



Economics on Demand

# PRICING PRESSURE MEASURES IN MERGER CONTROL

21 November 2017



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# Background



# RANDOM LETTERS USED BY ECONOMISTS...

... or helpful tool to get to the heart of a merger case!

- What are they?
- Why do economists like them?
- Why should you like them?

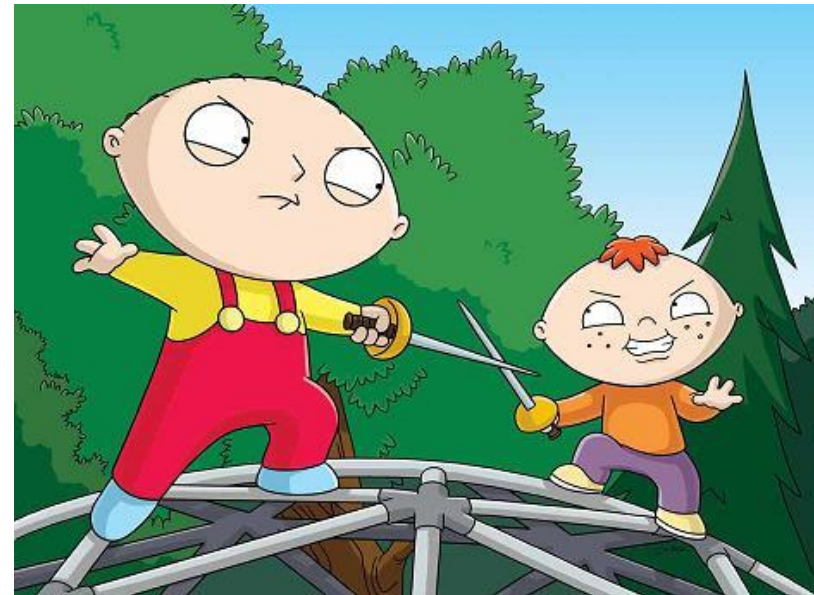
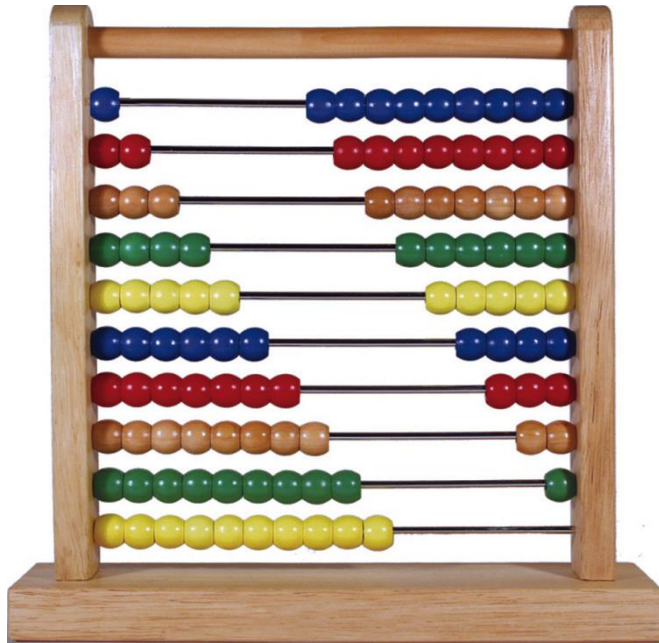


(a GUPPI)



(the UP(P) house...)

# FROM A COUNTING GAME TO RIVALRY.... A POTTED HISTORY



2004 – DG Comp’s  
Horizontal Merger  
Guidelines

2005 –  
Somerfield/  
Morrison’s

2010 – revised US  
and UK guidelines

2015 – ‘HMGs 5  
years later’

2017 – CMA Retail  
Merger  
Commentary

# NOT CONVINCED?

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- Concerns have been raised that the metrics could:
  - Diminish the role of market definition
  - Reduce the authorities' incentives to understand how the market works
  - Create a rebuttable presumption with a high bar to respond to – efficiencies and repositioning arguments are rarely accepted by the authorities and barriers to entry are often a feature of the mergers investigated by the Commission
  - Lead to greater intervention: the merger guidelines are silent on how the authorities would interpret the pricing pressure estimates against the SLC test
  - Result in higher costs as the merger parties might need to undertake customer surveys

