

**Understanding the Reasons for Incorporation.  
Final Report**

**by eftec**

**to the Department of Business, Energy and Industrial Strategy**

**Review by**

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**Study objectives**

The aim of the study is to assess the reasons why business owners decide to incorporate their business or not; and also to estimate the value of incorporation to business owners in terms of their willingness to pay (WTP) for business status. The study concentrates on small business owners (<10 employees), since these small business comprise the vast majority of total businesses, and these business owners are most likely to make a decision on their legal status [e.g. whether to continue as a sole trader (ST) or change to a limited liability company (LLC); and conversely remain as a LLC or change to a ST].

**Research methodology**

The research approach adopted in the study is admirable. A literature review investigated past research and current understanding of reasons for incorporation. Subsequent qualitative research, comprising telephone interviews of ST and LLC business owners across a range of business sectors, sought to explore in greater depth the reasons for choice of legal status, and the perceived benefits/disbenefits of alternatives.

eftec rightly chose to use a stated preference (SP) approach to assess the weight of various factors affecting incorporation or not. An SP methodology allows factors, such as the cost of incorporation, to be varied, and hence their impact on the decision to be assessed. The alternative to SP is a revealed preference (RP) method, using actual decisions i.e. decisions that have already been made. But there is simply not enough variation in the factor levels, in this data, which influence the incorporation decision, to allow the effect of the factors affecting incorporation to be estimated.

**Research survey**

The SP survey process followed established and good practice. The questionnaire comprised screening questions to ensure an appropriate sample; factual and attitudinal questions about the business; the choice experiment; questions to assess the validity of responses; and information about the business owner.

Five factors were identified as affecting company incorporation choice: limited liability (LL); public record information (PR); difference in tax liability (TL); company name registration (CN); and annual registration fee (AF). Three of these attributes (LL, PR, CN) had 2 levels, whilst two (TL, AF) had 9 levels. A choice experiment (CE) with only 5 attributes, and only 2 levels for 3 of these attributes,

ensures that respondents can easily make choices between alternative bundles of attributes and levels.

The CE had 3 alternative bundles of attributes: for ST respondents these were two hypothetical LLC alternatives, and one with the alternative status quo or current ST scenario. Five attributes, and a limited numbers of levels, ensures that the choice task is not complex, and hence is not likely to be biased.

Most CE include cognitive testing of the questionnaire across 20 or so respondents, to assess respondents' understanding of the questions and choice tasks, and to make sure that respondents are trading off attributes against each other and not responding lexicographically; and also to confirm responses are not likely to be biased. Again, this study follows good practice in this matter.

A pilot survey of 50 to 100 respondents is usually adopted to test the questionnaire. This study follows accepted practice in this respect. One aspect the Technical Report does not cover well, however, is the experimental design for the CE. It is limited to a footnote (footnote 11).

The sampling strategy for the main survey is commendable, and guarantees a reasonably representative sample of businesses by employee numbers. However, the sample size is not justified. The art of sampling lies in choosing a sample size to give an answer, with the desired degree of accuracy and probability, with the minimum sample size. A sample of 1500 is normally more than adequate to generate a reasonable degree of model accuracy, and also CE coefficients that are accurate, reliable, and robust. However, the large sample size allows CEs to be estimated for different business segments e.g. by employee size, turnover, type, age, industrial sector, owner characteristics, etc., to assess potential heterogeneity in preferences and effects.

## **Results**

The descriptive statistics from the survey data, the CE models, and the CE model results estimated from the survey data, are clearly and eloquently reported.

The study usefully reports descriptive statistics from the main survey on respondents' characteristics, information sought by respondents on business legal status, and factors perceived by owners to be important in operating as a LLC or ST.

The analysis justifiably used a mixed logit (ML), which allows for heterogeneity of preferences across respondents. The models for LLC and ST, and by size of company (0 employees, 1-4 employees, 5-9 employees) fit the data extremely well, as indicates by the high pseudo  $R^2$  values  $\geq 0.40$ . A pseudo  $R^2$  value  $\geq 0.12$  is usually taken to indicate an acceptable model fit.

