5 FINANCIAL ASPECTS OF FARM DIVERSIFICATION

5.1 Applying the conceptual framework

5.1.1 As outlined in Chapter 3, the second stage of the study involved an interview survey of some 225 diversified farms in England, the work being carried out during July and August 2002. The sample was selected from postal survey respondents to provide a broadly representative cross-section of currently diversified businesses located on agricultural holdings of all sizes. The estimation of detailed financial information on output, costs and margins for the major types of diversified activity was one of the principal aims of the study[1]. This chapter presents the findings from this stage of the research, together with an estimation of the aggregate picture for the 'national farm'.

5.1.2 The approach taken was based closely on that used in the earlier study[2] which itself generally followed the format of the typical 'enterprise study', using well established procedures to investigate economic aspects of a sub-component of a farm business. Of course, as identified in Chapter 4, the concept of farm diversification encompasses a very wide range of economic activity, with great variability (even within 'types') in its nature and scale. Consequently, it was not intended to undertake the exact equivalent of the production studies typical of DEFRA's CWP, which would have required a far larger sample and much greater resources.

5.1.3 For this study of diversified enterprises only summary physical and financial data were collected. This covered the output of the enterprise, details of the inputs specifically attributable to the enterprise including both direct and indirect materials costs, and the estimated share of all other resources used by the enterprise. These included general overheads, labour (paid and unpaid family labour), machinery, buildings and rental charge (including an imputed 'rental value' on owned land and buildings). The method thus allows for the costing of *all* resources used in the enterprise, form which various indicators of margin and income can be computed.

5.1.4 This report focusses on two such indicators: *net profit,* a measure of trading performance broadly consistent with that used in conventional accounting, and *net margin*, which is as pure an estimate as possible of the residual return to the entrepreneur's management skills and capital resources committed. Definitions of the terminology used are consistent with established national practice.

5.1.5 This accounting method is as applicable in the study of 'diversified' enterprises as in those of conventional farm production. The principal problem, as already discussed, is that in many cases the functional definition of what constitutes the diversified enterprise may be governed largely by the extent to which it is possible to differentiate the separate output components of a venture which is operated as an

[1] Definitions of terms used and survey methodology are consistent with current practice in DEFRA's Commissioned Work Programme in Agricultural Economics.
[2] Published as *Patterns, Performance and Prospects in Farm Diversification,* report no 236, Agricultural Economics Unit, University of Exeter, 1991.

integrated operation[3]. By their very nature diversified enterprises often require linked processing and/or marketing activities, since without them the process of production, or the provision of a service, would be of little use.

5.1.6 This is particularly evident where the diversified activity is in some sense novel or unusual and associated, therefore, with the need to create or develop both a market and marketing channels. In these circumstances it follows that the diversified enterprise typically involves rather more 'downstream' activity than might a typical agricultural enterprise based on the production of a standard commodity for which well established demand, and marketing channels, already exist. The analyses which follow are based on the eight enterprise groupings that are both conceptually distinct and can also be distinguished in the data collected, as set out in Chapter 4:

- Agricultural services;
- Trading enterprises;
- Accommodation and catering;
- Equine enterprises;
- Recreation and leisure services;
- Unconventional crop or crop-based processing;
- Unconventional livestock or livestock-based processing;
- Miscellaneous services.

5.1.7 The detailed financial results in this chapter relate to a sample of 421 diversified enterprises on 225 holdings. Because of the method of data collection (by extended personal interview and using carefully structured recording forms) and the experienced and carefully briefed interviewers, it is considered that the information recorded is reliable and accurate. This claim is undoubtedly justified in relation to the *direct* costs of the enterprises studied. Inevitably, however, as with all such studies of sub-components of a larger business, there were inevitably some difficulties in estimating the appropriate share of *joint* (overhead) costs that should be allocated to the enterprise in question. Such problems were most evident in the case of activities developed as an integral part of the farming business (such as machinery contracting) and those which, in both the minds and the accounts of the farmers concerned, are hardly considered as a 'diversified' enterprise as such.

5.2 The analytical approach

5.2.1 Full details of the approach to sampling are set out in Chapter 3, and it is sufficient here to summarise the main principles. The samples were drawn at random from the 1716 postal survey responses on which the presence of some form of diversified activity on the farm concerned was indicated. No attempt has been made to verify the absence of diversified activities on the balance of the postal responses, nor has there been any attempt to test the incidence of diversification on non-responding holdings. However, the fact that 225 of the postal respondents were

[3] This may be true also of conventional agricultural enterprises, of course. Cattle production often consists of several conceptually distinct operations including breeding, rearing and fattening, for example, although in practice it may be difficult always to cost each component separately. If such an enterprise has been diversified into direct sales, for at least part of its production, this is likely to include processing and retailing operations also.

visited provided an opportunity at least to check on the quality of the postal survey information relating to the farms concerned, and later in this section the performance of the postal questionnaire is reviewed.

Weighting the interview results

5.2.2 Although the original postal survey was stratified on the basis of business size[4], the sample was only lightly adjusted through the use of a lower sampling fraction for 'very small' holdings – that is, those with a recorded business size of less than 8 ESU and which are officially regarded as being too small to provide employment for one person on a full-time basis. This category of agricultural holdings account for nearly half of the total population, but clearly have the potential to act as the base for one or more diversified enterprises. While it was important not to exclude this group from the survey frame, it was also important to carry out an efficient survey of the remainder of the population, thus the differential sampling fractions between the 'part-time' and –full-time holdings.

5.2.3 This (designed) imbalance was amplified by the positive correlation between farm business size and response rate to the postal survey[5], with the result that there was a significant difference between the weighted and unweighted estimates of the incidence of diversified holdings by business size class (Table 5.1). Inevitably further distortions arose through differential responses (by farm size) in the recruitment rate to the interview survey. In order to correct for this a simple set of weights have been applied so that the results from the interview survey properly reflect the distribution by business size for the population as a whole. It should be noted that, unless otherwise stated, these weights have been applied to all the results presented in this chapter.

Table 5.1 Derivation of weighting fractions for the interview survey results

Business size	Weighted postal sample	Unweighted postal sample	Unweighted interview sample	Implied weights
	Percentage of diversified holdings			
Very small	33.4	16.6	13.8	2.4
Small	29.0	33.7	26.2	1.1
Medium	21.2	27.0	28.9	0.7
Large	10.7	14.5	21.3	0.5
Very large	5.7	8.2	9.8	0.6

5.2.4 It should be understood that one further issue in the weighting of these survey data arises because of the lack of fully comprehensive information on the effective business structure of agricultural holdings. Put simply, it is known that business size estimated from agricultural census data is, in some cases, significantly adrift from the true size of the business located on that holding, because not infrequently the *farm*

[4] As the earlier discussion makes clear, in this context business size can only be understood in relation to the holding concerned, though subject to the disclosure of other associated holdings farmed as part of the same business. In this sense, this study is no worse placed than many other studies of the agricultural sector.

[5] For further information on this and related issues see Chapter 3.

business comprises more than one agricultural holding. Some of the effects of these differences are discussed more fully below. It is understood that DEFRA are currently working on the production of a 'business register' which will go a long way towards improving this situation but in the present study, without a comprehensive database of farm businesses, this simple weighting is the best that can be done.

Postal survey and interview survey responses compared

5.2.5 As noted above, a by-product of conducting the interview survey on a sample of the postal survey respondents is the opportunity to test the robustness of the data collected through the postal questionnaire. Given the difficulty of arriving at any commonly accepted definition of a 'diversified' activity it is perhaps not surprising that the a respondent's understanding of the study definition of diversification was not always quite in tune even with the particular definition actually used.

5.2.6 In particular, there are two definitional 'grey' areas which may have resulted in some mis-recording of the incidence of diversification, given that those completing the questionnaire did not have the advantage of a detailed briefing on definitions. The first concerns activities which are regarded for the purposes of this study as part of the normal, or conventional, farming business; and the second those activities which by nature of their scale are better regarded as hobbies rather than business enterprises. Table 5.2 summarises, for the 225 interview respondents, the degree of correlation between their postal survey responses and those subsequently identified through the interview survey.

Table 5.2 Differences in the incidence of diversification *activities* when the postal results were verified during interview (unweighted count)

	Number of diversified activities
Recorded in both postal and interview findings	455
Recorded in postal but not interview	194
Recorded in interview but not postal	59
Recorded in interview but not defined in postal	4
Total number recorded in postal survey	649
Total number recorded in interview survey	518
Percentage difference	*-20%*

5.2.7 On the evidence of this analysis, it appears that there could have been a degree of over-recording in the postal survey since, overall, the total number of activities recorded at interview was some twenty per cent lower than the total reported in the postal survey. The principal cause of this difference between the two surveys, however, is related to *definition*. With some relatively minor exceptions which are discussed in paragraph 5.2.9 below, it appears that the postal questionnaire performed as well as could have been expected[6] and that, in general, respondents understood the purpose of the survey and accurately filled in all relevant activities with which they

[6] Given the problem of defining diversification in any universally accepted way (see also the discussion on this in Chapter 2).

were involved[7]. However, the function of the interview survey was to identify the economic role of diversification as a business activity, and survey staff were instructed to focus on those activities which made a measurable contribution to the viability of the farm businesses concerned. Thus the main cause of difference appears to have been a difference of focus: the postal survey records the overall incidence of diversification, while the interview survey records only those activities which are part of economically significant enterprises.

5.2.8 The scale of the difference between postal and interview survey varied considerably across the grouped enterprises, from virtually none to nearly forty percent (Table 5.3). It will be seen that the postal survey incidence of *activities* under the 'agricultural services', 'accommodation and catering' and 'equine enterprises' enterprise groups were very closely correlated with the interview findings[8]. For other enterprise groups, however, there appears to have been a considerable degree of over-recording in the postal survey, this being particularly marked for the 'recreation and leisure', 'unconventional crops and crop-based processing', 'unconventional livestock and livestock processing' and 'miscellaneous services' groups.

Table 5.3 Differences in the incidence of diversification *activities* when the postal results were verified during interview, by enterprise group (unweighted count)

Diversified enterprise group	Total number of diversified *activities* (postal)	Total number of diversified *activities* (interview)	*Percentage difference*
Agricultural services	103	102	*-1*
Trading enterprises	107	85	*-21*
Accommodation and catering	97	96	*-1*
Equine enterprises	46	41	*-11*
Recreation and leisure services	69	42	*-39*
Unconv. crops and crop-based processing	49	31	*-37*
Unconv. livestock and l'stock processing	50	33	*-34*
Miscellaneous services	128	84	*-34*
Not defined in postal survey		4	
Total numbers of activities	649	518	*-20*

5.2.9 In practice, it was found that there were a small number of activities which tended to be the principal causes of these recording problems, almost always linked to a very obvious definitional dissonance between the respondent's understanding of diversification and that used in the survey. For example 'shooting' was widely recorded under 'recreation and leisure', irrespective of whether it was a truly market-oriented activity; and under 'trading enterprises', the distinction between hay and

[7] Only one instance of a clear error in the postal survey was found during the course of the interview survey of 225 farms.
[8] While the detailed financial results identify five separate activities, for comparability with the postal survey this count is based on the aggregate number.

straw sales as a conventional component of normal farming activity on the one hand, and its classification as a diversified activity on the other, is clearly very difficult to convey under postal survey conditions[9]. The numbers of both 'unconventional crops etc' and 'unconventional livestock etc' appear to have been reduced on interview because of their scale (many such activities, it appears, are of little more than hobby interest, at least at present). With 'equine enterprises' there is sometimes a problem of identifying a sufficiently commercial focus, while 'miscellaneous services', by their nature, often involve a series of activities which, at interview, were consolidated.

