

Economics of information exchange and the OFT's Motor Insurance Case

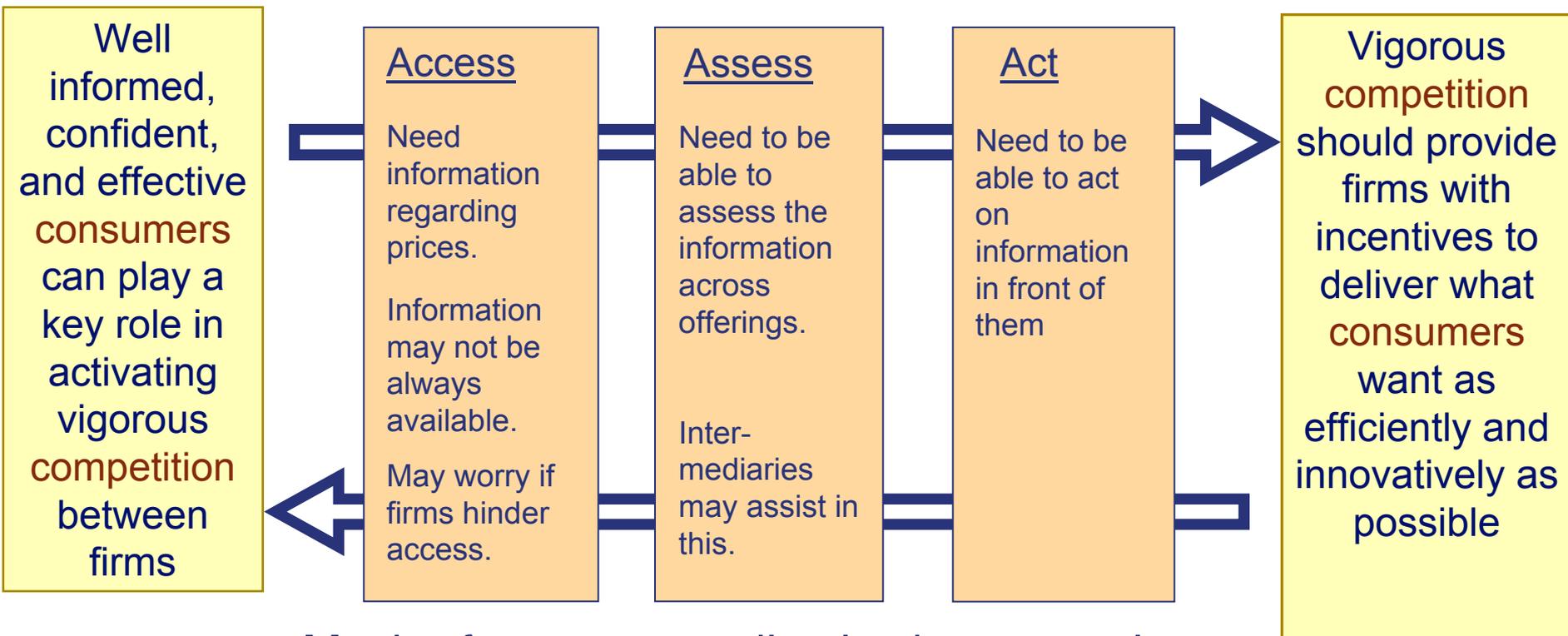
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Brno, November 2011

The opinions within are mine alone and not necessarily those of the OFT.

Information plays a key role for customers in delivering a well functioning market



Much of consumer policy is about ensuring consumers have access to the right information

The bad... risks to coordination

- **Focal point for coordination (Stigler 1961).**
 - Choosing focal point is difficult - what price should one agree to in order to coordinate?
 - Exchanges of information facilitate a common understanding.
 - Future pricing particularly dangerous as allows competitors to discuss where they would like to be, without actually having to commit to the price.
- **Can facilitate monitoring of any agreements (internal stability).**
 - Generally coordination requires ability to monitor/punish.
 - Information allows firms to see when someone is cheating and who it is.
 - More disaggregated prices allow better monitoring.
- **External stability of cartel**
 - Shows entry.
 - Where to target punishments?

