ADMAP

The case for long-

Econometrics provides a compelling case for the positive long-term impact of advertising on sales, but to measure it requires rigorous data analysis and a category-specific understanding of what long-term vs. short-term effects are

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Like many investments made in business, the financial return from advertising isn't always immediate. Many econometrics studies have shown that the short-term return on advertising is often less than the investment itself, especially for FMCG and consumer packaged goods (CPG). So, advertisers put their faith in the 'long-term' benefit of advertising to justify the investment, assuming it will more than compensate for the initial shortfall.

Indeed, many econometrics practitioners present the low, perhaps disappointing, short-term RoI to their clients, with the caveat that, 'Of course, the long term will be four times as much as the short term, so it will pay back'. But where is the evidence? Justifying a multimillion-pound advertising budget by simply multiplying the RoI by four (a standard multiplier used by many advertising professionals), might not seem like good business sense. That doesn't mean it's not correct.

Econometrics can provide much of the rigour and evidence required to back up the idea that advertising has a long-term impact on sales, which may help justify advertising in the short term, including: previously published econometric studies – specifically set up to measure long-term advertising effect; and learning from past economic recessions – many advertisers drastically alter their advertising strategy in a recession, which provides an interesting insight into longer-term advertising effects.

First, though, it is worth considering how we define long term, as this can vary across the industry. Many econometrics practitioners apply an artificial cut-off point to define the end of the short term and the start of the long term (e.g. the short term is the first three months and the long term is anything after that). This seems somewhat arbitrary for several reasons.

Long term can mean different things to different categories, depending on the product's life cycle and how consumers purchase it. Long term will be defined very differently for car manufacturers, compared with film producers or manufacturers of toilet cleaners. Having one 'rule' for defining short term doesn't take this into account. We could have category-specific rules, but agreeing on this would be difficult.

Additionally, we find there is usually evidence in the data to help define the long term, making it much more relevant to the client and its category. Finally, while an arbitrary cut-off point is unlikely to result in an inaccurate measure of historical advertising effects, it is not a very helpful model for predicting the future (e.g. if we want to measure the impact of cutting advertising in a recession).

With this in mind, we will look at evidence from published econometric studies that advertising has a long-term impact on sales. We have identified five relevant econometrics studies reporting on long-term advertising effects. At first glance, they seem to give very different views on the size of the long-term effect relative to the short term (often called the long-term multiplier or the LT/ST ratio), ranging from one to 14 times.

Further analysis suggests they had very different definitions of the short and long term. Andrew Roberts (TNS) had a very short short term of four weeks and consequently his multiplier of 14 was much bigger. Millward Brown's short term was defined as eight weeks, with a multiplier of six. R P Leone (in *Marketing Science*) and S Broadbent (in the *International Journal of Advertising*) both defined short term as 10 weeks and yet Leone's multiplier was two and Broadbent's was three. At the other end of the scale, L Lodish *et al.* defined short term as 52 weeks with a multiplier of one (*Marketing Science*).

Additionally, the short-term definition can be approximated to a carry-over rate. For instance, a four-week short term means the short-term effect drops away very quickly, carrying over only around 30% of the previous week's advertising effect. A 52-week short term is more likely to have a carry-over of 90%. Plotting the LT/ST ratio against the carry-over rate for the short term allows us to see a pattern developing (Figure 1).

The first point to note is that the LT/ST ratio depends on the definition of the short term, which means using a standard multiplier of four can be inaccurate. Secondly, we tend to see short-term carry-overs in the range 50-70%, which means the multiplier is likely to sit between two times and five times in Figure 1. So, there is decent evidence from published econometrics studies for long-term advertising effects in the range two to five times the short term.

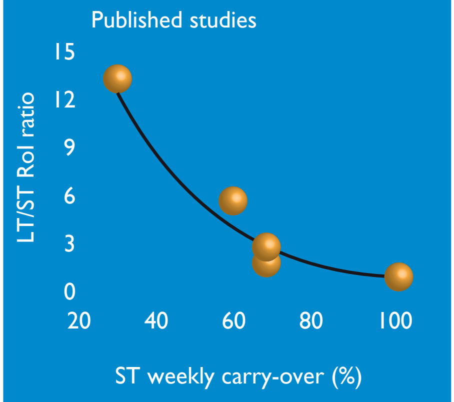
During recessions, many brands stop advertising to reduce costs. It's an easy thing to do, especially when it is one of the

term advertising

hardest marketing investments to measure. The money saved is typically put towards promotions. But is this the right decision? Brands may well be better off in the short term as a result of reduced media budgets, but will they suffer if their competitors continue to advertise?

