RESAS

Rural & Environmental Science and Analytical Services

Scottish Government
Riaghaltas na h-Alba
gov.scot

Farm Income Estimates derived from the Farm Business Survey for Scotland

Methodology

This document provides an overview of the methodology behind the Farm Business Survey (FBS) for Scotland along with descriptions of the main income estimates produced from the data collected from this survey.

It describes the quality of the information collected in this survey and the headline measure of income, namely Farm Business Income (FBI) and provides information about the relevance of the FBS and why the information is required.

The information is based on the European Statistical System (ESS) quality framework: Relevance; Accuracy; Timeliness and Punctuality; Accessibility and Clarity; and Comparability.

The Scottish Government adheres to the Code of Practice for Official Statistics and the National Statistician's guidance on quality. In addition, the Scottish Government provides its own guidance on quality, which is available to view at the Scottish Government's Statistics internet pages.

Further information on quality:

- Code of Practice for Official Statistics
- National Statistician's Guidance on Quality
- Scottish Government's Corporate Policy Statement
- Scottish Government Guide to basic quality assurance
- European Statistics Code of Practice (including quality framework)

Definitions

Farm Business Income (FBI) – the total income available to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers) and on their capital invested in the farm business, including land and buildings. Income from diversified activities are included in overall FBI.

Farm types – farms are classified based on the how much of their standard output is from the crop and livestock enterprises on each farm

Less Favoured Area (LFA) – land where farming is more difficult due to natural constraints, such as hills and soil quality

Minimum Agricultural Way (MAW) – is set by the Scottish Agricultural Wages Board each year. For this analysis an average MAW is used to cover the years included in the Farm Business Survey

Standard Output - The standard output of an enterprise is an estimate of the average output value for every unit of production. It is defined as the estimated worth of crops and livestock without taking into account the costs incurred in the process.

Further definitions can be found in Annex 1.

Data Providers

Estimates of farm income in Scotland (including Farm Business Income (FBI), which is the headline measure produced by the Scottish Government) come from the Farm Business Survey (FBS) for Scotland, which is based on a sample of approximately 500 farms.

Annual data collection for the FBS is carried out by SAC Consulting (SACC) on behalf of the Scottish Government (SG). SACC recruits a sample of farms and collects data directly from them through farm visits and detailed examination of the each business's books and paperwork. When complete, the processed data is anonymised and passed to the Scottish Government for analysis and publication.

Currently, around 500 fully-reconciled farm accounts are compiled each year, constructed from the information supplied by co-operating farmers, meaning the quality of information collected is very high. SACC collects detailed financial and economic information (and some physical information, such as crop areas and stock numbers) for the farm business on outputs, inputs, income and balance sheets. Data for each farm is validated against a comprehensive set of quality assurance checks. Some information on non-cash items, such as input of family labour, is estimated to complete the economic picture of the business.

Information is also collected where possible for the farmer and spouse on their non-farming income (e.g. from other employment or self-employment, investments, pensions, and social payments) and on the hours spent earning other incomes. The financial information is collected to observe the overall performance of the farm business for a particular year and to contribute to the construction of a full profit-and-loss account and a balance sheet. The physical data is used primarily to classify the farm according to its type and tenure.

The FBS results are obtained from a sample of farms that are stratified by farm type and economic size. The survey does not currently include farms predominantly engaged in horticulture, poultry, egg production or pig production. The coverage of the survey is restricted to those farms which have considerable economic activity (at least 25,000 Euros of output, equivalent to £21,315) and are not considered as spare-time farms (have a Standard Labour Requirement[1] (SLR) of more than 0.5).

[1] Standard Labour Requirements represent the approximate average labour requirement for a livestock or crop enterprise. The annual hours of a full-time worker is 1900 hours.

Classification of Farms

The classification is based on detailed sub-types as defined in the European Commission (EC) farm typology[2], which have been grouped together where required to give the types shown below.

