

Profitability Analysis and Competition Policy

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Introduction

It is a pleasure to be here today, addressing you on a topic which is, I think, of some importance for anyone concerned with competition policy. We are particularly fortunate in having Oxera's excellent paper, "Assessing Profitability in Competition Analysis" to use as a platform for our discussions today. As I understand their argument, they are mostly concerned with the question of how best to measure profitability. This is an important question, but its very complexity begs a further question, namely "why bother?". I would like to kick off today's discussion by addressing this second question.

In order to answer the "why bother?" question, one needs to think about just why an analysis of profitability might be of interest to a competition authority, and what kind of profitability analysis would interest that authority most. The Competition Commission's Guidelines for Market Investigation References are – as is frequently the case – particularly helpful in this respect. It talks about profits as "a signal" of competitive conditions in a market, and also about profits as being "an incentive". In this, it mirrors countless textbooks of economic theory which talk about anticipated profits as the driving force which brings people to market, and about realised profits as a signal which ought to lead to longer run adjustments in market structure through entry (or exit) and the expansion of existing players. Further, it warns us not to look at profitability in isolation, but only in the context of an overall assessment of the competitive conditions of the market.

To say that profits are a "signal" is to assert that they contain useful information, that inferences can be made about underlying drivers of competitiveness in a market from observable outcomes like profitability. This is, in many ways, a backward looking exercise: its goal is to infer something about what must have happened from what we observe to be its presumed consequence. On the other hand, to say that profits are an "incentive" is to say that they are a spur to action, that they may affect the conduct of firms in a market, and can do so in a way that affects future profit outcomes. This, by contrast, is a more forward looking exercise: we infer what will happen in the future by looking at the profit incentives currently facing players in a market.

My answer to the "why bother?" question turns on these two different roles that profits play in the analysis of market dynamics. I will make a distinction between what I will call "backward looking" profitability analysis, which uses observed profits as a possible indicator of how competitive market conditions actually are (or have recently been), and what I will call "forward looking" profitability analysis which explores what might happen in a market in certain circumstances. Backward looking profitability analysis often plays a role in the market investigations undertaken by the Competition Commission, but it is not often significant in merger analysis; forward looking profitability analysis can – and often does – play a role in both, but one often finds it to be a central feature of merger analyses. My bottom line is that backward looking profitability analysis is a useful, if somewhat limited tool for competition authorities to use, but that forward looking profitability analysis is likely to be much more central in many cases.

Backward looking profitability analysis

Competition is generally played out on a stage, and the outcome of any particular competitive process often turns on the particular characteristics of its supporting stage. In our market investigations, we tend to focus on what are called "features" of a market – principally the structure of the market (including entry barriers and switching costs) and the conduct of suppliers, buyers and consumers – which condition the decisions made by firms

about pricing, investment, entry and exit. These choices link the features of the market which condition choice with those market outcomes that are a consequence of choice, including the profitability of firms operating in the market. Our task is to identify features of the market that have an adverse effect on competition. It follows then, that if profits in a market are persistently high, this ought to be a traceable consequence of one or more feature(s) of the market.

The link between features and market outcomes means that the observation of persistently high profits could be used as a signal of the general state of competition in a market. This is the classic use of profitability analysis in anti-trust, and has been a feature of many cases. To remind you of what is involved, let me briefly describe for you the analysis of profits undertaken in a recent Competition Commission investigation into banks and their small/medium sized business customers (SMEs hereafter).¹ In this inquiry, the CC calculated that the four largest clearing banks had earned excess profits totalling £2.2 billion over a three-year period between 1998 and 2000. This calculation was based on the CC's assessment of profits derived from equity capital employed in the supply of banking services to SMEs, and this return on equity was then compared with their cost of equity (estimated using CAPM). The difference between the two was thought to be far larger than could have been caused by measurement error, and the inference was made that competitive problems existed in this market.

Even getting this far was a major exercise, and there were several particularly difficult issues that required careful consideration. First, an allocation of total shareholders equity to SME services had to be made. This was based on the requirements of the FSA in relation to regulatory capital, and an amount was added to equity to reflect the cost of internally generated intangible assets (specifically relating to staff, customers and IT). For one bank an adjustment was made to reflect the CC's assessment of an efficient cost – income ratio. Cyclicalities were also considered, and an adjustment for bad debt was made to reflect the fact that current levels were below their long term sustainable level. Similarly, an (upwards) adjustment to pension costs was made to allow for the fact that during the period under consideration several schemes were in surplus, and were, therefore, enjoying a contribution holiday.