Studies suggest that for a raft of reasons, maintaining investment during a recession can significantly benefit a brand. Maintaining the same marketing investment during a downturn can result in a brand emerging stronger than its competitors who pulled back, with the competitive advantage being felt for a further two to three years afterwards.

FIGURE 1



Not all brands stop advertising during a recession. We can learn valuable lessons from published studies comparing how well these brands fared once the recession was over, compared with those who stopped advertising. A 2002 study of the Profit Impact of Marketing Strategy (PIMS) database, which covered 3,500 US companies, found that brands which maintained or increased marketing during a recession saw double the growth in share compared with those who cut marketing.

TNS Sofres studied 127 brands on its Superpanel between 1991 and 1992 and found the top brands spent an additional 7% and increased share by 1.1%, and the bottom brands decreased spend by 8% and reduced their share by 1.6%.

A study by Buchan Advertising in 1947 looked at advertising compared with sales trends and it too found that companies cutting advertising spend during recession lost share and continued to lag behind competitors even after the recession.

Several more studies, including those by McGraw Hill in 1981-82 and ABP/Meldrum and Fewsmith in 1970, came to similar conclusions. It is clear that brands which continued to advertise during the recession fared better than those which did not, and the advantage continued for several years after the recession (even when competitors restarted advertising).

Because long-term effects are slow-moving it can be difficult to measure them on some occasions using econometrics. We are helped if:

- we have a long period of data (five or more years).
- there has been a significant change in media weight at some point during that period.
- there has been a significant change in creative effectiveness during that period.

We have explicitly modelled the long-term effect of advertising for 12 years, across more than 200 cases, and some patterns have become clear.

For instance, the LT/ST ratio depends on a number of factors – brand size, category, competitiveness of the market, purchase cycle, media channel, creative messaging, and seasonality of the product. In particular, products with a longer purchase cycle tend to have higher long-term ratios, while seasonal products will exhibit lower long-term ratios, as there is less scope to generate a habit of use before it becomes 'out of season'.

Brands with bigger market shares will also tend to have higher LT/ST ratios. This is not surprising since it will correlate with the level of competitiveness in the category. In our experience, health and pharmaceutical categories tend to see better LT/ST ratios. On average, the long-term ratio is typically in the range three to four, but as we have demonstrated, there are many factors that impact the ratio.

In the econometrics case history in Figure 2, advertising is having increasingly large short-term effects on sales and the base level is improving. By explicitly modelling the long-term effect, we can identify part of this base level that is impacted by advertising (Figure 3). This particular client changed to a much more effective creative and we consequently saw improved short-term RoIs together with growth in the base level.

There are two key advantages of this approach: we get a much more accurate measure of the advertising RoI; and we better understand how short- and long-term effects work for this product which means we can be more prescriptive in future planning. Armed with the learning above, we can identify the impact of cutting advertising spend.

A separate study looked at how sales performed each year when the budget was reduced to 70% of the regular spend for one year, and to zero for one year, compared with maintaining the normal budget. The modelling shows that cutting back to 70% of the advertising budget takes two years to recover to previous sales levels. Reducing advertising to zero for a year will take four to five years to recover. This analysis backs up our learning from recessions, which shows there is likely to be a long-term impact beyond the end of the recession for those brands that reduced spend.

The only way to recover more quickly is to increase budgets once the recession is over. This may be a strategy many brands need to adopt if, and when, we finally do emerge from this current economic downturn. However, the maths suggests a brand will need to spend more to recover than it saved by cutting advertising in the first place so it is a false economy unless cashflow is the driver.

Our belief is that advertising campaigns generate both short- and long-term buyers while on air. We don't know who is who at the time, but by looking at sales patterns we can estimate what proportion of those buying in response to the advertising go on to be long-term customers. We can also measure how long these repeat purchasers continue to buy before being tempted back to competitors.

Effectively, we think of the long-term impact as part of base sales. This allows us to understand how many base sales are supported by advertising and to understand through scenario planning, what might happen to these base sales if advertising is stopped.

The proportion of short- and long-term customers who respond to advertising varies across and within categories. For instance, an advertising claim that isn't backed up by the product itself will lead to a lot of short-term buyers, with possibly no long-term effect; a highly competitive market might see what are initially long-term buyers being tempted back to competitors more quickly than usual. For this reason we allow the data to define how long the short- and long-term effects last.

