

# The Quantification Of Damages For Competition Law Infringements

Global Competition Law Centre, Forty-Eighth Lunch Talk

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# Overview

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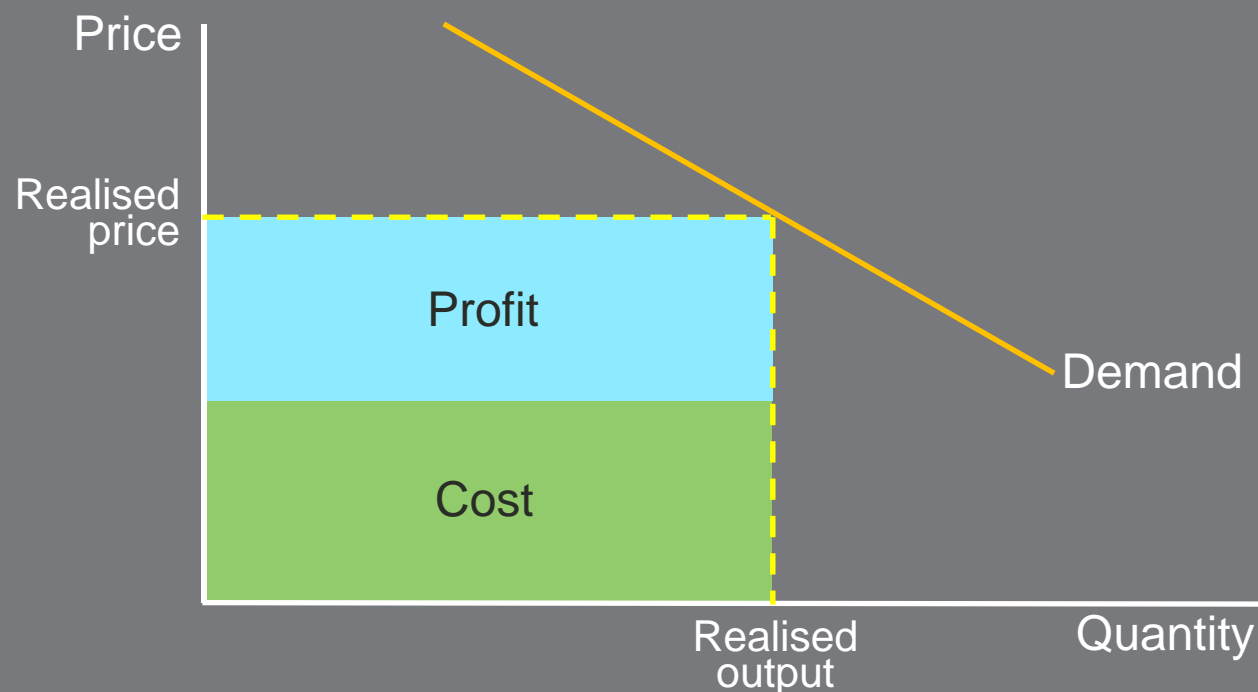
1. Factors relevant to damage calculation
  - Overcharge
  - Pass-on
  - The Output Effect
2. Estimating the overcharge
3. Estimating the pass-on and output effect
4. Conclusions

# 1. Factors relevant to damage calculation

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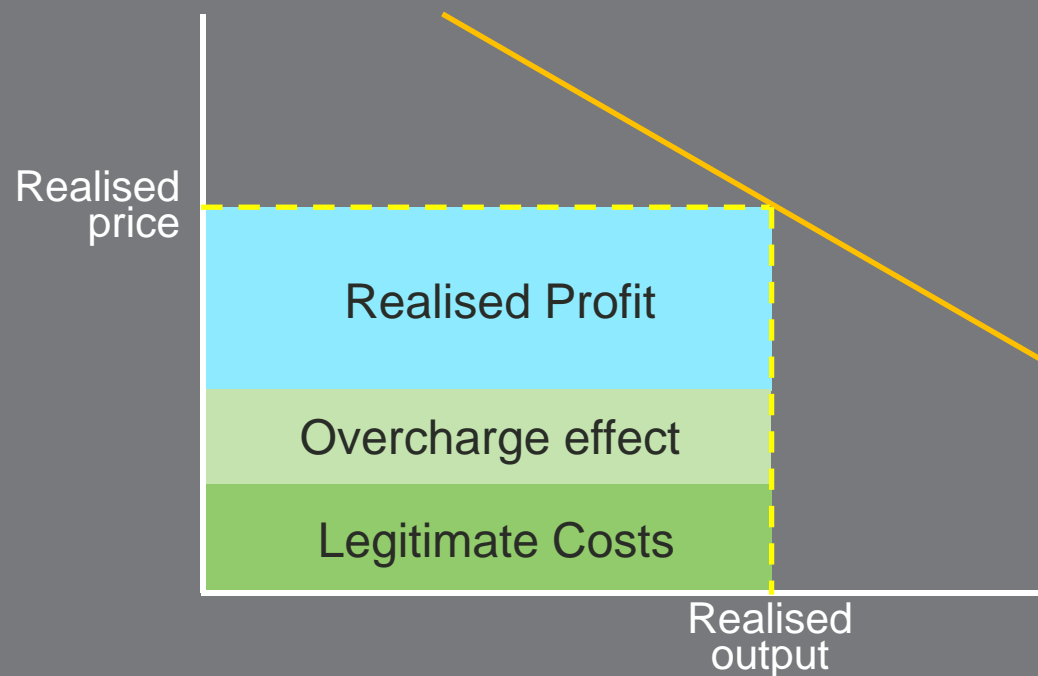
## 1.1 Factors relevant to damage calculation

