

## Definitions used by the Farm Business Survey

This document sets out the main definitions used in the Farm Business Survey (FBS).

### Outputs and inputs

**Enterprise** is an identifiable sector of the farm or horticultural business, for which output includes valuations of unsold stocks produced by the enterprise

**Agricultural output** is the main measure of individual crop and livestock output. It comprises:

(a) **Crop enterprise output**, which is the total value of crops produced by the farm (other than losses in the field and in store). It includes crops used for feed and seed by the farm business and those consumed in the farmhouse and by farm labour. Crop enterprise output is calculated on a "harvest year" as distinct from an "accounting year" basis; that is, it refers only to those crops (with the exception of certain horticultural crops) wholly or partly harvested during the accounting year and excludes any crop carried over from the previous year. Thus valuation changes (between the previous and current crops) are not relevant and the total harvested yield of the crop is valued at market prices (plus any subsidies). However, any difference between the opening valuation of any stocks of previous crops and their ultimate disposal value (sales, used on farm and any end-year stocks) is included in total farm output.

(b) **By-products, forage and cultivations**, which cover the value of output of the by-products of agricultural activity, sales of fodder, valuation changes for fodder and cultivations. It also covers revenue from the letting of bare land or forage on a short-term lease.

(c) **Livestock enterprise output** comprises the total sales of livestock and livestock products including *direct livestock subsidies* and production grants received, part of the valuation change (see below), produce consumed in the farmhouse and by labour and the value of milk and milk products fed on the farm (excluding direct suckling) adjusted for debtors at the beginning and end of the year (except for direct livestock subsidies) and transfers between enterprises; less purchases of livestock and livestock products from outside the farm business. Stock appreciation for breeding livestock (cattle, sheep and pigs) has been excluded from individual livestock enterprise outputs. However, changes in the numbers of breeding livestock between the opening and closing valuation and the total valuation change of trading livestock are included. Unlike crop enterprise output, livestock enterprise output is calculated on an accounting year basis.

(d) **Miscellaneous output** covers the value of output from those activities which are still within the agricultural cost centre but do not fall within either livestock or crop enterprise output. These will include revenue from wayleaves, agricultural hirework, sundry woodland sales, contract farming rent, miscellaneous insurance receipts and compensation payments.

**Total Farm Output** is total crop enterprise output plus adjustment for output from previous year's crops plus total livestock enterprise output plus output from home grown fodder crops plus output from tillages and forage plus output from non-agricultural diversified activities plus miscellaneous revenue plus single payment.

**Inputs** are resources used in the production process, e.g. feed, materials, labour and machinery, measured in physical or financial terms.

**Costs** are divided into two types: *variable costs* and *fixed costs*.

**Variable Costs** are costs that are readily allocated to an enterprise and which will vary in approximately direct proportion to the scale of the enterprise. Examples of *Variable Costs* are fertilisers, pesticides, seed, concentrate feeding stuffs (purchased or home-grown), and purchased fodder. Sometimes casual labour and contract charges are treated as variable costs – see reference to these below in *Fixed Costs*. Purchases of livestock are not treated as variable costs.

**Fixed Costs** are those costs which either cannot readily be allocated to a specific enterprise or do not vary with small changes in the scale of the individual enterprise. Examples of *Fixed Costs* are labour (including payments in kind), machinery repairs and depreciation, rent and rates, general expenses, interest. Although casual labour and contract charges are often regarded as variable costs, they are essentially substitutable with labour and machinery costs. For this reason they can be regarded as fixed costs to aid comparisons of costs across farms.

*Fixed costs* exclude:

- i) the value of purchased stores used in the farmhouse (e.g. coal, electricity), or sold off the farm;
- ii) allowances for the private use of farm vehicles;
- iii) the rental value of the private share of the farmhouse;
- iv) any labour and materials used in capital projects.

**Adjusted fixed costs** are those fixed costs deducted to derive net margin. They include unpaid manual labour, including the farmer and spouse, and net field rent but exclude interest.

**Agricultural costs** comprise payments and the estimated value of non-cash inputs, including home-grown feed and seed, adjusted for changes in stocks and creditors between the beginning and end of the year.

**Total variable costs**

These are taken to be costs of feed, veterinary fees and medicines, other livestock costs, seeds, fertilisers, crop protection and other crop costs.

**Purchased concentrate feed and fodder**

This represents expenditure on feeds and feed additives, including charges for agistment and rented keep.

