

PRIVATE ENFORCEMENT: Quantification of harm

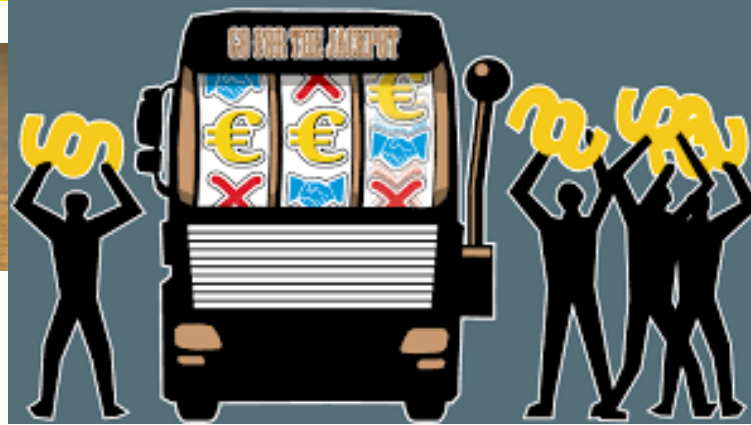


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A starter: First guess on cartel damages



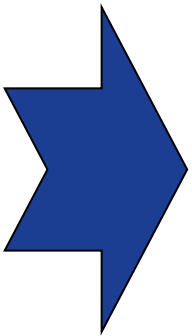
- EU-wide price cartel for commercial vehicles/trucks for **14 years**
- All companies acknowledged their involvement
- EU Commission's fine: **€ 3 bn.**

A rough **not-founded** first guess on **potential** cartel damages

- Estimated sales during cartel period: approx. **5,6 mio.** trucks
- Average costs of a vehicle: € 80.000 / *rough* average overcharge in academic studies (not related to trucks): 20%
- First, completely unfounded guess on possible cartel damages based on these too general assumptions: damage per vehicle approx. **€ 13.000**
- Completely unfounded guess on potential cartel damages: **€ 72,8 bn.**
- Percentage of the fine in relation to the cartel damages: **4%**
- **It is likely that a lot of companies are going to claim damages**

Methods of overcharge calculations

Type of method	Method of calculation	„But For“ Price
Yardstick	<ul style="list-style-type: none"> Price comparison with similar product market 	Price elsewhere
Simple before-and-after	<ul style="list-style-type: none"> Price comparison before and after the infringement 	Price before, while and after infringement
Price Prediction	<ul style="list-style-type: none"> Statistical estimation of relationship between prices and demand and supply factors 	Calculate (predicted) price based on past relationships
Cost-Based (margin)	<ul style="list-style-type: none"> Estimation of competitive price based on past margins 	Costs plus margin
Theoretical modelling (simulation) of oligopoly	<ul style="list-style-type: none"> Theoretical models to understand effects on prices and output, with econometric and other data being inputs into the model 	Theoretical price, based on model's estimates



Price Comparison over Time

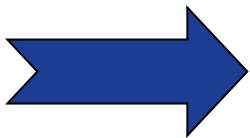
Two time periods are examined: the cartel period and the post-cartel period

Calculation Approaches:

1. Simple before-and-after
2. Price Prediction

Selection of econometric method:

- Regression analysis
- Multiple regression analysis



Price Prediction Method:

- **Hypothetical competition prices („but for“-prices) are estimated for the cartel period based on a regression analysis with post-cartel prices**
- **Comparison “but for“-prices with cartel prices**
- **Difference = Cartel damage**

