NMa Conference "Measuring the Economic Effects of Competition Law Enforcement"
The Hague, October 18, 2007

Ex post evaluation of enforcement: Some methodological issues

Damien Neven
Chief Economist, DG Competition, European Commission

Hans Zenger
Chief Economist Team, DG Competition, European Commission

The views expressed are those of the authors and do not necessarily reflect those of DG Competition or the European Commission.

1. Introduction

- Ex post evaluation involves the comparison between the outcome of the decision and the counterfactual (what would have happened otherwize)
- Advocacy
  - Towards our paymasters
  - Towards the general public
- Internal management
  - For resource allocation and internal procedures
- Different requirements
  - A few reasonable rules of thumb
  - Detailed analysis using evidence on process

- Concerning advocacy a number of the studies carried out by OFT, FTC, NMa and others Focus on cartels, some estimates for mergers and hardly any evaluation of abuse of dominance (or state aids)
- Ad hoc couterfactual : typically, gains to consumers have been calculated under the (often implicit) assumption that the decisions were correctly taken
- Reasonable for cartels, much less so for other practices
- For internal management and second generation advocacy, consider possible errors

- A complete evaluation of the quality of authorities' decisions however requires an analysis of both correct *and* incorrect decisions

- So what we would ultimately like to have is an ex-post evaluation that is systematic and accounts for costs and benefits of enforcement

- As the disagreement in the academic literature shows, such an endeavour is far from straightforward (e.g., see the debates in JEP 2003, RevIO 1997, JIndCompT 2001, GWULR symposium 2001)

- Discuss some methodological and institutional issues with a focus on merger control

General issues

- Studies that measure the impact of antitrust intervention typically compare the total costs and benefits of enforcement
- However, an analysis that aims at deriving whether resources were spent efficiently should compare *marginal* costs and benefits
- Identification of errors. Ex ante probability of making an error is implicitly defined by the legal system through the burden of proof
- Focusing on average and ignoring the burden of proof introduces a bias towards excessive spending

General issues (2)

- Coherence between the ex ante objective and the metric ex post (e.g. price increases ex post and consumer welfare)
- Besides guidance from the legal system, there is an optimal rate of errors
- In general, only because a particular policy appears inefficient ex post, this does not mean that it is inefficient from an ex ante perspective
- Some estimates suggest that an average merger case brought by the DOJ or the FTC deters between 11 and 16 other mergers
- Ignoring deterrence will understate the antitrust authority’s positive impact by a significant amount – and lead to excess resources (unless type I errors)

Counterfactuals

- Both cleared and prohibited mergers involve the evaluation of a counterfactual
- In the case of mergers that were cleared, what is observable is directly related to the decision.
- Unlike what happens for mergers that were prohibited
- Evaluation of the arguments/evidence considered in the process of clearing mergers
- Easier to find counterfactuals (for instance prices in countries/regions/neighbouring markets in which no merger took place)

Cleared mergers

- With cleared mergers, we can evaluate price changes induced by mergers (possibly coupled with survey evidence) in order to assess whether mergers increased consumer welfare

- The benefit of this approach is that it not only gives an indication of whether a decision was correct, but also allows forecasting the costs and benefits of a decision by estimating the change in consumer surplus induced by the change in prices and quantities

- However, this approach also faces a number of empirical challenges:

Overenforcement

- The stricter the policy of a competition authority, the higher the probability that cleared mergers will turn out to be welfare-enhancing ex post
- Hence, the observable quality of decisions is endogenous (and not only affected by the authority's ability and country-specific factors)
- Focussing on price changes of cleared mergers therefore tends to reward authorities that are overly interventionist
- Possibly attractive to compensate other incentives (higher probability of appeal in case of prohibitions but also lack of ability to commit)

Overenforcement (2)