The classification is based on the relative importance of the various crop and livestock enterprises on each farm assessed in terms of standard output. The method of classifying each farm is to multiply the area of each crop (other than forage) and the average number of each category of livestock by the appropriate standard output, with the largest source of output determining the type of farm. The list below defines the main types that are reported in the Farm Business Survey.

- **Specialist Sheep (LFA)** - Farms in the less-favoured areas with more than two-thirds of the total standard output coming from sheep.

- **Specialist Beef (LFA)** - Farms in the less-favoured areas with more than two-thirds of the total standard output coming from cattle.

- **Cattle and Sheep (LFA)** - Farms in the less-favoured areas with more than two-thirds of the total standard output coming from sheep and beef cattle together.

- **Cereals** - Farms where more than two-thirds of the total standard output comes from cereals and oilseeds.

- **General Cropping** - Other farms where more than two-thirds of the total standard output comes from all crops.

- **Dairy** - Farms where more than two-thirds of the total standard output comes from dairy cows.

- **Lowground Cattle and Sheep** - Farms NOT in the less-favoured areas with more than two-thirds of the total standard output coming from sheep and beef cattle.

- **Mixed** - Farms where no enterprise contributes more than two-thirds of the total standard output.

[2] COMMISSION DELEGATED REGULATION (EU) No 1198/2014, http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1198&from=en

Relevance

The degree to which the statistical product meets user needs for both coverage and content.

Policy

The primary use of FBS data is to inform policy decisions and to help monitor and evaluate current policies, especially their impact on different agricultural sectors. The data is also used to model the impact of potential future policy options. Furthermore, FBS results also contribute to the compilation of Total Income from Farming (TIFF) estimates, especially as the source of input costs, which are forecast forward a year to account for the lag in survey results. The prominent profile of FBS in policy issues relates to the nature of the information collected and the scarcity of alternative sources.

EC requirements

The FBS data is used to meet the EC requirements of the Farm Accountancy Data Network (FADN). The FADN is the only source of micro-economic data that is harmonised across all EC countries and is used for the formulation and evaluation of agricultural policy as well as in monitoring the farm income levels in each Member State. Further information on FADN and the results for all Member States are available on the following websites:
http://ec.europa.eu/agriculture/rica/index.cfm
http://ec.europa.eu/agriculture/analysis/fadn/index_en.htm

Farm business advice

The FBS provides information on average levels of return and costs faced by farmers. Corresponding information on top and bottom performers are used by farmers and farm advisors to evaluate the viability of businesses and business plans. The FBS also provides data for benchmarking business performance across Scotland and the UK. Benchmarking data using farm accounts data is available at:
https://www.fas.scot/rural-business/business-tools/
http://www.farmbusinesssurvey.co.uk/benchmarking/Default.aspx

Research

Another important use of the survey is for academic research. The full dataset can be made available in an anonymous form and under strict confidentiality conditions for a number of research projects.

The survey covers farm businesses with a Standard Labour Requirement[3] of 0.5 and above and covers most main farm types in Scotland, excluding horticulture, specialist pig and specialist poultry producers. Around 10,802 holdings are represented at present.

[3] Standard Labour Requirements represent the approximate average labour requirement for a livestock or crop enterprise. The annual hours of a full-time worker is 1900 hours.

Sampling

The sampling strategy of the FBS is based on a stratified simple random sample and is effectively designed as a panel survey with little change in the membership of the sample between years. The sampling frame for the survey is the Scottish Agricultural Census, according to the specific requirements of the FBS sample in regards to farm type and standard output (SO) size. Around 10,802 holdings are represented by the FBS at present.

An important feature of the survey is the measurement of changes in farm incomes and in incomes from diversified activities for particular types of farm for at least two years. To achieve this, it is necessary to maintain farms in the sample surveyed over a number of years. Once recruited, the farm may stay in the sample for an unlimited time period. The involvement of farms in the FBS is entirely voluntary.