- What are the damages from coordinated behaviour?
- Illustration: Suppose a firm's costs are inflated by a cartel among input suppliers
- Start from observables: realised price/output; costs (including inputs); profit



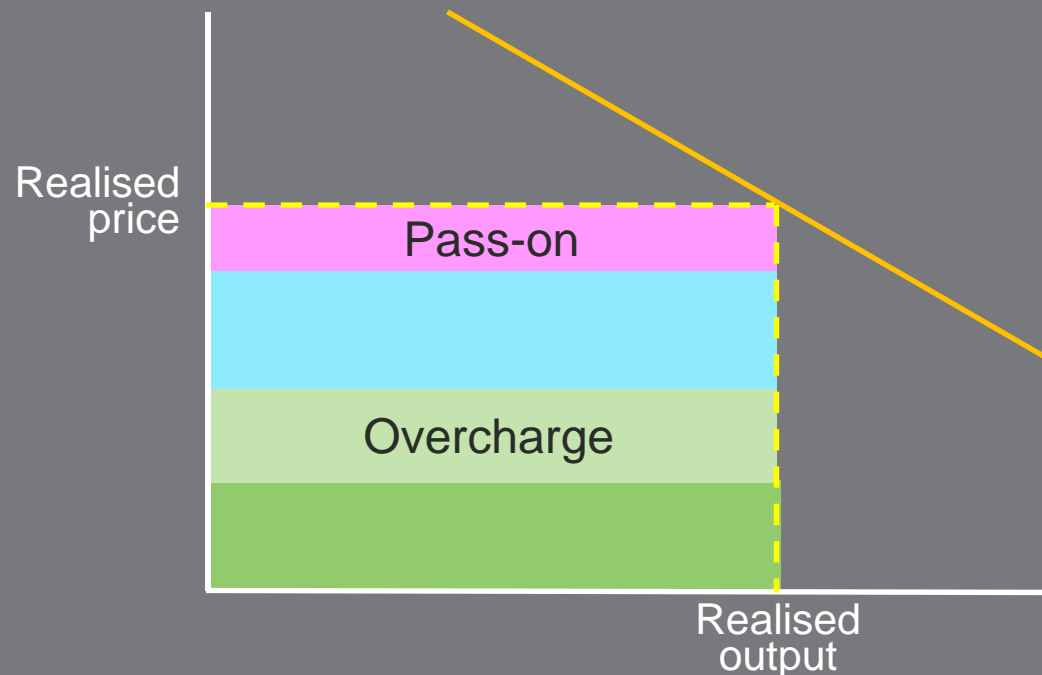
## 1.2 Overcharge

- Overcharge: Immediate customer pays more on each unit of input bought
- Simple damage estimate: **Overcharge per unit x number of units bought**