Theory



# HOW FIRMS COMPETE IN THESE MODELS

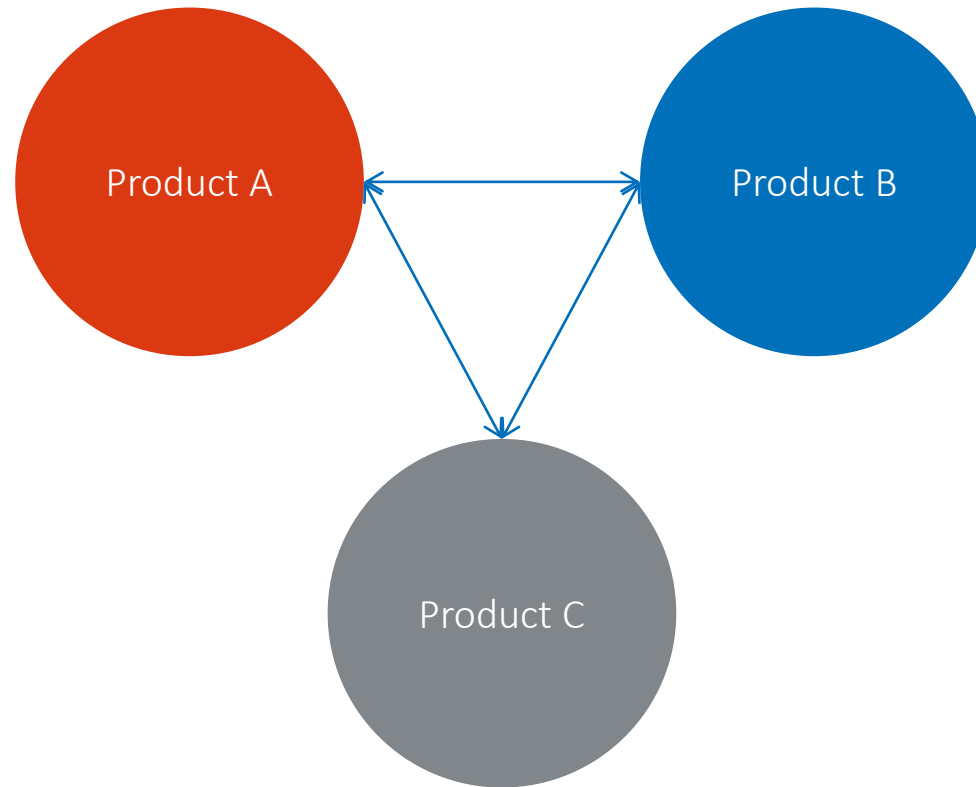
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- Firms set prices independently of one another – there are no cartels
- There is no price discrimination
  - Consumers are aware when prices change and firms are not able to charge different consumers different prices for the same thing
- Products are not homogenous
  - Consumers have different preferences for different products or particular product characteristics
- Prices in the market are currently in equilibrium
- Firms are symmetric



