only at merger inquiries where there had been an unconditional clearance decision. As set out in one of these reports, this allowed the evaluation studies to test the authorities' beliefs that the merger would not substantially lessen competition, and to explore whether the market developed in the way predicted. In the case of blocked mergers an authority's decision might be less likely to involve predictions about actual future developments (as the decision involves a prediction about the hypothetical effect of a merger that is not in fact allowed to proceed), and hence there is likely to be less scope to explore the accuracy of such predictions in *ex-post* evaluations. Two other studies<sup>11</sup> did evaluate some non-clearance decisions as set out in paragraphs 0 and 0, focusing on qualitative questions such as those discussed in paragraph 5 above.

One study<sup>12</sup> focused on two CC clearance decisions in retail mergers. This sector lends itself well to quantitative methods as prices for a large number of products and/ or stores can often be used to create a large dataset for analysis (we discuss the data used for this study in paragraph 14 below). The CC also conducts reviews of retail mergers relatively frequently and hence it was felt useful to evaluate the decisions made in two retail merger inquiries and draw lessons for future retail merger inquiries that the CC might receive.

The CC evaluation studies were designed by CC staff, or by both CC staff and external consultants for those studies conducted by consultants.

### **3. Conducting the impact evaluation study**

As set out in paragraph 0 above, previous evaluation of CC decisions has been conducted by CC staff and by third parties. Evaluation studies by third parties have the advantage of greater independence and distance from the CC inquiries themselves. For similar reasons, where an evaluation is conducted by CC staff, members of staff that did not work on the original merger investigation are probably better placed to conduct the evaluation. From a resources perspective, it can be preferable to have evaluations conducted by third parties (see paragraph 20 below).

The authorities do not have any statutory powers to request data or information from merger parties for the purposes of evaluation (as it would have for the merger investigation itself). Gathering evidence therefore often depends on the willingness of merger parties and other market participants to co-operate. In practice willingness to co-operate has varied between parties. One consultant found that relevant parties (merger parties and other market participants) for the purposes of its 2009 evaluation generally responded positively and were willing to co-operate with requests for interviews or written questionnaire responses. Another encountered difficulties in obtaining data for a quantitative evaluation of Phase II decisions.

The different experiences of these two consultancies might be in part a result of the different types of data that were requested – parties have generally appeared less willing to co-operate with requests for quantitative data but more willing in relation to qualitative information. The quantitative study had originally envisaged evaluating three retail mergers, but due to difficulties in obtaining data on one of these mergers, the CC's decisions in only the other two cases were evaluated. Even with these remaining two cases, there were some difficulties obtaining data, due to a lack of commercial data<sup>13</sup> and the unwillingness of some of the parties to provide data. In one case this meant that, instead of using local prices as had

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<sup>10</sup> The 2005 PWC report and 2011 LEAR report, referred to in paragraphs 2 and 3.

<sup>11</sup> The 2008 CC internal evaluation and the 2009 Deloitte report, referred to in paragraphs 2 and 3.

<sup>12</sup> 2011 LEAR study, referred to in paragraph 3.

<sup>13</sup> Available from sources such as Nielsen.

originally been intended, the study was conducted using national prices.<sup>14</sup> Commercial data sources also generally collect data only on prices (rather than, for example, aspects of service quality) and given that merger parties were often not willing to provide further information, evaluation was conducted only on the price dimension of the merger parties' offerings.

The authorities have not encountered any internal opposition from staff or (in the case of the CC) members to the evaluation of past merger inquiries. Evaluation of past mergers is recognized in both authorities as a useful way of improving decision-making and analysis, and the studies are shared within and across the authorities (see also paragraph 19). At the CC an Analysis Group, consisting of CC staff and members, is involved in developing evaluation work and the lessons drawn from these studies for future inquiries. As part of OFT's internal evaluation programme<sup>15</sup> the OFT evaluation team routinely engages with merger case teams to estimate ex-ante the impact of Phase I merger decisions.

#### 4. Results and lessons learnt

One study<sup>16</sup> found no evidence to suggest that prices had gone up following the CC's decision to allow the parties in two merger investigations to merge and hence found no evidence that the CC's clearance decision had adversely affected consumer welfare.

As set out in paragraph 5 the other evaluation studies did not directly answer the question of the impact of the CC's decision on consumer welfare, but rather looked to assess whether, for example, the CC's predictions about future market developments were borne out:

- The 2009 Deloitte study found that in four cases there was entry into or expansion in the market that was not foreseen by the CC. The report also made recommendations about the consistency of the OFT's and CC's intervention thresholds, and about the clarity of the authorities' guidelines on certain issues.
- The internal study conducted in 2008 found indications that the CC's decisions were sound, but noted that subsequent market developments were not always able to throw light on the CC's decisions. For example, it was difficult to isolate the impact of the merger on post-merger prices in one clearance decision, based only on qualitative evidence.
- The evaluation conducted by PWC in 2005 found that qualitative evidence suggested that there were no long-term competition concerns arising following the CC's clearance decisions. The study found that the CC's predictions about entry and expansion were generally sound, but that

<sup>14</sup> The study had originally intended to conduct a difference-in-difference analysis using prices in overlap areas (areas where both merger parties were present prior to the merger) as the treatment group and prices in non-overlap areas as the control group. However, due to the difficulties in obtaining appropriate data, a difference-in-difference analysis used average national prices of the merger parties as the treatment group and the average national prices of the other firms in the market as the control group.

<sup>15</sup> The OFT routinely evaluates its work and has a public commitment to evaluate each year at least one of its previous interventions. These evaluations help the OFT to understand whether and how past projects have achieved the desired impact and whether the outcomes could be further improved. The OFT relies on findings from such evaluations to learn lessons that can be applied to future comparable interventions. The OFT publishes annual average estimates of impact of its work in the areas of competition law enforcement, merger control, consumer protection enforcement, and market investigations in terms of monetary savings (or direct financial benefits) to consumers in its annual report and Positive Impact notes. OFT's Positive Impact notes are available on the OFT website: <http://www.of.gov.uk/OFTwork/publications/publication-categories/reports/Evaluating/>

<sup>16</sup> 2011 LEAR study, referred to in paragraph 3.

the CC had found it more difficult to predict the circumstances where buyer power was likely to act as a significant competitive constraint.

The evaluation studies are published on the OFT's<sup>17</sup> and/ or CC's websites.<sup>18</sup> In addition, the results from all of these studies were disseminated to and discussed with OFT/CC staff and CC members. As discussed in paragraph 7 the 2009 Deloitte study included a merger simulation exercise – lessons from this have fed into the CC and the OFT's ongoing work to improve quantitative techniques in merger analysis, for example in assessing how measures such as diversion ratios and GUPPI can be regularly used as part of the broader set of evidence across the CC's merger review.

The CC found that the internal study conducted in 2008 took a long time to complete. This was largely because of resource issues as CC members of staff were also working on current inquiries. This meant that evaluation was often lower priority and gave rise to delays in completion of the study.

The authorities also conduct evaluation in relation to Market Studies/Market Investigation inquiries. However, the evaluation of these inquiries is often focused on a set of issues or remedies that are specific to the relevant market and the findings on each inquiry, and which do not easily translate to the evaluation of merger inquiries. Lessons on the practicality of evaluation studies (such as resource constraints, who should conduct the study, etc) however translate across evaluation of different sorts of inquiry, and the authorities aim to ensure these lessons are taken on board in future evaluation studies.

Overall, the authorities have found that a successful evaluation study will need to be open-minded as to the conclusions and maintain a degree of independence from the original inquiry. Such independence can be provided by commissioning external consultants but this is not essential and staff within the authorities are able to carry out these studies. However, if the work is conducted internally, the relevant resources need to be available and the work given sufficient priority to proceed in a timely manner. Where possible, quantitative analysis can add an extra dimension to the evaluation, but useful insights can certainly be gained from 'softer' qualitative evidence. Indeed, it may not be straightforward to obtain the data necessary for useful quantitative analysis.

*Ex-post* merger evaluation has, as discussed above, provided some useful insights into specific merger investigations and insights into the authorities' predictions about certain market developments. It is more difficult to use these evaluation projects to derive general lessons about the usefulness and accuracy of merger review. One reason for this is that evaluation of individual inquiries does not allow the measurement of deterrence effects of the merger regime as a whole.<sup>19</sup> In addition, certain types of inquiry might be easier to evaluate (see paragraphs 10 and 11, for example), and this could bias the results of evaluation work towards these inquiries, rather than evaluation work being an accurate reflection of the value of merger review overall.

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<sup>17</sup> <http://www.offt.gov.uk/OFTwork/publications/publication-categories/reports/Evaluating/>

<sup>18</sup> The LEAR study is yet to be published, but will be once the draft report is finalised. [http://www.competition-commission.org.uk/our\\_role/analysis/evaluation\\_reports.htm](http://www.competition-commission.org.uk/our_role/analysis/evaluation_reports.htm)

<sup>19</sup> The OFT published a study by Deloitte on the deterrence effects of competition enforcement (including mergers) in 2007. [http://www.offt.gov.uk/shared\\_offt/reports/Evaluating-OFTs-work/oft962.pdf](http://www.offt.gov.uk/shared_offt/reports/Evaluating-OFTs-work/oft962.pdf)



## UNITED STATES

This paper responds to the Chair’s letter of 24 March 2011, inviting submissions for the Competition Committee’s upcoming roundtable on how to evaluate the impact of merger decisions. The U.S. Federal Trade Commission (“FTC”) and Antitrust Division of the U.S. Department of Justice (“DOJ”) (collectively, “the Agencies”) are pleased to provide our perspective on this issue. FTC and DOJ staff have conducted a number of retrospective analyses of merger decisions and have reviewed merger retrospectives conducted by experts/others unaffiliated with the Agencies. This paper first discusses the motivations behind designing retrospective merger studies. The second section delves into the process of conducting such studies and focuses on specific methodological choices and considerations. The paper then summarizes the general findings of merger retrospective studies regarding the effectiveness of common tools of prospective merger analysis. The concluding section discusses the value of impact evaluation studies from a policy perspective.

### 1. Why perform merger retrospectives?

Merger review can present difficult challenges. In a relatively short period of time, with limited information, antitrust authorities must forecast how a change in market structure will affect competition in a market. To facilitate this process, over time the Agencies developed methodologies to expedite merger review, like those described most recently in the U.S. DOJ/FTC’s 2010 *Horizontal Merger Guidelines*. How can a competition agency improve its methodologies or, more generally, assess its effectiveness? For example, how does the agency learn if it is being aggressive enough, or too aggressive, in challenging mergers? When a merger proceeds with some conditions attached, how can the agency evaluate whether the relief maintained competition effectively? Evaluating the impact of previous merger enforcement decisions, and the accuracy of predictions made in the course of reaching those decisions, helps answer these questions and improve future enforcement. The Agencies have also used a retrospective study as evidence in a law enforcement challenge to a consummated merger.

The first task in conducting an *ex-post* merger review is to develop a clear objective for the study. Because an *ex-post* merger review is a case study – an examination of how *one* merger affects a *specific* market at a particular point in time – drawing general conclusions from any single study can be difficult. However, for particularly important or controversial merger enforcement decisions, simply determining the outcome of that merger (did prices rise or fall? did entry occur?) can justify the resources required to conduct such a study. More broadly, multiple retrospective case studies may permit more general inferences about the effectiveness of merger policy with regard to certain types of mergers. To begin to build a basis from which to generalize, competition agencies may consider conducting multiple studies in the same (or similar) industries. For example, in 2002 the FTC studied the price effects of four consummated hospital mergers.<sup>1</sup> While these studies represented a small fraction of all hospital mergers that took place during the time period studied, their findings offer evidence on whether the mergers allowed by U.S. competition agencies and courts resulted in increased prices.

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<sup>1</sup> See Timothy J. Muris, Everything Old is New Again: Health Care and Competition in the 21st Century, Prepared Remarks Before the Seventh Annual Competition in Health Care Forum (Nov. 7, 2002), available at <http://www.ftc.gov/speeches/muris/murishealthcarespeech0211.pdf>, and a special volume of the *International Journal of the Economics of Business* published in February 2011 containing the four hospital merger studies.



Retrospective merger studies can also analyze the effectiveness of tools used in prospective merger enforcement. For example, Peters (2006) compares the effectiveness of various forecasting methodologies in predicting the impact of airline mergers.<sup>2</sup> In terms of evaluating policy tools, the 1999 staff report by the FTC's Bureau of Competition, "A Study of the Commission's Divestiture Process," was designed to analyze the effectiveness of remedies.<sup>3</sup> While the report concluded that the FTC's merger remedies had successfully maintained competition in most instances, it also offered recommendations to enhance the success of future remedies.

The presence of a competition agency in a jurisdiction raises an important sample selection issue, insofar as the only mergers available to study are those that were proposed by the merging parties and either (a) not challenged by the agency, or (b) unsuccessfully challenged. By contrast, the "*ex-post* merger" world is not observed for mergers not proposed (for fear of a costly challenge from a competition agency) or for mergers successfully challenged by the competition agency. Hence, retrospective studies can only determine how mergers affect competition in the presence of a competition agency conducting prospective merger review.

Evaluating the effectiveness of merger policy, however, requires determining whether the competition agency is being too stringent (challenging some mergers that would tend to have procompetitive effects) or too lax (refraining from challenging some mergers that have anticompetitive effects).<sup>4</sup> When evaluating the impact of merger enforcement decisions, most studies focus on two types of "marginal" mergers.<sup>5</sup> First are the "close call" mergers – i.e. where the merger faced serious opposition but was not ultimately challenged, and proceeded with minimal (if any) conditions attached. Second, at least in the U.S., are mergers that the competition agency challenged but where the agency failed to obtain the requested relief. Because both types of mergers plausibly could result in price increases or other anticompetitive outcomes, studying these mergers can reveal whether government merger enforcement decisions sufficiently identify likely consumer harm.

## 2. Methodologies for evaluating the impact of mergers

Estimating the impact of a merger presents a number of methodological issues. The most basic, but nonetheless challenging, issue is choosing the effect to measure. Most studies choose to estimate the merger's effect on price. The non-price effects of a merger – such as product quality, variety, or innovation (research and development) – are no less important to consumer welfare, and should play an important role in the decision-making of a competition agency. However, non-price effects present more

<sup>2</sup> Craig Peters, *Evaluating the Performance of Merger Simulations: Evidence from the U.S. Airline Industry*, 49 J.L. & ECON. 627 (2006).

<sup>3</sup> Federal Trade Commission, A STUDY OF THE COMMISSION'S DIVESTITURE PROCESS (1999), available at <http://www.ftc.gov/opa/1999/08/divestreport.shtm>.

<sup>4</sup> Akin to Type I and Type II errors, respectively.

<sup>5</sup> This set of mergers is very different than the average merger among the set of all consummated mergers. The Agencies clear the overwhelming majority of reportable mergers without a substantial merger investigation – in most years since 1991, over 95 percent of mergers did not receive a second request for information from the Agencies. See the Agencies' ANNUAL REPORTS TO CONGRESS PURSUANT TO THE HART-SCOTT-RODINO ANTITRUST IMPROVEMENTS ACT OF 1976, available at <http://www.ftc.gov/bc/anncompreports.shtm>. In addition, a large number of non-reportable mergers do not receive substantial investigation.

challenging issues of measurement and as such are studied less often.<sup>6</sup> The remainder of this paper focuses on price effects, but the analysis can generally be extended to non-price effects as well.

Choosing which price to study presents additional complications. Merging firms often produce a number of competing products, and each type of product may be available in a number of different sizes – for instance, a soft drink available in single-serving cans as well as multiple-serving bottles. Another issue is whether to measure the wholesale price – which the merging firms may control more directly, and as such would be central to market definition in the Agencies’ *Horizontal Merger Guidelines* – or the retail price, which may be more easily available and could account more properly for any impact on consumer welfare.<sup>7</sup> Yet retail pricing data (obtained from a sample rather than a census of retailers) may be incomplete, while wholesale pricing data may not reflect volume discounts. These and other tradeoffs must be carefully evaluated in each instance, and often present problems specific to the merger at hand.

After deciding how to measure price, the next issue is finding a benchmark to which observed post-merger prices can be compared.<sup>8</sup> The benchmark aims to estimate what the market price would have been “but for” the merger. Various methodologies can be used to produce such estimates. However, they involve analyses of varying degrees of complexity – and often require nontrivial assumptions about how the world would have looked had the merger not been consummated. Perhaps the simplest estimate of such a counterfactual price uses the pre-merger price. However, the difference in price before and after the merger accurately estimates the merger’s impact only if demand and/or cost factors vary little over time. While such an assumption can be difficult to justify, it may be the best available option in cases where data is limited.

More sophisticated estimates attempt to control for various demand conditions and cost shocks that affect price. One approach is to estimate the relationship between market price and all of the relevant supply and demand factors.<sup>9</sup> For example, before determining the price impact of a merger in the airline industry, one would want to know how jet fuel costs have changed (supply) and how seasonality affects the mix of business and leisure travelers (demand). Only after controlling for these factors can a study properly estimate a merger’s impact on price. Some merger retrospectives model the relationship between price and its various determinants as follows:

$$(1) \quad p_t^M = \alpha^M + \sum_{n=1}^N \gamma_n F_{nt} + \beta \text{PostMerger}_t + \varepsilon_t^M$$

<sup>6</sup> Examples of studies analyzing non-price effects of mergers include Gregory J. Werden, Andrew S. Joskow & Richard L. Johnson, *The Effects of Mergers on Price and Output: Two Case Studies from the Airline Industry*, 12 *MANAGERIAL & DECISION ECON.* 341 (1991); Steven Berry & Joel Waldfogel, *Do Mergers Increase Product Variety? Evidence from Radio Broadcasting*, 116 *Q.J. OF ECONOMICS* 1009 (2001); Andrew Sweeting, *The Effects of Mergers on Product Positioning: Evidence from the Music Radio Industry*, 41 *RAND J. OF ECONOMICS* 372 (2010); and Patrick S. Romano & David J. Balan, *A Retrospective Analysis of the Clinical Quality Effects of the Acquisition of Highland Park Hospital by Evanston Northwestern Healthcare*, 18 *INT’L J. ECON. OF BUSINESS* 45 (2011).

<sup>7</sup> See Daniel Hosken, Daniel O’Brien, David Scheffman & Michael Vita, *Demand System Estimation and Its Application to Horizontal Merger Analysis*, in *ECONOMETRICS: LEGAL, PRACTICAL & TECHNICAL ISSUES* (ABA Sec. of Antitrust Law, 2005).

<sup>8</sup> For further detail, refer to Orley Ashenfelter, Daniel Hosken & Matthew Weinberg, *Generating Evidence to Guide Merger Enforcement*, 5 *COMPETITION POL’Y INT’L* 57 (2009).

<sup>9</sup> This approach is referred to as a “reduced form” regression, because it specifies the net relationship between price and various market factors without estimating the underlying structural parameters of the supply and demand curves in the market.

In equation (1),  $p_t^M$  represents the price in the merger market ( $M$ ) at time  $t$ . This price is determined by a market-specific, time-invariant factor  $\alpha^M$ , a number ( $N$ ) of supply and demand factors that shift over time  $F_{nt}$ , and an idiosyncratic error term  $\varepsilon_t^M$ . The indicator variable  $PostMerger_t$  allows for prices to differ (by the amount  $\beta$ ) for reasons related only to the merger – assuming that all of the relevant demand and cost factors are observable and included in the regression.<sup>10</sup> However, omitting any relevant supply or demand factor invalidates this approach because it would mistakenly attribute to the merger some price movement determined in part by changing market conditions.

Identifying all relevant market conditions can be difficult. A common alternative is known as the “difference-in-differences” method. This approach identifies an alternative, “control” market and estimates the merger effect as the difference between any price change in the market where the merger occurred and the price change in the control market. That is, if the price in the merger-affected market increases by three percent, but only increases by two percent in a properly defined control market, one could arguably infer that the additional one percent price increase was due to the merger.<sup>11</sup>

Similar to equation (1), the difference-in-differences approach posits that the price in the control market is determined by:

$$(2) \quad p_t^C = \alpha^C + \sum_{n=1}^N \gamma_n F_{nt} + \varepsilon_t^C$$

The difference-in-differences approach makes two critical assumptions. First, it assumes that these demand and cost factors,  $F_{nt}$ , are identical across the control and merger markets. Second, it assumes that these factors impact pricing in the exact same way,  $\gamma_n$ , in each market. With those assumptions, subtracting equation (2) from equation (1) yields:

$$(3) \quad p_t^M - p_t^C = (\alpha^M - \alpha^C) + \beta PostMerger_t + (\varepsilon_t^M - \varepsilon_t^C)$$

Subtracting the two equations eliminates the time-varying cost and demand factors and requires much less data to estimate the merger effect. The merger effect can be estimated in equation (3) using data only on prices, precisely because (by assumption) the same set of supply and demand factors impact pricing in the merger market and control market in the same manner, throughout the period of study. Of course, other factors may need to be controlled for in equation (3) – for instance, a brief supply outage during the time period of concern may affect only one of the markets – but this difference-in-differences approach can be much less data intensive than controlling for all of the supply and demand factors  $F_{nt}$  in equation (1).

However, this simplicity requires stringent assumptions. An ideal control market must be sufficiently similar to the merger market so that demand and cost conditions are the same, yet sufficiently different from the merger market so that the merger had no impact on prices. In the example of hospitals, an ideal control market would contain neither (or at most one) of the merging firms while treating a patient population of similar demographics and similar medical needs. In some instances, no market will

<sup>10</sup> For an example of this type of approach, see Hayley Chouinard & Jeffrey M. Perloff, *Gasoline Price Differences: Taxes, Pollution Regulations, Mergers, Market Power, and Market Conditions*, 7 B.E. J. ECON. ANALYSIS & POL'Y (2007), available at <http://www.bepress.com/cgi/viewcontent.cgi?article=1599&context=bejeap>.

<sup>11</sup> An additional assumption to be considered is whether the price changes should be measured in percentage terms (i.e. relative changes) or units of currency (i.e. absolute changes).

simultaneously satisfy both criteria to a credible degree. Comparing results across multiple control markets may help assuage concerns that any individual control market fails along one or more dimension.<sup>12</sup>

Plausible control markets are often nearby geographic markets in which one of the merging firms does not compete. In evaluating airline mergers, for example, Kim and Singal (1993) compare price changes in airline markets (city-pairs) where a merger reduced the number of competitors to price changes in markets of a similar distance and similar supply and demand conditions.<sup>13</sup> Likewise, Taylor and Hosken (2007) compare gasoline price changes after a merger in Louisville, Kentucky to those in Chicago, Illinois, the nearest city requiring the same type of gasoline and least likely to have been affected by the merger.<sup>14</sup>

Finally, *ex-post* merger analysis must make tradeoffs in selecting a time window in which to measure pre- and post-merger prices. A longer window ensures that enough time has elapsed for prices to settle into their new, post-merger equilibrium level. Longer windows may also be required to measure accurately the effects of merger-specific efficiencies, which the merging firms may not realize immediately after they consummate the transaction.<sup>15</sup> However, shorter windows reduce the number of confounding factors that may also impact price. Due to the importance of the event window, it is often good practice (when feasible) to determine how sensitive the estimated merger effects are to small changes in the time window. This can be done by examining how much estimated price effects change when different time windows are used.

### 3. Findings of existing merger retrospectives

To date, most merger retrospectives have been performed on a relatively small number of industries: railroads, banking, airlines, petroleum, and hospitals. The common link between these industries is that they are (or were) regulated in ways that permit some amount of price competition while generating a substantial amount of publicly-available price (and in some cases quantity) data. A recent search of the literature discovered 73 merger retrospectives published between 1985 and 2010, 42 of which related to these five industries.<sup>16</sup>

Most merger impact evaluation studies find that the mergers studied – which were likely “marginal mergers” – tended to lead to price increases.<sup>17,18</sup> However, three important caveats apply. First, of the merger retrospectives in the petroleum industry, a substantially smaller proportion (about half) found

<sup>12</sup> See David Schmidt & John Simpson, *Differences-in-Differences Analysis in Antitrust: A Cautionary Note*, 75 ANTITRUST L.J. 623 (2008).

<sup>13</sup> See E. Han Kim & Vijay Singal, *Mergers and Market Power: Evidence from the U.S. Airline Industry*, 83 AM. ECON. REV. 549 (1993).

<sup>14</sup> See Christopher Taylor & Daniel Hosken, *The Economic Effects of the Marathon-Ashland Joint Venture: The Importance of Industry Supply Shocks and Vertical Market Structure*, 55 J. INDUS. ECON. 419 (2007).

<sup>15</sup> See Fabio Panetta & Dario Focarelli, *Are Mergers Beneficial to Consumers? Evidence from the Italian Market for Bank Deposits*, 93 AM. ECON. REV. 1152 (2003).

<sup>16</sup> See the presentation by Lanier Benkard during the panel on merger retrospectives at the FTC’s Third Annual Microeconomics Conference, available at [http://www.ftc.gov/be/workshops/microeconomics/2010/docs/benkard\\_slide.pdf](http://www.ftc.gov/be/workshops/microeconomics/2010/docs/benkard_slide.pdf).

<sup>17</sup> For recent surveys see Graeme Hunter, Gregory K. Leonard & G. Steven Olley, *Merger Retrospective Studies: A Review*, 23 ANTITRUST 34 (2008); Matthew Weinberg, *The Price Effects of Horizontal Mergers*, 4 J. COMP. L. & ECON., 433 (2007); and Paul Pautler, *Evidence on Mergers and Acquisitions*, 48 ANTITRUST BULL. 119 (2003).

<sup>18</sup> The sample selection issue discussed earlier implies that the set of mergers studied will consist of “marginal” mergers (from an enforcement perspective), rather than the “average” (or typical) merger.

statistically significant price increases. This anomaly may be due to the FTC's enforcement in this industry, which appears stricter than in others.<sup>19</sup> In addition, the nature of petroleum price movements over time makes these studies relatively more sensitive to certain modeling assumptions. Second, it may be difficult to generalize from this limited number of industries to merger policy as a whole – over the last 30 years, tens of thousands of mergers have taken place, while fewer than 100 have been studied. Third, most of these studies estimate the short-run price effects of mergers. This limitation may be important. Panetta and Focarelli (2003) find that Italian banking mergers are associated with short-run price increases but long-run price decreases, and postulate that merger-specific efficiencies may take longer to manifest than merger-related increases in market power.<sup>20</sup>

Merger retrospectives also provide evidence on the effectiveness of prospective merger enforcement tools, such as merger simulation methods.<sup>21</sup> To date, there appear to be only three papers that compare the estimates generated by merger simulation methods to directly estimated price effects of consummated mergers.<sup>22</sup> This nascent literature provides mixed evidence, including both false positives (simulations indicate a merger would be anticompetitive, but the retrospective estimate does not) and false negatives (estimated effects suggest prices increased, but simulations did not predict them). Even when the simulated and estimated effects point in the same direction, sometimes the rank order differs considerably, i.e. the most anticompetitive simulated merger turns out to have the smallest estimated effect, and vice-versa.

Similarly, the effectiveness of other tools of merger enforcement has been analyzed by *ex-post* merger studies. For instance, the review of the four consummated hospital mergers discussed earlier found that the Elzinga-Hogarty analysis of patient flow data did not accurately define the geographic boundaries of hospital markets. In addition, these studies showed that nonprofit hospitals increase prices they charge insurers when they gain market power.<sup>23</sup>

Very few studies have analyzed the effectiveness of U.S. merger remedies. The sole paper on this topic that employed an econometric model of the counterfactual world for a specific merger concluded that the divestitures successfully maintained the premerger level of competition.<sup>24</sup> In addition, the 1999 FTC Bureau of Competition staff report, "A Study of the Commission's Divestiture Process," reached similar conclusions for a broader set of mergers, based on qualitative evidence from interviews with market participants.<sup>25</sup>

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<sup>19</sup> See Federal Trade Commission, HORIZONTAL MERGER INVESTIGATION DATA, FISCAL YEARS 1996-2007 (2008), available at <http://www.ftc.gov/opa/2008/12/horizmerger.shtm>.

<sup>20</sup> See *supra* note 15. Although this particular study does not relate directly to the U.S. experience, the importance of its findings merits a mention.

<sup>21</sup> For a discussion of merger simulation methods, see Gregory J. Werden & Luke M. Froeb, *The Effects of Mergers in Differentiated Products Industries: Logit Demand and Merger Policy*, 10 J.L. ECON. & ORG. 407 (1994).

<sup>22</sup> See Peters, *supra* note 2; Matthew Weinberg & Daniel Hosken, *Using Mergers to Test a Model of Oligopoly* (Working Paper, 2008); Matthew Weinberg, *More Evidence on the Performance of Merger Simulations*, AM. ECON. REV. PAPERS & PROC. (forthcoming).

<sup>23</sup> See *supra* note 1 and Orley Ashenfelter, Daniel Hosken, Michael Vita & Matthew Weinberg, *Retrospective Analysis of Hospital Mergers*, 18 INT'L J. ECON. OF BUSINESS 5 (2011).

<sup>24</sup> Steve Tenn & John Yun, *The Success of Divestitures in Merger Enforcement: Evidence from the J&J-Pfizer Transaction*, 29 INT'L J. INDUS. ORG. 273 (2011).

<sup>25</sup> See *supra* note 3.

#### 4. Merger retrospectives and policy

While the policy-relevant benefits of merger retrospectives have been discussed at length, the costs of doing them have received less attention. For research projects, the largest cost to the competition agency is the staff time devoted to data analysis, and in some cases, data collection. Government agencies sometimes make data publicly available at little (if any) cost. In most cases, however, market data must be purchased from commercial providers or collected by the staff conducting the study. Analysis of data, either qualitative or quantitative, typically requires the most significant expenditure of staff time. While the research questions in merger retrospectives may seem straightforward, implementing the study can be time-consuming. It is not uncommon to spend up to a year conducting a study, given the number of robustness and specification checks required to become confident in the result.

By contrast, sometimes the Agencies conduct merger retrospective studies as part of a law enforcement investigation, as with the FTC's study of consummated hospital mergers discussed above. While there may be little to no pecuniary cost in acquiring the data, considerable staff time may be required to draft and enforce appropriately-tailored subpoenas to the relevant industry participants. In addition, complying with these subpoenas (and responding to any further requests for information) is costly for the industry. While the staff time spent on the analysis itself may not differ from the time required to conduct a research project, substantial additional time may be necessary to distill the results so that they may be understood by a court that has had minimal exposure to antitrust theory and practice.

The policy impact of merger retrospectives most likely varies significantly. The Agencies' recently revised 2010 *Horizontal Merger Guidelines* explicitly endorse their usefulness, at least for consummated mergers: "Evidence of observed post-merger price increases or other changes adverse to customers is given substantial weight."<sup>26</sup> Both the FTC and DOJ have challenged consummated mergers based in part on evidence of a price increase immediately after the transaction.<sup>27</sup>

Merger retrospectives may help inform prospective merger analysis. Ultimately, however, every merger is specific to its facts. A merger's impact on prices and consumer welfare cannot be predicted simply from the results of a previous retrospective study. While merger retrospectives may constitute a useful piece of the puzzle in predicting the impact of similar mergers, there is no substitute for investigational inquiries and economic modeling in individual investigations.

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<sup>26</sup> U.S. Department of Justice and Federal Trade Commission, HORIZONTAL MERGER GUIDELINES, at 3.

<sup>27</sup> See the DOJ's investigation of Microsemi's acquisition of Semicoa (*available at <http://www.justice.gov/atr/cases/microsemi.htm>*) and the FTC's investigation of Evanston Northwestern Hospital's acquisition of Highland Park Hospital (*available at <http://www.ftc.gov/opa/2008/04/evanston.shtm>*); see also Deborah Haas-Wilson & Christopher Garmon, *Hospital Mergers and Competitive Effects: Two Retrospective Analyses*, 18 INT'L J. ECON. OF BUSINESS 17 (2011).