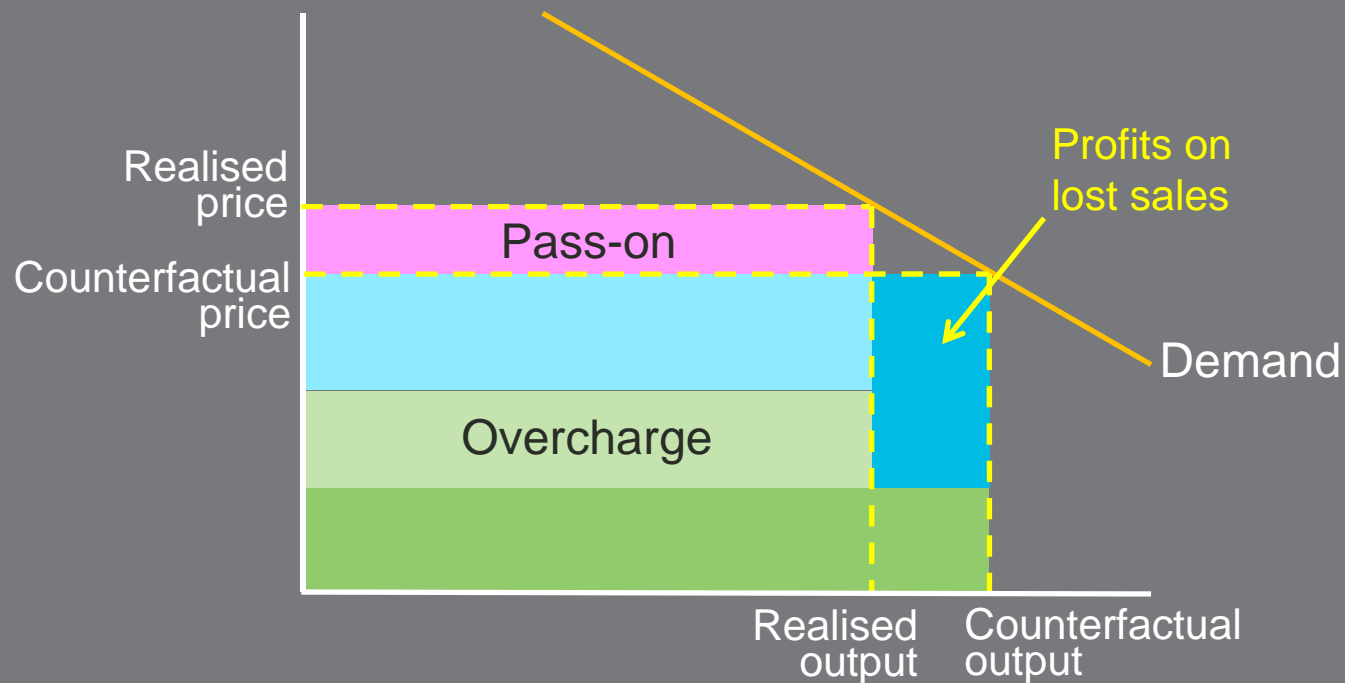
## 1.3 Pass-on

- Some of the overcharge may have been passed-on to end-users
  - This is because input cost increases reduce margins, making the negative effects of any volume loss less severe and giving firms an incentive to raise prices
- Mitigates impact of cartel on immediate customer (but not overall)
- Revised estimate of immediate damage: **Overcharge – Pass-on**



## 1.4 Output effect

- Pass-on causes higher downstream prices; demand shrinks
- Without overcharge: lower prices would deliver expanded sales (and profits)
- Revised damage estimate:  
**Overcharge – Pass-on + Estimate of profits on lost sales**



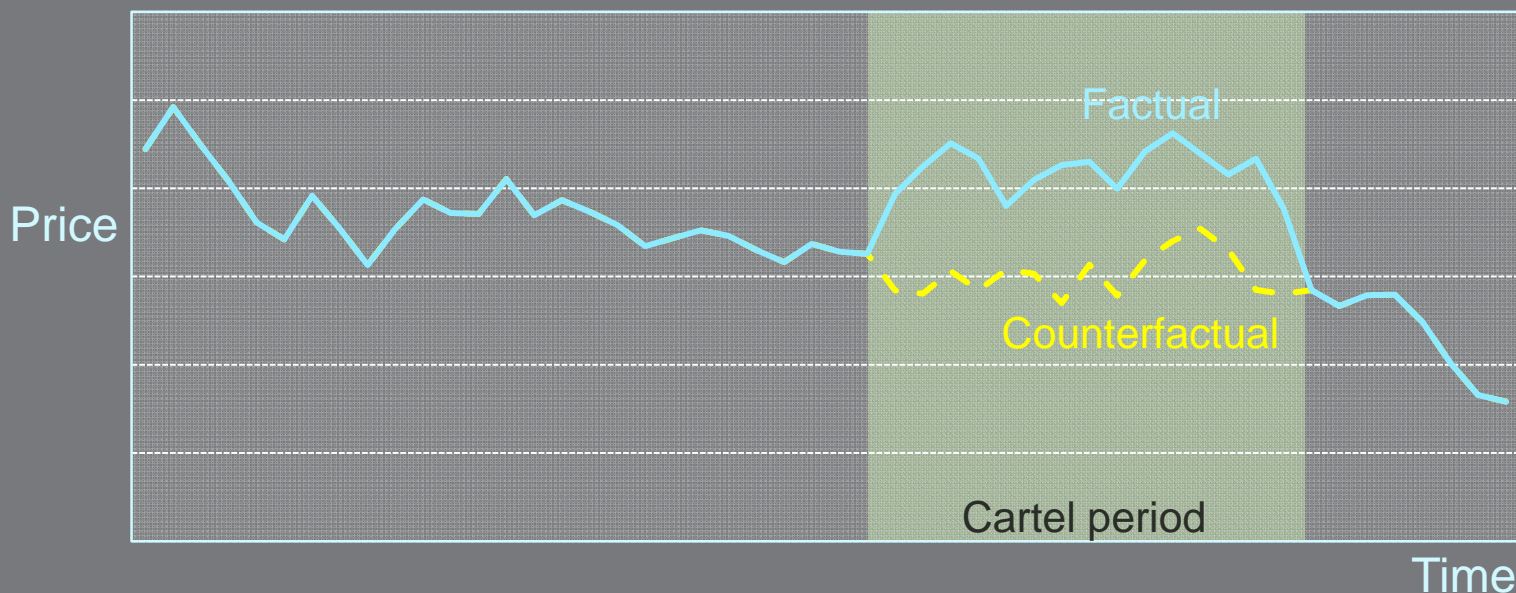
## 2. Estimating the overcharge

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## Estimating the counterfactual input price (I)

- **Key issue: Establishing the counterfactual price of the cartelised input**
  - Damages are assessed with respect to a hypothetical situation where no infringement occurred
  - This means that a proper counterfactual scenario must be established



