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Visitors to Farm Tourism Enterprises in Norway

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ABSTRACT *In Norway, as in many other countries, rural and farm tourism is becoming an important activity for promoting the vitality and sustainability of rural communities. This paper focuses on the analysis of visitors to Norwegian farms, which offer various tourism activities and services. The countryside has increasingly become a place of consumption and recreation, and as such, farm tourism is part of the shift in the economic base of rural societies. Moreover, in building appreciation for the distinctive features of local places and people, farm tourism represents a counter-trend to homogenisation and mass tourism. In this paper we focus on the Norwegian domestic market. Based on data from ten representative national Norwegian surveys conducted by Synovate Norway between 1991 and 2007, our analysis shows significant increases in the proportion of the population visiting farm tourism enterprises since 1991. In addition to describing who the visitors are, the paper also characterises potential visitors within the domestic tourism market.*

KEY WORDS: Farm tourism, rural tourism, visitors, visitor characteristics, Norway

Introduction

This paper describes changes in the domestic market for farm tourism in Norway between 1991 and 2007. During this period, the organisation of farm tourism has improved as a result of the establishment of organisations such as Norwegian Rural Tourism and Traditional Food (HANEN). These organisations have professionalised farm tourism marketing, and facilitated visitors' access to information about farm holidays and other farm-based tourism activities throughout the country. Since the end of the 1980s, the Norwegian Farmer's Union has organised the weekend arrangement "Open Farms" around the country each summer, in order to build support and sympathy from groups outside agriculture. Since the mid-1990s, farm tourism enterprises have received continued support from community development grants (BU-funds), encouraged by the Ministry of Food and Agriculture. In addition to HANEN,

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Innovation Norway has also been an important source for financial support and know-how since 2004. This increased focus on farm tourism is expected to have increased the interest among potential visitors during the same period.

Farm-based tourism is not a new phenomenon, neither in Norway nor in other Western countries (Busby & Rendle, 2000). Historically, people from the cities have turned to the countryside for recreation and holidays. What is new is the scope and variety of activities and the increased demands for market-orientation, professionalism and flexibility of the services offered, along with increased demands for quality and competence. Based on recent developments on the supply side – for example, increased diversification of farm tourism services and improved marketing combined with an international trend among tourists to search for unique experiences – this paper will examine changes in the number and types of visitors to farm tourism in Norway. While farm accommodation has a long tradition, the most recent developments include serving local foods and providing activities and adventures, thus reflecting a stronger focus on culture and experiences (Haugen & Vik, 2008). This was illustrated in a national campaign for rural tourism in Norway in 2006, which concluded that those who supply tourist packages (accommodation, meal and activities) rather than a single product are the winners (Innovasjon Norge, 2006).

The farm tourism product comprises three distinct categories: accommodation-based, activity-based, and day-visitor-based (Davies & Gilbert, 1992). In this paper we use the term "farm tourism" to denote all three kinds of farm-based activities and services offered to visitors. In addition to accommodation services, working farms might offer a unique niche where visitors can experience the farm ambiance and participate in activities like feeding animals, harvesting and milking, while other farms might offer various types of outdoor and wildlife activities. Norwegian studies indicate that offering facilities for seminars and meetings, weddings and anniversaries, and cultural events like concerts and festivals seem to be of growing importance for farm enterprises (Brandth & Haugen, 2005; Kramvig, 2006). This diversification of products might lead to a more diversified group of visitors.

Norwegian farms are not located in rural villages but are scattered and dispersed throughout the landscape and are therefore distant from each other. This gives many farm operations a unique opportunity to offer their guests a feeling of the rural idyll with qualities such as peace and quietness. Peace and quiet are among the aspects of the product that the hosts expect visitors to desire.

Theoretical Background

Increased Interest in Farm Tourism?

Lønning and Svardal (2005) have described the last few decades as a period where standardised mass tourism enterprises have met competition from new enterprises trying to satisfy an increasing market of unique and identity-forming travel products. There has been a centralisation and concentration of competence and professionalism in the farm tourism sector. But simultaneously, there has been an increased focus on the unique qualities of the individual enterprise. We find an example of the "traditional" tourist in Haukeland's (1997) description of Norwegian motor tourists one

decade ago. These tourists were interested in renting rural camping cabins, but they were less interested in, and less satisfied with, the local food services. Recent studies indicate that "modern" tourists are searching for more authentic experiences with local culture, food and nature adventures (Lønning & Svardal, 2005). Statistics Norway (2009) has found that the number of farms with supplementary industries within "Camping, cabin renting, farm tourism etc." has decreased from 3106 in 1998/99 to 2325 in 2006/07. This might not necessarily mean that the number of visitors has gone down, but perhaps indicates a change from the traditional camping tourist to more demanding farm tourists. We are interested to see how this change affects the number and composition of visitors.

This change, which has been called the "new tourism revolution" (Poon, 1994), is one part of a phenomenon that some economists have named the "experience economy" (Pine & Gilmore, 1999). It predicts that businesses may be compelled to link experiences with their traditional products and services in order to stay in the market. That this happens at a time when businesses are putting increased emphasis on individual customer care makes it all the more interesting. These general market trends are also felt in Norwegian small-scale tourism businesses, and place greater demands on the hosting role as a vital part of the quality of the tourism product (Haugen & Midtgård, 2009).

Everett and Aitchison (2008) argue that a shift in the approach to food is apparent in recent tourism studies. This literature has traditionally focused on the role of food as economic generator, marketing tool and companion to wine tourism. More recent work, however, shows that food has become an integrated part of a total tourist experience (Bessiere, 1998; Everett & Aitchison, 2008; Kroken, Storstad & Haugen, 2009; Long, 2004). The countryside is thus often conceived of as meeting consumer demands with its (envisaged) authenticity, esthetical idyll, rural idyll, heritage, cuisine and small-scale traditional food production (Hall, Mitchell, & Roberts, 2003).