If farms drop out of the survey, replacements are selected depending on which farm types, economic output and district of Scotland are required to achieve a sample which is representative of the population of farms in Scotland. Replacement farms are then selected at random from within these groups.

Weighting

The FBS information is gathered from a sample of the agricultural holdings in Scotland (excluding horticulture, specialist pigs and specialist poultry). Due to the nature of survey samples, the individuals being sampled may not directly reflect the population that those individuals are being sampled from. This can cause under or over representation of particular farm groups (farms with different characteristics). For example there may be a high proportion of dairy farms that are owner occupied in Scotland however due to location or the voluntary nature of the survey this high proportion may not be fully represented. Weightings are applied to the data to account for this sort of issue.

In the 2017-18, there was a change to the methodology used for weighting the data from the survey. In previous years, a single weight was calculated as the ratio of the number of farms in the population and in the sample for each grouping of farm type, tenure and size category. These weights were then applied to individual farms to represent the number of times that farm data must be replicated in order to 'represent' farms not selected for the sample. However, this method resulted in weightings that did not correct appropriately for the increasingly skewed nature of the sample and donor weightings were applied for some groupings where there was missing data.

To account for potentially unrepresentative nature of the sample a new calibration weighting method was applied for this publication, making the weighted averages more representative of the population. Data has been reweighted back six years (2012-13). Comparisons between weighted data prior to this time should not be made because the weighting methodologies are different.

Weightings are based on the June Census distribution of agricultural holdings in Scotland and are published broken down by eight farm types and three farm tenures.

With a calibrated weighting method, the calibration variables (see below) are summed to equal the estimated population totals. The calibration model includes the following variables[4]:

- type of farm
- tenure type of farm
- area of barley
- area of oats
- area of potatoes
- area of wheat
- rented area of land
- total area of farm
- number of Dairy Cows
- number of Beef Cows
- number of Ewes

This weight, when applied to each farm, represents the number of times that farm data must be replicated in order to 'represent' farms not selected for in the sample. By weighting in this calibrated way, it reduces bias that may occur due to common problems related to survey data, providing a more precise estimate for the variables being analysed even when the groups sampled do not directly reflect the population.

Accuracy

The closeness between an estimated result and the (unknown) true value.

When compiling these statistics, results are examined alongside previously published outputs and related evidence from alternative sources in order to ensure that the methods being used are producing reliable results and to aid the identification of potential outlying results that may have an impact on the analysis. Such outliers, when identified, may be excluded from specific analysis to ensure that the results are representative of the population being described. Outputs undergo quality assurance internally before being shared with data providers for quality assurance purposes.

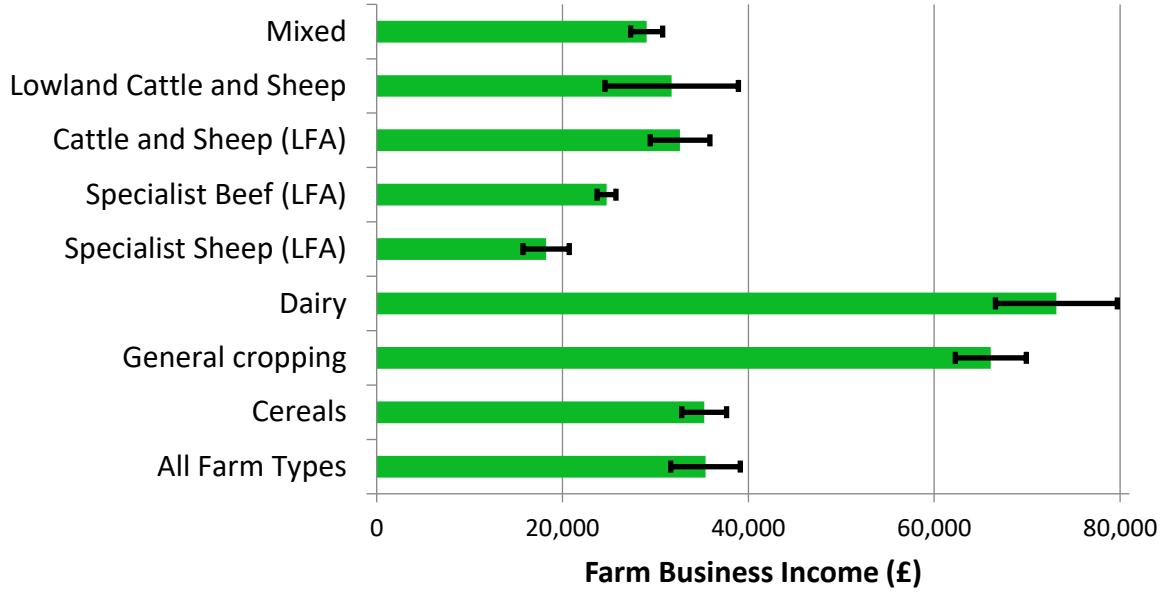
For 2017-18 results, 95% confidence intervals have been calculated for Farm Business Income (FBI). These intervals reflect the margin of error that is associated with the results, caused by the method of sampling within the survey.

