REFEREED ARTICLE

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# Farmer characteristics associated with improved and high farm business performance

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**ABSTRACT**

Common Agricultural Policy reform, coupled with increasing market and climatic volatility will necessitate a competitive, resilient and environmentally sustainable UK agricultural industry reliant upon successful farm business management. Drawing upon in-depth semi-structured interviews with 24 'high' or 'improved' English farmers, results indicate that they typically hold agricultural qualifications, draw upon a range of information sources, recognise and draw upon farm-specific advantages, have low business debt, keep up to date with new industry developments and use a range of marketing channels. Additionally, these farmers seek to maximise profit within the context of farm and family objectives by focusing upon cost control, attention to detail, product quality and achieving high yields whilst primarily focusing upon enterprise margins; succession planning played an important role in decision making on some farms. Farmer decision making represents the outcome of responses to complex inter-linked issues; policy makers face the challenge of understanding this complexity and delivering policies that will generate multi-output objectives.

**KEYWORDS:** Business Performance; Farm Business; Objectives; Managerial Characteristics

## 1. Introduction

### Background

European agriculture faces numerous challenges. Reduced Common Agricultural Policy (CAP) support (ABC, 2012), increasingly volatile input and output prices (Heyder *et al.*, 2010) and extreme variations in weather patterns (Beniston *et al.*, 2007), combined with a demand for agriculture to contribute to climate change mitigation (Smith *et al.*, 2000), provide ecosystem services (Ma *et al.*, 2012) and food security (Godfray *et al.*, 2010), necessitate a competitive, resilient and environmentally sustainable agricultural industry. The large variation in farm physical and business performance flows from variation in farm systems, geographical situation and managerial actions and characteristics (Langton, 2011). Beyond changing farm system, adopting different managerial practices can enhance technical efficiency (Wilson *et al.*, 1998; 2001) and business performance (Defra, 2010) and potentially result in 'win-win' - 'profit-environment' scenarios which are of particular interest to policy makers (Foley *et al.*, 2005). Lower productivity growth in UK agriculture relative to EU competitors (Thirtle *et al.*, 2004) demonstrates the need for UK policy makers to understand drivers of agricultural performance within sustainable food production systems. However, the concept of 'performance', and the key drivers influencing performance, is subject to considerable debate within the literature, encompassing aspects of financial return, ecosystem services delivery, societal benefits and diversification activities.

### Metrics of Agricultural Performance and Financial Return

'Agricultural performance' has typically been assessed via efficiency, profitability and financial investment return metrics. Efficiency studies within a UK context include Dawson (1985), Wilson *et al.* (1998; 2001), Hadley (2006), Barnes (2008) and Barnes *et al.* (2009). These studies have frequently highlighted the variation in efficiency; explanations for this variation include managerial biographical factors (Wilson *et al.*, 1998), and managerial objectives, actions and behaviours (Wilson *et al.*, 2001; Wilson, 2011). Hadley (2006) and Barnes *et al.* (2011) identified that more efficient farms had lower debt ratios. Moreover, low levels of debt have also been associated with higher performance (Langton, 2011; 2012). Business performance metrics include accounting financial approaches (profit [e.g. £/farm]), economic return (net margins [e.g. £/farm, valuing all land on a rental basis and valuing unpaid labour]) and return on investments (return on assets (RoA) / return on equity (RoE) [e.g. £/£ of assets or equity]); hence understanding the basis of the metric chosen is of importance in business performance analysis. Langemeier (2011) utilised profit and growth metrics

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to categorise crop/beef farms in Kansas into four groups based upon their relative profit and growth metric ranking combinations. The Du Pont model (see Barnard and Boehlje, 2004) provides an approach which combines a range of profitability and business return metrics and has been demonstrated to provide key advantages over area based profit metrics (Shadbolt, 2012), facilitating comparability across farms irrespective of size (Gloy *et al*., 2002). Blank's (2005) analysis indicates that while a number of American farms and ranches have low profit, they accrue RoA and RoE rates of over 4%. Shadbolt's (2012) analysis demonstrates no difference in RoE and RoA between New Zealand dairy systems, albeit that significant differences exist across production or profit metrics per hectare by system type, indicating that per hectare metrics in this context were a less valid performance measure. Gloy *et al*. (2002) used RoA as the measure of performance in analysing New York Dairy farms, while Zhengfei and Lansink (2006) chose RoE as the financial performance metric for analysis of Dutch arable farms. However, the relevance and choice of the appropriate performance metrics fundamentally depends on the context of enquiry (Barnard and Boehlje, 2004). A primary interest in return to input use would indicate the need for economic accounting; policy interest in shorter term viability of agricultural incomes make profit metrics appropriate; strategic analysis would lend itself to investment return metrics.

