

# Competition Law Forum

## Use of the Counterfactual in Antitrust – DRAFT FOR DISCUSSION

*“It’s very hard to know the counterfactual”*

M King, Governor of Bank of England, before the Treasury Select Committee on the Financial Crisis, March 2009.

### ***Framing the debate***

- The counterfactual is a concept that lies at the heart of most antitrust analysis.
  - Any effects based analysis will involve considering what the world would look like absent the conduct or agreement under scrutiny.
  - All antitrust damages actions require quantifying the difference between the actual and the counterfactual. (Indeed the concept of mitigation implies *two* counterfactuals may need to be constructed: the abuse free world and whether in the abuse world the victim mitigated the damage – see e.g. *Arkin*)
- The counterfactual appears to throw up two main challenges:
  - ***How do we decide on the correct counterfactual to assume?*** In many cases there may be disagreement over the precise counterfactual (e.g. *MasterCard v OFT*, *RCA/BHB v OFT*). Within this, given the inherent degree of speculation in counterfactual analysis, how does the relevant standard of proof impact on cases where the counterfactual is central and uncertain?
  - ***How do we populate that counterfactual?*** Competition economics provides tools that analyse why market outcomes have arisen so that alternative market outcomes can be

estimated, but how accurate are they? In particular, how reliable is empirical analysis of the actual market in question when the counterfactual involves, not a slight variation, but a complete a paradigm shift from that actual world. Furthermore, do we have tools for testing the accuracy of our predictions?

- The answers to these questions will vary depending on the context. Based on our experience of counterfactual analysis in these different contexts, it will be useful to explore a range of questions including:
  - Can we identify unifying themes with a view to determining best practice in counterfactual analysis? Can we identify pitfalls that should be avoided?
  - What is the proper basis for assessing competing counterfactuals? What criteria can we identify for selecting the preferred counterfactual and how should these be ranked?
  - Is there merit in attaching weight to more than one counterfactual where choosing between possible counterfactuals is uncertain?
  - How does standard of proof (and burden of proof?) impact on counterfactual analysis?
  - When it comes to populating the counterfactual are some types of evidence more important than others?

### ***Counterfactual analysis in different contexts***

- Whilst the counterfactual pervades all aspects of what we do in antitrust it clearly has a bigger impact in some situations than others.

- A useful distinction may be between situations that require an **ex ante** counterfactual analysis (i.e. speculating how the world might change going forward) from those that require an **ex post** counterfactual analysis (i.e. speculating how the world might have been).

### **Ex post**

- **Antitrust damages cases** – here the challenge is to reconstruct a world free from the competition breach. This requires “purging” the historic record of anything influenced by the breach (e.g. see *Enron Coal v EWS*).
- **A101 cases** – these tend to throw up more challenging counterfactuals that often involve a completely different way of doing business or business model e.g.
  - Would acquiring banks be able to reach agreement with issuers absent a multilateral interchange agreement?
  - Would racecourses be able to deliver commercial content absent collective selling?
  - What would happen to number of bidders/intensity of competition absent the ubiquitous use of “cover bidding” in construction tenders?
- **A102 cases** – Arguably identifying the non-abusive counterfactual is more straightforward (what would happen with less aggressive loyalty rebates? less aggressive prices?), but there are exceptions:
  - There may be disagreement on what elements of the conduct are potentially abusive which creates uncertainty in terms of scoping the counterfactual (e.g. *National Grid v Ofgem*).
  - Innovation/compulsory licensing cases involve highly complex counterfactuals: to what extent would Microsoft have innovated had it known it would have to license IP? What price would a non-dominant Microsoft have charged for interoperability information?

- Where the abuse has taken place in response to new entry there is no visibility of the counterfactual world absent abuse as the pre-abuse world is also the pre-entry world. Hence there is a need to divorce the impact on the market of the entry and the alleged abusive conduct (i.e. to determine the acceptable response to entry).
- o **Market investigations** – Implicit in the AEC evaluation is an assumption of a normally competitive market against which to compare the actual features of the market.