Good + Bad = Ugly

- **Benefits and harms are not necessary mutually exclusive:**
 - Price information may provide benefits to customers, via benchmarking, but may also facilitate coordination.
- **Transparency or certainty is not bad in itself, predominantly concerned when it leads to coordination.**
 - We don't want firms bypassing cartel laws simply by communicating intentions rather than signing agreements.
- **Returning to framework – what type of exchanges (if taken on a case by case basis) are most likely to result in coordination and provide little benefits?**

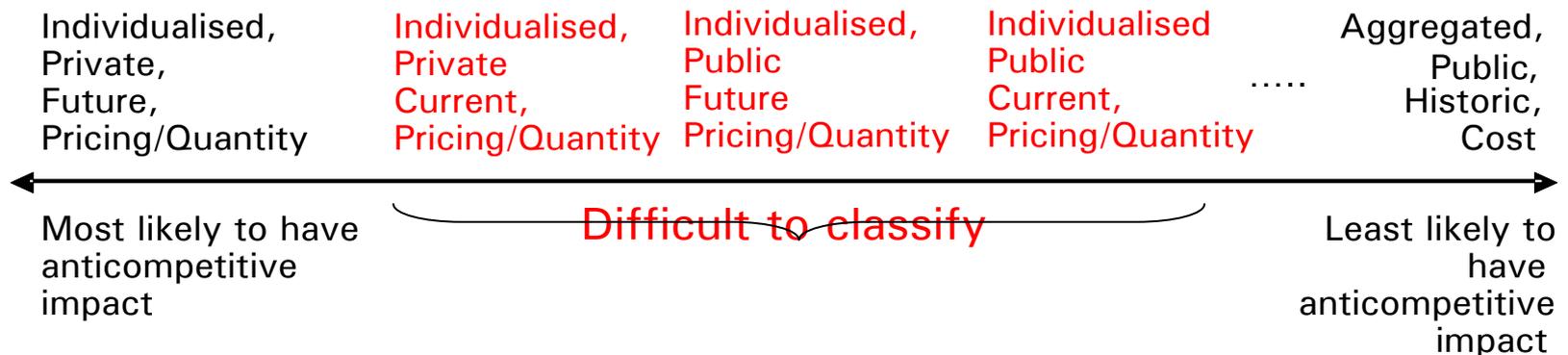
Most likely to provide net harm?

- **Disaggregated, confidential information on future intentions between competitors exchanged in private.**
 - High potential for information used to coordinate and harm consumers.
 - Although may be some commercial benefits from disclosing future pricing information, benefits may be realised through the disclosure of less harmful information – for example aggregated forecasts.
- **Implies that disaggregated, future intentions on confidential strategic variables most likely to be within an 'object' box.**
 - Ties in with law – i.e. most like 'smoke filled rooms'

Least likely to provide net harm?

- **Past, aggregated, public information between competitors.**
 - Low potential for information used to coordinate and harm consumers – not helpful for focal points, not helpful for monitoring.
 - Potential for benefits – for example benchmarking. Publically available for customers - helpful for consumer decisions.
- **Implies that past, aggregated, public information should not be in 'object' box (may even be outside 101(1)).**
 - No past cases based on this type of information.

The difficult area...