## EUROPEAN UNION

### 1. Introduction

As suggested by the OECD's Competition Committee, this paper addresses the topic "Impact Evaluation of Merger Decisions", including both the methodologies for carrying out the evaluations and the relevance of the results that have emerged from the evaluations that have already been done.

Intrinsic differences exist when considering the impact evaluation of mergers in the context of competition advocacy or in the context of improving the substantive decision making process. On the one hand, the primary purpose of the impact evaluation of merger decisions in the context of the competition advocacy is essentially to obtain broad estimates of the harm prevented from the Commission's intervention in the form of a prohibition or a clearance with remedies of mergers. On the other hand, the primary purpose of the impact evaluation of merger decisions in the context of improving the substantive decision making process, in particular in areas that proved difficult or controversial, is to improve the quality of future enforcement and policy development.

### 2. Competition advocacy perspective

#### 2.1 *DG Competition approach*

##### 2.1.1 *Preliminary observations*

The largest benefits derived from the EU merger control are probably in the form of deterrence. In other words, the mere existence of the EU merger control leads to a situation where anticompetitive mergers (that would be implemented in the absence of merger control) are not even considered. However, these benefits are, by their nature, very difficult to measure.

From a competition advocacy perspective, it seems therefore appropriate to benchmark the observable benefits derived from the merger decisions where the Commission has intervened. Naturally, irrespective of the technical sophistication of the methodology used, the complexity and the idiosyncrasies of the task (which requires the construction of a counter-factual) only allows, in any circumstance, to see the results as a "best estimate" and certainly not as a single "true" value of the observable harm prevented.

The harm prevented through its enforcement actions has been considered by the Commission's Directorate-General for Competition ("DG Competition") in the context of its competition advocacy. DG Competition's Annual Management Plan and Annual Report in 2011 benchmarks the observable consumer benefits from horizontal merger cases of 2010 on the basis of the methodology established in an internal report. In 2010, the estimated (observable) customer benefits from horizontal merger decisions were in the range of €4.2 billion to €6.3 billion.

##### 2.1.2 *The methodology*

The approach followed to broadly estimate observable consumer benefits from the Commission's intervention in the form of a prohibition or a clearance with remedies of mergers consisted in predicting the change in consumer surplus. The method used was to calculate the sum of the "price effect" and the



“deadweight effect”, both multiplied by the length of the period the market would need to self-correct the distortion of competition, i.e. by new entry or expansion of competitors. Therefore, the prevention of anticompetitive effects such as the negative impacts on innovation and choice, even though some cases are largely predicated on non-price effects, especially effects on innovation, are not taken into account.

In practical terms, the calculation of the predicted change in consumer surplus arising from the Commission's intervention in each product market is based on three factors: (i) the total size (by value) of the product market concerned, (ii) the likely price increase avoided and (iii) the length of time that this market would have taken to self-correct either by the arrival of a new entrant or by the expansion of existing competitors. Of these three factors, only the market value is usually available from the case file. The other two have to be calculated.

- Avoided likely price increase

The estimation of the avoided likely price increase is based on an ex-ante merger simulation methodology, which predicts post-merger prices using information about pre-merger market conditions, while building on simplified assumptions about the behaviour of firms and consumers.

As regards *differentiated products*, the likely price changes are determined ex-ante using PCAIDS modelling techniques. PCAIDS, a software model developed by Epstein and Rubinfeld<sup>1</sup> relies on the unilateral effects theory of harm for differentiated product markets. Unilateral effects analysis encompasses a broad set of issues that arise when differentiated brands produced by the merging firms constitute the first and second choice for some group of consumers. Absent a new entrant or a product repositioning, a unilateral price increase may become profitable as the result of a merger if a substantial number of customers who previously would have been lost can now be retained because the merger firm also offers the customer's second choice.<sup>2</sup>

PCAIDS assumes that firms' behaviour is consistent with Bertrand model pricing. According to this theory, each firm sets the prices of its brands to maximize its profit, while accounting for possible strategic, non-collusive interactions with competitors. An equilibrium results when no firm can increase its profit by unilaterally changing the price of its brands. PCAIDS predicts hypothetical post-merger prices based on information about a set of pre-merger market conditions and certain assumptions about the behaviour of the firms in the relevant markets. A major advantage of PCAIDS is that it considers the effects of the merger not just on the prices of the merging parties but on all brands in the market.

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<sup>1</sup> R. Epstein and D. Rubinfeld (2008), "*Merger Simulation: A Simplified Approach with New Applications*" *Antitrust Law Journal* 69 (3), pp. 883-919. The simulation has been used by other competition authorities (including the Federal Trade Commission in the United States and the OFT in the UK),

<sup>2</sup> This effect is particularly strong when the two merging parties have been offering closely substitutable products, i.e. where they are the closest competitors. The impact of this effect depends on the rate of switching by customers between different products in the market in response to variations in prices. The rate of switching between two products is called the cross-price elasticity between products. The rate of customers leaving the product market is typically given by the industry price elasticity of demand. Some customers may leave the market altogether. This is so because competitors have differentiated their products from the competing products based upon certain characteristics, be they technical, related to quality or connected services or via branding and do not face one single price for the good in the entire market as is the case for homogeneous product markets. It is thus a plausible assumption that some customers would not opt to buy a competing product if their preferred product becomes more expensive but would choose to not buy any related product at all.

The Bertrand model is, however, not suitable for modelling changes in the market structure where the goods produced by each firm are near identical (homogenous) and it is reasonable to think of the strategic interaction between the firms to be "as if" they chose the quantity of production and not the price. In this case, the *Cournot* model is, in principle, best suited.

Accordingly, the estimation of the likely price increase in *homogenous product markets* is based on an oligopoly formula derived from a simple *Cournot* model.

- Length of the period each product market would take to self-correct

As to the estimation of the length of the period each product market would take to self-correct, it was based on a case-by-case assessment of the likelihood of either a new entrant or the expansion of existing competitors in these markets.

The "restoration" process depends upon the individual characteristics of each product market as well as the potential of each market entrant. We looked at the barriers to entry and to expansion and other important characteristics of the product markets in each merger case. Each market was categorised into one of the three groups: "*Significant*", "*High*" and "*Very High*". Each of these groups was then assigned a duration period in years which was an estimation of the minimum time it would take to restore competition to its pre-merger state.

In merger analysis, the European Commission only intervenes if it has concerns that a lasting effect of the structural change would occur. In practice, such an effect must last for a period of at least two years<sup>3</sup>. Had the merger gone ahead without remedies, it would therefore be prudent to assume that the new post-merger competition landscape would have lasted for at least two years. Therefore two years is set as the standard length for markets where entry barriers are considered to be "*Significant*", both for new entry and for expansion of production by competitors.

There are, however a number of cases where, due to the structure and characteristics of the market, entry or expansion would have been highly unlikely for longer than two years. In such cases, we classified the durations to be either "*High*" (alternatively three or five years) or "*Very High*" (alternatively five or seven years).

Nonetheless, these timeframes seem to be very conservative in the light of the magnitude of the barriers to entry or expansion and other market characteristics mentioned in the decisions. In fact, the typical anticompetitive merger case is one that takes place in mature industries, where investments and the branding effects are very high, with no major technological development so that normally no sizeable new entry can be expected in a near future. A study by K. Gugler *et al.* (2003) in the *International Journal of Industrial Organization*<sup>4</sup> provides useful insight which corroborates the conservative nature of these estimations.

### 2.1.3 *Observations on the methodology*

It is well known that simulation models have considerable limitations in regard to the degree of certainty and precision that can be expected. Bearing this in mind, we tried to mitigate these limitations by assigning conservative values where there was less certainty surrounding the input in order to ultimately

<sup>3</sup> Pursuant to point 75 of the Guidelines on the Assessment of Horizontal Mergers "The Commission examines whether entry would be sufficiently swift and sustained to deter or defeat the exercise of market power. What constitutes an appropriate time period depends on the characteristics and dynamics of the market, as well as on the specific capabilities of potential entrants. However, entry is normally only considered timely if it occurs within two years".

<sup>4</sup> K. Gugler *et al.* (2003), "The effects of mergers: an international comparison", *International Journal of Industrial Organization*, 21 (2003) 625–653

produce a lower estimate of consumer benefit. Still, there is an important number of limitations associated with this methodology that cannot be lifted.

The most important of all is probably its *ex-ante* nature, i.e. the methodology is based on theoretical predictions whereby changes in the structure (ownership) of markets affect the pricing behaviour of the companies in that market. These *ex-ante* techniques simulate the difference between two counterfactuals with data available before the merger. Ideally, however, estimates of the consumer benefit from merger enforcement would be delivered from an *ex-post* evaluation of each merger decision on what has actually happened in the subject market after the merger with respect to prices and quantities and then compare it to a counterfactual.<sup>5</sup> This requires also intensive market research which would certainly not have been possible, given the resources available, to apply, for instance, to the multiple market products corresponding to the horizontal merger cases in a given years. By contrast, it is feasible to model a high number of product markets in a rather straightforward way by using micro-simulation techniques. All in all, the *ex-ante* framework appears to be the most suitable one to estimate the consumer benefits from merger control at a large scale (see Point 2 on other possible approaches).

Secondly, the simulation approach has to make restrictive assumptions. One of the most restrictive assumptions is the proportionality assumption of PCAIDS (as explained above) which can introduce errors into the analysis. The fact PCAIDS focuses entirely on price competition and ignores factors such as product repositioning and advertising (which can be very important in branded consumer products markets) is also an important limitation.<sup>6</sup> It is also assumed there are no efficiencies in any of the merger cases looked at. None of the merger cases analyzed in this report mentions efficiency effects that could potentially compensate the anticompetitive effects. Moreover, empirical economic literature has not found support for a general presumption that mergers create efficiency gains (see Röller, Stennek, and Verboven (2006) survey the literature on merger efficiencies).<sup>7</sup> In any event, it is doubtful that possible efficiencies would be passed-on to consumers (as a matter of fact, none of the analysed merger cases has claimed the existence of efficiencies).

Thirdly, the model simulation approach assumes that the Commission's decisions are correct and that the remedies imposed are able to address the anticompetitive effect identified. In other words, this methodology does not allow for checking whether the Commission incurred in a type I error – i.e. case where the Commission should not have intervened or an inappropriate remedy was imposed – and whether the Commission incurred in a type II error - i.e. case where the Commission should have intervened but did not.

Finally, it is worth noting that vertical mergers, co-ordinated effects mergers or other potential competition scenarios cannot be modelled with this type of models.

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<sup>5</sup> See Carlton (2009), "Why we need to measure the effect of merger policy and how to do it", NBER, WP 14719.

<sup>6</sup> Product repositioning generally refers to activities undertaken by a firm to change the image of its product to enhance its competitiveness vis-à-vis other products. A merger simulation based on the Bertrand model focuses on how a change in ownership affects post-merger pricing decisions and implicitly assumes that product repositioning does not occur. Thus, the degree of competition across products is assumed to remain the same in the pre-merger and post-merger regimes (i.e., product "positions" are fixed in the two regimes, hence repositioning does not take place). The predictions from this merger simulation can therefore be seen as upper bounds on the likely price effects of a merger

<sup>7</sup> See also Iversen, H. (2010) "The efficiency defence in EC merger control", European Competition Law Review, 31(9). See Farrell, J. and Shapiro, C. (2010) for a slightly different point of view on this issue.

## 2.2 *Other possible approaches*

Apart from the simple calibrated-demand simulation model such as PCAIDS, there exist a number of other econometric methodologies that could be used for benchmarking the consumer benefits derived from merger control for the purpose of competition advocacy.

### 2.2.1 *Structural demand estimations*

This methodology would involve the comparison of the results obtained in an ex-ante perspective (i.e., using data that are already available pre-merger) with the results obtained with post-merger data to allow for the formulation of a proper counterfactual for the merger (that is, what would have happened without the merger taking place).

Sophisticated and useful as this methodology may be for individual cases, it is not suited for a systematic assessment of merger control. Structural models are very demanding both as concerns the construction of the underlying model of competition and with respect to its stochastic properties. If the modelling specifications chosen by the researcher do not reflect well the specifics of the industry under investigation, then substantial prediction errors can follow. Moreover, the amount and quality of data needed to estimate demand systems with structural models is large. In many industries, the necessary data is simply not available.

For these reasons, sophisticated structural models have only been used in a small minority of merger cases and do not lend themselves for an overall investigation of the benefits of antitrust enforcement. However, for the increasing number of mergers for which demand estimations are performed ex ante, it might be relatively easier in the future to update the demand estimation and merger simulations ex post to evaluate the effect of the merger.

### 2.2.2 *Ex-post analysis of actual ex-post price developments*

This methodology would involve the investigation of price developments on a sample of "marginal mergers", i.e. mergers that were allowed to go through without substantial modifications but generated some degree of debate within DG Competition. In a nutshell, the purpose of this methodology is to identify a suitable control (or comparator) group of firms that should be sufficiently similar to the merging firms (e.g., in terms of costs and/or product mix), so that the difference in say, prices, between the two groups can reasonably be attributed to the merger. Once a proper comparator group has been identified, techniques such as "differences in differences" (DiD) can be applied to isolate the effect of the merger. A recent study that implements the methodology described above and that goes beyond a single merger case has been presented by Ashenfelter and Hosken (2008).

This exercise is less demanding in terms of data requirements than the so-called "structural estimations", as it is based upon the so-called "reduced form" specifications, which do not require knowing the residual demand faced by the merging firms. It should be borne in mind, however, that such studies are relatively resource intensive and require substantial econometric expertise, which is however available in DG Competition.

Any price increase from such "marginal" mergers would eventually provide an "upper boundary" to the price increases that other authorised mergers may have produced and a "lower boundary" to any price increases that could otherwise have occurred in mergers that were substantially modified or blocked.

### 2.2.3 *Event studies*

This method entails assessing the stock markets' reaction to an event, for example the Commission's decision, and to derive from such an event a view on the effect(s) on the relevant markets. Under the assumption that the financial markets are efficient and the acting agents act rationally the stock price of the merged firm should adapt to reflect the merger-specific expectations on the relevant market(s).<sup>8</sup>

In the case of a horizontal merger, the event study methodology assumes that competitors' share prices will react positively if a merger is anti-competitive but negatively if it is pro-competitive. The reasoning behind this is that the increase in market power arising from an anti-competitive merger makes it profitable for the merged entity to raise its prices and reduce its output. This benefits competitors by enabling them to raise their prices while profiting from the diversion of some demand from the merged entity. By contrast, a pro-competitive merger damages rivals' profitability (and hence lowers their share prices) by creating a more aggressive competitor. In the case of non-horizontal mergers, on the other hand, a fall in the competitors' share prices might signal that the merger has anti-competitive foreclosure effects.

While this method requires a relatively low volume of data, it appears from the outset that it is not really an *ex post* instrument as stock price data is available prior to the decision. In other words, a different decision than the one suggested by the stock market reaction may be due to the fact that the authority had better information than the financial market (such as internal documents of the merging firms or the results of questionnaires submitted to competitors and customers).

The event study methodology has also been criticised on theoretical grounds, partly because the "efficient markets hypothesis" is controversial (see, for instance, Grossman and Stiglitz, 1980) and partly because almost any given shift in relative share prices following a merger announcement can be explained in a number of different ways.

## 3. **Substantive decision making process**

### 3.1 *DG Competition approach*

The objective of this type of evaluation impact of merger decision is to learn from past experience in areas that proved difficult or controversial and, thus, improve the quality of future enforcement and policy development.

#### 3.1.1 *The methodology*

The methodology would consist of assessing the main predictions upon which decisions were based against the backdrop of the subsequent market developments in the years following the decision. This is therefore a qualitative, practical approach which is not based on econometric techniques or model simulations. Instead, the analysis attempts to make a comparison between the predictions made during the merger analysis and the subsequent development of the market(s) since the decision was taken.

In this context, it should be noted that an *ex-post* evaluation of predictions underlying a decision is more difficult in cases where the Commission had intervened than in cases of an unconditional clearance decision. In the latter case, the competitive development of the market may give a stronger indication

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<sup>8</sup> For a detailed discussion on this issue, see, for instance, Duso, T., Gugler, K. & Yurtoglu, B. (2006b) How Effective is European Merger Control? WZB, Markets and Politics Working Paper, No. SP II 2006-12. and Duso, T., Gugler, K. & Yurtoglu, B. (2006c) Is the Event Study Methodology Useful for Merger Analysis? A Comparison of Stock Market and Accounting Data. Governance and the Efficiency of Economic Systems, Discussion Papers, No. 163

whether or not the clearance decision was justified. By contrast, where a merger has been blocked or a remedy has been accepted, it is much less clear how the market would have evolved if the merger had been implemented or if the remedy had not been imposed. However, there is a particular interest of trying to verify *ex-post* to what extent the theory of harm in the cases of intervention was based on predictions which were later corroborated by the development of the market after the decision. Furthermore, in remedy cases an *ex-post* assessment can also attempt to shed some light on the efficiency of the remedies, of course to an extent the role of the remedy can be isolated from other external factors. Despite the difficulties, *ex-post* evaluation should, therefore, not be limited to non-intervention cases.

This methodology therefore allows for checking whether the Commission made a type I error – i.e. case where the Commission should not have intervened or an inappropriate remedy was imposed – or whether the Commission made a type II error - i.e. case where the Commission should have intervened but did not.

### 3.1.2 *The selection criteria*

The choice of decisions must be made on the basis of appropriate criteria. Appropriate criteria could be:

- Whether the proposed outcome generated some degree of debate within COMP;
- Whether the decision was of strategic importance, either in terms of sector policy remedies or general competition policy such as new elements in the approach to the analysis;
- Whether there is sufficient time, insight and data for conducting sound economic analysis;
- It would also be appropriate to select decisions that are neither the subject of proceedings before the European Courts or of ongoing litigation before the National Courts and/or for which the risk of litigation, irrespectively of the final conclusion of the post evaluation study, is rather low.

### 3.1.3 *DG Competition's practice*

DG Competition has already undertaken some *ex-post* evaluations of this type, either of horizontal issues or for specific cases.

- Horizontal issues

Regarding general horizontal issues, the Merger Remedies Study (2005) has reviewed with the benefit of hindsight the design and implementation of commitments offered and accepted by the Commission in previous cases so as to identify what factors and/or processes may have positively or negatively influenced the effective design and implementation of merger remedies.

To this end, the study conducted an *ex-post* evaluation of 90 different merger remedies. The study has provided a solid empirical basis for the revision of the Merger Remedies Notice, which was adopted in 2008.

In terms of sectoral horizontal issues, DG Competition has carried out an internal investigation on the effectiveness of commitments offered in merger cases in a specific sector. The evaluation has identified the reasons for a rather limited effectiveness of the remedies and suggested concrete improvements in terms of overall design as well as procedure. These recommendations have already been implemented in some recent merger cases concerning this industry.

- Specific cases

Regarding specific cases, an internal DG Competition *ex-post* evaluation, whose first purpose was to test whether or not it is possible to carry out a meaningful *ex-post* evaluation based on information available from desktop research, analysed some selected merger cases, covering the classical industries, Industries of the future or the “new economy” and liberalised markets. The project aimed to verify if the assumptions that were made in past decisions were in fact a realistic basis for the decision.<sup>9</sup>

The outcome of the case studies clearly showed that the conclusions to be drawn from the *ex-post* analysis depend largely not only on the type of industry but also on the specific characteristics of the underlying competition concerns in the respective cases.

In general, the *ex-post* analysis revealed that the Commission's decisions were made on a sound basis and provided an adequate forecast of future market developments. Furthermore, the *ex post* analysis of the merger case in the “new economy” has revealed that the emerging markets by their very nature pose difficulties in forecasting their future development. The Commission identified a possible risk arising from the transaction. However, in hindsight the forecasts about the market developments were found to be unjustified. Nevertheless, at the time of the decision this was hardly foreseeable and it can be argued that in this kind of new and fast developing markets an intervention can be justified if – as in the case at hand - it is largely based on plausible risks as otherwise an emerging market could be foreclosed at its infancy.

#### 4. Conducting the impact evaluation study

##### 4.1 *In-house vs. outsourced work*

DG Competition has the expertise to carry out impact studies of merger decision in both the competition advocacy perspective and with the ultimate of improving its internal substantive decision making process.

There are some aspects in both exercises, notably the need to deal with confidential information that may lead to the conclusion that a competition authority is better placed than an external consultant for carrying out this type of *ex-post* evaluation. Even if DG Competition has no formal investigation powers for carrying out *ex-post* evaluations, our past experience has shown that the relevant stakeholders were relatively co-operative when replying, on a voluntary basis, to our surveys. It may be more difficult to obtain such a co-operation if a private consultant would be leading the evaluation. Furthermore, the *ex-post* evaluation of a specific case may benefit significantly from the information in case-files of subsequent procedures, which may be confidential (and therefore not immediately accessible to a consultant). Finally, based on the large practical in-house experience, DG Competition may combine better the necessary expertise in the implementation of competition law and the sector specific knowledge than an outside organization.

Nevertheless, there are ways to structure *ex post* analysis that could allow us to outsource all or part of the work to external consultants. For instance, it is an option to outsource the (econometric) *ex-post* evaluations of merger cases as it involves mainly the application of (advanced) econometric techniques to a dataset that must be obtained from commercial entities. In other words, this type of evaluation doesn't require the participation of market players in the survey of market developments and the information

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<sup>9</sup> DG Competition has also commissioned to "Lear" an *ex-post* study on the merger between the power cable producers Pirelli and BICC. See [http://ec.europa.eu/competition/mergers/studies\\_reports/lear.pdf](http://ec.europa.eu/competition/mergers/studies_reports/lear.pdf)

needed has not a confidential nature. The use of an external consultant may have also the advantage of the perception of increased impartiality in the analysis.

## 4.2 *Data sources*

When the methodological aspects related to the impact evaluation of merger are conveniently sorted out, the access to the relevant market data is the crucial element in carrying out a meaningful *ex-post* examination of a merger decision.

### 4.2.1 *Quantitative approaches*

The model simulation approach basically requires data on three parameters for each product market: the market shares (in value), the industry demand price elasticity and the own-price demand elasticity of at least one product of one of the merging parties. While the market shares are usually available from the case file, data on the two elasticities are not always available from primary sources. Whenever possible, the own-price demand elasticity of at least one product of one of the merging parties was derived from existing econometric studies or calculated by using a company's internal financial data. Financial data were used to compute the ratio gross margin per sales of specific product market(s) when the product market(s) corresponded to the core business of that company. As to the industry elasticity, studies and general market reports and articles in academic journals were a useful source (the pilot cases yielded significant information about typical industry elasticities in similar cases).

As regards the data for the alternative econometric approach, such as the investigation of price developments on a sample of "marginal mergers", it seems that the necessary input can be obtained from commercial organisations that collect micro data on specific industries or products.

### 4.2.2 *Qualitative approaches*

Regarding the less formal methods of impact evaluation described above, it emerges that the most reliable data was to be found in both the original case files, which served as a starting point of the analysis, but more importantly in the case files from subsequent mergers in the same sectors. Reports from monitoring trustees in cases where commitments were subject to the clearance decision proved to be another useful source. Studies and general market reports are another useful source. Articles in academic journals and online searches in databases can also provide useful information. Since COMP has many academic journals in its library subscription list as well as access to a number of databases, it is possible to do a certain amount of desk research. Research for information on the internet is also a viable option.

In addition, a well-structured survey among all involved industry participants can certainly contribute to a complete data set. For instance, for the analysis of the sectoral remedy cases, DG Competition has addressed quite detailed questionnaires to a number of involved parties in this industry and has held meetings and telephone interviews with some of the relevant stakeholders. The outcome was positive since most of the addressed parties were co-operative when replying, on a voluntary basis, to our survey. A similar experience was made in an *ex-post* evaluation project in the area of antitrust.

## 4.3 *Internal reaction*

In terms of competition advocacy, it must be highlighted that the study on the impact evaluation of merger decisions was welcomed by DG Competition. It is now the new tool for DG Competition's external and internal communication to benchmark the customer benefits derived from merger control. The results have been used in speeches made by senior management and are part of the DG COMP's Management Plan 2011, which reflects the work carried out each year by DG COMP on key policy priorities set-out by the Commission.



Also, regarding the substantive decision making process, evaluations carried out so far achieved positive reactions. For instance, the Merger Remedies Study has provided a solid empirical ground for the revision of the Merger Remedies Notice. Another good illustration is provided by an internal report on the effectiveness of commitments offered in merger cases in a specific sector, suggesting concrete improvements. The recommendations have already been implemented in some recent merger cases concerning this industry.

## **5. Conclusions**

The impact evaluation of merger control can be a useful tool of competition policy. Its contribution to an effective competition advocacy is important, as this advocacy is much more effective when it is supported by empirical data resulting from an impact evaluation of our own enforcement record. At the same time, the qualitative evaluation of selected merger decisions has proved to be a valuable instrument for improving the quality of our future enforcement and policy development.

There are however intrinsic differences when considering the impact evaluation of mergers in the context of competition advocacy or in the context of improving the substantive decision making process. These differences are dictated not only by dissimilar scopes but also by the type of methodology employed.

Obtaining broad estimates of the harm prevented from the Commission's interventions in merger cases (deterrence effects are by far the most important source of consumer benefits but very difficult to observe) usually requires a large sample of markets. An ex-ante framework, i.e. a methodology based on theoretical predictions how changes in the structure of markets affect the pricing behaviour of the companies, appears therefore to be the most suitable one to estimate the consumer benefits from merger control at a large scale. Even if this method has limitations, it appears, in any event, more appropriate than simple rules of thumb.

When the objective is to learn from past experience in areas that proved difficult or controversial and, thus, improve the quality of future enforcement and policy development, the methodology employed has a more qualitative nature, in order to assess empirically the main predictions upon which decisions were based some years after the closure of the case. In this respect, experience shows that it is possible to obtain the necessary data and other relevant information from the desktop research (in particular in-house files) and surveys among markets participants even if there is no formal investigative power for the purpose of *ex-post* evaluations.

## BRAZIL

### 1. Introduction

The discussion over how to evaluate the impact of merger decisions by competition authorities is crucial for building a strong and efficient competition policy system. This contribution intends to briefly describe the Brazilian experience over this topic. First, an overview of the Brazilian Merger Control System will be presented. Second, the Brazilian criteria for merger control will be described. Then, the mechanisms of evaluation of merger decisions will be analyzed, together with a case study, before we reach a short summary of this contribution.

### 2. Overview of the Brazilian merger control system

The Brazilian Merger Control System is governed by Law n° 8.884, dated 11<sup>th</sup> June 1994. The “Brazilian Competition Policy System” (hereinafter, “BCPS”) is composed of three agencies: the Administrative Council for Economic Defense (“CADE”), the Secretariat of Economic Law (SDE) of the Ministry of Justice, and the Secretariat of Economic Monitoring (SEAE) of the Ministry of Economy. In merger control, CADE has adjudicative authority, while SDE and SEAE are primarily responsible for providing legal and economic opinions. All decisions taken by these agencies may be subject to judicial review in Brazilian courts.

Pursuant to the Brazilian legislation, any merger that may limit or otherwise restrain competition must be notified to the BCPS and submitted to CADE for review. The notification is mandatory if any of the merging parties had at least R\$ 400 million (approximately €175 million) in Brazilian revenues in the last fiscal year, or if the market share of the parties, in the relevant market as defined by the parties themselves, is equal to or in excess of 20%. There is no exception to the notification requirement where the thresholds are met. As a result, foreign-to-foreign transactions or transactions that do not involve overlap are subject to these same rules. The Brazilian merger control system may be considered *a posteriori* because mergers may operate before CADE’s final approval, and even before the notification to competition agencies. Nevertheless, considering the nature of this merger control system, the risk of denying approval and consequently undoing mergers that were already implemented exists, as it was the case with the merger between *Nestlé* and *Garoto* in 2002.

One may notice that this *ex post* merger control system adopted in Brazil may change the perspective of a study over the evaluation of the impact of merger decisions by competition authorities. Indeed, in a *ex ante* merger control system it is necessary to predict the effects of a proposed merger, while in a *ex post* merger control system this matter is presented in a different way since the merger is already in place.

### 3. Brazilian criteria for merger control

An analysis over the impact evaluation of merger decisions requires a previous study of the criteria adopted by a country’s legal system to control mergers. In Brazil, these criteria are set by Article 54 of the Brazilian Law n° 8.884, dated 11th June 1994:

*Article 54. Any acts that may limit or otherwise restrain open competition, or that result in the control of relevant markets for certain products or services, shall be submitted to CADE for review.*

*Paragraph 1. CADE may authorize any acts referred to in the main section of this article, provided that they meet the following requirements:*

*I - they shall be cumulatively or alternatively intended to:*

*(a) increase productivity;*

*(b) improve the quality of a product or service; or*

*(c) cause an increased efficiency, as well as foster the technological or economic development;*

*II - the resulting benefits shall be ratably allocated among their participants, on the one part, and consumers or end-users, on the other;*

*III - they shall not drive competition out of a substantial portion of the relevant market for a product or service; and*

*IV - only the acts strictly required to attain an envisaged objective shall be performed for that purpose.*

*Paragraph 2. Any action under this article may be considered lawful if at least three of the requirements listed in the above items are met, whenever any such action is taken in the public interest or otherwise required to the benefit of the Brazilian economy, provided no damages are caused end-consumers or -users.*

The main Brazilian criterion for merger control is based on competition grounds. However, CADE may authorize any merger that meets certain conditions, as established in the above-mentioned paragraph 1 of Article 54. That means that a merger may be approved by the Brazilian competition agencies if it (a) increases productivity, (b) improves the quality of a product or a service, or (c) causes an increased efficiency, as well as foster the technological or economic development. In addition to at least one of these elements, the following conditions must be, cumulatively, met: (i) the benefits shall be shared between companies and its final users, (ii) the merger shall not substantially lessen competition in a particular market; and (iii) the merger extension shall be limited to the necessary to achieve the gains foreseen.

#### **4. Evaluation of merger decisions**

The Brazilian Competition Policy System does not have a formal procedure to evaluate the merger decisions taken by the Brazilian competition authority. However, informal and indirect mechanisms may offer important feedback over the impact of these decisions.

For instance, one may notice that some decisions, i.e. those related to a conditional approval or to a prohibition of mergers, may be submitted to judicial review. From the moment that a new legal and economical analysis is driven by the Brazilian judicial courts, the impact of CADE's decisions may be examined. This was experienced by the merger between *Nestlé* and *Garoto* that took place in 2002. The Brazilian competition agencies, within a system of *post* merger control, decided against the merger based on competition restraints and, thus, the merger had to be undone after two years of operation.<sup>1</sup> In order to prevent – or at least minimize – the negative effects related to the deconstruction of a merger, BCPS has developed an important practice called “Transaction Reversibility Preservation Agreement” which is

<sup>1</sup> BCPS merger file n° 08012.001697/2002-89. Merging parties: *CHOCOLATES GAROTO S/A* et *NESTLÉ BRASIL LTDA*. The decision may be accessed on-line by ‘[www.cade.gov.br](http://www.cade.gov.br)’.

known in Brazil by its acronym in Portuguese “APRO” (“*Acordo de Preservação de Reversibilidade de Operação*”). In a nutshell, the “APRO” is an Agreement by which the merging party (or parties) assures the BCPS the possibility to undo the merger to the *status quo ante* in case CADE decides for an intervention over the merger.

