

# ***Diversification and the Entrepreneurial Motivations of Farmers in Norway\****

by Jostein Vik and Gerard McElwee

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*A series of significant pressures but also new opportunities face the agricultural sector in developed economies. Farm diversification is presented as a political solution and a viable business strategy and highlights the entrepreneurial side of farmers. This paper is a unique attempt to address the question of motivation for farm diversification using Norwegian data. The results demonstrate that social motivations are as important as economic motivations, that is, there are substantial differences in which motivations underpin different types of diversification. This suggests, first, that the literature could gain from engaging more in the variation of motivational drivers than general trends, and second, that farmers need different forms of support to develop their entrepreneurial skills. With a data set derived from a large survey (N = 1607) of Norwegian farm holdings, we use a multinomial logistic regression model to analyze how six farm diversification categories are differently influenced by different types of motivations and other background variables.*

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## ***Introduction***

Throughout developed economies, a series of major trends affect farm businesses and the lives of farmers. There is a growing demand not only for changes in food production techniques but also

in nonagricultural functions and services. New technological developments characterize agricultural production. These shifts in production coupled with strong emerging new markets that represent both severe pressures and open new opportunities for farmers require

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adaptation strategies, increased innovation, and entrepreneurship. Increased farm diversification is therefore seen as a necessary development. Farm and rural business support schemes and policy in the European Union (EU) as well as in Norway highlight a political will to increase entrepreneurship and diversification in farm businesses. Developing the entrepreneurial skills of farmers is one of the priorities of the Norwegian Ministry of Agriculture and Food (Ministry for Agriculture and Food 2007). However, meeting these priorities requires knowledge of what constitutes farm-based entrepreneurship.

The research question in the present study is therefore centered on the reasons and motives for starting additional activities: *What motivates farmers to diversify and into what kind of activities?* We address this question through analysis of a Norwegian data set.

This paper contributes to filling some significant research gaps. We highlight the highly fragmented pattern of entrepreneurial motivation behind different categories of farm diversification, and we study motivations behind diversification in Norwegian agriculture: an underresearched phenomenon.

Norway is a special case. Located in the far north of the Northern hemisphere, with a diverse arroundation and small-scale farm structure, the conditions for agricultural production are difficult. Many farms are remote from urban centers that would provide "easy" markets. Farms are passed on from generation to generation meaning that there is still considerable pressure to "carry on the tradition" ("odelsgutt").

The Norwegian government provides the agricultural sector with a high level of subsidies; Norwegian agriculture is significantly more subsidized than anywhere else (except Japan, Switzerland, and Iceland) including the EU, and there is also a high level of regulation of agricultural production and structure. There

is a long tradition for pluriactivity (Almås 2004), and more than 50 percent of Norwegian farmers have diversified from their core farm activity. Scarce resources and a small scale structure in the agricultural sector have always been seen as drivers of Norwegian farm diversification, but the levels of income generated by farmers' additional income appears to be rather modest (Kjesbu et al. 2007). Furthermore, it seems that economic rationality alone is not able to explain farmers business adaptations well (see, e.g., Pettersen et al. 2009).

It is against this context that the Norwegian case is an interesting and relevant field for determining how economic motivations of farmers stand relative to alternative motivations. Although the structural and institutional features of the Norwegian agricultural sector are unique, there are no reasons to believe that the farmers and their underlying motives differ that much.

The aims of this paper are twofold. First, using empirical material from Norway, we aim to explore the multifaceted nature of, and drivers behind, farm-based entrepreneurial activity by analyzing the diversity and magnitude of motivations underpinning entrepreneurial activities. The null hypothesis offered is that diversification takes place because of a need for extra income. Second, we elaborate on the relationship between types of additional activity on farms and types of motivation. To do this, we empirically map out and categorize types of diversification in the Norwegian agriculture sector, in relation to: the activity's location on/off the farm; the activities' similarities with traditional farm activities; and finally whether the farmers engage in different forms of diversification activities. Thereafter, we analyze drivers behind diversification in general and the motivational background for entrepreneurship in particular using a multinomial logistic regression. We suggest that this design of the relation-

ship between motivations and entrepreneurial activity in the Norwegian agricultural sector is appropriate.

The paper is structured as follows. We begin by providing a literature review in which we clarify our definition of farm-based entrepreneurship and entrepreneurial motivation. From this starting point, the combination of attributes required by diversifying farmers is considered.

Second, we describe our methodology and discuss how survey data are used to evaluate differences in background variables and attitudes among farmers engaged in different forms of diversified activity. Farmers' personal attributes are examined alongside the external factors of farm size, location, and ownership structure in an attempt to understand and predict the key issues influencing both the likelihood and potential success of diversification. The unit of analysis in this paper is the individual farmer and his or her motivations, aspirations, and skills.

Third, we provide an analysis that leads us to a model of farmers' diversification approaches based on farmers having different levels of involvement in new business ventures that are more or less associated with traditional agricultural activities. From such a model, we can begin to understand the implications of different activity in relation to the landscape, the local economy, the farm holding, the personal characteristics of the farmer, and the farm business as a sustainable entity.

We then offer some discussions, conclusions, and recommendations for policymakers and further research.

### ***Terms and Literature***

In a changing economic and social climate, there are different strategies available to farmers in order to adapt and survive in their economic environment (Man et al. 2002; McElwee 2006, 2008; McElwee and Bosworth

2010; van der Ploeg 2000; Vik 2005). For example, the farm enterprise may be broadened through nonagricultural business, or by forward or backward integration of the value chain by engaging in food processing, direct marketing, or niche production. The economic base may also be strengthened by offering services to the surrounding communities.

The recognition of business opportunities and strategic planning are major requirements for farmers. Through this, farmers are able to find ways and strategies to create a profitable business. Cooperation and networking skills, innovative abilities, and risk taking are important requirements to realize business opportunities. This analysis is generally in line with literature on entrepreneurship (McElwee 2006). Other descriptions of entrepreneurship emphasize opportunity recognition and realization (Scott and Venkataraman 2000; Stevenson and Jarillo 1990; Timmons 1999), the acceptance of risk and failure, innovation and the creation of something new (Hisrich and Drnovsek 2002), the role of networks and cooperation (Kuratko and Hodgetts 1998), and strategic thinking (Dana 2004).

Research into farm diversification is not only recent as evidenced by the work of Heady (1952) and Johnson (1967) in the United States, Gasson (1986) in England and Wales, Shucksmith and Winter (1990) in Britain, and Fuller (1990) in the EU; however, research into "farmers as entrepreneurs" has not provoked a good deal of investigation as evidenced by the findings of a major literature review of this subject (McElwee 2006). Among other things, the review found that farmers are a particularly rich resource for study in the area of entrepreneurial capability and that the myths surrounding farmers' (in)ability to be entrepreneurial require examination.

## **Conceptualizing the Farmer as Entrepreneur**

There are difficulties associated with defining the entrepreneur; indeed, as noted by Palich and Bagby (1995, p. 426), "when tracing the development of this concept in the literature, it becomes clear that no one definition of the entrepreneur prevails." Definitions have emphasized a broad range of activities, the more well known of which include uncertainty bearing and the subcontractor who takes risks (Cantillon 1755), coordination (Say 1803), innovation (Schumpeter 1934), and arbitrage (Kirzner 1979).