### Farmer Attitudes and Behaviours

Defra (2011a) recommended that financial performance should be examined in conjunction with information on managerial objectives in order to provide holistic analyses of performance. Barnes *et al*. (2011) note the importance of farm attitudes, business actions and collaborative networks as drivers of performance. May *et al.* (2011) argue that the intensity with which farmers engage and interact with networking activities is of greatest importance in developing innovative capacity. Farmer segmentation analysis (see the seminal work of Gasson, 1973) explores the rationale and reasons behind managerial choices, placing farmers into particular behavioural groups (Garforth and Rehman, 2006; Dwyer *et al*. 2007; Defra, 2008; 2011b) with recent work analysing farm performance in association with segmentation groupings (Wilson *et al*., 2013). While financial return remains of importance to farmers (Robinson, 1991), segmentation analyses have identified that environmental, land and business stewardship play important roles in farmer decision making. Others have classified farms along a productivist to multifunctional spectrum (Wilson, 2008) albeit that Marsden and Sonnino (2008) argue that multifunctional activity should include financial business benefits. Langton (2012) concludes that demanding environmental schemes adversely affect agricultural efficiency, though can lead to positive impacts on the whole farm business. Differences in non-production practices can be linked to motivational differences (Schoon and Grotehhuis, 2000), but also policy and market drivers (Hodge, 2001; Morris and Winter, 1999). Siebert *et al.* (2006) note that while financial payments are often a necessary condition to engage farmers in the delivery of biodiversity goods, 'farmer attitudes', experience and social attitudes are also important. Burton (2004) additionally highlights the importance of understanding the farmer's identity. Burton *et al.* (2008) and Burton and Paragahawewa (2011) have argued that financial or economic signals do not change long-term attitudes and actions towards environmental activities, while Wilson and Hart (2002) criticise agri-environment scheme evaluations that do not account for the quality of the environmental good, nor how they contribute towards environmental thinking amongst farmers.

### Succession and Society

Other, non-production factors play a role in determining farm performance, including adaptation to new practices and business planning being linked to the presence or absence of a successor (Wheeler *et al*., 2012). Shucksmith and Ronningen (2011) argue that societal benefits of small farms in agricultural and rural communities should be considered as a feature of 'performance', rather than assessments being universally driven by efficiency and scale considerations. Sutherland and Burton (2011) similarly argue that the notion of 'good farmers' should be encompassed within the concept of the local and wider social outputs that farmers provide. Stock's (2007) examination of the concept of a 'good farmer' includes the role of identity on their motivations.

### Adaptation Strategies

Adaptation strategies, particularly with respect to family farm business survival, have been explored within the concept of 'farm adjustment strategy' (Evans, 2009) which is arguably predicated upon a form of farmer segmentation analysis (Marsden *et al*., 1986). Agricultural business adaptation has also included examination of farm-diversification projects, however, land tenure status has been identified in playing a role in determining diversification practices beyond contract / hire works services (Maye, *et al*., 2009).

### Summary and Objectives

Hence, whilst considerable research exploring aspects of farm or farmer performance has been undertaken, frequently studies have arguably been conducted within research 'silos' (Wilson, 2011). Securing a competitive and environmentally sustainable agricultural industry represents a key policy need, encompassing identification of actions and characteristics associated with high performing agricultural businesses. This paper seeks to identify drivers associated with different farm business performance groups drawing upon qualitative approaches within a defined quantitative setting. Section 2 presents the methodological approach followed whilst section 3 provides the case-study results and discusses these in the context of previous research. Section 5 provides concluding comments.