In summary, better organised marketing of farm tourism, increased product diversification, and new trends in tourist demands lead us to expect increased numbers of visitors and increased interest in farm tourism.

Who are the Farm Visitors?

Carpio, Wohlgenant, and Boonsaeng (2008) have analysed the American 2000 National Survey on Recreation and the Environment, and found that the average farm visitor compared with the average non visitor was more educated, had a higher family income, was younger, and belonged to a household with more family members. They found no significant difference between men and women in their probability to visit a farm, but male visitors have a higher number of visits, and they found that someone living in urban areas was 5% less likely to visit a farm than someone living in rural areas (Carpio et al., 2008). In Israel, a number of surveys have shown that most of the visitors (68%) to farm-based bed and breakfast operations are in their 30s and 40s (Fleischer, Rotem & Banin,1993; Fleischer, Freeman, Keidar & Horovitz, 1994). This share is very high compared to only 36% in that age group for all other domestic tourists in Israel (Fleischer, 1994). Two thirds of the tourists who stayed at Israeli

rural Bed and Breakfast accommodations had attended college and had an above average family income, and 70% had taken their children on vacation (Fleischer & Pizam, 1997).

There are also some relevant older studies on visitors to tourist farms, published before the period we analyse. In Australia, Pevetz (1982) found that 66% of farm visitors were between 31 and 49 years old, and most of them travelled with children under 16. In a survey conducted in Minnesota (USA), Koth and Norman (1989) found that the majority of farm guests were families in their 30s and 40s with children, and normally had higher income levels and college education. Pizam and Pokela (1980) have described the typical American vacation farm guests to be city dwellers, adults with children, who were employed as professionals or owned their own business. Vogeler (1977) found a similar profile of visitors on farms in Canada. There are also similar descriptions of visitors in rural Bed and Breakfast accommodations in Germany (Potthoff, 1982) and Spain (Carazo-Garcia-Olaya, 1982).

There is also little variation in the descriptions of farm tourists in the literature. The typical visitors in all studies were families, where the informants were in their 30s or 40s, with children still living at home, possessing a high level of education and a relatively high income. It is possible to see some national differences in countries of origin, however; in Israel and Germany almost all visitors were domestic tourists, while in other countries, especially Austria and Canada, most visitors were international tourists (Fleischer & Pizam, 1997).

Some studies have focused on potential interest in farm visits. For example, one Finnish study describes the prospective farm tourist group as consisting of more women than men, mostly between the ages of 25 and 44, from households with an average of 2.8 persons. Twenty percent lived in single households, while 44% of the households had underaged children (Tyrväinen, Silvennoinen, Nousiainen, & Tahvanainen, 2001). A growing interest in rural life has also been observed among tourists since the early 1990s in Japan (Ohe, 2000).

Very few Norwegian studies on rural tourism have dealt specifically with farm tourists. A study among foreign tourists visiting Norwegian fjords showed that one third said they would be interested in visiting a farm during their holiday in Norway. Women were slightly more positive than men (58% versus 42%), and a majority of those interested had higher education and were under 50 years of age (Mehmetoglu, 2007; Rusten, Hem, & Iversen, 2007). One interesting conclusion from this study was that farm tourism appeals to tourists for whom experiencing something new and being physically active are the most important motives for travelling to the fjords of Norway (Mehmetoglu, 2007, p. 257). This description of the visitors matches with studies of the "modern" tourists that search for adventure and excitement. This group is expected to increase in numbers in the years to come.

A recent study among visitors to Norwegian farm tourist enterprises shows that the visitors do not differ very much from what is found in international studies. One difference, however, is that a relatively large portion of the visitors (26%) are 60 years and older (Haugen & Midtgård, 2009). Moreover, a qualitative study of Norwegian farm tourist enterprises also shows that an important group of visitors are participants in organised bus trips on day farm visits (Brandth & Haugen, 2006). Such trips seem to be particularly popular among older people.

From this review, we expect to find more women than men both among farm visitors, and among the most interested groups to visit a farm. Further, we expect that the main group of visitors have children and are between 30 and 50 years old. In addition, we can expect that the distinctively Norwegian popularity of organised bus trips with pensioners will be identified in the models. We also expect that single persons will have lower probability and interest for farm visits than those who live together with other people. All presented studies indicate that farm visitors are more educated and have higher family incomes than non-visitors.

Thus, in our analysis we will focus on four main hypotheses:

(1) There has been an increase in the share of visitors to farm tourism enterprises during the last decades.
(2) The visitors are more often: women than men, family groups rather than singles, parents with children living at home, retired people rather than people in other life cycle stages, urban rather than rural, and people with higher education and family income.
(3) If the hypothesis of "the new tourism revolution" applies to farm tourism, in that farm tourism will attract all ages, we expect that the particular age pattern among visitors has become less distinct during the period studied.
(4) There has been a recent increase in expressed interest to visit farm tourism enterprises.

Methods

In order to assess the level of domestic participation in farm-based tourism, and to identify the consumers and potential visitors to agritourism operations, we used data from ten national surveys *Norsk Monitor*, carried out by Synovate Norway. We have data from 1991 and all the following surveys conducted every second year, with the most recent data from 2007. The data were collected in a two-stage process. First, a random sample of people 15 years and older were contacted by telephone and asked to participate in a comprehensive survey of values. Then, those who agreed to participate received a self-completion questionnaire by post. The response rate among those who received the questionnaire in 2007 was 63%, somewhat lower than the previous years of Norsk Monitor (Hellevik, 2008). The total sample from the ten surveys is almost 36,000 respondents, and all surveys are weighted by population weights developed by Synovate Norway. Representation and sample selection bias in these data are well discussed by Hellevik (2008, pp. 132–135), who concludes that the Norsk Monitor data has a level of precision corresponding to other surveys from Statistics Norway.