Both Cantillon and Say based their conceptions of entrepreneurial rents on agriculture, which, of course, was the predominant industry of the time. Indeed, Cantillon's description of an entrepreneur as "An agent who contracts with suppliers at known prices in order to produce goods that could be sold later at uncertain prices," perfectly described 18th century agricultural practices.

Where enterprise and entrepreneurship are explored in a rural context, studies have tended to focus on the dynamics and behaviors of individuals, often focusing on farmers as entrepreneurs within a rural setting (e.g., Carter 1996, 1999; Kalantaridis and Bika 2006; McElwee 2006, 2008). Carter (1998), Carter and Rosa (1998), McNally (2001), and Borsch and Forsman (2001) argue that the methods used to analyze business entrepreneurs in other sectors can be applied to rural businesses such as farms. The relationship between the farmer and the farm business is in itself a complex issue, suggesting that the methods used to analyze business entrepreneurs in other sectors may not be easily transferred to an analysis of farms and farmers.

## **Definitions of Farm Entrepreneurship**

The problem of definition is not confined to entrepreneurship as there are also issues of conceptualization when

terms such as "farmer" or "the farm" are used. McElwee (2004) defines farmers as those occupied on a part- or full-time basis and engaged in a range of activities that are primarily dependent on the farm and agriculture in the practice of cultivating the soil, growing crops, and raising livestock as the main source of income. In the Norwegian context, where pluriactivity is a core element of agriculture, it cannot be assumed that the farming activities are the main source of income. Thus, the definition of farmer, in the present work, is a person that is the main operator who owns, rents, or manages a farm with more than 0.5 hectares (ha) of cultivated land.

For the purposes of this paper, we define entrepreneurial activity as "the creation and extraction of value from an environment" (Anderson 1995), which is particularly relevant in this context because in the farming environment, value does not have to be measured in economic terms: farmers are motivated by things other than financial reward.

However, the extent to which farmers are entrepreneurial is contested. In essence, for Carter (1998), farmers have traditionally been entrepreneurial. Furthermore, argue Carter and Rosa (1998), farmers are primarily business owner-managers, and farms therefore can be characterized as businesses. Carter draws parallels between portfolio entrepreneurship in nonfarm (business) sectors and farm pluriactivity, suggesting that farmers have multiple business interests, and these foster employment creation and rural economic development. One may hold that this is an empirical question; farmers may be portfolio entrepreneurs to a varying degree. In the empirical analysis, we study whether motivations and drivers of those farmers engaged in multiple diversification activities differ from those farmers engaged in one kind only. It should be made clear, though, that there are nuances in the use of the term portfolio entrepreneurship as

used in the literature and the way it is used empirically in our analysis. Empirically, we see farmers that engage in multiple types of diversification outside farm activity as portfolio (farm) entrepreneurs, while the literature tends to reserve the term for those who engage in setting up multiple “businesses,” understood as different legal entities. This is not necessarily the case with the farmers that build up a portfolio of income-generating activities.

The definition of a farmer is a key issue. Many definitions tend to ignore both the pluriactivity and the entrepreneurial role of the farmer. To the extent that these other activities are both necessary for the continued occupation of the farm, in the case of pluriactivity, and a role that farmers can play, precisely because they are farmers, is important. Eikeland and Lie (1999) argue that pluriactive farmers are entrepreneurial, but as Alsos, Ljunggren, and Pettersen (2003) acknowledge, “there is still a paucity of knowledge about which factors trigger the start-up of entrepreneurial activities among farmers.”

In the literature, two broad terms have been used to describe generic strategies other than core farm activities: “diversification” and “pluriactivity.” Often, the boundaries between the two are somewhat blurred. Broadly speaking though, pluriactivity is seen as farmers engaging in the labor market outside the farm, or in off-farm business activities. Diversification is defined as on-farm or farming-related activity. A diversification strategy is apparent when farmers combine other agricultural or nonagricultural activities with their farm business. In this study, we define diversification as a movement

away from core activities of the farm business by providing goods or services with a basis in a wide understanding of farm resources (human, physical, private, or collective).<sup>2</sup> This definition excludes neither on-farm nor off-farm diversification, but it does exclude off-farm work or employment. This we see as pluriactivity.

Farm diversification has been described as farm-centered income-generating activities (Evans and Ilbery 1992, p. 86). Diversification as a strategy for greater economic viability includes transforming or expanding farm activities by unconventional uses of on-farm resources (Fuller 1990). The variation in such uses is substantial and ranges from relatively conventional uses of farm machines and equipment in contracting for other farms and others; providing hunting rights, facilities, and services; farm-based tourism (Haugen and Vik 2008); green care (Hassink and van Dijk 2006; Vik and Farstad 2009); and different consultancy services.

Both pluriactivity and farm diversification have been important elements in Norwegian farming (Almås 2004). Some recent studies indicate that more than half (59 percent) of all Norwegian farmers engage in additional activities based on the farm and its resources (Vik 2008).

Chaplin, Davidova, and Gorton (2004) analyzed and identified nonagricultural farm diversification undertaken across three central European countries. Their research shows that diversification levels are relatively low, and new jobs provision from diversified enterprises is limited.

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<sup>2</sup>In an earlier study of farm diversification in the North of England, diversification was defined as “a strategically systemic planned movement away from core activities of the business, as a consequence of external pressures, in an effort to remain in and grow the business” (McElwee 2004, p. 6). In our study, we do not want to emphasize the strategic element a priori. The processes of diversification may be more incremental and accidental than strategically planned.

## On Motivation

Understanding how different cognitive frames inform and shape attitudes may provide insight into why and when two farmers are confronted with seemingly identical situations, one farmer elects to pursue an opportunity when the other does not. Palich and Bagby (1995) seek to explore the decision-making processes, or more specifically, the categorization processes that precede decision-making, of entrepreneurs and nonentrepreneurs when confronted with identical information. The test involved asking a sample of entrepreneurs and nonentrepreneurs to categorize, using a nine-point Likert-type scale, three equivocal scenarios in terms of whether they represented: (1) strength or weakness; (2) opportunity or threat; and (3) improve or deteriorate. The findings suggest, according to Palich and Bagby (1995, p. 433), that entrepreneurs have a greater propensity to categorize equivocal scenarios positively; "they simply tend to associate business situations with cognitive categories that suggest more favourable attributes (greater strengths versus weaknesses, opportunities versus threats, and potential for future performance improvement versus deterioration)." However, Palich and Bagby (1995) suggest that favorable categorization of equivocal business scenarios may lead entrepreneurs into making poor decisions based on excessive optimism.