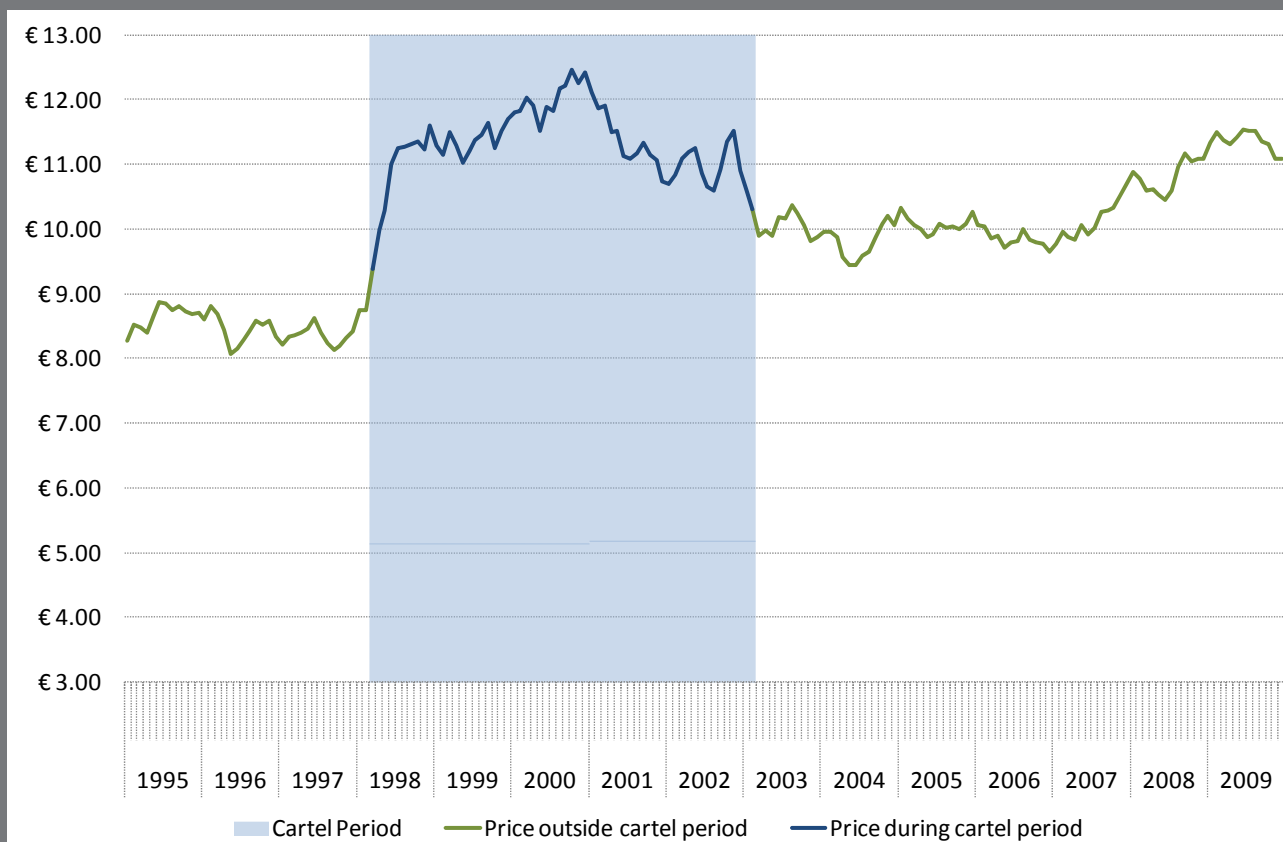
## Estimating the counterfactual input price (II)

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- Main methods applied to estimate the counterfactual
- **Benchmarking (see following slides)**
  - Involves comparing the price of the products affected by the cartel with the price of products which were not subject to the infringement. The difference between the two provides an estimate of the cartel overcharge
- **Cost-plus approach**
  - Price of cartelised product can be decomposed into two components: the unit cost and a profit margin representing a “reasonable” rate of return
  - Requires a detailed analysis of cost and margin data

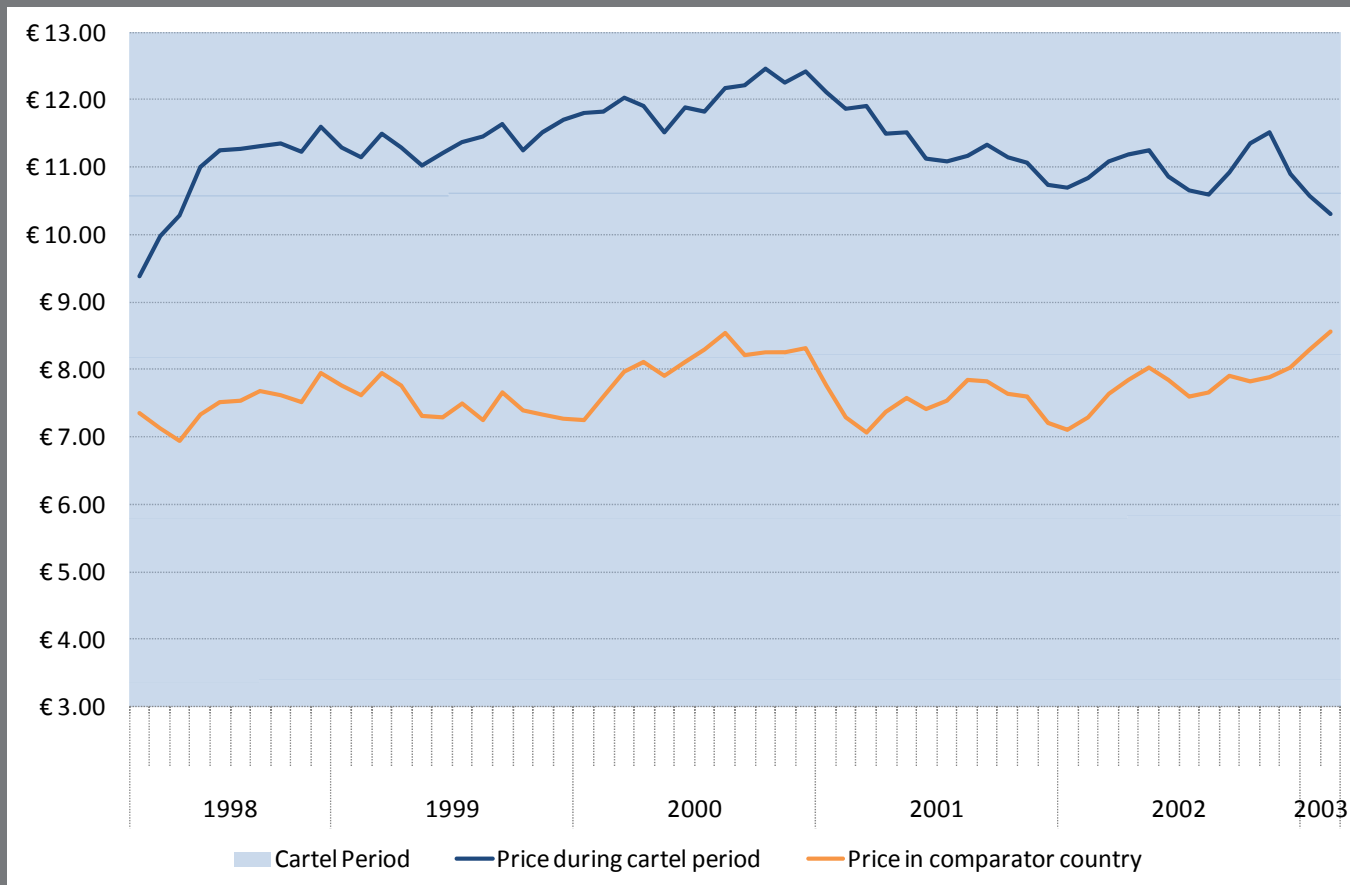
## Estimating the counterfactual input price (III)