## 2. Methodology

Following previous research approaches (e.g. Brandth and Haugen, 2011), in-depth case study interviews were chosen as an appropriate methodological approach; farmers selected were drawn from the Farm Business

Survey (FBS) research programme for England. The previous section identified a range of issues with respect to classifying farm performance. In particular there is considerable debate on the appropriate financial-based metrics that can be utilised. Within this study, farm performance was defined in line with the contemporary analyses undertaken by UK farm business government policy analysts. Farm Business Income (FBI) represents the profit generated by a farm business, including direct costs and revenues incurred and accrued by the business, but excluding opportunity costs of owned land and the value of farmer labour. FBI includes the revenues and costs associated with agriculture, subsidies[2], agri-environment schemes and diversified activities. FBI represents a key policy metric of interest within the UK's Department for Environment, Food and Rural Affairs (Defra) providing a comparable metric of business performance to other business sectors. Data was obtained from the English FBS 2006/07 to 2010/11. In order to negate farm-size and farm type (e.g. broad land quality and systems) effects, FBI per hectare (FBI/ha) within farm type groups was used as an appropriate performance metric. Farm businesses were categorised as 'high' (consistently in the top third of the within farm type performance band) or 'improved' (showing an improvement in performance over the five year period) businesses within farm type groups for the purpose of case-study identification. Only farm businesses that co-operated in the FBS throughout the 2006/07 to 2010/11 period were considered, with analysis restricted to FBS farm businesses covered by the Rural Business Research (RBR) Units of Askham Bryan College and the universities of Nottingham and Reading[3]. Table 1 provides details of the 24 farm businesses sampled according to main farm type and performance group.

Each FBS co-operator invited to take part in the interviews was initially contacted by letter, prior to follow up contact via telephone to establish willingness (or otherwise) to take part. Following agreement to co-operate, a mutually convenient time between the co-operator and the Research Officer (RO) was established for an on-farm visit. A questionnaire format was used in the semi-structured in-depth interviews. To achieve consistency of interview approach the majority of the interviews were undertaken by three ROs in each unit and it was further stipulated that ROs should not interview farms with which they had 'prior knowledge' through their involvement in the FBS. Interviews took place during January and February 2012. The semi-structured format of the interview facilitated open discussion to fully understand the farm-level decision-making behaviour and actions. ROs recorded notes of discussion items during the interview producing comprehensive notes immediately post interview. The on-farm interview focused upon current and past performance, placed in the context of key management decision points (or more regular management decisions) that may explain farm and business performance and efficiency.

The following areas of discussion and data were explored in the interviews; specifically the interviews explored reasons, actions and outcomes with the respondent. Discussion topics and example questions are given [*in italics*]: farm location (*are there any inherent benefits to the location of the farm?*); farm size (*are there any inherent advantages or disadvantages to the farm?*); land quality (*what soil type is the majority of the farm?*); managerial inputs (*what do you do to keep up to date with policy and technical developments?*; *what is your approach to training and qualifications for both yourself and your staff?*); managerial actions (*do you use any benchmarking process? If so what and why?*); education level of co-operator (*highest education qualification, including subject details*); farming business structure (*are you the sole decision maker?; who else is involved?; describe the decision making process*); farmer objectives and goals and outlook for business future (*what are your key objectives, goals or aims in running the farm business?*); barriers and motivations for developing business (*what do you think the prospect are for your farm business and agriculture in general?*); succession planning and inheritance (*is there a clear succession plan for managing the business?*); marketing (*how do you market your various enterprises?*); farmer self-perception of segmentation category (Wilson *et al.* 2013) (Modern Family Business, Pragmatist, Custodians; Lifestyle Choice; Challenged Enterprise). The interviews lasted between one hour and two and a half hours. At the close of the interview a token gift was given to the participating farmer co-operator. In addition to the qualitative data, quantitative data were taken from the FBS record for the farm / farm business on the following areas: diversification activities [percentage revenue from different income streams]; age of co-operator [date of birth]; land tenure [percentage of land owned and tenanted]; farm size [utilised agricultural area (hectares)].

The qualitative data from the interviews were transcribed from detailed interview notes, including quotes from respondents, into a structured word document by the RO immediately following each interview. The structured recording form facilitated thematic analysis of the collated interviews which identified recurring themes and key words within individual sections of the semi-structured interview schedule.

