Competition Competence Report

MERGER SIMULATION MODELS

SIEC Test and Unilateral Effects

One of the key changes in the new EC Merger Regulation (Council Regulation 139/2004) was the implementation of a new substantive test, the so-called SIEC-test ("significantly impede effective competition"). By using the SIEC-test, analysis moves away from the concept of dominance towards an analysis of market outcomes. Moreover, the SIEC-test explicitly recognises unilateral effects. Unilateral effects are changes to economic welfare caused by an increase in concentration that materially changes the optimal behaviour of the merging firms. In differentiated product industries, unilateral effects are of higher importance than coordinated effects.

Merger Simulation Models

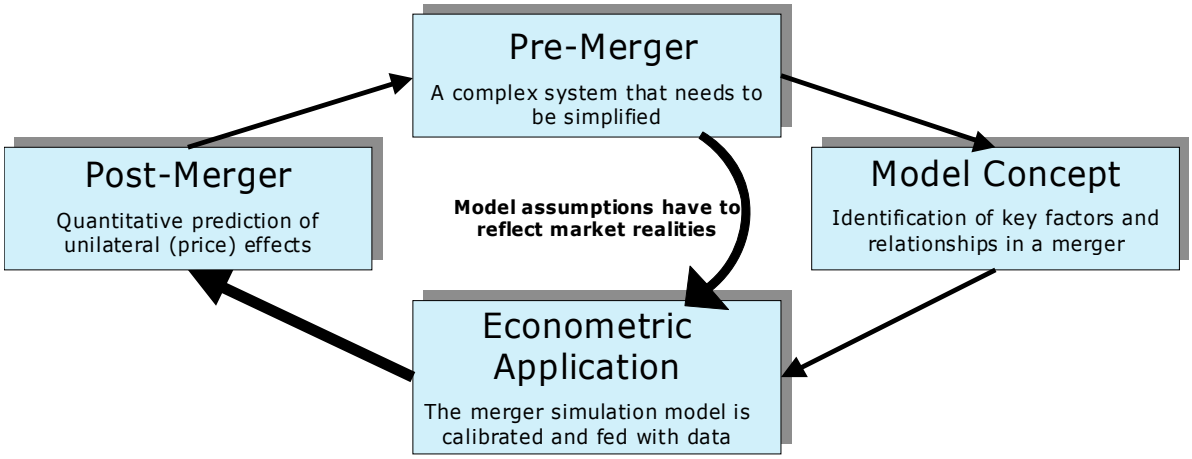
To meet the requirements of the new test, modern economic techniques in the form of merger simulation models are applied. A merger simulation model is a quantitative analysis technique using formal economic models. In concentrated industries with differentiated products for example, the Bertrand oligopoly model is applied. The values of the key parameters of the model are based on observed facts of the merger under review. One benefit of such a merger simulation model is that the focus of investigation is on facts and assumptions that matter. Another benefit is that by quantifying issues of importance the accuracy of the analysis is increased. Robust predictions on market outcomes become possible.

The main focus of the analysis of unilateral effects is on price changes set by the merging parties. Typically, the price of the product of the smaller of the two merging firms rises by most, followed by that of the larger of the two merging firms. Lost sales from the smaller firm are typically captured

by increased sales by the larger firm. The merger simulation model now illustrates the behavior of the merged firm with its greater share of the market post-merger reaching an optimum position again.

The art of modeling is simplifying reality and yet capturing all the important determinants of a merger. Generally, consensus exists on how to approach the "but for" situation. However, the implementation is decisive. As the following graph shows, the concept of a merger simulation model is as follows: The first step is the simplification of the complex pre-merger system. The real market system is broken down and key factors that influence the market actors' decision-making processes are identified. In the following step, the model concept is designed. In this process, expertise in structural modeling of real-world industries and the underlying economic theory is essential. Based on this model concept, the relevant data are collected, e.g. on prices and market shares representing the status quo. This information is "fed" into the model and multifaceted econometric analyses are performed. The result is the quantitative prediction of unilateral (price) effects. Finally, a cause and effect analysis of different possible market situations can be performed to obtain the "but for" situation.