The number of agricultural holdings surveyed in the farm accounts survey in 2017-18 was 492. This accounts for five per cent of the total relevant agricultural holdings in Scotland. As the survey does not cover the entire population, the FBI estimates are susceptible to sampling error.

[4] Calibration model and weightings were produced using the package ReGenesees in R Statistical package version 3.4.4. Weights are then applied to FBS data in SAS Enterprise Guide version 7.1.

The estimates for the mean FBI are calculated using weighted survey data. These figures are accompanied by 95% confidence intervals. The intervals tell us that we are 95% confident that the true value will lie within the given range. For example, we are 95% confident that the true mean FBI for general cropping will lie within the range of £66,000 ± £3,800.

Figure 2: 2017-18 Farm Business Income estimates



The sampling frame for the Farm Business Survey is the June Agricultural census. While, ideally, each strata in the survey would be proportionally representative of those farm types in the whole of Scotland, it is possible for the makeup of the farming population to change from year to year and over longer periods of time. As farms can remain within the sample indefinitely the composition of the sample may not change in line with or at the same speed as the composition of the population of farms in Scotland. To account for this, a design effect for disproportionate sampling was introduced. The size of this design effect increases the further the strata is from being proportionally representative of that strata for the whole of Scotland. It is then applied into the calculation of our 95% confidence intervals. It should be noted that if the strata is already proportionally representative, the design effect will be equal to one, and no adjustments to the intervals will take place.

The size of the confidence intervals presented will vary depending on a number of factors, including: the sample size for the farm type, the standard errors associated, and the design effect. Generally, smaller sample sizes, larger standard errors, and larger design effects will result in wider intervals, while the opposite is associated with more narrow intervals.

Data collected through the FBS is of a highly sensitive nature; due to this, the refusal rate of farms approached to participate is high. Non-responders (farms refusing to participate) may have different characteristics to responders (farms willing to

cooperate), which could lead to biased results. Currently there has been no assessment of non-response bias in the FBS for Scotland.

The quality of information collected from each farm is very high, based on fully reconciled farm accounts. Data for each farm is also validated against a comprehensive set of quality assurance checks. The potential for processing errors is regarded as low risk due to much of the collection being based on reconciled accounts, the extensive use of cross-checking validation routines and that the vast majority of farms have previous records in the survey which can also be used to identify inaccuracies in returns. In some cases, accounts may not be finalised until after the deadline for submission of data. In such cases estimated records are updated and the published figures are revised in the following year. In this sense, the first release of data for a particular year may be regarded as provisional.