## 3. Results and Discussion

In most case studies the respondent was interviewed as part of a farming couple, it being usual for both to contribute to the discussion; in some cases other family members were also present. Verbatim quotes from the respondent are shown below in italics with double inverted commas. Tabulated and numeric data are provided to accompany the qualitative results; however these data are not statistically validated hence readers should not make direct inferences from data presented but view them as facilitating the presentation of the qualitative material.

[2] Subsidies are dominated by the Single Farm Payment (SFP) which over the period of data examined was increasingly based upon the flat-rate area payment; hence examining performance on a per hectare basis largely negates the influence of the SFP on FBI/ha metrics as all farmers were in receipt of the SFP.

[3] These RBR Units undertake the FBS within the counties of Berkshire, Buckinghamshire, Cheshire, Derbyshire, Gloucestershire, Hampshire, Hereford, Isle of Wight, Kent, Lancashire, Leicestershire, Lincolnshire, Northamptonshire, Nottinghamshire, Oxfordshire, Rutland, Shropshire, Somerset, Staffordshire, Surrey, Sussex, Warwickshire, Wiltshire, Worcestershire and Yorkshire.

**Table 1:** Number of Farmers interviewed by Main Farm Type (MFT) and Performance Group

| Main Farm Type | High Performers | Improved Performers |
|---|---|---|
| Cereals | 2 | 3 |
| General Cropping | 2 | 2 |
| Dairy | 3 | 2 |
| Lowland Grazing | 3 | 2 |
| Less Favoured Area (LFA) Grazing | 2 | 3 |
| Total | 12 | 12 |

## Farmer Characteristics and Decision Making Processes

Twenty-two of the case-study respondents were second or third generation farmers, with only two being first generation farmers. Typically the current farm holding had been in the family for several generations. The oldest (youngest) respondent was 74 (35) years of age; the distribution of ages and length of time the respondent had been managing the farm are closely linked (Table 2). One quarter of respondents had obtained no qualifications since leaving school, but typically respondents had attended agricultural college and obtained either City and Guilds or diploma qualifications, with educational achievement being reflective of the ages of the respondent being interviewed. Previous analyses have not identified education as a significant determinant of efficiency (Wilson *et al*., 2001), albeit that age is partly indicative of educational level which Wilson *et al.* (1998; 2001) and Hadley's (2006) analyses identified as inversely related to efficiency. A higher proportion of older farmers were observed in the high performance group relative to the 'improvers' performance group; the influence of age or life-stage on managerial actions and performance has been previously cited as of behavioural importance and in self-segment categorisation (Dwyer *et al*., 2007; Plummer, 1974; Wilson *et al*., 2013), together with having relevance for policy makers (Moon and Cocklin, 2011).

Three of the 24 respondents could accurately be described as 'sole-decision makers'; however, most typical was the situation where the farming couple run the business together with decisions being made jointly, frequently via informal discussions occurring during the course of a normal working day. A key feature of the majority of the sample was that, regardless of whether they took advice or not, responsibility for decisions lay with the respondent or the farming couple. With respect to the advice sought, most respondents reported the importance of reading the farming press, with a proportion also mentioning use of electronic media to keep up-to-date with technical developments. These differences in preferred sources of advice reflect the variety of media of communication preferred by different farmer groups (Wilson *et al.*, 2000). Most arable respondents mentioned the key role of the agronomist, reinforcing Wilson *et al*.'s (2001) identification of 'information seekers' as more technically efficient wheat producers; livestock respondents were much less likely to use a regular visiting specialist. Respondents who attended discussion groups noted how vital and useful these are as a mechanism to keep up to date, whilst non-attendees were critical of such groups citing them as:

"*too long-winded*" [or] "*not of benefit to the business*"