- Comparing prices during the cartel period with those before/after
  - The difference between the two prices is the cartel overcharge
  - Subject to data availability, one should control for the impact of changes in supply and demand conditions on the price level



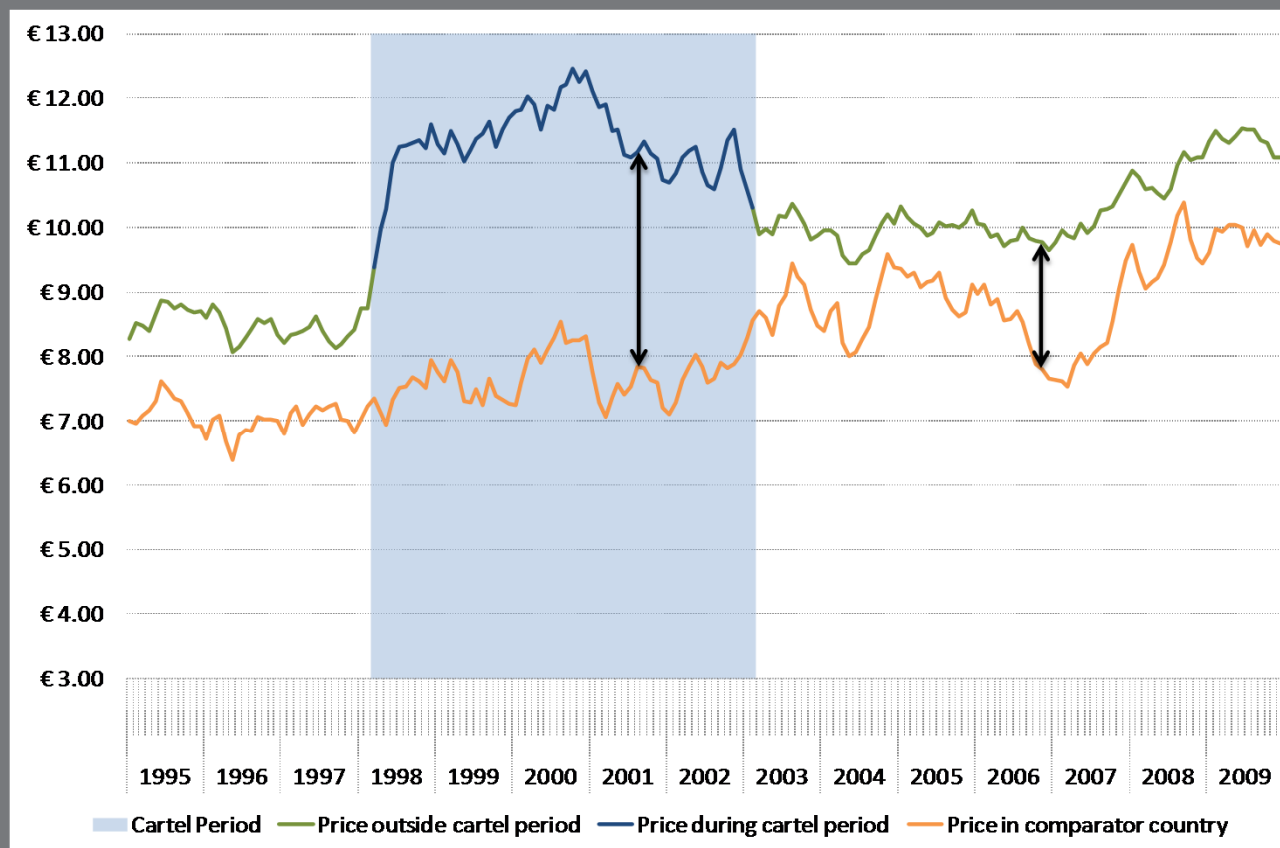
## Estimating the counterfactual input price (IV)

- Comparing the price in affected markets (e.g. the EEA) with the price in non-affected markets (e.g. North America)
  - The difference between the two prices is the cartel overcharge