In a similar vein, Gatewood, Shaver, and Gartner (1995, p. 372) undertook a longitudinal study in the hope of identifying the key cognitive factors that might influence start-up behaviors and subsequent levels of success; "we suggest that the cognitive orientation (i.e. way of thinking) of potential entrepreneurs will have a significant influence on their willingness to persist in entrepreneurial activity in the face of . . . difficulties." A key factor identified by Gatewood, Shaver, and Gartner (1995) in ensuring persistence despite setbacks and

obstacles is an increased internal locus of control. If, for example, an individual wants and believes he or she can control the external environment and make it fit with his or her goals, then it is likely that he or she will continue to exert the sustained effort that he or she believes is necessary for the achievement of their goals; "individuals who cannot believe in their ability to control the environment through their actions would be reluctant to assume the risks that starting a business would entail" (Brockhaus and Horwitz 1986, p. 27).

A second key factor identified by Gatewood, Shaver, and Gartner (1995) involves the attribution of causality. The attribution of causality framework, taken from cognitive psychology, is comprised of four separate constructs: ability, effort, task difficulty, and luck. Each of these four components is used by individuals to explain the consequences of actions. Gatewood, Shaver, and Gartner (1995) argued that individuals that are predisposed to assign internal and stable explanations for outcome causes are more likely to engage in behaviors that culminate in the formation of new ventures. However, similarly to Palich and Bagby (1995), Gatewood, Shaver, and Gartner (1995) suggest that the ability and willingness to pursue entrepreneurial behaviors and new venture start-up are not long-run determinants of success. There are a number of other factors that exert a significant influence on the subsequent success of the entrepreneurial effort, but those factors are not mediated by certain cognitive tilts as is suggested in self-efficacy assessments and the attribution of causality (Gatewood, Shaver, and Gartner 1995). However, unlike Palich and Bagby (1995), Gatewood, Shaver, and Gartner (1995) suggest that cognitive orientation and new venture success are mediated by entrepreneurial activities such as identifying and finding customers, locating necessary resources, and financial planning. To help entrepre-

neurs become more successful, or at least to reduce the very high attrition rate of new venture start-ups, entrepreneurs might be encouraged to undertake more in the way of entrepreneurial activities so as to reduce an excessive reliance on cognitive orientation.

Taken together, the work of Palich and Bagby (1995) and Gatewood, Shaver, and Gartner (1995) would appear to suggest that entrepreneurs have an optimistic cognitive framework through which equivocal scenarios are positively assessed, coupled with the belief that they are able to influence the external environment to the extent that it aligns with their personal goals. When these dispositional factors are combined, entrepreneurial intentions are likely to form and result in the establishment of a new venture. The suggestion, although perhaps seemingly obvious given the theoretical slant taken by both sets of authors, implies the primacy of cognition in the new venture process and, as a consequence, the significance of the entrepreneurial individual in the entrepreneurial event. However, in both approaches the assumption that opportunities have an objective component is present. The cognitive dimension therefore, according to Palich and Bagby (1995) and Gatewood, Shaver, and Gartner (1995), offers only a partial explanation of why some individuals and not others become entrepreneurs, as situational determinants cannot be ruled out.

Ward (2004) suggests that a cognitive approach to entrepreneurship research can be used to explain how entrepreneurs generate novel and successful ideas for business ventures. Ward (2004, p. 175) argues that knowledge plays a paradoxical role in the generation of new ideas, in that existing knowledge may act as a platform from which new ideas are developed, or may equally act as a barrier to the emergence of new ideas by constraining their development; “throughout history,

coexisting with a cornucopia of creative accomplishments . . . we also find stunning examples of needlessly constrained thinking.” Ward (2004) argues that entrepreneurial individuals are able to overcome creative constraints to produce novel goods or services that are both useful and as a consequence, can be successfully brought to market. Ward’s (2004) understanding of entrepreneurial opportunity is in contrast to more common approaches that suggest that opportunities have a more objective dimension which, according to differences in cognitive properties, only certain individuals are predisposed to identify.

On the practical level, a wide range of motivational modes are mentioned in the literature. Ollenburg and Buckley (2007) identified empirically, through a principal component analysis, five principal components: economic, family, social, independence, and retirement. Furthermore, McGehee and Kim (2004) distinguish between the social and the economic as key motivations in their literature review. However, in addition to additional income as a measure of economic motivation, they also include, for example, resource utilization, employment of family members, interest, and other motivational statements.

In addressing farmers diversifying into tourism in North Eastern England, Sharpley and Vass (2006) also address the motives of farmers, concluding that the need for extra income was the principal reason for diversifying.

## ***Data and Methods***

The analysis in this paper is based on data from a postal survey among a representative sample of Norwegian farms (registered operators) in 2008. The survey is a part of a longitudinal study, funded by the Norwegian Centre for Rural Research, where a wide range of variables are registered. In addition to relevant individual background variables, questions were asked about farm

and farm household demographics, characteristics of the farm, core and additional economic activities, motivational variables, and social and political attitudes and values.

The sample was drawn from "The Norwegian Agricultural Producers Register." A total of 1,607 farmers completed and returned the questionnaire resulting in a useable response (51 percent). The data are tested for representativeness in a wide range of variables, against public registers and other data sets, where these are available (e.g., farm size, milk quotas, and income). The data set in general is representative over time of Norwegian agriculture and that core variables in the biannual study, our data are a part of are consistent over time (Vik 2008). Thus, we hold the general reliability of data and the data gathering process to be good.

After an initial categorization of types of diversifying activities (the dependent variable), we utilized a method called multinomial logistic regression (see, e.g., Borooah 2002) to analyze those farmers who have diversified their activities ( $N = 943$ ).

In this study, we analyze diversification with a particular focus on the *variation* in motivational drivers of diversification. There are several available methods that could be used to analyze how motivational (and other) variables relate to farm diversification. A simple correlation analysis could be used to see the direct correlations between motivational types and diversification categories; factor analysis could be used to search for underlying patterns or variables in the data set. However, in order to analyze the relationship between different motivational factors, controlled for other variables, on several categories of diversification, *simultaneously*, a multinomial logistic regression model is the most appropriate approach. Multinomial logistic regression is an extension of binary logistic regression whereby

instead of using a categorical dependent variable with two values, a variable may have several (nominal) values. In this case, the dependent variable consists of those farmers who have diversified (1) on-farm and farm-related only; (2) off-farm and farm-related only; (3) on-farm and farm-diverse (tourism) only; (4) on-farm and farm-diverse only; (5) off-farm and farm-diverse (and miscellaneous types) only; and finally, those with more than one of the four kinds of diversifying activities: (6) portfolio diversification. The initial mapping of variables on additional activities are clearly reliable and valid. The categorization we have done here includes a remapping of farmers from a scheme where several overlapping activities were possible into a set of mutually exclusive categories. This means, for example, that the farm-tourist diversifiers who also do on-farm and farm-related activities are categorized as portfolio diversifiers. This, in turn, implies that the empirical categorization must be used with care. Its validity is limited to analyses of the differences between those mutually exclusive categories. If we want to say something of all farm-tourist diversifiers for example, another categorization may be more reliable. In seeking to measure the importance of factors leading to different types of diversification, four groups of independent variables are included: personal background variables, farm and production characteristics, farmers' satisfaction with their social and professional network, and motivational variables, represented by agreement with a set of statements.