### **Ex ante**

- o **Merger control** – all merger analysis is essentially an assessment of what impact a changed market structure will have on the current market. In some mergers the status quo may also not be the right comparison and therefore two counterfactuals have to be assessed. This will arise if
  - *Competition may be expected to deteriorate anyway absent the merger:* In failing firm mergers, there is the need to consider both the viability of the failing business and the likely outcome regarding what happens to that business' assets and customers (e.g. *Lloyds/HBOS, NewsCorp/Telepiu*, see also *Stagecoach/Preston Bus* in particular the treatment of the acquiror's pre-merger conduct ). Similarly in parallel mergers the authorities are required to assess the prospect of the other merger proceeding (e.g. in *PW/C&L & KPMG/EY*).
  - *Competition could improve absent the merger:* Cases where the merger may prevent a more competitive merger happening (e.g. *BSkyB/ITV, rail franchises?*) may present challenging counterfactual considerations. See also *Ticketmaster/Live Nation* in relation to the potential impact of a new entrant (Eventim). See also *Macquarie/NGW* where, given opportunities for competition between the parties was limited (due to very long-term contracts), the CC was required to assess whether more multiplex spectrum was likely to become available and/or whether the development of mobile television would give rise to further opportunities to compete between the parties.

- **Joint ventures** – these require an assessment of the parties’ most likely alternative course of action absent an ability to JV. (e.g. *Project Kangaroo*, *O2 Germany v Commission*, *European Night Services*)
  
- **Remedy assessment** - this involves reaching a view on how different structures or rules of engagement will effect market outcomes. Sometimes this can involve readily foreseeable adjustments (e.g. reduction in mobile termination charges) but in other situations it may involve a paradigm shift (e.g. the Point of Sale Prohibition in the *Payment Protection Insurance* inquiry).
  
- The following contexts are also of interest
  - **Market definition** – this typically involves a counterfactual analysis through the hypothetical monopolist test: how would customers / (potential) competitors respond to higher prices for certain goods?
  
  - **Ex-post evaluation of competition authority intervention** – these are the only situations in which the accuracy of our predictions about the counterfactual world are assessed. E.g. the CC’s 2005 *Ex post evaluation of mergers* assessed the accuracy of the CC’s ex ante analysis that consolidation was safe in 10 merger decisions (type II error). The 2009 *Review of past merger decisions* assessed both type I and type II error.

***How do we choose the right counterfactual?***

- Although in principle the counterfactual appears easy to define - the state of the world absent the abuse or agreement – it is inherently a speculative exercise that will often give rise to various competing interpretations. The key question therefore is how do we objectively choose between competing plausible counterfactuals? For example
  - In both *MasterCard v OFT* and *RCA/BHB v OFT* the bilateral negotiation counterfactual was dismissed as impractical and therefore implausible.

- By contrast, in *National Grid v Ofgem*, an implausibility criteria was rejected by the Tribunal. Ofgem argued that its (preferred) counterfactual was based on the structure of competitive contracts (for new/replacement meters which involved replacement penalties based on the age of the meter). National Grid pointed out that this counterfactual was implausible as age related data in respect of legacy meters was unavailable. Both Ofgem and the Tribunal concluded that the regulator did not have to prove that “the counterfactual is what would or should have happened”.
  - National Grid also argued that Ofgem’s counterfactual failed to achieve the “basic scientific method to set up a control” because it did not isolate the impact of the *structure* of the contract. The Tribunal dismisses this point on the merits (effectively arguing that it is the level and structure of the contract that combine to create the exclusionary effect as the penalty charges are a function of the revenue foregone and not the costs of NG).
- Where there are competing counterfactuals choosing between them will also depend on the robustness of the evidence. Making this assessment could be subject to a tendency to place too much weight on the actual world and not correct for all that might change as one moves to the actual to the counterfactual. This tendency or bias may vary depending on whether an ex post or ex ante analysis is required.
  - Ex ante analysis could be prone to *hysteresis* i.e. a tendency to place too much weight on the status quo e.g. in a failing firm/division case the fact that the company has sustained losses over a period of time without being closed down.
  - Ex post analysis could be prone to 20/20 hindsight – for example in damages cases there is a need to consider the damage at the time of injury. If in the intervening period between injury and trial the market opportunity is shown to be unexpectedly good/bad that is not necessarily relevant to the assessment at the time of injury. This issue appears to have had a bearing on the High Court’s approach to damages in *Crehan* (where the Court based damages on the likely profits of the business in the intervening years up to trial and not, as the Court of Appeal ultimately required, on the market’s evaluation of that profit stream at the time of injury). It may also be a particular danger in assessment of chance cases (e.g. *Enron v EWS*) if too much weight is placed on the outcome as opposed to the chance at the time of injury.

- Choosing the most appropriate counterfactual may be sensitive to the standard of proof. Competition policy applies the civil standard of proof i.e. what is/was most likely to happen? However, there are circumstances where a different standard of proof is applied to the counterfactual and it will be useful to consider how this impacts on the assessment. Examples include:
  - In failing firm cases the assessment of whether the failing firm's assets would "inevitably" exit the market appears to imply a higher standard of proof.
  - In loss of chance cases the counterfactual analysis involves an assessment of whether the injured party had a real and substantial chance of securing business. Chances substantially below 50% are to be assessed. This issue was central to *Enron Coal v EWS*.
  