In Brazil, there are also “think-tanks” organizations that develop, in a regular basis, market studies. Even though these studies do not intend to directly examine the impact of merger decisions by competition agencies, they may offer important devices to the understanding of these effects. Thus, market studies may indirectly assist competition agencies to improve its application of different instruments and techniques in merger review system.

## 5. Case law

In 2009 CADE verified the need of advisory to the council in the production of specific economic expertise related to Competition Defense. Ergo, in the same year, the Council created the Department of Economic Studies (“DES) in order to develop and maintain the economic evaluations of the Council balanced to contemporary economic perspective.

Since its implementation DES has presented some valuable documents on major cases. In the matter of evaluation of the impacts of the Council’s decisions, DES is currently working on the calculation of possible damages in the decision compliance of the “Cartel das Britas”<sup>2</sup>: mergers of Supermix Concreto S.A. and Cimpor Cimentos do Brasil Ltda.<sup>3</sup>; and Polimix Concreto Ltda. and Camargo Corrêa Cimentos S.A.<sup>4</sup>

The Council analyzed a series of fusion and acquisition operations involving the cement and concrete market in Brazil. As an outcome of this work, CADE recognized that a thorough study of the market was needed in order to portray a more up-to-date view of the concrete sectors in Brazil. Accordingly the Council requested such study from DES, within the scope of the analysis of the Supermix Concreto S.A. and Cimpor Cimentos do Brasil Ltda. merger.

Initially, DES notified companies that had been included in relevant markets in the mergers previously analyzed by CADE. Those notifications occurred in 30 (thirty) different cities, throughout the country. The goal was to obtain information from those markets, specially on what concerns the opening and closing of companies and the emersion of new concurrents. DES was also able to gather information about companies in concrete services market and from suppliers of cement and their main clients. DES intends to carefully examine all this information in the next phases of the study.

The study is in progress with the support of a Technical Cooperation Agreement between DES and the Applied Economic Research Institute (Portuguese acronym “IPEA”). This agreement is important to have a better assessment of the entrances and exits of independent concrete companies in those markets. Those studies have not reached a conclusion yet, but they will be an important asset to inform CADE of the impact of the Council’s decisions.

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<sup>2</sup> BCPS Administrative proceeding nº 08012.002127/2002-14. The decision may be accessed on-line by ‘[www.cade.gov.br](http://www.cade.gov.br)’.

<sup>3</sup> BCPS merger file nº 08012.008947/2008-05. The decision may be accessed on-line by ‘[www.cade.gov.br](http://www.cade.gov.br)’.

<sup>4</sup> BCPS merger file nº 08012.000836/2009-23. The decision may be accessed on-line by ‘[www.cade.gov.br](http://www.cade.gov.br)’

## **6. Conclusion**

The analysis of the current Brazilian Competition Policy System attests the difficulties to evaluate the impact of merger decisions by competition agencies. On the one hand, the BCPS is still based on a *post*-merger control system, which requires a different perspective over the problem of the evaluation of the impact of merger decisions. On the other hand, a large-set of criteria enables the Brazilian competition agencies to approve mergers that meet certain requirements, such as the increase of productivity, the improve of quality of a product or a service, as well as the creation of efficiencies and technological and economic development.

## INDONESIA<sup>\*</sup>

### 1. Introduction

The measurement of the impacts of a decision is a critical matter for an antitrust agency in measuring the extent of the effectiveness of such agency in giving benefit to consumers or the public welfare. The existence of quantitative or measurable impacts of a decision will be beneficial for internal and external dimensions. Internally, evaluation of such impacts can serve as a reference for agencies in reviewing the effectiveness of the law enforcement function of the agency. Externally, the results of such evaluation can be useful for the advocacy efforts of the agency to increase the public awareness and acceptance about the importance of the implementation of business competition law and policy. This quantitative evaluation can also become an important addition to the achievement indicators of other agencies, specifically the statistical data on the achievements in law enforcement.

Merger cases can be considered to be relatively different from other violations due to the element of remedies contained in the decision or recommendation of the antitrust agency on its in-depth analysis performed upon the merger proposals from business actors. The remedy frequently recommended is the divestment of a portion of company's assets or only allowing a merger of certain units of the merger parties. Therefore, the measurement of the impacts can be different from the evaluation of a regular case.

### 2. Analysis of impacts of a merger decision has never been conducted in Indonesia

The practice is quite different in Indonesia. The laws and regulations on merger, in relation to the enforcement of the business competition law, have not included the element of legal remedies as an output of the antitrust agency on merger which must be notified. With the implementation of the post notification mechanism, the opinion made by the Commission for the Supervision of Business Competition (KPPU) on a merger case is limited only to the statement on whether or not there is alleged monopolistic practice and unfair business competition resulting from a merger, except upon a voluntary consultation carried out by the merger parties prior to the implementation of the merger. Upon the consultation, the commission is able to provide a recommendation for improvement, such as remedies, however without any obligation to implement the recommendation. The recommendation provided also cannot impede the authority of the commission to evaluate such merger once the merger has been conducted. As from the implementation of Government Regulation No. 57/2010 concerning merger in July, 2010, to date, it is recorded that there have been 11 (eleven) mergers notified and 2 (two) consultations. However, there is no merger affecting business competition.

In such condition, the commission has never evaluated the impact of a merger decision. However, since a merger is treated equal as other provisions, then an impact assessment of other type of competition cases would be interesting to be shared.

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<sup>\*</sup> This report is prepared by the Foreign Cooperation Division with valuable inputs from internal sources to contribute for series of the OECD Competition Committee Meeting in June 2011. Further information or clarification on stipulated issues may be obtained from Mr. Deswin Nur (Head of Foreign Cooperation Division) through his e-mail addresses, [deswin@kppu.go.id](mailto:deswin@kppu.go.id) or from our international team at [international@kppu.go.id](mailto:international@kppu.go.id).

Currently, an in-depth quantitative evaluation has been conducted by the commission on the impacts of the commission's decision related to the case of short text message (SMS) rate cartel by several telephone operators in Indonesia, which was pronounced on June 16, 2008. It is stated in the decision that six telephone operators in Indonesia were proven to have been involved in a cartel of SMS rates causing losses to consumers amounting up to Rp2.827 trillion (USD 332.6 million<sup>1</sup>). Such amount was calculated based on the difference between the revenues based on the cartel price and the revenues based on the competitive price of off-net SMS. The impacts of the decision were evaluated in 2010 by the KPPU in cooperation with University of Indonesia. This written submission will explain issues and results related to this evaluation.

### 3. Methodologies

The study on the impacts of the Commission's decision on the case of SMS rate cartel was intended to measure the effects of KPPU's decision on SMS rates and the impact of an increased competition on consumer welfare. KPPU indicates 3 (three) types of measurement which are frequently used to evaluate the implication of amendments to policies on welfare, namely consumer surplus, compensating variation and equivalent variation.

The measurement of consumer welfare by using consumer surplus is derived from the Marshallian Demand Function, which indicates the quantity of demand as a function of price by maintaining a constant income in line with the change in the consumers' utility level.

Compensating variation (CV) is defined as the amount of income that must be taken away from a consumer (positive or negative) after an economic change to restore the consumer to the original welfare level. The CV is the income adjustment required to make the consumer indifferent between consuming the original basket and facing the lower price basket in different utility level.

In contrasts to the CV, the equivalent variation (EV) is defined as the amount of income that must be given to consumer (positive or negative) in lieu of an economic change to make him as well off as with the change. EV uses the level of utility after price and income changes as a basis.

**Comparison of three methods to calculate consumer welfare**

	<b>Consumer Surplus</b>	<b>Compensating Variation</b>	<b>Equivalent Variation</b>
<b>Demand</b>	Marshallian Demand Function, $q(p,m)$	Hicksian Demand Function, $q(p,u)$	Hicksian Demand Function, $q(p,u)$
<b>Path Dependency issue</b>	Arise	Do not arise	Do not arise
<b>Consumer Welfare</b>	$(P1*Q1) - (P2*Q2)$ in MDF	$(P1*Q1) - (P2*Q2)$ in HDF	$(P1*Q1) - (P2*Q2)$ in HDF

Based on the aforementioned three methodologies, there are strengths and weaknesses in each methodology and model used in the analysis to see the increase in consumer welfare due to the increase in competition where the Compensating Variation and Equivalent Variation Method do not have any path dependency issues as described in the consumer welfare method but required careful consideration in choosing between the two methods. From theoretical point of view, CV uses the new price as the base while EV uses initial price. If the study is conducted before an expected price change, EV is better suited. When the research of welfare measure has been done after a price change then CV is better suited. As for the demand function, each model usually follows certain unique econometrics method. In choosing an appropriate method, many things need to be considered especially for availability of the data that has

<sup>1</sup> USD1 = Rp 8,500

always been a classic issue in developing country such as Indonesia. This study suggests the use of panel data in order to pool all the data to achieve better result.

Based on such matter and from several measurement of welfare change, KPPU and the University of Indonesia decided to employ a Compensating Variation (CV) method. In essence, CV is the compensating payment (in monetary measures) that leaves the consumer as well off as before an economic change. The economic change phenomena could be in the case of a price rise, a price decline or an income change that leads to a change in consumer's utility. The compensating payment will have positive sign if a welfare loss occurs and negative sign for a welfare gain. In this case, the verdict of KPPU is expected to create welfare gain for consumer due to its rate cut impact.

#### **4. How do we design the impact?**

During its establishment, it was the first time KPPU conducted an analysis of the impact of a decision of competition case (non-merger). The analysis was conducted incidentally and has not been conducted regularly. The intention to conduct such evaluation was based on the Commission's needs for authentic (quantitative) evidence of the impact of the Commission's decision on public welfare. It was intended as a supporting media for the advocacy conducted by the Commission to date.

Such study can also provide the results of data analysis in the telecommunication sector related to the structure, behavior and performance of the relevant sector. The study can also become an input for KPPU in performing law enforcement and advocacy to the government in formulating the policies on the telecommunication sector. Moreover, the results of such study are expected to be able to harmonize the policies in such sector. Furthermore, through such study, it is expected that the models and methods applied can become guidelines and references for KPPU to be implemented in other cases and conditions.

The main constraints in the implementation of this study were the availability of data and funds. The availability of data has been a classic problem in Indonesia since the government's data has not been integrated. The government's data are sometimes different from the data of business actors or associations. The government's data oftentimes relies only on the reports submitted by business actors without any clarification process. The decision on SMS cartel was chosen upon the consideration that the data available in the telecommunication industry is relatively complete in Indonesia. The next problem was the availability of funds. The lack of reliable secondary data led to the increased needs for primary data. Primary data is certainly identical to the high costs of surveys and data purchase. For those reasons, KPPU has not been able to conduct regular evaluation of the impacts of its decisions.

Evaluation of the impacts of decision should be conducted regularly, but by carefully choosing the types of cases and by focusing on the cases related to the interests of the general public. The evaluation of the impacts of decisions should also be conducted by a third party (e.g. an independent consultant or university) in order to constantly maintain the objectivity of the results of such evaluation. Currently, KPPU has had a special unit (under the Research Bureau) which is assigned to analyze the impacts of the commission's decision. This unit is relatively new so that it still has limited human resources (3 staff) and very limited funds. The duty related to the evaluation of the impacts of decisions is also still limited to maintaining coordination with third parties in designing the evaluation design and providing inputs in each stage of evaluation.

#### **5. How do we conduct the study?**

The arrangement of SMS rates by operators had been under the KPPU's attention for a long time since it can reduce the consumer welfare significantly. Based on the findings and facts found by KPPU during the period of 2004-2007, there had been a price agreement among operators. Such effort is usually



coordinated by the dominant player and followed by other telecommunication operators. Upon perusing the KPPU's decision, consumers obtained SMS rate cut amounting to 50-70%. Prior to the pronouncement of the decision, the rate charged to consumers was Rp350.00 per SMS, then after the decision, it decreased to Rp100.00 per SMS.

In order to find and prove alleged impacts of the decrease of SMS rates to the consumer welfare, in 2010 KPPU appointed the University of Indonesia to conduct the research. In the process, KPPU staffs were directly involved in the formulation of the term of reference for the evaluation and were directly involved in supervising the implementation of the evaluation, especially in providing inputs for the questionnaires, choice of model, the parties to be surveyed, data support and evaluation of the report delivered.

The data used in this research resulted from secondary and primary data. The primary data processed in this study was obtained from the results of questionnaires as well as interviews with respondents, while the secondary data on the telecommunication industry was obtained from several sources, namely KPPU's data on decisions and studies, telecommunication operators (in the form of annual reports), the Directorate General of Postal and Telecommunication Services (in the form of data on the number of costumers), the Central Bureau of Statistics (in the form of consumption price indices for communication and real per capita Gross Domestic Product) as well as data obtained from the internet.

The data obtained from those public sources was considered not satisfactory, such as the lack of data series before 2004 and complete data of rates so that the researcher had to determine a simple form of analysis model to ensure that the study would produce useful results. The researcher and KPPU did not have any power to "force" business actors to provide non-public information, but basically business actors were cooperative in providing the data needed since they believed that this study was quite useful and there was no internal party from the business competition agency which objected to this study.

## **6. What we have learned from this evaluation?**

The research show that the KPPU's decision resulted in increased competition and significant reduction of SMS rates. By using *compensating variation* (CV) calculation method, the total consumer welfare reached approximately Rp1.9 trillion (USD 223.5 million) for the entire 6 (six) operators from 2007 up to 2009. Therefore, it can be concluded that the KPPU's decision had an important role in the increase of competition among operators and the realization of the higher total consumer welfare. The results of the evaluation also show that the KPPU's decision had an important role in maintaining competition among operators. The emergence of new players in the industry tended to encourage the reduction of rates and create competition among operators.

The interpretation of the results and the delivery of recommendations were fully conducted by the third party in order to ensure the objective results and recommendations. KPPU did not convey any objection to the conclusions or recommendations conveyed in relation to the results of the research. In fact, KPPU paid due observance of the recommendations which can be applied in the law enforcement process in the Commission.

The results of this research were subsequently published to external and internal stakeholders of KPPU through a public seminar attended by wide-ranging stakeholders, especially from business actors, academicians, governments, the press, etc. Most of the participants welcomed the results and there were a few debates in the context of the model and sample used. Public assessment was more focused on the reliability of data and the geographically narrow samples (limited to the State's capital city). The results of this research were also disseminated through the official website of the Commission and used as consideration for the development of further evaluation.

This first research shows to KPPU that it is necessary to conduct evaluation of decision's impact in order to convince the agency and the public about the benefits of the enforcement of the competition law in Indonesia. In formulating further researches, KPPU considers it necessary to use larger amount of samples in order to obtain better results. Especially for national level surveys, *discrete choice* model can be applied for calculating the welfare effect. However, in order to actualize such matter, cooperation among relevant institutions is required, especially with the central statistics agency and Regional Governments. Online-based surveys can also be considered to be applied since it is more efficient even though it still requires further study on the appropriateness of its application in Indonesia.

## 7. Conclusions

Evaluation of the impacts of KPPU's decision on M&A has never been conducted since there has not been any rejection to date to the proposed merger. The M&A case has been treated as a general case of business competition, such as cartel, monopoly and abuse of dominant position. Therefore, evaluation of the impacts of a certain decision will be equal to evaluation of the impacts of decision related to M&A in Indonesia.

Currently, KPPU has conducted evaluation of the impacts of decision only once, namely the evaluation of the case of SMS cartel in the telecommunication sector in Indonesia. Such study was conducted by KPPU by appointing a university. KPPU was involved in the provision of the initial framework as well as inputs at every steps of research, from the choice of model, formulation of questionnaire, data presentation, recommendation of data sources, to the evaluation of the draft report.

The study of impacts was conducted by using the *compensating variation* model after the change of price behavior in the industry. Based on such model, the results indicated that the KPPU's decision was proven to have increased the competition in the communication sector and contributed to the significant reduction of the SMS rates which is useful for the community.

The obstacles encountered in conducting this research were mostly related to the availability of human resources and funds. Such problems occurred due to the fact that secondary data in Indonesia was unreliable leading to the increase in the needs for primary data. The unavailability of funds also forced KPPU to limit the samples which were only limited to the state's capital city and such study has never been conducted nationally.



## ROMANIA

### ***Ex-post* analysis of merger decisions: Introduction**

So far, Romanian Competition Council (hereinafter referred as *RCC*) has not developed any systematic methodology to assess the impact of its merger's decisions at least due to the fact that until 2010, the clearance test of a merger was the dominance test and the great majority of mergers raised no competition concerns. Moreover, *RCC* has adopted few merger decisions with remedies.

Yet, measuring the effects of *RCC*'s decisions in merger cases has taken place only as part of *RCC*'s activity of monitoring the markets or in the form of verifying compliance with remedies in each case.

#### **1. Challenges**

Excepting the merger cases which have been conditionally authorized as well as those situations in which price rigidity or other circumstances suggest the possibility of preventing or distorting competition on the market, *RCC* can not force undertakings to supply data or information to evaluate the impact of the respective merger.

In order to make an *ex-ante* analysis of a merger, *RCC* can oblige undertakings under the threat of a fine to supply data and information needed for carrying out an impact analysis of the proposed merger.

Even if there have been no such *ex-post* studies, the market analysis performed in the past merger cases indicates a moderate will for cooperation from the part of the undertakings interviewed. However, there are situations where these companies notify potential competition problems to *RCC* but their remarks are not always backed by facts and relevant data.

#### **2. Pilot-study: Telecom market**

At the beginning of 2011, *RCC* decided to perform an in-house study regarding the *ex-post* impact of a merger decision over the competition environment and consumer welfare in the telecom sector. This specific decision has been selected taking into account the oligopolistic character of the mobile communications markets, the fact that in 2009, *RCC* authorized this merger and last but not least, the economic importance of the telecom sector.

Another reason for which this particular merger case was considered for an *ex-post* analysis was the possible competition concerns raised by the main competitors of the involved parties to the merger.

This study is the first undertaken by *RCC* aiming at making an *ex-post* assessment of a decision issued by *RCC* in the merger field. The study has been performed by *RCC* with its own resources. The outcome of the *ex-post* analysis confirms the conclusions from the initial analysis that the merger was beneficial and that the non-objection decision was well grounded. The study itself and its conclusions have not been made public due to its pilot status.

### 3. Used methodology

For performing this study, RCC used the same methodology as in the case of the merger authorization which took into account the following:

- The evolution of the relevant markets (volume, value, structure, consumption behaviour) in the existing macroeconomic framework;
- The evolution of the regulatory framework;
- The assessment of the post-merger behaviour of the involved parties;
- A comparison between the estimated effects of the merger envisaged when authorizing the merger and the observed *ex-post* effects regarding the impact of the merger over the competition on the market and consumer welfare as well as the likelihood and motivation of the new entity to engage in anticompetitive practices.

The analysis was based on data and information supplied by the regulatory authority in telecom field and the involved parties. RCC made use as well of information and data published by competitors on their website and studies/reports performed by the regulatory authority or other entities.

### 4. Outline of the Cosmote/Telemobil merger case

The merger operation which was the object of the *ex-post* analysis performed by the RCC involved the take-over of Telemobil, the fourth player on the retail market of voice services and the third player on the mobile broadband Internet access services by Cosmote, ranked the third player on the voice services market who did not supply mobile broadband Internet access services. Cosmote is part of the OTE Group controlled by Deutsche Telekom AG. Romtelecom is part as well of OTE Group, the incumbent on the market of fixed electronic communications services who also supplies mobile broadband Internet access services since November 2008.

Although the transaction led to overlaps on several relevant markets, RCC gave special attention to the mobile telephony services retail market and to the mobile broadband Internet access services retail market from the vantage point of the impact of the transaction on the end user.

Following the analysis made by RCC under the dominance clearance test which was in effect at the time of the merger, RCC considered that post-merger, the transactions would not raise competition concerns and authorized it in the phase one of the procedure. Through this take-over, Cosmote was aiming at acquiring the spectrum resources needed for completing its mobile services portfolio with 3G mobile services.

On one hand, the involved parties were minor players on the relevant markets; therefore, there were no premises for the creation or consolidation of a dominant position for the new entity.

On the other hand, although through this merger, the number of players would have been reduced from 5 to 4 on the mobile telephone services market, RCC considered that post-merger, the relevant markets' structure would not suffer significant changes due to a powerful network effect induced to each telecom operator and in particular to the first two major players, Orange and Vodafone in the conditions of an already saturated mobile telephone services market. Although, prior to the merger, Cosmote played a maverick role on the mobile telephony markets, this operator did not manage to increase its market share.

Thus, RCC assessed that it was unlikely for Cosmote to abandon its maverick role, while its major competitors individually had a market power significantly greater than the one of the new entity.

Prior to the merger, the commercial policy of the fifth player, namely RCS&RDS, a new entrant on the market (end of 2007) was an aggressive one including regarding the mobile telephony services. However, due to the low coverage level of its mobile network, this policy did not have a significant impact on the market, being focused on including mobile telephony services in the 4play services packets.

Consequently, RCC concluded that there were no premises for the birth of a collective dominance from the part of the remaining four players post-merger.

Regarding the mobile broadband Internet access services market, this was an emerging market at the time of the transaction, therefore, it was unlikely for a collective dominance to appear post-merger.

It is important to note that when launching the market test, the first two competitors of Cosmote complained that a possible anticompetitive effect of the merger would be the concentration of the resources in general and of those of the 400 MHz frequency spectrum, in particular (410 and 450, used in CDMA technology) at the level of the acquirer's group. The main concern of those players was the possibility for Cosmote to hinder competition on the fixed and mobile broadband Internet services market.

Regarding these aspects, RCC noted that the low amount of network resources held by the target company was not capable of significantly influencing the position of the new entity on the wholesale and retail markets, especially because the acquired company was using a CDMA network different from that of the other mobile operators (900/1800 MHz bands used in GSM technology) and switching costs between the two types of technologies were high.

Moreover, Telemobil's license for the 450MHz frequency terminates on 24.03.2012. In the opinion of the regulator, a supposed divestiture of this frequency band before the license's expiration would have harmed the end user, since a buffer period of time was deemed necessary for the final users' migration to a different frequency band and for the operator to replace the existing terminals in the network which can not operate in the 410 MHz band.

Although Romtelecom holds a dominant position on the wholesale market of access to infrastructure services (local loop), the concentration of the 400 MHz frequency spectrum and the supply of mobile broadband Internet access services through this spectrum were not capable of affecting fixed broadband Internet access services market due to a lack of sufficient degree of substitution between the two services on the retail market. Moreover, Romtelecom was not holding a dominant position in the retail market of fixed broadband Internet access services. Also, Romtelecom's presence on the retail market of mobile broadband Internet access services was a reduced one since it only entered this market at the end of 2008 and there were no other mobile broadband spectrum resources at the level of the group of the acquirer. Thus, the data held by RCC did not point out towards likely anticompetitive effects of the merger on the fixed and mobile broadband Internet access services market as a result of the 400 MHz frequency spectrum concentration.

## **5. *Ex-post* assessment of the effects of the Cosmote/Telemobil merger**

### **5.1 *Evolution of the relevant markets***

According to the data collected and processed by ANCOM, at the end of 2010, the broadband Internet access services recorded the most important growth, especially the connections to mobile broadband increased by approximately 59% relative to those existing at the end of 2009. However, the main source of revenues on this market remains the delivery of mobile telephony services.

The number of users (specifically the active SIM cards) of services of mobile telephony during 2010 decreased by 3.15% relative to that recorded at the end of 2009. The level of revenues in the mobile telephone services market decreased. One of the reasons for this decrease is the modification of consumers' behaviour due to the economic crisis, a significant number of users abandoning the telephony services of a second mobile operator.

Although the total number of users decreased, the voice traffic continued to increase in 2010 by 22.85% relative to 2009. This demonstrates that the operators managed to adapt their offers to the present economic context both through tariff reductions and more traffic included in the subscriptions/extra-options. The studies performed by RCC and confirmed by the regulator show that the mobile telephony services market remains saturated, being characterized by a strong network effect that makes difficult a significant modification of its competitive structure.

Also, the data submitted by the regulator do not reveal any significant structural changes of the relevant markets since the time of the merger authorization so far.

## **5.2 *The evolution of the regulatory framework***

Starting with 2010, the 900/1800 MHz frequency bands have been liberalized, making possible the supply of 3G type mobile services. The only operator that doesn't hold spectrum in the more favourable 900/1800 MHz band is RCS&RDS.

## **5.3 *The evaluation of the involved parties' behaviour on the relevant markets post-merger***

### **5.3.1 *Mobile telephony services retail market***

Given the insignificant contribution of Telemobil at the time of the merger's authorization, the position of the acquirer's group on the relevant market has not significantly changed following this merger. Cosmote remains the third ranked player on this relevant market, way ahead of its first two competitors. The market share of Cosmote in terms of total SMS traffic volume (Cosmote being leader for this market segment) increased in 2010 compared to 2008. The market share of Cosmote in terms of total voice traffic volume increased as well following the merger, Cosmote ranking second, up from third prior to the merger. However, Cosmote remained the third player on this relevant market in terms of total number of end-users (SIM cards) and revenues.

These data reveal an aggressive market policy of Cosmote focused on increasing the traffic volume by maintaining a relatively reduced price level. This conclusion is also confirmed by the fact that since the introduction of number portability in 2008, Cosmote is the leader regarding the ported mobile telephony numbers.

### **5.3.2 *Retail market of mobile broadband Internet access services***

The data provided by the regulator shows that the position of the resulting entity post merger hasn't substantially improved up to date. Yet, Cosmote continues its aggressive market strategy especially by both expanding the amount of data included in its mobile broadband Internet access services and keeping a lower level of price in comparison with its main competitors.

Regarding an alleged impact of the merger on fixed and mobile broadband services, data collected by RCC shows that the concentration of the 400 MHz frequency band did not lead to the consolidation of the acquirer's group position either on the wholesale market of access to the infrastructure elements or on the retail markets of fixed and mobile broadband Internet access services. Even more, starting with 2010, the 900/1800 MHz frequency bands have been liberalized making possible the delivery of 3G type mobile

services. This development makes possible for the competing mobile operators to significantly reduce the costs for covering the national territory and the population.

Let's note also that market studies among end users carried out by the regulator during March-April 2010 show that from the demand point of view, the access to mobile broadband Internet is not a substitute for fixed broadband Internet, but a complementary service.

#### **5.4      *The analysis of the merger effects***

##### **5.4.1    *The merger impact on consumer welfare***

According to the competing operators' opinions, one of the reasons for the mobile telephony market's value decrease is the aggressive market strategy of Cosmote. This strategy consists of constantly offering packets of services at low prices as well as an aggressive advertising campaign.

This post-merger behaviour of Cosmote confirms the expectations of RCC with regard to the beneficial effects on the consumer welfare, namely increased choices for consumers as well as the reduction of their expenditures for the electronic communication services.

##### **5.4.2    *The likelihood and motivation of the new entity to engage in anticompetitive practices***

The post-merger data collected by RCC indicate the non-existence of the premises for the creation or consolidation of a dominant position on the relevant markets as a result of the merger's implementation. Cosmote continues its maverick behaviour on the mobile telephony retail market, pushing for an increase in its market share. This fact reveals the lack of motivation for Cosmote to engage in a tacit or express agreement with the other 3 remaining mobile operators. Moreover, regarding the retail market of mobile broadband Internet access services, there is not sufficient evidence for RCC to currently conclude that there is a collective dominance of the four mobile operators on the market of broadband Internet access services. Thus, even if the concentration level indicates a concentrated market, the market shares of the operators are asymmetrical and the market has the characteristics of a contestable market, continuously growing (not mature yet). All these create the premises for a significant growth of this market.

## **6.        Conclusions**

Taking into account the switching from the dominance test to the SIEC test as the clearance test in RCC' s merger control analysis and the subsequent necessity of refining the economic analysis methods, RCC welcomes debating this issue within OECD and aims at implementing good practices in the field. Using the expertise of its peers in this area, RCC intends to draft its own methodology of *ex-post* analysis and to apply it on a case by case basis in its merger decisions.



DAF/COMP(2011)24

## SOUTH AFRICA

### 1. Introduction

Evaluating the impact of its interventions in the economy is becoming an increasing priority for the South African Competition Commission, as reflected in the Commission's current three year strategic plan (2011-2014).<sup>1</sup> Currently, the Commission is examining methodologies applied in other jurisdictions and is engaged in piloting a framework. However, the Commission has undertaken evaluations of several merger cases selected specifically for the issues they raised and in order to learn from them to improve future merger analysis.

This submission discusses the Commission's past impact assessments conducted for three of these merger cases.<sup>2</sup> These assessments were largely qualitative and were considered ex post mini 'reviews' of the developments following the merger. The three were as follows:

- in the steel processing sector (Trident/Dorbyl), approved on the basis of efficiencies;
- in the poultry and animal feeds industry (Astral/Natchix), where a divestiture and behavioural conditions were imposed; and
- in the construction/mining services area (Murray & Roberts/Cementation), approved on the basis of there being bidding markets.

In addition to the specific issues raised, the Commission had on-going enforcement matters in these sectors. For each review, we highlight the methodology used, how and by whom the studies were conducted and the outcome of the studies. All three the reviews were done internally by Commission staff who had not been directly involved in the original merger analysis. The reviews were done without powers to obtain information (unlike where there is a formal investigation).

We also highlight the Commission's proposed guidelines on impact assessment going forward.

### 2. Reviews of three merger decisions

#### 2.1 *Trident Steel / Dorbyl*

##### 2.1.1 *Summary of the merger*

The merger between Trident Steel and three plants of Baldwins Steel (a Dorbyl division) in 2001 was the first (and only) merger that was approved purely on efficiency grounds by the Competition Tribunal

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<sup>1</sup> Impact assessment in the context of the South African Competition Authorities is defined as any activity that is designed to measure or estimate the effectiveness, costs and benefits or value to society of the authority's interventions, or the effectiveness or costs and benefits of the competition policy regime as a whole (Proposed draft guidelines on Impact Assessment, Competition Commission South Africa, 2010).

<sup>2</sup> The results of these reviews have not been published.

despite significant anticompetitive concerns. The transaction resulted in the merged entity being the sole producer locally of improved surface finish (ISF) steel material for the automotive sector, controlling 70 per cent of the market with the balance being imported.<sup>3</sup> The Tribunal took the view that customers, original equipment manufacturers (OEMs) in the automotive sector, lacked significant countervailing power and that the merger to monopoly would result in prices being pushed up to import parity levels. Barriers to entry were also considered very high.

Despite these effects, the Tribunal felt that certain efficiencies claimed by the merging parties were merger-specific productive efficiencies which would result in significant cost savings. These efficiencies came about due to post-merger production re-organisation that would result in equipment rationalisation and specialisation of production lines.<sup>4</sup> There were also 'dynamic' efficiencies resulting from the re-organisation and coordination of the production facilities enabling penetration into new markets that neither firm would have been able to enter absent the merger.<sup>5</sup>

The other efficiencies claimed by the parties included what the Tribunal termed 'supply efficiencies'. These referred to the ability of the merged entity to achieve improvements in ordering through larger buying volumes from raw material supplier (a steel mill), judged by the Tribunal as a real efficiency that could not have materialised absent the merger. The final set of efficiencies claimed by the parties was larger volume discounts that could be attained from increased buyer power of the merged entity. This the Tribunal found not to constitute a real efficiency gain in that it was merely a transfer of income from supplier to buyer.<sup>6</sup>

Convinced of the significance of the efficiency justifications,<sup>7</sup> and that such efficiencies outweighed the identified anticompetitive concerns<sup>8</sup>, the Tribunal approved the merger without any conditions.