## Estimating the counterfactual input price (V)

- Difference-in-difference method
  - Combines the two methods presented above
  - This technique is based on a comparison, over time, of changes in the price paid by customers in the affected markets with changes in the prices in non-affected markets

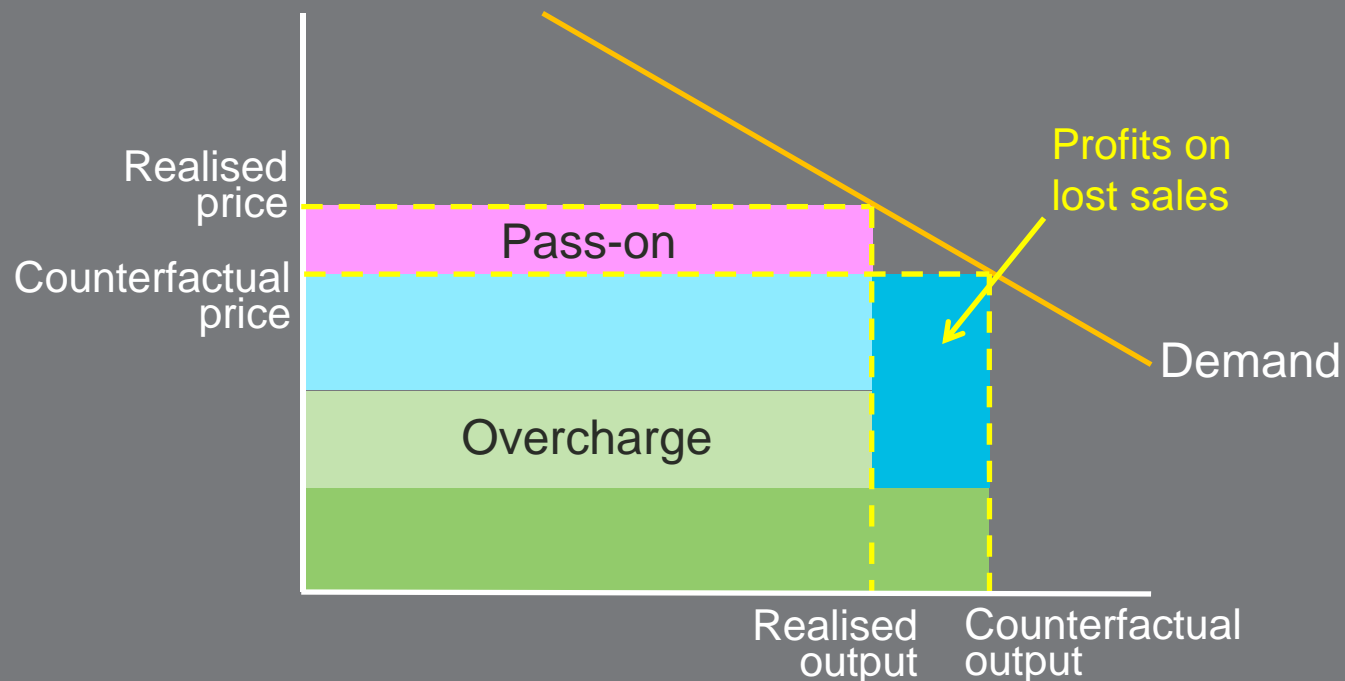


### 3. Estimating the pass-on and output effect

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## 3.1 Overview

- Having estimated the counterfactual input price, we can calculate the overcharge
- However: damage figure is equal to:  
**Overcharge – Pass-on + Estimate of profits on lost sales**
- Need to also consider effects on pass-on and lost sales



## 3.2 Effect of pass-on on damage figure

- A recent judgment by the Karlsruhe Higher Regional Court indicated that the passing-on defence may run counter to the “effectiveness” of EU law
- Other Courts around the world have adopted a similar stance on the grounds that passing-on defence might result in under-deterrence
- It is indeed the case that passing on always reduces the damage
  - Otherwise decision to pass-on would not be profitable
- **However**, this does not imply that the simple damage estimate  
**Overcharge per unit x Number of units bought**  
provides an upper bound for the actual damage suffered by the claimant
- Why?



### 3.3 Effects of pass-on – stylised example

	Price	Cost	Margin	Volume sold	Profit
<b>Without cartel</b>	100	50	50	20	1000

### 3.3 Effects of pass-on – stylised example

	Price	Cost	Margin	Volume sold	Profit
<b>Without cartel</b>	100	50	50	20	1000
<b>With cartel but before pass-on</b>	100	70	30	20	600

- Overcharge per unit: 20
- Damage in the absence of pass-on: 400

### 3.3 Effects of pass-on – stylised example

	Price	Cost	Margin	Volume sold	Profit
<b>Without cartel</b>	100	50	50	20	1000
<b>With cartel but before pass-on</b>	100	70	30	20	600
<b>After pass-on</b>	<b>110</b>	<b>70</b>	<b>40</b>	<b>16</b>	<b>640</b>

- Overcharge per unit: 20
- Damage in the absence of pass-on: 400
- **Pass-on increases profit by 40 and reduces the damage to 360**
  - **Otherwise it would have been better not to pass on**

### 3.3 Effects of pass-on – stylised example

	Price	Cost	Margin	Volume sold	Profit
<b>Without cartel</b>		50			
<b>With cartel but before pass-on</b>					
<b>After pass-on</b>	110	70	40	16	640

