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Agenda

Advancing economics in business

Valuing intangible assets: a tangible improvement to competition policy?

The valuation of assets—particularly intangible assets—is the subject of ongoing debate in profitability analysis. In a recent market investigation, the UK Competition Commission's valuation of a market participant's intangible assets was significantly lower than the valuation presented by the company itself. An important intangible asset in that investigation was the cost of acquiring customers—what would have been an alternative basis on which to value this asset?

Profitability analysis is one aspect of financial analysis in competition policy. Others include quantification of damages and assessing whether state aid rules satisfy market investor principles. Profitability analysis, when used in competition policy, can provide an indication of the presence of entry barriers and therefore the state of competition in a market. This distinguishes it in its objectives from the measurement of profitability for normal accounting or performance assessment purposes.[1]

One key, and sometimes contentious, component of profitability analysis concerns asset valuation. This statement may appear surprising given that finance theory clearly states that the value of an asset is equal to the present value of the expected cash flows that can be derived from use of the asset (ie, its net present value, NPV). This is because whereas the basis for valuing assets for market valuation and accounting purposes is well known, it does not necessarily reflect the basis for valuing assets when assessing the state of competition in a market. Indeed, the 'rules' by which assets should be valued when it comes to examining profitability in a competition setting are often new to the private sector participants in a particular competition inquiry.

The debate on the role of asset valuation in profitability analysis is ongoing, as shown in a number of recent UK Competition Commission market investigations. One particular source of controversy is the valuation and inclusion of intangible assets in the asset base, against which a company's returns should be measured. Intangible assets are typically not included on the balance sheet of companies (with some exceptions, discussed below) because of conservative accounting conventions. However, failing to identify and account for intangible assets when measuring economic (as opposed to accounting) profitability could result in incorrect profitability results, and therefore misleading conclusions about the effectiveness of competition in the market.

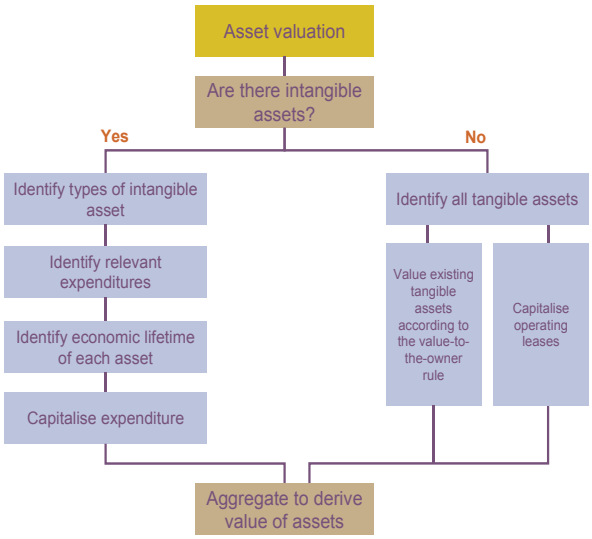
Some historical perspective on this is useful. Up until the investigation into banking services to small and medium-sized enterprises in 2002, the Competition Commission itself tended not to include intangible assets when measuring profitability.[2] In that inquiry, it set out criteria to determine whether an operating cost should instead be considered an investment in creating an intangible asset. These criteria have been used in a more recent Competition Commission inquiry into the market for loans provided via doorstop selling, the home credit inquiry.[3] One of the main intangible assets in this case referred to the cost of acquiring customers and establishing a customer network. Valuing customer networks is potentially important when examining the profitability of consumer markets, where sales effort is significant.

Why does asset valuation matter?

The few categories of intangible assets that are typically included on the balance sheet of companies include rights (eg, licences and patents), purchased goodwill and capitalised R&D costs. However, from an economics perspective there are more.

Staff training, brand value, the development of IT systems, and customer networks are examples of items that may be considered as intangible assets but that are generally excluded under accounting rules. From an economics perspective, intangible assets to a company can be defined as non-physical sources of probable future economic benefits to a company that have been acquired, purchased or developed internally at

Figure 1 Asset valuation



Note: Even if there are no intangible assets, tangible assets would still need to be valued according to value-to-the-owner principles.
Source: Oxera.

identifiable costs, have a finite life, have market value outside that specific company, and are owned or controlled by the company.

In economic profitability analysis, assets should be valued according to the 'value-to-the-owner', or 'deprival value', principle (see Figure 1 and the box below). This values assets according to the lower of replacing the asset or the economic value (which itself is the higher of the NPV and the net realisable value, NRV). The basis for this rule is that economic profitability concerns the cost of entry into a market and, therefore, it is appropriate to value assets according to the lowest cost of entry. If profitability still appears persistently and substantially above a competitive benchmark (eg, the cost of capital), when it is measured on this basis, there is prima facie evidence of limitations in the competitive process (eg, entry barriers)—otherwise there would have been new entry over time to compete away the excess returns.