Measuring long-term advertising effects is often assumed to be easier with customer level data. This may cover consumer panels or data from loyalty cards. Indeed, this sort of data does give more detailed information about individual purchasing habits, allowing us to more easily identify short- and long-term consumers.

However, it still has its shortcoming. First of all, we do not have full information about which marketing stimuli consumers have seen – digital activity can often be tracked but viewing of traditional channels such as TV (more and more of which is being shown as a key driver of digital activity) is usually difficult to link back to purchasing data. Loyalty card data often suffers from only measuring buying behaviour in one store or for one company, making it difficult to assess competitor purchases.

Panels that cover both viewing and purchasing behaviour suffer from relatively small sample sizes and panel attrition which means only very small numbers stay on the panels for a significant amount of time, allowing them to be identified as long-term consumers. Measuring long-term advertising effects remains a difficult nut to crack and will probably stay that way until we have much more detailed single-source data on consumer purchasing and media consumption. However, there is strong evidence for its impact and we can make conclusions on that evidence today.

FIGURE 2

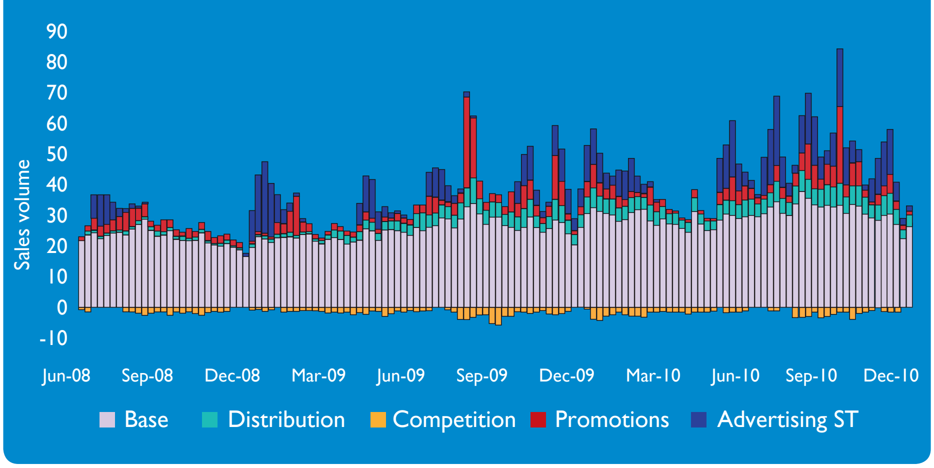
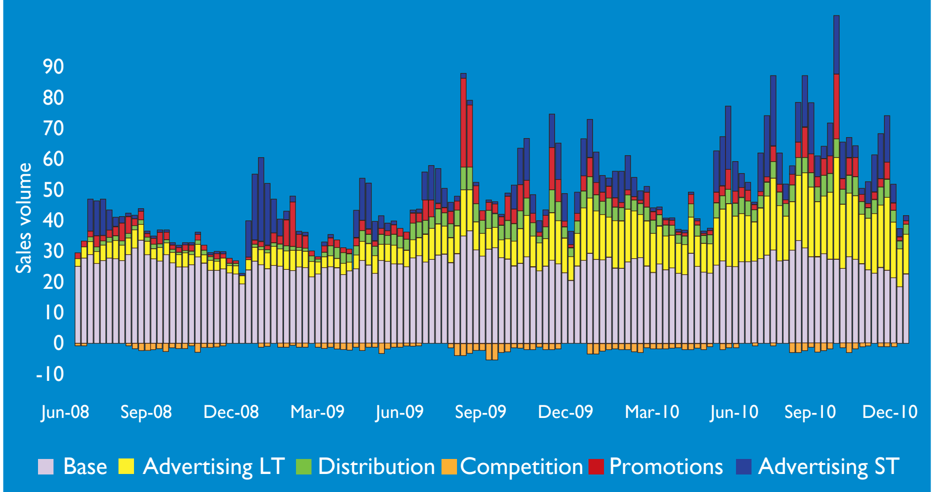


FIGURE 3



SUMMARY

In our view, there is compelling econometric evidence to support the argument that advertising has a long-term impact on sales. For those looking to justify advertising by presenting the long-term benefits, the key to accurately measuring the long-term effect is:

- To avoid taking a simplistic approach – use the data available to the best of its ability.
- Tailor the approach for the business, product and category in question.
- Use a long data history to explain the uplift in base sales as a result of historical marketing activity.

Accurately determining the long-term effect of advertising is extremely powerful and can change the way marketing is viewed within a business.

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