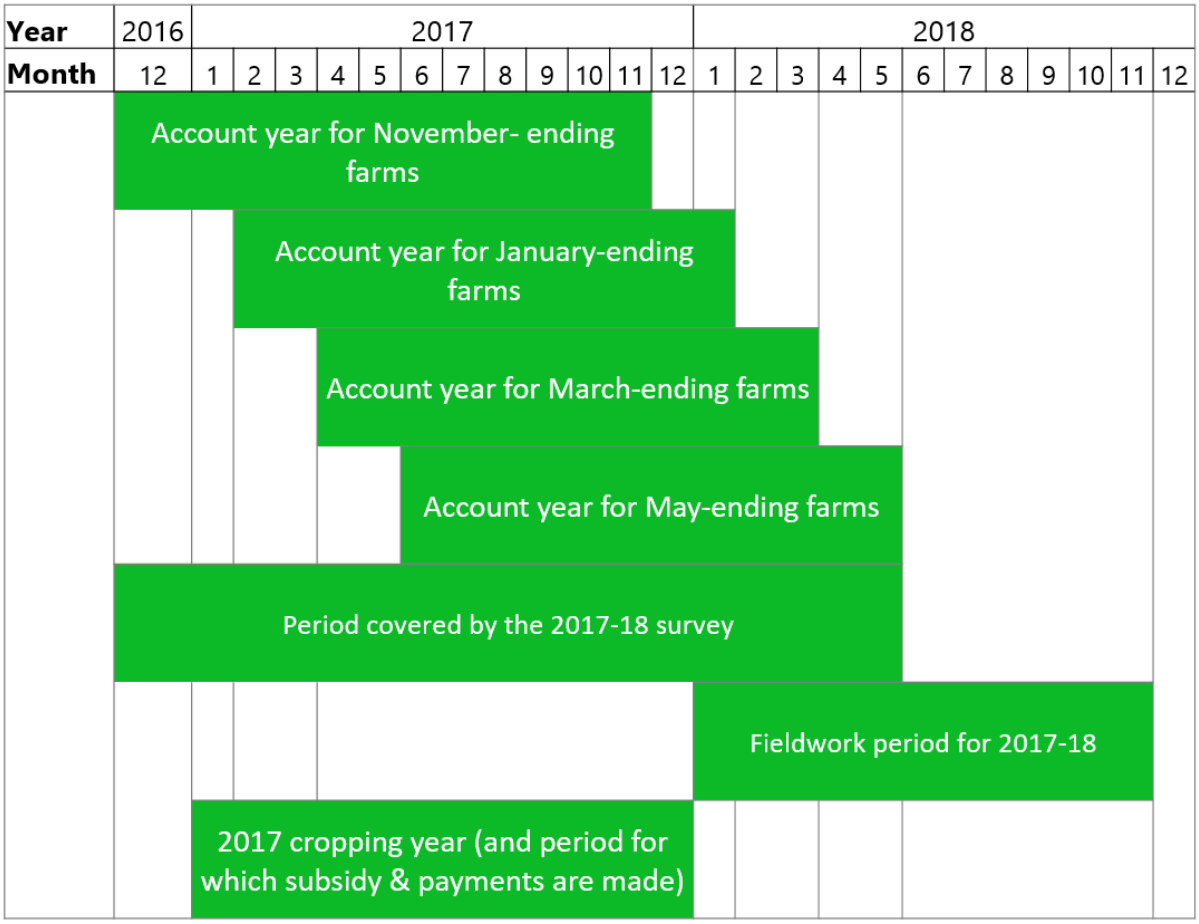
Timeliness and Punctuality

Timeliness refers to the lapse of time between publication and the period to which the data refer.

Punctuality refers to the time lag between the actual and planned dates of publication.

The survey is not carried out on a calendar-year basis but based on farms' financial years. The exact period covered by the survey, for any given year, will vary across the sample depending on individual businesses' accounting year ends, although they all centre on the same cropping period. For example, the 2017-18 accounts, first published in March 2019, all centre on the 2017 production and subsidy year. The spread of closing valuation dates from the autumn of one year to the spring of the next, which means that some of the 2017-18 accounts relate to the 2017 winter whilst others relate to that of 2018.

