

31E12100 Microeconomics policy

Lecture 7: Merger review

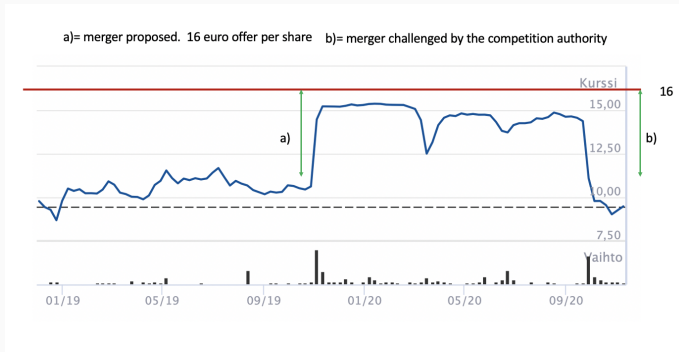
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Motivating illustration

Case Pihlajalinna and Mehiläinen

Pihlajalinna's shareholders will be offered a cash consideration of EUR 16 for each issued and outstanding share in Pihlajalinna. The merger was proposed to the authorities in Fall 2019. It was challenged in September 2020.



Plan for the lecture

1. What are the practical steps to be taken if a merger is under preparation?
 - The self-study material of the guest lecture
2. What are the evaluation criteria and methods?
 - Horizontal mergers: Matti will introduce
 - Methods: the two readings and the guest lecture

Steps of merger control

The steps of merger control in practise?

In Finland undertaken by FCCA, the Finnish Competition and Consumer Authority (see the guest lecture material for further details)

- FCCA intervenes if the concentration may significantly impede effective competition in the Finnish markets
 - the creation or strengthening of a dominant position
- FCCA has to be notified if:
 - combined turnover of the parties to the concentration exceeds €350 m
 - turnover of a minimum of two parties derived from Finland exceeds €20 m
- Covers various types: mergers, acquisitions, joint ventures
- Cross-border mergers notified to multiple national competition authorities
 - Large mergers with EU dimension taken care of by the Commission

Evaluation criteria and methods

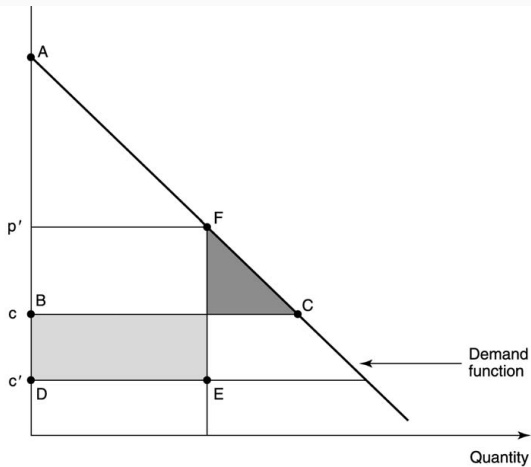
Horizontal mergers

Horizontal mergers are most important but there are also: (i) vertical (buyer-seller relationships), (ii) conglomerate (product or market extension, or no obvious relationship) The central trade-off: reduction in competition vs. potential productivity improvements

- market power: the first historical merger wave in the US consisted of "mergers for monopoly"
- efficiency: economies (pecuniary, scale), management inefficiencies

See Michael Whinston, "Antitrust policy towards horizontal mergers", Handbook of Industrial Organization, Volume 3, 2006. On EU merger policy *here*, and the US merger review *here*. Additional readings: "Competition policy: theory and practice", Motta 2004.

Horizontal mergers: Williamson tradeoff



Merger analysis in a noncompetitive market

Assume that the pre-merger market is an oligopoly and consider:

1. Does the merger increase the price?
2. Does the merger increase the consumer surplus?
3. Does the merger increase the aggregate surplus?

If the merger lowers the consumer price, it should be approved as then the answer to the second question is also positive. What kind of mergers are likely to lead to this outcome?

First question: Does the merger increase the price?

- two merging firms with pre-merger productions, $\hat{x}_1 \geq \hat{x}_2 > 0$.
Total pre-merger production by all firms is \hat{X}
- output price $P(X)$, and costs are $c_M(x_M)$ where $i = 1, 2, M$
(M for merger)

Proposition 1

Price can decline if and only if the merger has lower marginal costs than the more efficient firm.

Very strong requirement. In particular, the price can never decline if

- the cost-savings related to fixed costs
- there are no synergies; that is, if the merger just reshuffles the production optimally between the two firms but does not change the primitive cost functions

Proof of the Proposition

Pre-merger benchmark is Cournot Nash equilibrium:

$$P'(\hat{X})\hat{x}_1 + P(\hat{X}) - c'_1(\hat{x}_1) = 0 \quad (1)$$

$$P'(\hat{X})\hat{x}_2 + P(\hat{X}) - c'_2(\hat{x}_2) = 0 \quad (2)$$

If the merger decreases the price

$$\Rightarrow \hat{x}_M > \hat{x}_1 + \hat{x}_2 \quad (3)$$

$$\Leftrightarrow P'(\hat{X})(\hat{x}_1 + \hat{x}_2) + P(\hat{X}) - c'_M(\hat{x}_1 + \hat{x}_2) > 0 \quad (4)$$

$$\Leftrightarrow c'_2(\hat{x}_2) - c'_M(\hat{x}_1 + \hat{x}_2) > P(\hat{X}) - c'_1(\hat{x}_1) \quad (5)$$

$$\Leftrightarrow c'_M(\hat{x}_1 + \hat{x}_2) < c'_1(\hat{x}_1) \quad (6)$$

(5) follows from merging (1)-(2) with (4). (6) follows since $P(\hat{X}) > c'_2(\hat{x}_2)$ and $c'_2(\hat{x}_2) \geq c'_1(\hat{x}_1)$.

Second question: Does the merger increase the consumer surplus?

The Herfindahl-Hirschman Index (HHI) of concentration, calculated as the sum of the squared market shares of firms, is widely used both in research and in practice. 2010 DOJ horizontal merger guidelines:

- if HHI is below 1 500, "Mergers resulting in unconcentrated markets are unlikely to have adverse competitive effects and ordinarily require no further analysis."
- if HHI is above 2 500, "Mergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power".

HHI measures the ratio of producer surplus (PS) to consumer surplus (CS), so these statements indicate the weight put CS in the the merger guidelines.

Simple analytics of HHI and CS

Consider firms $i = 1, \dots, n$ with costs $C(x_i) = F_i + c_i x_i$, so $MC_i = c_i > 0$. Output price depends on the total $X = \sum_{i=1}^n x_i$, $P(X)$. Marginal revenue i is $MR_i = P'(X)x_i + P(X)$.

Proposition 2

In Cournot equilibrium,

$$HHI = \frac{PS}{\eta CS}$$

where PS=producer surplus, CS=consumer surplus, and η is the elasticity of CS to quantities. All evaluated at equilibrium.

Proof: Follows Spiegel (2019, [link](#)). If $\eta = 2$ (holds when demand is linear), these rules can be interpreted as reflecting a willingness of the 2010 DOJ horizontal merger guidelines to tolerate mergers when CS is at least 3.3 times larger than PS but not tolerate relatively larger mergers when CS is less than twice as large as PS

How to evaluate in practise?
The guest lecture