Dependent Variables

In our empirical analysis, we focus on two different dependent variables. The first dependent variable is based on the question "Which of these activities did you do last summer holiday?", where one of 12 response options was "Visited a farm that receives tourists". The respondents could give more than one answer, and we assume

that those who ticked this alternative were all those who had visited farms and those who did not tick this answer had not visited farms. This implies that we operate with no missing values for this variable; although this may underestimate the total proportion of visitors, this will not affect measures of change during the study period. The variable is coded 1 for those who have visited tourist farms last summer and 0 for those who have not.

The second dependent variable is based on the question "How interested are you in a farmhouse holiday?", where the respondents could decide whether they are not interested (1), a little interested (2), quite interested (3), or very interested (4). This question was only asked in 2005 and 2007, with a total sample in these two waves of 7758 respondents. A total of 354 respondents (4.6% of the total sample) did not answer this question, and are handled as missing. Our analysis of patterns behind this missing data implies that it is randomly spread across the independent variables in our models.

Explanatory Variables

For the first part of this analysis, we have operationalised a set of dummies, which will be used as explanatory variables. The *gender* variable is coded as a dummy variable where men are coded 1 and women are coded 0.

The age pattern is expected to be more complicated. If we use one linear variable term, this will only measure whether the probability for visits will increase or decrease by age. If the ages between 30 and 50 are overrepresented among the visitors, we can model this by two variable terms, age and age squared. These two variable terms can catch all curve linear age patterns with one breakpoint. However, in our model we have to model a curve with at least two breakpoints, because we expect that both those between 30 and 50 and older than 65 are overrepresented among farm visitors. In this case, we have to include three variables – age, age squared, and age cubed – to fit this age curve. Due to all of these correlated age terms, we have centred the age variable by first subtracting the mean age 44 from the real age to avoid swollen standard errors owing to high multicolinearity between age terms, and we have divided the difference by 10 in order to avoid small coefficients in the tables owing to small age steps. The centring has no effect on the model fit, but has simplified our possibilities to calculate interpretable predictions from our model (Hamilton, 1992).

The variable *single* is coded 1 for respondents living in one-person households, and 0 for multi households. The variable *children living in household* is a dummy, which is coded 1 if the respondent has children living in his or her household and 0 if not. Statistics Norway has classified the 435 municipalities in Norwegian in 1994 into a seven-step index, from 1, which includes the most rural municipalities, up to 7 which includes the most urban municipalities (Statistics Norway, 1994). We have reclassified the 430 Norwegian municipalities in 2007 into the similar index in the variable *centrality*, which is a measure of the municipality's geographical position seen in relation to a centre where a higher order of functions (central functions such as banks, post office etc.) is found. *Education* is measured with two variables: The general question was "What is your highest general education?", and the alternatives were "Elementary school", "Middle school", "High school", and "College/University". The latter were

asked whether the university study resulted in a university degree. We coded this information into a new variable measuring the number of years in full time education, which the level of education normally takes to complete, with five steps from 7 years up to 16 years. In order to simplify model predictions, we have centred the education variable by subtracting the mean value of 13.65 from the stated years of education.

The survey Norsk Monitor has limited information about *family income*. In 1991 and 1993, family income was measured in eight income groups, and from 1995, family income has been measured in nine income groups without any attempt to adjust these groups in different years by inflation. To get comparability measures, we have standardized the family income for each year by z-scores with a mean value of 0 and a standard deviation of 1. In addition to these variables, we use different ways to measure the effect of year and these methods are described for each model. The descriptive statistics for these variables, and the correlations between them, are presented in the Appendix.

Estimation Methods

In the empirical analysis, we estimate models with two dependent variables: one binomial variable, which measures whether the respondents have visited a tourist farm last summer or not, and one ordinal variable, which measures the respondents' interest in a farm visit next summer. The binomial dependent variable is analysed with a logit model, estimated by logit in Stata 10 for Windows. These logistic regression coefficients, the natural log of the odds of the dependent variable being in category 1 when the value of the independent variables increases by one step, do not have an intuitive metric and must be converted into numbers that say something about effect size (Long, 1997). When these coefficients are 0, the independent variables have no effect, positive coefficients imply positive relationships, and negative coefficients imply negative relationships. To describe whether the coefficient is statistically significant or not, we use one asterisk (*) to mark that the coefficient is statistically significant at the 5% level, and two asterisks to mark that the coefficient is statistically significant at the 1% level. Additionally, we also present the t-values in some models, which are the coefficients divided by their standard errors, to give an idea of the strength of the coefficients. In order to describe the strength of the coefficients more succinctly, we have used different techniques to calculate comprehensible predicted values on the independent variables in percentages (Long, 1997; Long & Freese, 2006; Thrane, 2005; Williams, 2006). All of these predictions will be described as ideal typical, and hopefully recognisable, persons with different combinations of all characteristics measured in each model, because the magnitude of the change in the outcome probability that is associated with a given change in one of the independent variables depends, as opposed to e.g. OLS, on the levels of all the independent variables in the model (Long & Freese, 2006).

