

Agenda

Advancing economics in business

Deconstructing entry barriers: crystal ball gazing or hard economics?

Assessing barriers to entry is a key part of a competition case, but how to define and measure them is often controversial. This article explores opportunities for competition authorities to test entry barriers, asking: should competition authorities rely on the views of potential entrants to determine whether entry will occur? In what way can entry barriers be quantified? And how can the strength of potential entrants be judged?

US economist Richard Schmalensee argued that 'economists unfortunately seem to have produced very little potentially relevant theory and essentially no systematic empirical analysis of factors that slow entry.'¹ Similarly, economist Dennis Carlton noted that the concept of entry barriers has 'misled courts and regulatory agencies repeatedly as they attempt to use the concept in antitrust cases or regulatory proceedings',² and the OECD recently confirmed that 'the question of what constitutes an entry barrier has never been universally resolved'.³

These methodological difficulties explain why market shares have been used as the main indicator for market power in competition cases. However, market shares are a notoriously problematic measure of the intensity of competition, and the assessment of entry barriers can be a more useful, or at least complementary, guide for competition authorities seeking to evaluate market power. As the European Commission states in its Article 82 discussion paper:

if the barriers to expansion faced by rivals and to entry faced by potential rivals are low, the fact that one undertaking has a high market share may not be indicative of dominance.⁴

By looking at empirical evidence and recent competition cases, this article highlights shortcomings in the typical approach to assessing entry barriers and points towards alternative measures.

Likelihood, timeliness, sufficiency

As the OECD has suggested, discussions of entry barriers are more helpful when practically orientated rather than focused on the precise definitions of what constitutes an entry barrier:

the focus on crafting definitions has partially obscured more important questions about entry, such as how likely it is, how long it will take, and how effective it will be.⁵

We now consider, from an economist's perspective, some pointers on these 'more important questions'.

Likelihood

It is rarely clear in competition cases how much weight should be placed on theoretical evidence on entry, such as hypothetical responses to hypothetical post-merger price increases, as opposed to historical evidence, such as the frequency of entry and incumbents' responses to previous entrants. Areeda, Hovenkamp and Solow (2002) suggest that the record of entry is paramount:

The only truly reliable evidence of low barriers is repeated past entry in circumstances similar to current conditions. Indeed, repeated entry during a period of competitive prices makes entry even more likely in response to future attempts at monopoly pricing.⁶

Although evidence of past entry (or the lack of it) can be helpful in assessing the significance of entry barriers in a market, such evidence should not be considered determinative by itself. Exogenous factors such as regulatory or technological developments can change minimum efficient scale, meaning that evidence on past entry is no longer a reliable guide to future entry. As the UK competition authorities' submission to the OECD stated:

a lack of recent entry may also reflect a number of factors other than entry barriers—at least in theory low entry/exit may simply reflect that existing firms are efficient and actively competing.⁷

The issue for competition authorities is that while potential entrants may say they have no intention or inclination to enter the market, this can be evidence either of intense competition (implying no profit opportunities for entrants) or of high barriers to entry. A typical approach is to ask interested parties whether they have any plans to enter the relevant market and, if they do not, to conclude that they are not relevant competitors even in the event of a post-merger price rise. For example, in a recent merger between two producers of carbonated soft drinks (CSDs), the Competition Commission stated that:

Suppliers of primary-branded CSDs told us that entering own-label CSD production could happen relatively quickly and at a low cost ... However, we needed to consider whether a supplier of primary-branded CSDs would actually switch into producing own-label CSDs ...

AG Barr ... told us that it had 'no intention of seeking further own-label business or increasing own-label activity' [...] In addition, [...] GSK told us that it had no plans to start producing own-label CSDs ...

In the light of this evidence, we considered that supply-side substitution from primary-branded CSDs into own-label CSDs in response to an increase in the price of own-label PET-bottled CSDs is highly unlikely.⁸

Thus, although 'entering own-label CSD production could happen relatively quickly and at a low cost', the Competition Commission rejected the likelihood of entry by primary-branded suppliers into the own-label market on the basis of the stated intentions of potential rivals. Similarly, in considering a proposed merger between magazine publishers, the Office of Fair Trading (OFT) found that, while there were low barriers to entry, potential entrants had no apparent inclination to enter the market. This finding formed part of the OFT's grounds to refer the merger to the Competition Commission.⁹

In principle, the focus on whether potential entrants say that they are not minded to enter can lead to the false conclusion that this disinclination reflects high barriers to entry. The strategy of potential entrants could conceivably change if prices in the relevant market were to rise. Only when the result that potential entrants are dissuaded is combined with specific reasons why they do not find it attractive to enter is it reasonable to conclude that post-merger entry will not occur. In particular, if industry profitability is low, further evidence should be sought to justify any claims of high entry barriers.

Thus, the typical approach of asking potential rivals about their investment intentions should be viewed with

caution, at least insofar as it is used in isolation to substantiate claims of entry barriers, given that rivals may well be aware that their statements on entry intentions are material to the competition authority's decision on the merger. In light of this, it can be more appropriate to place greater emphasis on the *profitability* of potential entry. If profitability is low, the lack of recent entry and intentions to enter are consistent with active competition among existing firms.