### 2.1.2 *Design and methodology of review*

In 2008 the Commission undertook a review to assess developments in terms of the claimed efficiencies and the conduct of the firm. As part of the methodology, a review on literature of efficiencies and how other jurisdictions treated efficiencies was conducted to assess other possible interpretations of the efficiency justification. The analysis conducted was largely qualitative, with questionnaires sent out and interviews conducted with the merged parties, the supplier of the merged parties (steel mill) and customers (automotive manufacturers).

The merged entity was contacted to understand whether the claimed efficiencies materialised, if the associated cost increases were realised as predicted, and how its pricing policy and product offering may have changed. The steel mill was contacted to see whether the larger volumes ordered allowed for it to

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<sup>3</sup> Although imports were not directly comparable products, and were products further down the value chain.

<sup>4</sup> Trident would take on the production (including that which Baldwins previously did) of ISF blanks which it had a cost advantage over Baldwins (Baldwins was inefficiently producing ISF blanks on a press line).

<sup>5</sup> Competition Tribunal (2001)- Merger Decision in the large merger between Trident Steel Pty Limited and Dorbyl Limited Case number 89/LM/Oct00.

<sup>6</sup> Such efficiencies the Tribunal classified as a 'pecuniary' efficiency.

<sup>7</sup> The Tribunal explained that when real efficiencies were demonstrated and verified, it was less important to show pass through to customers. But when efficiencies were less compelling, then pass through to consumers needed to be shown.

<sup>8</sup> While the Tribunal conceded that a formulaic weighting of anticompetitive effects and efficiency gains was attractive, it argued that this was often difficult in practice.

custom size the steel for the merging parties such that scrapping rates were reduced. Most importantly, from the customers, price and non-price effects of the merger were sought.

The review was conducted internally at the Commission, with an employee hired on a short term basis who focused exclusively on the review (for a period of six weeks). This employee had previously not worked at the Commission and had no past involvement in the Commission's assessment of the merger.

### 2.1.3 Findings

The study confirmed that the efficiencies claimed were realised. The plants were rationalised and specialised as planned, with all ISF product being produced on the less costly Trident line. Customers indicated that the merged entity had made the required investments to improve quality. Trident had indeed lowered its scrap rate by successfully engaging with the steel mill to get correctly sized coils on its price list. By ordering larger steel coils (20t) instead of smaller coils, a separate step in the production process was eliminated, reducing costs further. Finally, the dynamic efficiencies from using the Baldwins press line to press blanks instead of producing ISF blanks also materialised.

In terms of the merged entity's ability to raise prices, as recognised by the Tribunal, this was constrained to an extent by imports. While overall, customers interviewed revealed that prices had indeed risen post-merger, these increases were not greatly out of line with producer price inflation.

An important finding of the review was that the countervailing power of the OEMs was significant, and perhaps to a greater extent than reflected in the original decision. The review revealed that certain OEMs started to import processed fenders and another set up a joint venture directly with a steel mill to produce its own blanks. This took away significant business from the merged entity, and suggests that barriers to sponsoring entry upstream were not insurmountable, and imports of finished components are an alternative for OEMs.

## 2.2 Astral Foods/National Chick

### 2.2.1 Summary of the merger

The Commission prohibited the intermediate merger between Astral Foods and National Chicks (Natchix) on grounds that it increased concentration significantly in the animal feeds and day old chicks markets, and that it led to serious vertical foreclosure concerns in the markets for the supply of day old chicks and parent stock. These foreclosure concerns included favourable pricing and supply terms to own subsidiaries (especially in times of shortage and disease). The Commission also found high barriers to entry and that the leading competitor in the parent stock market, Cobb, did not have excess capacity to supply aggrieved customers of the merged entity.

The parties took the matter to the Tribunal who then approved the merger subject to certain structural and behavioural conditions.<sup>9</sup> To address the horizontal concerns in the animal feeds market, the Tribunal required the divestiture of Astral's entire shareholding in Natchix's Nutrex feeds business to an independent purchaser. Astral pre-merger had its own interests in animal feeds through Meadow Feeds.

The Tribunal did not share the Commission's concerns around the foreclosure issues and was of the view that an outright prohibition was unwarranted. This was largely because the Tribunal accepted the merging parties' argument that since they would be under the Ross International franchise for South Africa

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<sup>9</sup> Competition Tribunal's decision in the appeal between Astral Foods Limited and National Chick Limited (69/AM/Dec01).

for parent stock, they were not at liberty to foreclose buyers of Ross parent stock. This was especially so given that Ross International was putting pressure on Astral to grow their local market share. The Tribunal found that the highest margins were in fact made at the upstream parent stock level and that would have incentivised the merged entity to expand sales, not limit them. The Tribunal therefore called for behavioural conditions that obliged the parties to enter into standard supply contracts with independent customers; reduce supply to all customers on a pro rata basis in the event of disease; not discriminate against independent customers who did not want to conclude the standard contract nor discriminate against customers on price or volume discounts who wished to sell Cobb birds. These conditions were to apply for 5 years from April 2002.

A number of industry players expressed concerns about the merger at the time of the Commission's investigation and the Tribunal heard testimony from these players during the hearing. These concerns, along with rising food inflation, prompted the Commission to review the impact of the Tribunal's decision on this merger in 2008.

### *2.2.2 Design and methodology of review*

The review was undertaken by Commission employees who were not involved in the original merger. Again, largely qualitative evidence was collected through questionnaires and face-to-face interviews with the parties and independent players that would be most affected by the alleged foreclosure. The Commission at the time was also conducting research into the poultry industry in general and information from this research assisted in the review.

### *2.2.3 Findings*

The Commission found that the divestiture had been very important in ensuring an independent feeds supplier in the market, notwithstanding wider competition concerns in feed (still being investigated).

The behavioural remedies imposed to address the vertical foreclosure concerns appeared to have been far less successful. It was suggested in the market that the behavioural conditions may have been breached in that the merged entity may have sold at lower prices to its own downstream affiliates than to independents.

The review also revealed that the Tribunal's decision did not fully consider the implications of the unilateral control which Astral gained in the Elite JV through the acquisition of Natchix (and its share in the JV). The Commission has since found that this allowed the JV to be operated to undermine the emergence of effective rivalry in breeding stock. The unilateral exit of one party (Country Bird) ultimately led to entry of a new breed and lower margins.

Finally, the Commission initiated three more enforcement cases following the approval of this merger, all which related to foreclosure and exclusionary concerns.

## **2.3 Murray & Roberts /Cementation**

### *2.3.1 Summary of the merger*

In 2004 the Tribunal unconditionally approved the merger between Murray & Roberts (M&R) and Cementation despite concerns raised by the Commission, particularly in the sub-markets for raise drilling and shaft sinking. The raise drilling and shaft sinking sub-markets were highly concentrated and the approval of the merger resulted in a three-to-two merger in the former, with two substantial competitors remaining in the latter. The transaction also removed a significant competitor, Cementation, a company that had built a reputation for being a fierce competitor in both sub-markets. The Commission further

contended that the two sub-markets were characterised by high barriers to entry, thus the transaction would allow the merged entity to exercise market power post-merger.

After a detailed evaluation of the competition dynamics in the relevant sub-markets, the Tribunal cited several factors it believed ameliorated any potential anti-competitive effects of the merger. These factors were put into two broad groups. The first set contained the Tribunal's main contention that the services provided by the merging parties are large lumpy projects sold to sophisticated customers (who could also integrate vertically) through a vigorous bidding process. The Tribunal maintained that this market feature would weaken any exercise of market power by the merged entity. The second category of factors assessed by the Tribunal was from the standard merger analysis toolkit; these included the assessment of countervailing power and barriers to entry, with the Tribunal being persuaded that the latter were relatively low.

### 2.3.2 *Design and methodology of review*

In 2009/10 an internal team from the Commission conducted a review of this merger to assess the performance of the raise drilling and shaft sinking sub-markets. Given the factors cited by the Tribunal, the team conducted a literature review on bidding markets. Market specific information was obtained from competitors, customers and associated suppliers through telephonic interviews and questionnaires. The aim was to gather information on entry, pricing trends and to establish how well the bidding nature of the sub-markets worked. The Commission was also working on issues of bid-rigging more widely at the time.

### 2.3.3 *Findings*

The review revealed that there had not been any adverse effects on competition in the two sub-markets (shaft sinking and raise drilling) as a result of the transaction. In particular, there had been entry into the sub-sectors mainly in the form of migration of firms from related areas. While the Commission had raised concerns that lack of reputation would work against new entrants, firms active in related areas had a track record with the customers in question. It should be noted, however, that the Commission has uncovered extensive bid-rigging in construction, fostered by the relatively tight knit nature of the industry in South Africa.

## 3. **Way forward**

As mentioned, the three ex post merger reviews discussed above were all mini-studies conducted internally for the purposes of improving the Commission's merger evaluations. They were carried out without powers to obtain information, meaning that the assessments were of a more qualitative nature.

They were also conducted at a time when the Commission had not adopted a formal approach to measuring impact. More recently the Commission has included impact assessment as a strategic goal in its 3-year strategic plan for 2011- 2014.

Through conducting impact evaluations, the Commission aims to achieve the following:

- Quantitative estimates of the impact of the Commission's work for consumers.
- Inform the process of prioritising sectors and cases.
- Improve the quality of analysis in future investigations.

- Increase transparency and awareness of its activities for improved external accountability and engagement.
- Create conditions conducive for achieving greater competition in the economy.

Drawing from international experience, the Commission has developed an impact assessment framework and is in the process of developing internal capacity to implement the framework. Different aspects of the impact assessment framework will be piloted during the 2011/12 financial year.

According to the framework, three methodologies will be used to conduct impact assessments. First, the overall impact of the competition authorities' activities will be calculated using *ex ante* estimates of the direct savings to consumers resulting from each case. Second, *ex-post* monitoring and reviews will be carried out for selected cases in order to assess the actual competitive developments resulting from the actions taken by the competition authorities. Third, research will be conducted on an on-going basis into the broader benefits of the competition authorities' work, including factors such as the deterrent effect of competition policy.<sup>10</sup>

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<sup>10</sup> Proposed draft guidelines on Impact Assessment, Competition Commission South Africa, 2010.

## BIAC

### 1. Introduction

Merger review is a prospective exercise which, by necessity, requires making predictions about the future effects of a transaction. Since no one has perfect visibility on the future, it is important to take the time and make the effort to assess the efficacy of past decisions so that we can learn from history, with a view to improving decision making in the future. To the extent that evaluating the impact of past merger decisions is used to improve decision making in the future, it is a laudable exercise that should be encouraged among relatively new and more experienced competition law authorities alike.

This paper canvasses impact evaluation exercises that have been conducted (or, in one case, is currently being conducted) that assess past merger decisions. By “decisions”, this paper considers both decisions to intervene (either to block a merger or to obtain remedies) and not to intervene. Impact evaluations raise a number of methodological questions, including who should undertake them, how to select the merger decisions that should be included, how to collect and handle the data required for such studies, and, importantly, steps competition authorities can take to ensure that the results of studies lead to better future decision making in merger review.

In light of the fact that merger transactions are often pro-competitive, and can otherwise provide substantial benefits to consumers by ensuring that companies and markets work efficiently, it is important that pro-competitive or competitively neutral transactions not be blocked or delayed. Where properly employed, ex post impact assessments can help competition law authorities develop and refine the analytical tools for identifying whether remedial action is warranted with respect to any given transaction and, if so, what kind of remedial action would be most appropriate. That is, impact assessments can provide significant value to competition authorities – and, indeed, to the business community and to the public at large – if they are used as a learning tool that helps inform continuous improvement in merger review processes and substantive outcomes. When designing such studies it is important to consider the possibility that merger control may have been overly interventionist in certain instances and that some transactions which may not have been detrimental were blocked or subject to unduly harsh remedies.

### 2. Studies on impact of past merger decisions

#### 2.1 *Canada*

The Canadian Competition Bureau (the “**Bureau**”) is undertaking a Merger Remedies Study, the main objective of which is to determine whether past merger remedies sought by the Bureau have been effective in addressing the competition concerns identified in the relevant market(s) at issue. Through an assessment of the effectiveness of past merger remedies, the goal is to gain an understanding of the factors that either contributed to, or detracted from, the efficacy of such remedies. The Bureau is in the process of finalizing this study, which reportedly involved a review of 50 cases between 1986 and 2005 that involved remedies.<sup>1</sup> The Bureau held approximately 135 interviews with various market participants, including

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<sup>1</sup> Competition Bureau, “Merger Review Performance Report”, May 31, 2010, available online: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03236.html>.



merged entities, purchasers of divested assets, customers, competitors, and other parties. The Bureau has stated that it intends to publish the study's findings and recommendations shortly after the study is completed, with a view to advancing the Bureau's practice with respect to the design and implementation of future merger remedies.<sup>2</sup>

Similarly, in 2007, the Bureau published a study, titled, "Ex Post Merger Review: An Evaluation of Three Competition Bureau Merger Assessments",<sup>3</sup> that it had commissioned from CRA International, an economic and financial consulting firm. The study evaluated whether the Bureau applied appropriate analytical approaches and took appropriate decisions the three transactions.<sup>4</sup> In particular, the study examined whether any of the markets analyzed in those reviews were substantially less competitive following the merger in question. The objective of the study was to consider mergers that had raised material competition concerns, but where the Bureau ultimately decided the merger did not merit a challenge before the Competition Tribunal. The study found that, in general, the Bureau's analyses accurately assessed market conditions, and reasonably predicted outcomes. In addition, the report identified areas where the Bureau could make incremental improvements, including a greater use of quantitative analysis and more critical consideration before accepting claims about countervailing power.<sup>5</sup>

## 2.2 *Europe*

In 2005, the European Commission, DG Comp, published its "Merger Remedies Study", which analyzed the design, implementation and effectiveness of 96 remedies imposed in 40 cases under the EU Merger Regulation between 1996 and 2000.<sup>6</sup> In selecting which remedies were to be analyzed, the study aimed at creating a balance with respect to three factors: (1) the types of remedies; (2) the number of remedies accepted in Phase I or after an in-depth Phase II investigation; and (3) the different industrial sectors involved. After the selection of cases and remedies to be studied, interview teams reviewed the case files and prepared for the interviews sample questionnaires, which were evaluated in a pilot test of nine cases. The questionnaires were tailor-made to each type of interviewee: (1) the committing parties or sellers, licensors or grantors; (2) the buyers, licensees or grantees; and (3) trustees, respectively.<sup>7</sup> The study acknowledged a number of limitations in its methodology. First, for some remedies it was difficult to determine comprehensively market outcomes in the absence of fully fledged new market investigations.

<sup>2</sup> See "Annual Report of the Commissioner of Competition for the Year Ending March 31, 2008", available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03114.html> and "Merger Review Performance Report", available online at: Merger Review Performance Report.

<sup>3</sup> Mark Neumann and Margaret Sanderson, CRA International, "Ex Post Merger Review: An Evaluation of Three Competition Bureau Merger Assessments", August 1, 2007, available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02447.html>.

<sup>4</sup> The transactions considered in the study were: (i) Corus Media acquiring the assets of WIC Broadcasting in 2000; (ii) the 2003 merger of a number of coal companies in western Canada collectively referred to at the time as the Fording group; and (iii) a 1998 joint venture between Carmeuse and Lafarge, both large suppliers of concrete and other building materials. The study paid the closest attention to the first of these three transactions.

<sup>5</sup> See Competition Bureau Press Release: "Competition Bureau Publishes Post-Merger Review Study", October 4, 2007, available online at: <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02468.html>.

<sup>6</sup> DG COMP, European Commission, Merger Remedies Study (Public Version), October 2005, available online at: [http://ec.europa.eu/competition/mergers/legislation/remedies\\_study.pdf](http://ec.europa.eu/competition/mergers/legislation/remedies_study.pdf).

<sup>7</sup> *Ibid.*, pp. 14-15.

Second, several exogenous factors can contribute to an observed market outcome.<sup>8</sup> Third, to assess the market impact of a remedy, the study had to compare actual market developments with the results that would have been likely to occur in the absence of the remedy – i.e., the counter-factual scenario. With respect to the third limitation, interviews proved to be a useful approach for obtaining the views of industry participants on these issues, but, admittedly, all counterfactual scenarios are, to some extent, speculative.<sup>9</sup>

Despite these limitations, the study made tentative assessments about the overall efficacy of the remedies analyzed, grouping the remedies into one of four categories: (1) “effective” (i.e., the remedies clearly achieved their competition objective); (2) “partially effective” (i.e., the remedies experienced design and implementation issues which were not fully resolved three to five years after the divestiture and which may have partially affected the competitiveness of the divested business); (3) “ineffective” (i.e., the remedies failed to restore competition as foreseen in the Commission’s conditional clearance decision); or (4) “unclear” (i.e., the remedies are those where the study could not determine whether the remedy had achieved its stated objective).<sup>10</sup> Commenting on the outcome of the exercise, then-Commissioner of Competition Neelie Kroes stated: “The findings of this important study will influence our future action in the field of merger remedies. It demonstrates the Commission’s commitment to evaluate critically and transparently its past policy and practice in order to draw lessons from it. ...”<sup>11</sup>

### 2.3 *United States*

In 1992, the Federal Trade Commission (FTC) released “Case Studies of the Price Effects of Horizontal Mergers”,<sup>12</sup> a report prepared by the FTC’s Bureau of Economics, which examined the effects of horizontal mergers on product prices in three case studies with a view to offering some insight on issues that may influence the efficacy of antitrust merger review policy. The first case, Weyerhaeuser’s purchase of Menasha Corporation’s North Ben, Oregon corrugating medium mill, was one in which the FTC unsuccessfully challenged the merger that it alleged would likely lessen competition. The other two cases, the merger of the Hawaiian cement operations of Kaiser Cement Corp. and Lone Star Industries into a single firm, and the purchase by SCM Corp. of Gulf & Western’s titanium dioxide manufacturing facilities in Ashtabula, Ohio, involved horizontal mergers that were not challenged by antitrust authorities. In order to use the effect of the mergers on price as a measure of their effect on competition, the authors chose cases that involved essentially homogeneous products, thus minimizing the issue of competition in dimensions other than price. The study was designed, in part, to assess criticism that merger enforcement was too lax during the 1980s and to identify any areas where the FTC’s merger analysis might need revision.<sup>13</sup> The study found a mix of results with likely pro-competitive outcomes in cement and paperboard, and a potentially large anti-competitive effect in titanium dioxide. As a collection of case studies, the research

<sup>8</sup> For example, in one case in the energy sector, remedies were ordered soon after significant liberalization measures had been introduced. See *Ibid.*, p. 16.

<sup>9</sup> *Ibid.*, pp. 16-17.

<sup>10</sup> *Ibid.*, pp. 169-170.

<sup>11</sup> European Commission Press Release dated October 21, 2005, “Mergers: Commission analysis of past merger remedies provides guidance for future cases”, available online at: <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/05/1327&format=HTML&aged=0&language=EN&guiLanguage=en>.

<sup>12</sup> Laurence Schuman, Robert P. Rogers and James D. Reitzes, *Case Studies of the Price Effects of Horizontal Mergers*, FTC Bureau of Economics, April 1992, available online at: <http://www.ftc.gov/be/econrpt/232213.pdf>.

<sup>13</sup> See “60 Minutes with the Honourable Janet D. Steiger, Chairman, Federal Trade Commission,” 61 *Antitrust L. J.* 187 1992-1993, p. 198.

was not intended to offer general conclusions about the efficacy of antitrust enforcement, but, nevertheless, was intended to provide insights that could inform future decision making.<sup>14</sup>

In 1999, the FTC Bureau of Competition released a study on merger remedies which evaluated the results of a study of divestiture orders entered between 1990 and 1994, including 35 orders in which asset divestitures--including licensing of intellectual property--were required.<sup>15</sup> The study found that most divestitures were successful and appeared to have created viable competitors in the markets with which the Commission was concerned. As then-Chairman Robert Pitofsky stated:

*The Divestiture Study findings confirm that feasible divestitures play a constructive role in the overall merger review process. That is especially true if the merger itself is likely to lead to efficiencies that ultimately benefit consumers. It remains true, however, that some kinds of proposed divestitures and other restructuring are unlikely to preserve competition in the market where the proposed merger would produce anti-competitive effects.*<sup>16</sup>

In 2004, the FTC Bureau of Economics released a study, "The Petroleum Industry: Mergers, Structural Change, and Antitrust Enforcement",<sup>17</sup> updating two earlier FTC studies on mergers and structural change in the U.S. Petroleum industry. Reviewing industry developments since the 1980s, the report found, among other things, that mergers have contributed to the restructuring of the petroleum industry but have had only a limited impact on industry concentration. There have been some increases in industry concentration at certain levels of the industry such as refining and gasoline marketing, but concentration for most levels of the industry had remained low to moderate. Economies of scale had become increasingly important in shaping the industry, although the incentives for firms to be vertically integrated throughout all or most levels of production and distribution had diminished. By studying industry trends, including merger enforcement activity in the petroleum industry, the report's intent was to further understanding of the petroleum industry and the factors that influence prices and other market outcomes in the industry.<sup>18</sup> Although the study was industry specific, the type of exercise could be applied more generally to the merger review context as well.

## 2.4 United Kingdom

In 2005, the Office of Fair Trading (OFT), Department of Trade and Industry (DTI) and the Competition Commission (CC) released a report prepared by PricewaterhouseCoopers LLP (PWC) titled, "Ex post evaluation of mergers",<sup>19</sup> which provided an *ex post* evaluation of ten mergers between 1990 and 2001. All ten case studies were mergers that had been cleared after second phase CC review. The analysis

<sup>14</sup> Laurence Schuman, Robert P. Rogers and James D. Reitzes, *Case Studies of the Price Effects of Horizontal Mergers*, FTC Bureau of Economics, April 1992, p. viii, available online at: <http://www.ftc.gov/be/econrpt/232213.pdf>.

<sup>15</sup> *A Study of the Commission's Divestiture Process*, prepared by the Staff of the Bureau of Competition of the Federal Trade Commission (1999), available at <http://www.ftc.gov/os/1999/08/divestiture.pdf>.

<sup>16</sup> Robert Pitofsky, *The Nature and Limits of Restructuring in Merger Review*, Address Before Cutting Edge Antitrust Conference Law Seminars International (Feb. 17, 2000), available at <http://www.ftc.gov/speeches/pitofsky/restruct.shtm>.

<sup>17</sup> FTC Bureau of Economics, *The Petroleum Industry: Mergers, Structural Change, and Antitrust Enforcement*, August 2004, available online at: <http://www.ftc.gov/os/2004/08/040813mergersinpetrolberpt.pdf>.

<sup>18</sup> *Ibid.*, p. 16.

<sup>19</sup> "Ex post evaluation of mergers: A report prepared for the Office of Fair Trading, Department of Trade and Industry and the Competition Commission by PricewaterhouseCoopers LLP", March 2005, available online at: [http://www.offt.gov.uk/shared\\_offt/reports/comp\\_policy/oft767.pdf](http://www.offt.gov.uk/shared_offt/reports/comp_policy/oft767.pdf).

was based largely on interviews with market participants in order to determine how the market had changed since the merger, with a particular focus on interviewing customers of the merging parties. The report noted that studying mergers that were cleared by the CC is useful in three respects: (1) it enables us to test, *ex post*, the CC's belief that the merger would not substantially lessen competition; (2) if there has not been a substantial lessening of competition, it enables us to test whether this was for the reasons that formed the basis of the merger review decision, or whether other competitive constraints were more important; and (3) if there has been a lessening of competition, it allows us to examine how, and how quickly, market participants respond (e.g. in terms of new entry, revising purchasing strategies, etc.)<sup>20</sup>

### 3. Key choices on methodology

The studies above illustrate some of the key choices that need to be made regarding the design and methodologies underpinning an *ex post* assessment of merger reviews. Some of the key decisions that must be made in designing such studies include: (1) who should undertake the study (i.e., internal staff vs. external consultants); (2) which cases should be included in the analysis; (3) what is the right balance between quantitative and qualitative analysis; (4) how frequently should such studies be undertaken; and (5) to what extent should the analysis and/or conclusions be made publicly available. The various studies to date have employed a range of methodologies and, going forward, it is clear that there is no "one size fits all" strategy that would be appropriate for all competition law enforcement agencies in all circumstances. The key to making the most of an opportunity to assess merger decisions *ex post* is to approach the exercise in an open-minded manner that will allow for lessons to be drawn from past decisions in order to better inform future decision making.

When designing such studies it is important to consider the possibility that, in certain instances, merger control may have been overly interventionist and that some transactions which may not have been detrimental were blocked or subject to unduly harsh remedies. Similarly, it may be particularly useful to consider examining past cases which were evaluated differently by different agencies to determine whether, with the benefit of hindsight, there may be lessons to be learned by the respective agencies. Where applicable, such lessons should be used to develop and refine merger review guidelines to ensure that the analytical tools and approaches mandated by such guidelines lead to appropriate results.

### 4. Conclusion

While the prospective nature of merger review presents competition authorities with the challenge of having to predict future developments, *ex post* analyses involve a number of challenges, as well – particularly because of the dynamic nature of markets. That is, even with the benefit of hindsight, determining causation between merger decisions and subsequent developments is complicated by the fact that market conditions change with time, often quite quickly. Nevertheless, it is a laudable exercise, especially when approached with a willingness to learn from both past mistakes and successes, and provided that the exercise does not impose significant burdens on the parties to a prior transaction.

Tradeoffs exist between the different methodological approaches underpinning such studies and each methodological choice has its own strengths and weaknesses. Given the relative infrequency that such studies have been conducted to date, this is an area where the sharing of information and past experiences among competition law authorities around the world would be of tremendous value. In this way, competition law authorities can pool their experiences and knowledge with a view to improving their ability to identify which transactions should be cleared as expeditiously as possible and which transactions warrant remedial action. For transactions in the latter category, competition law authorities can also learn from one another as to what kinds of remedial action are most effective and appropriate. Moreover,

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<sup>20</sup> *Ibid.*, p. 1.

sharing information with the broader public, to the extent possible, would also be beneficial in promoting public understanding of and maintaining public confidence in the work being done by competition law authorities.

While competition agencies generally have conducted *ex post* assessments of merger decisions on an ad hoc basis, BIAC recommends, as an international best practice, that agencies conduct such assessments on a regular, pre-determined basis, using wide, representative samples of merger decisions. The methodology chosen for such reviews should be sufficiently flexible to take into account the differing priorities of and resources available to any given competition agency. Ideally, however, once an agency settles upon a methodology, that methodology should remain roughly consistent over time (allowing for fine tuning and incremental improvement) so that results from different time periods can be compared to one another. This would allow agencies to track progress over time, helping to ensure that enforcement policy is neither too lax nor too interventionist, and helping to ensure that remedies, when implemented, are suitably tailored to achieve their stated objectives without imposing undue burdens on businesses. Consideration should also be given to the use of independent assessments of past merger decisions, as opposed to competition agencies relying solely on self-evaluation. Such independent assessments could provide an additional, constructive perspective which could be used to improve the merger review process on an ongoing basis.

## IMPACT EVALUATION OF MERGER DECISIONS

By Mr. Oliver Budzinski \*

### 1. The impact of merger decisions

Competition is a self-organized, decentralized coordination process. It coordinates suppliers and customers on markets through price signals reflecting changing scarcities. Without requiring individual knowledge on overall allocation issues and without requiring the individual goal to balance supply and demand, competition sets incentives for both market sides to adjust the individual supply and demand plans according to the scarcity relations just by acting self-interested (profit and utility maximization). Consequently, *allocative efficiency* is achieved through individual interaction in competition and without intervention or ex ante planning by any centralized authority (government, economic planning commission, etc.). Furthermore, competition provides incentives for producers and other suppliers to innovate. Only in competitive marketplaces, firms can benefit from being innovative by dragging customers away from competing firms and increasing their own market shares. At the same time, non-innovative firms must fear that more innovative competitors drag their customers away by providing innovative products or services better suiting the preferences of customers. This 'double incentive' adds on the intrinsic motivation to innovate because of engineering curiosity and, thus, considerably increases the incentives to innovate compared to non-competitive 'market' places. Further on, this innovation effect of competition is turned into a permanent incentive by the incentive to imitate innovators. This entails the procompetitive effect of allowing only temporary competitive advantages through innovation, maintaining the incentive to further innovate for hitherto successful innovators. Next to the allocation effect (*stationary efficiency*) and the innovation effect (*dynamic efficiency*), competition keeps markets flexible and creates and maintains a high ability of markets to adapt to changing market environments. Firms (and customers) in competitive markets are trained to adjust their business behavior creatively and adaptively to each other (strategic interdependency) and, thus, are better capable of coping with external shocks (changing market environment) than firms in non-competitive settings (*evolutionary efficiency*). Through all three avenues, competition serves the normative goal of increasing economic welfare.

In addition to these economic welfare-related competition effects, there is one more effect relating to societal goals. Competition is inevitably intertwined with economic freedom. Having competition among suppliers requires the freedom of choice on the side of the customers as well as the freedom to choose strategies (pricing, innovation, product design, service, industry, etc.) on the side of the enterprises. And, the other way around, economic freedom for enterprises and customers automatically and inevitably creates competition.

All these beneficial effects of competition are achieved in a decentralized and self-organized way in the absence of centralized, political economic planning or organization. However, the notion of free markets unleashing the beneficial forces of competition is also misleading to some extent. Competitive

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markets require an institutional framework in order to be sustainable and workable and this makes them a social construction. Among the institutional preconditions for competitive markets are property rights, commercial laws and many more. Among the necessary institutions for the sustainable existence and functioning of competitive markets are competition rules. Unfortunately, competition possesses an inherent tendency towards self-destruction. Instead of aiming to be better than its competitors, any enterprise can alternatively attempt to improve its market situation by eroding competition, for instance by colluding with its competitors (cartelization), predating and deterring competitors (abuse of market power and unfair competition) or by merging with its competitors into one entity (mergers and acquisitions). This incentive to circumvent and erode the forces of competition requires competition rules and its enforcement through competition policy. Therefore, the ‘impact’ of merger decisions (as part of competition policy) should be to protect and maintain competition by preventing the occurrence of anticompetitive mergers. As such merger decisions should exercise a low degree of interventionism into markets by ‘just’ preventing anticompetitive combinations of enterprise ownership (negative intervention). In contrast, merger decisions should not attempt to design or mould competitive market structures (positive, creative intervention).<sup>1</sup>

Now, in an imperfect world, merger decisions can be mistaken. Although the task at hand might look easy at first sight – procompetitive or anticompetitive, harm to competition or not – it is made rather complicated by the multidimensional character of competition (allocation, innovation, diversity, etc.). Competition can be harmed in many ways: price increases and output reduction, slowing down innovation, making markets more sclerotic, etc. From an economic theory perspective, it cannot be discriminated between the different dimensions of competition regarding their importance for overall welfare. The fact that emphasis of analysis and policy is oftentimes more put on prices and quantities (allocative efficiency) merely follows practical limitations regarding measurability and assessability of the other dimensions. In summary, the question when a merger has a negative impact on competition is far away from being trivial!

Consequently, merger decisions can be wrong in two different ways: (i) merger decisions may erroneously allow anticompetitive mergers (type II errors), or (ii) merger decisions may erroneously prohibit procompetitive mergers (type I errors). Both error types change the impact of merger decisions. In case of type II errors, the merger decision fails to protect competition on the market in question. In case of type I errors, the merger decision represents an unnecessary intervention into competition and efficiency effects of procompetitive mergers may be discarded.