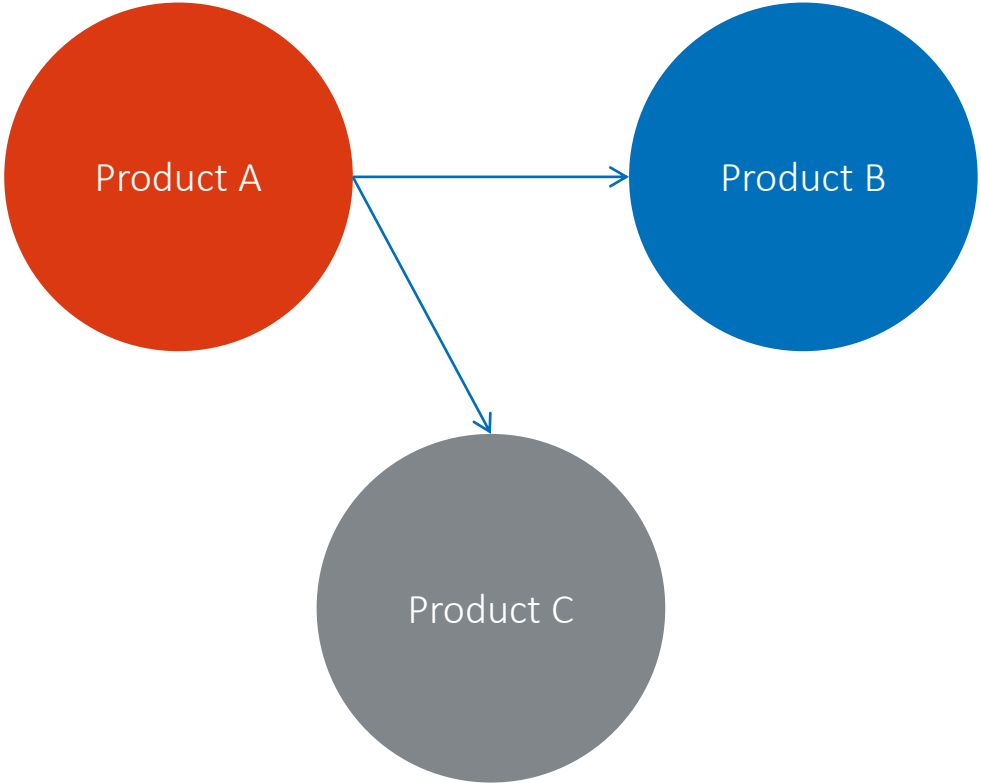
# PRE-MERGER

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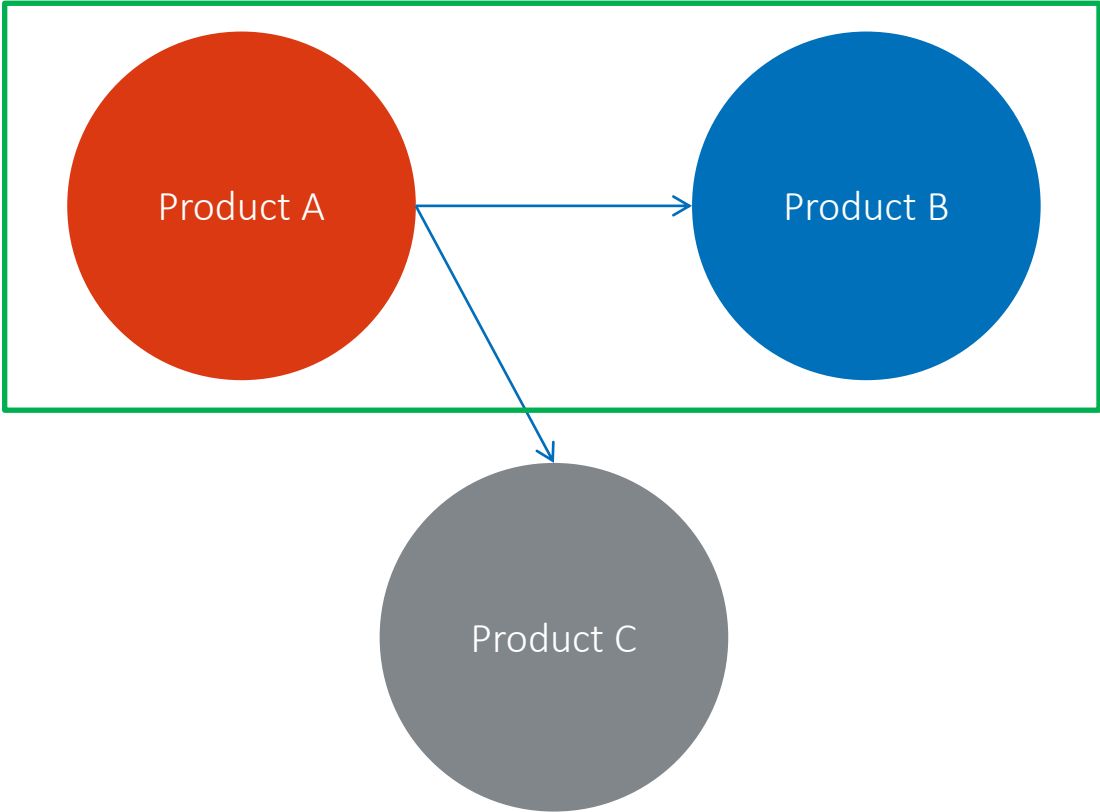


# WHAT IF THE PRICE OF PRODUCT A INCREASES PRE-MERGER?

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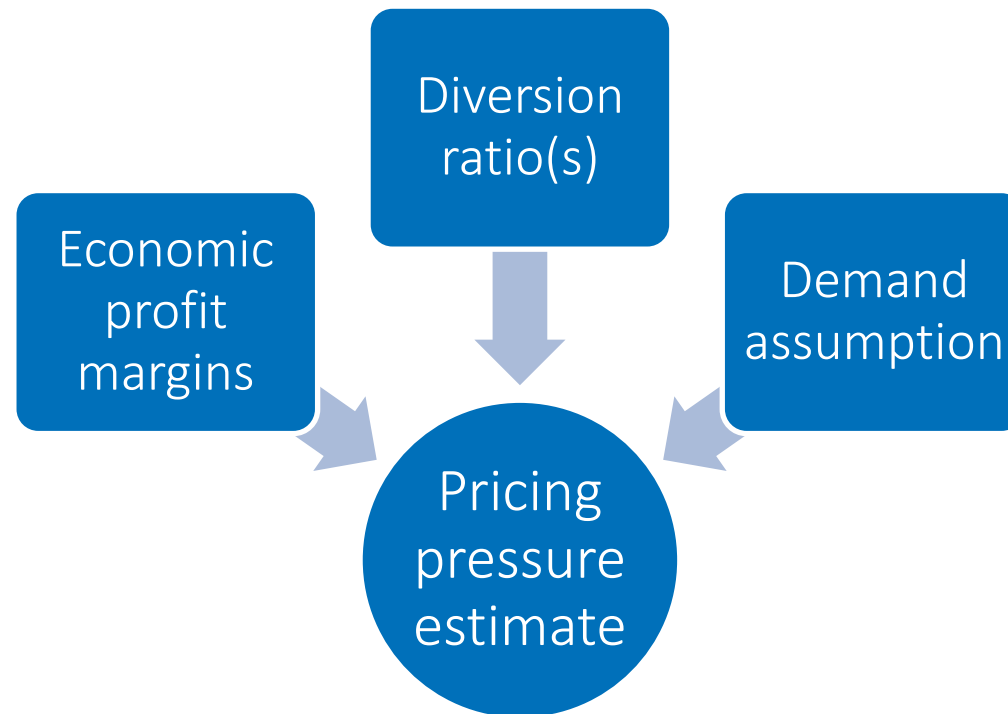


# WHAT IF THE PRICE OF PRODUCT A INCREASES POST-MERGER?



# THREE INPUTS FOR THE BASIC MODELS

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# THE MODELS

The basic pricing pressure models – the merger parties are assumed to be symmetric