Process of Modelling



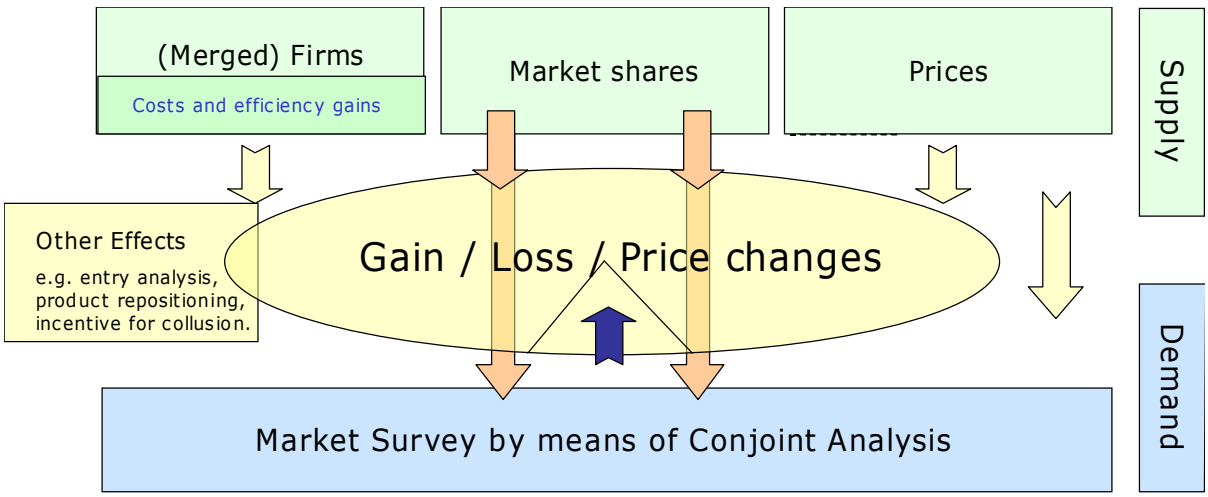
Merger simulation models are great tools for focusing on the critical facts: what things matter, how things matter, and how much they matter. They allow robust predictions on different subjects and can be continually refined and adapted. The main advantage is that they rely on calculations rather than on intuition. In the following, the EE&MC merger simulation model is illustrated.

EE&MC Merger Simulation Model

The influencing factors in this merger simulation model are the supply side, the demand side and other relevant factors.

Concerning the supply side, the EE&MC model covers all decisive factors like size & number of undertakings, market shares, customer/territory sharing, competitors' response & strategic firm behaviour, prices, range of products (single brands or groups of brands), cost structure/ production costs as well as R&D/technology/innovation. However, the specification of the demand side is the critical determinant in price increase predictions. Economists face quite a challenge of mirroring consumers' reactions on a price increase. A few methods are used in this context: Multi-level budgeting (e.g Almost Ideal Demand System, AIDS), logit-type models (e.g. nested logit models, random coefficient logit models) and Conjoint Analysis, which includes the features of a logit-type model. EE&MC applies Conjoint Analysis techniques in its merger simulation model. In order to specify demand, Conjoint Analysis deals with preference intensity. The benefits of this technique are that the market demand curve can be derived whereas other techniques are restricted to individual demand functions only. Further benefits are that the replication of facts is as realistic as possible, and a broad range of products/brands can be included. The questioning itself is most realistic and intuitive. In addition, multiple variables can be recognised/added. Finally, the dynamic EE&MC merger simulation model enables the incorporation of other effects as well. Factors like entry analysis, product repositioning and incentives of collusion can be added.

EE&MC Merger Simulation Model



The EE&MC merger simulation model enables a proper assessment of unilateral (price) effects of a merger. The real advantage is that the EE&MC model puts key issues into sharper focus and adds accuracy and persuasiveness to merger analysis.