<b><i>Home-grown concentrate feed and fodder</i></b>	This includes ex-farm value of all home produced cereals, beans, milk (excluding direct suckling), etc. fed on the farm both from the current and previous years' crops.
<b><i>Veterinary fees and medicines</i></b>	This consists of veterinary fees and the cost of all medicines.
<b><i>Other livestock costs</i></b>	This comprises straw bought specifically for costs bedding materials, breeding costs (including AI and stud fees), miscellaneous dairy expenses, disinfectants, marketing and storage costs of animal products, Milk Development Council levy and other livestock costs not separately identified.
<b><i>Purchased and home-grown seeds</i></b>	This comprises expenditure on purchased seeds, plants and trees adjusted for changes in stocks. Home-grown seed from the previous crop is included and charged at estimated market price: any seeds from current crops and sown for a succeeding crop are excluded, but are included in the closing valuation of the crop and hence in enterprise output. This enables the value of home-grown seed used in the production of the current crop to be identified.
<b><i>Fertilizers</i></b>	This includes lime, fertilisers and other manures, and is adjusted for changes in stock. Fertilisers sown for next year's crops are treated as if they were still in store and are included in the closing valuation.
<b><i>Crop protection</i></b>	This includes costs of pre-emergent sprays, fungicides, herbicides, dusts and insecticides and other crop sprays.
<b><i>Other crop costs</i></b>	These comprise all crop inputs not separately specified, e.g. marketing charges, packing materials, British Potato Council levy, baling twine and wire (though not fencing wire).
<b><i>Total fixed costs</i></b>	These are the costs of labour, machinery, contract work, land and buildings, other general farming costs and depreciation.
<b><i>Labour (excluding farmer and spouse)</i></b>	This comprises wages and employer's insurance contributions, payments in kind, and salaried management. To calculate net farm income an imputed charge for unpaid labour is made, excluding that of the farmer and spouse, valued at the rate of comparable paid labour. The value of the manual labour of the farmer and spouse is not charged as an input in calculating net farm income (i.e. it is a component of net farm income).

<b><i>Contract costs</i></b>	These costs include expenditure on work carried out by agricultural contractors, including the costs of materials employed, such as fertilisers, unless these can be allocated to the specific heading. Costs of hiring machines to be used by the farm's own labour are also included. Expenditure on contract labour is only included here if it is associated with the hiring of a machine. Otherwise it is entered under (casual) labour.
<b><i>Machinery running costs</i></b>	These represent the cost of machinery and equipment repairs, fuel and oil and car mileage expenses. It excludes depreciation.
<b><i>Land and building inputs</i></b>	For the calculation of farm business income these comprise any rent paid, insurance, rates and repairs to land and buildings incurred by the whole business. In the derivation of net farm income land and building costs also include an imputed rental charge for owner occupiers but exclude those costs associated with land ownership such as the insurance of farm buildings, and landlord-type repairs and upkeep.
<b><i>Depreciation of machinery, glasshouses and permanent crops</i></b>	Depreciation provisions in respect of machinery, glasshouses and permanent crops (e.g. orchards) are shown on a current cost basis. The rates of depreciation used (generally on a diminishing balance basis for machinery and straight line for glasshouses and permanent crops) are intended to reflect the degree of deterioration of the assets.
<b><i>Other general farming costs</i></b>	These consist of electricity, heating fuel, water for all farming purposes, insurance (excluding labour and farm buildings), bank charges, professional fees, vehicle licences, and other miscellaneous expenses not recorded elsewhere.
<b><i>Interest payments</i></b>	Interest charges on loans taken out for business purposes, net of interest receipts on monies invested temporarily outside the business, are deducted in the calculation of farm business income.
<b><i>Depreciation of buildings and works</i></b>	This is calculated on a current cost basis (generally on a straight line basis over 10 years) with an adjustment to allow for the effect of capital grants.

**Breeding livestock stock appreciation** represents the change in market prices of breeding cattle, sheep and pigs between the opening and closing valuations. It is not included in the calculation of farm business income.