Contrasting with these critical attitudes towards discussion groups, Barnes *et al*. (2011) reinforce the importance of information seeking and collaborative networks in determining performance. However, many respondents stated they would attend one-off meetings of a technical nature and open days were seen as a key way of keeping up-to-date with training especially with regards to health and safety and cross-compliance. The majority of respondents did not participate in crop or livestock competitions, frequently citing lack of time or lack of value to the business. These differences in attitudes towards networks and sources of advice are argued here to reflect differences in the intensity of engagement and interaction in networking (May *et al.*, 2011). Seventeen farmers reported that they used benchmarking, with the majority of this sub-group specifically referring to the FBS (from which they receive feedback as part of their co-operation). While the overall sample is argued to be more aware of benchmarking as a business management process because of their involvement in the FBS research programme, six respondents specifically emphasised the value of benchmarking services in addition to the FBS. These systems were generally enterprise specific such as those for vining peas or sugar beet or livestock data such as those provided by EBLEX[4]. Accepting the caveat that the respondents are more aware of benchmarking services because of their involvements in the FBS, use of these additional benchmarking facilities arguably reinforces previous findings with respect to the importance of benchmarking as a managerial process (Wilson, 2011; Langton, 2012). Business benchmarking also facilitates managers in identifying areas of success and need for improvement (Langton, 2012); Gloy *et al*. (2002) found that the use of external record keepers was positively correlated with farm performance.

Respondents with livestock were either fully committed to marketing deadweight or to the auction or used a mixture of both. Respondents with arable farms generally sold through merchants with some preferring contracts, others relying on the open market, with others noting the importance of selling to more than one merchant in order to take advantage of better prices and also to spread risk. However, some respondents sold some of their crops through a marketing group (such as potatoes; cereals) and the rest through merchants. Respondents from dairy farms all sold to wholesalers although one was hoping to sell to a local buyer who needed milk for a cheese contract. Respondents with a diversified activities used specific marketing channels to promote these enterprises, including internet and

[4] English Beef and Lamb Executive. Levy-funded board undertaking research and development activities alongside market intelligence functions. http://www.eblex.org.uk/

**Table 2:** Age Group, Managerial Experience, Qualifications, Tenancy Status, Farm Size and Key Advice against High and Improved Performance Classification

| | Category | High Performers | Improved Performance |
|---|---|---|---|
| Age Group | 71+ | 1 | - |
| | 61–70 | 4 | 2 |
| | 51–60 | 3 | 6 |
| | 41–50 | 3 | 2 |
| | <40 | 1 | 2 |
| Length of time (years) managing farm | >30 | 3 | 4 |
| | 20–29 | 8 | 2 |
| | 10–19 | 1 | 4 |
| | <10 | - | 2 |
| Qualifications | Nil | 4 | 2 |
| | City and Guilds | 1 | 4 |
| | NCA, HND | 5 | 5 |
| | Degree | 2 | 1 |
| Tenancy Status | Owner occupier | 4 | 3 |
| | Tenant | 3 | 5 |
| | Mixed tenure | 5 | 4 |
| Farm Size (ha) | <100 | 5 | 1 |
| | 101–200 | 5 | 4 |
| | 201–400 | 2 | 5 |
| | >401 | - | 2 |
| What key advice would you give? [*note that some respondents provided more than one key piece of advice*] | Control costs | 5 | 5 |
| | Pay attention to detail/focus on key things | 4 | 3 |
| | Be flexible/ open to change/ look for new opportunities/ react to change fast | 2 | 2 |
| | Look after cows and they will give you profit | 1 | 2 |
| | Get the right people around you | 1 | 1 |
| | Do not buy in livestock as it leaves you open to disease | - | 1 |
| | Develop a range of income streams | - | 1 |

doorstep magazine advertising, for example in farm-food retailing ventures.

## Farm Characteristics

There was a broadly equal distribution across the tenure types of farm businesses interviewed, with the sample being over-representative of tenant and mixed tenure farms (Table 2) in comparison to the overall FBS sample. Farms in the improved performance sample tended to be larger in size (average 239 ha) than those in the high performing band (135 ha), only partially explained by the LFA farms which were small in area for the high performers and much larger in area for the improvers. Whilst previous studies have observed a positive correlation between efficiency and farm size (Wilson *et al.*, 2001; Langton, 2012), others have identified that the best small farms achieve greater efficiency than a number of large farms (Langton, 2011). Most of the farms utilised family labour only, with only seven farms using paid labour, reflecting the farm types with dairy farms typically employing labour and low-land grazing or LFA farms typically not employing labour; one-half of the farms employed contractors or casual labour. Criticisms of previous efficiency and performance analyses include lack of data on the land and situational factors of the farm business (e.g. Wilson *et al.*, 1998). Respondents were therefore asked to consider whether their current farm holding provided any inherent advantages or disadvantages; nearly all answered in terms of soil types and rainfall with other factors such as proximity to markets and support services also cited.