This distribution on the ordinal variable, which measures respondents' interest in a farm visit next summer, appears to be skewed because a large proportion of the sample is not interested (value 1). Estimation by ordinary least square (OLS) will most certainly estimate coefficients that imply probabilities outside the unit interval [1,4], and this model will not satisfy the assumption of homoscedasticity. One relatively

parsimonious alternative could be an ordinal regression model, but some of the independent variables in our empirical model (age and centrality in one model, and age, centrality, single, and former farm visits in another model) will not satisfy the assumption of parallel lines in this model. Even if those assumptions are violated, we have had to search for other methods. Williams (2006) has developed a program for Stata (gologit2) which estimates models that are less restrictive than the parallel lines models estimated by ordinal logistic regression (ologit), but more parsimonious and interpretable than those estimated by multinomial regression (mlogit). One problem with the default gologit2 models is that they include many more parameters than the ordinal regression model: This is because gologit2 free all variables from the parallel lines constraints, even though the assumption may only be violated by three of them. We have overcome this limitation by estimating partial proportional odds models, where the parallel lines constraint is only relaxed for those three variables where it is not justified (Williams, 2006).

Results

In this section we present the results of the empirical analysis. The first step in the empirical analysis is to examine the visitors to farm-tourism enterprises by comparing them with those who have not visited a farm-tourism enterprise. Next, we then describe the potential visitors; i.e. people who answer that they are interested in visiting a farm-tourism enterprise next summer.

Changes in Farm Tourism Visits during the Last Few Decades

Figure 1 shows that 7% of the sample answered that they had visited a farm-tourism operation in 2007, and this share has increased steadily since the first survey in 1991. In particular, there has been a steady increase in popularity since 1999. If we calculate regression slopes, we can see that the mean annual increase for the whole period between 1991 and 2007 is 0.2%. Even if the mean annual increase after 1999 has been 0.3%, tests with different curve estimation procedures confirms the best linear model to estimate this curve is a simple linear regression line. In Table 1, we will compare a regression model 1 where we estimate this change with nine dummies, one for each survey after 1991 compared with 1991, with the simpler model 2 where this change is measured as a linear increase. Table 1 presents three models based on the variables presented previously. In model 1, we measure the change in farm visits between 1991 and 2007 by nine dummies (the coefficient for each dummy is not presented in the table), one for each survey from 1993 to 2007, and each compared with 1991 as a year of reference.

Who are the Farm Visitors?

In model 2, the time changes are measured as a simple linear slope, which estimates the mean yearly change in this period of 16 years. The choice between a linear time variable or nine dummies is not only dependent of their ability to explain the pattern

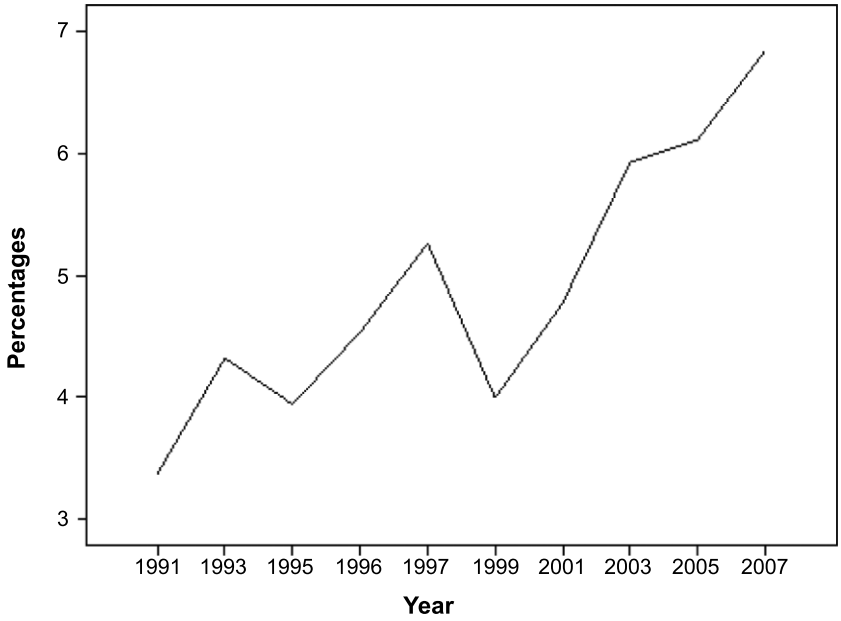

Figure 1. The percentages in each survey who had visited farm tourism enterprises the previous summer.

in farm visits, it is also important to consider in which way the choice of time change measure influences the coefficients on the other independent variables in the models. If the other coefficients change when we use a continuous time variable, there is probably a statistical problem with correlated error terms in the model (Berry, 1993), and we thus prefer the model with time dummies. On the other hand, if the coefficients from the other independent variables are unaffected by the measure of time, we prefer the most parsimonious model. One other advantage with the linear time variable, beyond the argument of a parsimony model, is that such variables make it much easier to test interactions between time change and other explanatory variables in the model. In model 3, we have expanded model 2 by three variable terms, which measure the interaction between informant's age and the survey year, in order to measure possible changes in the age pattern in this period.

We begin with a quick comparison of these three models. The logistic coefficients in model 1 and model 2, if we disregard the measure of time change, are surprisingly equal in these two models. The difference in the model chi-square between model 1 and model 2 is 18.48 (258.28–239.82) with 8 degrees of freedom (18–10), which indicates that model 1 has statistically significant, better explanatory power than model 2 ($p = .02$). Model 3 has, on the other hand, a significantly improved fit compared to model 2 ($\Delta\chi^2 = 8.50$; $\Delta df = 3$; $p = .04$). There is no statistical difference in the fit between model 1 and model 3 ($\Delta\chi^2 = 9.96$; $\Delta df = 5$; $p = .08$). The Pseudo R squared, which is based on Negelkerke/Cragg & Uhler's formula (Long, 1997), show minimal differences in the three models' explanation of the variability in farm visits which vary from 2.2 to 2.3% in the three models. In the following presentation, we discuss

Table 1. Visitors to farm tourism enterprises last summer by different demographic characteristics. Logistic regression model.