Econometric Tool: Regression Analysis



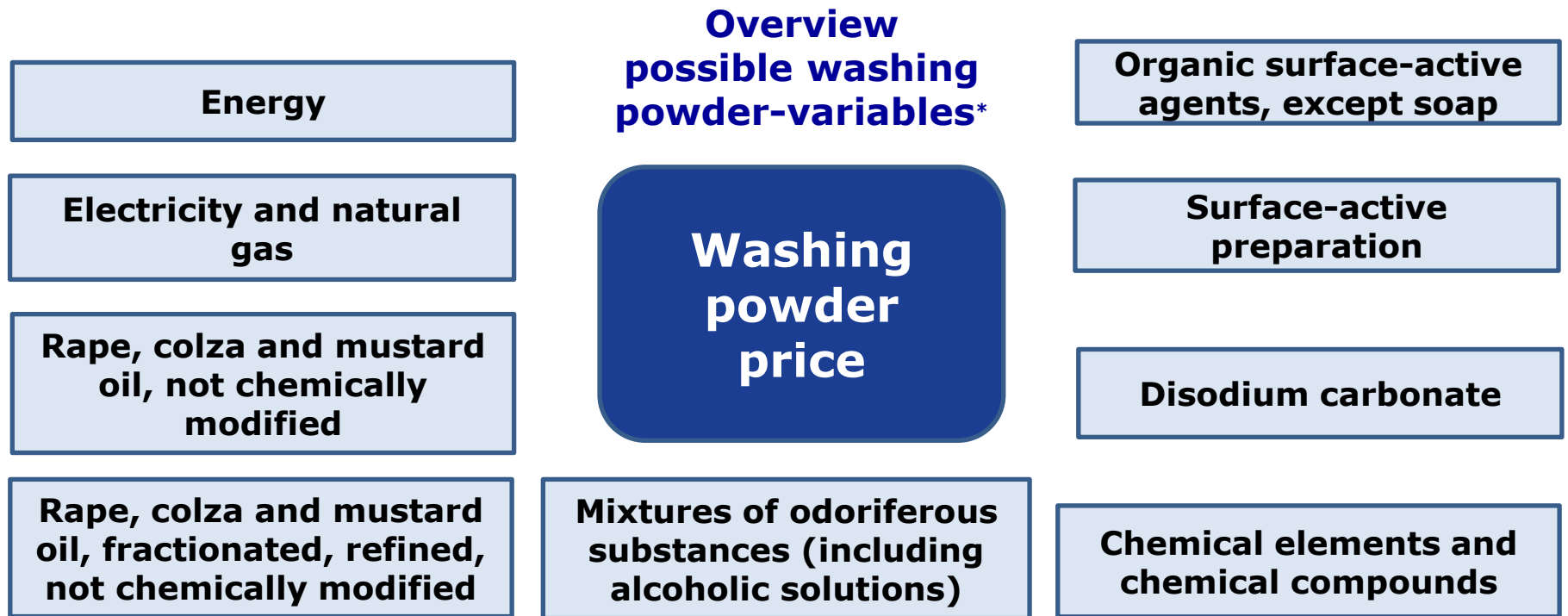
- Identify a relationship between prices and costs in the **post-cartel period** by a regression formula
- Regression formula is like a **recipe**
- Use e.g. the input costs in the regression formula to predict the “**but-for**”-prices or hypothetical competition prices for the cartel period

- **Regression analysis:** a statistical process for estimating the relationships among variables
- The focus is on the relationship between a dependent variable (**price**) and one or more independent variables (e.g. **costs**)