5.2.10 The main focus of this chapter is enterprises rather than activities, and it was to be expected that there would be some differences between the theoretical number of enterprises (based on the postal survey findings) and the actual outturn (based on the way in which activities were grouped into 'enterprises' by the interview respondents)[10]. These differences arise for several different reasons: the under and over reporting of activities noted above; a degree of re-classification that has been carried out on the basis of supplementary information supplied; and from the way in which the activities have been grouped.

5.2.11 Table 5.4 shows the theoretical number of enterprises expected on the basis of information from (a) the postal survey, and (b) the interview survey; and also how these numbers compare with (c) the actual number of enterprises identified in the interview survey and (d) the adjusted '1:1' basis for these financial results. The total number of enterprises recorded at interview was just eleven per cent fewer than the theoretical expectation based on the postal questionnaire records of activities (418 compared with an expectation of 468). However, the actual numbers established at interview were even closer (445 v 468). Given the adjustments in the numbers of commercial scale activities discussed above, this may be regarded as providing clear evidence of the robustness of the postal survey data.

Table 5.4 Numbers of diversified enterprises: postal survey *vs* interview survey, by enterprise group (unweighted)

	Theoretical		Interview	
	Postal	Interview	Actual	1:1[a]
Agricultural services	86	85	94	85
Trading enterprises	70	65	64	57
Accommodation and catering	74	76	87	76
Equine enterprises	38	36	35	35
Recreation and leisure	50	35	38	35
Unconv. crops etc.	39	28	30	27
Unconv. livestock etc.	31	23	23	22
Miscellaneous services	80	70	74	58
All enterprises	468	418	445	395

[a] Excludes enterprises cited more than once on the same farm

[9] Even the term 'diversification' causes some confusion. It has a much older, more general use in farming (than its more recent, narrower definition relating to non-agricultural activity) to denote a broader mix of a*gricultural* enterprises, and this meaning of the term is still in use by some.
[10] For a discussion of the distinction drawn between 'activities' and 'enterprises' see Chapter 3.

5.2.12 One further point about the numbers of enterprises needs to be made[11]. The interview survey identified 445 diversified enterprises on 225 farms, of which detailed financial records are available for 421. However, in order to maintain comparability with the postal survey where second (and, occasionally, third) enterprises *of the same group* occur on the same farm, these have been amalgamated. The final column in Table 5.4, labelled '1:1', gives the number of amalgamated enterprises used in the following analyses. Clearly, whether or not a holiday cottage and a B&B on the same farm are considered part of the same enterprise, for example, is probably somewhat arbitrary and largely dependent on individual circumstances. Therefore, to maintain comparability with the postal survey, the interview data on enterprises is weighted to produce these '1:1' figures[12].

5.2.13 As noted above, although the interview survey recorded 445 enterprises interviewees were not in all cases able to provide sufficiently robust or comprehensive financial information for a full 'costing' to be completed, and the financial summaries are based on 421 enterprises for which full information was available. Where the financial performance of these enterprises was adversely affected by the FMD epidemic during 2001, the estimated 'normal' position has been recorded so that the survey estimates provide an updated benchmark of farm diversification at the beginning of the new decade. However, the estimate of the contribution of diversification to aggregate agricultural income during 2001 is based on the actual position, and is thus fully comparable with the agricultural account. Table 5.5 summaries the numbers of enterprises on which the financial estimates are based, adjusted to the '1:1' basis.

Table 5.5 Numbers of diversified enterprises used in the financial analyses, by enterprise group

	Unweighted '1:1'
Agricultural services	83
Trading enterprises	53
Accommodation and catering	74
Equine enterprises	32
Recreation and leisure	34
Unconventional crops and crop-based processing	27
Unconventional livestock and l'stock-based processing	19
Miscellaneous services	55
	376

[11] A complex exercise was undertaken to reconcile postal responses with interview responses. A two stage comparison was done, the first isolating the effect of grouping activities from different headings into the enterprise and the second isolating the effect of considering activities within the same enterprise group as separate enterprises. The overall shrinkage from theoretical to the '1:1' position of only six percent bears out the method of grouping applied in the postal survey analysis and allows the findings of the interview survey to be applied to those of the postal survey with reasonable confidence once the degree of over-recording has been taken into account. Perhaps not surprisingly the activities grouped together as 'miscellaneous services' were most likely to be recorded as separate enterprises where more than one activity occurred on the same farm.

[12] For example the average output for an 'agricultural services' enterprise would be the sum of all 94 individual enterprises recorded but divided by 85, the '1:1' total.

The impact of the multiple holdings problem

5.2.14 Of necessity the analysis of the postal survey data made extensive use of the census data relating to the sampled *holdings*. It was noted, however, that the information provided in the questionnaires related to farm *businesses* which might , and indeed do, comprise more than one holding. The interview survey gave an opportunity to quantify the level of multiple holdings and consider any implications for the interpretation of the survey findings and Table 5.6 summarises the findings.

Table 5.6 The incidence of multiple holdings in the sample, by business size (unweighted)

		Very small	Small	Medium	Large	Very large
Single holdings	Number	28	46	55	36	14
	Average. area farmed - census	11	55	111	186	455
	Average. area farmed - interview	18	59	116	188	457
Multiple holdings	Number	3	13	10	12	8
	% of total in size group	10%	22%	15%	25%	36%
	Average. no. of extra holdings	4.0	1.5	1.9	2.5	1.9
	Average. area farmed - census	11	48	118	173	642
	Average. area farmed - interview	597	78	425	209	1139

5.2.15 Out of the 225 farms interviewed 46, or 20 percent, were found to incorporate more than one holding. As a result, the number of holdings covered by the interview survey was actually 321, that is over 40 percent more than the number of farms. The area farmed by these businesses was a third greater than the farmed area of the sampled holdings recorded in the census (Table 5.6). Clearly the numbers involved in the survey are far to small to make any inferences about the population of holdings. The purpose of the table is rather to give an indication of the possible influence these multiple holdings may have on the survey results. The dramatic change in average farmed area for the 'very small' multiples is due to one holding forming part of a very extensive business with an unusually large number of holdings. This is very much the exception, however, since in most cases the area farmed by the business could conceivably have been farmed by a single holding business in the same size group.

5.2.16 It is not possible to reclassify holdings by business size, but some assessment of the likely impact of 'multiples' on the survey results has been made. One certainty is that the eight 'very large' farms that were multiples would of course remain classified as very large. Of the remaining 38 only 9 by virtue of the increase in farm area alone are almost certainly in the wrong size band. This leads to the conclusion that between four and seventeen per cent of the farm businesses in the interview

sample might not fall into the same ESU size bands as the holdings on which they were selected.

Further classification issues: farm type and tenure

5.2.17 The interview survey collected information which permitted a re-classification of holdings (that is, businesses) by farm type and tenure, based on current information for 2002. Although the most obvious scenario for a change in farm type between the Census information and the interview survey was where there are additional holdings which form part of the same business, these in fact accounted for only eleven of the forty-two cases. There was no overall pattern to these differences. The most frequent causes for change were re-classification from 'cereals' to 'general cropping', and from each of these types to 'mixed'. These changes in classification may have resulted from actual changes in cropping and/or livestock in the two years between the 2000 Census and the interviews.

5.2.18 The question of whether or not to switch to the 'true' farm types for the analyses of interview survey data, rather than remain with those taken from the Census, was considered carefully. On balance it was judged that maintaining comparability with the postal survey analyses – where there is no possibility of re-classifying - took precedence and so the farm types allocated from the Census have been used throughout. A very similar situation exists with tenure, where about a fifth of the farms fell into a tenure grouping different to that indicated by the Census data for the sampled holding. Again it was felt that analysis based on the Census information was preferable for present purposes.

A review of the options for disaggregated results

5.2.19 Although the sample size of 225 interviews was judged sufficient to fulfil the research brief, the resulting dataset is far too small to undertake the level of disaggregation possible with the postal survey data. Indeed, no secondary disaggregation (for example, farm type by ESU size) is possible because of sample numbers. Even disaggregating by a single variable could lead to cell sizes too small to produce results of statistical significance. Table 5.7 sets out the actual numbers in the dataset by business (ESU) size, tenure, robust farm type and Government Office region.

Table 5.7 Interview sample by business size, tenure, robust farm type and Government Office region

	Unweighted count		Unweighted count
ESU size		**Tenure**	
Very small	31	Wholly owned	104
Small	59	Mainly owned	63
Medium	65	Mainly tenanted	20
Large	48	Wholly tenanted	38
Very large	22		
Robust farm type		**GO region**	
Cereals	57	North East	12
General cropping	35	North West	42
Horticulture	5	Yorkshire & Humber	27
Pigs & poultry	9	East Midlands	21
Dairy	38	West Midlands	19
Cattle & sheep (LFA)	23	East of England	33
Cattle & sheep (Low)	20	South East	30
Mixed	26	South West	41
Other types	12		

5.3 Output, costs and margins

5.3.1 The interview survey established the outputs costs and margins for 421 diversified enterprises across England, using an established methodology and to standards consistent with other studies of mainstream agricultural production[13]. The detailed financial results for each of the eight defined enterprise types are presented in Appendix B; the discussion here reviews and discusses the main findings relating to the values of enterprise outputs, costs, net profits and net incomes from farm diversification.

Enterprise output

5.3.2 The first indicator of scale in the diversified enterprises studied is *enterprise output*[14], which itself reflects not only the amount of resources committed but also its potential for generating profits. Table 5.8 summarises the levels and distribution of output by type of enterprise. The study finding is that the average value of output from commercial-scale diversified enterprises on farms in England currently stands at £25,500, with a range by type of enterprise of between £8,836 (equine enterprises) and £38,251 (agricultural services).

5.3.3 In fact the overall mean is clearly influenced by the scale of 'agricultural services', for which the average output is 1.5 times larger. This category is dominated

[13] General procedures, definitions and methodology were consistent with those used in DEFRA's Commissioned Work Programme of agricultural economic research.
[14] In the present study *enterprise output* includes revenues adjusted for valuation or stock changes, together with full allowance for the value of any internal (within business) transfers.

by agricultural contracting, which ranges in scale from relatively small (often started as a convenient means of 'spreading' the overhead costs of regular labour and machinery) through to substantial business enterprises which in some cases dominate the original farm business. Two other types of enterprise recorded an average output significantly above the overall mean of £25,500, namely 'unconventional crops and crop-based processing' (£34,931) and 'trading enterprises' (£30,608). 'Equine enterprises' were by far the smallest in terms of turnover, at £8,836.