There are several problems with simply using high observed profits on their own to signal an absence of competition. For a start, as we have just seen, there are a whole range of measurement issues and decisions as regards treatment of various items that need to be made which sometimes make it very hard to measure profits with accuracy. Further, one needs to construct a sensible benchmark against which to compare measured profits (the CC normally uses the cost of capital or the cost of equity calculated using CAPM). What this means, of course, is that for traditional profitability analysis to be very persuasive, it needs to be shown to be robust to a range of measurement errors and differing assumptions. The Oxera report contains a fairly thorough discussion of a number of the measurement problems which might crop up in any particular case, and, since I am pretty sure that we are all fairly familiar with these difficulties, I will move on.

A second problem with making inferences about the state of competition from measured profitability is that it is a one sided analysis. A monopolist may well take its reward in the form of high profits, but, equally, it might also use its position to enjoy the easy life instead. Further, a monopolist who has had to compete to acquire its monopoly position may well have dissipated many of the rents which that position gives it. Either way, the outcome is

¹*The supply of banking services by clearing banks to small and medium-sized enterprises: a report on the supply of banking services by clearing banks to small and medium-sized enterprises within the UK*, Cm 5319, March 2002.

that a firm with market power that opts for the quiet life will not be observed to be earning persistently high profits. It follows, then, that it would not necessarily be correct to infer the absence of a monopoly problem from the absence of persistently high profits.

Of course, one might well feel that the same principle applied in reverse, and there is a limited sense in which this is true. A perfectly competitive firm may earn high profits in a particular year by chance, and it would, therefore, be imprudent to infer the existence of a monopoly problem from the observation of a single year's high profits. That said, good luck is rarely persistent, and most people – rightly I think – feel reasonably comfortable inferring the possible existence of monopoly from the observation of persistently high profits over a number of years. Of course, a firm that is more efficient year in and year out than its rivals is likely to display persistently high profits, but that may well be because it has a monopoly lock on a particularly scarce asset or a particularly useful byte of knowledge, or because it has been able to take advantage of its suppliers.

The analysis of measured profitability

The real problem, however, with the type of backward looking profitability analysis which I have just described is that it doesn't go far enough. An analysis that concentrates on measuring profits as accurately as possible – that concentrates on obtaining the cleanest signal of market power that is possible – still founders on the problem that the inference from high profits to particular features of a market which have an adverse effect on competition is not always straightforward.

Let me put this point in a slightly different way. Since profits are just a residual that emerges after a firm's costs have been subtracted from its' revenues, one can never be very clear why profits are high – it could be high prices swelling revenues or superior efficiency reducing costs or perhaps both. There is, in fact, just so much one can infer about the drivers of competition by looking at one number. To make the traditional inference from persistently high profits to a particular feature of the market which has adverse effects on competition, one needs to be sure that it is that feature – and not some other – which causes the high profits that one observes. And, since many features of a market affect the revenues and costs of firms, it is rarely going to be the case that links between particular features of the market and profitability will be easy to establish. Our guidance on this is clear: “ ... *at points in time the profits of some firms may exceed what might be termed 'the normal level'. Reasons for this may include, for instance, cyclical factors, transitory price or other initiatives, the fact that some firms may be more efficient than others, the fact that some firms may be earning profits gained as a result of past innovation ...* ”.

All of this leads me to think that any backward looking analysis of profitability should have two components: a measurement exercise (answering the question: “*are profits persistently high?*”), and an analysis of profitability (answering the question: “*why are they high?*”). While a Phase I investigation might well focus on the first question, it is difficult to imagine any Phase II investigation which relies on backward profitability analysis being complete if it has not addressed – and answered – the second question.

There are several ways that one can think about analysing measured profitability. One rather classic methodology is to use statistical analysis to identify the major exogenous drivers of profitability, for example by regressing measures of profitability across a sample of firms in a particular market over time against a range of measures of market structure or conduct. These exogenous variables ought, in principle, to measure (directly or indirectly) those features of the market which might be having an adverse effect on competition. An

analysis along this line was conducted in the Supermarkets² inquiry. It looked at the possible determinants of the prices or profits of particular stores, and how much they were affected by local competition. Another method is to collect data on a natural experiment (eg an exogenous change in market structure caused by regulatory changes), and observe the consequences of the change induced by the experiment on observed profit outcomes. In both of these methodologies, one is trying to establish a clear link between one or more features of the market, the profitability of firms operating in that market; that is, one is trying to identify the drivers of profitability.