- A relevant question may be whether there are situations that merit a probabilistic assessment i.e. identifying the range of plausible scenarios and attaching a probability weighting to each instead of having to identify one above all others.
  - In *Lloyds/HBOS* the OFT considered a range of counterfactuals and boiled this down to two. However, these are essentially sequential to each other as opposed to alternatives.
  - The recent OFT investigation of unarranged overdraft charges raised a fertile debate on the counterfactual – to identify the long run incremental cost of these charges required specifying the world in which they would not arise (because consumers never issue or banks never decline requests? Etc). Arguably a range of approaches would be most informative.
  - In *National Grid v Ofgem*, the regulator in its decision had adopted two counterfactuals to assess the exclusionary effect of penalty charges in the contract National Grid (NG) struck with gas suppliers in respect of installed (legacy) meters. The first counterfactual involved NG applying the same terms to legacy meters as it used in respect of

new/replacement meters<sup>1</sup>; the regulator also relied *in the alternative* on a counterfactual which did not include penalty charges but was based on terms prior to liberalisation of the market (and which had been subject to price control).

- The implication of the approach in *Macquarie/NGW* is that were the CC satisfied that there was no SLC in relation to the existing business locked into long term contracts (which in the end it was not) and had it concluded that the chance of new spectrum (or mobile television opportunities) was say 40% then there would not have been an SLC. In *expected* terms of course that would imply some detriment.

### ***How do we populate the chosen counterfactual?***

- Populating the relevant counterfactual is inherently difficult as it necessarily involves a degree of speculation and extrapolation from what we observe. It is key to consider under what circumstances does reasonable extrapolation become intolerable speculation (or in the words of the Court of Appeal in *Crehan* “a hypothesis upon a hypothesis”).
- Antitrust economics is designed to inform the analysis as it focuses on understanding not **what** has happened but **why** it has happened. This involves analysing not just market outcomes but what has driven those market outcomes: why do consumers choose what they choose? / why do firms behave in the way they do? It is thus more complex than an investigation of fact as it seeks to identify relationships and incentives so that we understand not just market *outcomes* but market *dynamics*. From this understanding of what motivates consumers and competitors we can *extrapolate* to predict how outcomes will change under the different circumstances associated with the counterfactual.
- Analysis of this sort is the bread and butter of antitrust economics analysis and often involves using complex tools. The value of these approaches is that often they can yield important insights and even quite unexpected results. A neat example is provided by a famous study by economic historian Robert Fogel into the contribution of the US railroads to US economic growth in the late 19<sup>th</sup> and early 20<sup>th</sup> Century. The *a priori* view that this must have been very significant was debunked by econometric analysis that showed that absent railroads, the existing canal and emerging road network could easily have taken up most if not all of the slack.

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<sup>1</sup> The counterfactual was also based on terms used by Competing Meter Operators in respect of new/replacement meters. The Tribunal noted that these terms were based on an actual market where competition was already distorted by the presence of the dominant player.



- Standard techniques for analysing the actual market dynamics may be complex but they are necessary in order to isolate the impact of key variables that may change in the counterfactual. However it is important to be aware of the extent to which the techniques capture all that is changed between the actual and the counterfactual world. For example
  - Econometric techniques to identify cross-price elasticities and price cost relationships can be used to simulate the impact of mergers. However, these do not capture the full knock-on effect of the event we are testing if, for example, coordinated effects can also be expected to arise.
  - Similarly, econometric analysis of but-for prices in a cartel may correctly isolate the impact of the cartel on prices but would lower prices have led to exit of capacity?
- A further key problem with extrapolation arises where the counterfactual is so far removed from the actual observed world i.e. paradigm shift.
  - Here it may be necessary or appropriate to complement empirical analysis with our knowledge of industrial organisation theory (i.e. how markets can be expected to work) from which inferences can be made about how we would expect firms and consumers to behave under different conditions (see for example Oxera's study prepared for the European Commission: *Quantifying Antitrust Damages*, December 2009, section 4).
- Sources of evidence provide various degrees of uncertainty. There are two main sources of evidence:
  - Empirical evidence from the actual world of how consumers and firms behave from which an extrapolation can be made.
  - Natural experiments that may mirror the counterfactual and therefore provide directly relevant evidence.