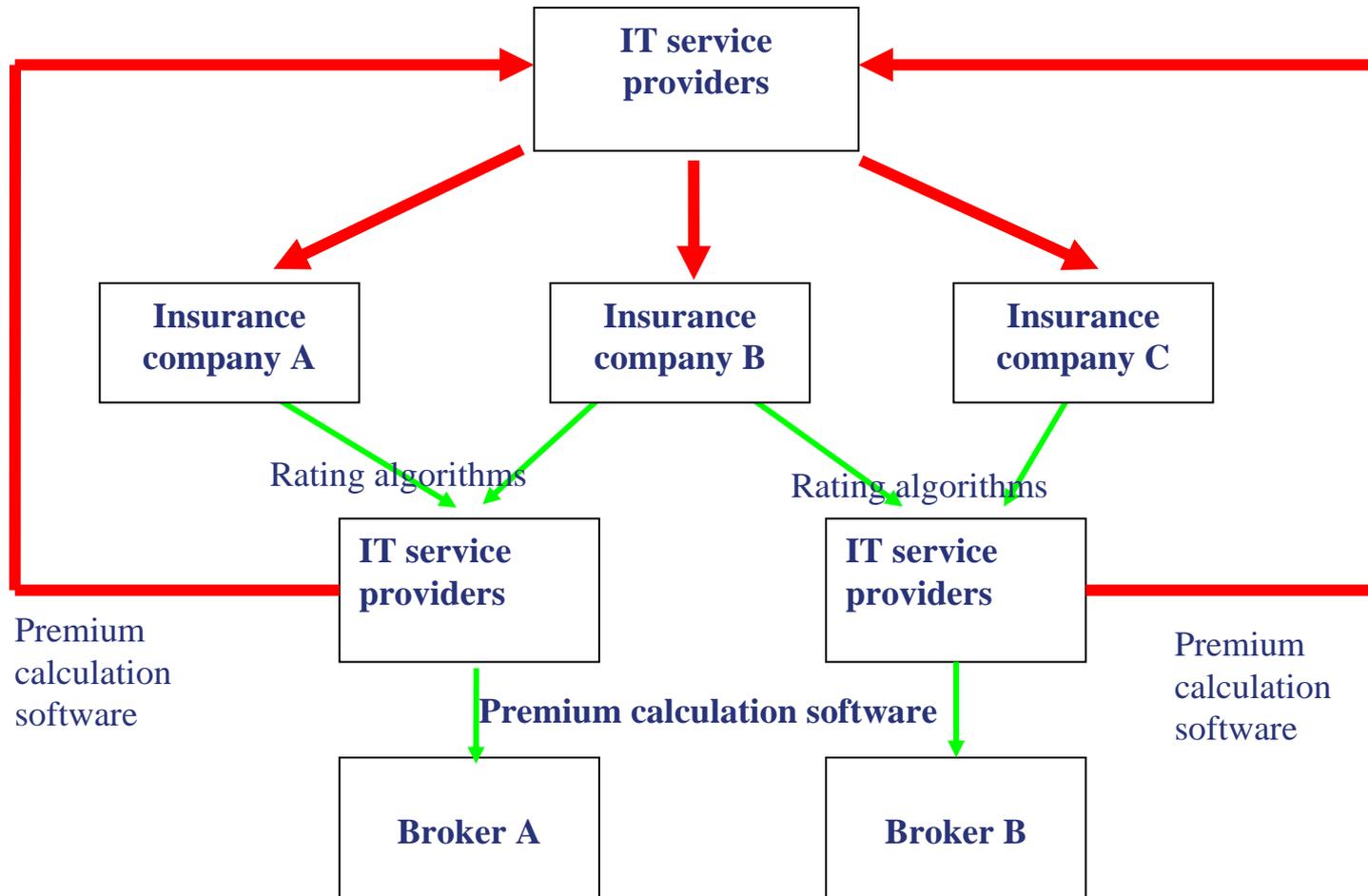
- **Grey areas**

- Potential for information used to coordinate and harm consumers.
- Potential for benefits to consumers – i.e. price comparison websites

OFT experience in insurance industry

OFT Motor insurance case

- **Exchanges of future pricing information:**
 - Information exchanged to create a product such that motor insurance firms could see how much each other was pricing.
 - Highly detailed information at individual firm level.
 - Information provided before prices went live in policies sold by brokers.
 - Parties able to amend current prices based on prices received.



Alleged illegal info exchange



Alleged legitimate info exchange in itself

Theory of harm/efficiency

Possible Effect	Evidence for	Evidence against
Coordination	<ul style="list-style-type: none"> ● Detailed price information is regularly shared two weeks before sale ● Alternative information sources are much less useful 	<ul style="list-style-type: none"> ● Firms cannot cost effectively react to information before sale ● Information is not completely accurate or complete ● Some firms do not track detailed prices, only averages
Softening of competition	<ul style="list-style-type: none"> ● One company has increased prices on most occasions it has used the information ● Evidence that firms do take account of each others prices 	<ul style="list-style-type: none"> ● Another firm has decreased prices on most occasions it has used the information ● Most firms consider data on competitors' prices a small part of a complex pricing decision
Pooling info on risk (efficiency)	<ul style="list-style-type: none"> ● Detailed information allows firms to understand how competitors view risk. Would help new entrants in particular 	<ul style="list-style-type: none"> ● Information on underlying risk can be gleaned from claims information which can be shared

Legal analysis

- **Legal analysis: exchange anti-competitive by object:**
 - Future information – provided before the prices go live.
 - Limited evidence that companies are able to change their prices before prices go live.
- **But possible pro-efficiency effects:**
 - Facilitate entry by identifying profitable opportunities.
 - Provides risk information for entrants without substantial databases.