There is a third kind of analysis, which can take one or two different forms. One is what we sometimes call a “flow of funds” analysis, which sets out the various flows of funds which take place between the different players in a market. The object of this kind of analysis is less that of linking profits to different features of a market than it is of understanding which types of business account for the profits of particular firms, which goods and services and which transactions seem to matter most. Flow of funds analysis also helps one to understand the inter-relationships created by market transactions, and may also help one to understand how the total surplus created by the market is distributed amongst its various inhabitants. Similarly, an “activity analysis” of profitability (or revenue) that identifies which activities undertaken by a firm contribute most to profitability helps to identify which parts of the value chain are most important, and which activities undertaken by a firm seem to matter most.

For example, we found a flow of funds analysis useful in the Extended Warranties (EW hereafter) investigation.³ Extended warranties are contracts which extend cover given under a guarantee attached to an electrical good when it is purchased. There are two types of such warranties – insurance extended warranties and service backed warranties. In the former, the consumer is directly insured against the cost of repair or replacement; in the latter type of contract, a repair or replacement service is given directly to the purchaser. A flow of funds analysis in this case turned out to be essential to understand the relationships between consumers, retailers, third party insurance (and reinsurance) companies (who write the EWs), administrators (who handle claims) and those who provide repair services. In this case, in-house provision of some insurance and repair services by retailers made understanding these relationships particularly tricky. This analysis revealed that a sizeable chunk of profits were being earned by in-house reinsurance, an activity which, at first sight, seems to be at some distance from the market at the centre of interest.

Similarly, an activity analysis was undertaken in the Banks inquiry referred to earlier. Having ascertained the magnitude of their profits from SME activities, the next logical questions to ask are: “which activities?” and “how?”. The CC considered the various sources of the bank’s profits between loans, current accounts, deposit accounts, and other service offerings. This analysis suggested that the high profits were being generated on short term deposits (rather than on loans as originally thought), largely because the banks were not paying interest on accounts. This, as readers of the report know, had a decisive effect on both the conduct of the inquiry and on its outcome.

Flow of funds or activities analysis can be particularly valuable in identifying the key business segments, transactions and agents in a market. It may not always be possible to do a full profitability analysis of these segments, transactions or agents, due to difficulties in allocating costs and/or capital, but doing the analysis does help one to understand where profits (or at

²*Supermarkets: a report on the supply of groceries from multiple stores in the United Kingdom*, Cm 4842, October 2000.

³*Extended warranties on domestic electrical goods: a report on the supply of extended warranties on domestic electrical goods within the UK*, Cm 6089 (1-111), December 2003.

least revenues) come from. And, it enables one to identify those parts of the market and those market players who are worth a further investigation.

Forward looking profitability analysis

I began this talk by drawing a distinction between profits as a “signal” and profits as an “incentive”, but thus far I have talked only about using profits as a signal of market power. As I mentioned earlier, this is essentially a backward looking exercise that tries to ascertain what it is that gave rise to the profit outcomes that we observe in a market. However, to the extent that profits are an incentive – to the extent that the expectation of profits in the near future creates incentives for agents to take certain decisions or actions – we need to take a more forward looking approach to profitability analysis.

The most natural setting for this kind of profitability analysis is a merger. The great intellectual challenge of merger analysis is that one cannot know for sure what the consequences of the merger will be until after it occurs, which of course means that the decision about whether to allow the merger to go through or not will always have to rely on forming expectations about likely outcomes. The natural way forward here is to take firms at their word – that they are interested in looking after their shareholders best interests – and assume that if a profitable opportunity comes their way, they will take it. That is, if the merger seems likely to create an opportunity to increase profits by taking advantage of some market power created by the merger, then we must presume that the merged firm will take advantage of that opportunity.

This is, of course, what we mean by profits being an incentive, and it opens up an important line of profitability analysis. The kind of analysis that I have in mind here involves exploring the incentives which the merged firm has to pursue certain types of policies. This effectively means exploring the profitability of taking certain types of actions. Of course, to do this properly, one must understand the basic drivers of profitability in the market, and this means that the forward looking calculations of analytical profitability analysis rest in part on the type of backward looking profitability analysis which I discussed earlier. Nonetheless, forward looking profitability analysis is an analysis of what might be, not what was, and that makes it different from the analysis of profitability discussed earlier.