- Status quo may be an inappropriate counterfactual.
- Mergers may be triggered by a shift in demand or cost conditions such that some firms would have left the industry
- In that case, the counterfactual of a merger is not the pre-merger price level but the price level after exit of the least efficient firms in the industry
- A price increase post-merger is therefore not necessarily a sign of an ill-taken decision
- If this is not taken into account, will be ignored in the assessment ex ante - overenforcement

Efficiency gains

- Merger-specific efficiencies may take time to realize, while market power increases immediately after a cleared merger
- This means that early price comparisons will constitute a too critical view of an authority's decision to clear a merger
- Unfortunately, demand and cost conditions quickly change, which makes later price levels less precise signals of the quality of a decision
- Imprecise observation, however, also leads to an overestimation of the number of mistakes an efficient agency has made
- Incentive to ignore efficiencies ex ante

Quality improvements

- One major motivation for a merger is to be able to profit from complementary knowledge to produce better products together

- As a result, prices may increase post-merger due to improvements in product quality

- Absent econometric methods that take quality changes into account, the results will be biased against competition authorities' work

- And potential improvement in quality will be ignored ex ante

Event studies as counterfactual

- Event studies use the reaction of competitors' stock prices to merger announcements
- The merger is found to be anticompetitive if and only if competitors' stock prices increase
- Studies of this type include Eckbo (1983), Duso, Gugler and Yurtoglu (2006) and Duso, Neven and Röller (2007)
- This approach manages to extract information about a counterfactual that is not observable and therefore addresses the fundamental problem in the case of blocked mergers
- However, to the extent that stock market predictions are imprecise, event studies will overestimate the number of mistakes a well functioning agency makes

How precise are event studies?

- There are different reasons why stock market predictions may lack precision:
  - Typically, stock markets are not informationally efficient (Grossman and Stiglitz 1980)
  - In fact, mergers are often driven precisely by the fact that financial markets are myopic (Shleifer and Vishny 2003)
  - Stock price reactions to mergers may occur not because of anticipated market power, but because the announcement signals other information (e.g., firm efficiency, Eckbo 1983)
  - Also, the one-to-one relationship between stock price changes and welfare implications will be blurred by expectations the market has about likely merger configurations and by the complexities of conglomerate mergers (Duso, Neven and Röller 2007)

- Empirically, a positive (if weak) correlation between ex ante stock market returns and ex post measures of profitability has been found (e.g., Healy, Palepu and Ruback 1992, and Kaplan and Weisbach 1992)

- The approach therefore has its merits but does not guarantee a correct evaluation

How ex post is ex post?

- Note that event studies are not really an ex post instrument as stock price data is readily available prior to the decision (in particular also for the competition authority)

- Hence, if a different decision was taken than the one suggested by the stock market reaction, this may well be because the authority had access to *better* information than the market (e.g., internal documents of the merging firms or the results of questionnaires submitted to competitors and clients)

- Event studies will therefore be critical about a competition authority exactly when it makes efficient use of the available information

- But possibly, agencies do not possess additional information but are simply ignorant or follow a political agenda
- Ultimately, therefore, event studies will be a good instrument for quality control if the authority is incompetent, but a poor instrument if the agency is very efficient
- Reduce incentive to look for the information ex ante
- It can in principle be tested whether an agency is influenced by a political agenda and whether it performs better at predicting post-merger outcomes than stock markets

Conclusion

- Application of simple tests may overestimate the mistakes an agency commits
- A number of biases will trigger behavioural responses by competition authorities
- Agencies are tempted to
  - Overenforce
  - Spend too many resources and
  - Disregard available information or not collect it in the first place
- Evidence on behavioral response
- In particular within administative procedures

Conclusion (2)

- Therefore, designing and applying appropriate evaluation methods is crucial to ensure that ex post control does not bring about the very ills it is supposed to cure
- For internal management
  - Evidence on the source of potential errors dysfunctionalities or biases in procedures
  - Focused evaluation
- For advocacy ?
  - Keep simple rules of thumb
  - Calibration of the rate of error ?
  - Emphasize deterrence
  - Communication to the wider public