	Model 1[a)]		Model 2[b)]		Model 3[b)]	
	Log. coeff.	t-values	Log. coeff.	t-values	Log. coeff.	t-values
Female (men=1/women=0)	0.173**	3.36	0.172**	3.32	0.169**	3.27
Age (in years–43/10)	–0.085**	–2.62	–0.083**	–2.59	–0.121**	–1.84
Age∧2 (Age × Age)	–0.037**	–3.12	–0.037**	–3.15	–0.083**	–3.40
Age∧3 (Age × Age ×Age)	0.022**	5.19	0.022**	5.16	0.040**	4.31
Children living in household (yes=1/no=0)	0.584**	8.40	0.586**	8.43	0.583**	8.37
Single (yes=1/no=0)	–0.092	–1.05	–0.093	–1.06	–0.091	–1.05
Family income (st. yearly means=0, SD=1)	–0.088**	–2.93	–0.089**	–2.96	–0.091**	–3.00
Education (years-13.54)	–0.004	–0.50	–0.004	–0.49	–0.002	–0.22
Centrality (rural=1 – urban=7)	0.056**	4.15	0.056**	4.16	0.056**	4.15
Year linear (1991=0 – 2007=16)			0.040**	7.16	0.031**	4.21
Interaction (Age × Year)					0.003	0.56
Interaction (Age2 × Year)					0.005*	2.28
Interaction (Age3 × Year)					–0.002*	–2.22
(*N* =)	33524		33524		33524	
Model Chi-Square	258.28**		239.82**		248.32**	
D.F.	18		10		13	
Nagelkerke pseudo R2	.023		.022		.023	

*Significant at 5%-level, **Significant at 1%-level

[a)] The complete model 1 has in addition one intercept on –4.246 and nine years dummies.

[b)] Model 2 and model 3 have in addition intercepts on –3.966 and –3.884.

the hypothesis connected to the change from model 2 and 3, while we discuss the other hypotheses on the basis on model 1. We start with the first model.

The positive coefficient of female in all three models shows that women are more likely to have visited a farm tourist enterprise than men, after controlling for all other effects in each model. We can probably receive a better impression of the female effect in model 1 if we consider that the predicted percentage for a 43-year-old urban woman with children and mean level of education and income to have visited a farm in 2007 is 10%, while this probability for a man with the corresponding characteristics is 9%.

The age pattern is, as expected, more complicated. The assumption that we must include three variable terms to estimate the age pattern was correct. Predictions show that the probability of visiting a farm in 2007 among urban, childless, single women with mean values on education and income is 4% if she is 15 years old, 6% if she is 35, down to 5% if she is 60, and again increased to 6% if she is 75 years old. This confirms the hypothesis of two important target age groups among farm visitors,

people in their parenting age and people in their retirement age. This age pattern, with two distinct breakpoints, also appears if we estimate this age effect without the other independent variables in model 1. The high probability for visits among people in their parenting age is further increased by the positive significant effect of children in the household. For example, if we compare the probability of having visited a farm in 2007 among 35-year-old, married, urban women with mean education and income, the result is 5% among those without children and 9% among those with children.

The variables single and education have no statistical significant effects in any models. Education has no effect if we remove the other independent variables, but in the bivariate model, singles will have significantly lower probabilities to visit farms than those who live with others. However, in the multiple models in Table 1, this effect disappears when we include the children variable in the model.

The variable family income shows the opposite pattern. Family income has no significant effect in a bivariate model with income as the only independent variable, but obtains a negative significant effect when we include children in the model. That means that family income has no original effect on farm visits, but has been given a negative weight in the multiple regression models to reduce the probability of visiting farms among families with high incomes but no children. The last significant independent variable in model 1 is centrality, which shows a positive coefficient on 0.056 in all three models. This implies that people living in urban areas have higher probabilities of being farm tourists than people from rural areas. A probability prediction shows that the predicted percentages to have visited a farm in 2007 for a 43-year-old woman with children, and a mean level of education and income, is 10% if she lives in one of the most urban municipalities, and 8% if she lives in one of the most rural municipalities.

Changes in the Age Pattern among Farm Visitors

Model 3 in Table 1 can be used to test the hypothesis that there has been an equalisation in probability for farm visits during the period studied. Two of the three interaction terms in model 3 are statistically significant at the 5% level, and the total effects from the three terms is also significant ($\chi^2 = 8.50$; df = 3; $p = .04$).

Figure 2 presents the predicted percentages from model 3 for each year of age for every second year for single urban women without children, with and without mean levels of education and income. This figure clearly shows the equalising of visit probabilities between ages. During this period of 16 years, the lowest top point has gradually been changed from about 35 years old to about 25 years old. This pattern does not indicate that farm visitors have been gradually getting younger during these 16 years. The mean age of the visitors has increased gradually from 39 years in 1991 to 52 years in 2007 ($F = 227.51$; $DF_1 = 9$; $DF_2 = 35927$; $p < .01$). Figure 3 reproduces a pattern indicating that the age effect is gradually weakened, i.e. the visiting probabilities are about to become equal for all ages. In 1991 it was about three percentage points between the ages with the lowest visiting probability and those with the highest probability for visits. In 2007 this difference was less than one percentage point.