## ***The Analysis*** **Types of Activity**

The percentage of 58.7 of Norwegian farms have diversified their farm activity. Table 1 lists the areas of additional activity of the respondents. The table shows the percentage of the farms (the farmer,



**Table 1**  
**Types and Extent of**  
**Additional Activity in**  
**Norwegian Agriculture**

Type of Activities	%	<i>n</i>
Machine contracting, haymaking, snow clearing, etc.	31	1,334
Fire wood, bioenergy production, etc.	26.5	1,223
Hiring out of hunting and/or fishing rights	23	1,163
Hiring out of premises and storeroom	14	1,149
Construction work	6.9	1,112
Lodging or accommodation	6.4	1,114
Green care, relief services, etc.	5.9	1,104
Husbandry on other farms	5.2	1,101
Farm-based saw mill	5.1	1,106
Consulting and accounting services	5.1	1,093
Adventures, tours, guiding, etc. (tourism)	3.5	1,101
Courses and pedagogic services	3.4	1,099
Organized rural service	2.9	1,094
Fishery	2.1	1,094
Serving of food on or by the farm	1.8	1,091
Aquaculture	0.7	1,088
Miscellaneous	12	1,024

the partner, or both) that have the different types of additional activities.<sup>3</sup>

Ranking the activities based on the extent of each type of activity reveals that the most frequent additional activities are those where farmers use their resources, mainly farm machinery and equipment, in contracting activities on or outside the agricultural sector. The next category is the use of farm resources for firewood and bioenergy purposes. In the Norwegian context, the use of what is known as the “farm forest” has a long tradition and is often an extension of the logging of fire wood for use at the farm. For many farmers, hiring out hunting and/or fishing rights provides an additional source of income. This is a kind of diversification that ranges from traditional and sometime very passive uses of resources to more commercial use of the farm resources appealing to highly market oriented fishing and hunting tourism. The same span between passive capitalising on existing resources and market-oriented creativity is captured in the category “hiring out of premises and storeroom.” Farmers make use of another kind of resource when engaging in construction work. Then, it is the practical know-how that is utilized. This category may be seen together with “organized rural service,” which is a category representing more of an organizational form of hiring out labor and equipment mainly outside the farm sector. Much of this work is also construction work. There are three categories in the questionnaire that cover forms of farm tourism: “Lodging or accommodation,” “Adventures, tours, guiding, etc. (tourism),” and “Serving of food on or by the farm.” Another rather large (5.9 percent) category is what we have termed Green care, Relief services, etc.

<sup>3</sup>It should be noted here that there are no formal limits to what kind of diversification a farmer can undertake without creating a new business unit. The following analysis therefore does not consider the actual creation of new legal business entities.

This category consists of what is seen as green care, or farming for health, in a rather strict sense. In addition, or partly overlapping this, farmers use their premises to offer training courses and/or pedagogic services. Even though social care and pedagogic services may be seen as rather different activities, they are often lumped together as social farming (Di Iacovo and O'Connor 2009; Vik and Farstad 2009). Some farmers also take on work with relieving other farmers with their farm animals—husbandry on other farms. In the Norwegian context, this type of activity is a well defined and traditional service in rural areas. A few farms have their own saw mills and utilize these as additional source of income. In many rural regions with significant forestry resources, farm saw mills were fairly well distributed geographically. New services such as different kinds of consultancy and accountancy services are also represented in the survey. Although fishery is traditionally an important additional activity in coastal regions of Norway, few farmers still have this combination. The same goes for farming in combination with aquaculture. It is impossible to create an exhaustive list. There is, therefore, a rather large miscellaneous category. Farmers who feature in this category have activities ranging from exotic animals to knitwear.

The listed additional activities are of very different types. It is useful for analytical purposes to categorize the activities more systematically. In the entrepreneurship literature it is common to distinguish between push and pull entrepreneurs (e.g., Amit and Muller 1995). These categorizations build upon certain types of motivational patterns, and are thereby less useful for analyzing actual correlations between activities and motivation. In the following section the activities are sorted according to two dimensions which do not have clear a priori connections to motivation.

On-farm vs. off-farm activities and farm-related activities vs. farm-diverse activities. Figure 1 maps out the distribution of diversification along these dimensions.

As we see, locating the additional activities according to these dimensions allow us to categorize activities in four different kinds of activities. We have made three adjustments to this categorization because of empirical considerations. The first is that we divided on-farm and farm-diverse activities in two groups: tourism and social farming. This is because the data suggested that there are two distinct subgroups that may be of particular empirical relevance. A further modification is that we locate miscellaneous activities within the off-farm, farm-diverse activity group. Third, some farmers are engaging in different kinds of additional activities. Therefore, those that transcend the boundaries of our categories in this way are situated in-between. Our analysis requires that the categories are mutually exclusive. As represented in Figure 1, all farmers are located in one category only.

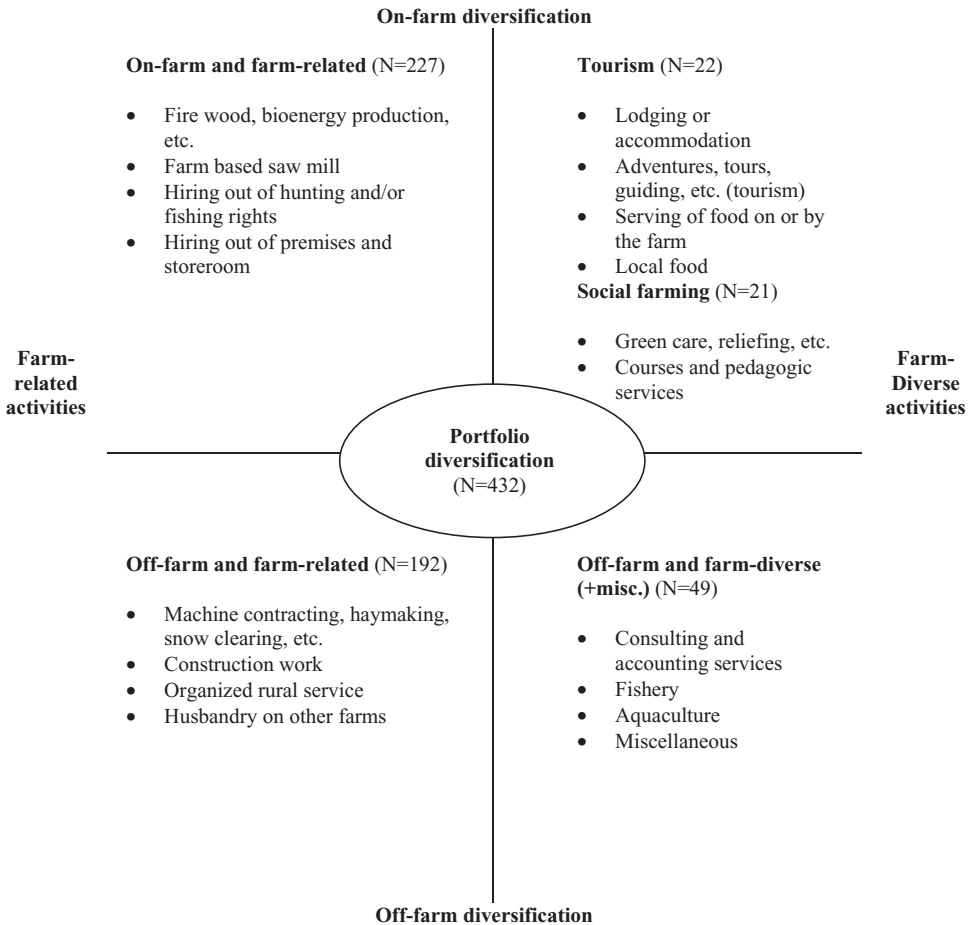
The categorization thus provides five groups of diversification activities that are rather different both in terms of the resources needed and the character of the activities and six groups of diversifying farmers. The question though is whether these types of activities are driven by different internal and external factors in general, and whether they have different motivations in particular. Seen as results of entrepreneurship, the groups of activities might have rather heterogeneous drivers. As previously stated, the research question is therefore centered on reasons for starting additional activities—what motivates Norwegian farmers to diversify?