- Overcharge per unit: 20
- Damage in the absence of pass-on: 400
- Pass-on increases profit by 40 and reduces the damage to 360
  - Otherwise it would have been better not to pass on
- **But: in practice only actual volumes readily observable!**

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- Overcharge per unit: 20
- Damage in the absence of pass-on: 400
- Pass-on increases profit by 40 and reduces the damage to 360
  - Otherwise it would have been better not to pass on
- But: in practice only actual volumes readily observable!
- **Simple damage calculation on the basis of realised volumes:  $(70-50) * 16 = 320$** 
  - Lower than actual damage (which includes pass-on)

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<b>With cartel but before pass-on</b>					
<b>After pass-on</b>				16	

- Overcharge per unit: 20
- Damage in the absence of pass-on: 400 (counterfactual volumes)
- Pass-on increases profit by 40 and reduces the damage to 360
  - Otherwise it would have been better not to pass on
- But: in practice only actual volumes readily observable!
- Simple damage calculation on the basis of **realised volumes**:  $(70-50) * 16 = \underline{320}$ 
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- Overcharge per unit: 20
- Damage in the absence of pass-on: 400
- Pass-on increases profit by 40 and reduces the damage to 360
  - Otherwise it would have been better not to pass on
- But: in practice only actual volumes readily observable!
- Simple damage calculation on the basis of actual volumes:  $(70-50) * 16 = 320$ 
  - Lower than full calculation including pass-on
  - **But: can go both ways!**

## 3.4 Effects of pass-on - Implications

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- Simple damage calculation on the basis of actual volumes can lead to an underestimate of the actual damage
- Whether this is the case or not requires assessment of pass-on and output effect
- Courts' claims that taking into account pass-on would necessarily run counter to the objective of deterring cartels are incorrect
- One should beware of claims (by defendants) along the lines of:

*“The illustrative damage calculations in this settlement proposal should be reduced to account for the fact that some of the damage has been passed on”*



## 3.5 Estimating the pass-on and output effect (I)

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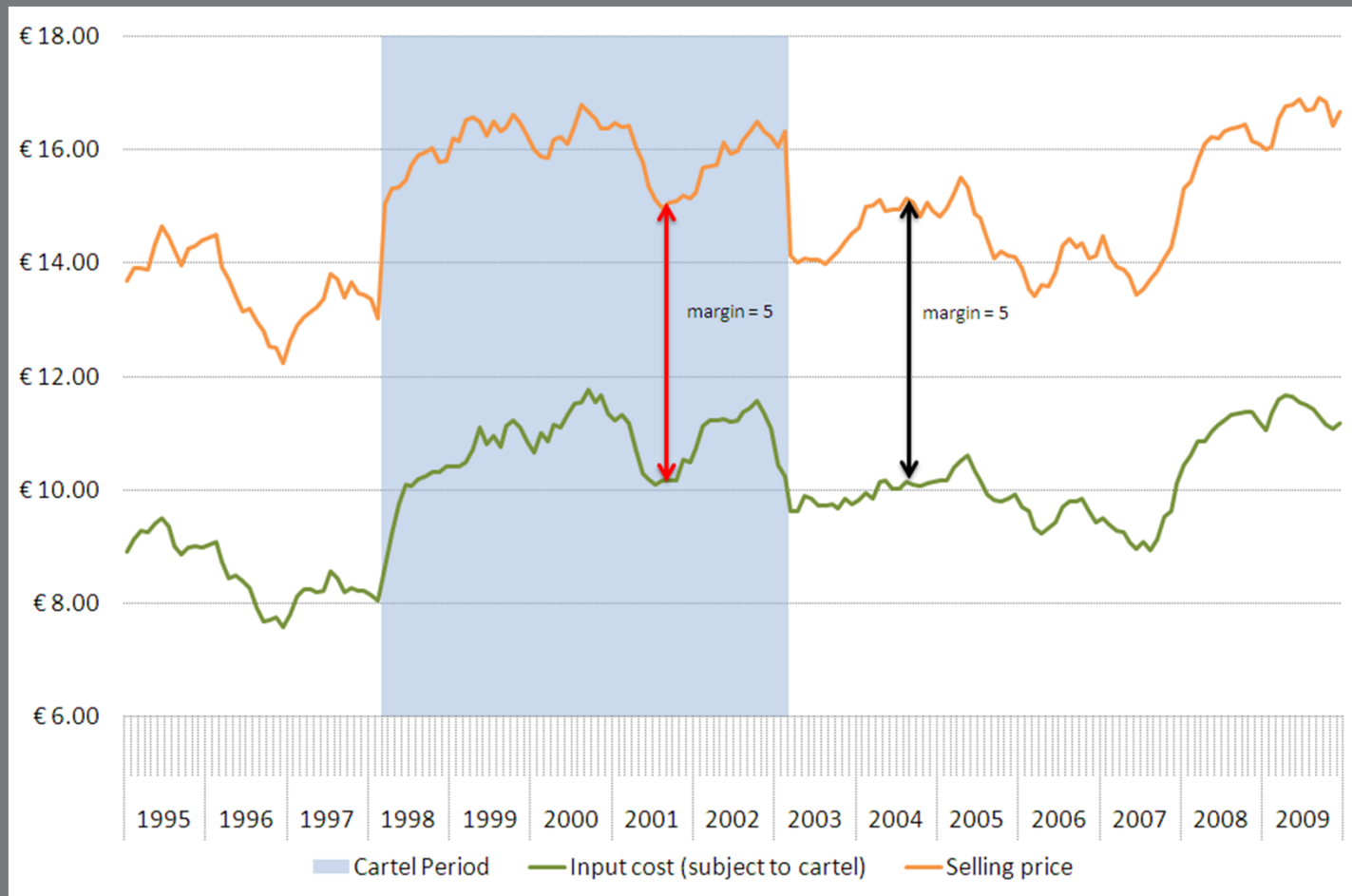
To estimate pass-on and output effect it is necessary to estimate

