Profitability and the short-stay accommodation market in Tasmania - Dr Ann Marsden (GSM London) and Dr Hugh Sibly (University of Tasmania)

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This paper examines the determinants of the profitability of short-stay accommodation firms in Tasmania utilising a survey of these firms conducted in the July 2007 to June 2008 period. The period provided the opportunity for a natural experiment with some firms adopting the new information technologies to make online sales and others continuing with the traditional distribution channels. Like all businesses, short-stay accommodation providers (such as hotels, bed and breakfast and guest houses) enter their industry with a view to generating some level of profit. However, relatively little is known about what determines the relative profitability of different types of business in this industry. By analysing this survey data set we are able to provide new insights into the determinants of profitability of different types of firms in this industry

Firms were asked directly how they assessed their profit (specifically return on assets). As the survey also asked business about some of the key characteristics of their business, we are able to undertake an econometric analysis of the effect of these characteristics on profits. The data collected include those characteristics that standard economic theory would predict affects profit: the location of the firm; the size of the firm; the firm's perception of the market's competiveness; the star rating (quality) of the firm; whether it is a winter or summer season.

A feature of the short-stay accommodation industry is that firms make sales through a variety of channels. Traditionally, some customers have purchased 'at the door', i.e. directly from the firm while others purchase through retailers. Door sales offer some opportunity for flexibility in prices but traditionally prices for sales via retailers were set well ahead of time and published in hard copy brochures. During the period in which the survey was conducted however firms in the short-stay accommodation industry were adjusting to the emergence of online selling opportunities through intermediary websites. The survey identified those firms which were, at the time, using the website Wotif.com which was a key online site at the time in Australia. Approximately 90% of the respondents to the survey were also owner operators. In Tasmania, it would appear that some owner operators enter the short-stay accommodation for lifestyle reasons. Owner operators were also asked to report how important lifestyle choices were in their decision to work in the industry.

There is not an extensive literature on the determinant of the profitability of short-stay accommodation providers. However related contributions have been made in the industrial organisation (economics) literature, the industrial relations literature and the tourism literature. Schmalensee (1988), and a number of later economics studies, decompose data on the variability in profitability into an industry specific component, a firm specific component and a business unit specific component. This approach is essentially descriptive and does not attempt to explain such variation. These decomposition studies are not primarily concerned with explaining variations in profitability within an industry rather across industries. More recent economic studies have been limited by the availability of data. Additionally, these studies are primarily concerned with inferences about market structure and not about profitability per se. For instance, the ‘direct approach’ in New Empirical Industrial Organization (NEIO) involves estimating marginal cost using cost data, for example (D. Genesove and W. Mullin 1998) or estimating price-cost margins, for example (C. Hyde and D. Perloff 1998). Carlton and Perloff (2005) point out that because marginal cost measures are rarely available many researchers use the price-average cost margin rather than the price-marginal cost margin, an approach they suggest may lead to serious biases. The indirect approach uses changes in prices to infer changes in costs, for example (W. Roeger 1995). In the industrial relations literature, Machin and Stewart (1990, 1996) consider the measurement of financial performance of firms which is qualitative and based on survey questioning of managers. Machin and Stewart (1990) point out that despite their firm performance variable yielding reduced and subjective information relative to an objective continuous profit measure it still possesses useful information for empirical analysis.

Two studies of profitability by S. Feeny and M. Rogers (1998) and M. Rogers (1999) consider actual levels of profitability in large Australian firms over the period 1985 - 1996. These papers provide the only recent information on the profitability in the accommodation industry in Australia so are helpful to the investigation of profitability in the short-stay accommodation industry reported here. They found that the accommodation industry was a persistently low performer in their sample of Australian companies over the period 1985 to 1996. A third study of profitability in Australia by Ville and Merrett (2006) used a long time series for business profits for the period 1947 to 1986 indicated an average return on equity of around 8%. These three studies provide a benchmark for studying returns in the Tasmanian industry after allowing for any change in conditions from 1996 and any variation in returns. Recent papers from the tourism literature indicate that market concentration negatively affects hotels’ profitability (Pan, 2004) and that the efficiency and effectiveness of the functional departments within a hotel contribute to the overall performance of the hotel (Hsieh and Lin, 2010). The papers described above all informed the development of the questions in the survey used to generate the data for the analysis presented below and the modelling of the factors that affect profitability.