## Farmer Objectives and Attitudes

Making profit was mentioned as a common objective. However, the majority of respondents qualified their answers with comments concerning family objectives or lifestyle, but the importance of profit remained:

"*make a profit – everything geared towards maximising profit and minimising risk*".

This finding with respect to the importance of objectives in determining performance concurs with Wilson *et al.*'s (2001) analysis of determinants of efficiency. Achieving profit within family objectives / lifestyle, risk minimisation, and focusing upon margins were equally noted as important drivers in other research (Robinson, 1991; Defra 2008; Wilson *et al.*, 2013). A number of respondents emphasised (product) *quality* and *margins* rather than profit *per se* as a key objective. Several livestock farmers recognised that the recent improvement in livestock prices had enabled them to achieve a better life/work balance. Indeed, the need for policy makers to understand financial drivers alongside wider attitudes, behaviours and actions has been well documented within non-productivist frameworks (Siebert, *et al.*, 2006; Burton, 2004; Defra, 2011a). Dairy farms typically emphasised objectives that were specific to their cows – e.g. improve efficiency, achieve better milk quality, improve the healthiness of the herd. Arable farmers were typically aiming for high margins

as distinct from high yields; monitoring input costs was critical to achieving this.

With respect to self-segmentation analysis (See Wilson *et al.* 2013) two-thirds of those interviewed regarded themselves as 'pragmatists'; one-quarter as 'custodians' and two farmers felt they fitted the category of 'modern family business'. Of the 24 respondents interviewed for this study, ten had previously been interviewed for the segmentation study (Wilson *et al.*, 2013); of these eight respondents classified in exactly the same way as their previous self-selection (during 2010), whilst one respondent self-classified as a 'Pragmatist' (previously a 'Lifestyle' choice), and one respondent self-classified as a 'Custodian' (previously a 'Pragmatist'). A number indicated that farming was:

"*a way of life*" [or they] "*could not think of another career*"

## Borrowings and Performance

The group of high performing farms was characterised by very low levels of borrowings, with only two farms having significant long term borrowings, both relating to land purchase, whilst the most common form of borrowing was the use of higher purchase (HP) facilities for machinery purchase. Incidence of borrowings was higher in the improvers group, where long term loans for land purchase and other major investment (e.g. wind turbines), HP for machinery, and bank overdraft facilities for general running costs typified borrowing activities. All the farmers appeared to have their borrowings well under control and were comfortable with the arrangements in hand for re-paying borrowings. Previous research in the UK has identified the link between debt and farm economic size (smaller farms holding lower debt) (e.g. Langton, 2011) and low debt correlated with technical efficiency (Hadley, 2006; Barnes *et al.*, 2011; Langton, 2012). Gloy *et al.*, (2002) found that the proportion of debt used by New York dairy farms was negatively linked to performance. However, within the Dutch arable sector, Zhenghei and Lansink (2006) identified that debt levels have no influence on financial returns, while long-term debt has a positive effect on productivity growth. Shadbolt (2012) found no link between ability to service debt and farm business performance in New Zealand dairying. The lack of clear causality in the debt-performance debate reflects the different uses of debt: more profitable businesses can service debt and will use these funds to expand, while less profitable businesses utilise debt as a necessity for business survival (Gloy *et al.*, 2002). Hence, both upside and downside impacts of debt are likely to be observed across any sample of farm businesses.