### *Empirical evidence of customer and competitor behaviour*

- In *MasterCard* an examination of how banks compete led the OFT to change its case from a counterfactual involving bilateral agreements to a counterfactual with no fee at all. (This reflected the realisation that acquiring banks would have no incentive individually to agree any fee above zero as any such fee would place them at a competitive disadvantage vis-a-vis other acquiring banks.)
  
- In *RCA/BHB v OFT* the CAT concluded that in the absence of collective selling bilateral negotiation would not arise due to profound organisational difficulties and misaligned incentives. In this case significant weight was placed on the historical events leading up to the negotiation. This led the CAT to famously remark that *“The suggestion that the acquisition of the necessary critical mass by individual negotiation with up to 37 course owners either could have been done, might have been done, or was ever even contemplated as something which could or might have been done, appears to us to represent a triumph of theory over commercial reality and to ignore the evidence of the events leading up to the [Media Rights Agreement]. (Para 170)”*.
  - It will be interesting to consider how the incentives evidence in *MasterCard* was placed above empirical evidence that bilateral negotiations had taken place in Australia and Sweden. It will also be interesting to contrast this with the *ATR/BHB v OFT* case and to understand the CAT’s approach to assessing the predictions of economic theories that were deployed by both sides.
  
- The ability to extrapolate from empirical evidence observed in the actual world is sensitive to how different the counterfactual is to the actual world, and the requirement to capture all aspects of the way in which the worlds may differ. For example
  - *Payment Protection Insurance Inquiry*: here the CC used analysis of customer search and distributor pricing to posit a post-remedy world where, absent the point of sale advantage banks currently enjoy, PPI distributors actively market and encourage search such that high margins are eroded and penetration increases. The CAT found that the CC’s welfare estimates were deficient to the extent they did not capture the potential

downside of the loss of convenience of consumers being able to buy PPI at the point of credit sale.

- *EC inquiry into mobile roaming charges*: here the EC's market definition exercise (which involved identifying each mobile network as a separate market to establish single firm dominance) focused on whether foreign mobile operators would have been able to shift traffic from one UK roaming partner's network to another. The difficulty the EC's case faced was that whilst the use of technology to promote remote switching/and pre-programming of preferred partner networks was in its infancy this was in the context of foreign operators having little incentive to shift traffic due to UK operators setting similar roaming charges. The counterfactual required consideration of how use of these techniques may have increased in the face of unilateral price rises by one UK operator. The EC's critical loss analysis was based on actual switching propensity and did not capture potential counterfactual switching propensity and was therefore flawed. This realisation helped the EC conclude that it should close the case after 5 years.

### ***Natural experiments***

- Sometimes there may be direct evidence of how consumers and firms would behave in a counterfactual, because the actual world (perhaps temporarily) gets close to the counterfactual situation.
  - For example bidding studies in merger control may include situations where the target was absent from a bid in order to estimate the impact of removing competitive pressure on all bids post-merger.
- A key issue is the extent to which the natural experiment reflects the counterfactual. For example
  - In the various *Mobile Termination* inquiries the mobile operators have relied on historic evidence that higher mobile termination charges have driven lower handset prices to protect (an externality) surcharge on termination charges. In the most recent inquiry the CC was persuaded that the situation may be asymmetric in that, whilst lower handset prices may have helped bring consumers into the market, it does not follow that higher ones will lead to them leaving.

- In *Microsoft* the EC placed weight on the fact that Microsoft had signalled intentions to keep innovating after complying with the DoJ compulsory licensing remedy. Of course, this does not answer the question regarding whether the requirement to license would in the counterfactual have led to lower innovation compared to the actual world.
- In other circumstances we may have evidence on how firms or consumers would behave precisely in the relevant counterfactual scenario. For example:
  - We may be able to observe business plans relevant to the question. For example on *Project Kangaroo* the broadcasters submitted detailed business plans on alternative options for commercialising their archive. (An interesting question was the extent to which these investments were only viable given some anticipated prospect of clearance of the project). In *O2 Germany v Commission* O2 submitted evidence that a unilateral roll-out of 3G network was not viable.
  - For consumers we may have survey evidence where the consumer is confronted with options that mirror the counterfactual world. In spite of the difficulties associated with these techniques, these surveys are still used by the authorities to populate the SNIP test.
- The key issue here is that there is often a difference between stated preferences (how the party states they would operate in the counterfactual world) and revealed preferences (i.e. how they actually have operated in circumstances similar or identical to the counterfactual world). Hence pilot studies are likely to carry more evidential weight than surveys. A further issue is the extent to which this type of evidence should be rejected if it cannot exactly mirror the counterfactual world in issue (see for example *Payment Protection Insurance*).

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