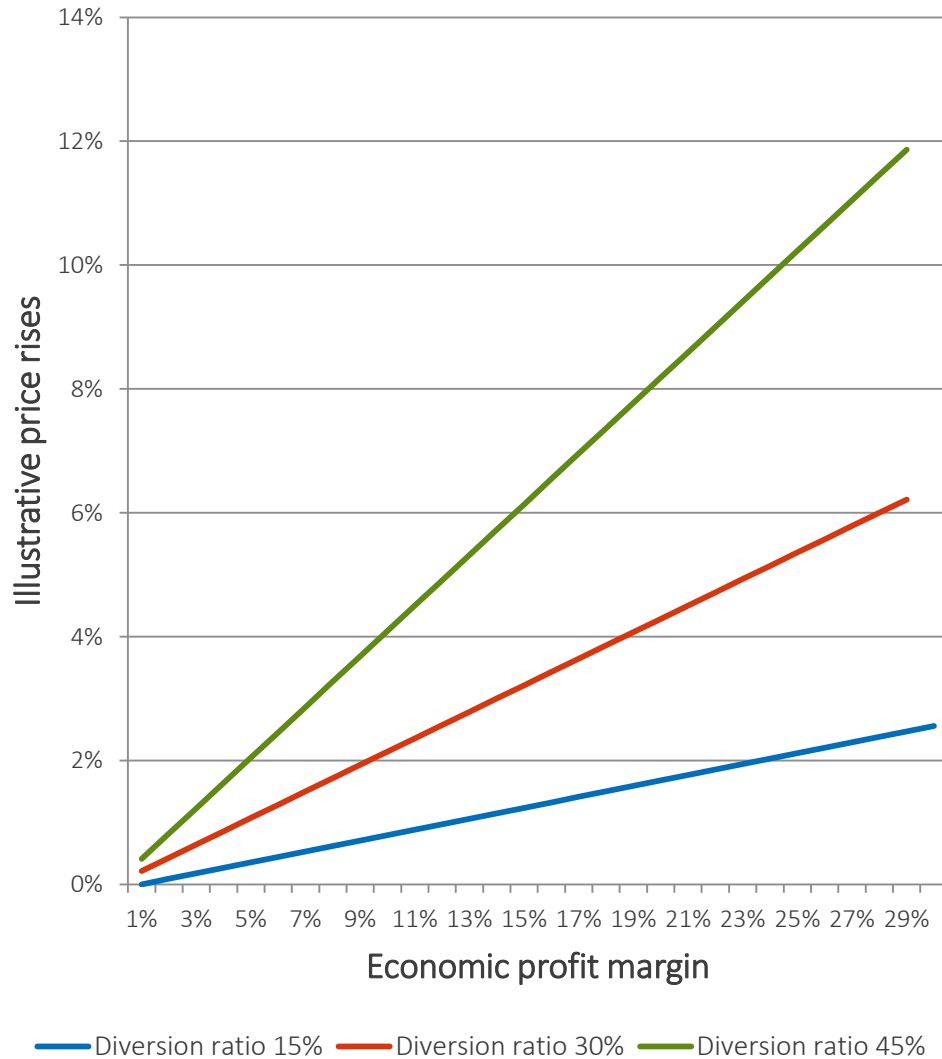
Pricing pressure measure	Demand assumption	Formula
Gross upward pricing pressure index (GUPPI)	None	$md$
UPP	None	$md - ec$
Illustrative price rises	Isoelastic demand	$\frac{md}{1 - m - d}$
Illustrative price rises	Linear demand	$\frac{md}{2(1 - d)}$

- Note: that the symmetry assumption makes a major difference to the complexity of the equation. The asymmetric formula with linear demand for Firm 1 is:

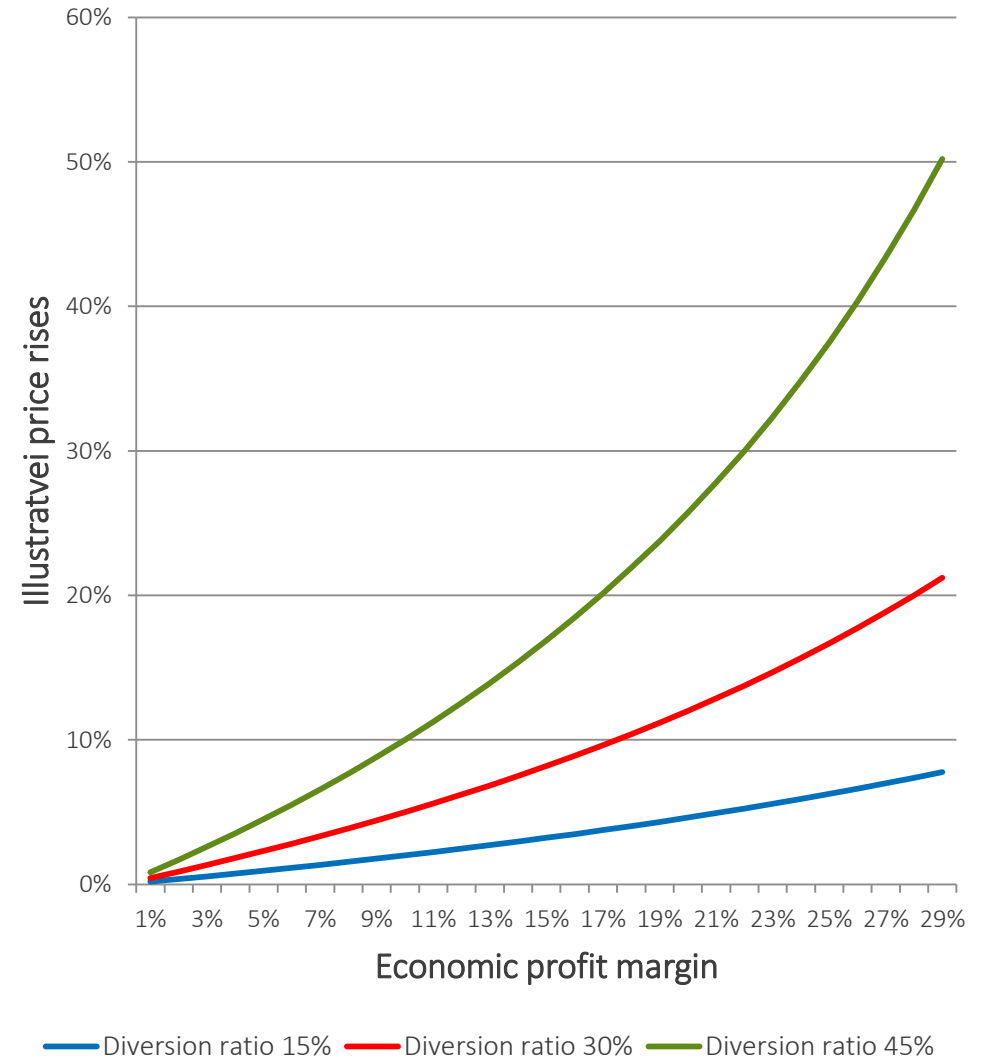
$$\frac{2D_{12} \frac{p_2 - c_2}{p_1} + D_{12} D_{21} \frac{p_1 - c_1}{p_1} + \frac{(p_1 - c_1)^2}{(p_2 - c_2) p_1} \frac{Q_2}{Q_1} (D_{21})^2}{4 - 2D_{12} D_{21} - \frac{p_2 - c_2}{p_1 - c_1} \frac{Q_1}{Q_2} (D_{12})^2 - \frac{p_1 - c_1}{p_2 - c_2} \frac{Q_2}{Q_1} (D_{21})^2}$$