## Business Performance and Advice to Others

When asked to identify key aspects to their performance, responses such as 'improvement in prices' 'control of cost', or 'attention to detail' were frequently cited (Table 2); a typical response for the latter was:

*''there's so many little aspects to it you can't help improving if you put some effort in. The challenge is to maintain the attention to detail when you increase* [dairy cow] *numbers.''*

The majority (70%) of the respondents indicated that high yields (e.g. tonnes per hectare, litres per cow, lambs reared per ewe or calves produced per cow) were a key objective, in particular on livestock farms, and from improvers rather than high performers. All LFA farmers reported that high yields were a key focus, in particular where environmental schemes restricted the breeding stocking density of the farm. Attention to detail, linked to achieving higher yields and margins and controlling costs (e.g. application of appropriate and necessary crop protection) reinforces Barnes *et al.*'s (2009) potential for improved technical efficiency via input reductions. With respect to providing advice to others, responses largely related to controlling costs and paying attention to detail. Cost control has been previously cited as a key determinant of success (Barnes *et al.*, 2011). Some of the responses accompanying the advice are typified as follows:

*''Don't buy something if you can't afford it and don't take money out of the business if you can't afford it.''*

[Adopt a...] *''Can be bothered rather than cannot be bothered attitude''.*

## Future and Succession

With respect to plans for the scale of their business over the next five years, a clear difference emerged between the two groups; five respondents in the 'improvers' group indicated they were looking to expand the scale of their farm businesses, whilst none of the respondents in the high performing group noted this intention. This highlights a key feature of the two sub-groups of farms; the high performers group are in a 'steady state' business position, typically not investing heavily in new resources, whilst the 'improvers' group are more expansionary in outlook as equally identified via their business borrowing profile. A small number of the high performers were planning to retire completely. For those wishing to expand, the availability of land was seen as the major limiting factor, whilst tenancy issues, red tape, and planning regulations were also cited as constraints. At the time of the interviews, farming incomes had recently shown signs of improvement; consequently prospects for their own farm and for agriculture in general were typically upbeat and optimistic, with no difference identified between the high and improvers performance groups.

Approximately 25% of respondents in each group have a clear succession plan. Farms without a succession plan included: no family to succeed; family members did not want to pursue a career in farming; the family members were too young to consider putting a succession plan in place. However, succession was of real concern on some of these farms. Others noted the need to provide flexibility for the next generation, appreciating the need for potential changes to the business to accompany succession:

*''each generation sees things differently and opportunities are always changing''.*

The importance of other objectives in farm business decision making frequently includes family and lifestyle considerations (Wilson *et al.*, 2013), including succession (Wheeler *et al.*, 2012). Policy makers should therefore acknowledge the importance of life-stage analysis in policy implementation, whilst appreciating

the long-term view frequently held by farmers, including land stewardship, given the importance attached to succession and inter-generational objectives and attitudes (Burton, 2004).

## 4. Conclusion

Arguably, the UK and European policy environments in the second decade of the 21st Century differ considerably from those present at the turn of the millennium. Given the food shortages and accompanying price spikes of 2007 and 2008, the growing need for land to produce food, fuel and ecosystem services, combined with a growing world population, lead to a need for policy development and implementation that does not separate 'productivist' and 'non-productivist' outcomes, but provides a combination of the two that is increasingly being recognised as 'sustainable intensification'. Farmers will be directed to enhance production activities while reducing input use, lowering greenhouse gas emissions and providing biodiversity and landscape services all set against a changing climate. Successful farm businesses will rely upon technical, business and environmental information from a range of sources to achieve these requirements whilst also meeting their individual contemporaneous and future objectives. These represent grand policy challenges and ones that are potentially much more complex than observed in agricultural history to date. It is clear that financial drivers play a large role in farm-business decision making (Robinson 1991), but equally this is often only a necessary and not sufficient condition to determining multiple actions and outcomes (Siebert *et al*., 2006). Farmer self-identity (Burton, 2004; Stock, 2007), inter-generational objectives (Wheeler *et al*., 2012), education (Wilson, *et al*., 1998) and managerial ability and actions (Wilson, 2011) all inter-link leading to complex and individually well-founded decision making by farmers; the challenge for policy makers is how to understand and respond to these multi-objective drivers and communicate with farmers in order to generate multi-output objectives. In conclusion, whilst individual business managers can adapt their businesses in order to meet the challenges that lie ahead, both UK and EU policy makers should establish policy frameworks for meeting the food-energy-environmental sustainability outcomes that are cognisant of the complex issues involved in contemporary farm business management decision making.

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