5.3.4 The overall mean enterprise output of £25,500 may be considered both in the context of the pattern of distribution of diversified enterprises by scale, and in relation to the level of production of mainstream agricultural products. Many of the sample holdings are, in agricultural terms, too small to provide a living for one person and this aspect of the pattern of diversification is considered below. However, in looking first at the distribution around the mean it will be seen that it is skewed strongly to the left.

5.3.5 Overall, more than four out of five diversified enterprises have an output below the mean, and this general characteristic is evident for all types of diversification. Most have between 75 and 84 per cent of the recorded observations falling in output classes below their respective mean value though for 'equine enterprises', the smallest group in terms of scale of output, the figure is 66 per cent. The general skewness of the output distributions demonstrates how the relatively few large scale operations in each enterprise type tend to dominate the picture compared to the numerically much more important smaller scale enterprises. This lends support to a widely held view that on many farms non-farming ventures fulfill a supporting rather than a dominant role, but the figures can also be read as indicating the stage of development of farm diversification. These aspects are explored thoroughly later in the report.

Table 5.8 Average values and distribution of enterprise outputs, by type of diversified enterprise

		Per cent of diversified enterprises with enterprise output level[1]					
Enterprise type	Enterprise output	£1-£1,000	£1,001-£2,500	£2,501-£10,000	£10,001-£25,000	£25,001-£100,000	£100,001 and over
Agricultural services	£38,251	6.8	5.9	38.7	20.3	19.7	8.5
Trading enterprises	£30,608	32.0	16.4	25.8	8.4	7.6	9.9
Accommodation and catering	£16,434	10.9	4.2	53.6	20.5	8.9	2.0
Equine enterprises	£8,836	7.0	18.8	47.5	20.7	6.1	0
Recreation and leisure	£20,583	20.6	25.6	22.2	21.8	6.2	3.6
Unconventional crops etc	£34,931	26.3	16.1	21.2	16.9	8.9	10.5
Unconventional livestock etc	£21,394	25.6	22.8	24.8	7.1	15.5	4.1
Miscellaneous services	£22,950	20.2	8.9	38.6	16.0	7.5	8.8
All enterprises	£25,500	17.4	12.2	36.6	16.7	10.7	6.3

[1]To nearest whole percentage point, may not total to 100.

5.3.6 It might be expected that these average data conceal very substantial underlying differences. One aspect of the incidence and pattern of farm diversification of interest is whether there is any general relationship between the size of diversified farm businesses (in agricultural terms) and the scale of their diversified enterprises and a number of alternative hypotheses can be suggested. It could be argued, for example, that the smaller the farm business the greater the need, or the more direct the incentive, to expand through developing a diversified enterprise, in order to generate sufficient profit to provide a living. Alternatively, it could be that larger farm businesses, with a more substantial resource base upon which to build additional enterprises, are better placed to establish and expend a new diversified enterprise. Thus either an inverse or a direct correlation between holding size and the level of diversified output might be found. Table 5.9 sets out an initial examination of relevance here.

Table 5.9 Diversified enterprise output, by farm business size

	Average enterprise output		
	£ per enterprise	£ per farm	Number of enterprises per farm*
Very small	17,653	35,660	1.7
Small	19,320	30,152	1.6
Medium	19,170	40,780	2.1
Large	28,397	54,661	2.0
Very large	98,537	233,905	2.5
All enterprises	25,500	48,481	1.8

*It should be noted that these results are based on the interview sample and differ slightly from the findings of the much larger postal survey sample reported in Table 4.19.

5.3.7 Several interesting points emerge from these data. First, there is a general tendency for larger diversified enterprises to be located on larger agricultural holdings, although the difference in average size (in terms of the value of enterprise output) is not large as between 'very small', 'small' and 'medium' farms. Secondly, there is also a tendency for larger holdings to have a greater number of diversified enterprises, with 'medium', 'large' and 'very large' holdings all recording more enterprises than the overall average. Thirdly, these survey findings suggest there is a very considerable degree of concentration of farm diversification on 'very large' holdings, which recorded a mean output level per enterprise of nearly four times the overall mean, and with an average of 2.5 enterprises per farm compared with 1.8.

5.3.8 Further useful analyses of the pattern of diversification have been made and Tables 5.10 and 5.11 present the results based on farming type and region, respectively. It will be seen that horticultural holdings have the smallest diversified enterprises, in output terms, closely followed by farms within the Less Favoured Areas. Both 'lowland cattle and sheep' and 'dairy' farms also recorded levels of output from diversification which were well below average. At the other end of the spectrum 'pigs and poultry' farms had a very large scale of diversification, with an average enterprise size some 2.7 times larger than the overall mean.

Table 5.10 Diversified enterprise output, by farm type

Robust farm type	Average enterprise output		
	£ per enterprise	£ per farm	Number of enterprises per farm*
Cereals	30,270	77,188	2.2
General cropping	23,963	46,468	2.0
Horticulture	5,593	10,728	1.9
Pigs and poultry	69,470	112,562	1.8
Dairy	15,916	25,363	1.6
Cattle and sheep (LFA)	9,489	11,528	1.3
Cattle and sheep (lowland)	13,032	26,254	2.0
Mixed	28,802	45,232	1.6
Other types	30,580	55,817	1.8
All holdings	25,500	48,481	1.8

*It should be noted that these results are based on the interview sample and differ slightly from the findings of the much larger postal survey sample reported in Table 4.20.

Table 5.11 Diversified enterprise output, by GO region

GO region	Average enterprise output		
	£ per enterprise	£ per farm	Number of enterprises per farm*
North East	18,631	26,533	1.5
North West	19,880	31,546	1.6
Yorkshire and Humber	27,915	52,201	1.8
East Midlands	7,554	15,472	2.1
West Midlands	6,899	15,827	2.0
East of England	27,672	62,799	1.9
South East	35,420	78,471	2.0
South West	41,316	72,715	1.9
All holdings	25,500	48,481	1.8

*It should be noted that these results are based on the interview sample and differ slightly from the findings of the much larger postal survey sample reported in Table 4.22.

5.3.9 Again, some interesting differences in the typical scale of diversified enterprises emerge on a regional level. Both of the Midlands regions, both East and West, have the smallest enterprises but record rather more enterprises per farm than average. The South West recorded the largest average scale of diversified enterprises, followed by the South East, and both regions recorded slightly above the overall mean in terms of the number of enterprises per farm.

Enterprise operating costs and net profits

5.3.10 In this section the analysis focusses on the profitability of the diversified enterprises, taking into account the cost of resources consumed in the production process to the level of *net profit*[15]. At this stage, only those costs which are related, directly or indirectly, to actual payments by the business are included and in this the indicator of profitability – net profit - is synonymous with trading and profit and loss accounts prepared for taxation purposes. As such, it is likely that this most closely corresponds with the operator's perception of financial return, at least where some form of separate accounting is undertaken. Irrespective of the nature of the diversified enterprise such expenditures can be considered to be of two broad types: *direct costs*, principally materials, which are both specific to the enterprise and proportional to its scale; and *overhead costs*, which include indirect costs, labour, machinery and general overheads, many of which may be shared with other enterprises within the business.

5.3.11 Table 5.12 sets out the enterprise output, operating costs and net profit for each of the diversified enterprises and in total. The sample mean value for retained profits – net profit as a percentage of enterprise output – is 27.8 per cent, giving an overall net profit of £9,474 per enterprise. Of average operating costs of £16,026, direct costs represented about 43 per cent and overhead costs 57 per cent.

5.3.12 As would be expected, the average level of expenses incurred and the net profit earned varies according to the type of diversified enterprise considered - though neither are as highly variable as the level of enterprise output (Table 5.12). It is clear that 'agricultural services' not only have the highest level of output but also achieve the second highest average net profit at £12,505, although the net profit percentage for this group ranks only sixth. Those mixed enterprises in the 'miscellaneous' category, although recording slightly below the average level of output, in fact generate the highest profits by virtue of having relatively low levels of operating costs, so that net profits are almost 55 per cent of enterprise output. The typical agricultural services, manufacture and stock-based enterprises all generate average net profit levels in the region of £5-6,000. The proportion of output retained as profit varies widely between 18.4 and 64 per cent, all but two groups scoring above the overall mean on this factor.

[15] *Net profit* is the surplus before interest charges generated by the business and represents the amount available for (a) personal consumption (including taxation) by the owners of the business and (b) re-investment.

Table 5.12 Average enterprise output, operating costs and net profit, by type of diversified enterprise

Enterprise type	Enterprise output	Operating costs			Net profit	Net profit as % of output
		Direct	Overhead	Total		
	£ per enterprise					
Agricultural services	38,251	8,383	17,363	25,746	12,505	32.7
Trading enterprises	30,608	16,087	8,904	24,991	5,617	18.4
Accommodation and catering	16,434	2,118	4,141	6,259	10,175	61.9
Equine enterprises	8,836	1,028	2,155	3,183	5,653	64.0
Recreation and leisure	20,583	2,587	9,113	11,700	8,883	43.2
Unconventional crops etc	34,931	16,290	11,849	28,139	6,792	19.4
Unconventional livestock etc	21,394	3,833	8,120	11,953	9,441	44.1
Miscellaneous services	22,950	3,422	6,982	10,404	12,546	54.7
All enterprises	25,500	6,949	9,077	16,026	9,474	27.8

5.3.13 Given the very obvious range in the sizes of diversified enterprises discussed above, a number of important features about farm diversification have been identified. This summary of the cost and profit structures of farm diversification highlights those which are important in understanding the nature of this form of farm business activity:

- On average, direct costs represent about 43 per cent of total operating costs, and overhead costs 57 per cent;
- However, cost structures vary widely by type of enterprise, with overhead costs accounting for between 36 and 78 per cent ('trading' and 'recreation and leisure' respectively) of total operating costs;
- The average diversified enterprise brings in a net profit per farm of £9,474, with a range by type of enterprise of between £5,617 ('trading enterprises') and £12,546 ('miscellaneous services');
- For all diversified enterprises, the average net profit margin is 27.8 per cent;
- Profit margins also vary widely by type of enterprise: they are lowest for 'trading enterprises' (at 18.4 per cent) and highest for 'equine enterprises' (at 64 per cent);
- Variability from the overall mean by enterprise type is greatest for total operating costs, particularly direct costs, and least for net profits, with variability in output levels somewhere in between.

5.3.14 Based on these findings some broad categorisation of the various forms of diversified enterprise has been attempted (Table 5.13). The one type of diversification which can be classed as high output, 'agricultural services', scores poorly in terms of *net profit ratio*, at least in terms of its relative ranking under this factor. Conversely, the two low output categories, 'equine enterprises' and 'accommodation and catering', also have the two highest net profit ratios. Although this categorisation is based on the *size* of the typical enterprise, it suggests also the importance to the business of the proportion of diversified output retained as net profit and it is clear that if this were to be used as a selection criterion there are substantial differences between enterprise types.