### **Types of Motivation**

In our questionnaire, six different statements were listed, each statement representing types of motives. The respondents were asked to mark the

**Figure 1**  
**Categorizing Norwegian Farm Diversification**

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importance of these statements in their own case. The list was constructed on the basis of types of motivations described in the literature. However, we have not a priori linked all our types explicitly to issues of push/pull or necessity/opportunity, even though some of them clearly are related to these dichotomies: a purely economic motive for diversifying is represented by the statement “I had a need for additional income”; another, more resource-based

economic rationale is represented by the statement “I had available resources on farm”; also an economic rationale but related to the wish to take care of, or develop, the possibility to keep living at the farm is represented by the statement “to create a possibility to keep staying at the farm”; a related motivation but targeted on creating a job opportunity for the partner is represented by the statement “the wish to create employment/work for my partner”; a motivation based

on social needs or wishes rather than the economic rationale is represented by the statement “wish to meet with new people/work with people.”

Sometimes entrepreneurial activities are linked to personal needs or an inner creative urge. This is represented with the statement “an urge to create something”; external factors other than economic necessity are also possible drivers for diversification. The view that local culture or local networks are important for establishing additional activities of certain types is represented by the statement that “local culture/local networks” were important for starting additional activities, while the view that regional or local characteristics (e.g., nature) were important drivers for the diversification is represented by the statement that there was a certain “suitability of location” for this activity.

Motivations for additional activity cannot easily be mapped out, and it is not possible to measure motivations exactly—as is the case with many types of subjective data. By giving the respondents the ability to mark the degree of importance of a set of statements designed to represent different types of motivations for their additional activity, what we get is a set of indications on what kind of motivations are seen to be important. We do not measure the exact importance of a given motive. Both the validity and the reliability of this procedure may be questioned. Notwithstanding, we do believe that the battery of questions and the methods used, by and large, reveal relative emphasis placed upon different types of motives for additional activity that is useable in our analysis. Still, this is a large-*N* statistical analysis, and as such not it is not possible to explore in depth the complexities of possibly conflicting and fluctuating motivations within a household. The motivational variation in our data set is presented in Table 2.

The overall picture is that the “need for additional income” and “wish to utilize the available resources on the farm” are reported as the most important motivations for most of the farm entrepreneurs. However, motivations like “had a creative urge,” and to “create a possibility to continue to live on the farm” are also important motivations for many farmers. On the lower extreme, we find that “local culture/local networks” and social motivations represented by “wish to meet new people/work with people” are ranked as less important.

Nonetheless, to identify and rank the motivations only takes us part of the way. The above list only shows the general importance of different motives. We must be aware that even though “need for additional income” is a significant motivator for many, 29 percent of respondents report that this is of no or little importance. There are then a variety of motives, and this fact led us to seek patterns in the variation rather than the generalized distribution.

### **Diverse Motivation: Different Activities**

We then have the background for the multinomial logistic regression. The dependent variable is the presented categories of diversified activities. “On-farm and farm-related activity” is the reference category. The independent variables are age, gender, marital status, educational level, farm size, main production on the farms, satisfaction with social network, satisfaction with agricultural (professional) network, and finally, motivational types. The data set consists of the 943 diversifying farms. The model is presented in Table 3.

A logistic multinomial regression holds many layers of information, and it is difficult to explain the interpretations fully (see Menard 2002, p. 41ff, on interpretations of logistic regressions in general). We therefore present a somewhat simplified interpretation in this elaboration of

**Table 2**  
**Importance of Motivations for Starting Additional Activities**

	Very important, percent	Important, percent	Of some importance, percent	Of little importance, percent	Not important, percent	Percent (N)
Need for additional income	19.9	27.8	23.2	11.9	17.1	100 (934)
Had available resources on farm	18.9	32.4	24.8	7.6	16.3	100 (922)
A wish to create/a creative urge	16.1	21.8	25.2	11.2	25.7	100 (929)
Make it possible to live on the farm	14.5	20.5	20.9	15.8	28.4	100 (919)
Suitability of location	9.7	20.7	29.8	15.5	24.3	100 (905)
A wish to create work for partner	6.0	10.5	15.3	16.0	52.2	100 (902)
Local culture/networks	5.2	8.8	22.9	20.2	42.9	100 (919)
Wish to work with/meet with people	4.2	12.6	22.6	23.8	36.8	100 (906)

**Table 3**  
**Multinomial Logistic Regression Model of Farm Diversification Categories**

Activity types <sup>a</sup>	Off-farm farm-related			On-farm farm-diverse—Tourism			On-farm farm-diverse—Social farming			Off-farm farm-diverse and misc.			Portfolio diversification		
	B	Sig.	s.e.	B	Sig.	s.e.	B	Sig.	s.e.	B	Sig.	s.e.	B	Sig.	s.e.
Intercept	1.626	.164	1.169	.133	.960	2.659	-20.7	.000	2.714	-4.455	.029	2.038	2.988	.002	.959
Age	-.017	.180	.013	.030	.303	.029	.023	.440	.030	.015	.474	.021	.000	.978	.010
Gender <sup>b</sup>	-.202	.682	.492	-1.22	.131	.811	-.182	.845	.931	-.817	.198	.635	-.246	.525	.386
Marital status <sup>c</sup>	-.173	.629	.358	-.217	.807	.890	17.61	—	.000	.389	.506	.586	-.085	.776	.300
Education level	-.288	.023	.127	-.249	.392	.290	.317	.259	.281	.427	.014	.174	.103	.276	.095
Medium farms <sup>d</sup>	.552	.098	.334	-.388	.610	.762	1.260	.173	.925	-.085	.860	.482	.475	.068	.261
Large farms <sup>e</sup>	1.060	.004	.365	.193	.808	.797	1.775	.066	.964	-.885	.191	.676	.869	.004	.299
Main prod. livestock <sup>f</sup>	.283	.359	.309	-.805	.298	.774	-.056	.932	.654	.927	.122	.600	-.227	.377	.258
Main prod. grain <sup>f</sup>	.535	.123	.347	-17.9	.997	4,545.3	-17.9	.996	3,989.9	1.186	.071	.658	-.523	.088	.306
Main prod. other vegetable prod <sup>f</sup>	.371	.480	.526	1.308	.104	.805	.006	.996	1.205	1.336	.100	.811	-.123	.774	.427
Main prod. forestry <sup>f</sup>	.317	.723	.896	-18.3	—	.000	-17.5	.998	6,813.4	-17.427	.998	7,230.6	-.045	.939	.588
Main prod. others <sup>f</sup>	-17.262	.996	3,677.5	-18.1	—	.000	-17.4	.998	7,595.5	1.991	.037	.957	.429	.449	.567
Satisf. with social network	.005	.937	.066	-.086	.551	.145	.082	.585	.150	-.110	.319	.110	-.029	.589	.053
Satisf. with agricultural network	.053	.427	.067	-.048	.738	.144	.019	.898	.150	.187	.102	.114	-.037	.485	.054
Motiv. good local culture/network <sup>g</sup>	.009	.945	.135	.235	.427	.296	.198	.505	.297	-.281	.168	.204	-.063	.547	.106
Motiv. wish to create/Have a "creative drive" <sup>g</sup>	.209	.112	.131	-.588	.048	.297	.080	.786	.297	-.112	.589	.208	-.383	.000	.103
Motiv. had available resources at the farms <sup>g</sup>	.212	.088	.124	-.116	.710	.312	.647	.023	.284	.735	.000	.195	.158	.127	.103