## **2. Methods of *ex post* impact evaluation**

### **2.1 Controlling of merger policy**

Merger control decisions are *ex ante* decisions. They attempt to estimate the effect that a notified merger will have on the underlying markets if it was cleared by the competition authority. If we assume that competition authorities aim to make correct merger decisions in the sense of avoiding both type I and type II errors, then an *ex post* evaluation of past merger decisions represents an instrument to improve future decisions by learning from past mistakes. As soon as merger effects display sufficient regularities (i.e. mergers do not represent unique single events), such a controlling of merger policy possesses the potential of beneficial improvements of merger decisions and, thus, welfare<sup>2</sup>.

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<sup>1</sup> Drawing the borderline between these two types of intervention may at times be difficult in practice, for instance, when it comes to conditional approvals of mergers.

<sup>2</sup> Note that although competition authorities usually follow some type of welfare goal, the specificity of the welfare goal can differ, for instance and most famously between a consumer welfare standard and a total welfare standard. Also, goals like public interest or freedom of competition at least implicitly target a welfare goal, albeit through intermediate goals.

However, conducting an ex post impact evaluation of merger decisions is not automatically advantageous. A disadvantage occurs if many decisions of a competition authority are found to have been erroneous. Firstly, this may damage the reputation of the authority and, thereby, harming the deterrence effect of competition rules and policies as well as the acceptance of future merger decisions by the norm addressees. Secondly, the question of damage claims by enterprises (type I errors) or by customers and competitors (type II errors) being harmed by an erroneous decision must be taken into consideration (depending on the jurisdiction in question). Furthermore, it must be considered that evaluation results set incentives for competition authorities for the future selection of cases, possibly entailing a selection bias: rational agencies experience incentives to go for the easy options, i.e. cases with a high probability of receiving enforcement success and positive ex post evaluation (*Davies & Ormosi* 2010: 40).

Another important disadvantage occurs if agencies rely on unreliable evaluation methods, displaying erroneous results regarding the accuracy of past merger decisions. Then, the decision quality could actually deteriorate as a consequence of learning from the deficient ex post evaluation. In contrast to science, the rule ‘bad or weak information is still better than no information’ does not hold here since the information triggers a behavioral response (*Neven & Zenger* 2008) by the competition authorities. Therefore, any ex post impact evaluation must guarantee a sufficient reliability of its results. In other words, reliability becomes a knock-out criterion for the usability of any given evaluation method. Given a sufficient minimum reliability, additional criteria can be applied to comparatively evaluate the usefulness of ex post evaluation methods for competition authorities wanting to engage in systematic ex post evaluations of their merger decisions.

### 2.1.1 *Method evaluation categories*

- *Reliability* of results: competence of the method to identify decision errors. This is a prior category (knock-out criterion); any method that fails to meet a minimum reliability cannot be recommended.
- *Applicability*: can the method be applied to all types of cases, all types of markets, etc.?
- *Agency resource intensity*: what are the resource requirements of applying the method for the agency (“costs” of applying the method)?
- *Academic mainstream*: acceptance of a method within economics science (‘mainstream’); for instance, number of (ranked) publications, etc.

In contrast to other studies, these evaluation categories partly possess a hierarchical structure. *Buccirossi et al.* (2008: 464) argue that ex post evaluation “techniques cannot be ranked, as each has its advantages and drawbacks”; “they are not mutually exclusive, and it is possible, or even advisable, to use more than one simultaneously in order to minimize the probability of errors in the evaluation” (465). However, if a technique is not reliable to minimum standards, it cannot contribute to better evaluation – even within a mix of instruments. Quite in contrast, it actually jeopardizes any beneficial effect of an ex post impact evaluation and might even generate harmful effects (increase in type I and type II errors). This danger is particularly high if the feasibility bias comes into play: a comparatively unreliable but cheap and easy-to-do technique is likely to get an inappropriate high weight in practice because of economics of administration. For these reasons, reliability becomes the accentuated position of being a knock-out criterion: a failure in reliability cannot be compensated by a good performance in the other categories, for instance, it does not help that any given method can be easily applied with very few resources required if the results are not sufficiently reliable!

The scientific mainstream criterion, on the other hand, resumes a downward position within the category hierarchy, since the frequency of method appearance in the scientific literature, inter alia, follows



motivations that need not go along with the goals of ex post impact evaluation of merger decisions (e.g. writing papers that are publishable in high-ranked academic journals for career considerations).<sup>3</sup>

The main methods that are available for conducting ex post impact evaluation of merger decisions can be summarized in the following types:

- structural models and simulations,
- difference-in-differences (DiD) approaches,
- event studies, and
- surveys.

These methods are analyzed in the following sections according to the evaluation categories developed in this section.

## 2.2 *Structural models and simulations*<sup>4</sup>

This method of ex post impact evaluation is based on (i) an explicit formal model of the nature of competition in the relevant market(s) of the merger, (ii) calibrating this model with real world data, and (iii) an assessment how the actual equilibrium would change if a counterfactual scenario (e.g. merger vs. no merger; remedy x vs. remedy y, etc.) is simulated (*Davies & Ormosi* 2010: 12).<sup>5</sup>

### 2.2.1 *Reliability*

The main advantage of this method is its reliance on a sound and up-to-date game-theoretical foundation (*Buccirossi et al.* 2008: 465; *Davies & Ormosi* 2010: 14; *Budzinski* 2011). Furthermore, the accuracy of the underlying model can be tested through the calibration with real market data. This is in particular true for an ex post analysis. Only a fine-tuned calibration of the estimated model to the characteristics of the underlying market will reproduce the actual market development (*Buccirossi et al.* 2008: 465). In contrast to ex ante simulation where the extrapolation of the pre-merger market model to the – at the time of the decision – hypothetical post-merger equilibrium generates several shortcomings regarding the predictive power of simulation models (*Budzinski & Ruhmer* 2010; *Budzinski* 2011), ex post simulation alleviates many of these limitations. Insofar, criticism that this method requires a large set of assumptions whose fit to the actual market is sensitive for the reliability of the results (*Buccirossi et al.* 2008: 466; *Davies & Ormosi* 2010: 14) appears to be more fitting to ex ante simulations as to ex post simulations. This can actually be controlled rather well. Furthermore, the accuracy of the assumptions made at the time of the decision/intervention by the competition authority can be evaluated with this method (*Davies & Ormosi* 2010: 14).

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<sup>3</sup> Due to space limitations, this criterion is left out in this paper version. It will be included in a forthcoming, substantial longer version.

<sup>4</sup> For overviews, see *Buccirossi et al.* (2008: 465-466); *Budzinski & Ruhmer* (2010: 312-314); *Davies & Ormosi* (2010: 12-15). For applications (examples), see *Nevo* (2000); *Pinske & Slade* (2004); *Peters* (2006); *Weinberg & Hosken* (2008).

<sup>5</sup> Merger simulations may also be used by the competition authority when deciding upon a merger (overview: *Budzinski & Ruhmer* 2010). These ex ante simulations serve to predict the post-merger equilibrium, whereas ex post simulation compares the actual post-merger decision market equilibrium with counterfactual equilibria.

However, this is strictly true only for the actual market development. In order to assess whether the merger decision has been correct, the actual post-merger development must be compared to a counterfactual. It is one of the advantages of this method that it allows for simulating alternative scenarios (counterfactuals), corresponding to different changes in the underlying market environment (*Buccirossi et al. 2008: 465*). To some limited extent, the pre-merger market may provide guidance for the counterfactuals, however, more accurately, the model should be used to simulate alternative post-decision scenarios. These simulations, then, rely on the assumption that the underlying competition model would have been the same if the counterfactual scenarios actually happened. While this assumption may be true for many cases, it is well possible that a big merger impacts a market to an extent that it changes the fundamental nature of competition (*Budzinski 2011*).

In this context, it certainly is a shortcoming of this method that a reliable evaluation requires the underlying market to match one of the popular standard models of modern oligopoly economics, in particular the game-theoretic homogeneous Cournot oligopoly model (quantity competition with rather homogenous goods) or the game-theoretic heterogeneous Bertrand oligopoly model (price competition with differentiated products). If real-market competition differs from these standard models, the reliability of evaluation results suffers. Furthermore and therefore, ex post evaluation of merger decisions through structural models and simulation focuses on price and quantity effects. It tends to neglect other dimensions of competition, like innovation, repositioning, structural breaks, market entry, etc. (*Davies & Ormosi 2010: 14; Budzinski & Ruhmer 2010*). In particular, the inclusion of several of these dimensions and the interaction between the dimensions represent a near-to-impossible task (*Budzinski 2011*).

If done seriously and with a view to the limitations, however, structural models and ex post simulation produce reliable results, providing valuable insights in the accuracy of merger control decisions from an ex post perspective.

### 2.2.2 *Applicability*

The applicability range is firstly limited by the requirement that the relevant markets must be sufficiently matched by available structural models. As a result, the simulation method is skewed towards certain types of markets and suffers from a likely sample selection bias (*Davies & Ormosi 2010: 14*). Secondly, the extensive and ambitious data requirements regarding quantity and quality further narrow down the number of cases where this method can be applied for ex post evaluations (*Buccirossi et al. 2008: 466; Davies & Ormosi 2010: 14*). Furthermore, this method is said to be not applicable to cases involving behavioral remedies as a special type of merger clearances under conditions or with commitments (*Buccirossi et al. 2008: 465-466*). In summary, the restrictions regarding applicability are considerable.

### 2.2.3 *Resource intensity*

Structural modeling and simulation probably represents the most sophisticated method to assess competitive impacts. Moreover, the evaluation must be done on a case-by-case level. Consequently, it requires extensive agency resources to either engage in producing this type of ex post evaluations or commission respective studies. A full-blown ex post merger decision impact analysis involves high-end economic expertise, time-intensive data collection and generation as well as in most cases comprehensive cooperation from companies within the relevant market. While the latter can normally be enforced in the context of a merger decision without considerable problems, any cooperation of companies regarding ex post analyses is voluntary and may require some compensation.<sup>6</sup> Notwithstanding, simplified simulation approaches have been and are being developed ('back-of-the-envelope simulations') in order to reduce the

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<sup>6</sup> This is different, of course, if a competition policy regime can mandate companies to cooperate in ex post analyses.

resource intensity and data requirements. However, there is trade-off between ease of applicability and precision of estimated results (*Buccirossi et al. 2008: 465*).

### 2.3 *Difference-in-Differences*<sup>7</sup>

Difference-in-Differences (DiD) methods encompass roughly all methods that evaluate a merger control decision by comparing the post-decision performance of fundamental market data (like prices or market shares) with (i) the pre-decision market development and (ii) a control market, which is sufficiently similar to the relevant market but unaffected by the event (the merger control decision). Many studies belonging to this method are direct econometric analysis of price and market share evolution with the control market serving to isolate the impact of the merger control decision from other influences on prices and market shares (often called ‘external shocks’).

#### 2.3.1 *Reliability*

The charm of DiD methods is that they analyze actual observed data from the relevant product market. Thus, it represents an analysis of what actually happened on the post-decision market. Moreover, the counterfactual is also real and does not depend on untestable and restrictive (or even heroic) theoretical assumptions (*Davies & Ormosi 2010: 22*). However, the sensitive problem is to find a suitable control group (markets, companies, etc.) that is (i) close enough to the relevant market in order to display the same ‘external’ influences but (ii) sufficiently far away not to be influenced by the event (the merger control decision). Furthermore, the same ‘external’ influences must also exert the same impact on prices (etc.) in the relevant market and in the control market (*Simpson & Schmidt 2008; Davies & Ormosi 2010: 21-22*). While this is often challenging, modern econometric techniques provide suitable instruments to alleviate these problems – albeit, not erasing them.

Another issue with DiD methods is that they are inherently atheoretical (*Davies & Ormosi 2010: 22-23*). While this is a disadvantage in terms of understanding and learning from the evaluation results, it represents an advantage to the extent that complex competition dimensions that are rarely incorporated into modeling and simulation are implicitly accounted for by ‘just’ measuring the actual effects. However, this is only true to the extent that these competition dimensions (dynamic and evolutionary efficiencies of the competitive process) are reflected in measurable variables, like prices, elasticities, measures for the number and variety of products, etc.

#### 2.3.2 *Applicability*

The applicability is firstly constrained by the requirement of the existence of a sufficiently appropriate control group (*Davies & Ormosi 2010: 23*). Secondly, it is much more difficult to ex post evaluate merger prohibitions with this method compared to cleared mergers wherefore a selection bias to analyzing clearances is likely to occur. Counterfactuals can be more easily constructed with cleared mergers because the market development prior and after the merger provides guidance for evaluation (prior to the merger the counterfactual actually existed, albeit at a different point in time). In contrast, in case of prohibited mergers, the market development does not provide much guidance. How the market would have been with the merger cannot be inferred from any real situation, neither from the pre-decision period, nor from a control market (*Neven & Zenger 2008: 478*).

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For overviews, see *Bergman (2008: 394-396); Buccirossi et al. (2008: 466-467); Weinberg (2008); Davies & Ormosi (2010: 20-24)*. For applications (examples), see *Ashenfelter & Hosken (2011); Ashenfelter et al. (2011); Dobson & Piga (2011); Tenn & Yunn (2011)*.

On the other hand, from a data availability perspective, the range of applicability is rather comprehensive since the required data should be comparatively easily collectable for most markets. In summary, the most severe restriction appears to be the bias towards merger clearance decisions and, thus, towards detecting type-II errors (false allowances).

### 2.3.3 *Resource intensity*

Like structural modeling and simulations, DiD methods must be done on a case-by-case level and require sophisticated econometric knowledge. However, DiD analyses enjoy the advantage that they require comparatively fewer resources than simulations because of their atheoretical character (no sophisticated modeling is required) and the laxer data requirements. Furthermore, cooperation with companies in the market is usually not needed.

## 2.4 *Event studies*<sup>8</sup>

The basic concept behind event studies is that welfare effects of horizontal mergers can be evaluated by looking at the stock price reactions (abnormal returns) of the willing-to-merger companies (*Ellert* 1976) and, in particular, of the rivals of the merging firms (*Eckbo* 1983). In a nutshell, an increase in rivals' share prices implies an anticompetitive merger (price-increasing), a decrease implies a procompetitive merger (efficiency-enhancing).

### 2.4.1 *Reliability*

The event study method crucially relies on the efficient financial markets hypothesis (EFMH): if financial markets work perfectly and all actors on these markets act perfectly rational (actually: hyper-rational) under perfect information (or at least under full knowledge of all relevant information), then share prices instantly reflect the 'true' values to investors. Thus, changes in stock prices that occur as a reaction to merger decision-related events (merger announcement, announcement of investigation by competition authority, merger control decision) reveal the respective market assessment, which under the condition of the EFMH can be thought of reflecting unbiased and superior ('inside') information. However, the plausibility of the EFMH is questionable at best. Neither do agents on financial markets act hyper-rational, nor do the markets in total reflect superior knowledge about competitive effects that, furthermore, at the time of the stock market reaction lie in the future. The implausibility and fundamental flaws of the EFMH, actually well-accepted in modern financial economics, alone render this method inappropriate to base policy decision on it.

However, the reliability is further put into doubt (if still possible) by a couple of additional problems. For instance, ambiguities in interpreting the observed stock price changes (*Davies & Ormosi* 2010: 18), anticipation of events and their employment for evaluation purposes by the stock markets (especially if the EFMH would hold), and the unclear causal relationship of stock market movements with merger announcements and control decisions (*Neven & Zenger* 2008: 487). The fields of business activity that are affected by the merger decision must have a sufficiently high importance within the merging companies, which are oftentimes multi-product and multi-subsidiary-companies (i.e. groups of companies or concerns), whereas non-prohibition merger control decisions (which is the vast majority of decisions) usually merely affects few of the market involved. Furthermore, many studies assume a price-umbrella effect: rivals' profits benefit from an anticompetitive merger because of the 'rule of one price'. The price

<sup>8</sup> For overviews, see *Bergman* (2008: 392-394); *Buccirossi et al.* (2008: 467-469); *Davies & Ormosi* (2010: 15-20). For applications (examples), see *Ellert* (1976); *Eckbo* (1983, 1992); *Stillman* (1983); *Eckbo & Wier* (1985); *Aktas, Bodt & Roll* (2007); *Duso, Neven & Röller* (2007); *Diepold et al.* (2008); *Serdarević & Teply* (2009); *Duso, Gugler & Szücs* (2010); *Duso, Gugler & Yurtoglu* (2011).

for all companies in the market increases. In contrast, rivals' profits suffer from a procompetitive merger because the merged entity is more efficient now. However, this refers to a specific oligopoly model (quantity competition with homogeneous goods) that (i) hardly reflects the nature of competition in many merger markets (heterogeneous product markets) and (ii) may not be the way that financial markets' agents think about competitive effects from mergers. Consequently, a sound theoretical foundation, rooted in modern competition economics, is missing.

Eventually, stock price reactions to merger announcements do not actually represent an ex post evaluation as they happen before or at the time of the merger decision. With the exception of the stock market reactions to the final merger control decision, the information is available to competition authorities during the decision process.<sup>9</sup>

In summary, the event study method fails to meet the knock-out criterion of providing a sufficient minimum reliability. There is no indication that financial market reactions represent an accurate prediction of the competitive effects, however, there is ample indication to the contrary.

#### 2.4.2 *Applicability*

The applicability is promoted by easy-to-access data (stock market prices). An obvious – but also practically relevant – limitation is that merging companies and their rivals need to be stock market companies with a sufficient trade volume and frequency (*Davies & Ormosi* 2010: 20). Furthermore, non-horizontal mergers are difficult to assess because of the many and ambiguous ways that anticompetitive or procompetitive effects can affect the relevant markets.

#### 2.4.3 *Resource intensity*

Event studies can be done on large samples of mergers and without looking into many case details they can still provide results about type I and type II errors on a case level. The event study method does require econometric expertise. However, the easy access to data and the lack of theoretical modeling imply that comparatively few resources are needed to conduct these studies. Furthermore, cooperation with companies in the market is not needed.

### 2.5 *Surveys*<sup>10</sup>

Survey-based ex post impact evaluations are merger decision reviews based on follow-up questionnaires and/or interviews. Two types can be distinguished. Firstly, the opinions and perceptions of involved companies (merging parties, competitors, suppliers, customers, etc.) and other interested parties are collected. Secondly, surveys among experts, peers and/or among practitioners can be conducted.

#### 2.5.1 *Reliability*

The economics rationale behind conducting survey-based impact evaluations is rooted in information asymmetries. If market participants in the first type or experts and peers in the second type have superior explicit and/or tacit (ex post) knowledge about the impact of a merger decision on the underlying competitive process, then questionnaires and interviews serve to collect and reveal this knowledge to the

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<sup>9</sup> Competition authorities have additional information (internal documents, etc.) and are better informed than the stock market. Thus, they may decide deliberately and for a reason not to follow stock market reactions (*Neven & Zenger* 2008: 487).

<sup>10</sup> For overviews, see *Buccirossi et al.* (2008: 469-470); *Davies & Ormosi* (2010: 24-25). For applications, see *PricewaterhouseCoopers* (2005); *Deloitte* (2009).

evaluators. The nature of the asymmetric information implies an atheoretical character of this method, which at the same time means that all types of competitive effects, whether quantitatively measurable or not, can be potentially be captured.

On the downside, surveys depend on the assumption that insiders and/or experts (i) actually have superior information and (ii) are willing to offer these information without strategic distortions. The danger of a respondent bias is particularly high in the case of market participants because they will rationally anticipate that their information influences future merger control decisions. At first sight, expert commentaries should be less prone to respondent bias, however, this is only true when the expert has no party interest and is not looking for future assignments either from norm addressees or the competition authority.

Another issue refers to the number of potential survey participants. Since individual opinions are rather likely to suffer from strategic or cognitive perception biases, a sufficiently large number of potential respondents is required. Regarding expert commentaries, this implies that case reviews by single experts are less valuable than surveys among a larger number of experts.

### 2.5.2 *Applicability*

This method is applicable to all types of merger cases and demands virtually no data requirements. Thus, this method can also be applied when virtually no ‘hard’ data is available (*Buccirossi et al. 2008: 469*). The applicability may be limited because of low respondent rates, however. Although this method has so far predominantly been done to assess the total performance of a competition authority (benchmarking, best practices) and not to evaluate merger decision on a case level (*Davies & Ormosi 2010: 25*), both types (insider-based and experts-based surveys) can also be applied to evaluate single cases. Once the relevant questionnaires are available, it is comparatively easy to repeat the survey, so that this method is also realistically dynamically applicable in order to capture more long-run effects and changes.

### 2.5.3 *Resource Intensity*

Developing questionnaires, conducting interviews, motivating respondents and professionally analyzing the responses require manpower and statistical expert knowledge. However, the resource intensity is comparatively low.

## 3. **Conclusions and recommendations**

With a view to the potential benefits and pitfalls of ex post evaluations of the impact of merger control decisions, two main problem areas must be considered:

- the danger of employment of insufficiently reliable methods, and
- excessive expectations from and/or interpretations of evaluations.

The first issue, employment of insufficiently reliable methods, highlights the higher importance of minimum reliability standards for employed methods compared to applicability and resource intensity arguments. Obviously, all methods can be designed and executed in inaccurate and insufficient ways. Therefore, this is not the issue at hand. Instead, the question is whether any method in question produces minimum reliable results *given* a serious and accurate employment. Since all described methods display strengths and weakness, the literature consequently favors employing a method-mix (*Buccirossi et al. 2008; Davies & Ormosi 2010: 25-26*). While *Davies and Ormosi (2010)* emphasize the benefits of

employing alternative methods to the same cases in order to learn from differences in the assessment, *Buccirossi et al. (2008)* put a stronger focus on relating the methods to case types that suit their individual strengths and weaknesses. Furthermore, they emphasize the role of surveys. “Whenever feasible, a survey should always be carried out to add insights and help the interpretation of the results obtained through other techniques, as well as to investigate some aspects of the development of a market that are difficult to understand from hard data” (*Buccirossi et al. 2008: 469*). While principally agreeing to advocate methods-mixes, my analysis deviates from the results of the previous literature by rejecting the event study method due to a lack of reliability (see section 2.4). As argued in section 2.1, if a technique is not sufficiently minimum reliable, it cannot contribute to better evaluation within any method-mix. Instead, it might generate harmful effects (increase in type I and type II errors), in particular if combined with a feasibility bias.

The second issue deals with expectations about impact evaluation results and their interpretation. Since neither perfect methods nor a perfect method-mix are available, a cautious approach towards ex post evaluation of merger decisions seems appropriate.<sup>11</sup> It should focus on generating knowledge and learning about actual effects of merger decisions. However, the focus should be not so much on counting mistakes or successes of competition authorities. Instead, it should focus on how both the merger control framework and the decision practices can be improved for future decisions. The reason for this shift in focus is threefold. Firstly, attempting to record the past mistake-success-balance of competition authorities requires to strictly acknowledge the original constraints for the decision (timeframes, available resources, available information, institutional flaws, standard of proofs, etc.). If an ‘erroneous’ decision was due to such constraints, the competition authority cannot really be blamed. However, secondly, such an approach overburdens the available methods and, moreover, limits the learning potential from ex post evaluations. Thirdly, if ex post evaluation is driven by the desire of external accountability of the competition authority, then a rational behavioral response of the authority would be to maximize evaluation success instead of consumer or social welfare.

It is more beneficial to conduct ex post merger decision impact evaluations with a focus on broad learning about all the effects of these decisions (irrespective of contemporary decision constraints for the authority) in order to generate knowledge about improving the merger control framework *and* the actual decision practice. As this implies ‘learning from many cases for general policy’ instead of attempting to ‘conclude from single cases to other single cases’. Such an approach is also a better fit to the capacities of the available evaluation methods. For instance, if a result of many case studies is that anticompetitive mergers are allowed because the standard of proof and the allocation of the burden to proof are too ambitious for the competition authority to succeed in blocking such mergers, then consequences for the rules about proof standards and burdens should be drawn. I would be dissatisfying ‘only’ to conclude that the competition authority committed no mistakes because it had no choice but to allow the anticompetitive merger due to institutional flaws outside its competence.

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<sup>11</sup> Much in the same spirit, *Davies and Ormosi (2010: 26)* emphasize the problems, shortcomings and limitations of all available evaluation methods rather than the merits and demand further research.

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**THE NEXT STEP IN THE DEVELOPMENT OF EX POST EVALUATION OF MERGER  
REVIEW PROCEDURES: TOWARDS MORE UNIFORM METHODOLOGIES  
WITH STAGED OPTIONS FOR IMPLEMENTATION**

*By Mr. Andrew I. Gavil \**

## 1. Introduction

There is now a rich body of commentary touting the benefits of *ex post* review<sup>1</sup> of merger decisions by competition law enforcement agencies. Many commentators have argued persuasively that as a matter of good practice agencies should be willing to look back at their previous decisions, evaluate the results of their work, and utilize the lessons learned to improve future decision-making.<sup>2</sup> *Ex post* review can also have broader policy implications if it reveals that the standards imbedded in specific laws, regulations, or interpretations used by agencies, systematically over- or under-deter harmful mergers. It is thus broadly consistent with the OECD Guiding Principles for Regulatory Quality and Performance, which include a direction that members “[r]eview and strengthen where necessary the scope, effectiveness and enforcement of competition policy,”<sup>3</sup> and the OECD Recommendation on Competition Assessment.<sup>4</sup>

Advocates of *ex post* review identify both “internal” and “external” benefits of the practice. Internally, *ex post* review can build agency capacity. It can also provide valuable feedback on the agency’s methodologies and judgments in previous merger reviews, feedback that can be used to inform future review, *i.e.*, to improve agency performance. Externally, to the degree it validates the quality of an agency’s work product, *ex post* review can enhance an agency’s authority as a competition advocate, promote public acceptance and support for its work and for competition more broadly, and strengthen the agency’s case for government funding.<sup>5</sup> As evidence of this growing consensus, a number of agencies have begun to implement *ex post* review, with some very promising results.

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<sup>1</sup> In this Paper, I will refer to “*ex post*” and “retrospective” review or evaluation interchangeably.

<sup>2</sup> Commissioner William E. Kovacic was an early and vocal advocate of the practice. See, e.g., William E. Kovacic, *Using Ex Post Evaluations to Improve the Performance of Competition Policy Authorities*, 31 J. Corp. L. 503 (2006); William E. Kovacic, *Evaluating Antitrust Experiments: Using Ex Post Assessments of Government Enforcement Decisions to Inform Competition Policy*, 9 GEO. MASON L. REV. 843 (2001).

<sup>3</sup> OECD GUIDING PRINCIPLES FOR REGULATORY QUALITY AND PERFORMANCE 7 (2005), available at <http://www.oecd.org/dataoecd/19/51/37318586.pdf>.

<sup>4</sup> For the formal Recommendation, as well as related links, see OECD, RECOMMENDATION ON COMPETITION ASSESSMENT, 22 October 2009 - C(2009)130, available at [http://www.oecd.org/document/10/0,3746,en\\_2649\\_40381664\\_44080714\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/10/0,3746,en_2649_40381664_44080714_1_1_1_1,00.html).

<sup>5</sup> Some concern has also been expressed, however, that transparency in the event of *ex post* review that divulges agency error could have the opposite effect, undermining agency credibility and support.

With the emergence of a seemingly high degree of consensus that such reflective, self-review should be a “best practice” for any well-functioning agency, attention has turned to the more specific details of implementation. What are the best methodologies available for conducting *ex-post* reviews? What conditions tend to optimize the likelihood that *ex post* review will produce valid results and lessons? How can the necessary data be secured? Who will conduct such reviews, independent academics, agency staffs, outside consultants, or some combination of these in partnership? How will reflection translate into institutional advancement and improved future decision-making? These are the questions that we have been charged to address in our Roundtable.<sup>6</sup>

In this paper, I would like to make three points:

- First, Step 1 in the discussion of retrospective merger evaluation is now complete. There is a widespread consensus supporting the value of retrospective review as a “best practice” for competition law enforcement agencies. As the Roundtable participants have been invited to do, it is time for the competition policy community to move on to “Step 2” -- refining methodologies and implementing more uniform and consistent approaches to retrospective review.
- Second, given the wide range of methodologies available, it would be helpful at this juncture to undertake a cooperative, transnational effort to catalogue and synthesize the current “state of the art” in retrospective review of mergers. The goal would be to better define and describe various techniques, their strengths and weaknesses, and their fit for specific industries, tasks, and data sets. The end result could be a “Best Practices Handbook” that could provide a more uniform basis for retrospective studies, permitting more cross-border comparisons, and promoting more uniform merger review.
- Third, in moving towards a definition of “best practices,” consideration should be given to the specific needs and resource limitations of various competition law enforcement agencies. As has been true with respect to the specification of competition law prohibitions and the design of competition policy institutions, “one size won’t fit all.” The literature to date and the gathering experiences of agencies that have undertaken *ex post* merger review suggest that it may be possible to conceive of varying “levels” or “stages” of review that would be productive, yet scaled to the resources and needs of various agencies.

## 2. The next step in the development of *ex post* merger review

Over the last decade there has been significant growth in both commentary promoting the use of retrospective merger evaluations and actual studies. Growth of interest in undertaking such studies has paralleled significant advances in the economic analysis of mergers, such as merger simulations, critical loss analysis, diversion ratios, and most recently the gross upward pricing pressure index, all of which have complemented traditional tools like market definition and presumptions based on levels of market concentration.<sup>7</sup> These various economic and legal tools all share a common goal: to facilitate the best predictions possible of the likely effects of a merger that has yet to occur. Questioning the value of

<sup>6</sup> For a survey of a number of merger retrospective studies conducted in the U.S., see Graeme Hunter, et al., *Merger Retrospective Studies: A Review*, 23-Fall ANTITRUST 34 (2008). For an additional collection of citations to the relevant literature, see Orley Ashenfelter & Daniel Hosken, *The Effect of Mergers on Consumer Prices: Evidence from Five Mergers on the Enforcement Margin*, 53 J.L. & ECON. 417, 423-24 (2010).

<sup>7</sup> There may not be any simple, binary choice between old and new methodologies. For an argument that merger simulation models may work best when combined with traditional merger concentration criteria, see Oliver Budzinski & Isabel Ruhmer, *Merger Simulation in Competition Policy: A Survey*, 6 J. COMPETITION L. & ECON. 277 (2010).

predictive tools is not a new sport. A great deal of literature exists, for example, questioning the association of very high degrees of concentration with anticompetitive performance. Because all of these tools are necessarily predictive, it is fair to ask how well they work.

Consensus has now developed that one way to test both traditional and more modern economic approaches is to more frequently conduct retrospective evaluations of agency decisions about mergers. As is evident in the charge fashioned by the Roundtable organizers, however, the time is ripe to move beyond discussion of *whether* such reviews are useful, to focus more narrowly on *how* they can best be done. This leads to my first recommendation: that the “next step” in the development of retrospective review should be a transnational effort by competition law enforcement agencies to prepare a “best practices” manual. The primary goal of such a document would be to help define more uniform methodologies for implementing quality *ex-post* review – to synthesize the current “state of the art.” Such a project could be conducted under the auspices of an organization such as the OECD<sup>8</sup> or the ICN,<sup>9</sup> or independently. As is further discussed in Part II, below, the “deliverable” would define some global standards for effective retrospective merger review studies.

Reviewing the submissions of the Delegates for this Roundtable, however, it is quickly clear that while all agree that *ex-post* review would be beneficial, a significant number of agencies have not undertaken such reviews due to lack of human and financial resources, lack of specific authority, or both. Some also report very minimal levels of merger review activity, which means they face both a small sampling pool to study and minimal benefits given the costs. In contrast, some of the largest, best-funded, agencies with the most experience in conducting merger reviews have embraced wide-ranging evaluation programs, sometimes pursuant to government mandates that require them to conduct periodic assessments of their work product and to quantify the consumer benefits of their actions. Some of these agencies thus go beyond *ex post* merger analysis to include reviews of agency actions with respect to other kinds of potentially anti-competitive conduct.<sup>10</sup> While this sort of sophisticated and resource-intensive analysis may be a genuine option for the most advanced and well-funded agencies, it may not be a realistic alternative for many others.