Table 5.13 Categorising diversified enterprises by level of output and profitability

Category	Enterprise type	Net profit (£ per ent.)	Net profit ratio (%)	Ranking (net profit ratio)
High output, high profit	Agricultural services	12,505	32.7	6
Medium output, high profit	Miscellaneous services	12,546	54.7	3
Medium output, medium profit	Unconventional livestock, etc.	9,441	44.1	4
Medium output, medium profit	Recreation and leisure	8,883	43.2	5
Medium output, low profit	Trading enterprises	5,617	18.4	8
Medium output, low profit	Unconventional crops, etc.	6,792	19.4	7
Low output, high profit	Accommodation and catering	10,175	61.9	2
Low output, low profit	Equine enterprises	5,653	64.0	1

5.3.15 Against the background of farming recession, and at the average levels of profitability identified by this study, it is very evident that farm diversification is currently making a very important contribution to overall business profitability on many farms. However, making a direct comparison between the two sources of income is not easy because of differences in methodology, and this is considered in more detail in Section 5.6 below.

5.3.16 Table 5.14 presents the distribution of the surveyed enterprises by net profit. It is clear that, taking all diversified enterprises together, the distribution is heavily skewed to the left – some four out of five enterprises produced at net profit lower than the mean. In fact, six per cent recorded net losses, while 22 per cent achieved a net profit of no more than £1,000. However, at the other end of the scale one in five achieved a net profit of more than £10,000. There are quite marked variations between enterprises in the distributions of net profits with some enterprises (such as 'accommodation and catering') showing a consistent gradation in profits, others (such as 'miscellaneous services') exhibiting a bi-modal pattern. 'Equine enterprises' had the least extreme values, 'unconventional livestock etc.' the most (with more than a fifth making net losses, and nearly a fifth making net profits of over £25,000).

Table 5.14 Average values and distribution of net profits, by type of diversified enterprise

		Per cent of diversified enterprises with net profit level[1]					
Enterprise type	Net profit (£)	Negative	£1-£1,000	£1,001-£2,500	£2,501-£10,000	£10,001-£25,000	£25,001 and over
Agricultural services	12,505	5	11	13	44	17	11
Trading enterprises	6,717	6	39	25	19	4	7
Accommodation and catering	10,175	1	13	11	58	10	7
Equine enterprises	5,653	2	17	23	37	18	4
Recreation and leisure	8,883	7	18	26	32	11	6
Unconventional crops etc	6,792	10	27	30	8	22	3
Unconventional livestock etc	9,441	23	39	11	3	6	17
Miscellaneous services	12,546	2	21	9	46	11	11
All enterprises	9,659	6	22	17	36	12	8

[1]To nearest whole percentage point, may not total to 100.

Imputed costs and net margins

5.3.17 While net profit offers the best representation of enterprise performance in *financial* terms it is still not a complete measure of the true costs in a strictly *economic* sense, since it does not account for the value of the non-traded resources that are utilised in production. The costs associated with these resources have to be imputed, and relate to the unpaid labour of the farmer, spouse and family workers and the rental value of owned land. Deducting these additional imputed costs from net profit produces the *net margin*, the residual available to the entrepreneur as the two-fold return on (a) the investment in tenant's capital and (b) management performance[16].

5.3.18 Because of the importance of land and family labour in the essentially family-based businesses of farming these imputed costs are typically significant elements in the overall cost structures of the industry. However, since they are never actually paid out (in terms of cash transfers) their significance can easily be overlooked, especially by the operator of the enterprise. Thus, while the net profit may be high enough to suggest that the performance of the enterprise is satisfactory, the real *economic* outcome as reflected by net margin may well tell a different story. This is not to imply that the enterprise is not worthwhile, of course – the perspective here is principally that of the farming industry regarded as a sector of the national economy[17].

5.3.19 This fact was well demonstrated in the sample of diversified enterprises studied here. As shown in Table 5.15 the overall effect of accounting for imputed costs was to reduce the net profit by almost 40 per cent (£3,681), giving an overall net margin across all enterprises of £5793. Although this varied by enterprise type, the differences were not as great as might have been expected: 'trading enterprises' and equine enterprises' fared worst, at £1,679 and £2,379 respectively; while 'miscellaneous services' achieved the best net margin at £9,311. The dominant imputed cost was for the manual labour of the farmer and spouse, at £2,841 overall forming more than three quarters of the total imputed costs.

[16] Net margin is the enterprise equivalent of *management and investment income* at the whole farm level.
[17] Indeed, most farms, diversified are not, are currently showing negative returns when assessed in terms of *management and investment income*.

Table 5.15 Average net profit, imputed costs and net margin, by type of diversified enterprise

Enterprise type	Net profit	Imputed costs				Net margin
		Unpaid labour				
		Family	Farmer & spouse	Rental value[1]	Total	
		£ per enterprise				
Agricultural services	12,505	930	3,950	8	4,888	7,617
Trading enterprises	6,517	497	3,129	312	3,938	1,679
Accommodation and catering	10,175	119	2,141	310	2,570	7,605
Equine enterprises	5,653	884	1,708	682	3,274	2,379
Recreation and leisure	8,883	171	1,844	817	2,832	6,051
Unconventional crops etc	6,792	663	1,725	465	2,853	3,939
Unconventional livestock etc	9,441	202	4,907	393	5,502	3,939
Miscellaneous services	12,546	517	2,460	257	3,235	9,311
All enterprises	9,474	515	2,841	326	3,682	5,793

[1]On owned land.

5.3.20 The observed differences in cost structures mean that the rankings by type of enterprise change quite dramatically depending upon whether output, net profit or net margin is chosen (Table 5.16). As noted earlier, the average 'trading' enterprise is by far the largest of any form of diversification, but is ranked eighth in terms of all three measures of profitability. Conversely, 'accommodation and catering' is the seventh smallest group in terms of average output, but ranks second or third highest in terms of profitability. 'Miscellaneous services' also perform well on all three indicators. Some enterprises show quite different results depending on the criterion used: 'agricultural services', the largest type in output terms, are ranked second for both net profit and net margin but sixth for net profit percentage retained, while 'equine enterprises' are near the bottom in terms of the size of the net profit or net margin obtained, but provide the best results for the percentage of output retained as net profit.

Table 5.16 Relative rankings under different financial indicators, by enterprise type

	Enterprise output	Net profit	Net profit as % of enterprise output	Net margin
		(highest = 1)		
Agricultural services	1	2	6	2
Trading enterprises	3	8	8	8
Accommodation and catering	7	3	2	3
Equine enterprises	8	7	1	7
Recreation and leisure	6	5	5	4
Unconventional crops, etc	2	6	7	5
Unconventional livestock, etc	5	4	4	5
Miscellaneous services	4	1	3	1

5.3.21 So what do these results mean show about the current profitability of farm diversification? Several key points emerge:

- The existence of healthy net profits (taken here to include both average profit *levels* as well as profit *margins*) in an era when profitability in conventional agriculture is weaker than for many years provides clear evidence of the importance of diversification as a feature of the modern farming sector;
- Furthermore, the not insubstantial average net margins obtained from diversification, irrespective of the type of enterprise involved, compare very favourably with mainstream agriculture at the present time;
- Clearly 'miscellaneous services', 'agricultural services' and 'accommodation and catering' are very attractive financially, returning substantial net margins on average;

- Those enterprises primarily connected with tourism and leisure (i.e. 'accommodation and catering', 'recreation and leisure' and 'equine enterprises') appear to be very useful adjuncts to a farm business, with the first two generating above average net margins and very good net profit margins also; equine enterprises are typically smaller, but as a group show the best net profit margin of all;

5.3.22 The actual structure of economic performance across all diversified enterprises, as measured by net margin, shows how widely spread the sample enterprises are. Table 5.17 shows the proportions of each enterprise group achieving various levels of net margin, ranging from negative values to over £25,000 per enterprise. If £2,500 net margin is arbitrarily taken as representing a reasonable minimum to make involvement in diversification worthwhile, then more than a half of all the enterprises studied achieved this. By contrast, only two out of every ten attempts at diversification actually showed a negative net margin, implying that these enterprises failed to achieve a net economic return on the resources they utilised. While there are other criteria for success than net margin this finding is extremely encouraging, both for the possibility of developing economically worthwhile business activity outside mainstream agriculture and for policy initiatives focussed on diverting some of agriculture's resources to other productive uses in the rural economy.

5.3.23 As Table 5.17 shows, there is considerable variation in the distributions of net margins by enterprise type. Only equine enterprises which, as has been shown, tend to be smaller, fail to return any enterprises earning a net margin of more than £25,000. At the other end of the scale, five of the seven type groups recorded in excess of a quarter of the sample with negative net margins. The 'accommodation and catering' group shows evidence of a bi-modal distribution of net margins, with 25 per cent showing negative net margins and 44 per cent achieving a net margin of between £2,500 and £10,000. 'Trading enterprises', on the other hand, are clustered at the lower end of the scale, with 71 per cent making a net margin of less than £1,000. The mixed category, 'miscellaneous services', recorded the lowest proportion of negative net margin enterprises.

5.3.24 It has to be acknowledged that 'failing to achieve a net economic return on the resources they utilised' (paragraph 5.2.41) may be an extreme statement in this context. Although strictly correct under economic accounting conventions, what it really implies is that the enterprises concerned do not *fully* compensate the farmer and his family for all of their non-cash resources – typically their own labour and their own invested capital. Economic theory suggests that those labour and capital resources, therefore, should be allocated to other more productive uses and not employed in the diversified enterprise. However, if this principle were applied in the same way to conventional agricultural activities it would imply a major transfer of farmers and their capital out of agriculture, since negative values of management and investment income (the 'whole business' equivalent of net margin) have been increasingly common in farming over recent years. Such structural adjustment does not happen quickly, however, and this study suggests that diversified enterprises are *no worse* (and may be better) than agricultural enterprises as a productive use of the farm family's resources.

Table 5.17 Average values and distribution of net profits, by type of diversified enterprise

		Per cent of diversified enterprises with net margin level[1]					
Enterprise type	Net profit (£)	Negative	£1-£1,000	£1,001-£2,500	£2,501-£10,000	£10,001-£25,000	£25,001 and over
Agricultural services	7,617	17	20	16	32	7	8
Trading enterprises	1,679	35	36	9	12	3	5
Accommodation and catering	7,605	25	9	6	44	8	6
Equine enterprises	2,379	25	26	10	32	6	0
Recreation and leisure	6,057	14	26	23	30	3	6
Unconventional crops etc	3,939	26	39	8	14	10	3
Unconventional livestock etc	3,939	36	34	6	6	2	15
Miscellaneous services	9,311	7	24	12	38	11	6
All enterprises	5,793	22	25	11	29	7	6

[1]To nearest whole percentage point, may not total to 100.

5.3.25 Finally, Table 5.18 summarises some of the differences between the eight broad types of diversified enterprise in terms of three indicators of financial performance. The first, 'net profit per £100 of output', has been discussed above as 'net profit percentage' and will not be further commented on here. Both the second and third indicators, 'net margin per £100 output' and 'net margin per £100 net profit', show the relative importance of non-cash resources (for which imputed costs are used) for each enterprise type. Overall, for each £100 of output obtained from farm diversification about £17 is retained as a net margin.