**Table 3**  
**Continued**

Activity types <sup>a</sup>	Off-farm farm-related		On-farm farm-diverse—Tourism		On-farm farm-diverse—Social farming		Off-farm farm-diverse and misc.		Portfolio diversification					
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.				
Motiv. suitability of location <sup>b</sup>	-.159	.193	.122	.122	.370	.214	.298	.282	.247	.259	.219	.080	.425	.100
Motiv. want to work with/ meet people <sup>c</sup>	-.280	.049	.142	.553	-.175	.553	.295	.308	-.393	.064	.212	-.153	.183	.115
Motiv. make it possible to live at the farm <sup>d</sup>	-.303	.007	.113	.447	-.204	.447	.268	.263	-.419	.030	.193	-.230	.016	.096
Motiv. want to make job for partners <sup>e</sup>	.037	.783	.134	.795	.075	.795	.291	.290	.421	.058	.222	.015	.892	.107
Chi square, significance, and (df)												277.973, sig. 0.000 (100)		
Pseudo R <sup>2</sup> (Cox and Snell/Nagellk.)												0.322/0.348		

Motiv., motivation; Prod., product; Sig., significance; Satisf., satisfaction;  
<sup>a</sup>Dependent variable: Diversification activity types. On-farm farm-related is reference.

<sup>b</sup>Male 1/female 0

<sup>c</sup>Married and cohabitant 1/single 0

<sup>d</sup>10 and 25 haa. Farms smaller than 10 ha are reference category

<sup>e</sup>Larger than 25 haa. Farms smaller than 10 ha are reference category

<sup>f</sup>Milk production is reference

<sup>g</sup>Need for extra income is reference and increasing value signifies less importance (see Table 2)

the table. The *B*-values are standardized measures of change in probability for a particular variable to be important for the level of the independent variable. A high number indicates that the variable is substantially important. Positive numbers indicate an increase in probability as a result of an increase in the value of the independent variables. Negative numbers indicate decreased probability as the value increase. The level of significance and standard errors are reported behind each variable value.

First, we may state that the model as a whole explains the backgrounds of additional activities to an acceptable degree. The pseudo  $R^2$  is between 0.32 (Cox and Snell) and 0.35 (Nagelkerke). These are measures of model fitness but may be interpreted as explained variability. As such it indicates that the model explains around 32–35 percent of the total variability of farmers propensity to be situated in one of the diversification categories. Given that, we explain belonging to six different categories on the basis of a few explanatory variables characterizing the farmer and their farms, this is an acceptable measure of model fitness. Still, this means that (all other) variables not covered by our analysis explain substantial parts of the variance. When reaching conclusions, this must be kept in mind.

We may begin with a few general findings: compared with those doing only on-farm and farm-related additional activities, the other categories of diversifying farmers do not differ significantly in terms of age, gender, or marital status. We also see that there are no clear patterns or significant differences in the satisfaction with social and professional (agricultural) networks between these categories of diversifying farmers. However, in other instances, there are differences between the categories. First, the farmers that have diversified into only “off-farm and farm-related” activities separates from those with “on-farm and farm-related” additional activities in that they are less likely

to have higher education and they are likely to have medium or large farms (smaller than 10 hectares are reference category); milk production is the most important production category (and is the reference category); in terms of motivational differences, they are significantly more likely to be motivated by a wish to meet with/work with people and to make it possible to live at the farm than they are by a “need for additional income,” which is the reference category.

Second, those farmers performing on-farm and farm-diverse activities in the form of tourist activities on the farm—and no other additional activity—have very few significant differences from those performing on-farm and farm-related activities only. Thus, these farmers are likely to be working on small (or medium) farms; their main production is likely to be milk. The motivational variable that stands out is that these tourist farmers are more likely to be motivated by a wish to create something or the so-called creative urge, than they are by the need for additional income. However, for this category, we should emphasize that when we operationalize the tourist entrepreneurs as farmers that only diversify into tourism, and no other diversifying activity, there is a reduction from 8.3 percent of the farmers to 1.4 percent. To put it another way: most farm-tourist entrepreneurs are portfolio diversifiers, and therefore share characteristics with that group.

Third, the other group engaging in farm-diverse but on-farm diversification and social farming are likely to be located on large farms rather than small farms; their main production is most likely to be milk. Again they are significantly less motivated by available resources on the farm and significantly more likely to be motivated by the wish to work with/meet people than they are by the need for additional income.

Fourth, those engaging in either off-farm and farm-diverse activities or those performing some kind of activity that



falls into the miscellaneous category are distinguished from the on-farm and farm-related diversifying farmers by higher levels of education and by slightly larger farms. When it comes to motivational drivers, these differ from the reference category in that available resources are less likely to be important and that the wish to make it possible to stay living at the farm is more important than the need for additional income.

Fifth, when comparing those that have diversified into several categories of additional activities (the portfolio diversifiers) with those that have only diversified into on-farm and farm-related activities, we see a significant difference in that the portfolio entrepreneurs are likely to be located at larger farms. The motivational drivers that stand out are the creative urge/the wish to create and the wish to make it possible to live at the farm, both of which are more likely to be important than the need for additional income.

In general, when categorizing diversifying farmers according to their types of additional activity and viewing at the model in terms of independent variables, we see clearly the importance of various motivational drivers.

The issue of motives is multifaceted. We could state that the null hypotheses in terms of motivation for diversification are that farmers diversify to obtain additional income. The findings indicate that this hypothesis is challenged. For all categories, alternative motives are significantly more likely to be of importance for diversifying the farm activity. However, the motives are not mutually exclusive. In particular, the availability of resources, the suitability of location for a particular kind of additional activity, and the desire to make it possible to live at the farm may very well be congruent with a wish for additional income. Together, these motives may be seen as an economic rationality underlying farm diversification. Interestingly though, for

tourist farmers, those engaged in social farming and for the large category of portfolio diversifiers, social- and creativity-based motives are more important than the motives that seem to fit with an economic rationality.