An essential question to ask in this next stage of development of the discussion of *ex post* review, therefore, is whether – and if so, how – a range of reasonably valid, standardized models can be developed to meet the needs and the budgets of different agencies. Rather than discouraging resource-limited agencies from undertaking the effort if they are not able to follow “state-of-the-art” review practices, perhaps more simple models could be developed. While not perfect, these “first stage” review models may still be instructive and may help to build capacity. The end result would be a more tailored approach to *ex post* review. As part of the effort described above to define best practices for all agencies, one can envision a set of options – “modules” – that would be constructed around standardized methodologies of varying complexity and requiring different kinds and levels of resources. The various modules might also come with training kits that would help guide agencies in implementing the modules. Some examples are described below in Part III.

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<sup>8</sup> For a possible model, see the Competition Assessment Toolkit that was developed in support of the OECD Recommendation on Competition Assessment. *See* [http://www.oecd.org/document/48/0,3746,en\\_2649\\_40381664\\_42454576\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/48/0,3746,en_2649_40381664_42454576_1_1_1_1,00.html)

<sup>9</sup> For a possible model for such a guide, see International Competition Network, MARKET STUDIES GOOD PRACTICE HANDBOOK (Draft Apr. 2010), *available at* <http://www.internationalcompetitionnetwork.org/uploads/library/doc646.pdf>.

<sup>10</sup> *See, e.g.*, European Commission, *DG Competition Management Plan 2011*, Annex 3 (discussing DG Comp “Evaluation Plan”), *available at* [http://ec.europa.eu/atwork/synthesis/amp/doc/comp\\_mp.pdf](http://ec.europa.eu/atwork/synthesis/amp/doc/comp_mp.pdf).

### 3. Towards standardized methodologies for *ex post* merger review

The initial question in *ex post* review is “what is to be studied?” In countries that have pre-merger notification systems, attention is likely to focus on mergers that have been presented for review through the notification process, even though that likely represents but a subset of the general pool of mergers in the jurisdiction. Pre-notified mergers can be (1) challenged outright and blocked; (2) permitted outright; or (3) permitted with conditions, such as structural adjustments (divestitures) or behavioral restrictions (*e.g.*, commitments to continue dealing with rivals or customers on specified terms).<sup>11</sup>

In some jurisdictions, agencies also have the authority to challenge mergers that are not subject to notification “post-consummation.” In those cases, the decision to challenge is likely constructed on post-merger pricing and other evidence. The methodologies used in post-consummation merger analysis, therefore, may be relevant to *ex post* review of pre-consummation merger enforcement decisions. In either instance, the goal will be to compare actual post-merger performance with pre-merger benchmarks. *Ex post* review of post-consummation challenges also might be relevant and helpful in evaluating future decisions about whether to initiate additional post-consummation challenges. Such reviews could seek to evaluate the ultimate accuracy of arguments asserted by the parties as to both actual effects and efficiencies with the benefit of additional resources and a longer time horizon.

Most often, *ex post* reviews have focused narrowly on specific transactions that were permitted to go forward after extensive review.<sup>12</sup> But some have also sought to analyze whole industries in which merger activity has recently occurred or been proposed.<sup>13</sup> Most case studies tend to focus on mergers that were permitted, because the counterfactual is in theory readily ascertainable in the form of the pre-merger industry. Provided other influences can be isolated, a “before-and-after” study can be attempted to determine whether the agency’s decision to permit the merger was correct measured by post-merger price effects.<sup>14</sup> While the most obvious focus of these studies has been price effects,<sup>15</sup> some studies have also focused on quality effects, which in one case were urged by the merging parties as a justification for the merger when it was undertaken.<sup>16</sup> Retrospective studies also can focus on the efficacy of specific remedies in transactions permitted to go forward with conditions, such as divestitures.<sup>17</sup>

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<sup>11</sup> In many jurisdictions, agency discretion is limited by judicial oversight, as with agencies who must seek court injunctions to block mergers and agencies whose decisions are subject to judicial review. In such cases, assessment of judicial performance might be an implicit component of *ex post* evaluation.

<sup>12</sup> See *supra*, note 7 (sources collecting many examples).

<sup>13</sup> See, *e.g.*, Viola Chen, FTC Working Paper No. 297, *The Evolution of the Baby Food Industry 2000-2008* (Apr. 2009), available at <http://www.ftc.gov/be/workpapers/wp297.pdf> (studying the baby food industry following the government’s successful challenge to the proposed merger of Beech-Nut and Heinz, but specifically reserving judgment on the likely path of the industry had the merger been permitted to go forward); Joseph Farrell, et al., *Economics at the FTC: Retrospective Merger Analysis with a Focus on Hospitals*, 35 REV. INDUS. ECON. 369 (2009).

<sup>14</sup> Given the difficulty of isolating all factors that might influence price, these studies often utilize a “difference-in-differences” methodology, which uses a control product or location to help isolate cause and effect. For an explanation of the method, see Hunter, et al., *supra* note 7, at 34-35. For a relatively sophisticated application of some of the principals developed through “difference-in-differences” methodology, see Ashenfelter & Hosken, *supra* note 7.

<sup>15</sup> For a survey of the studies focused on price effects, see Matthew Weinberg, *The Price Effects of Horizontal Mergers*, 4 J. COMPETITION L. & ECON. 433 (2008).

<sup>16</sup> See David J. Balan & Patrick S. Romano, Working Paper No. 307, *A Retrospective Analysis of the Clinical Quality Effects of the Acquisition of Highland Park Hospital by Evanston Northwestern Healthcare* (Nov.

As Professor Dennis Carlton has persuasively argued, *ex post* review should not and cannot stop at price effects, however. Given that one of the critical determinants of agency decision-making is the quality of predictions agency economists and lawyers make about the likely effects of a merger, *ex post* evaluation must identify and critically evaluate those assumptions. As Carlton asserted, “[t]here are two types of data one requires in order to perform such an analysis. One is data on the relevant market pre and post merger. The second is data on the *specific predictions of the government agencies about the market post-merger.*” Carlton argues that “retrospective studies that ask whether prices went up post merger are surprisingly poor guides for analyzing merger policy. It is only when the second type of data is combined with the first type that a reliable analysis of antitrust policy can be carried out.”<sup>18</sup>

Others have emphasized the importance of what might be described as the *collateral* effects of a merger decision. Agency decision-making is likely to affect the likely future incentives of *all* industry and non-industry participants, including those who may be considering mergers. How does agency policy with respect to some mergers affect decision-makers in the same or other industries who may be contemplating mergers? These kinds of effects directly relate to and include an assessment of the *deterrent* effect of merger enforcement policy. The impact of a given regime’s perceived merger policy will likely be reflected in the advice given by attorneys and economic consultants to parties contemplating mergers, and it will affect their strategic planning.<sup>19</sup>

The second question is “how to study it?” The choice of method is influenced by at least five factors: (1) perception of reliability and fit; (2) availability of data; (3) importance of the industry; (4) likelihood that merger activity will repeat in the industry, and (5) resources, human and financial. Many of the case studies conducted thus far have focused on heavily regulated industries, owing in large part to the availability of public data.<sup>20</sup> The selection of cases for study might also be influenced by the perception that certain cases were “close calls.” Agency judgment is most obviously on display on these close call cases, which might involve a decision not to challenge or mergers that are permitted to go forward on condition. Given that conditions, both structural and behavioral, reflect very specific assumptions made by the agencies about the likely course of future competition, they may make inviting subjects of later study. Moreover, because the conditions are likely to be a product of negotiation between the parties, they may not represent the “ideal” remedy the agency might prefer in any given case. So *ex post* review could be very valuable in assessing the efficacy of these “compromise” remedies and could inform future negotiated settlements.

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2010), available at <http://www.ftc.gov/be/workpapers/wp307.pdf> (evaluating the quality effects predicted by the merging parties as a justification for the merger and finding a lack of evidence that they were realized).

<sup>17</sup> See, e.g., Steven Tenn & John M. Yun, Working Paper No. 296, *The Success of Divestitures in Merger Enforcement: Evidence from the J&J-Pfizer Transaction* (Apr. 2009), available at <http://www.ftc.gov/be/workpapers/wp296.pdf>.

<sup>18</sup> See Dennis W. Carlton, Economic Analysis Group Discussion Paper No. 07-15, *The Need to Measure the Effect of Merger Policy and How to Do It* (Dec. 2007)(emphasis added), available at <http://www.justice.gov/atr/public/eag/228687.pdf>. For a later version of the paper, see Dennis W. Carlton, *Why We Need to Measure the Effect of Merger Policy and How to Do It*, 5 COMPETITION POL’Y INT’L 77 (2009).

<sup>19</sup> The point made here is arguably implicit in the survey of merger practitioners reported in Carl Shapiro & Jonathan B. Baker, *Reinvigorating Horizontal Merger Enforcement*, in *HOW THE CHICAGO SCHOOL OVERSHOT THE MARK* 235 (R. PITOFSKY ED. 2008).

<sup>20</sup> “Most existing studies are of three historically regulated industries where pricing data are publicly available: airlines, banking, and hospitals.” Ashenfelter & Hosken, *supra* note \_\_\_, at 423.

As a way to strike a reasonable balance among these various factors, some agencies have focused in on specific industries, conducting repeated studies as they build their expertise. For example, due to a likely convergence of several factors, such as availability of data, incidence of mergers, lack of success in the courts, and consumer impact, the staff of the U.S. FTC's Bureau of Economics has conducted a number of recent retrospective studies of hospital mergers.<sup>21</sup> They have similarly focused on the petroleum industry on more than one occasion.<sup>22</sup>

What, then, might the "ideal" retrospective study tell us? Minimally, it might reveal whether the permitted merger resulted in higher prices, reduced quality, or other immediate anticompetitive effects. It might also evaluate the impact of the merger on the industry – how did it alter the behavior of other firms in the industry? Did entry or expansion occur? Did the merging firms or other firms pursue additional mergers and if so with whom? It might also examine the merging firms' claims of efficiency to see whether they were in fact realized, and if so, to the degree promised. It might further study whether if realized those efficiencies were passed on to consumers. It might also evaluate the impact of the merger on more dynamic considerations, such as incentives to innovate. And finally, it could reveal the accuracy of the predictions of agency economists and lawyers. That might in turn expose something of the utility of the tools they used to formulate their views. Taken together, as the saying goes, that is a "tall order."

One last observation. Much of the literature on *ex post* review has focused on its immediate benefits for agencies. But there is a more global goal that can also be served, especially through an effort to define more uniform standards and protocols. Through such an undertaking, competition policy systems can collectively promote convergence of standards and uniformity of treatment of mergers – an especially valuable goal with trans-national mergers. More standardized models might promote more standardized approaches to merger review, and in turn, more consistent and defensible decisions across jurisdictions.

#### 4. Matching methods to means: Staged implementation of *ex post* review

As already discussed, one challenge in developing the "state of the art" is that not all agencies will be equally well-suited to undertake the effort. The "ideal" described above, will be little more than a dream for many, without any hope of realization. If that is the only model available, many jurisdictions will simply abandon the effort, despite their appreciation for its value. Are there other options? Here I will briefly discuss four, although mostly my intention is to challenge others to continue thinking about the options that may be available.

- *Simplified Difference-in-Differences Models*. Many of the price effects-focused case studies that have been conducted have utilized variations of the "difference-in-differences" model. It is worth

<sup>21</sup> See, e.g., David J. Balan & Patrick S. Romano, Working Paper No. 307, *A Retrospective Analysis of the Clinical Quality Effects of the Acquisition of Highland Park Hospital by Evanston Northwestern Healthcare* (Nov. 2010), available at <http://www.ftc.gov/be/workpapers/wp307.pdf>; Aileen Thompson, Working Paper No. 295, *The Effect of Hospital Mergers on Inpatient Prices: A Case Study of the New Hanover-Cape Fear Transaction* (Jan. 2009), available at <http://www.ftc.gov/be/workpapers/wp295.pdf>; Deborah Haas-Wilson & Christopher Garmon, Working Paper No. 294, *Two Hospital Mergers on Chicago's North Shore: A Retrospective Study* (Jan. 2009), available at <http://www.ftc.gov/be/workpapers/wp294.pdf>; Steven Tenn, Working Paper No. 293, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction* (Nov. 2008), available at <http://www.ftc.gov/be/workpapers/wp293.pdf>.

<sup>22</sup> See, e.g., Louis Silvia & Christopher T. Taylor, Working Paper No. 300, *Petroleum Mergers and Competition in the Northeast United States* (Apr. 2010), available at <http://www.ftc.gov/be/workpapers/wp300.pdf>; John Simpson and Christopher T. Taylor, Working Paper No. 278, *Michigan Gasoline Pricing and the Marathon - Ashland and Ultramar Diamond Shamrock Transaction* (July 2005), available at <http://www.ftc.gov/be/workpapers/wp278.pdf>.

asking whether, under conditions that could be specified, there are rudimentary ways of implementing that basic methodology. Are there baseline controls that can be imagined? Publicly sourced data that could be used for certain industries? Simple product combinations? Perhaps there are ways that this common model could be adapted to produce reasonable results with more modest data and resources.

- *Event studies*. While subject to limitations, event studies have proven to have some value in evaluating the effects of mergers.<sup>23</sup> As with “difference-in-differences” studies, if simplified models could be developed for event studies, they might provide a promising option for retrospective review in resource limited jurisdictions. To control for other possible causes, they might work best for mergers of single product firms in publicly traded companies, where publicly available data can easily be sourced.
- *Internal piggy-backing*. At least one of the Delegates reported using the occasion of new mergers to evaluate previous ones in the same industry. With this approach, an agency can consciously take full advantage of the data provided by a new merger to look back and assess its previous decisions. Doing so solves two problems facing the agency: resource and data limitations. Although the practice could be subject to objection by the later merging parties if they perceive the agency’s demands for information as overly broad and unnecessary for evaluating their merger, it could be a creative and cost effective solution for agencies facing repeat mergers in specific industries.
- *Seed-planting*. One final technique that may be relevant for any jurisdiction is identifying candidates for retrospective review at the time of initial review – and planting some seeds for future observation. Candidates for future reflection are not all that difficult to identify. The most obvious candidates will be transactions that are permitted on condition – by definition, these are “close call” cases. And the conditions reflect very specific assumptions about what will and will not solve the competitive problems likely to arise from the merger. In that event, some of the included conditions, such as reporting requirements, could specifically be designed to facilitate future evaluation of the effectiveness of the conditions. Even without concessions for future data, in “closing the file,” the agency could internally prepare the foundation for later, retrospective study, by documenting its greatest concerns and identifying the steps to be taken in the future to test them.

## 5. Conclusion

In this Discussion Paper, I have sought to identify two steps that could be taken as *ex post* merger review moves towards maturity as a competition policy “best-practice.” First, an effort could be undertaken to define the current “state of the art,” by preparing a best practice guide or handbook on the performance of various types of retrospective review. I have suggested, however, that if such a project is launched, one of its guiding principles should be that “the perfect should not be the enemy of the good” – while optimal models may be useful for some, efforts should be devoted to developing a range of models that could be utilized by agencies of varying levels of experience and resources. In this way, *ex post* review can continue to move from the conception phase to the design and implementation phase as an inclusive, not an exclusive process.

<sup>23</sup>

See, e.g., Tomaso Duso, et. al, *Is the Event Study Methodology Useful for Merger Analysis? A Comparison of Stock Market and Accounting Data*, 30 INT’L REV. L. & ECON. 186 (2010).





## SUMMARY OF DISCUSSION

*By the Secretariat*

Competition Committee Chairman Frédéric Jenny proposed to organise the discussion around the following topics:

- How can competition authorities use *ex-post* reviews of their merger decisions as a quality control tool?
- How can competition authorities use *ex-post* evaluation for advocacy purposes?
- What can be done to help a larger number of authorities become involved in these exercises and could the OECD help by developing best practices or a toolkit?

He then introduced the expert speakers: Ms. Cristiana Vitale, an economist with the consultancy LEAR, who was invited to share her experience in conducting *ex post* reviews; Prof. Oliver Budzinski from the University of Southern Denmark, who wrote a paper for this roundtable on the methodological aspects of *ex-post* evaluations; and Prof. Andrew Gavil from Howard University Law School, who was asked to discuss whether it would be feasible to develop some best practices in this area.

### 1. *Ex-post* reviews of merger decisions as a quality control tool

Prof. Budzinski started his presentation by reminding the delegates that the evaluation of merger decisions plays a double role: 1) it is a quality control tool; and 2) it is an advocacy tool. He argued that the main reason for conducting *ex-post* evaluations of merger decisions is to determine whether the agency made the correct decision, which implies assessing whether the conclusions on which a specific merger decision was based were justified in light of the evidence available at the time. He mentioned that *ex-post* evaluations can also be used to determine whether the aggregated welfare effects generated by the merger control regime justify the resources required to operate it and hence can be used to justify the existence of such a regime. Prof. Budzinski explained that he would focus only on the first of these two reasons. In particular he would focus on the evaluation methodologies available and on how to choose which one to adopt.

He argued that three criteria should be used in making such a choice: reliability, applicability, and resource intensity. Reliability refers to the ability of a method to identify whether the decision was the appropriate one. Applicability refers to whether a method is applicable in that specific context (i.e. appropriate given the specific characteristics of the market(s)). Resource intensity refers to the amount of technical expertise, data, time and other resources that a method requires. He added that reliability is the most important one. Hence, if a method is not sufficiently reliable it should not be adopted even if it scores well under the other two criteria.

Prof. Budzinski then examined the available evaluation methodologies one by one. Structural models are the most sophisticated approach. They require an economic model that describes how the affected market works. This model then has to be calibrated with empirical data in order to derive conclusions on how the merger would have affected the market.

He argued that this method has sound theoretical foundations, so it is very reliable. Moreover, he claimed that, even though this method requires a lot of assumptions about the type of competition, demand elasticities and the like, when adopted in the *ex-post* assessment of a merger the validity of these assumptions can be tested. Hence, the usual critique that this method is too sensitive to the assumptions made becomes less relevant when it is used in an *ex-post* evaluation. Further, this method is applicable to all types of merger decisions and it allows considering dynamic effects, such as innovation and efficiency gains.

However, structural models have shortcomings. They rely on standard oligopoly models and they cannot be used if competition in the market does not follow one of these models. In addition, they cannot capture any structural change in the market. Their biggest challenge, however, is the extensive data requirement and the sophisticated econometrics skills needed.

Prof. Budzinski then considered the difference-in-differences approach. This method consists in comparing the developments in prices, quantities, and other variables in the market where the merger has taken place with those in a “control market”, i.e. a market that is sufficiently similar to be subject to the same external shocks, but which will not have been influenced by the merger.

This method is, in principle, applicable to all types of mergers, and the data requirements are significantly less than for structural models, though still high. Its application requires good econometric skills. The biggest challenge posed by this method is to find an adequate control market. If such a control market cannot be found this method cannot be applied. For this reason it is very difficult to apply it to a prohibition decision. Indeed, finding a market that is comparable, and in which a merger has taken place so that it can be compared to the market where the merger was prohibited, will be possible only in exceptional situations.

Turning to event studies, Prof. Budzinski explained that this method relies on an analysis of the reaction of the stock market after a merger or a merger decision is announced. It assumes that financial markets are efficient and that they swiftly transfer any information they have into stock market prices. This, he argued, is a heroic assumption that financial economics dismissed a long time ago.

Furthermore, this method has limited applicability. It is necessary for the merging firms and their main competitors to be quoted on the stock market. Beyond that, its use is problematic in markets with differentiated products, as well as in mergers with foreclosure effects or in which other vertical or conglomerate effects play an important role.

Event studies require good econometric skills, but the data necessary to run them is limited and easily obtainable. Consequently, this method is easy to apply, but not very reliable. Prof. Budzinski warned against being lured by it.

The last method he discussed was surveys of market participants. This method does not rely on any economic theory. Surveys require a large number of respondents, which may not always be available. He added that the resources needed to run a survey are limited compared to other methods. Surveys require some expertise in statistical methods and in drafting questionnaires. Where not much market data is available, surveys might be the only helpful method. Their major shortcoming is that participants may answer in a strategic way, since they may consider that their answers might shape merger decisions in the future.

To conclude, Prof. Budzinski highlighted that a perfect method for *ex/post* evaluations does not exist. All methods have strengths and weaknesses, and therefore a combination of different methods is advisable. However, he cautioned against events studies.

Ms. Vitale explained that LEAR had been involved in the *ex post* evaluations of three merger decisions for competition authorities. In addition, LEAR consultants also prepared a report for DG Competition on the methodology for performing *ex post* evaluations of merger decisions. This report is available on the EU Website.

Ms. Vitale discussed the elements that, based on her experience, she considered to be important when performing an *ex post* evaluation.

First, the assessment should be complete. It should allow determining if the decision was appropriate, but also whether the analysis that underlies it was thorough and correct, given the information available at the time. Only in this way can an authority really improve its decision making process.

Second, since these assessments are resource-intensive and just a few decisions can be evaluated, it is important to choose them carefully. Close calls can be very useful decisions to examine, as it is likely that there is much to be learnt. Approval decisions are easier to evaluate, but it can be interesting to assess prohibitions and approval decisions with remedies. The time that has elapsed from when the decision was adopted is also quite important. If the decision is too recent, not enough time might have passed for the effects of the decision to materialise. But if too much time has passed, it could be more difficult to disentangle the effects of the decision from other market phenomena. It is also easier to obtain data from market participants if some time has passed. She mentioned three to five years as the right gap, depending on the nature of the market. In addition, the choice should take into account data availability: without enough data no analysis is possible.

Further, it is very important that a fresh pair of eyes performs the review. The same team that took the original decision should not do the assessment. Nevertheless, some help from this team will be required because of their knowledge of facts, data and documentation. However, a problem Lear often encountered is that no members of the original team were working in the authority three/five years after the decision.

Impartiality in the analysis is also quite important. Internal reviews sometimes can be biased, as authorities may not want to admit that they may have committed an error. In addition, it is necessary to have the appropriate quantitative skills. If a method is not properly implemented, the overall assessment becomes useless. These skills may not always be available internally. Moreover, review exercises can be quite time consuming. For all these reasons it might be advisable to have external consultant or academics perform the review.

Ms. Vitale added that surveys should always be carried out when an impact evaluation is done. They represent a check on quantitative assessments and they are also a good source of information, in particular on less easily measurable aspects such as the effects of a merger on quality and innovation. She added that surveys require expertise, as it is not an easy task to prepare a questionnaire, though it may seem so. Also, surveys require some statistical skills to ensure that the appropriate sample is used. However, if one surveyed competitors, suppliers and wholesalers, whose number is often not very high, it is often possible to survey the whole population, thus avoiding the difficulties associated with building the appropriate sample.

Ms. Vitale then turned to the last, and in her view most important, point -- the data requirements. The data needed depends on the empirical methodology and the empirical methodology depends on the data. Data requirements also are a function of the effects of the decision that the assessment will focus on, such as price effects or the impact on innovation. Data can be difficult to obtain. Sometimes data on prices and quantities can be bought or found through public sources, but not always. Data on quality, efficiency, and innovation are very difficult to obtain in most cases. Therefore, involving market players is important, maybe through a survey, because they have most of the necessary information.

A delegate from Norway asked the experts how smaller jurisdictions with fewer merger decisions could do *ex-post* reviews. Would it be useful to have qualitative reviews that compare a number of case studies over time or across countries and to compare different reviews already undertaken?

Prof. Budzinski replied that a small number of merger decision could be a particular problem when considering a study on the overall impact of merger review, but should be less of a problem if the goal is to analyse a single case. He confirmed that qualitative methods, such as surveys and expert commentaries, can be useful. Ms. Vitale added that every *ex-post* assessment will always have a qualitative component. She argued that both a quantitative and qualitative assessment should be done together to perform an accurate assessment, and that even from a purely qualitative study one can learn a lot.

A delegate from the UK explained that to date the two UK authorities had conducted four in-depth *post* evaluations of a number of merger decisions. One study had been done in-house by Competition Commission staff, while all the others were conducted by external consultants. These evaluations have looked at a mixture of conditional clearances, unconditional clearances and prohibitions. The analyses were both qualitative and quantitative, but for assessing the prohibition decisions only qualitative methods were used.

The most recent of these studies was commissioned by the CC and involved two cleared mergers in retail markets. These mergers had been selected because both the OFT and the CC receive a large number of retail merger references and they felt it was important to understand how to improve their decision making process in this area. Further, retail markets lend themselves very well to quantitative analyses, due to the availability of data. However, some practical issues had been encountered in obtaining the data, because commercial sources had proved very expensive. The lessons learnt from these *ex-post* evaluation exercises have been spread among the staff mostly through internal seminars.

A delegate from the Netherlands explained that in 2009 the NMa had undertaken an *ex-post* assessment on the price effects of two hospital mergers. One merger had been cleared in phase one, and the other had been cleared in phase two but it was a very controversial decision. The study showed that the first merger had not led to any price increase, while prices had risen between 3.5 and 5 per cent after the second merger. The NMa interpreted this outcome as an indication that the market power of the hospitals in the second merger increased as a result of the merger, and that the competitive constraints were not strong enough to counteract this increase. This indicated that the geographic market was probably smaller than the one used in the decision.

The assessment was based on the difference-in-differences method and it focused on the effects on prices, because data concerning quality was not available. The study was done internally because this reduced confidentiality issues (the price data was provided by the Dutch Health Department). It also gave the NMA's staff the opportunity to develop some experience in conducting this type of studies.

A delegate from Canada explained that the Competition Bureau had undertaken two *ex-post* studies with the aim of improving their decision making process.

For the first study, an economics consulting firm was hired to determine whether the Competition Bureau had correctly performed the analyses and took reasonable decisions in three separate merger reviews. The three decisions selected to be examined were chosen together with the consultants and the criteria used in selecting them were: 1) whether sufficient evidence had been gathered at the time of the review to formulate reasonably detailed predictions about likely competitive effects; 2) whether sufficient time had passed that the market(s) in question would have adjusted to the merger; 3) whether the market was not in a considerable state of flux at the time of (or after the merger) such that it would be difficult to determine the response of the market to the merger; 4) whether the participants would likely be willing to

be interviewed and provide useful information; and 5) whether useful public data about market conditions before and after the merger was available. The mergers analysed in this study had each raised material competition concerns, but the Competition Bureau had ultimately decided that the mergers did not merit a challenge before the Competition Tribunal or warrant seeking a remedy from the parties. In addition, the mergers selected were in three different industries. The study concluded that the Bureau's analyses had accurately assessed market conditions based on the information available at the time. The consultants put forward a number of observations and recommendations regarding the Bureau's merger analysis that the Bureau included in its recently published draft merger enforcement guidelines.

The second study assessed the effectiveness of the design and implementation of remedies imposed by the Bureau in 23 cases between 1986 and 2005. This study was resource intensive and was done in-house, although officers who had worked on the Bureau's original reviews were not involved. The analysis was purely qualitative. In particular, Bureau staff interviewed approximately 135 market participants. On the basis of the information obtained through the interviews, the team made a number of observations for the Bureau to consider in the future design and implementation of merger remedies.

The Chairman asked whether there was not a risk that in the first study the Bureau might have suggested cases where it felt comfortable that the review would not show any major shortcomings in the analysis. The delegate from Canada replied that such a choice would have generated little or no benefits from the study and that borderline cases that raised material competition concerns had been chosen for exactly this reason.

In connection with the second study the Chairman raised the concern that there was a risk that the market participants could have answered strategically because they knew that the outcome of the study would affect how the Bureau behaved in merger investigations. More generally he asked how one can avoid such a risk in any survey linked to *ex/post* evaluations.

The delegate from Canada explained that the identity of the interviewees was taken into account in assessing the value of the information provided, for example whether the information came from competitors or from a potential buyer that did manage to obtain the divested assets. Ms. Vitale added that LEAR had run quite a few surveys and that the information provided by market participants seemed accurate, since responses from different parties tended not to differ. Furthermore, in many markets mergers are rare; hence market players may not consider that their behaviour could affect future merger reviews.

The Chairman asked Ms. Vitale whether she believed that over time, if these surveys became more common, the issue could become more pronounced. He noted that companies could start consulting with their lawyers when receiving questionnaires and could behave more strategically. Ms. Vitale replied that this could indeed happen. So far LEAR had received responses to their questionnaires directly from the commercial divisions, who did not appear to have involved their lawyers. The only problem they had had with eliciting responses from market participants was that the parties to the merger never wanted to co-operate, probably out of fear that the review may reveal that the merger had had anticompetitive effects.

A delegate from Sweden explained that they also had some experience with *ex-post* evaluations and had faced data issues. He explained that the KKV does not have any legal powers to compel firms to provide data during *ex-post* assessments. Thus, in some cases they had had to buy the necessary data from commercial sources at a high expense. The delegate asked whether other jurisdictions have found a way to address this problem, or whether they had a legal provision enabling them to compel firms to provide data for *ex-post* analyses.

The UK delegate echoed this difficulty. The CC also had had to buy data for their most recent quantitative study, and had to forgo reviewing a third merger because no data was available from

commercial sources and the parties were not willing to provide it. Overall the CC has found that parties are more willing to co-operate in qualitative studies.

On this issue, the delegate from the US added that data collection is not always so difficult. For example, in a close call decision where the authority ultimately approves a merger on the ground that entry is very likely, or that an alternative technology would soon be commercially available, it is easy to verify whether it actually happened. A similar argument is valid in cases where efficiency claims were important in reaching the decision. Recently the FTC investigated a joint venture between two producers of heavy launch vehicles for satellites. The companies claimed that the scale of production was currently too small and that everyone would benefit from the joint-venture. It was easy to verify whether this claim was correct at a later date.

The Chairman said that in most merger cases the level of post-merger competition could depend on a complex set of factors, which would make it difficult to assess the impact of the merger. He stated that the examples provided by the United States might be useful to verify whether firms gave accurate information to the agency, but that in most actual cases it would not be so easy to assess whether competition had diminished following the merger decision. The US delegate replied that the parties typically make a number of arguments, but that in “close calls” there is frequently one key argument that determines the decision. Even though there are other factors at work in every case, in many instances an agency is forced to decide on the basis of one key argument and this is the one that could and should be assessed *ex/post*.

Ms. Vitale agreed with the Chairman’s statement that parties frequently raise a number of arguments. Often most of them prove correct (e.g. entry actually happened), but one does not know whether they were enough to counter the anti-competitive effects of the merger. However, she agreed that when a decision is a close call, authorities should clearly indicate which ones were the key arguments that drove the decision so that in the future it can be easier to verify whether they actually developed as it was assumed at the time of the decision. Nevertheless she claimed that often the *ex-post* assessment was not so easy and that the availability of data was an important factor in determining whether an *ex/post* assessment could be undertaken.

The US delegate added that this issue was closely linked to the care with which an agency defines why it is taking a specific decision. Parties will always bring numerous reasons why a deal should be approved, but an agency can screen these and identify the few that are really relevant. Therefore, in any decision it is important (and it pays later on) to spell out with great care the key arguments on which it was based, rather than hide behind a number of reasons.

A representative of the OECD Secretariat intervened. He agreed that a variety of circumstances could change following a merger decision and not all of them may be due to the decision itself. This is exactly what *ex-post* reviews are supposed to help understand. Merger decisions are all about making predictions. It is important to look back from time to time and check whether those predictions were right. Much can be learnt from these exercises. As an example he referred to the US submission, which discussed the *ex-post* evaluation of a hospital merger decision. This evaluation had found that the Elzinga/Hogarty test used in the decision had not made very accurate predictions. This was a very useful finding, which could help in future assessment of similar mergers.