Table 5.18 Relative performance under different financial indicators, by enterprise type

	Net profit per £100 output	Net margin per £100 output	Net margin per £1,000 net profit
Agricultural services	33	20	61
Trading enterprises	8	3	37
Accommodation and catering	62	46	75
Equine enterprises	64	27	42
Recreation and leisure	43	29	68
Unconventional crops, etc	19	11	58
Unconventional livestock, etc	44	18	42
Miscellaneous services	55	41	74
All enterprises	28	17	61

5.4 Resource use issues

The principal manager

5.4.1 One of the important areas for investigation in the interview survey concerned the people working on the holding and their backgrounds, experience and involvement in diversification. The interview survey respondents were the people responsible for running the business with, in some cases, the person most closely associated with the diversified enterprise. Guidelines to the investigational staff responsible for the interviews state '…the interviewee should be the person who effectively drives the business, not necessarily the nominal head or senior partner'. While this was not always possible for practical or logistical reasons, most interviews were conducted with key management.

5.4.2 Table 5.19 presents out the survey findings with respect to the age and experience of the respondents, and shows that 44 per cent of the farmers were the first generation of their families to be running these farms although nearly all (42 per cent) had previously farmed elsewhere. Of those respondents whose farms had been in the

hands of earlier generations of their family, the average period of ownership was 76 years. Overall, the respondents had been responsible for running their farms for an average of 19 years. As Table 5.19 shows, the spread of management experience was very skewed in terms of age, with only a quarter of the respondents under 45 years of age and 11 per cent over 65 years of age.

Table 5.19 Characteristics of the interview survey respondents, by number of years in charge of the business and age categories

Years in charge		Age	
1 to 5	*15%*	Under 25	*0%*
6 to 10	*14%*	26-35	*4%*
11 to 15	*14%*	36-45	*24%*
16 to 20	*16%*	46-55	*31%*
21 to 25	*13%*	56-65	*29%*
25 to 30	*9%*	66-75	*8%*
31 and over	*18%*	Over 75	*3%*

5.4.3 Respondents were asked about their farming backgrounds, in terms of whether or not they were first generation farmers and, if not, whether they were first generation farmers. As Table 5.20 shows, those on 'very small' and 'small' farms were markedly more likely to be operating as first generation farmers and were least likely to have farmed elsewhere. Farmers on the 'very small' farms also tended to have had less time running their farms.

Table 5.20 Farming background and management experience, by farm business size group

	First generation	*Of whom* had not farmed previously	Average number of years running farm
Very small	61%	68%	16
Small	55%	50%	22
Medium	22%	43%	19
Large	21%	40%	20
Very large*	9%	100%	22
All size groups	44%	58%	19

*Results not significant at the 95% confidence level

5.4.4 The educational background and standards or respondents are summarised in Table 5.21. Overall about two-thirds of the farmers interviewed had had some formal education or training since leaving school, mainly related to agriculture (47 per cent) although 15 per cent had taken courses relevant to their diversified enterprise. Of the types of course cited 57 per cent were at degree, higher national diploma or national diploma level. There was a clear correlation between farm business size and the likelihood of having had some training related to agriculture, with those running larger farms consistently more likely to have had some relevant training or education.

Interestingly, in relation to training relevant to diversification, those running diversified enterprises on 'very small' farms were most likely to have had such training.

Table 5.21 Formal education and training, of agricultural or diversified relevance, by farm business size group

	Any formal education or training?	Any related to agriculture?	Any related to diversified enterprises?
Very small	68%	32%	26%
Small	55%	40%	10%
Medium	65%	60%	6%
Large	75%	67%	10%
Very large	82%	77%	14%
All size groups	65%	47%	15%

5.4.5 The survey looked also at respondents' broader work experience outside agriculture (Table 5.22). Over a third of those interviewed had worked outside farming at some time, rising to over a half of those on 'very small' farms, with an average period working outside farming of seventeen years. It was found that over half of those who had worked outside farming had found this experience useful in either setting up or running their diversified enterprises. While there is no clear pattern to the type and level of employment in relation to farm business size, it is evident that rather more respondents on smaller farms had worked outside agriculture, and for more years, than on larger farms.

Table 5.22 Broader work experience: employment outside agriculture, by farm business size group

			Of those having worked outside farming	
	Worked outside farming?	Average number of years	Useful to diversified enterprises?	Professional or senior management
Very small	55%	22	53%	59%
Small	33%	13	42%	42%
Medium	18%	7	58%	33%
Large	23%	8	64%	36%
Very large	27%	6	83%	33%
All size groups	36%	17	53%	49%

5.4.6 It was found that of those who had worked outside agriculture, virtually half (49 per cent) had gained at least some experience in professional employment or in a senior management role. About a quarter had had experience in middle management, with a similar proportion working in clerical or manual occupations. The respondents' working backgrounds were very varied, although more than a fifth of the

professional/senior management group had gained this experience in education (11 per cent of the total sample with non-farming experience, the largest single category (Table 5.23).

Table 5.23 Areas of non-farming work experience, by employment category

	Professional or Senior management	Middle management	Clerical or manual worker	All levels
Forestry			1%	1%
Mining			1%	1%
Manufacturing		4%	1%	4%
Telecoms/IT	3%			3%
Retail & Wholesale	4%	7%	3%	14%
Tourism	1%	1%	2%	4%
Transport services	1%		1%	3%
Financial services	8%	3%	2%	13%
Construction	2%		6%	8%
Health services	4%	1%		6%
Education	11%	1%		12%
Other public services	7%	2%	3%	12%
Law	1%	1%		2%
Other services (private)	1%	5%	6%	12%
Entrepreneur	5%			5%
All areas of employment	49%	25%	26%	100%

Memberships and involvement in agricultural and environmental organisations

5.4.7 The interview survey explored respondents' memberships and levels of involvement with a wide range of farming and non-farming organisations and the findings are summarised in Table 5.24. Overall, more than four out of ten belonged to at least one such organisation, though only one in four had ever sought advice or any other form of assistance from these sources. Not surprisingly, the organisations with the highest memberships among the respondents were the National farmers' Union (NFU) (72 per cent) and, a long way behind, the Country Land and Business Association (CLA) (23 per cent). Organisations responsible for farmers' discussion groups also featured strongly, as did organisations associated with countryside pursuits. However, a broad range of organisations was represented, albeit many with low levels of membership among respondents.

5.4.8 Advice and assistance had been obtained from a wide range of sources, although the NFU and the CLA naturally dominate the list. A cross-section of respondents had sought advice or other assistance from a number of environmental groups, these organisations representing about 16 per cent of the sources mentioned.

Table 5.24 Membership of farm and environmental organisations, and use as sources of advice and assistance

	Percent of farmers belonging to organisation	Percent of organisations cited	Percent of farmers receiving advice or assistance	Percent of sources of advice and assistance
National Farmers' Union (NFU)	72%	40%	16%	34%
Farming and Wildlife Advisory Group (FWAG)	7%	4%	5%	12%
Country Land and Business Association (CLA)	23%	13%	4%	9%
Farmers discussion group (e.g. Grassland Society)	11%	6%	4%	9%
Game Conservancy Council/Trust	9%	5%	2%	5%
Soil Association	3%	2%	2%	3%
Organic Farmers and Growers	2%	1%	1%	3%
Linking Farming and the Environment (LEAF)	5%	3%	1%	3%
Woodland Trust	2%	1%	1%	2%
Wildlife Trust	2%	1%	0%	1%
British Ass'n. for Shooting & Conservation (BASC)	6%	4%	0%	1%
Countryside Alliance	10%	6%	0%	0%
Council for the Protection of Rural England (CPRE)	2%	1%	0%	0%
Other environmental groups	11%	6%	3%	7%
Other farming groups	15%	8%	5%	10%
Member of at least one organisation	83%			
Advice or assistance from at least one these			25%	

The employment patterns of the farm family

5.4.9 A detailed examination of the structure, functions and degree of involvement and employment of the farm family was undertaken and the results are summarised in Table 5.25. These questions were addressed only on farms operated as family farms in the broadest sense. Farms with a corporate business structure (four per cent of respondents) and those which involved business partnerships between unrelated families (nine per cent of respondents) were excluded from this particular series of

questions. The focus of these questions were family members aged 16 years or over and living on the farm, and any family members working on the farm but not living there. It was found that the latter group accounted for 8 per cent of the total number of family members involved on the farm.

5.4.10 The work patterns of the individual family workers are often quite complex, involving different types of employment in different areas of the business or, indeed, in other businesses either on or off the farm (Table 5.25). For example, in some instances it was found that the farmer works full time on his own farm[18], part time in other work elsewhere and also has a casual involvement in a diversified enterprise. The data were carefully screened for logical inconsistencies. Evidence of the many demands on some of these managers comes from the finding that only 26 per cent of the total were engaged in full-time work in any one area. When those family members in full time education, or not working (in economically significant activities), or fully retired, are excluded from the workforce the percentage in full time work in any one area rises to 30 per cent, which is still quite a low figure. One in five of the family workforce on this sample of farms are involved in off-farm work.

Table 5.25 Employment and non-employment patterns of members of the farm family

	Full time	Part time	Casual	All
	As percent of total living or working on the farm			
Farm-work here	13%	40%	10%	64%
Diversified enterprise	3%	37%	20%	60%
Other work here	0%	3%	0%	3%
Farm work elsewhere	1%	1%	0%	2%
Other work elsewhere	9%	8%	1%	18%
In education	4%	1%		6%
Not working	3%			3%
Retired	6%	3%		9%

On-farm employment: agricultural and diversified enterprises

5.4.11 The pattern of employment on the farm is summarised in Table 5.26, and shows the labour input both on the farm and in the diversified business. These figures include non-family workers, the managers of corporate farms and also members of unrelated families farming in some form of partnership with the respondents. The key findings are:

- For this sample of farms, similar numbers of people are employed in both the agricultural and diversified sectors of the business (627 in agriculture, 651 in diversification).;
- The composition of the respective labour forces, however, is quite different: diversified businesses appear to involve relatively few full-time employment opportunities and a correspondingly high level of casual staff;

[18] In this context taken to mean the equivalent of the standard agricultural working week as defined by the Agricultural Wages Board.

- This general finding applies to both family and non-family workers, although the overall level of non-family involvement is fairly similar as between agriculture and the diversified enterprises.