We may summarize this analysis with an obvious statement: the word *diverse* is the key to understanding diversification. Not only is diversification seen to be a variety of adaptation strategies, diversification in itself is also motivated in diverse ways. However, our findings indicate that, overall, other motives for diversification are more essential than the need for additional income.

## **Conclusion**

In this paper, we have mapped out diversification in Norwegian agriculture and the diversity of motives for entrepreneurial activity. Furthermore, we have analyzed how different motivations as well as other drivers influence the directions of farm diversification. We have demonstrated that the issue of entrepreneurial motivation is complex, multifaceted, and dependent on a range of variables, both endogenous and exogenous to the farmer and the farm enterprise. There are substantial differences in which types of motivations determine different types of diversification. What we found can be summarized with these points:

- Off-farm and farm-related diversifiers are more likely to be motivated by a desire to make it possible to live at the farm and to meet people than they are by a “need for additional income.”
- Those that have diversified into *only* tourism (on-farm and farm-diverse) are more motivated by a wish to create something or the so-called creative urge than they are by the need for additional income.

- Green care and social farming farmers (on-farm and farm-diverse) are *less* motivated by available resources on the farm and more motivated by the wish to work with/meet people than they are by the need for additional income.
- For farmers with off-farm and farm-diverse activities or those performing some kind of activity that falls into the miscellaneous category, available resources are *less* likely to be important, and the wish to make it possible to stay living at the farm is more important than the need for additional income.
- Farmers who engage in several categories of additional activities (the portfolio diversifiers), which also includes most of the farmers that have farm-based tourism, tend to be more motivated by the creative urge/the wish to create and the wish to make it possible to live at the farm than the need for additional income.

However, those findings should be read with caution. Motives are not mutually exclusive. For instance, are availability of resources and the desire to make it possible to live at the farm congruent with a wish for additional income? For farm tourism and those engaged in green care/social farming and for the large category of portfolio diversifiers, social- and creativity-based motives are more important than the motives that seem to fit with an economic rationality.

Thus, the picture of the farm entrepreneur as a strategic actor informed by a purely economic rationale is complemented by these findings.

In the literature, push entrepreneurs are motivated by dissatisfaction with their situation—be it economic or social—while pull entrepreneurs are

attracted toward certain new activities (Amit and Muller 1995). Neither our initial categorization nor the findings can be properly understood in terms of push or pull factors, since both push and pull may be both economic and social.

The variation in entrepreneurial activities and the variation in entrepreneurial motivations are important and should be emphasized in academic analysis as well as rural policies on entrepreneurship diversification. Data suggest that Norwegian agricultural and rural policies need to ensure that the variety and diversity of personal motivations behind, and paths toward, entrepreneurial diversification are taken into account when planning business support programs.

The paper identifies a number of key concepts that have been used to understand the farmer: personal characteristics, the characteristics of the farm enterprise, and farm business activities and processes. We have identified a number of phenomena that may have a bearing on the farmer's ability—and willingness—to diversify in different directions. The research has not considered personality traits or characteristics directly. Developing more detailed and more robust considerations and characterizations of farmers is likely to generate greater insight into our understanding of how they perceive their entrepreneurial world.

This paper has shown that this sector is a complex area. A framework has been provided that can be used as a basis for further empirical research.

Future research should seek to determine what skills that farmers need according to both farmers themselves and those who have a stake in the farm enterprise. Thus, the paper suggests that farm entrepreneurship is a special case in the entrepreneurship discipline. The paper generates many additional questions including: the effects of the changes in agricultural policies; the debates surrounding specialization versus diversification; the barriers and opportunities,

which face farmers, and how those barriers may be ranked and determine how farmers use networks.

Throughout developed economies, a series of major trends affect farm businesses and the lives of farmers: new technological developments characterize agricultural production. There is a growing demand for not only changes in food production techniques but also in nonagricultural functions and services. These shifts in production, strong emerging new markets, which represent both severe pressures and open opportunities for farmers, require adaptation strategies, increased innovation, and entrepreneurship. This, in turn, requires research-based knowledge on the complexity of the factors influencing diversification strategies. This paper contributes to this field of knowledge.

## References

- Almås, R. (2004). *Norwegian Agricultural History*. Trondheim: Tapir Academic Publishers.
- Alsos, G. A., E. Ljunggren, and L. T. Pettersen (2003). "Farm Based Entrepreneurs: What Triggers the Start up of New Business Activities," *Journal of Small Business and Enterprise Development* 10(4), 435–443.
- Amit, R., and E. Muller (1995). " 'Push' and 'Pull' Entrepreneurship," *Journal of Small Business and Entrepreneurship* 12(4), 64–80.
- Anderson, A. R. (1995). *The Arcadian Enterprise*. Unpublished PhD thesis, University of Stirling.
- Beedell, J., and T. Rehman (2000). "Using Social-Psychology Models to Understand Farmers' Conservation Behaviour," *Journal of Rural Studies* 16(1), 117–127.
- Borooah, V. K. (2002). *Logit and Probit: Ordered and Multinomial Models*. London: Sage Publications.
- Borsch, G., and T. Forsman (2001). "The Competitive Tools and Capabilities of Micro Firms in the Nordic Food Sector. The Food Sector in Transition—Nordic Research," *Proceedings of NJF*, seminar No. 313, June 2000 NILF, 2001 2.
- Brockhaus, R. H., and P. S. Horwitz (1986). "The Psychology of the Entrepreneur," in *The Art and Science of Entrepreneurship*. Eds. D. L. Sexton and R. W. Smilor. Cambridge: Ballinger, 25–48.
- Cantillon, R. (1755). "Essai sur la Nature du Commerce en General," <http://www.econlib.org/library/NPDBooks/Cantillon/cntNT.html> (accessed May 3, 2011).
- Carter, S. (1996). "The Indigenous Rural Enterprise: Characteristics and Change in the British Farm Sector," *Entrepreneurship and Regional Development* 8(4), 345–358.
- (1998). "Portfolio Entrepreneurship in the Farm Sector: Indigenous Growth in Rural Areas?," *Entrepreneurship and Regional Development* 10(1), 17–32.
- (1999). "Multiple Business Ownership in the Farm Sector: Assessing the Enterprise and Employment Contributions of Farmers in Cambridgeshire," *Journal of Rural Studies* 15(4), 417–429.
- Carter, S., and P. Rosa (1998). "Indigenous Rural Firms: Farm Enterprises in the UK," *International Small Business Journal* 16(4), 15–27.
- Chaplin, H. S., J. Davidova, and M. Gorton (2004). "Agricultural Adjustment and the Diversification of Farm Households and Corporate Farms in Central Europe," *Journal of Rural Studies* 20(1), 61–77.
- Dana, L. P. (2005). "Small Business in a Non-entrepreneurial Society," *Journal of Small Business Management* 33(3), 95–102.
- Di Iacovo, F., and D. O'Connor, Eds. (2009). *Supporting Policies for Social Farming in Europe. Progressing Multifunctionality in Responsive Rural Areas*. Firenze, Arsia: Agenzia Regio-