A common example of this kind of profitability analysis is the analysis of failing firms;⁴ that is, asking the question of whether the target of a take-over would survive as a viable competitor in the absence of the merger. However, let me spend a few minutes on a second example of forward looking profitability analysis that I believe is – or will be – more commonly done. This particular piece of analysis was undertaken during the investigation of the acquisition of the ScotRail train franchise in Scotland by First Group, the (by far) leading supplier of bus services in Glasgow.⁵

The main concern in this case arose where bus and train routes overlapped, and, in particular, on the question of whether First Group would have an incentive to shift passengers from bus to rail (or, less likely, from rail to bus) by increasing bus fares or reducing service frequencies. Essentially, this turns on how variable bus costs are, and how sensitive passengers are to inter-modal differences in fares or service quality (and, more generally, how price sensitive they are in choosing their preferred model of travel). Our

⁴This kind of analysis featured, for example, in *Eastman Kodak Company and ColourCare Limited: a report on the proposed merger*, Cm 5339, December 2001.

⁵*FirstGroup plc and the Scottish Passenger Rail franchise: a report on the proposed acquisition by FirstGroup plc of the Scottish Passenger Rail franchise currently operated by ScotRail Railways Limited*, June 2004.

calculations showed that First would have an incentive to try to switch passengers and rationalise their bus network and, when we combined this with the results of our survey showing the numbers of passengers who would shift mode, we concluded that an SLC (substantial lessening of competition) existed on overlap routes.⁶

A similar type of analysis featured recently in the proposed merger of Knauf and Superglass (both suppliers of glass fibre insulation).⁷ This merger would have created a firm with a market share several times larger than that of its nearest rival (particularly in the loft insulation segment of the market). As such, the merged firm would, in principle, have an incentive to act as a traditional “dominant firm” (sometimes called a “Stackelberg leader”), restricting output to raise prices. Whether or not this is a profitable strategy depends on the elasticity of demand, the variability of its costs and on how likely it is that smaller rivals will replace the output withdrawn from the market. In this case, our analysis revealed a wide range of circumstances where the policy of restricting output would be a profitable one for the merged firm to follow, leading us to believe that the merger would give rise to an SLC.

Forward looking profitability analysis is, I believe, useful primarily because it is often a good way to make a precise exploration of a set of concerns. One will never know exactly what will happen after a merger, but one must form an expectation about whether some particular course of affairs is more likely than not. Analysing the incentives of the merged firm to take particular actions – such as trying to shift passengers from bus to rail – enables one to understand much more clearly the circumstances in which they are likely to occur. This, in turn, makes the formation of such expectations both more straightforward and more open to debate. Of course, taken on its own, a particular piece of forward looking profitability analysis may not be decisive, but taken in conjunction with other evidence, it can clarify the analysis of the incentives of parties to take certain kinds of actions.

Some final thoughts

So, where does all of this lead us? We are gathered together here today to talk about what is the best way to measure profitability, and I have spent most of my time addressing the logically prior question “why bother?”. I suppose that my bottom line is that it is well worth bothering with profitability analysis if one does it right. And, I think that there are two different senses in which one must think seriously about “doing it right”.

The first is that one must push beyond a number – or a set of alternative estimates of the same basic number – and ask where that number came from. It is a legitimate practice for a Phase I authority to assert that persistently high profits may well signal the existence of a problem with competition in a particular market (although the inverse is probably not true). It is, however, not good enough for a Phase II authority to make the same inference. To identify whether a particular feature of a market has an adverse effect on competition, one must push well beyond the observation of high profits, and ask why they are high. This means that what I have called backward looking profitability analysis must push well beyond computing a particular number, and try to understand what features of the market underlie that number.

⁶A similar calculation was made in *National Express Group plc and the Greater Anglia franchise: a report on the acquisition by National Express Group plc of the Greater Anglia franchise*, November 2004. In this case, however, network effects dominated the calculations, since many of the users of National Express coaches travelled to London and then out using another coach. Shifting them to the trains generated a further loss of revenue which, in this case, was extremely large.

⁷*Knauf Insulation Limited and Superglass Insulation Limited: a report on the proposed acquisition of Superglass Insulation Limited by Knauf Insulation Limited*, November 2004.

The second sense in which one must think seriously about “doing it right” is that one must often go beyond establishing what has happened in a market (and why), and look at what might happen in the future. This is clearly a priority in any kind of merger analysis, but I believe that the scope for forward looking profitability analysis is broader than this. No market inquiry that finds an adverse effect on competition arising from a particular feature of the market can stop there – the remedies phase of any investigation must always involve addressing what one might do about that feature of the market. And, once one begins to think about changing the features of a particular market, one must ask what the likely effect of those changes are going to be, what incentives they will give to the players of the market to alter their behaviour and, as a consequence, what actions they are likely to take in response to the changes. Forward looking profitability analysis is a very good way to think through this problem, and I think that it is – and will always be – a central feature of good anti-trust practice.