Figure 1: The time period covered by the 2017/18 farm accounts survey



Headline FBI estimates for 2017-18 were first published in the 'Scottish Farm Income Estimates 2017-18' National Statistics publication, released on the 26th March 2019 at the following internet address, https://www.gov.scot/publications/scottish-farm-business-income-estimates-2017-18/

Accessibility and Clarity

Accessibility is the ease with which users are able to access the data. It also relates to the format(s) in which the data are available and the availability of supporting information.

Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.

These statistics are made available online at the Scottish Government's statistics website in accessible formats (html and pdf versions are available). Data tables are made available in excel format to allow users to carry out further analysis. Farm-level datasets may be made available to recognised research organisations.

Methodological notes and additional notes to tables, identifying specific quality issues, are included in this document, which is available online and linked to from all National Statistics outputs containing farm business income estimates. Links to the UK Agriculture Statistics series of outputs are available from the Gov.uk website, www.gov.uk.

Comparability

The degree to which data can be compared over time and domain.

Trends for most farm types are subject to annual sample variations, as a small number of farms join and leave the survey each year. Between 2016-17 and 2017-18, 37 farms left and 39 new farms entered the survey. In addition, the characteristics of farms which remain within the sample can change between sample years, e.g. a mixed farm type may increase investment in livestock; such a change in the characteristics of the farm may result in a change to the classification of the farm type, e.g. to cattle and sheep rather than mixed.

Table 3 below provides the number of farms in the sample, by farm type, from 2012-13 to 2017-18.

Table 3: Number of farms in FBS from 2012-13 to 2017-18

Type of Farms	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Specialist Sheep (LFA)	42	41	47	48	48	51
Specialist Cattle (LFA)	135	134	122	124	124	122
Cattle and Sheep (LFA)	54	57	63	63	62	53
Cereals	58	66	63	70	58	64
General Cropping	60	55	53	45	53	57
Dairy	51	45	46	53	44	41
Lowland Cattle and Sheep	29	27	30	28	29	26
Mixed	73	71	78	77	72	78
All Farm Types	**502**	**496**	**502**	**508**	**490**	**492**

Although the quality of information for each farm business in the survey is considered to be high, these relatively low sample sizes do mean that the results are subject to a degree of uncertainty in terms of representing overall national averages by farm type.

The balance of movement out of, and into the sample, may result in changes to average FBI values compared to what could have been expected if the composition of the sample had not changed over the last year. Replacement farms entering the survey are selected according to farm type, economic size and district to try to achieve and maintain a sample representative of Scottish farms.

The majority of information collected from the FBS is required to meet the EC requirements of the Farm Accountancy Data Network (FADN). The FADN is the only source of micro-economic data that is harmonised across all EC countries. As such,

similar analysis of farm income estimates is available both for UK countries and member states of the EC. Some differences do exist between countries, for example the basis of valuations and depreciation of assets. Details of the methodologies of data relating to other countries (within or out with the UK) should be sought from the respective government department.

The EC regularly produces results of the FADN data collections, providing overall and county specific results and these are made available online. Further information on FADN and the results for all Member States are available on the following websites:
http://ec.europa.eu/agriculture/rica/index.cfm
http://ec.europa.eu/agriculture/analysis/fadn/index_en.htm

Typically EC results are published later than Scottish or UK results due to the additional time required to collate, validate and analyse data from several countries.

The Department for Environment, Food and Rural Affairs (DEFRA) in England, the Welsh Assembly Government (WAG) in Wales and the Department of Agriculture and Rural Development (DARD) in Northern Ireland routinely publish results from their equivalent survey - the Farm Business Survey - these can be accessed from the websites below,

England (DEFRA) http://www.defra.gov.uk/statistics/foodfarm/farmmanage/fbs/

Wales (produced by IBERS on behalf of WAG)
https://www.aber.ac.uk/en/ibers/research-and-enterprise//fbs/

Northern Ireland (DAERA)
https://www.daera-ni.gov.uk/articles/farm-incomes-northern-ireland

Respondent Burden

The Respondent burden is often defined as the effort required to complete the survey. Current estimates suggest a respondent will spend approximately 2.5 hours completing the farm business survey, or gathering the required information.