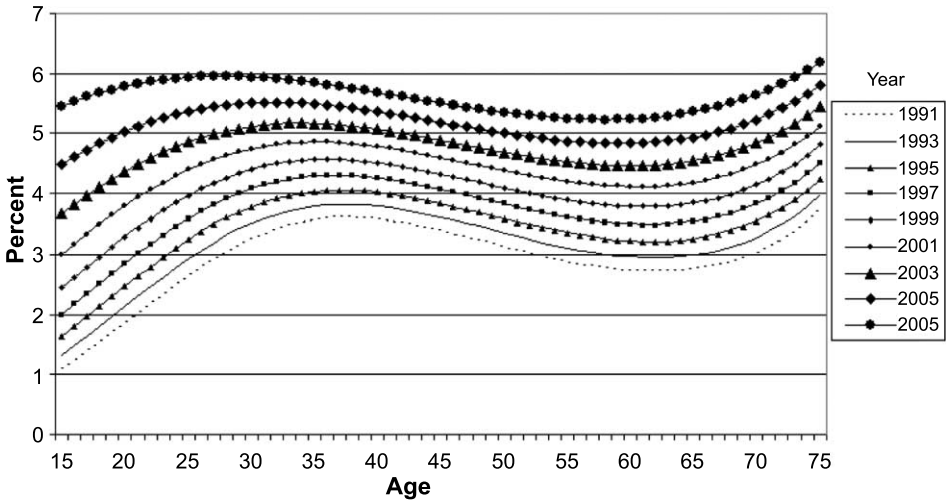

Figure 2. Prediction of probabilities of having visited a tourist farm the previous summer from 1991 to 2007 by age. Model predictions when all other independent variables are set to their means.

Who are the Interested in Visiting Next Summer?

The surveys from 2005 and 2007 have an additional question about respondents' interest in visiting a farm tourism enterprise next summer, where the respondents could grade their interest into four ranked categories. The distribution of these answers is presented in Table 2.

Table 2 shows an increased interest in farm tourism between 2005 and 2007, which reflects the trends we found in the analysis of last year's visitors. Table 3 presents two generalized ordered logit models with gamma parameterisation (Williams, 2006), which we previously have argued to be the most parsimonious procedure for the estimation of these models as long as the model violated the assumption of parallel lines in the more parsimonious ordinal regression model (Long & Freese, 2006, p. 200).

Table 2. Responses to the question "How interested are you in visiting a farm-tourism enterprise?", by year in percentages.

	2005	2007
1 Not interested	72	69
2 A little interested	19	21
3 Quite interested	7	7
4 Very interested	2	3
Total	100	100
(*N* =)	(3332)	(3465)

Kendall's tau-c = 0.029; $p_{(approx.)} = 0.010$

Table 3. Interest in farmhouse holidays, by different demographic characteristics and whether or not they visited a farm last summer. Generalized ordered logit model with gamma parameterisation. Data from 2005 and 2007.

	Model 1			Model 2		
Comparing groups	1 vs. 2, 3 & 4	1 & 2 vs. 3 & 4	1, 2 & 3 vs. 4	1 vs. 2, 3 & 4	1 & 2 vs. 3 & 4	1, 2 & 3 vs. 4
Female (men=1/women=0)	0.329**	0.329**	0.329**	0.327**	0.327**	0.327**
Age (in years–34/10)	**–0.302****	**–0.395****	**0.499****	**–0.303****	**–0.372****	**–0.408****
Age∧2 (Age × Age)	**–0.041****	**–0.014****	**0.048**	**–0.044****	**–0.020**	**0.043**
Age∧3 (Age × Age × Age)	0.025**	0.025**	0.025**	0.025**	0.025**	0.025**
Children (yes=1/no=0)	0.480**	0.480**	0.480**	0.448**	0.448**	0.448**
Single (yes=1/no=0)	–0.015	–0.015	–0.015	**–0.037**	**0.199**	**0.392**
Family income (st. means=0, SD=1)	–0.244**	–0.244**	–0.244**	–0.259**	–0.259**	–0.259**
Higher education (yes=1/no=0)	0.020*	0.020*	0.020*	0.020*	0.020*	0.020*
Centrality (rural=1 – urban=7)	**0.049****	**0.002**	**–0.039**	**0.050****	**–0.003**	**–0.039**
Year 2007 (2005=0/2007=1)	0.124*	0.124*	0.124*	0.117*	0.117*	0.117*
Farm visitor last year (yes=1/no=0)				**1.502****	**1.239****	**1.684****
(*N* =)	6815			6815		
Model Chi-Square	427.02			653.77		
D.F.	16			21		
Nagelkerke pseudo R2	.076			.114		

*Significant at 5%-level, **Significant at 1%-level

The two models in Table 3 contrast the four categories on the dependent variable in different ways. The first column contrasts category 1 (not interested) with categories 2 (a little interested), 3 (quite interested), and 4 (very interested). The second column contrasts categories 1 and 2 with categories 3 and 4, and the third column contrasts categories 1, 2, and 3 with category 4. Positive coefficients indicate that higher values on independent variables make it more likely that the respondents will be in a higher category on the interest variable than on the current one. Negative coefficients indicate that higher values on the independent variables increase the likelihood of being in the current category. In the first model we use the same independent variables as model 1 in Table 1. The question about interest in farmhouse holidays has only been asked in the two last surveys, and the possible change between these two surveys is measured by the dummy called year 2007. In model two, we have included the dependent variables from Table 1 as new independent variables.

We can see that seven of the parameter estimates in both models are identical for all three columns, which implies that these coefficients can be interpreted as a smooth continuous effect like a coefficient in an ordinal regression model. Age and centrality have different coefficients (in bold) in the three columns in model 1; and age, single, centrality, and visit last year have different coefficients in the three columns in model 2. This implies that these variables have unequal effects on the values for interest in farm visits. The gamma parameterisation simplifies model 1 with 14 degrees of freedom, and the chi-square decreases to 20.63 (447.65–427.02), implying a minor loss of precision ($p = .11$) with a much more parsimonious model. Model 2 was reduced 12 degrees of freedom, the chi-square was reduced to 16.26 (670.06–653.77), which also here implies a non significant loss of precision. The Pseudo R squared is based on Negelkerke/Cragg & Uhler's formula (Long, 1997), and indicates that model 1 explains 7.6% while model 2 explains 11.4% of the total variability in the dependent variable. In the presentation of Table 3 we will first describe the parameter estimates for variables with equal coefficients, and then give a closer presentation of the more complex effect pattern from the three variables with unequal parameter estimates. In all these presentations we will exemplify the strength of these logistic coefficients by recognisable predictions in percentages.