A delegate from Norway explained that the Norwegian competition authority is required by law to retrospectively assess at least one merger decision every year, together with one cartel decision and one abuse of dominance decision. She pointed out that small jurisdictions are especially challenged by *ex-post* reviews because they often have a limited set of decisions to choose from. For example, over the last five years, the Norwegian competition authority examined only two mergers per year on average.

The Chairman returned to the US contribution and wondered what the contribution's message really was, because it gave plenty of reasons for undertaking *ex post* evaluations, but it also emphasised that such reviews can be very costly and difficult. A delegate from the US replied that *ex-post* evaluations are both useful and costly.

He further explained that the FTC performed most of their reviews internally and in general relied on the difference-in-differences method. The FTC could afford to do so because they have sufficient resources and, in particular, they have a large pool of highly skilled economists. Further, the FTC have a statutory mandate to undertake research, hence they can use their staff for these activities without having to penalise other activities. Hence, they do not have to hire external consultants. The FTC also believe that there are incentives internally not just to confirm that they have taken the right decision, but to really get the right answer and learn from past errors. Indeed, most of the FTC's retrospective analyses are published as working papers and often the authors also try to get them published in academic journals where they are subject to peer reviews.

The delegate also commented on Prof. Budzinski's views on event studies. He did not share such a negative view of this method. He claimed that before a merger was announced, there was some probability that a merger was going to happen, and when it is announced, that probability increases. Those discrete changes are useful to examine and event studies can help in assessing their impact.

A delegate from Greece commented that the Greek authority had used event studies on a couple of occasions and found them quite useful.

A delegate from Japan explained that the JFTC had applied several of the methods discussed for *ex-post* evaluations. One such review had been published in 2007. The JFTC assessed a cross-section of several mergers and provided a more detailed analysis of some specific mergers. The reviews relied on the quantitative analysis of publicly available data and interviews with the parties concerned. Another study on merger efficiencies had been conducted by the Competition Policy Research Center (the CPRC), which is the research center of the JFTC where the JFTC staff and outside experts conduct joint studies. The experts sought to analyse the effects of mergers on (1) profitability, (2) stock prices, (3) R&D, and (4) selling prices, for which they conducted econometric analysis. They primarily used data from publicly available sources, except for scanner data used for the price analysis. The results of the review exercise were that the claimed efficiency effects were not always achieved in the cases examined.

A delegate from BIAC argued that the merger review process is necessarily a forward looking theoretical exercise, but that the consequences of allowing mergers that have anticompetitive effects or of blocking mergers that are not anticompetitive are very real. It is therefore appropriate that competition authorities devote time and effort to assess the efficacy of past mergers decisions with a view of improving their decisions making in the future. The issue is, of course, how to achieve the most informative results. Hence, *ex-post* assessments should be very open and frank exercises where not only past successes, but also past errors are identified.

The delegate insisted on the desirability of inter-agency co-operation in this area. He argued that careful consideration should be given to cases whose evaluation gave different results to different agencies. Similarly, given the relative infrequency with which such studies have been conducted in the past and are likely to be conducted in the future, agencies should share all the lessons learnt from them. Further, he argued that agencies should conduct post-merger assessments on a regular basis and that they should use external consultants rather than rely too much on self-assessment to ensure impartiality.

A delegate from South Africa explained that the South African authority had identified *ex-post* reviews as a priority and that this was clearly stated in its strategic plan for the next three years. The



authority had started performing some “mini-exercises” in the steel, poultry, and mining services industries to establish whether its decisions were correct. The authority had relied principally on information available at the time of the merger investigation and obtained from stakeholders. Resources, time, and expertise had definitely proved to be a constraint. The authority had been in close contact with other agencies, in particular in the UK, to share their experience and expertise in doing *ex post* evaluations. They would welcome a toolkit on methodologies for *ex-post* merger evaluations.

## 2. The use *ex-post* evaluation for advocacy purposes

A delegate from the EU argued that the real difficulty in performing *ex-post* evaluations, whether for advocacy or for improving decision-making purposes, is how to establish what the proper counterfactual is. The delegate noted that Prof. Budzinski’s presentation gave the impression that structural estimation was always extremely complex. This was true if one planned to estimate all the parameters of the model. However, one could also use very simple hypotheses to calibrate the parameters of the model. This is what the EU had been doing. The evaluation unit in DG Competition uses the PCAIDS (proportionally calibrated almost ideal demand system) model for merger simulations. This model is fairly simple to use and requires very few parameters to estimate the impact of a merger. Clearly, as with all very simple methodologies, it has strong limitations. First, it leaves no room for type 1 or type 2 errors. Further, it does not allow the identification of type 3 errors, which occur when the right decision is made but for the wrong reasons. However, it determines the benefits of the right decisions.

In the EU, there had been requests in the past to produce data on the benefits generated by its competition enforcement activities. Initially the EU only produced a figure which was a linear transformation of the number of the cases examined. However, there had been methodological improvements since then, and currently the EU provides an estimate of the benefits obtained by consumers from all the important merger decisions it adopts in the course of a year.

He also reminded participants that when analysing decisions for advocacy purposes, one should not forget that the main justification for having a competition policy is deterrence. This effect is normally not accounted for in the assessments of the benefits of having a merger review because of methodological difficulties. However, it is very important. He gave an extreme example to explain this concept. Suppose that an authority deterred all anti-competitive mergers, then only pro-competitive or competitively neutral mergers would be notified. In that case through its direct merger review activity the authority would not generate any benefit for consumers. However, such an authority would be doing a better job than an authority that blocked many anticompetitive mergers. Thus, he warned, the actual numbers derived from these estimates, although very useful, tell only part of the story.

A delegate from Hungary commented that there is a general consensus that the *ex-post* assessment of merger decisions is a very important activity, but that there is less of a consensus that it is a good use of an authority's limited resources. Hence, it would be very important to develop best practices or simple methods to support smaller agencies.

A delegate from Korea noted that Korea had performed some *ex-post* assessments of merger decisions in an effort to improve their merger review system, especially with respect to behavioural remedies in horizontal mergers. This evaluation exercise was limited to assessing how market shares, firms’ financial performance, and the prices of relevant products had changed after the merger. The assessment found that many of the stand-alone behavioural remedies did not offset the anti-competitive effects arising from the mergers. This result led the KFTC to change its policy approach in merger enforcement toward a greater use of structural remedies, at least in horizontal mergers.

A delegate from the US said that the spectrum of possible evaluations techniques ranges from ultra-expensive and very refined methods, to less expensive and relatively easy to use ones. The delegate referred to a roundtable the FTC held in the fall of 2001. During this roundtable a panel of economists, including Carlton, Willig, Ordover, Schmalensee, and Winston, collectively made the following proposal: if an agency approves a close-call merger, for example a three to two merger with a soon-to-happen entry or powerful efficiency story, it should do so on the condition that it will review the market later on to determine whether the decision was indeed appropriate. The panellists acknowledged that this would not be easy, but that if the agency is taking a difficult decision it should be willing to take the risk to review it and accept any error it may have made.

Prof. Budzinski said that perhaps not all close call cases are interesting, because sometimes it is not the economic impact that is unclear in such cases, but rather the facts. The cases one should consider for *ex post* evaluations are those where there is uncertainty about the economic impact, because these are the ones where one can learn something. One example is mergers on the verge between conglomerate and horizontal. Economists still do not have a very good understanding of those cases. It is also interesting to look at cases where one can learn something about the methods employed in the *ex ante* analysis. For instance, if a case involved a lot of simulations *ex-ante*, it would be interesting to come back to this case to verify how good the *ex ante* simulations models were.

The Chairman asked Prof. Budzinski whether he agreed that in performing *ex-post* evaluations for advocacy purposes one could adopt simple techniques even if these are less accurate. Prof. Budzinski replied that this can be done when the analysis is meant to show that a merger control regime is justified. Also he argued that “back of the envelope” techniques can be used to assess large numbers of cases, but not necessarily for the in-depth analysis of a specific case. He also agreed with the EU that one has to be aware that these assessments of how much merger control regimes are worth to taxpayers and consumers represent only a small fraction of their actual benefits, because of the deterrence effect that is normally not quantified but plays a big role.

A delegate from Brazil raised the question whether an agency should review previous decisions in the same market when assessing a merger. This happens in Brazil quite often. Indeed the *ex-post* evaluation of previous decisions may help to reach a decision in the new case. He offered the example of a case that involved minority rights in a cement company. An acquisition was approved subject to some remedies. A few years later the company decided to merge with other cement companies, as well as to vertically integrate with some concrete companies. At the time of the second transaction the agency assessed the commitments that led to the approval of the first case and found that these had not proved sufficient. It therefore had to ignore to a certain extent these undertakings in assessing the possible effects of the new transaction. The overall analysis led to the conclusion that the merger would have led to a reduction in competition and CADE blocked the transaction.

The delegate then asked Prof. Budzinski how one could use econometrics tools to isolate the consequence of the decision from other phenomena taking place in the affected market. Prof. Budzinski replied that it all depends on whether one can find a good control group. If one can identify a market that is subject to the same external shocks and the same macroeconomic development as the market where the merger take place, but which is not affected by the merger, then econometrics tools can be used to isolate the effects of the merger.

### **3. How to get more authorities involved in these exercise**

The Chairman moved to the issue of how to develop best practices and how to help a larger number of authorities perform these evaluations. He introduced Prof. Gavil, who explained that while there is a consensus that *ex-post* merger evaluations are useful, an effort is still necessary to define generally

accepted best practices and methods to undertake them. This is a much needed effort and it should include developing simplified approaches so that all agencies, even small and resource-constrained ones, can undertake such assessments.

Prof. Gavil provided some suggestions. Data availability is often mentioned as an expensive constraint. A possible solution is to study industries where there is publicly available data. A number of countries have found it useful to focus on particular industries and to do repeated evaluations of them. Internal piggy-backing can also be employed, so that when you get a new merger in the same industry, you have some information to use from prior merger decisions. Another option is "seed planting" where the staff reaching a decision clearly identify the issues that concerned them the most and the key assumptions that drove the decision. This leaves an open path for a future evaluation. Economists could also try to develop methods that could be valuably implemented in stages with various levels of resources.

Ms. Vitale agreed that indeed there are short cuts. For example, one of the big issues is that data collection can be expensive or time-consuming, and time can be expensive. Using public available data helps to overcome that problem, when this is available. Through the approach Prof. Gavil calls seed-planting an authority can simplify future evaluations and reduce the time and resources required.

Sometimes small authorities lack the skilled resources to apply some methodologies. Then more qualitative approaches, such as surveys, can be used, as they can still provide many insights on the quality of a decision. However, Ms Vitale warned against excessive simplification. Econometric studies require some minimum standards and if an authority does not have the right skills or the appropriate data it should not embark in one, as a badly done econometric analysis is worse than no analysis at all.

Prof. Budzinski said that quantitative methods entail a fundamental trade-off between sophistication and reliability. Consequently, there are no short cuts to a good and reliable econometric analysis. He argued, however, that if the goal is to learn about the effects of mergers, jurisdictions may be able to learn from each other. If one wants to find out how mergers in specific markets or specific types of remedies affect competition, these do not necessarily have to be analysed anew in every jurisdiction in the world.

A delegate from Belgium commented on the difficulties faced even by larger, well-endowed authorities when performing *ex post* reviews and wondered whether this should be a cause of relief or of distress for smaller authorities. He then expressed support for sharing each other's experiences in this field.

A delegate from the EU followed up on the issue of remedies. Although this was not yet in the public domain, he explained that the Commission has internally done work on the effectiveness of remedies in particular industries. The Commission had used surveys that were well designed and resulted in clear-cut answers. This was an area where much could be learnt by everyone to improve merger reviews.

A UK delegate acknowledged that there can be substantial benefits from doing *ex-post* reviews. For example, there may be opportunities to understand when economic theories that had been applied in merger cases could be improved. However, she thought it that it was extremely ambitious to plan a "one size fits all" set of best practices for *ex-post* merger evaluations.

A representative of the Secretariat expressed similar concerns. Attempting to develop a single set of best practices would be wrong. One size does not fit all. However, it could be possible to build a tool kit, with a set of tips and suggestions. Sometimes highly sophisticated methods are necessary to get an answer, but this is not always the case and sometimes simple analyses can go a long way. Further, experienced agencies can contribute by sharing their knowledge with less experienced ones.

The Chairman added that this last exchange was particularly interesting because delegates have different ideas on how one could handle some of the problems associated with *ex-post* reviews and there was currently no place where all those ideas could be found. So, while he agreed that it is not advisable to try to develop a set of recommended practices, it could be useful to develop a document that offers a range of approaches to assessment problems, as well suggestions on possible simplifications.

A delegate from Romania expressed support for the view that the Committee could develop a tool kit that could provide support for authorities that are just starting to do evaluations. The *ex post* review of merger decisions is not yet a high priority in Romania because merger cases tend not to be very complex. Also at this stage it would be preferable to perform them internally. Having a collection of best practices, examples and methodologies would be of great help.

A delegate from the US commented that in some respects one size does fit all. Common to all is the larger aspiration to have an ability to answer questions like: how do you know if a method works? How do you know if what you are doing is sensible? The tool kit on regulatory reform is an excellent example of how to share experiences, assemble techniques and discuss the existing economic literature. Something similar could be done in this field.

The Chairman concluded the roundtable by expressing his support for the idea of a toolbox for the *ex-post* evaluation of mergers. This would not be one-size-fits-all answer to all the questions, but it would allow jurisdictions to have at their disposal references, examples and ideas.



## COMPTE RENDU DE LA DISCUSSION

*Par le Secrétariat*

M. Frédéric Jenny, Président du Comité de la concurrence, propose d'articuler les débats autour des thèmes suivants :

- Comment les autorités de la concurrence peuvent-elles se servir des examens *ex-post* de leurs décisions relatives aux fusions en tant qu'instruments de contrôle de la qualité ?
- Comment les autorités de la concurrence peuvent-elles se servir des évaluations *ex-post* à des fins pour promouvoir leur action ?
- Que peut-on faire pour aider un plus grand nombre d'autorités de la concurrence à réaliser de tels exercices ? L'OCDE pourrait-elle les y aider en élaborant un recueil des meilleures pratiques ou un manuel dans ce domaine ?

Il présente ensuite les orateurs experts : Mme Cristiana Vitale, économiste auprès du cabinet de conseil LEAR, qui a été invitée à faire part de son expérience concernant le déroulement des examens *ex-post* ; M. Oliver Budzinski de l'université du Danemark du Sud, qui a rédigé pour cette table ronde, une note consacrée aux aspects méthodologiques des évaluations *ex-post* et M. Andrew Gavil de la faculté de droit de l'université Howard, qui a été invité à partager ses vues sur la question de savoir s'il est possible de mettre au point un recueil compilant un certain nombre de meilleures pratiques dans ce domaine.

### **1. Utilisation des examens *ex-post* des décisions relatives aux fusions en tant qu'instruments de contrôle de la qualité**

M. Budzinski commence son exposé en rappelant aux délégués que l'évaluation des décisions relatives aux fusions joue un double rôle : 1) ces évaluations constituent un instrument de contrôle de la qualité et 2) servent d'instruments de promotion. Il fait valoir que la réalisation d'évaluations *ex-post* a pour principal objet de déterminer si l'autorité de la concurrence a pris la bonne décision, ce qui suppose d'évaluer si les conclusions sur lesquelles elle a fondé sa décision étaient justifiées, compte tenu des éléments dont elle disposait au moment où elle a pris sa décision. Il précise que les évaluations *ex-post* peuvent aussi servir à déterminer si les effets agrégés sur le bien-être, engendrés par le régime de contrôle des fusions en vigueur, justifient les ressources mobilisées pour le faire fonctionner et peuvent donc être invoqués pour justifier l'existence même de ce régime. M. Budzinski traitera uniquement du premier de ces deux objectifs. Son exposé portera donc principalement sur les méthodes d'évaluation applicables et sur les critères selon lesquels il convient de choisir la méthodologie à utiliser.

Trois critères doivent être retenus pour faire ce choix : la fiabilité, l'applicabilité et l'intensité d'utilisation des ressources. M. Budzinski entend par fiabilité le fait qu'une méthode donnée permette de déterminer si les décisions prises étaient les bonnes. L'applicabilité désigne le fait de savoir si telle ou telle méthode est applicable dans un contexte donné (à savoir si la méthode est appropriée compte tenu des caractéristiques particulières du/des marchés concernés. L'intensité d'utilisation des ressources désigne la quantité de compétences techniques, de données, de temps et autres ressources que nécessite le recours à une méthode donnée. De ces trois critères, la fiabilité est le plus important. Par conséquent, il convient de

ne pas utiliser une méthode qui ne serait pas suffisamment fiable même si elle est jugée satisfaisante au regard des deux autres critères.

M. Budzinski passe ensuite en revue, une par une, les différentes méthodes d'évaluation applicables. Les modèles structurels constituent l'approche la plus élaborée. Ils nécessitent de recourir à un modèle économique décrivant le fonctionnement des marchés concernés. Ce modèle doit ensuite être calibré à l'aide de données économétriques pour en tirer des conclusions sur l'incidence qu'aurait pu avoir la fusion sur le marché.

Cette méthode repose sur de solides fondements théoriques et elle est donc très fiable. Elle nécessite de faire appel à de nombreux postulats sur la nature de la concurrence, les élasticités de la demande, etc. Il est cependant possible de tester la validité de ces postulats lorsque cette méthode a été adoptée pour réaliser l'évaluation *ex-post* d'une opération de fusion. Par conséquent, la critique habituelle selon laquelle cette méthode est trop tributaire des postulats de départ perd de sa pertinence lorsque cette méthode est utilisée pour ce type d'évaluation. En outre, cette méthode est applicable à tous les types de décisions relatives aux fusions et ménage la possibilité de prendre en compte les effets dynamiques, comme l'innovation et les gains d'efficacité.

Cela étant, les modèles structurels ne sont pas dénués d'inconvénients. Ils reposent sur des modèles d'oligopole standard et ne peuvent être utilisés si la concurrence sur le marché n'obéit pas à l'un d'entre eux. En outre, ils ne peuvent rendre compte d'aucun des changements structurels survenant sur le marché. La plus grande difficulté les concernant, cependant, est liée à l'ampleur considérable des données nécessaires et aux compétences économétriques complexes qu'ils requièrent.

M. Budzinski mentionne ensuite l'approche des doubles différences. Cette méthode consiste à comparer l'évolution des prix, des quantités et d'autres variables du marché sur lequel la fusion a eu lieu avec celles d'un « marché de référence » à savoir un marché suffisamment similaire pour être soumis aux mêmes chocs extérieurs, mais sur lequel la fusion n'aura pas eu d'influence.

Cette méthode est, en principe, applicable à tous les types de fusions et l'ampleur des données nécessaires est nettement plus limitée qu'avec les modèles structurels, tout en restant importante. Son application exige de bonnes compétences économétriques. La plus grande difficulté qu'elle pose consiste à trouver un marché de référence adéquat. Faute d'y parvenir, cette méthode ne peut être appliquée. C'est pourquoi il est très difficile de l'appliquer à une décision de refus d'agrément d'une opération de fusion. Le cas échéant, il ne sera en effet qu'exceptionnellement possible de trouver un marché analogue, sur lequel une fusion a eu lieu, que l'on puisse comparer au marché pour lequel l'autorité a interdit la fusion.

Citant ensuite les études d'événement, M. Budzinski explique que cette méthode repose sur une analyse de la réaction du marché boursier après l'annonce d'une fusion ou d'une décision relative à une fusion. Elle se fonde sur l'hypothèse que les marchés financiers sont efficaces et qu'ils répercutent rapidement toutes les informations dont ils disposent sur les prix des valeurs boursières. Selon M. Budzinski, il s'agit là d'un postulat bien téméraire, démenti depuis longtemps déjà par l'économie financière.

En outre, l'applicabilité de cette méthode est limitée. Il faut en effet que les entreprises candidates à la fusion et leurs principales concurrentes soient cotées sur le marché. De surcroît, son utilisation est problématique pour les marchés sur lesquels les produits sont différenciés ou sur lesquels les opérations de fusion engendrent des effets de verrouillage ou encore sur lesquels des effets verticaux ou congloméraux jouent un rôle important.

Les études d'événement exigent de bonnes compétences économétriques, mais les données nécessaires pour les mener à bien sont limitées et faciles à obtenir. Par conséquent, cette méthode peut facilement être appliquée, mais n'est pas très fiable. M. Budzinski met en garde contre toute tentation de l'utiliser malgré tout.

M. Budzinski s'intéresse pour finir aux enquêtes menées auprès des acteurs du marché, méthode qui ne repose sur aucune théorie économique. Cette méthode requiert d'interroger un grand nombre de personnes, qui ne sont pas nécessairement disponibles. Par rapport aux autres méthodes, les ressources nécessaires pour mener à bien de telles enquêtes sont limitées. Ces enquêtes exigent de disposer de certaines compétences statistiques et de savoir préparer des questionnaires. Lorsque l'on ne dispose guère de données sur le marché concerné, ces enquêtes peuvent s'avérer la seule méthode présentant un intérêt. Leur principal inconvénient est lié au fait que les participants du marché peuvent y répondre dans une optique stratégique, considérant que les réponses qu'ils donnent sont susceptibles d'orienter les décisions qui seront rendues dans l'avenir en matière de fusions.

M. Budzinski souligne en conclusion qu'aucune méthode n'est parfaite s'agissant des évaluations *ex-post*, chacune présentant des avantages et des inconvénients. Il préconise donc de combiner les différentes méthodes disponibles et met en garde, en tout état de cause, contre le recours aux études d'événement.

Mme Vitale explique que le cabinet LEAR a pris part, pour le compte d'autorités de la concurrence, aux évaluations *ex-post* de trois décisions relatives à des opérations de fusions. En outre, les consultants de LEAR ont également préparé pour la DG Concurrence un rapport sur la méthodologie d'exécution de ces évaluations. Ce document peut être téléchargé sur le site Internet de l'UE.

Mme Vitale passe en revue les éléments qu'elle considère, forte de son expérience, comme importants pour mener à bien une évaluation *ex-post*.

Premièrement, l'évaluation doit être exhaustive. Elle doit permettre de déterminer si la décision prise était la bonne, mais également si, au moment où elle a été prise, l'analyse sur laquelle elle reposait était approfondie et valable à la lumière des informations qui étaient alors disponibles. L'autorité de la concurrence ne pourra améliorer son processus de décision qu'à cette seule condition.

Deuxièmement, sachant que ces évaluations mobilisent beaucoup de ressources et qu'un petit nombre de décisions seulement peuvent donner lieu à une évaluation, les décisions en question doivent être choisies avec soin. Il peut être très intéressant d'examiner les décisions pour lesquelles les avis ont été très partagés, qui sont de nature à livrer un grand nombre d'enseignements. Les décisions d'agrément sont plus faciles à évaluer mais il peut être intéressant d'évaluer les décisions de refus ainsi que les décisions d'agrément assorties de mesures correctives. Le délai écoulé depuis le moment où la décision a été adoptée est également important. Si la décision rendue est trop récente, ses effets n'auront pas eu le temps de se matérialiser. Si ce délai est trop long, il peut être plus difficile de distinguer les effets découlant de la décision prise d'autres phénomènes qui sont apparus sur le marché. Il est en outre plus simple de recueillir des informations auprès des acteurs du marché après un certain temps. Le laps de temps idéal est de trois à cinq ans, selon la nature du marché concerné. En outre, le choix des décisions à examiner doit aussi être fonction de la disponibilité des données : aucune analyse n'est possible si les données sont insuffisantes.

Par ailleurs, il est très important que les personnes procédant à l'évaluation portent un regard neuf sur la situation. De ce fait, l'équipe ayant rendu la décision ne doit pas être celle qui effectue l'évaluation. Elle devra peut-être quand même apporter son concours en raison de sa connaissance des faits, des données et de la documentation. Cela étant, l'un des problèmes que LEAR a souvent rencontré tenait au fait que trois à cinq après la décision rendue, aucun membre de l'équipe d'origine ne travaillait plus au sein de l'autorité de la concurrence.



L'impartialité de l'analyse est également importante. Les examens menés en interne peuvent parfois être biaisés, car les autorités peuvent rechigner à admettre qu'elles ont pu commettre une erreur. De plus, pour ces examens, l'autorité doit être dotée des compétences quantitatives requises. Si une méthode n'est pas mise en œuvre dans les règles de l'art, l'évaluation dans son ensemble perd tout intérêt. Or de telles compétences ne sont pas toujours disponibles en interne. En outre, ces examens peuvent être longs et fastidieux. Pour toutes ces raisons, il peut être souhaitable que des consultants extérieurs ou des universitaires s'en chargent.

Mme Vitale ajoute qu'il convient toujours de mener une enquête d'opinion lorsqu'une évaluation d'impact est réalisée. Ces enquêtes permettent de vérifier la validité des évaluations quantitatives tout en constituant une bonne source d'informations, notamment concernant les aspects moins quantifiables comme les effets d'une fusion sur la qualité et l'innovation. Selon elles, les enquêtes nécessitent certaines qualifications, car la préparation d'un questionnaire n'est pas aussi simple qu'il y paraît. Elles exigent en outre certaines compétences statistiques pour assurer qu'un échantillon approprié est utilisé. Cela étant, si l'on interroge les concurrents, les fournisseurs et les grossistes, il est souvent possible de les interroger tous sans exception puisqu'ils ne sont généralement pas très nombreux. Cela permet d'éviter l'écueil avoir à constituer un échantillon représentatif.

Mme Vitale en vient ensuite au dernier point qui est aussi le plus important pour elle, à savoir l'ampleur des données nécessaires. Ces données sont fonction de la méthodologie économétrique utilisée laquelle dépend, à son tour, des données utilisées. Les données requises sont également fonction des effets qu'a eus la décision sur laquelle porte l'évaluation (ses effets sur les prix ou son impact sur l'innovation). Ces données peuvent être difficiles à obtenir. Il est parfois possible d'acheter les données sur les prix et les quantités ou de se les procurer auprès de sources publiques, mais ce n'est pas toujours le cas. La plupart du temps, il est très difficile de recueillir les données relatives à la qualité, l'efficacité et l'innovation. Il importe donc d'associer à l'examen mené les acteurs du marché, par exemple en les interrogeant dans le cadre d'une enquête, car ce sont eux qui détiennent la plupart des informations nécessaires.

Un délégué de la Norvège demande aux experts comment les petits pays dont les autorités ne rendent que peu de décisions peuvent procéder à des examens *ex-post*. Ont-ils intérêt à effectuer des analyses qualitatives comparant un certain nombre d'études de cas couvrant plusieurs années ou plusieurs pays et à comparer entre eux les différents examens déjà réalisés ?

M. Budzinski répond que le petit nombre de décisions rendues peut constituer un problème particulier si l'on envisage de mener une étude sur l'impact global du régime de contrôle des fusions, mais qu'il est moins problématique dès lors qu'il s'agit uniquement d'analyser un seul cas. Il confirme que les méthodes qualitatives, comme les enquêtes ou les commentaires d'experts, peuvent présenter un intérêt. Mme Vitale ajoute pour sa part que chaque examen *ex-post* comporte toujours une composante qualitative. Elle estime que, pour que l'évaluation réalisée soit exacte, il est indispensable de procéder concomitamment à une évaluation quantitative et à une évaluation qualitative et que même une analyse purement qualitative peut nous en apprendre beaucoup.

Un délégué du Royaume-Uni explique qu'à ce jour, deux autorités britanniques ont mené à bien quatre évaluations *ex-post* approfondies d'un certain nombre de décisions relatives à des fusions. L'une de ces deux évaluations a été réalisée en interne par le personnel de la Competition Commission et les trois autres par des consultants extérieurs. Lors de ces évaluations, des agréments assortis de conditions, des agréments sans conditions et des refus ont été examinés. Les analyses menées ont revêtu un caractère à la fois qualitatif et quantitatif. Cependant, pour l'examen des décisions de refus, seules des méthodes qualitatives ont été utilisées.

La CC a commandé la plus récente de ces analyses qui a porté sur l'agrément de deux opérations de fusion sur les marchés de la distribution. Ces opérations ont été choisies car l'OFT comme la CC reçoivent un grand nombre de dossiers de fusion entre distributeurs qui leur sont renvoyés et ont donc estimé important d'améliorer leur processus de décision dans ce domaine. De plus, les marchés de la distribution se prêtent très bien aux analyses quantitatives en raison de la disponibilité des données. Pourtant, les autorités ont rencontré certaines difficultés pratiques pour obtenir les données nécessaires car les sources commerciales d'information se sont avérées très onéreuses. Les enseignements qui ont été tirés de ces évaluations *ex-post* ont été diffusés auprès du personnel des autorités lors de séminaires internes.

Un délégué des Pays-Bas explique qu'en 2009, la NMa a mené à bien un examen *ex-post* sur les effets qu'ont eu deux fusions hospitalières sur les prix. L'une des deux opérations a été approuvée dès la première phase et la seconde lors de la deuxième phase, à la suite toutefois d'une décision très controversée. L'analyse a montré que la première fusion n'avait occasionné aucune majoration des prix alors que les prix avaient augmenté de 3.5 à 5 % après la deuxième. Selon l'interprétation de la NMa, ces résultats donnent à penser que le pouvoir de marché détenu par les établissements hospitaliers ayant fusionné lors de la deuxième fusion a augmenté à la suite de cette opération et que les pressions exercées par la concurrence n'étaient plus suffisantes pour neutraliser cette hausse. Cela laisse supposer que le marché géographique était probablement plus petit que le marché ayant servi de référence lorsque la décision a été rendue.

L'évaluation, effectuée à l'aide de la méthode des doubles différences, portait sur les effets qu'a eus cette fusion sur les prix, fautes de données disponibles relatives à la qualité. Cette analyse a été réalisée en interne afin de limiter les problèmes de confidentialité (les informations sur les prix ont été communiquées par le ministère de la Santé néerlandais). Elle a en outre donné l'occasion au personnel de la NMa d'acquérir plus d'expérience concernant la réalisation de ce type d'analyse.

Un délégué du Canada explique que le Bureau de la concurrence a réalisé deux examens *ex-post* dans l'intention d'améliorer son processus de décision.

Pour le premier, un cabinet de conseil économique a été engagé pour déterminer si le Bureau de la concurrence avait correctement mené à bien les analyses qu'il devait réaliser et avait pris des décisions justifiées dans le cadre de trois procédures distinctes de contrôle des fusions. Les trois décisions retenues pour cet examen ont été choisies en concertation avec les consultants. Le choix de ces décisions a reposé sur les critères suivants : 1) le fait qu'au moment où il a procédé au contrôle de la fusion, le Bureau de la concurrence avait réuni assez d'éléments pour pouvoir prédire, de manière suffisamment précise, quels en seraient les effets probables sur la concurrence, 2) le fait qu'un délai suffisant s'était écoulé depuis que le Bureau avait rendu sa décision pour que le marché concerné aient eu le temps d'évoluer après l'opération, 3) le fait que le marché concerné n'était pas en mutation constante au moment de la fusion (ou après) de sorte qu'il aurait été difficile de déterminer sa réaction après la fusion, 4) le fait que les acteurs du marché seraient probablement disposés à être interrogés et à communiquer des informations utiles et 5) le fait que des données publiques sur les conditions prévalant sur le marché avant et après la fusion étaient disponibles. Les opérations de fusion examinées dans le cadre de cette analyse avaient toutes suscité d'importantes préoccupations du point de vue de la concurrence, mais le Bureau de la concurrence avait finalement décidé qu'il n'était pas nécessaire de les contester devant le Tribunal de la concurrence ou qu'il n'était pas justifié de demander aux parties des mesures correctives. En outre, les opérations retenues avaient eu lieu dans trois secteurs d'activité différents. Selon les conclusions formulées dans l'analyse, le Bureau de la concurrence avait évalué avec exactitude les conditions de marché à l'aide des informations qu'il avait alors à sa disposition. Les consultants ont formulé un certain nombre d'observations et de recommandations relatives à l'analyse des fusions réalisée par le Bureau de la concurrence, que celui-ci a incluses dans son projet de lignes directrices récemment publié (Fusions – Lignes directrices pour l'application de la loi).