Commitments

- **Commitments must be clear cut, and remove the agreement out of Chapter 1/Article 101 completely.**
 - Decision is not an analysis of whether the information exchanged is likely to have an effect.
 - Nor does it provide a balancing exercise designed to determine exactly what types of information result in more benefits than harm.
 - Firms in other industries required to self assess to determine if their exchanges are likely to have an anti-competitive effect.
- **Thus commitments should remove the *possibility* of anti-competitive effects.**
- **At same time want to ensure that the commitments do not go beyond necessary.**

Commitments under consultation

- **Anonymise and aggregate so individual price cuts are not observable, but average prices still retain information.**
 - Considered how much aggregation needed before a 20% cut is statistically indistinguishable from normal price fluctuations.
 - OFT analysis of insurance data suggested minimum number in motor insurance industry is five.
- **Removes ability to signal individual prices or monitor deviations from a coordinated understanding.**
- **Did not simply call for averaging all prices because want to retain information to facilitate entry and identify profitable entry opportunities.**

How aggregate is aggregated?

- **Aggregated information is less likely to facilitate collusion**
 - Aggregation removes ability to signal focal points.
 - Aggregation also removes ability to detect deviation.
- **But... also less likely to facilitate efficiencies.**
 - Therefore want to allow as much information as possible but ensuring coordination is not possible.
- **Aggregate such that a significant price cut by an individual company is not detectable from normal variance of prices.**

Variance Analysis

- Received data from 21 insurers with 47,000 different risk profiles each, over 12 months in 2009 (approx. 12 million observations).
- Looked at aggregations of cheapest prices.
 - Aggregation of two prices
 - Aggregation of three prices
 - And so on...
- Get the average and variance to calculate the 95% confidence intervals for each risk profile.

Deviation Analysis

- **Now simulate a significant price decrease.**
 - We know 10% is significant enough to constrain the price of a hypothetical monopolist.
 - Double it to be sure and look at 20% price decrease.
- **How much aggregation do we need such that a 20% price decrease of one firm, still causes the average price to fall within the 95% confidence interval?**
- **It was necessary to aggregate over a minimum of 5 insurers for a 22 percent price cut by one insurer to be indistinguishable from normal variation in the vast majority (95 percent) of cases.**
 - Maximum price cut that would be indistinguishable from noise when we aggregated over 3 insurers only was only 13 percent compared.

Aggregation for undetectable deviation

Maximum undetectable change in
average price

Maximum undetectable
change in *individual price*

	Mean	Minimum	Maximum	Mean
Cheapest	11.2%	0.0%	134.0%	4.44%
Cheapest 2	10.2%	0.0%	104.4%	8.63%
Cheapest 3	9.8%	0.9%	126.2%	12.94%
Cheapest 4	9.6%	0.9%	83.0%	17.32%
Cheapest 5	9.5%	0.9%	83.0%	21.62%
Cheapest 6	9.4%	0.9%	83.0%	25.55%
Cheapest 7	9.3%	0.9%	83.0%	29.30%
Cheapest 8	9.2%	0.9%	83.0%	32.75%
Cheapest 9	9.2%	0.9%	83.0%	35.99%
Cheapest 10	9.2%	0.9%	83.0%	40.06%

Conclusion

- **Commitments in this case require careful design:**
 - Want to clearly remove harm
 - But want to retain as much as benefits as feasible.
- **Aggregation depends upon market:**
 - More volatility means lower aggregation required.
- **Statistical analysis can provide answer to question of how much aggregation is sufficient.**
- **Important to note this is a commitments case – not a precise 101(3) balancing exercise.**

Further reading:

Matthew Bennett and Philip Collins: “The law and economics of information sharing: The good the bad and the Ugly.” August 2010, European Competition Journal.

**“Motor insurers agree to limit data exchange after OFT investigation”
OFT Press release and consultation document:
<http://www.offt.gov.uk/news-and-updates/press/2011/04-11>**

**“OFT consults on amendments to commitments offered in motor insurance investigation” OFT Press release and consultation document:
<http://www.offt.gov.uk/news-and-updates/press/2011/108-11>**