- nale per lo Sviluppo e l'Innovazione nel settore Agricolo-forestale.
- Eikeland, S., and I. Lie (1999). "Pluriactivity in Rural Norway," *Journal of Rural Studies* 15(4), 405–415.
- Evans, N. J., and B. W. Ilbery (1992). "Farm-based accommodation," *Journal of Rural Studies* 8(1), 85–96.
- Fuller, A. M. (1990). "From Part-Time Farming to Pluriactivity: A Decade of Change in Rural Europe," *Journal of Rural Studies* 6, 361–373.
- Gasson, R. (1986). "Part-Time Farming in England and Wales," *Journal of the Royal Agricultural Society of England* 147, 34–41.
- Gatewood, E., K. Shaver, and W. Gartner (1995). "A Longitudinal Study of Cognitive Factors Influencing Start-Up Behaviours and Success at Venture Creation," *Journal of Business Venturing* 10, 371–391.
- Haugen, M., and J. Vik (2008). "Farmers as Entrepreneurs: The Case of Farm-Based Tourism," *International Journal of Entrepreneurship and Small Business* 6(13), 321–336.
- Hassink, J., and M. van Dijk, Eds. (2006). *Farming for Health. Green-Care Farming across Europe and the United States of America*. Dordrecht, Netherlands: Springer.
- Heady, E. O. (1952). "Diversification in Resource Allocation," *Journal of Farm Economics* 34, 72–91.
- Hisrich, R., and M. Drnovsek (2002). "Entrepreneurship and Small Business Research—A European Perspective," *Journal of Small Business and Enterprise Development* 9(2), 171–222.
- Johnson, S. R. (1967). "A Re-Examination of the Farm Diversification Problem," *Journal of Farm Economics* 49(3), 69–79.
- Kalantaridis, C., and Z. Bika (2006). "In-Migrant Entrepreneurship in Rural England: Beyond Local Embeddedness," *Entrepreneurship and Regional Development* 18(2), 109–131.
- Kirzner, I. (1979). *Perception, Opportunity and Profit*. Chicago: Chicago University Press.
- Kjesbu, E., A. Hegrenes, S. K. Paulsen Rye, O. Sjelmo, and K. Stokke (2007). "Tilleggsnæringer og annen næringsaktivitet på yrkesmessig drevne gardsbruk," Report No. 9/07. Oslo: Norwegian Institute for Agricultural Economics (NILF).
- Man, T. W. Y., T. Lau, and K. F. Chan (2002). "The Competitiveness of Small and Medium Enterprises—A Conceptualization with Focus on Entrepreneurial Competences," *Journal of Business Venturing* 17, 123–142.
- McElwee, G. (2004). "A Segmentation Framework for the Farm Sector," 3rd Rural Entrepreneurship Conference, University of Paisley.
- (2006). "Farmer's as Entrepreneurs: Developing Competitive Skills," *Journal of Developmental Entrepreneurship* 11(3), 187–206.
- (2008). "A Taxonomy of Entrepreneurial Farmers," *International Journal Entrepreneurship and Small Business* 6(3), 465–478.
- McElwee, G., and G. Bosworth (2010). "Exploring the Strategic Skills of Farmers across a Typology of Farm Diversification Approaches," *Journal of Farm Management* 13(12), 819–838.
- McGehee, N. G., and K. Kim (2004). "Motivation for Agri-Tourism Entrepreneurship," *Journal of Travel Research* 43, 141–170.
- McNally, S. (2001). "Farm Diversification in England and Wales—What Can We Learn from the Farm Business Survey," *Journal of Rural Studies* 17(2), 47–257.
- Menard, S. (2002). *Applied Logistic Regression Analysis*. Thousand Oaks, CA: Sage Publications.
- Ministry for Agriculture and Food (2007). *Strategy for Developing New Businesses in Agriculture*. London: Norwegian Ministry for Agriculture and Food.

- Ollenburg, C., and R. Buckley (2007). "Stated Economic and Social Motivations of Farm Tourism Operators," *Journal of Travel Research* 45(4), 444–452.
- Palich, L., and D. Bagby (1995). "Using Cognitive Theory to Explain Entrepreneurial Risk-Taking: Challenging Conventional Wisdom," *Journal of Business Venturing* 10, 425–438.
- Pettersen, I., L. Ø. Eriksen, J. N. Hval, O. Storstad, and J. Vik (2009). "Tilslørt, virksom og treffsikker—Evaluering av Bygdeutviklingsordningen," NILF report No 4/2009. Oslo: Norwegian Agricultural Economics Research Institute (NILF).
- Phillipson, J., M. Gorton, M. Raley, and A. Moxey (2004). "Treating Farms as Firms? The Evolution of Farm Business Support from Productionist to Entrepreneurial Models," *Environment and Planning C: Government and Policy* 22, 31–54.
- Say, J. B. (1803). "A Treatise on Political Economy, or the Production, Distribution and Consumption of Wealth," <http://socserv.mcmaster.ca/econ/ugcm/3ll3/say/treatise.pdf> (accessed March 19, 2006).
- Schumpeter, J. (1934). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*. Cambridge, MA: Harvard University Press.
- Scott, S., and S. Venkataraman (2000). "The Promise of Entrepreneurship as a Field of Research," *Academy of Management Review* 25(1), 217–226.
- Sharpley, R., and A. Vass (2006). "Tourism, Farming and Diversification: An Attitudinal Study," *Tourism Management* 27(5), 1040–1052.
- Shucksmith, M., and M. Winter (1990). "The Politics of Pluriactivity in Britain," *Journal of Rural Studies* 6, 429–435.
- Stevenson, H. H., and J. C. Jarillo (1990). "A Paradigm of Entrepreneurship: Entrepreneurial Management," *Strategic Management Journal* 11(1), 7–27.
- Timmons, J. A. (1999). *New Venture Creation; Entrepreneurship for the 21st Century*, 5th ed. Boston, MA: McGraw Hill.
- van der Ploeg, J. D. (2000). "Revitalizing Agriculture: Farming Economically as Starting Ground for Rural Development," *Sociologia Ruralis* 40, 497–511.
- Vik, J. (2005). "Trønderbonden. Typer og tilpasninger i trøndersk landbruk," Report No 5/05. Trondheim: Centre for Rural Research.
- , Ed. (2008). "Trender i Norsk landbruk: Frekvensrapport," Report No 13/08. Trondheim. Centre for Rural Research.
- Vik, J., and M. Farstad (2009). "Green Care Governance: Between Market, Policy and Intersecting Social Worlds," *Journal of Health Organization and Management* 23(5), 16–26.
- Ward, T. (2004). "Cognition, Creativity and Entrepreneurship," *Journal of Business Venturing* 19, 173–188.
- Wortman, M. S. (1987). "Entrepreneurship: An Integrating Typology and Evaluation of the Empirical Research in the Field," *Journal of Management* 13(2), 259–279.