Short-stay accommodation firms supply customers with a bed for one or more nights. This supply is described as a guest night (or visitor night) in the industry to distinguish the supply from a room night since rooms can be occupied by more than one person. Customers can make a booking for a guest night ahead of time or arrive at the accommodation business without a booking. Firms call the latter walk-ins. Where customers make a booking they have a choice of booking options. These different booking options, and the walk-in option, are called distribution channels by the firms in the industry. It is interesting to observe any changes that occurred in the use of these distribution channels for the period July 2000 to June 2004 prior to the survey reported in this paper.

Data from the Tasmanian Visitors Survey between July 2000 and June 2004 is used to examine changes in the methods of booking across the industry. The proportion of bookings made through a ‘travel agent’ declined from 44% to 27% whilst the proportion of bookings made through the ‘internet and online only travel providers’ increased from 4% to 23%. For all other distribution channels the percentage of bookings remained relatively constant. The ‘internet and online only travel providers’ was dominated during the period July 2000 to June 2004 by two companies, Expedia.com and Wotif.com. In comparison to the pricing on Tasmania’s Temptations (the key retailer), prices on Expedia.com and Wotif.com could be adjusted from day to day so firms were no longer constrained to prices set in an earlier period. Firms were able to offer different prices on different days of the week or weeks of the year. The emergence of these internet and online only travel providers therefore allowed firms in the industry flexibility in their pricing that had not previously been possible. These changes in the distribution channels suggest three observations. First, note that by June 2004, many firms were in a position to offer different prices across and within distribution channels. If the cost of supplying a guest night is not reflected in these variations in price there may be evidence that firms use price discrimination strategies. The second observation is that the firms have an incentive to use Expedia.com and Wotif.com since these sites may allow the use of price discrimination strategies in comparison to the peak/off-peak pricing of Tasmania's Temptations. Third, firms have an incentive to use Wotif.com in preference to both Expedia.com and Tasmania's Temptations because they were charged 10% commission for the use of Wotif.com whereas Expedia.com and Tasmania's Temptations charge 25%. The post-commission price determines revenue and profitability so lower commission means higher revenue, ceteris paribus. Those firms who respond to these incentives should therefore be more profitable.

The survey used to generate the data for this paper of all 425 firms providing short-stay accommodation in Tasmania with five or more rooms in the winter quarter 2007 and summer quarter 2008 was conducted by one of the authors (Marsden, 2012). A response rate of 21% was achieved for the survey which compares favourably with response rates for this industry commissioned by industry organisations such as Tourism Tasmania. The distribution of characteristics in the population and respondent group are compared using *t* tests for equality of distribution functions for each of the business categories i.e. type, region, number of rooms and star rating. The tests indicate there are no significant differences at the 5% level hence the data can be used for inference purposes.

The industry is imperfectly competitive with business having some limited market power associated with the differentiation of the service they provide. The limited market power means it is very difficult for business to act strategically. The estimating equation postulates that the firm's profit is a function of a number of key exogenous factors. Specifically:

$$\pi = \beta 1 size + \beta 2 starrating \ + +\beta 3 location \ + \beta 4 winter + \beta 5 lifestyle \\ + \beta 6 competition + \beta 7 propdoor \ + \beta 8 wotif + \varepsilon$$

There are no *a priori* indications of the direction of the effect of size, star rating and location on profit. On the demand side, there will be customers who prefer bed and breakfast accommodation to hotel or motel accommodation, others who prefer a higher star rated accommodation to a low star rated accommodation and others who prefer smaller establishments to larger establishments. Since the type of business and size of business are highly correlated the focus in the analysis is on size of business which offers a more finely graded measure. The direction of the relationship between these characteristics and demand, and thus profit, will lie in the mix of idiosyncratic factors relating to preferences of individual customers.