Example 1: Ingredients washing powder

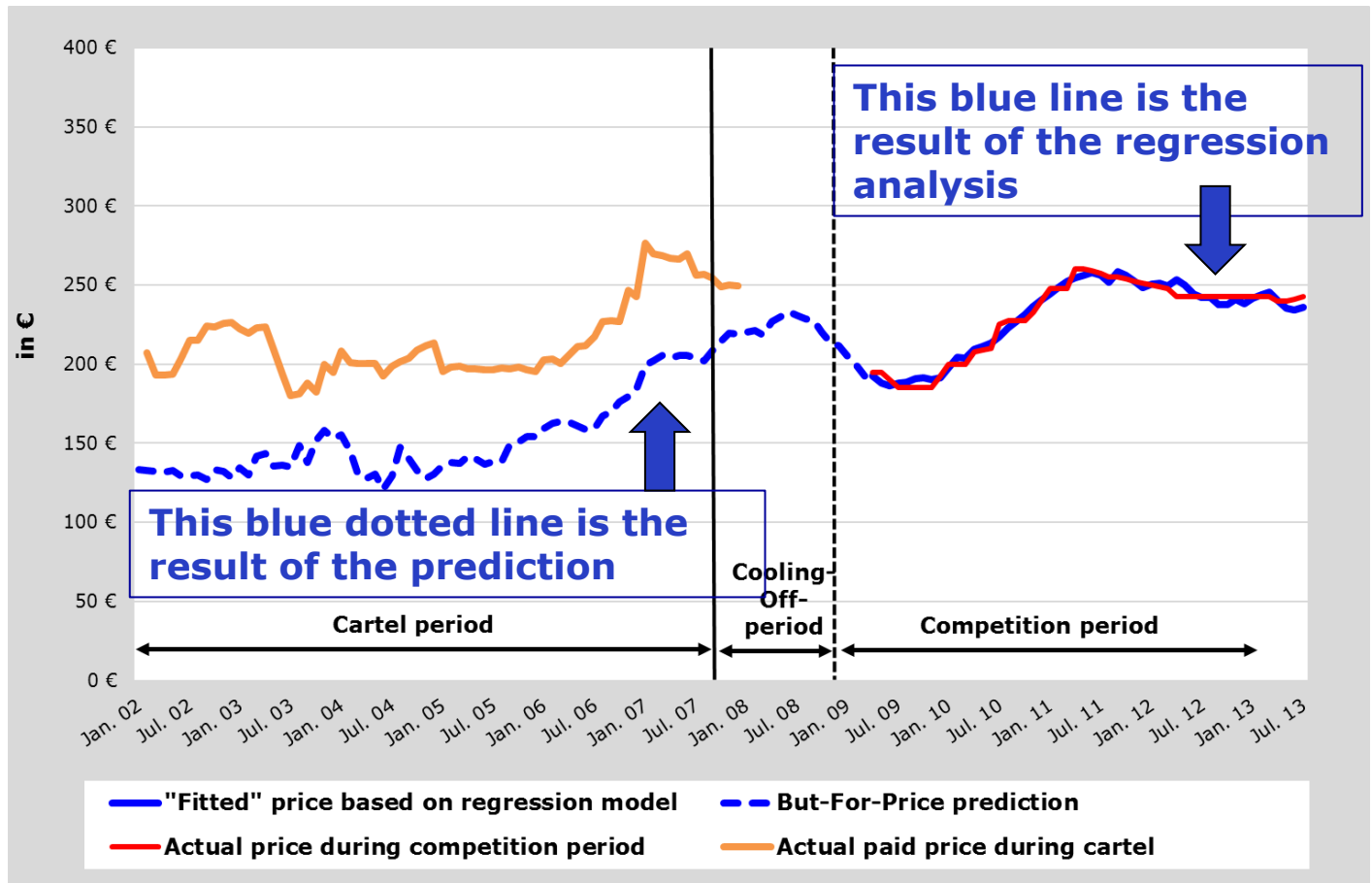
Based on theoretical considerations, possible price-explanatory variables are collected



Input costs are used in the regression formula ("recipe") to model hypothetical competition prices

Prices are the **public available producer price indices of industrial products;
Data collection on a monthly basis between 2000-2013*

Example 2: Result Regression Analysis



- The cartel damage is the difference between the blue dotted line left and the orange line (on average **€ 61** in this example); multiplied with the purchased volume during the cartel period = cartel damage per month
- The overcharge in this cartel is **39%**

Pro's and Con's of the Price Prediction Tool

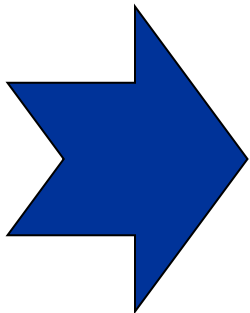
- Applicable for markets with easily accessible market information
- Statistical correlations are displayed

Pro:

- Quantifying the hypothetical competition price by means of real historical determinants
- **Dynamic Approach:** possible changes in the market during the cartel period can be taken into account

Contra:

- Reliability depends on the quality and availability of the respective data



Price prediction is the leading methodology

EE&MC has applied this methodology in about 30 cartel cases already – experience counts

Usual cartel disclaimer: No economic effect of the cartel



Thank you for your attention !

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