User Feedback

Though we are not aware of any unmet user needs in relation to these statistics, the Scottish Government is always interested to here from users about what is most relevant to them and welcomes feedback from users of these statistics. Contact details are available from the Agriculture Statistics contacts webpage.

Details of both current and past user consultations are available on the Agriculture Statistics consultations webpage.

Related publications

England, Wales and Northern Ireland run similar Farm Business Surveys and FBI is used as the headline UK farm income measure. FBI results for all UK countries are published in Agriculture in the United Kingdom.
https://www.gov.uk/government/collections/agriculture-in-the-united-kingdom

Results from all Scottish Government agricultural surveys (including FBS from previous years) can be accessed here: Agriculture, Fisheries and Rural - Publications

Annex 1 - Further Definitions and Accounting Terms

Cash Income - Cash Income is the difference between total revenue and total expenditure. Revenue is receipts adjusted for debtors and expenditure is purchases adjusted for creditors. It is assumed therefore that all end of year debtor and creditor payments are settled in full, even though this may happen beyond the end of the accounting year. Cash income represents the cash return to the group with an entrepreneurial interest in the business (farmers and spouses, non-principal partners and directors and their spouses and family workers) for their manual and managerial labour and on their investment in the business.

Net Farm Income (NFI) – represents the return to the farmer and spouse for their manual and managerial labour and on the tenant-type capital in the farm business. It is intended as a consistent measure of the profitability of tenant-type farming. NFI is not a proxy either for farm business income or for farm household income.

- To represent the return to the farmer and spouse alone, a notional deduction is made for any unpaid labour provided by non-principal partners and directors, their spouses and by others; this unpaid labour is valued at average local market rates for manual agricultural work.

- To confine the measure to the tenant type activities and assets of the business, an imputed rent is deducted for owner occupied land and buildings and for landlord-type improvements made by the tenant; no deduction is made for interest payments on any farm loans, overdrafts of mortgages and any interest earned on financial assets is also excluded.

Farm Corporate Income - Farm Corporate Income represents the return to the owners of the business on all their capital invested. It is derived by deducting unpaid labour, both manual and managerial, from Farm Business Income. This allows the profitability of sole traders and partnerships to be compared directly with that of companies. Currently it is possible to estimate unpaid manual labour but not unpaid managerial labour and so the data are only approximate.

Farm Investment Income - Farm Investment Income represents the return on all capital invested in the farm business whether borrowed or not. It is derived by adding net interest payments to Farm Corporate Income. Since currently the data for Farm Corporate income are only approximate, so too are the data for Farm Investment Income.

Diversified activities – Farm diversification in this study highlights income generated from non-traditional farming practise. This can be in the form activities such as processing and retailing of farm produce, renting farm buildings (not connected with core farm business), wind turbines and other renewables.

Non-Farming Income - Farmers are asked to indicate into which income range the joint non-farming income of the farmer and spouse falls for each of six separate sources of income. The sources of income are listed below:

Source of Income	Description
Off-farm employment	Paid employment off the farm.
Off-farm self-employment	Businesses (other than another farm) owned or operated away from the farm holding. Director's fees are included here.
Investment	Interest receipts on personal bank, building society and similar accounts. Rental income deriving from property off the farm and some dividends on shares are also included here.
Pensions	Includes income from retirement, widow's and disability pensions as well as from occupational and state pensions.
Social Payments	Includes payments such as child benefit and family credit.
Other off-farm income	All other off-farm income. Various commissions, and retainers, come into this category.

Crop Output - Sales, including produce to farmhouse and labour, adjusted for debtors at the beginning and end of year and for valuation change. The value of non-fodder crops used on the farm for feed or seed is included.