Le deuxième examen évaluait si les mesures correctives que le Bureau a imposées dans 23 cas de 1986 à 2005 avaient été conçues et mises en œuvre avec efficacité. Cet examen a mobilisé d'importantes ressources et a été réalisé en interne, même si les agents du Bureau qui avaient procédé aux premières analyses n'y ont pas pris part. Cet examen était purement qualitatif. Le personnel du Bureau a ainsi interrogé quelque 135 acteurs du marché. À partir des informations recueillies lors de ces entretiens, l'équipe chargée de réaliser l'examen a formulé un certain nombre d'observations que le Bureau devra prendre en compte dans l'avenir lors de la conception et de la mise en œuvre des mesures correctives dans les cas de fusion.

Le Président s'inquiète, pour le premier examen, du risque que le Bureau ait choisi de ne soumettre que les affaires pour lesquelles il était convaincu que cet exercice ne ferait apparaître aucune lacune importante de sa part. Le délégué du Canada répond que si un tel choix avait été fait, l'examen mené n'aurait eu que peu voire aucun intérêt et que c'est du reste précisément pour cette raison que le choix avait porté sur des affaires « limites », suscitant des préoccupations du point de vue de la concurrence.

S'agissant du deuxième examen, le Président se soucie du risque que les acteurs du marché aient pu répondre dans une optique stratégique, sachant que les résultats de cet exercice auraient une incidence sur le comportement du Bureau lors de ses enquêtes portant sur des opérations de fusion. Le Président demande plus généralement comment éviter un tel risque lorsque des enquêtes sont menées dans le cadre d'une évaluation *ex-post*.

Le délégué du Canada explique que l'identité des personnes interrogées a été prise en compte pour apprécier la valeur des informations fournies, par exemple si ces informations provenaient de concurrents ou d'un acquéreur potentiel ayant réussi à racheter les actifs cédés. Mme Vitale ajoute que LEAR a réalisé un petit nombre d'enquêtes et que les informations communiquées par les acteurs du marché semblaient exactes, dans la mesure où les réponses données par les différentes parties ne divergeaient généralement pas. En outre, sur de nombreux marchés, les fusions sont rares ; de ce fait, les acteurs du marché peuvent faire abstraction du fait que leur comportement pourrait avoir une incidence sur les futures procédures de contrôle des fusions.

Le Président demande à Mme Vitale si elle pense qu'au fil du temps, si de telles enquêtes se généralisent, ce problème s'accroîtra. Les entreprises pourraient en effet commencer à prendre conseil auprès de leurs juristes lorsqu'elles reçoivent un questionnaire et se comporter ensuite dans une optique plus stratégique. Mme Vitale répond qu'en effet une telle attitude n'est pas à exclure. Jusqu'à présent, les réponses aux questionnaires que LEAR a reçues lui étaient directement adressées par les services commerciaux des entreprises qui ne semblaient pas avoir fait appel à des juristes. Le seul problème que son cabinet rencontre concernant les réponses données par les acteurs du marché tient au fait que les parties à la fusion ne sont jamais disposées à coopérer, probablement par crainte que l'examen mené puisse révéler que la fusion réalisée a eu des effets préjudiciables pour la concurrence.

Un délégué de la Suède explique que les autorités de son pays ont elles aussi une expérience des évaluations *ex-post* et ont été confrontées à des problèmes liés au recueil des données. La loi ne confère à la KKV aucun pouvoir lui permettant d'obliger les entreprises à lui fournir des données au cours des évaluations *ex-post*. De ce fait, cet organisme a dû parfois acheter au prix fort à des sources commerciales les données nécessaires. Le délégué demande si d'autres pays ont trouvé un moyen de régler ce problème ou sont dotés d'une législation leur permettant d'imposer aux entreprises de fournir les données nécessaires pour mener à bien les analyses *ex-post*.

Le délégué du Royaume-Uni reprend à son compte cette difficulté. La CC a dû, elle aussi, acheter des données pour réaliser ses toutes dernières analyses quantitatives et a dû renoncer à contrôler une troisième opération de fusion faute d'avoir pu se procurer des données auprès de sources commerciales et du fait que

les parties n'ont pas souhaité les lui fournir. Dans l'ensemble, la CC trouve que les parties sont davantage disposées à coopérer lorsqu'il s'agit d'analyses qualitatives.

En ce qui concerne ce problème, le délégué des États-Unis ajoute que le recueil des données n'est pas toujours aussi difficile. Ainsi, s'agissant des décisions compliquées pour lesquelles les avis sont très partagés, lorsque l'autorité finit par approuver la fusion au motif que l'arrivée de nouveaux concurrents est très probable ou qu'une technologie alternative va être prochainement mise sur le marché, il lui est très facile de vérifier par la suite que la situation a bien évolué comme elle s'y attendait. Il en va de même dans les cas où, pour prendre sa décision, l'autorité a largement tenu compte du fait que les parties avaient mis en avant les gains d'efficacité qui découlerait de l'opération. La FTC a récemment ouvert une enquête sur une coentreprise formée par deux fabricants de lanceurs lourds permettant de placer en orbite des satellites. Les entreprises concernées ont fait valoir que le volume de production était trop limité et que la formation d'une coentreprise serait avantageuse pour tout le monde. La FTC a pu vérifier sans difficulté par la suite le bien fondé de cette affirmation.

Le Président explique que dans la plupart des cas, le niveau de concurrence après la fusion peut dépendre d'un ensemble complexe de facteurs compliquant l'évaluation de l'impact de l'opération. Il précise que les exemples fournis par les États-Unis peuvent présenter un intérêt pour vérifier si les entreprises ont communiqué des informations exactes à l'autorité de la concurrence, mais que concrètement, dans la plupart des cas, il n'est pas facile d'évaluer si la concurrence a diminué après la décision relative de fusion. Le délégué des États-Unis objecte que si les parties à une fusion font généralement valoir un certain nombre d'arguments, c'est en fait généralement un unique argument indiscutable qui détermine la décision prise lorsque les avis sont très partagés. Même si dans chaque cas de figure, d'autres facteurs jouent un rôle, l'autorité de la concurrence se trouve bien souvent contrainte de trancher en ne se fondant que sur un seul argument irréfutable et c'est alors ce seul argument qui peut et doit faire l'objet, le cas échéant, de l'évaluation *ex-post*.

Mme Vitale convient avec le Président que les parties à une fusion présentent généralement un certain nombre d'arguments. La plupart du temps, la majorité de ces arguments s'avèrent fondés (par exemple, de nouveaux concurrents ont bien fait leur entrée sur le marché), mais on ne peut savoir si les facteurs invoqués par les parties ont suffi à neutraliser les effets anticoncurrentiels de la fusion. Cela étant, lorsque les avis sont très partagés, les autorités doivent clairement préciser quels arguments indiscutables les ont conduites à prendre telle ou telle décision de sorte qu'il sera plus facile de vérifier à l'avenir si la situation a bien évolué comme l'autorité l'avait supposé au moment où elle a rendu sa décision. Néanmoins, les évaluations *ex-post* ne sont généralement pas si simples et la disponibilité des données est un facteur important pour déterminer s'il est possible de procéder à un tel examen.

Le délégué des États-Unis ajoute que cette question est étroitement liée aux précautions que prend l'autorité de la concurrence pour justifier telle ou telle décision rendue. Les parties à une fusion avanceront toujours quantité de raisons plaidant en faveur de l'agrément de l'opération. L'autorité de la concurrence peut toutefois passer toutes ces raisons au crible pour ne retenir que celles qui sont réellement pertinentes. Pour toute décision, il est donc important – et cela sera payant par la suite – qu'elle indique clairement, avec beaucoup de précautions, les arguments irréfutables sur lesquelles elle a fondé sa décision et qu'elle s'abstienne de se retrancher derrière une multitude de raisons pour justifier sa décision.

Un représentant du Secrétariat de l'OCDE prend la parole. Il convient que toutes sortes de circonstances peuvent évoluer après une décision relative à une opération de fusion mais que toutes les évolutions qui surviennent alors ne peuvent être attribuables à la décision en question, ce que les examens *ex-post* sont précisément censés permettre de comprendre. Pour rendre leurs décisions, les autorités doivent toujours se livrer à des prédictions. Il importe de faire le point de temps à autre et de vérifier si leurs prédictions se sont révélées justes. De nombreux enseignements peuvent être tirés de ces exercices. Le

représentant du Secrétariat de l'OCDE cite, à titre d'exemple, la contribution des États-Unis se rapportant à l'évaluation *ex-post* d'une décision relative à une fusion hospitalière. D'après cette évaluation, le critère d'Elzinga-Hogarty que l'autorité de la concurrence avait utilisé pour rendre sa décision ne lui avait pas permis de faire des prédictions très exactes, un constat très utile qui pourra lui resservir lors de l'évaluation future d'opérations de fusion du même genre.

Une déléguée de la Norvège explique que la loi impose à l'autorité de la concurrence norvégienne d'évaluer rétrospectivement au moins une décision relative à une fusion par an, ainsi qu'une décision relative à une entente et une décision concernant un abus de position dominante. Elle souligne que pour les petits pays, il est souvent particulièrement difficile de procéder à des examens *ex-post* car les autorités ne peuvent choisir que parmi un ensemble limité de décisions rendues. Ainsi, ces cinq dernières années, l'autorité de la concurrence norvégienne n'a eu à évaluer que deux opérations de fusion par an en moyenne.

Le Président revient sur la contribution des États-Unis et s'interroge sur le sens réel du message qu'elle contient. En effet, de nombreuses raisons avancées dans cette contribution plaident en faveur des évaluations *ex-post* mais il y est également souligné que ces analyses peuvent être très onéreuses et difficiles. Un délégué des États-Unis confirme que ces évaluations sont à la fois utiles et coûteuses.

Il ajoute en outre que la FTC réalise la plupart de ces examens en interne en utilisant généralement la méthode des doubles différences. La FTC peut se le permettre car elle dispose de ressources suffisantes et qu'elle est dotée, en particulier, d'un vivier d'économistes extrêmement qualifiés. En outre, la loi lui donne pour mandat de mener des études. La commission peut donc employer son personnel à ces activités sans le faire au détriment d'autres activités. Elle n'a donc pas besoin de recourir à des consultants extérieurs. La FTC estime par ailleurs que certains mécanismes en interne l'incitent à vérifier qu'elle a pris de bonnes décisions, mais aussi à obtenir la bonne réponse et à tirer des enseignements des erreurs passées. De fait, la plupart des analyses rétrospectives qu'elle réalise sont publiées sous forme de documents de travail que les auteurs s'efforcent souvent de faire paraître dans des bulletins universitaires, les soumettant ainsi à l'appréciation de pairs.

Le délégué formule en outre des commentaires sur l'avis exprimé par M. Budzinski sur les études d'événement, sur lesquelles son opinion n'est pas aussi négative. Avant l'annonce d'une fusion, la probabilité que cette opération va avoir lieu est déjà forte et elle s'accroît encore au moment où l'annonce est faite. Il est utile de suivre ces évolutions discrètes dont l'impact peut notamment être évalué grâce aux études d'événement.

Un délégué de la Grèce fait observer que l'autorité grecque de la concurrence a eu recours à deux reprises à des études d'événement qu'elle a trouvées relativement utiles.

Un délégué du Japon explique que la JFTC applique plusieurs des méthodes évoquées pour réaliser ses évaluations *ex-post*. Elle a publié un examen de ce type en 2007. La JFTC a évalué un échantillon de plusieurs opérations de fusion, procédant à une analyse plus approfondie de certaines d'entre elles. Pour mener à bien ces évaluations, elle a fait appel aux données quantitatives rendues publiques et à des entretiens avec les parties concernées. Une autre analyse consacrée aux gains d'efficacité résultant des fusions a été effectuée par le Centre de recherche sur la politique de la concurrence (CPRC) de la JFTC, au sein duquel le personnel de la JFTC et des experts extérieurs mènent à bien des études conjointes. Les experts cherchent à analyser les effets des fusions sur la (1) rentabilité, (2) le cours des actions, (3) la recherche-développement et (4) les prix de vente, pour lesquels ils ont effectué une analyse économétrique. Ils ont principalement utilisé des données provenant de sources publiques, sauf pour les données obtenues par lecture optique utilisées pour les besoins de l'analyse des prix. Selon les résultats de cet examen, s'agissant des cas examinés, les effets d'efficacité revendiqués ne s'étaient pas toujours matérialisés.

Un délégué du BIAC affirme que le processus de contrôle des fusions est nécessairement un exercice théorique prospectif, mais que l'agrément de fusions ayant des effets anticoncurrentiels ou le blocage de fusions qui n'auraient pas d'impact préjudiciable sur la concurrence a des répercussions bien réelles. Les autorités de la concurrence seraient donc avisées de consacrer du temps et des efforts à évaluer si les décisions passées ont été efficaces afin d'améliorer celles qu'elles rendront dans l'avenir. La question est, bien entendu, de savoir comment obtenir les résultats les plus instructifs. De ce fait, les évaluations *ex-post* doivent être des exercices très ouverts et réalisés sans arrière-pensée mettant en avant les réussites mais aussi les erreurs passées.

Le délégué insiste sur le fait qu'une coopération entre les autorités de la concurrence dans ce domaine est souhaitable. Il estime qu'il convient d'examiner de près les affaires qui ont été évaluées par différents organismes quand les résultats des évaluations menées ont divergé. De même, du fait que ce type d'analyses ont été relativement peu fréquentes dans le passé et le seront probablement encore dans l'avenir, les autorités seraient avisées d'échanger entre elles tous les enseignements qu'elles ont pu en tirer. Les autorités de la concurrence devraient réaliser périodiquement des évaluations *ex-post*, faire appel, dans un souci d'impartialité, à des consultants extérieurs et s'abstenir d'évaluer les décisions qu'elles ont elles-mêmes rendues.

Un délégué d'Afrique du Sud explique que l'autorité sud-africaine reconnaît que les examens *ex-post* sont une priorité, ce qui a clairement été précisé dans son plan stratégique pour les trois prochaines années. L'autorité a commencé à réaliser certains « mini-exercices d'évaluation » dans les secteurs de la sidérurgie, de l'aviculture et des services miniers pour déterminer si ses décisions se sont avérées fondées. Pour cela, l'autorité a principalement eu recours aux informations qu'elle a pu avoir à sa disposition au moment de l'enquête préalable à la fusion et qui lui ont été communiquées par les parties prenantes. Les ressources, le temps et les compétences dont elle a disposé se sont avérées sans conteste limitées. L'autorité de la concurrence sud-africaine est en contact étroit avec certaines de ses homologues, notamment l'autorité britannique, avec lesquelles elle échange des expériences et des compétences en matière d'évaluations *ex-post*. À cet égard, elle apprécierait de disposer d'un manuel sur les méthodes à utiliser pour réaliser ces évaluations.

## **2. Utilisation des évaluations *ex-post* à des fins de promotion**

Un délégué de l'UE soutient que la difficulté réelle liée aux évaluations *ex-post*, qu'elles soient réalisées pour promouvoir les règles de concurrence ou pour améliorer le processus de décision, consiste à déterminer le bon scénario contrefactuel. L'exposé de M. Budzinski a donné l'impression que les estimations structurelles sont toujours extrêmement complexes, ce qui est vrai si l'on prévoit d'estimer tous les paramètres du modèle. Cela étant, on peut aussi utiliser des hypothèses très simples pour calibrer ces paramètres. C'est ce que l'UE a fait. L'unité de la DG Concurrence chargée des évaluations utilise le modèle PCAIDS (« *proportionally calibrated almost ideal demand system* ») pour les simulations de fusion. Ce modèle est assez simple d'utilisation et ne nécessite de tenir compte que d'un petit nombre de paramètres pour estimer l'impact d'une fusion. À l'évidence, comme toutes les méthodes très simples, celle-ci présente des limites importantes. Premièrement, elle ne laisse aucune marge pour les erreurs type 1 ou de type 2. Elle ne permet pas non plus de mettre en évidence les erreurs de type 3 qui se produisent lorsque la décision rendue est bonne mais qu'elle a été prise pour de mauvaises raisons. Cette méthode fait toutefois ressortir les avantages découlant des bonnes décisions.

Au sein de l'UE, des demandes se sont exprimées dans le passé en faveur d'une production de données relatives aux avantages découlant des activités exercées par l'Union pour faire respecter le droit de la concurrence. Dans un premier temps, l'UE s'est bornée à présenter un chiffre qui constituait une transformation linéaire du nombre d'affaires examinées. Cela étant, des améliorations méthodologiques ont

été apportées depuis et l'UE présente désormais une estimation des avantages que les consommateurs tirent de toutes les décisions importantes concernant les fusions qu'elle a prises en cours d'année.

Le délégué de l'UE rappelle en outre aux participants que lors de l'analyse des décisions à des fins de promotion du droit de la concurrence, il ne faut pas perdre de vue que la politique de la concurrence a pour principale justification la dissuasion. En raison de difficultés méthodologiques, cet effet n'est normalement pas pris en compte lors de l'analyse des avantages découlant des contrôles des fusions. Il est pourtant très important. Le délégué cite un exemple extrême pour expliquer cette idée. À supposer qu'une autorité de la concurrence dissuade toutes les fusions anticoncurrentielles, alors seules les fusions pro-concurrentielles ou neutres du point de vue de la concurrence lui seront notifiées. Le cas échéant, il ne découlerait de l'activité directe de contrôle des fusions exercée par l'autorité aucun avantage pour les consommateurs. Le cas échéant, cette autorité ferait malgré tout un meilleur travail qu'une autorité qui bloquerait un grand nombre de fusions anticoncurrentielles. Par conséquent, le délégué rappelle que les chiffres effectivement issus de ces estimations, quoique très utiles, ne laissent entrevoir qu'une partie de la réalité.

Un délégué de la Hongrie fait observer que nul ne conteste que l'évaluation *ex-post* des décisions relatives aux fusions est une activité très importante, mais que le consensus est toutefois moindre sur le fait qu'il s'agit là d'une bonne utilisation des ressources limitées des autorités de la concurrence. Il est donc très important de compiler les meilleures pratiques ou de mettre au point des méthodes simples pour aider les autorités de la concurrence de moindre envergure.

Un délégué de la Corée note que son pays a réalisé certaines évaluations *ex-post* de décisions relatives à des fusions dans l'intention d'améliorer son régime de contrôle des fusions, notamment concernant les mesures correctives comportementales lors des fusions horizontales. Dans le cadre de ces évaluations, seule l'évolution des parts de marché, des résultats financiers et des prix de produits de référence après la fusion a été examinée. Selon les conclusions de ces évaluations, nombre de mesures comportementales imposées isolément n'ont pas neutralisé les effets anticoncurrentiels des fusions. Ces résultats ont conduit la KFTC à modifier son approche en matière d'application de la loi s'agissant des fusions en vue de recourir davantage à des mesures structurelles, à tout le moins pour les fusions horizontales.

Un délégué des États-Unis déclare que l'éventail des techniques d'évaluation que l'on peut utiliser va de méthodes extrêmement onéreuses et très élaborées à des méthodes moins coûteuses et relativement faciles à appliquer. Ce délégué fait état d'une table ronde organisée à l'automne 2001 par la FTC. Lors de cette table ronde, un groupe d'économistes, (Carlton, Willig, Ordober, Schmalensee et Winston notamment) a fait collectivement la proposition suivante : si une autorité de la concurrence approuve une fusion au sujet de laquelle les avis étaient très partagés, par exemple une fusion se caractérisant par le passage de trois à deux acteurs sur le marché et l'arrivée imminente de nouveaux concurrents ou par la perspective d'importants gains d'efficacité, elle doit le faire à la condition d'évaluer le marché ultérieurement afin de déterminer si son agrément était vraiment approprié. Les économistes ont reconnu que cela ne serait pas facile, mais que si une autorité de la concurrence prend une décision difficile, elle doit être prête à courir le risque de réexaminer cette décision par la suite et d'accepter les erreurs qu'elle peut avoir commises.

M. Budzinski explique que les cas pour lesquels les avis sont très partagés ne présentent peut-être pas tous un intérêt. Parfois en effet, c'est moins leur impact économique qui n'est pas évident que les faits eux-mêmes qui ne sont pas clairs. Les cas qu'il faut envisager d'évaluer *ex-post* sont ceux dont l'impact économique n'est pas clair, car ce sont eux qui permettent aux autorités de tirer certains enseignements. Les fusions situées à la frontière entre les conglomerats et les fusions horizontales en sont un exemple, les économistes n'ayant toujours pas une très bonne compréhension de leur impact. Il est également intéressant de se pencher sur les cas susceptibles de nous en apprendre beaucoup sur les méthodes employées lors de l'analyse *ex-ante*. Par exemple, s'il a fallu procéder dans une affaire à un grand nombre

de simulations *ex-ante*, il serait intéressant de revenir sur cette affaire pour vérifier la qualité des modèles de simulation *ex ante* utilisés.

Le Président demande à M. Budzinski s'il convient que, pour réaliser des évaluations *ex-post* à des fins de promotion, on peut utiliser des techniques simples, même si celles-ci sont moins précises. M. Budzinski répond que cette solution peut être envisagée lorsque l'analyse vise à démontrer le bien-fondé d'un régime de contrôle des fusions. On peut utiliser des techniques sommaires pour évaluer un grand nombre d'affaires, mais pas nécessairement pour analyser en profondeur une affaire donnée. M. Budzinski convient en outre avec le délégué de l'UE qu'il faut savoir que les évaluations visant à déterminer le coût des régimes de contrôle des fusions pour les contribuables et les consommateurs ne couvrent qu'une petite fraction des avantages réels de ces régimes, puisque ceux-ci ont un pouvoir de dissuasion que l'on ne mesure pas normalement, mais qui joue toutefois un grand rôle.

Un délégué du Brésil demande si, lorsqu'elle évalue une opération de fusion sur un marché donné, l'autorité de la concurrence doit effectuer un réexamen de toutes les décisions prises dans le passé concernant ce même marché. L'autorité de la concurrence procède assez souvent de la sorte au Brésil. En effet, l'évaluation *ex-post* de décisions antérieures peut aider l'autorité de la concurrence à prendre une décision dans une nouvelle affaire. Il cite l'exemple d'une affaire concernant les droits des actionnaires minoritaires dans une société de ciments. Une opération de rachat a été approuvée, sous réserve de certaines mesures correctives. Quelques années plus tard, l'entreprise décidait de fusionner avec d'autres sociétés de son secteur et de réaliser une intégration verticale avec certaines entreprises de production de béton. À l'occasion de cette seconde opération, l'autorité de la concurrence a analysé les engagements pris à l'époque qui l'avaient conduite à approuver la première opération, concluant alors que ces engagements s'étaient révélés insuffisants. De ce fait, elle a donc dû, dans une certaine mesure, ne pas en tenir compte pour évaluer les effets possibles de la nouvelle opération. Cette analyse globale l'a conduite à conclure que la fusion aurait abouti à une réduction de la concurrence et la CADE a donc bloqué l'opération.

Ce délégué demande ensuite à M. Budzinski comment utiliser les outils économétriques pour isoler les conséquences de la décision rendue d'autres phénomènes survenant sur le marché en cause. Selon la réponse de M. Budzinski, tout dépend du fait que l'autorité réussit ou non à trouver un bon groupe de contrôle. Si elle ne peut trouver de marché exposé aux mêmes chocs extérieurs et à la même évolution macroéconomique que celui où la fusion a lieu, mais sur lequel cette opération n'a pas d'incidence, elle peut alors recourir à des outils économétriques pour isoler les effets de la fusion.

### **3. Comment faire participer un plus grand nombre d'autorités à ces exercices**

Le Président aborde ensuite la question de savoir comment élaborer un recueil des meilleures pratiques et aider un plus grand nombre d'autorités de la concurrence à réaliser ces évaluations. Il présente M. Gavil, lequel explique que si nul ne conteste l'utilité des évaluations *ex-post*, un effort est encore nécessaire pour définir les meilleures pratiques généralement admises dans ce domaine et les méthodes à utiliser pour les mettre en œuvre. Cet effort est indispensable et suppose également de mettre au point des approches simplifiées permettant à toutes les autorités de la concurrence, même les petites qui sont dotées de ressources limitées, de réaliser de telles évaluations.

M. Gavil formule quelques suggestions. L'accès aux données est souvent cité comme une contrainte onéreuse. Une solution possible consiste à centrer les examens sur les secteurs d'activité pour lesquels des données publiques sont disponibles. Dans un certain nombre de pays, les autorités ont jugé utile de cibler leur action sur certains secteurs donnés et de procéder, pour ces secteurs, à des évaluations répétées. Elles peuvent également procéder en adossant les évaluations réalisées en interne sur les précédentes. Lorsqu'une nouvelle fusion a lieu au sein d'un même secteur, l'autorité dispose ainsi déjà d'informations provenant des précédentes décisions et peut les mettre à profit. Une autre solution consiste à « semer des



petites graines » : les personnes qui doivent rendre une décision recensent les problèmes qui les préoccupent le plus ainsi que les postulats fondamentaux qui les conduisent à prendre telle ou telle décision, autant d'éléments qui baliseront les futures évaluations. Les économistes peuvent aussi s'efforcer de mettre au point des méthodes que les autorités pourront utilement mettre en œuvre par étapes en mobilisant différents niveaux de ressources.

Mme Vitale convient que certaines méthodes permettent en effet d'économiser temps et argent. Ainsi, l'un des grands problèmes qui se pose est lié au fait que le recueil des données peut être onéreux ou prendre beaucoup de temps, sachant que le temps passé est un facteur de coûts. L'utilisation de données publiques, lorsqu'elles sont accessibles, permet de surmonter ce problème. En « semant des graines », selon la formule de M. Gavil, une autorité peut aussi simplifier les futures évaluations qu'elle réalisera en limitant le temps et les ressources qu'elle doit y consacrer.

Les petites autorités de la concurrence ne disposent toutefois pas toujours des compétences dont elles auraient besoin pour mettre en œuvre certaines méthodes. Elles peuvent alors recourir à des approches plus qualitatives, comme les enquêtes d'opinion, qui peuvent leur fournir de nombreuses informations sur la qualité d'une décision. Toutefois, Mme Vitale met en garde contre toute simplification excessive. Les études économétriques doivent reposer sur des normes minimales et, si une autorité ne dispose pas des compétences qui conviennent ou des données appropriées, il est préférable qu'elle y renonce, une étude économétrique mal menée étant pire qu'une absence d'analyse.

M. Budzinski explique que les méthodes quantitatives donnent lieu à un arbitrage fondamental entre la complexité de l'analyse et sa fiabilité. Pour réaliser une analyse économétrique qui soit à la fois fiable et de bonne qualité, on ne peut se permettre de prendre de raccourci. Pour autant, si l'objet de l'évaluation est de tirer des enseignements sur les effets des fusions, les pays doivent pouvoir apprendre les uns des autres. Si l'on cherche à comprendre de quelle manière des fusions réalisées sur un marché donné ou certaines catégories de mesures correctives ont une incidence sur la concurrence, il n'est peut être pas nécessaire que les autorités de chaque pays du monde procède chacune de nouveau à l'examen de ces questions.

Un délégué de la Belgique formule des observations sur les difficultés que rencontrent, lorsqu'elles réalisent des examens *ex-post*, les autorités de la concurrence, fussent-elles de grande envergure et bien dotées, et se demande si cela doit être un motif de soulagement ou de consternation pour les autorités de moindre envergure. Il se déclare ensuite favorable à un échange d'expériences dans ce domaine.

Un délégué de l'UE revient sur la question des mesures correctives. La Commission européenne a réalisé des travaux, en interne, consacrés à l'efficacité de ces mesures dans certains secteurs donnés, même si ces travaux ne sont pas encore dans le domaine public. Elle a eu recours à des enquêtes qui ont été bien conçues, auxquelles les personnes interrogées ont donné des réponses précises. Il s'agit là d'un domaine dans lequel les pays auraient beaucoup à apprendre les uns des autres pour améliorer leurs procédures de contrôle des fusions.

Une déléguée du Royaume-Uni reconnaît que la réalisation d'examens *ex-post* peut engendrer des avantages substantiels. Ces examens peuvent ainsi donner l'occasion de comprendre qu'il convient d'améliorer les théories économiques jusque-là appliquées aux opérations de fusion. Il lui semble cependant très ambitieux de programmer la compilation d'un ensemble unique, applicable à tous les cas de figure, de meilleures pratiques à mettre en œuvre pour les évaluations *ex-post* des fusions.

Un représentant du Secrétariat exprime des préoccupations analogues. Toute tentative visant à élaborer un recueil unique de meilleures pratiques serait une erreur. Il n'existe pas de modèle universel. Cela étant, il est possible d'élaborer un manuel contenant un ensemble de conseils et de suggestions. S'il est parfois indispensable de mettre en œuvre des méthodes très élaborées pour obtenir une réponse, cela

n'est pas toujours le cas et quelquefois des analyses simples peuvent largement faire l'affaire. En outre, les autorités de la concurrence expérimentées peuvent apporter leur aide à celles qui le sont moins en partageant leurs connaissances avec elles.

Le Président ajoute que ce dernier échange a été particulièrement instructif, les délégués ayant exprimé différentes idées sur la manière de gérer les problèmes inhérents aux examens *ex-post* alors même qu'il n'existe pour l'heure aucune enceinte où cette confrontation d'idées pourrait avoir lieu. De ce fait, s'il n'est pas souhaitable d'élaborer un recueil des pratiques recommandées, il pourrait cependant être utile de rédiger un document présentant toute une série d'approches pour régler les problèmes inhérents à ces évaluations et proposant certaines méthodes simplifiées.

Un délégué de la Roumanie partage l'avis selon lequel le Comité pourrait élaborer un manuel qui procurerait une aide aux autorités de la concurrence venant tout juste de commencer à réaliser de telles évaluations. L'examen *ex-post* des décisions relatives aux fusions n'est pas encore une priorité de premier plan en Roumanie du fait que les opérations de fusion n'y sont généralement pas très complexes. Il est en outre préférable à ce stade que l'autorité de la concurrence les réalise en interne et de ce fait un recueil compilant les meilleures pratiques, des exemples, ainsi que les méthodes existantes lui serait très utile.

Un délégué des États-Unis fait observer qu'à certains égards, une approche universelle est possible. Les autorités aspirent toutes en général à pouvoir répondre aux questions suivantes : comment savoir qu'une méthode fonctionne ? Comment savoir si l'action menée est judicieuse ? Le manuel sur la réforme de la réglementation constitue un excellent exemple d'outil permettant de partager des expériences, de compiler des techniques et de procéder à un échange de vues sur les ouvrages économiques publiés sur cette question. Il serait envisageable de faire de même concernant les évaluations *ex-post*.

Le Président conclut la table ronde en se déclarant favorable à l'idée d'un manuel consacré aux évaluations *ex-post* des décisions relatives aux fusions. Ce manuel n'aurait nullement pour fonction d'apporter une réponse universelle à toutes les questions qui se posent mais permettrait aux différents pays de disposer de références, d'exemples et d'idées qui pourraient leur être utiles.