The coefficient for female shows that women are more interested in farm visits than men. To better grasp these differences, we have calculated the probabilities for answering each response category in 2007 for an urban, 35-year-old woman with children, with a mean family income and education, to be 50% not interested, 30% a little interested, 15% quite interested, and 6% very interested. The corresponding probabilities for a man with similar characteristics are 58, 27, 11 and 4%. This implies that the relative difference between men and women increase when they become older, even if the coefficients are equal. There is also a clear and distinct difference in interest between respondents with and without children. If we predict probabilities for a woman with the characteristics above, we find that a woman with children has a 30% probability of answering a little interested, 15% probability of answering quite interested, and 6% probability of answering very interested. The corresponding responses from a woman without children will be 25, 10 and 4%.

Family income has a negative coefficient, as well as a negative effect in a bivariate model on the question of interest in farm visits. If we predict probabilities for those

with lowest incomes (two standard deviations below the mean) and those with highest incomes (two standard deviations above the mean) we find that a 35-year-old urban woman with children and mean education has a 33% probability of answering a little interested, 21% probability of answering quite interested, and 9% probability of answering very interested if she has low family income. If she has high income, these percentages will decrease to 24, 10 and 4%. In contrast, education and year have positive coefficients, which means that they increase interest, although these coefficients are weaker than those previously presented. The age effects are much more complicated to describe than the other coefficients in Table 3. In Figure 3 we present the predicted probabilities for each age for an urban woman with children and mean education level and low income level.

Figure 3 shows the largest share of very interested visitors to be those in the youngest age group. We find most being quite interested amongst the middle age group, while those who are a little interested are equally distributed among all ages from 40 and up. We find most not interested amongst the youngest and the oldest respondents.

The coefficients for the centrality variable are also complicated, and are presented graphically. Figure 4 shows predicted probabilities for each centrality area for a 35-year-old woman with children and mean level of education and family income. Figure 4 shows a much more readable pattern for the centrality variable than the coefficients in Table 3. We see that the share who are very interested and quite interested are relatively equally represented in all kind of municipalities, while the group who answered that they were a little interested increase with urbanity.

In model 2, we have extended model 1 by including the independent variable from Table 2 as a new independent variable. The variable "visit last year" is clearly endogenous, and could probably change the other coefficients dramatically. Table 3 indicates that the new variable has only a minor influence on the other coefficients,

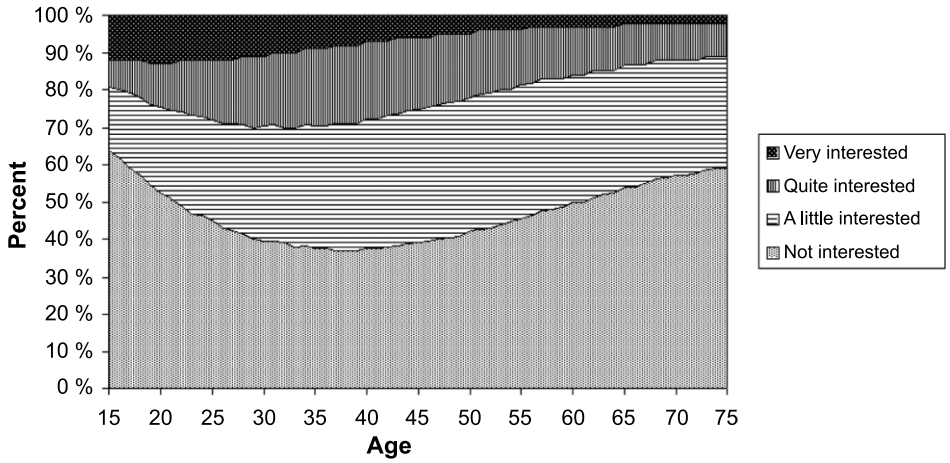

Figure 3. Predicted probabilities for interest in a farm visit by age. Predictions for an urban woman with children, mean education level, and low income level.

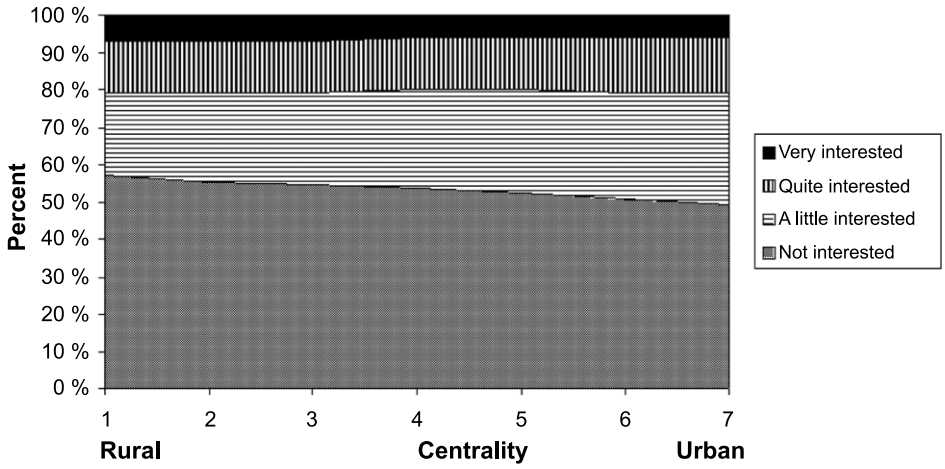

Figure 4. Predicted probabilities for interest in a farm visit by centrality. Predictions for a 35-year-old urban woman with children, mean education level, and low income level.

considering statistical significance only. Model 2 shows that "visit last year" has a very significant effect on next year's interest. Predicted probabilities from model 2 for a 35 year old woman with children and mean income and education show that her probability of answering "very interested" in 2007 increases from 4 to 20% if she has visited a farm last summer. The probability of answering "quite interested" increases from 14 to 23%, and the probability of answering "a little interested" increases from 29 to 37% if she visited a farm last summer.