Livestock Output - Sales, including produce to farmhouse and labour, adjusted for debtors at the beginning and the end of year and for valuation change, less purchases of livestock and livestock products for resale. The value of milk from the dairy herd fed to stock is included. Breeding Livestock Stock Appreciation is excluded. The Revenue Value Pence per Litre is calculated on Milk sold.

Miscellaneous Output - Miscellaneous produce to farmhouse and labour, revenue from contracting and some other miscellaneous items, but excluding grants and subsidies, adjusted for valuation change.

Subsidy and Payments - Includes Basic Payment scheme (BPS) and Less Favoured Area Support Scheme (LFASS) payments and all grants except those paid in respect of permanent improvements and those deducted from expenditure.

Total output - Crop Output, Livestock Output, Miscellaneous Output and other Grants, Subsidy and Payments.

Inputs - Payments and non-cash inputs (e.g. unpaid labour, rental value) adjusted for creditors at the beginning and end of the year and for valuation change.

Feeds - Expenditure on feeds adjusted for valuation change. The value is included of (a) milk from the dairy herd fed to stock, and (b) home-grown non-fodder crops fed to stock.

Seeds - Expenditure on seeds adjusted for valuation change. The value of home-grown seed grain and potatoes is included.

Labour - Wages and employer's National Insurance contributions, payments in kind, salaried management are all included.

Fertilisers - Expenditure on lime and fertilisers, adjusted for valuation change.

Machinery (excluding Depreciation) - Expenditure on machinery repairs, small tools, contract work and fuel and oil, less allowances for private use.

Miscellaneous - Electricity, vehicle taxes, insurance and secretarial costs, adjusted for valuation change.

Other Livestock Expenses - Veterinary charges, haulage and sundry expenses.

Other Crop Expenses - Crop protection, sundry crop expenses and water for irrigation.

Land and Building Costs - Rent paid by tenants, rental value of owner-occupied farms, imputed rent on tenant's improvements. Rates paid on cottages and the business share of the farmhouse. Depreciation and repairs by occupiers.

Depreciation - This is calculated using the component valuation method, this involves breaking the valuation of a farm into its chief component parts; bare land, farmhouse, farm cottages, traditional farm buildings, modern farm buildings and land improvements (e.g., fencing, drainage). A 10% depreciation rate is applies for all buildings and improvements on a diminishing balance method; this means that 10% of the current value of the asset will be deducted each year and means that assets will retain a residual value at the end of the expected useful life of the asset. This is applied to all assets, including short-life improvements. Bare land and farm houses are not depreciated.

Valuations: Traditional buildings, if in use as farm buildings, and cottages (most of which are over 30 years old) are given a nominal residual value of £5,000 and subject to annual revaluation. Bare land is annually valued based on the "whole farm" market. Farm house valuations are based on cost of construction materials and improvements. Values for modern buildings and improvements are initially valued on construction costs and are subject to revaluation.

Breeding Livestock Stock Appreciation - The part of the change in the value of breeding livestock that is due to changes in price. It is calculated for adult female cattle, sheep and pigs.

Balance Sheets - The balance sheets show the average opening and closing valuations of assets, liabilities and net worth (assets minus liabilities) of the farm business for each farm type, reported according to tenure type. This has been split by tenure type to account for the different financial structures of owner-occupied, tenanted and mixed tenure farms.

The tenure definitions are as follows:

- **Owner-occupied** - Farms on which all of the area used for agriculture is owner-occupied.
- **Tenanted** – Farms on which all of the area used for agriculture is tenanted.
- **Mixed tenure -** Farms with any other tenure arrangements. This includes farms with landlord-tenant partnerships and farms on which the area used for agriculture is split between two or more different tenure types.

The balance sheets relate to the business rather than the farmer and therefore any other assets belonging to the latter are excluded.

For land and buildings, crops and livestock, the basis of valuation is conservative market price, while for machinery and equipment it is depreciated replacement cost. Particularly in the case of land and buildings, the balance sheet entries need to be treated with some caution in respect of the absolute level and of the year-to-year trend, and it follows that this caveat extends to dependent figures such as net worth.