Economic theory on sunk costs suggests a more precise way to test for entry barriers: sunk costs are fixed costs that a firm cannot recover, even if it withdraws from a market. They create a decisional asymmetry which deters entry because incumbents have sunk these costs but entrants have not. This is important, for example, where switching costs mean that the entrant faces substantial customer acquisition costs that the incumbent has already incurred and does not need to incur again.¹⁰

As Geroski (1995) noted:

it is now widely recognised that fixed costs must be sunk if they are to deter entry credibly, and some progress has been made in adjusting estimates of the stock of assets such as machinery, building and advertising goodwill for depreciation and for their resale value.¹¹

Indeed, practical examples of markets where there are no sunk costs are relatively rare. Bresnahan and Reiss (1994) found that the minimum price that triggers entry is uniformly higher than the maximum price that triggers exit, showing that sunk costs are a common feature of virtually all markets.¹²

To analyse sunk costs as a barrier to entry is a valuable exercise, but data-intensive. In principle, sunk costs would equal the difference between the fixed costs of entry and the residual value of fixed assets in the event of exit. Such a calculation would show in absolute terms the risk that entrants take by entering, thereby measuring the strength of entry barriers. This would improve on the qualitative approach to assessing entry barriers, which may inform about what kind of entry barriers are present, but is weak on measuring the size of entry barriers, which can only be assessed via financial analysis.

Timeliness

Competition authorities typically choose two years as the longest acceptable delay before effective entry can occur if it is to be considered timely.¹³ However, when this is combined with quantitative analysis of entry barriers, the results can be misleading. For example, it is common to find that more than two years would be required simply to construct the facilities an entrant would need to begin production. When analysis of minimum efficient scale suggests that entry is expensive, with long payback

periods (ie, more than two years), it may be judged that entry is unlikely within the relevant timeframe.

This view does not take account of the calculation of the entry decision, which is based on the overall returns obtainable from entry, not on the time taken to recover initial investments. While an investment with a two-year payback may seem more likely to occur in the relevant timeframe than one with a five-year payback, there is no logical connection between the timing of payback and the timing of entry. A five-year payback on investment does not mean that entry will not take place within the next two years. If entry is profitable overall, it is likely to occur, with payback periods depending on the industry characteristics.

Finally, there is an obvious consumer welfare justification for the timeliness of entry (why make consumers suffer two or three years of high prices before an entrant comes along?). However, if entry is considered very likely, albeit on a less certain timescale, the threat of entry alone could protect consumers by imposing some competitive constraint even while entry has not occurred.

Sufficiency

Strength of potential entrants

There may be few barriers to small-scale entry in a particular market, and in the presence of barriers to expansion, such entry may be insufficient to exert an effective competitive constraint on incumbents. A Competition Commission report on a merger between two brewers noted that it was easy to start a micro-brewery or to import foreign beers on a small scale, but difficult to build a national brand due to the need for extensive sunk expenditure on marketing and advertising.¹⁴

Econometric evidence also indicates that entry is often too small-scale to matter to incumbent firms. Geroski finds that many entrants have a short life expectancy, and surviving entrants often require 5–10 years to reach a competitive par with incumbents.¹⁵ This suggests that the short-run effects of entry are likely to be less significant than the long-run effects, and that, while entry can be relatively easy, surviving long enough to become a threat is more difficult.

Constraining prices

There is an interesting subtext to the questions that potential entrants are asked in merger cases: should they be asked whether they intend to enter the market now, or whether they would enter if the merger led to a 5–10% price increase? In principle the right question is whether entry occurs in the event of a price increase, since the relevant judgement is whether entry can restrain the exercise of market power by the merging firms.¹⁶ Yet whichever way the question is posed, it is not

sufficient for competition authorities to rely solely on the stated intentions of rivals. Competition analysis must therefore take account of a wide range of evidence on the ability of potential entrants to constrain incumbents' prices.

The Competition Commission's decision on the proposed London Stock Exchange (LSE) merger provides an example of where the Commission has cited potential entry as a competitive constraint on pricing, finding that the relevant market for equities trading services should include 'all exchanges currently placing a competitive constraint on the pricing and behaviour of LSE in the UK through the *threat of head-to-head competition*'.¹⁷ In a market with pervasive network effects, the strength of competitive constraints is particularly difficult to assess. The Commission relied on the examples of head-to-head competition for Dutch equities trading through the LSE's and Deutsche Boerse's Dutch initiatives, and the aborted plan by Euronext to launch Project Tiger to trade UK equities. Crucially, evidence of price cuts by Euronext of around 30% following the launch of the LSE's Dutch equities service was interpreted as demonstrating that the LSE was able to significantly constrain Euronext's pricing behaviour.¹⁸ As the Commission argued, 'although no lasting shift in liquidity has been achieved, these attempts have, in some cases, had a real impact on the competitive landscape.'¹⁹

Conclusion

This article has shown that, while economic definitions of entry barriers are contested, competition authorities have focused on more practical issues, such as whether available evidence demonstrates that substantial entry is likely to occur within a two-year timeframe.