Debate on intangibles in the home credit inquiry

There was debate between the Competition Commission and participants, including expert academics, on a number of issues concerning profitability in the home credit inquiry. These issues included the choice of measure of profitability and the identification and valuation of intangible assets. In terms of the former, participants generally preferred the internal rate of return (IRR), while the Competition Commission used the return on capital employed (ROCE). With respect to the value of intangible assets, there was a significant difference

Value-to-the-owner principle

The value-to-the-owner principle determines the value of assets on one of three possible bases.

- **The modern equivalent asset (MEA)—this approach values assets at the lowest cost of purchasing assets today that can deliver the same set of goods and services as the existing assets using current technology and services, including the most optimal configuration of assets.**
- **The net present value (NPV)—the expected future cash flows discounted at the asset's cost of capital.[1]**
- **The net realisable value (NRV)—the price that the asset would fetch if it were sold (disposed of) today.**

The value of the asset at time t is the lower of the MEA and the economic value. Formally:

$$A_t = \min(MEA, EV_t)$$

where EV is what Edwards, Kay and Mayer (1987),[2] who developed this principle, refer to as the economic value of the asset (ie, the most economic use of an asset once in possession), expressed as:

$$EV = \max(PV_t, NRV_t).$$

The value-to-the-owner rule can be used to provide evidence of barriers to entry and exit over particular periods. If the estimated internal rate of return (IRR) is in excess of the cost of capital when assets are valued at their MEA, entry and investment should have occurred at the beginning rather than the end of the period. If it does not occur, there is prima facie evidence of a barrier to entry and excessive returns. If, on the other hand, rates of return are below the cost of capital when assets are valued at the NRV, exit should have occurred at the beginning rather than the end of the period. If it does not occur, this is an indication of a barrier to exit. Finally, where the NPV lies between the MEA and its NRV, 'normal' profits are being made. The value-to-the-owner rule therefore provides an appropriate measure of economic profitability over a segment of the life of a firm or activity.

Table 1 Value-to-the-owner principle: investment appraisal and estimated IRR

NPV of asset	Investment decision	Estimated IRR
Equal to or greater than MEA	Purchase asset	Equal to or greater than cost of capital
Between NRV and MEA	Retain existing asset but do not purchase new asset	Lower than cost of capital
Less than NRV	Dispose of existing asset	Lower than cost of capital

Notes: [1] A related approach is one based on 'fair value', which is the amount at which an asset could be exchanged in an arm's-length transaction between informed and willing parties. In the UK companies can value assets according to the 'fair value' approach.
[2] Edwards, J., Kay, J. and Mayer, C. (1987), *The Economic Analysis of Accounting Profitability*, Claringdon Press: Oxford.

between the Competition Commission and the main market participant, Provident (£25.1m compared with £504.3m). If Provident's intangible asset figure had been used, the Competition Commission's estimate of the ROCE would have fallen from 24.5% to 13.8%.[4] This difference explained most of the gap in the estimated profitability between the Competition Commission and the main market participant.

The Competition Commission's approach to intangible asset valuation was similar to that taken in the inquiry into banking services to small and medium-sized enterprises. In particular, it noted the following principles when considering whether certain types of what it referred to as revenue cost should be capitalised: whether the expenditure on any given intangibles should be capitalised will depend on the nature and context of the specific intangible identified; and if the revenue cost of a specific identified intangible is to be capitalised for the purposes of the inquiry, it must meet three conditions:

– it must comprise a cost incurred now, primarily to obtain earnings in the future;
– this cost must be in addition to those necessarily incurred at the time in running the business;
– it must be identifiable as creating an asset that is separate from any that arises from the general running of the business.[5]

In the case of home credit providers, the Competition Commission identified four possible categories of intangible asset: an experienced and trained workforce; the customer base; knowledge of customers' creditworthiness; and IT systems. It rejected the recognition of corporate reputation (or brand) or start-up losses as intangible assets.[6] The Commission used the concept of deprival value (ie, value to the owner) to measure intangible assets, which values assets according to the cost to a business of being deprived of its use.

The Competition Commission valued intangible assets in each of these areas by identifying the proportion of the operating costs that should be capitalised (or, in other words, treated as capital expenditure that created an asset rather than ongoing operating costs), and then capitalising these over the estimated economic lifetime of the asset. It used a number of simplifying assumptions—eg, determining useful economic lifetimes for each intangible asset, ranging from 1.5 to five years, and then making a simplifying assumption that all home credit intangible assets had a useful economic lifetime of three years.