# DEMAND ASSUMPTION GRAPHICAL ILLUSTRATION – LINEAR IPR VS ISOELASTIC IPR

Linear demand illustrative price rises

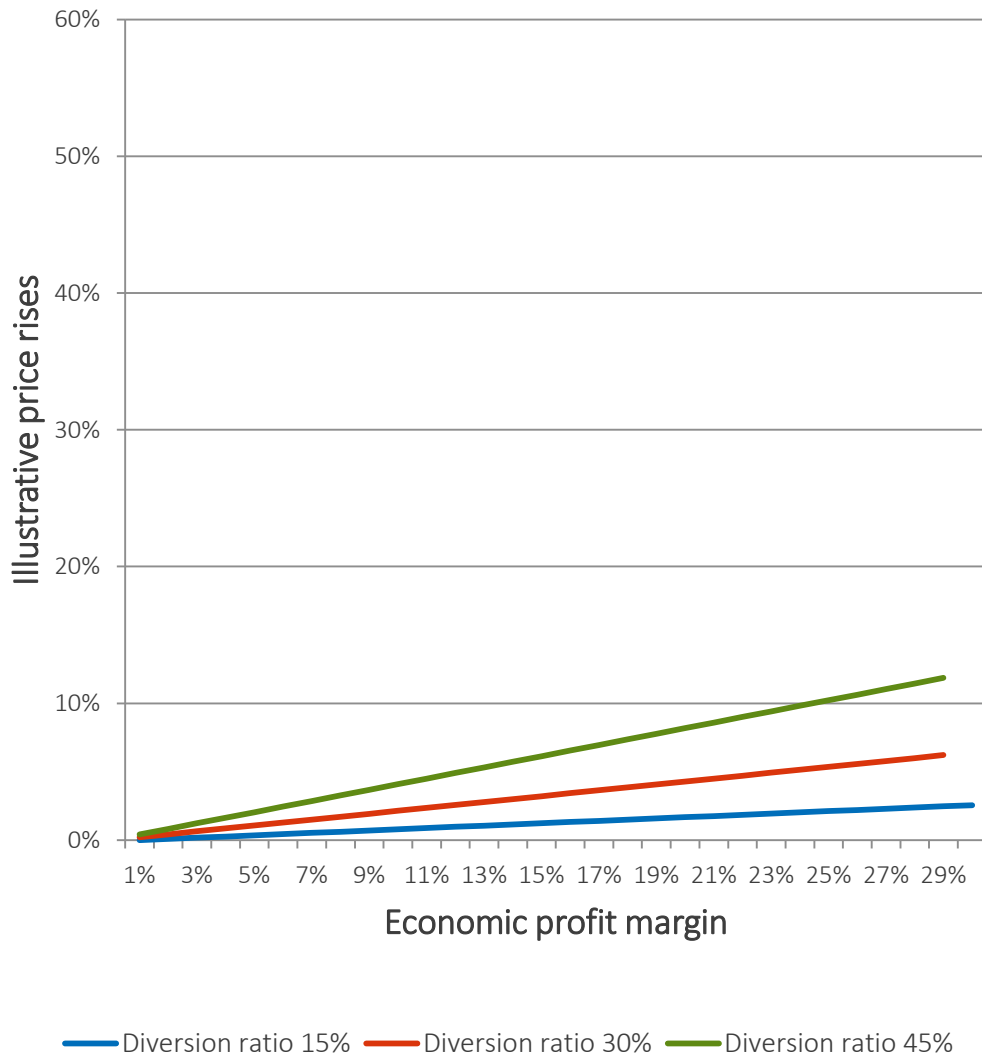


Isoelastic demand illustrative price rises

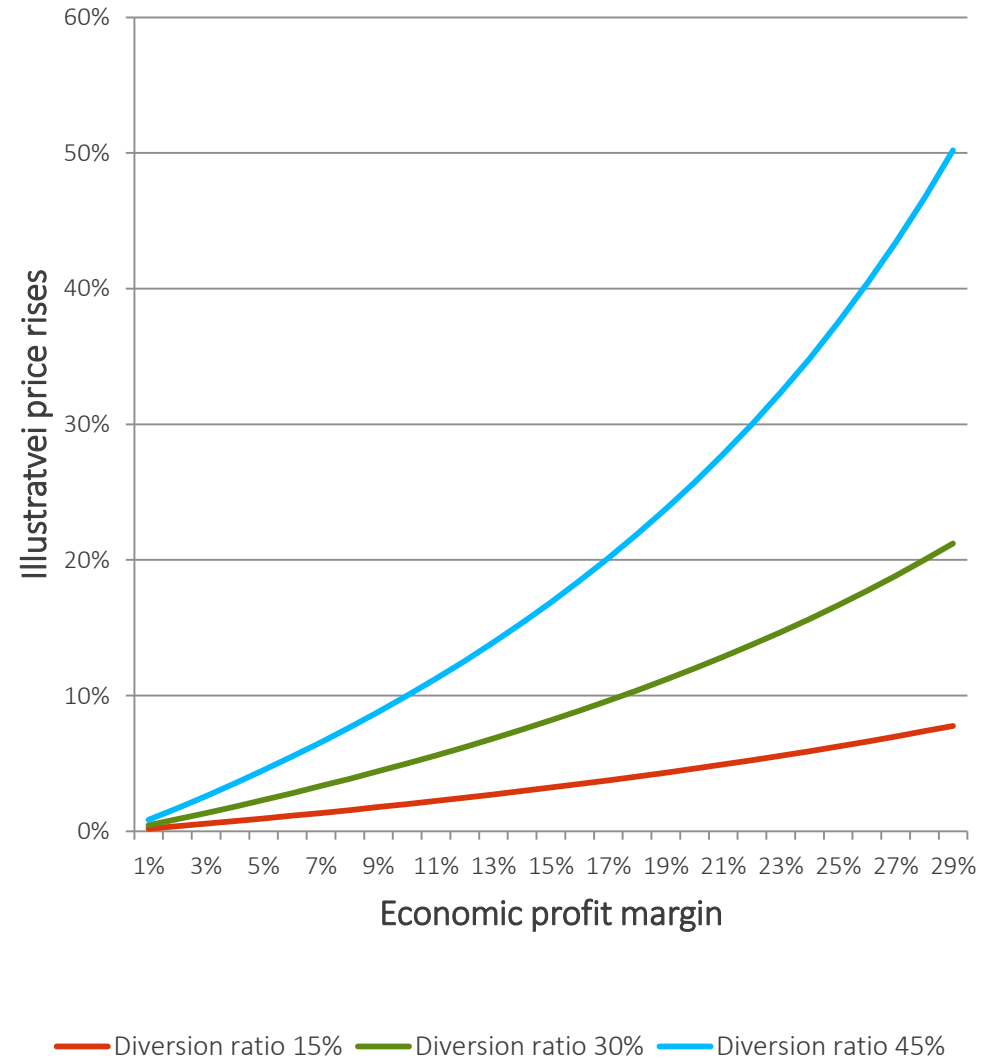


# DEMAND ASSUMPTION GRAPHICAL ILLUSTRATION – LINEAR IPR VS ISOELASTIC IPR

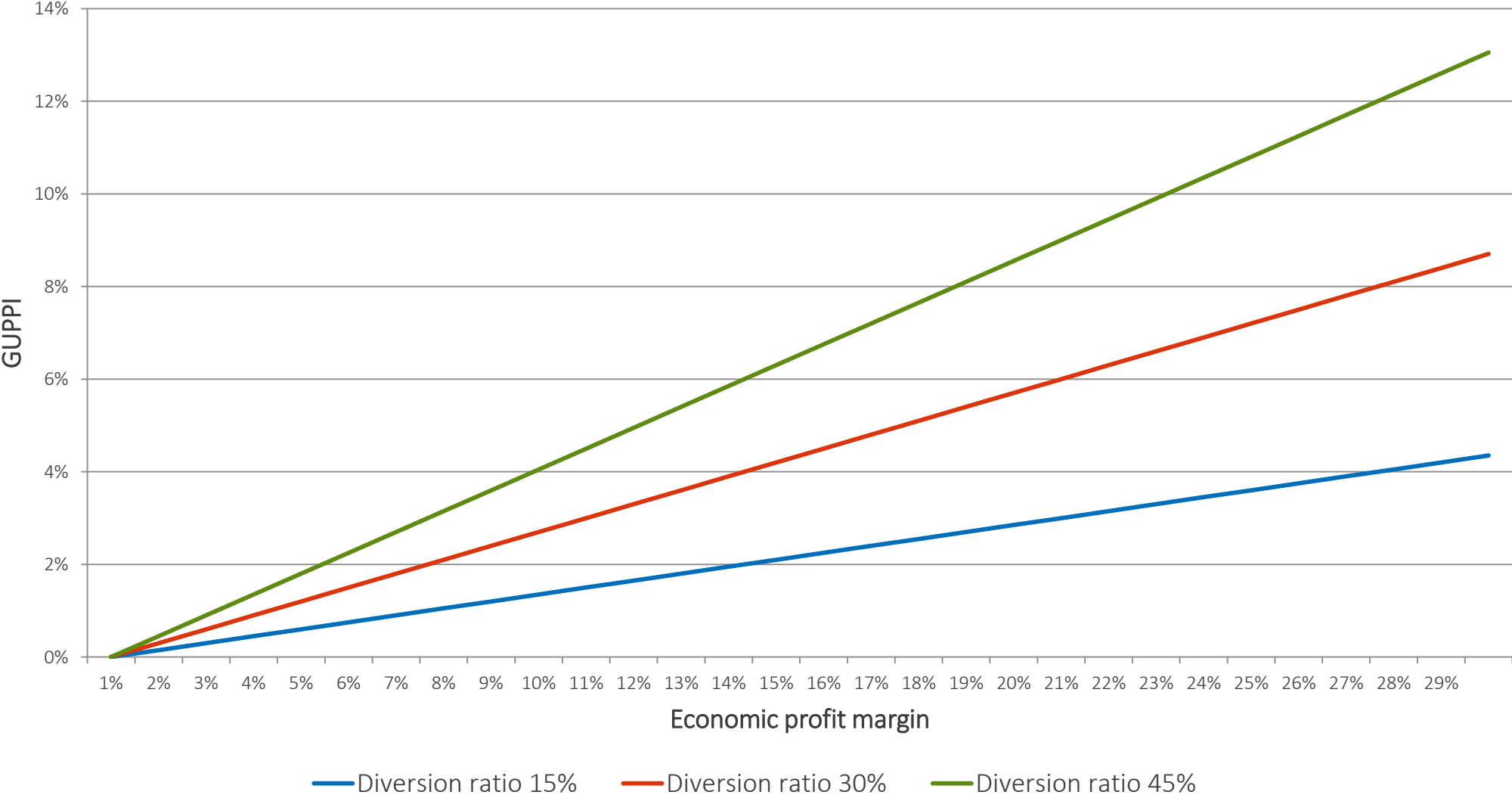
Linear demand illustrative price rises



Isoelastic demand illustrative price rises



# GRAPHICAL ILLUSTRATION – GUPPI





# Quantification



# ECONOMIC PROFIT MARGINS

- Prices are not as easy to observe as you might think
- Authorities may focus on costs that vary with output in the short run such as non-managerial staff, direct inputs, etc. These are often calculated by firms in their management accounts as their contribution margin
- But in many sectors of the economy – such as mobile telecoms - investment in quality, innovation, etc are important aspect of competition, and these costs need to be recovered
- Including at least some of the relevant incremental costs, and not just short run variable costs, can provide a closer approximation to the costs that drive firms' pricing decisions

<b>Authority</b>	<b>Profit margin measure</b>	<b>Industry</b>
OFT/CMA	Variable profit margin	Single price point retail (Poundland/99p)
CMA	% of retail gross win	Betting shops (Ladbrokes/Coral)
DG-Comp	Contribution margin but looked at subtracting some operating and capital expenditures	Mobile telecoms (H3G/Orange Austria)