Table 5.26 The structure of employment in the agricultural and the diversified enterprises

		Family living on the farm	Family not living on the farm	Non-family workers	Totals
		Percentage of workers in the farming business			
Farming business	Full-time	13%	1%	17%	31%
Total labour force (627)	Part-time	39%	2%	13%	55%
	Casual	9%	1%	4%	14%
		61%	5%	34%	100%
		Percentage of workers in the diversified business			
Diversified business	Full-time	3%	0%	9%	12%
Total labour force (651)	Part-time	36%	1%	17%	54%
	Casual	18%	2%	14%	34%
		56%	3%	40%	100%

5.4.12 The relative involvement of the principal categories of worker, by farm business size group, is set out in Table 5.27. It may not be seen as surprising that 'very small' farms account for 32 per cent of the people employed in diversified enterprises, compared to only 24 per cent of farm workers, whereas in each of the other size groups the equivalent numbers are fairly similar. This pattern is repeated

Table 5.27 Proportions of workers employed in agricultural and diversified enterprises, by farm business size

		Very small	Small	Medium	Large	Very large	All
		As percent of type of worker					
Farming business	Full time	9%	14%	28%	18%	31%	100%
	Part time	35%	26%	19%	14%	7%	100%
	Casual	13%	49%	23%	6%	8%	100%
	All workers	24%	25%	23%	14%	15%	100%
		As percent of type of worker					
Diversified business	Full time	40%	18%	14%	7%	21%	100%
	Part time	36%	22%	16%	14%	11%	100%
	Casual	22%	27%	27%	14%	10%	100%
	All workers	32%	23%	20%	13%	12%	100%

when the average number of workers per farm are considered (Table 5.28). It is evident that the average number of workers increases with farm business size, as would be expected, but that this trend does not apply for diversification. Moreover, of the numbers employed in diversification those on 'very small' farms outnumber those employed in agriculture, the only business size class where this is true.

Table 5.28 Labour and farm business size – average numbers per farm

		Very small	Small	Medium	Large	Very large	All
		Number of workers per farm					
Farming business	Full time	0.2	0.4	1.2	1.5	4.7	0.9
	Part time	1.6	1.4	1.4	2.0	1.8	1.5
	Casual	0.2	0.7	0.4	0.2	0.6	0.4
	All workers	2.0	2.5	3.0	3.7	7.1	2.8
		Number of workers per farm					
Diversified business	Full time	0.4	0.2	0.2	0.2	1.3	0.4
	Part time	1.7	1.2	1.2	2.1	3.1	1.6
	Casual	0.6	0.9	1.3	1.3	1.6	1.0
	All workers	2.8	2.3	2.7	3.7	6.0	2.9

5.4.13 One final area for investigation was the estimated proportion of the total hours worked accounted for by the diversified enterprises, with respect both to family labour and to the total available labour. As Table 5.29 shows, the overall finding is that on these diversified farms the non-agricultural enterprises account for more than a third of the total family labour input and about the same proportion of the total labour[19]. However, there are quite significant differences between different sizes of farm, though all show a broadly similar involvement of both the farm family and the total workforce. To some extent this reflects the importance of the farm family within the total workforce, or course. Finally, the figures clearly suggest that diversified enterprises account for a significantly higher proportion of the total labour input on diversified 'very small' and 'small' farms.

[19] The figures in Table 5.29 are simple averages of the individual farm figures since the actual hours involved for each farm are not known, so it is not possible to calculate true averages (that is Σ diversified hours divided by Σ total hours).

Table 5.29 Proportions of labour input to diversified enterprises, family and total labour compared

	Percentage of total labour hours accounted for by diversified enterprises	
	Farm family labour	Family and non-family labour
Very small	51%	51%
Small	36%	37%
Medium	21%	20%
Large	23%	22%
Very large	21%	19%
All holdings	36%	35%

Perceived importance of the diversified enterprise

5.4.14 Interview respondents were asked to give their assessment of the importance of the diversified enterprise, or enterprises, on their farms to the overall farm business income and to the employment of family members. Respondents were asked the question 'If you did not have the diversified enterprise…?' and, with respect to the significance of diversification in *business income* terms, asked to choose whichever of the following options best applied:

1. The farm business would actually be better off;
2. It would make very little difference;
3. There would be a noticeable reduction in income;

If the third option was chosen, they were then asked 'Would the viability of the whole farm be in question?' The results, analysed by farm business size, farm type and Go region, are presented in Tables 5.30, 5.31 and 5.32 respectively.

Table 5.30 Perceived importance of diversification for total farm income, by farm business size group

	Better off	Little difference	Noticeable reduction	Viability threatened
Very small	3%	35%	16%	45%
Small	0%	16%	17%	67%
Medium	2%	25%	28%	46%
Large	2%	31%	25%	42%
Very large	5%	32%	18%	45%
All holdings	2%	27%	20%	51%

Table 5.31 Perceived importance of diversification for total farm income, by robust farm type

	Better off	Little difference	Noticeable reduction	Viability threatened
Cereals	1%	26%	24%	49%
General cropping	3%	17%	22%	58%
Horticulture*	28%	35%	0%	37%
Pigs & poultry*	0%	37%	22%	41%
Dairy	2%	31%	27%	40%
Cattle & sheep (LFA)	0%	27%	22%	50%
Cattle & sheep (Low)	0%	9%	11%	80%
Mixed	0%	28%	25%	47%
Other types*	0%	37%	9%	53%
All holdings	2%	27%	20%	51%

*Results not significant at the 95% confidence level

5.4.15 The findings make clear that the importance of diversification in economic terms should not be underestimated. Overall, the principal managers of more than half of this sample of diversified farms regard the continuance of their diversified activities as central to the viability of their business. For certain groups of farm, such as 'small' farms and lowland cattle and sheep farms the proportion is even higher (67 and 80 per cent respectively). There are very interesting regional differences in the farm-level economic importance of diversification, too. In addition to those for whom diversification underpins the viability of their businesses, a further 20 per cent of the whole sample would see a 'noticeable reduction' in total business income if they did not have the diversified enterprise. Again, there are interesting differences across the various sub-groups presented here.

Table 5.32 Perceived importance of diversification for total farm income, by GO region

	Better off	Little difference	Noticeable reduction	Viability threatened
North East*	0%	38%	24%	38%
North West	0%	30%	20%	50%
Yorkshire & Humber	0%	14%	18%	68%
East Midlands	0%	22%	47%	31%
West Midlands	14%	41%	6%	39%
East of England	0%	30%	21%	49%
South East	7%	36%	4%	53%
South West	0%	18%	22%	60%
All holdings	2%	27%	20%	51%

*Results not significant at the 95% confidence level

5.4.16 Asked the same question in relation to *family employment* respondents were offered the following options:

1. It would make very little difference;
2. The family workers could be re-deployed on farm work here;
3. Some of the family workers would have to seek (additional) work off the farm;
4. All of the family workers would have to seek (additional) work off the farm.

5.4.17 The question was applied only to family workers currently working in the diversified enterprise and the results are given in Tables 5.33, 5.34 and 5. 36, and the results shed important light on the employment generating aspects of farm diversification. For the sample as a whole, about half expected that some or all family members involved in diversification would have to seek employment elsewhere.

Table 5.33 Perceived importance of diversification for family employment, by farm business size group

	Little difference	Could be re-deployed on farm	Some would have to seek off-farm work	All would have to seek off-farm work
Very small	43%	7%	13%	37%
Small	37%	5%	39%	19%
Medium	46%	13%	30%	11%
Large	46%	13%	31%	10%
Very large	47%	12%	41%	0%
All holdings	42%	8%	28%	22%

Table 5.34 Perceived importance of diversification for family employment, by robust farm type

	Little difference	Could be re-deployed on farm	Some would have to seek off-farm work	All would have to seek off-farm work
Cereals	42%	16%	24%	18%
General cropping	44%	10%	24%	21%
Horticulture*	88%	0%	0%	12%
Pigs & poultry*	39%	6%	36%	19%
Dairy	44%	8%	32%	16%
Cattle & sheep (LFA)	40%	0%	22%	38%
Cattle & sheep (Low)	39%	5%	34%	21%
Mixed	39%	16%	37%	7%
Other types*	38%	0%	29%	33%
All holdings	42%	8%	28%	22%

*Results not significant at the 95% confidence level

5.4.18 The findings suggest that on about one in five farms, the diversified enterprise acts as an essential activity for the employment of certain family members,, and that on more than a quarter of diversified farms the non-agricultural enterprise provides a very useful means of gainful employment. One in twelve expected to be able to

redeploy family workers elsewhere on the farm but, reflecting the small scale of much diversification, 42 per cent stated that it would make little difference in employment terms.

5.4.19 The existence of a degree of under-employment in agriculture has long been debated. This research casts some fresh light on this issue, because of the identified differences between the importance of diversification in income terms and as a means of family employment. Less than one in three expected the loss of their diversified enterprise to make little or no difference to total income, compared with half who opted for the equivalent with respect to family employment.

Table 5.35 Perceived importance of diversification for family employment, by GO region

	Little difference	Could be re-deployed on farm	Some would have to seek off-farm work	All would have to seek off-farm work
North East*	45%	0%	45%	10%
North West	51%	7%	20%	22%
Yorkshire & Humber	21%	10%	14%	55%
East Midlands	37%	32%	21%	10%
West Midlands	61%	3%	22%	13%
East of England	40%	7%	45%	8%
South East	56%	0%	18%	26%
South West	34%	9%	38%	19%
All holdings	42%	8%	28%	22%

*Results not significant at the 95% confidence level

5.4.20 These findings have been explored further by looking first at respondents' perceptions of the importance of diversification in employment terms compared with its declared significance in relation to total business income (Table 5.36). While the findings are much as might be expected, it is interesting that about half of those who expected that the loss of their diversification would make a noticeable difference to their total business income nevertheless anticipate 'little difference' in terms of family employment patterns. Again, this suggests that one of the important roles of farm diversification is to improve living standards of the farm family where few realistic alternatives for employment may exist, for whatever reason.

Table 5.36 Perceived importance of diversification for family employment, by 'importance of diversified income' group

	Little difference	Could be re-deployed on farm	Some would have to seek off-farm work	All would have to seek off-farm work
Income effect	Percentage of income effect group			
Better off*	80%	0%	20%	0%
Little difference	82%	3%	11%	4%
Noticeable reduction	49%	24%	26%	1%
Viability threatened	17%	6%	37%	40%
All holdings	42%	8%	28%	22%

*Results not significant at the 95% confidence level

Table 5.37 Perceived importance of diversification for total farm income, by 'importance for family employment' group

	Income effect:				
	Better off	Little difference	Noticeable reduction	Viability threatened	All
	Percentage of all farms				
Corporate farms	0.3%	0.3%	0.6%	2.4%	3.5%
Employment effect:					
Little difference	1.3%	21.8%	9.5%	8.4%	41.0%
Could be re-deployed	0.0%	0.7%	4.7%	2.8%	8.1%
Some to seek off-farm work	0.3%	3.0%	5.0%	18.3%	26.6%
All to seek off-farm work	0.0%	1.1%	0.2%	19.4%	20.8%
All holdings	1.9%	26.8%	20.0%	51.3%	100.0%

5.4.21 A similar cross-tabulation was carried out for respondents' perceptions of the importance of diversification for total business income, by 'importance for family employment' group (Table 5.37). Again, the findings are broadly in line with what might be expected from the earlier analyses, and again some of the results reinforce the view that, for some farms, farm diversification represents an important additional source of family income, making use of under-employed family labour.