While economists would now emphasise the importance of measuring sunk costs to assess entry barriers, competition authorities find it difficult to rely on the quantitative evidence required to fully analyse sunk costs, and continue to depend on qualitative evidence on past entry and the current stated intentions of potential competitors.

However, some elements of this pragmatic approach have shortcomings.

- Evidence from potential entrants on their disinclination to invest is not sufficient to conclude that entry barriers exist. Profitability analysis can be used to distinguish between potential entrants that are dissuaded by the intensity of existing competition and those which face substantial entry barriers.
- The two-year timeframe used by some competition authorities as the window for relevant entry can be misapplied. In many cases, entry has a long lead time

(eg, new cinemas and supermarkets often undergo lengthy planning inquiries) or a long payback period, but this should not automatically be taken to imply that entry, or the threat thereof, does not constrain incumbent firms.

- Econometric evidence shows that small-scale entry is often not a significant threat to incumbent firms, and that barriers to expansion (which may determine survival rates) can be more important than factors that determine the frequency of small-scale entry.
- Economic theory suggests that the typical question asked of potential entrants—‘are you likely to enter the market in the near future?’—should be recast to relate to the post-merger high-price scenario.

- Finally, as in the LSE case, previous episodes of entry can serve as helpful economic experiments of whether incumbents are substantially constrained by the threat of entry, particularly where pricing analysis can uncover whether prices remained low even after an entrant exited from the market.

Through emphasising the role of financial analysis to assess the profit incentives for entry to occur, and econometric analysis to assess the price effects of previous market entry, competition authorities can make full use of the available evidence on entry barriers. This allows the assessment of entry barriers to take greater account of the economic tools at hand, and helps reduce the ‘crystal ball gazing’ element inherent in forecasting entry and supply-side substitution.

¹ Schmalensee, R. (2004), ‘Sunk Costs and Antitrust Barriers to Entry’, *American Economic Review*, **94**:2, p. 471.

² Carlton, D. (2004), ‘Why Barriers to Entry Are Barriers to Understanding’, *American Economic Review*, **94**:2, p. 466.

³ OECD (2006), ‘Barriers to Entry’, Directorate for Financial and Enterprise Affairs Competition Committee, DAF/COMP(2005)42, p. 9.

⁴ European Commission (2005), ‘DG Competition Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses: Consultation Paper’, (IP/05/1626) December 19th, p. 12, para 34.

⁵ OECD (2006), op. cit., p. 53.

⁶ Areeda, P.E., Hovenkamp, H. and Solow, J. (2002), *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, second edition, p. 60, para 420b.

⁷ OECD (2006), op.cit., p.225.

⁸ Competition Commission (2006), ‘Cott Beverages Ltd and Macaw (Holdings) Ltd Merger Inquiry: Final Report’, p. 24, paras 4.15–19. Oxera advised the merging parties on this case. Square brackets indicate redacted information. PET-bottled refers to Polyethylene Terephthalate plastic bottles.

⁹ OFT (2005), ‘Anticipated Acquisition by Future plc of Highbury House plc’, decision document, April 21st, p. 7, paras 28–9.

¹⁰ Sunk costs are barriers to exit which function as barriers to entry, since they increase the capital which a new entrant has to irretrievably commit in its decision to enter a market, and thereby dampen the incentives to enter a market in which the incumbents enjoy some degree of market power.

¹¹ Geroski, P. (1995), ‘What do We Know about Entry?’, *International Journal of Industrial Organization*, **13**, p.429

¹² Bresnahan, T. and Reiss, P. (1994), ‘Measuring the Importance of Sunk Costs’, *Annales d’Économie et de Statistique*, **181**.

¹³ For example, the OFT’s merger guidelines state that entry within less than two years will generally be timely, but this must be assessed on a case-by-case basis. OFT (2003), ‘Mergers: Substantive Assessment Guidance’, May 21st, p. 30, para 4.23.

¹⁴ Competition Commission (2001), ‘Interbrew SA and Bass plc—A Report on the Acquisition by Interbrew SA of the Brewing Interests of Bass plc: Final Report’, p. 106, para 5.93.

¹⁵ Geroski, P. (1995), op. cit., p. 435.

¹⁶ In practice it may not matter, since a potential rival may assume that, were entry to occur, prices would be driven back down to the pre-merger levels.

¹⁷ Competition Commission (2005), ‘A Report on the Proposed Acquisition of London Stock Exchange plc by Deutsche Börse AG or Euronext NV: Final Report’, p. 5, para 16. [Emphasis added].

¹⁸ Competition Commission (2005), op. cit., p. 50, para 5.42.

¹⁹ Ibid., p. 64, para 5.119.

If you have any questions regarding the issues raised in this article, please contact the editor, Derek Holt: tel +44 (0) 1865 253 000 or email d_holt@oxera.com

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