All the coefficients have *a priori* expected signs for both the LLC and ST models, and are statistically significant, except for the public record information (PR) variable for LLC owners which is not statistically significant and has an *a priori* ambiguous expected sign.

The ASC indicates that both LLC and ST owners place considerable weight on their current positions. The high ASC coefficient [relative to other variables expressed on a nominal scale (LL, PR, and CN)],

probably reflects endowment and loss aversion effects of moving to another business legal structure. But the ASC also includes the effects of any other variables not included in the model. A test for the effect of respondents' characteristics and perceptions could be made by extending the LLC and ST CEs to include interaction terms with these variables.

There are differences in the magnitude of the ASC coefficients in the models for both LLC and ST, with and without employees, and also for other variables such as LL and CN. While coefficients may not be directly comparable between models, it is worth exploring to see if there is indeed a value difference. And the Report appropriately does this in a subsequent section on the "Value of company incorporation".

### **Validity**

The Report rightly includes some analysis of the validity of the results in terms of content validity and construct validity. From the reported statistics, content validity seems to have been satisfied: other studies have related similar statistics on the ease and difficulty of responding to the choice tasks. Construct validity is also satisfied, with coefficients having the right sign, being highly statistically significant across almost all the coefficients, and with exceptionally good model fits as exemplified by the high goodness-of-fit statistics.

The ultimate test of validity is criterion validity: are the CE experimental market results consistent with parallel behaviour generating real market shares. Can anything be said on how the predicted policy scenario results align with real market outcomes?

### **Value of company incorporation**

The results are directly comparable between models in terms of mean (and confidence limits of) willingness-to-pay values to attain or avoid specific attributes. The Report includes a detailed and thoughtful analysis of the differences in the value of incorporation by legal structure (LLC and ST) and employee size. The results appear sensible: for LLC and for ST as employees increase, the value of incorporation increases; and the value of incorporation is smaller for companies with small turnovers.

### **Policy scenarios**

SP CEs were originally employed, especially in transport, to estimate changes in market share as a result of changes in attribute levels. So etec aptly simulate the impact on the number of businesses incorporating as a consequence of changes in the annual registration fee (AF), and also in terms of changes in public record (PR) filing, and changes in tax liability (TL). Clearly the number of businesses incorporating is sensitive to the annual registration fee and to any change in tax liability.

The MXL models show the main effects of each variable. Most CE studies only investigate "main effects", since main effects typically account for 85% to 90% or more of the variance.

There are a number of "what if" permutations of different combinations of attributes that could simulate possible policy options. The accuracy of these simulations in predicting a change in business legal status would depend on the size of any second order interactions between the variables. For example, the effect of a change in both AF and TL might be different from the additive effect of AF and TL separately. The estimation of second order interactions depends on whether the experimental

design permitted the identification of interaction effects between variables. Main effects will capture most of the variance on incorporation, and whether it is worthwhile trying to identify whether there are any second order effects is open to debate.

Many CE studies simply concentrate on estimating WTP for changes in attribute levels. Only a limited number of CE studies, use the CE coefficients to calculate changes in market demand. But given the objective of the study to assess the impact of factors on incorporation, it is entirely appropriate that eftec devote considerable attention to simulating the effect of changes in attribute levels on demand for incorporation.

### **Conclusion**

*“Understanding the Reasons for Incorporation”* study has been expertly undertaken by eftec. The methodology, and questionnaire, using stated preference choice experiments, worked well. Respondents could clearly understand the tasks required, and gave valid responses to questions asked. The data analysis was skilfully implemented and produced statistically significant estimates of business owners’ preferences for almost all the factors determining incorporation. The WTP values for business owners’ preferences on incorporation, appear to be accurate, and most seem to be intuitively reasonable. The impact of attributes and WTP values on demand for incorporation conform to economic theory.

The *“Understanding the Reasons for Incorporation”* study by eftec is a meticulous and professional piece of research. The Department of Business, Energy and Industrial Strategy can have confidence in the results.