5.4.22 In assessing respondents' attitudes to farm diversification, a couple of questions were included in the interview questionnaire to try to get a feel for how the farmers felt about their involvement in diversification. First, they were asked for their

views on 'the ideal way of making a living', both for themselves and for their households. As Table 5.38 shows, nearly half (46 per cent) said that their preference would be to make a living from farming alone, and the great majority of them extended this preference to their households. Even so, well over one in three regarded their 'ideal' as a combination of faming and farm diversification, with a further seven per cent preferring 'diversification without farming'! Overall, more than half of respondents included some combination of diversification, non-farm or off-farm activities, with or without farming, as elements in their ideal way of making a living. This important finding suggests that, whatever the influences which drew the farmers concerned into diversification, many find it an enjoyable way of operating their business.

Table 5.38 Respondents' views on the 'ideal means of making a living'

	Farmer	Household
From farming alone	46%	41%
From farming and diversified activities	36%	38%
From farming and non-farm employment or business	3%	5%
From farming, diversified and non-farm activities	5%	7%
From diversified enterprises without farming	7%	6%
From off-farm employment or business without farming	3%	3%
From diversified and non-farm activities without farming	0%	1%

5.4.23 Secondly, respondents were also asked (a) if it had even been their intention for their household to make a living from farming alone, to which 70 per cent said 'yes'; and (b) if they thought their farm business could ever fully support their household, to which 75 per cent said 'no'. The corresponding figures for those who would prefer their households to make their living from farming alone were 91 per cent and 65 per cent.

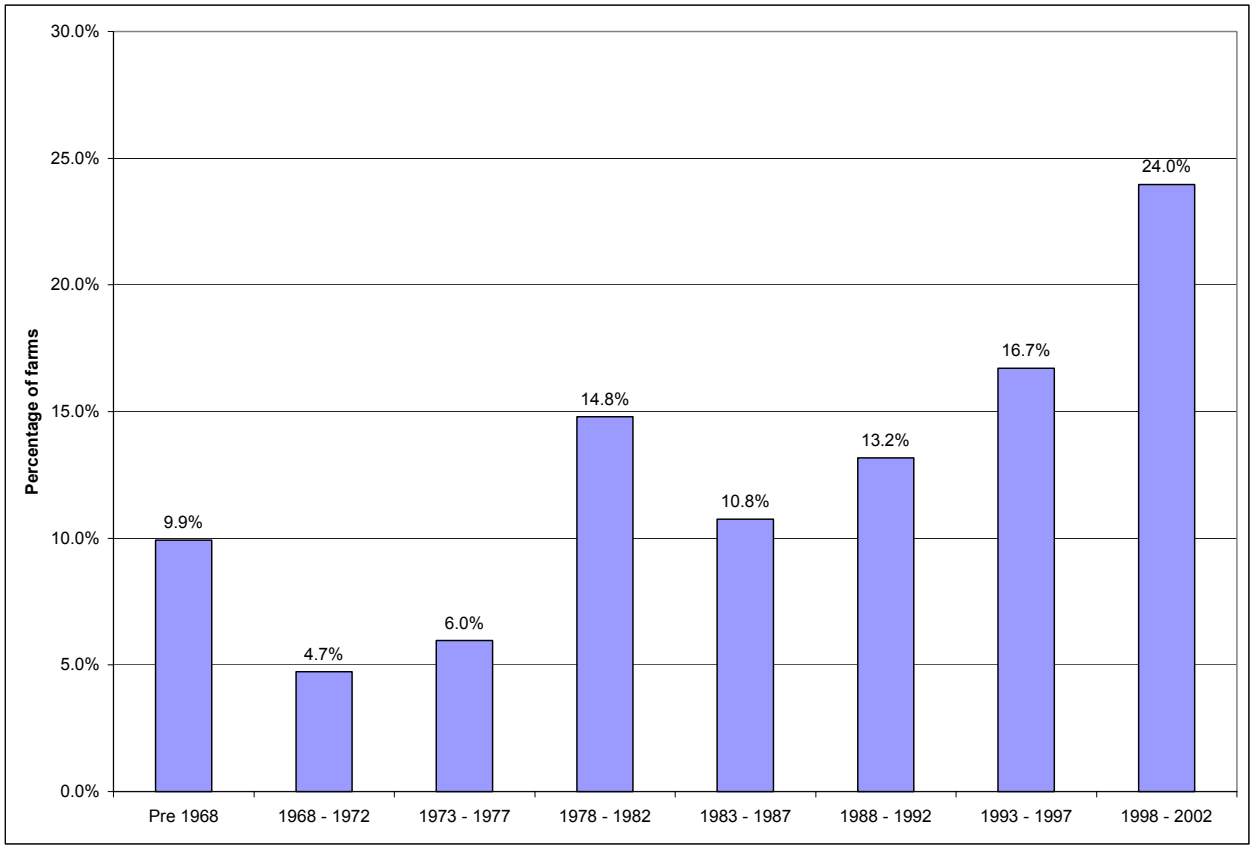
5.5 Diversification in the context of the farm business

Length of involvement in diversification

5.5.1 The interview survey gathered information on the length of time each farm has been involved in farm diversification, based on the dates of establishment of current enterprises[20]. On average, it was found that current enterprises have been established for 16 years, but the variation by farm business size showed a much lower average age for diversified enterprises on 'very small' farms, at 11 years. Figure 5.1 illustrates the distribution of enterprise ages based on year of establishment.

[20] It is possible that in some cases this may be an underestimate where an earlier diversified enterprise has been abandoned.

Figure 5.1 Year of establishment of current diversified enterprises



5.5.2 In Table 5.39 the average number of enterprises per diversified farm is shown, disaggregated by year of establishment over the past decade. The data appear to suggest that the pace of diversification has steadily increased over the period, from 1.5 enterprises per farm in the early years to 2 in 2002. This general statement must

Table 5.39 Number of diversified enterprises per farm, by year of establishment

	Number of diversified enterprises per diversified farm
1992	1.5
1993	1.5
1994	1.5
1995	1.5
1996	1.6
1997	1.6
1998	1.7
1999	1.8
2000	1.9
2001	1.9
2002	2.0

be tempered by the knowledge that at least some of the enterprises founded in the early years will have been shut down for business and other reasons but, at the very least, these findings suggest that there has been no slackening in the pace of diversification.

Positive and negative impacts of diversification at farm level

5.5.3 The interview probed respondents' perceptions of the impacts, both positive and negative, of diversification to their farm businesses and the findings are presented in Tables 5.40 and 5.41 respectively. A wide range of benefits from the adoption of a diversified business strategy were identified, of which only a few will be noted here. Importantly, only one per cent of respondents could find 'no significant benefit' from diversifying, a very important and encouraging result. Three quarters had experienced an improved cash flow, and well over half had seen higher profits as a result of diversifying. Other significant benefits include improvements in the use of existing resources and qualitative benefits within the farm business, including the spreading of business risk. Some 14 per cent associated diversification with the development of a new market for their agricultural products.

Table 5.40 Perceived benefits of diversification in the context of the combined farm business

	Percentage citing option	Percentage of benefits
Improved cash flow	76%	23%
Higher profits	57%	17%
Using redundant assets e.g. buildings	45%	13%
Better return on capital invested in business	36%	11%
Spreading business risk	34%	10%
Increased job satisfaction	31%	9%
Better use of available labour	26%	8%
Adoption of more 'sustainable' systems	19%	6%
Creating a market for a product	14%	4%
No perceived benefits	1%	

5.5.4 The interview survey respondents were also asked about the influence of government funding in their move towards diversifying their business interests. Overall some five per cent of respondents said that the availability of government funding had influenced their decision to diversify and, of these, only fourteen per cent (or less than one per cent of all farms) identified either the Rural Development Programme or the Rural Enterprise Scheme as the source of these funds. This is not surprising, of course, given the short period during which these schemes have been operating and the hiatus caused by the FMD epidemic during 2001. Further information on the role of grant aid in the establishment of farm diversification is given in tables 4.28 to 4.30, paragraphs 4.3.4 forwards.

5.5.5 The responses in relation to business problems as a result of diversification are listed in Table 5.41. It is notable that far smaller proportions of respondents cited problems, compared with benefits, from diversification, with one half declaring 'no

significant problems'. The major problem in relation to the integration of diversification within the farm business was 'seasonal conflicts' for time and attention, though it is not clear whether these arise from the farming operations, from the diversification or (most probably) from both. The anticipated demands on managers from running an additional enterprise are noted by substantial proportions of respondents, including the bureaucratic burden and the need for new skills.

Table 5.41 Perceived problems arising from diversification in the context of the combined business

	Percentage citing option	Percentage of problems
Seasonal conflicts of interest	22%	18%
Additional paperwork/legislation burden	21%	17%
Requires extra management input	21%	17%
Increased level of capital invested in business	16%	13%
Need extra skills to operate more complex business	14%	11%
Difficulties with the use/availability of labour	13%	11%
Insufficient level of profits	8%	7%
Poorer cash flow/increased cash demands	7%	6%
Poorly integrated within overall business	2%	2%
No significant problems	50%	

Diversification and the demand for capital

5.5.6 Two factors need to be taken into account in considering the history of capital expenditure and the demand for capital in diversifying. The first is that, over time, the further back the analysis goes the smaller the proportion of *these* farms that were diversified. Secondly, the average number of diversified enterprises on these farms also falls (see Figure 5.1 and Tables 5.39). The data presented in Table 5.42 takes both of these factors into account, so that for each year the total capital spend is divided by the number of farms which were diversified at that time and the number of enterprises that were active[21].

[21] The latter figures do not need to take into account any diversified enterprises since abandoned because capital expenditure figures were only collected for enterprises active at the time of the survey.

Table 5.42 Average capital expenditure on farm diversification, by year[22]

	Average per farm with diversified activities	Average per diversified enterprise	Percentage of diversified farms with no capital spend in year	Average investment per spending farm
1992	£4,400	£3,000	79%	£20,374
1993	£2,100	£1,500	87%	£16,065
1994	£2,700	£1,900	85%	£18,137
1995	£3,000	£2,000	82%	£17,090
1996	£3,900	£2,500	77%	£16,909
1997	£4,100	£2,600	75%	£16,371
1998	£4,800	£2,900	72%	£17,237
1999	£5,000	£2,900	73%	£18,717
2000	£6,100	£3,300	70%	£20,127
2001	£6,400	£3,400	72%	£22,671

5.5.7 Of course, even if a farm became diversified during a particular year it does not necessarily mean that any capital spending took place at that time. In fact the majority of diversified farms in any year did not report any capital spending (column three in Table 5.42), so that the average expenditure of those on which capital investment did take place (column four) was actually much higher. Just looking at all the farms diversified (first column) there is a very neat trend towards increased capital spending over the period, apart from the first year. This trend is the result of two distinct factors: the rising proportion of farms undertaking capital expenditure, and the generally rising level of average expenditure per investing farm[23].

Table 5.43 Capital expenditure on farm diversification projects between 1997 and 2001, by farm business size groups

	Total capital expenditure 1997 to 2001	Average annual expenditure 1997 to 2001
Very small	£15,131	£3,026
Small	£16,430	£3,286
Medium	£20,622	£4,124
Large	£39,876	£7,975
Very large	£53,380	£10,676
All farm size groups	£21,448	£4,290

5.5.8 A further insight into the pattern of capital expenditure can be gained from Table 5.43. The figures presented have been calculated using the subset of farms that have become diversified since 1996, and for this reason the total figure differs from

[22] The figures in
Table have been weighted in all years by the current weights.
[23] The first year is out of trend in both of these respects for reasons unknown.

the sum of the last five years in Table 5.42 which includes farms diversified for less than six years. These results have been weighted to reflect the estimated farm size breakdown of the population of diversified holdings. This highlights the different scale of project undertaken in 'very large' farm businesses, which typically spend an average of more than three times that found on 'very small' farms.