In its provisional findings, the Competition Commission set out its central estimate of the value of each of the identified intangible assets.[7] However, in its final report, recognising the judgement used to value intangible assets (eg, with respect to the assumed economic lifetime of the asset), the Commission revised this analysis to estimate the 'maximum' value for intangible assets, and then assessed whether returns appeared high even if a maximum value approach were taken.

The Competition Commission's approach was criticised by the market participants in the investigation for, among other reasons, using the ROCE rather than the IRR; for not including start-up losses in the value of intangible assets; and for its use of current accounting data to value intangible assets, rather than (even if only on a hypothetical basis) considering what costs would have been incurred in the past to actually create that intangible asset. This is part of the debate about whether current information on expenditure is informative in understanding both the cost of historically developing those assets as well the current cost of replacing them.

Alternative method for valuing customer acquisition costs

If the cost of acquiring customers creates an identifiable asset that provides future as opposed to current benefit, this represents an example of an operating cost that could also be considered a capital cost or investment. One example of such a cost relates to mobile phone companies discounting, or providing for free, handsets as part of a mobile telephony contract. An attempt must therefore be made to quantify them if profitability is to be measured accurately from the perspective of measuring the presence of entry barriers.

There is no well-defined basis or methodology for estimating customer acquisition costs. The chosen method will therefore need to be based on a clear rationale for the selection of revenue costs to be capitalised, which involves reclassifying these expenditures as capital expenditure, rather than operating expenditure, and estimating an asset value. Failing to do this means that the asset base will not be correctly valued.

When acquiring new customers, a business might be expected to spend proportionately more of certain costs on new customers than on retained customers. In theory, all of a particular type of cost—eg, a promotional budget—could be spent on acquiring new customers. In this case, all of this particular cost could be treated as a customer acquisition cost so long as it is incurred now primarily to generate future revenues. This could comprise an example of a *direct* customer acquisition cost. The Competition Commission has already accepted the practice of distinguishing between expenditures on acquiring customers from those on retaining existing

customers. These costs—where proportionately more is spent on new customers—could therefore be referred to as 'set-up' costs, and the set-up cost to be capitalised would only be the difference between what is spent on average for a new customer and what is spent on average on a retained customer for this particular cost line. Clearly, there may be many cost lines where the average expenditure on new customers is the same (or even lower) than expenditure on retained customers. The set-up cost approach to valuing this asset would therefore exclude those cost lines.

In addition, there may be set-up costs in years other than the year in which a new customer is acquired—eg, encouraging new customers to renew their advertisements may entail a greater sales effort than on average.

The first step, therefore, is to identify set-up costs. For some costs, all of the cost may be expended on acquiring new customers (eg, sales team cost), and these would form part of the set-up costs. For others, a detailed cost-allocation breakdown of each element of the cost line between new and retained customers would be required. This process is inevitably somewhat subjective, and it is therefore important that the cost-allocation process is driven by a sound methodology. It is possible that, for those costs where proportionately more is spent on new customers, more could also be spent on customers that continue to remain with the company for another year. In this case, these additional costs may also warrant capitalisation.

This approach avoids capitalising the general costs of running the business, and addresses the Competition Commission's criterion that revenue costs to be capitalised should be considered in addition to those necessarily incurred in running the business.

Conclusions

Asset valuation is clearly a critical component of economic profitability analysis. Valuation of intangible assets not recorded on the balance sheet is particularly important since the accounting value of tangible assets at least provides (a not necessarily accurate, especially where rapid technological change has occurred) starting point for asset valuation for tangible assets. While the Competition Commission has developed criteria—that have themselves been scrutinsed—for identifying which operating costs could be treated as capital costs that create identifiable and separate intangible assets, these criteria still leave open the question of how those assets should be valued. The differences in the approaches taken by the Commission and the market participants in market investigations highlight the evolving nature of the debate on asset valuation.

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[1] For an extended discussion on the practical application of profitability analysis, see Office of Fair Trading (2003), 'Assessing Profitability in Competition Policy Analysis', Economic Discussion Paper 6, prepared by Oxera, July. Available at www.oxera.com.
[2] Competition Commission (2002), 'The Supply of Banking Services by Clearing Banks to Small and Medium-sized Enterprises'.
[3] Competition Commission (2006), 'Home Credit: Final Report', November.
[4] Ibid., Appendix 3.9.
[5] Competition Commission (2002), op. cit.
[6] The Commission also considered the extent to which 'start-up' losses should be regarded a capital cost from which a business would expect to derive future economic benefit, and whether the capital costs associated with such investment should be included in the asset value. It conceded that a greater proportion of the costs incurred in the start-up phase may refer to generating future economic benefits, but did not accept that all start-up losses (which could include returns below the cost of capital) warranted capitalisation. The key test for the Commission remained whether the cost incurred created an identifiable and separate asset.
[7] Competition Commission (2006), 'Home Credit: Provisional Findings Report', April.