Discussion and Conclusions

This paper has focused on the patterns of domestic visitors to farm-based tourism enterprises in Norway. The analysis is based on a representative nationwide database and gives us a unique opportunity to study changes in Norwegians' holiday choices and preferences. As the database contains much background information about the respondents, it enables us to investigate whether farm visitors have certain demographic characteristics.

The results show that farm tourism has increased in popularity and that there has been a steady increase of people visiting farm tourism enterprises. In 2007, nearly 7% of the representative sample of Norwegians above age 15 visited a farm tourism enterprise, a figure, which has doubled since 1991.

Women, families with children in the household, people 60 years and above, and urban dwellers were most likely to have visited a farm tourism enterprise last summer. In contrast to previous studies, our models show (1) no difference in visiting probabilities between people with low and high education. Other unexpected results include findings that (2) single people have no different visit probability compared to people with families (when controlling for the other variables in the models), and (3) high income has a negative effect on the likelihood of visiting farms.

The analysis also confirms our hypothesis that the age pattern among visitors has become less distinct during the period studied. In the early 1990s, farm visitors mainly consisted of families with children and older people, while all age groups were likely to visit farm tourism enterprises in 2007.

By exploring respondents' interest in a farmhouse holiday next summer, we have some indication of the popularity and future potential on the domestic market for farm tourism enterprises. Most importantly, those who visited a farm tourism enterprise last year are more interested in a farmhouse holiday next year. This shows that positive experiences among visitors, which stimulate the domestic re-sale and increase repeated bookings, are important for the business. There has also been an overall increased interest in farmhouse holidays from 2005 to 2007. Again, women and families with children are more interested in farmhouse holidays. Another interesting finding is that the highest share of "very interested" in taking a farmhouse holiday next summer is among the youngest respondents. By contrast, high income has a negative effect on interest, and we find no clear difference between urban and rural respondents.

Our analysis has shown that the market potential for farm tourism has become more open and diverse. In the 1990s, there was a more distinct segment of visitors than in recent years; i.e families with children and elderly people were most likely to visit a farm tourism business. Analyses of the most recent years show a more compound picture of the visitors. There is no longer any distinct group or groups of visitors, but rather a variety of people who are attracted to farm tourism. One explanation of this growing market segment is that farm tourism represents a varied supply of services and activities that may suit different interests and thus a wide spectrum of visitors. This is positive for the industry, which may develop in different directions and cultivate various niches, and thus attract a range of visitors. This analysis suggests that increased diversification of farm tourism services has led to an increased interest among different groups of potential visitors.

This study has focused solely on the domestic (holiday) market, and therefore does not provide insights into the international market or foreign visitors. For the majority of farm tourism enterprises in Norway however, the domestic market is very important. Considering that this study also excludes other segments of visitors, such as participants in meetings and seminars, private parties and other kinds of arrangements, the potential for visitors is even higher than the results of this study indicate. Further studies of visitors' motivations, expectations and experiences will result in additional information about the future prospects for the farm tourism industry in Norway.

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Appendix

Correlation matrix (Pearson's r) of the original variables used in Table 1, and mean, standard deviation, and number of cases for each variable.

	Visit	Female	Age	Children	Single	Income	Education	Centrality
Visit	1.000							
Female	0.026	1.000						
Age	–0.008	–0.071	1.000					
Children	0.056	0.060	–0.444	1.000				
Single	–0.024	0.006	0.188	–0.470	1.000			
Income	0.001	–0.081	–0.167	0.301	–0.421	1.000		
Education	0.010	0.002	–0.162	0.069	–0.027	0.270	1.000	
Centrality	0.019	0.019	–0.036	–0.026	0.028	0.102	0.137	1.000
Mean	0.050	0.526	43.971	0.496	0.189	0.000	13.635	5.638
SD	0.218	0.499	16.440	0.500	0.391	1.000	3.295	2.017
N =	33524	33524	33524	33524	33524	33524	33524	33524

Correlation matrix (Pearson's r) of the original variables used in Table 3, and mean, standard deviation, and number of cases for each variable.

	Interest	Female	Age	Children	Single	Income	Edu.	Central.	Visit
Interest	1.000								
Female	0.106	1.000							
Age	–0.172	–0.125	1.000						
Children	0.148	0.059	–0.550	1.000					
Single	–0.015	0.055	0.227	–0.418	1.000				
Income	–0.065	–0.088	–0.204	0.307	–0.492	1.000			
Education	–0.032	0.016	–0.064	0.076	–0.047	0.318	1.000		
Centrality	0.016	0.047	–0.020	–0.010	0.040	0.103	0.126	1.000	
Visit	0.198	0.014	–0.032	0.061	–0.027	0.024	0.004	0.009	1.000
Mean	1.385	0.547	48.777	0.463	0.188	0.000	14.454	5.600	0.063
St.dev.	0.696	0.498	15.534	0.499	0.391	1.000	3.120	2.042	0.243
N=	6815	6815	6815	6815	6815	6815	6815	6815	6815