Costs will also differ across firms according to the size, star rating and location of the firm. The size of the firm may affect average costs if the operators of the larger firms are able to take advantage of economies of scale. Larger firms may also have access to less risky borrowing if they have a large asset base and hence more collateral than smaller firms. The assumption is that more collateral implies less risky borrowing which in turn implies lower costs of borrowing. The star rating of the firm may also affect average cost. Acquiring a star rating involves one-off fixed costs and the variable cost of providing a room night increases with the star rating value. The location of the firm may also affect average cost. Firms located away from the ports and urban centres may require both variable and capital inputs to be transported relatively long distances which will increase the average cost for these firms. It is therefore possible that firms in the more remote areas will have higher average costs than those located closer to ports or urban centres.

The effect of a lower seasonal demand in winter would mean that profit would be expected to be lower in the winter season compared to the summer season. Profitability may also be affected by the decisions firm owner operators make about lifestyle choices. An owner operator with a greater concern for lifestyle is likely to trade off lower profitability for higher non-pecuniary benefits associated with certain lifestyle choices. The degree of competition facing the firm, with increased competition tending to reduce demand, driving prices down, would also lower profitability.

As noted above firms in the Tasmanian short-stay accommodation industry use a number of different distribution channels to sell their rooms. The extent to which a firm uses one channel over another may affect profit. This potential effect is allowed for by including a variable to indicate the proportion of sales made direct through the door. The appearance of the online retailers, and in particular Wotif.com in 2000, provided firms with a potential new distribution channel which allow firms to more finely segment their market. Whether or not firms sell through Wotif is also included as an explanatory variable. By offering a range of prices the firm may be able to capture more consumer surplus from their customers thereby increasing their profit.

We do not find any statistically significant effect of firm size on profitability. It might be tempting therefore to conclude that this implies that there are no economies of scale in the industry. However this is not necessarily the case. This result is also consistent with there being relatively free entry and exit into the industry. In this case, for each market segment – as defined by the scale of the operation - entry of new firms erodes economic profit and firms exit when making negative economic profits. This process would leave firms in all market earning roughly the same rate of return, i.e. the market rate of return, on assets (after controlling for other factors). Profitability is found to be significantly higher when the firm has a high star rating. This suggests that the benefit to firms – in terms of increased demand and price – from offering high quality accommodation offsets the additional cost of providing it. The use of the door channel, rather than using other channels increases profitability. However this effect is relatively small.

Making a lifestyle choice by owner operators is found to have a significant negative impact on profitability. This supports the hypothesis that many owner operators enter the accommodation market in order to pursue goals other than profit. However attainment of these lifestyle goals come at the expense of income generated from the business. We found that increased competition in the market faced by firms erodes profit. This finding is consistent with economic theory, in which increases in market competition drives prices, and thus profits, down. Lower demand in winter leads to lower profitability in winter. While this finding is to be expected, it points to the reliability of the conclusions based on the survey.

A key finding is that the use of an online aggregator, specifically the use of Wotif.com, increased firm profitability in the survey period. We note that profitability may increase when a firm uses Wotif.com for two reasons: (i) Wotif.com allows the operator to increase profit by more finely segmenting the market, and (ii) Wotif.com acts as a marketing device and enables the firm to attract new customers and increase their market share. It is not possible to definitively distinguish the impact of these two effects on profitability using our data, thus further research on this issue is required. Given the use of Wotif.com increased profit, it is natural to ask why all firms had not adopted its use at the time of the survey. We hypothesise that the use of Wotif.com is based on the firm’s costs of its adoption at the time. We find that firms with existing internet connections at the time were more likely to adopt Wotif.com, a finding which supports our hypothesis.

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