5.6 The aggregate income from farm diversification in England

5.6.1 One of the objectives of this study is to relate the incomes generated by diversified enterprises to the level of income derived from conventional farming. The primary aim is to assess, for those farms which have extended their commercial operations beyond agricultural activities, the extent to which the overall income in the farming sector is being augmented by diversified enterprises. This clearly has important implications not only for the accurate assessment of the economic position of the farm sector, as a whole and in terms of its contribution to rural and regional economies, but also for rural policy development across a wide range of interests.

5.6.2 While the traditional understanding of 'farm' or 'farmer' was taken to imply a largely full-time, and probably exclusive, occupation, this is no longer true. Partly as a result of earlier work on farm diversification, and partly through the supplementary information collected in the Farm Business Survey, there is now a much better appreciation of the importance of diversification in modern farming. Even so, there may be still a tendency to equate the economic wellbeing of the farm families too exclusively with the financial performance of their agricultural operations. The results from this study will therefore provide a valuable updating of the information available on the scale of the contribution of farm diversification to incomes in the farm sector.

5.6.3 It should be noted that the object here is simply one of measurement and comparison, identifying as best as possible the relative magnitudes of the farming and non-farming components of total income. The image of diversification underlying this study is that land, labour and capital resources of a holding, that might otherwise have been used for agricultural purposes, have been diverted into alternative non-agricultural enterprises. It should be noted that only where those resources had no alternative productive uses on the farm (i.e. were genuinely 'spare') that their earnings are a net addition to income. Otherwise in principle there will be some opportunity cost from using them in diversified enterprises, and measuring their *net* addition to income requires also measuring any potential reductions in farming activity their use entails.

5.6.4 Clearly such a complex modelling and assessment exercise could not be attempted here. It remains a plausible proposition, however, that despite their diversified enterprises appearing to be financially successful in an accounting sense, on many farms the diversion of resources (especially perhaps the managerial inputs they require), does result in certain negative effects on the farming side of the overall business. To the extent that this is true the computations made here will overestimate the financial gains from diversification.

Income from farming and diversification at the level of the farm business

5.6.5 Having already calculated from the study evidence the income from diversification, the first stage in drawing comparisons between the farming and non-farming business activities of the sample farms is to estimate the income from their farming operations. This has been done through using information on average income levels for the principal farm types from the Farm Business Survey for 2001/02 (which accords fairly closely with the 2001 data on diversification), adjusted to allow for variations in the average farm sizes between the two sources. The estimated income from *farming* can then be compared with that from *diversification*.

5.6.6 Two constraints apply to this comparison: the first is that the Farm Business Survey does not cover 'very small' farms, and the comparison is confined therefore to full time farms only (defined here as having a business size of 8 ESU and over). Secondly, not all the farms surveyed have been able to provide complete financial data and therefore this analysis is based on a sub-sample of the surveyed farms. Furthermore, comparisons for 'pigs and poultry', 'horticulture' and 'other' farm types are not shown because of insufficiently robust sample numbers. The comparisons presented in Table 5.44 and 5.45 below, therefore, are based only on full time farms for which complete financial data was available. Whilst these figures may be fairly robust, in so far as they state the position for the farms in this sample, some caution in deriving generalisations about the sectors as a whole is appropriate.

5.6.7 In the first case, Table 5.44 compares incomes from farming and diversification at the *net farm income* level – that is, before any allowance has been made for the manual labour of the farmer and spouse (which is conventionally valued conservatively, taking an opportunity cost approach). The data suggest that, on the sample farms at least, farming on several of the farm types accounts for the smaller part of total business income. Indeed, 'lowland cattle and sheep' farms recorded a negative NFI, thus diversification accounted for all of their business income. Only on 'dairy' farms was diversification substantially smaller, contributing 24 per cent to the total.

5.6.8 When the comparison is made at the rather more rigorous *management and investment income* level, the contrast between relatively profitable diversified enterprises and traditional farming systems in recession becomes even more marked, although the pattern varies by farm type. Three of the full-time farming systems shown – both hill and lowland cattle and sheep types, and mixed farms – record a negative M&II from farming. All types, however, were found to achieve positive *net margins* (the enterprise equivalent of M&II) from diversification. In all cases, it can be seen that diversification is making a very important financial contribution to the typical diversified farm, irrespective of type.

5.6.9 On many farms, therefore, it would appear that without diversification there would be little or no reward on the pure management input of the farmer and spouse, and little or no return on their tenant-type investment. These comparisons, though indicative rather than universal, serve to underline the crucial role diversification now has in maintaining the viability of many farm businesses (or perhaps that should be *businesses based on agricultural holdings*).

Table 5.44 Estimating the total business income (from farming and diversification) on diversified full-time farms in the sample, before farmer and spouse labour

	Number of farms	Average area (hectares)	Net farm income (£ per farm)	Net income from diversification (£ per farm)	Estimated total business income (before F & S labour) (£ per farm)	Diversification as per cent of total
Cereals	45	153	5,450	34,317	39,767	*86.3%*
General cropping	29	177	17,979	17,610	35,589	*49.5%*
Dairy	34	86	28,119	8,920	37,039	*24.1%*
Cattle and sheep (LFA)	18	188	2,368	4,648	7,016	*66.2%*
Cattle and sheep (lowland)	19	178	-359	13,377	13,018	*102.8%*
Mixed	23	160	4,883	15,884	20,767	*76.5%*

Sources: Information drawn from the Baseline Study of Farm Diversification 2002 and the Farm Business Survey 2001/02

Table 5.45 Estimating the total business income (from farming and diversification) on diversified full-time farms in the sample, after farmer and spouse labour

	Number of farms	Average area (hectares)	Management and investment income (£ per farm)	Net margin from diversification (£ per farm)	Estimated total business income (after F & S labour) (£ per farm)	Diversification as per cent of total
Cereals	45	153	11,119	27,735	38,854	*71.4%*
General cropping	29	177	7,309	15,738	23,047	*68.3%*
Dairy	34	86	6,106	6,590	12,696	*51.9%*
Cattle and sheep (LFA)	18	188	-2,902	2,091	-811	..
Cattle and sheep (lowland)	19	178	-12,986	8,327	-4,659	..
Mixed	23	160	-6,683	10,237	3,554	*288.0%*

Sources: Information drawn from the Baseline Study of Farm Diversification 2002 and the Farm Business Survey 2001/02

The contribution of diversification to the aggregate income of the agriculture industry

5.6.10 Finally, in seeking to understand the current economic importance of farm diversification, it is useful is to raise an estimate of the net margin from diversified activities for the whole of England. It will be recalled that throughout the analysis of the data from the interview survey a set of weightings has been applied that has maintained the balance between the different farm business sizes of diversified farms derived from the postal survey. As such this estimate of the average net margin derived from diversification is in theory directly applicable to the estimated population of diversified holdings. Since the financial data for sub-sets of the interview sample are very unlikely to represent true differences in the means for, say, different farm types or farm sizes, estimates for subsets of the population would be equally unreliable. Table 5.46 presents the results unadjusted for the implications raised by the 'multiple holdings' problem.

Table 5.46 Aggregate income from diversification, unadjusted for the incidence of multiple holdings

	Average	95% confidence interval		Source
		Lowest	Highest	
Number of holdings in the population	146,347	146,347	146,347	Census
Percentage diversified	58.3%	58.3%	58.3%	Postal survey
Net margin from diversification per holding	£13,151	£7,000	£19,300	Interview survey
Aggregate net margin from diversification (£ million)	£1,122	£597	£1,647	Calculated

5.6.11 Without any other evidence about the level of multiple holdings in the population one possible approach is to start with the hypothesis that farms which were not diversified had the same likelihood of having additional holdings as those which were. In this scenario the proportion of diversified *holdings* and diversified *farm businesses* would be the same. Since the average calculated net margin figure is actually for farm businesses, all that is necessary is to estimate the total number of farm businesses. If the population is assumed to have the same characteristics in terms of additional holdings as our interview sample, then it is estimated that 30 per cent of the total holdings were actually additional holdings farmed as part of larger businesses[24]. This would reduce the 146,347 holdings to 102,450 farm businesses.

5.6.12 The final estimates of the aggregate income from farm diversification at the England level are presented in Table 5.47. It is concluded in 2001 that farm diversification produced a total of some £785 million, with a range at the 95 per cent

[24] This is the apparent level of multiple holdings in the interview survey sample, but this does not necessarily reflect the overall incidence of multiple holdings in the population. We are aware that other research suggests figures in the region of 15 – 20 per cent.

Table 5.47 Aggregate income from farm diversification in England, adjusted for the incidence of multiple holdings

	Average	95% confidence interval		Source
		Lowest	Highest	
Number of farm businesses in population.	102,450	102,450	102,450	Census/ calculated
Percentage of diversified businesses	58.3%	58.3%	58.3%	Postal survey
Net margin from diversification per holding	£13,151	£7,000	£19,300	Interview survey
Aggregate net margin from diversification (£ million)	£785	£418	£1,153	Calculated

confidence level of between £418 and £1,153 million. Some idea of the economic importance of this form of business activity in the countryside may be gained by a crude comparison between the equivalent estimates for the value of income to the agriculture industry from farming. The latest available figures for *total income from farming* (TIFF)[25] at the England level relate to the calendar year 2000, at some £1.107 billion[26]. However, this includes a significant proportion of diversified activities, those considered an integral part of the farm business (thus termed 'inseparable' business activity), the value of output from which are estimated at £341 million. If it is assumed on the basis of the study findings that the proportion retained as net income is 22.7 per cent[27], this implies a 'diversified' contribution to TIFF of about £77 million, and a TIFF from farming alone of £1.03 billion.

5.6.13 Taking this figure, and adding the estimate from this study of a further £785 million of income generated by farm diversification, produces an estimated aggregate income generated on agricultural holdings of £1.815 billion, of which 43.3 per cent arises from diversification[28]. This comparison has to be treated with caution because of its relatively unsophisticated nature, and because the data relate to different calendar years. Nevertheless, the analysis may be taken to support a general conclusion that more than two fifths of the total income generated on agricultural holdings in England comes now from some form of diversified business activity rather than from food production.

[25] TIFF is the income generated by production within the agricultural industry, including subsidies, and represents business profits plus remuneration for work done by owners and other unpaid workers.
[26] This has the advantage, however, of not being complicated by the impacts of the FMD epidemic during 2001.
[27] Calculated from the results given in Appendix Table E9
[28] No direct comparison between this study and the earlier Exeter study is possible for England, but it was estimated that in 1989-90 diversification produced a net margin of £150 million on full-time farms in England and Wales, about 11 per cent of the aggregate income from the farm business.