1. relationship between prices charged by the downstream firms and the input costs of these firms
  - requires, for example, a comparison of average margins during and after the cartel
  - see next slides
2. impact of higher downstream price on volumes sold by downstream firms
  - requires an estimate of demand elasticity
3. the margin foregone on any lost volume

➡ In more complex settings, pass-on and output effect can be estimated by undertaking an econometric analysis

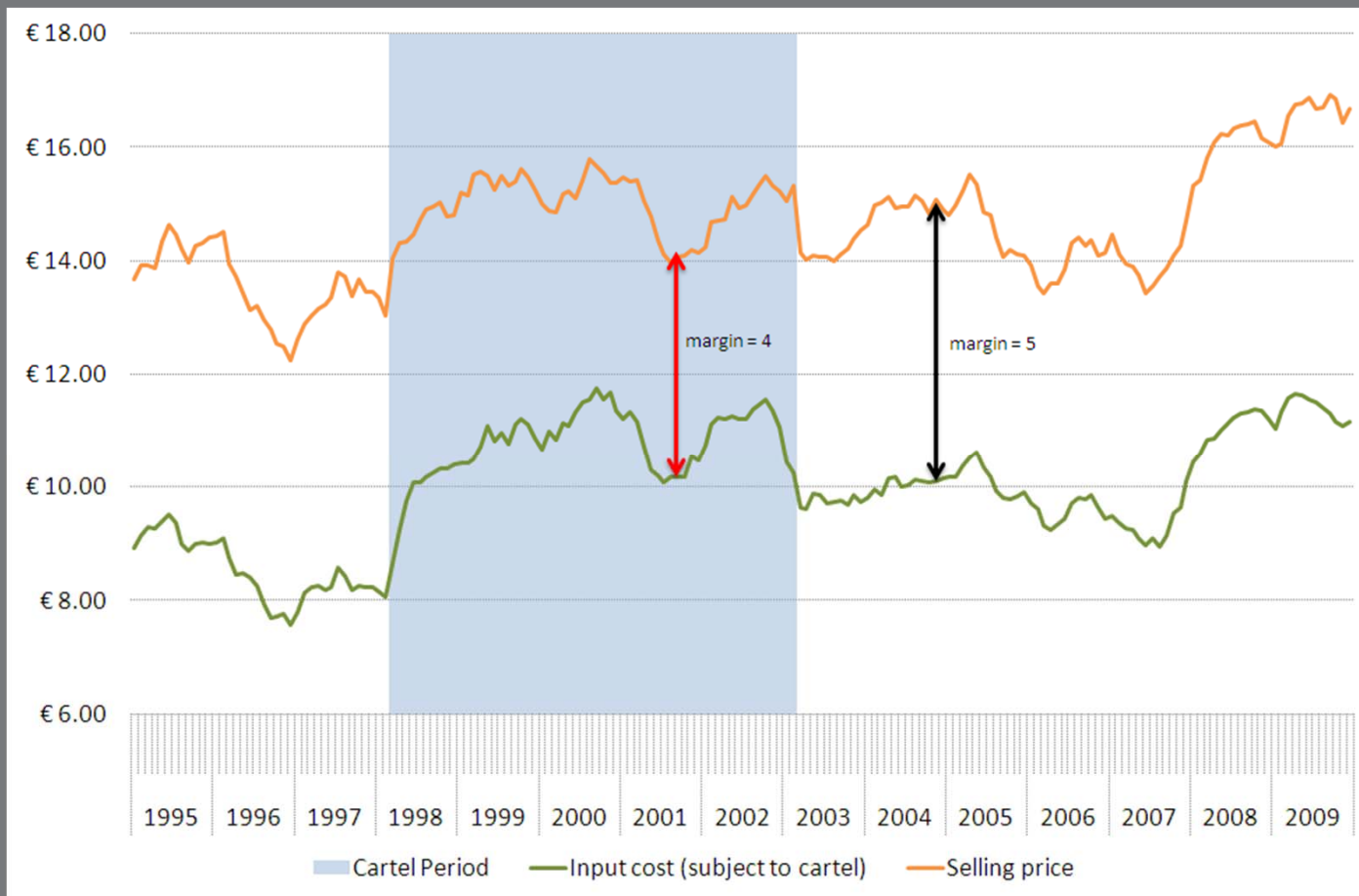
## 3.5 Estimating the pass-on and output effect (II)

Overcharge is fully passed-on



### 3.5 Estimating the pass-on and output effect (III)

Overcharge is only partially passed-on



## 4. Conclusions

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- Damage assessment cannot be limited to a simple estimate of the price overcharge
- Since firms typically have an incentive to pass-on cost increases, analysis should consider extent of pass-on
- As higher prices result in lower sales, assessment should also take into account value of lost sales caused by cartelised prices
- Theoretical models suggest that firms will often choose to absorb a portion of the cost increase
- However, an actual estimate of the magnitude of pass-on can only be obtained on the basis of a detailed empirical analysis