# DIVERSION RATIOS

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## Sources of diversion estimates:

- Customer surveys
- Pricing analysis
- Win/loss bidding data
- Event studies (for example store closures, supply outages, etc)
- Demand estimates
- Market shares

# DEMAND ASSUMPTION

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- Two standard assumptions for pricing pressure measures: demand is either isoelastic or linear
  - Linear – customers get more price sensitive very quickly
  - Isoelastic – as the name implies, price sensitivity remains constant
- The rapid increase in price sensitivity in the linear model means that the merging parties find it more difficult to raise prices post-merger than under isoelastic demand
- The linear demand model therefore predicts lower post-merger price rises
- We don't observe the actual demand curvature and so we need to make an assumption

# Intervention thresholds



# INTERVENTION THRESHOLD/EFFICIENCY CREDIT

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- Estimates of pricing pressure will always be positive (assuming that profit margins are positive) and the parties' products are substitutes
- The academics who developed the first models advised that the authorities should give the merger parties an 'efficiency credit'
- The credit could be interpreted as reflecting:
  - Measurement error
  - Unmeasured variable cost efficiencies that will be passed through to consumers
  - Wide confidence intervals
  - Likelihood of mitigating factors
  - Cost of falsely referring the case to Phase II
  - The models are, by their nature, illustrative/back of the envelope
- What percent pricing pressure would be an insubstantial lessening of competition or a insignificant impediment to effective competition?

# Case study: mobile telecoms mergers



# PRICING PRESSURE INPUTS IN RECENT COMMISSION MOBILE TELECOMS CASES

	Germany		Ireland		Italy		UK	
	E-Plus	Telefonica	H3G	O2	H3G	WIND	H3G	O2
<i>Concentration in MNOs</i>	4-to-3		4-to-3		4-to-3		4-to-3	
<i>Contestable demand</i>	New and retained subscribers		New and retained subscribers		Gross adds		Gross adds	
<i>Diversion ratios: Retail / network</i>	Not specified (likely retail)		Retail		Both		Both	
<i>Diversion ratios: Cross-segment switching</i>	Included and excluded		Included		Included		Included	
<i>Outcome</i>	Clearance with remedies		Clearance with remedies		Clearance with remedies		Prohibition	



# Case study: retail mergers



# BACK TO WHERE IT ALL BEGAN

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- Long history of the CMA using pricing pressure measures in retail mergers with many local overlaps

For the local market assessment:

- An initial screening filter based on share of shops/fascia count
- Consumer surveys at the stores of one or both of the merger parties' stores
- Estimating DRs and margins
- Calculating a pricing pressure measure
- Comparing the estimates to a threshold

For the national market assessment:

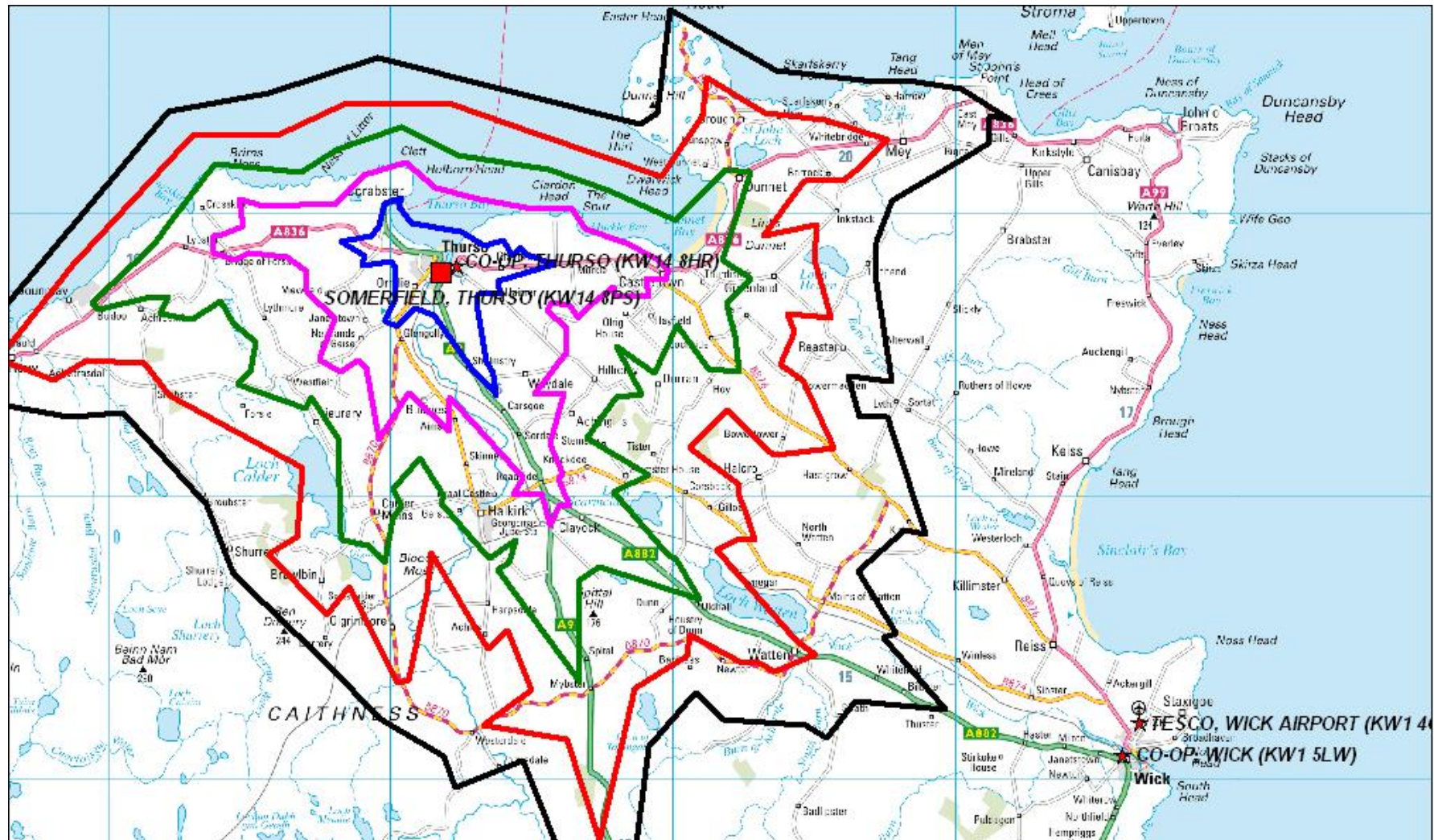
- Consider concentration and closeness of competition at the national level
- Consider an 'aggregate diversion ratio' (Poundland/99p stores)

# GREENE KING/SPIRIT



- Primary filter: the Parties have 35% or more of the share of pubs in the local geographic market and the increment is 5% or greater
  - This narrowed the scope of the investigation to 56 pubs
- Second stage:
  - Consider the constraint posed by wet-led pubs
  - The geographic proximity of the parties' pubs and the constraints from competitors' pubs
  - Drive time isochrone flexing
  - Diversion estimates from surveys
  - Review of marginal sites
- Resulted in 16 local areas with concerns remaining

# TESCO/SOMERFIELD (AKA 'THURSO/WICK')



# RECENT UK EXAMPLES (I)

Case	Index	Diversion ratios	Profit margins	Pass-through/ demand	Threshold	(Extra?) Efficiencies
Poundland/ 99p (2015)	IPR	Customer surveys, weighted depending on geographic overlap	Variable profit margin, sense-checked with gross profit margins	Linear demand	Not specified	No
Ladbrokes/ Coral (2016)	GUPPI both for local areas and at the national level	DRs from surveys combined with weighted share of shops (WSS); calculated weighted average for UK-wide analysis	Local analysis: % of retail gross win. UK-wide analysis: average variable profits for previous two years	Could not be reliably estimated	Based on WSS (35%) in the local analysis; GUPPI > 10% in the UK-wide analysis	No

## RECENT UK EXAMPLES (II)

Case	Index	Diversion ratios	Profit margins	Pass-through/ demand	Threshold	(Extra?) Efficiencies
David Lloyd/16 Virgin Active gyms (2017)	N/A	Survey	N/A	N/A	N/A	N/A
Just Eat/Hungry House (2017)	N.A	Event study using times when Just Eat offered discounts  Surveys not conducted for the purposes of the merger	N/A	N/A	N/A	N/A

# Questions