## Margin and Income terms

**Total farm gross margin** equals total farm output less total variable costs

**Net Margin** of an enterprise equals gross margin less adjusted fixed costs allocated to the enterprise.

**Farm business income (FBI)** for sole traders and partnerships represents the financial return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers) and on all their capital invested in the farm business, including land and buildings. For corporate businesses it represents the financial return on the shareholders capital invested in the farm business. Note that prior to 2008/09 directors remuneration was not deducted in the calculation of farm business income. It is used when assessing the impact of new policies or regulations on the individual farm business. Although Farm Business Income is equivalent to financial Net Profit, in practice they are likely to differ because Net Profit is derived from financial accounting principles whereas Farm Business Income is derived from management accounting principles. For example in financial accounting output stocks are usually valued at cost of production, whereas in management accounting they are usually valued at market price. In financial accounting depreciation is usually calculated at historic cost whereas in management accounting it is often calculated at replacement cost.

**Net Farm Income (NFI)** is intended as a consistent measure of the profitability of tenant-type farming<sup>1</sup> which allows farms of different business organisation, tenure and indebtedness to be compared. It represents the return to the farmer and spouse alone for their manual and managerial labour and on the tenant-type capital<sup>2</sup> invested in the farm business.

To represent the return to 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 farming loans, overdrafts or mortgages; interest earned on financial assets is also excluded.

**Cash income** is the difference between total revenue and total expenditure. Revenue is: receipts adjusted for debtors; and expenditure is: purchases adjusted for

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<sup>1</sup> Tenant-type farming was never conceived of as including non-agricultural activities on farm (using farm resources) except perhaps for value added activities such as small-scale food processing, e.g. sales of farm produced butter and cream and retail sales of farm produced liquid milk. However, recent research has revealed that many of the more varied non-agricultural activities which have been increasing on farms over the years have been inadvertently included in the calculation of NFI, with the result that about three-quarters of non-agricultural activities on farm by value are currently included and one-quarter excluded, without any clear basis for this division. Although this means that the definition of NFI has become untenable on the current basis, it has been decided to continue with historical practice for reasons of continuity, rather than to change the definition, pending the introduction of a wider measure to include all on-farm business activities.

<sup>2</sup> Tenant-type capital comprises livestock, machinery, crops in store, stocks of consumables, work in progress, orchards, other permanent crops, glasshouses, cash and other assets needed to run the business. It does not include land and buildings.

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 all their investment in the business.

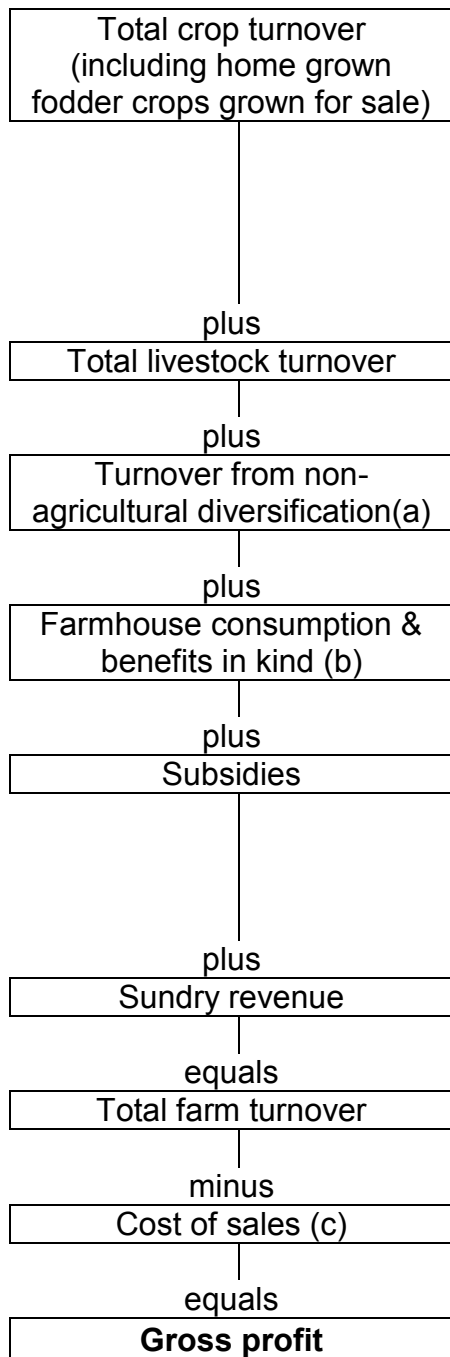
**Family farm income** is a measure of farm income used by the European Commission. It is based upon actual tenure and indebtedness. However, it is a broader measure than net farm income in that it represents the return to all unpaid labour (farmers and spouses, non-principal partners and directors and their spouses and family workers). It also includes breeding livestock stock appreciation although it cannot be realised without reducing the productive capacity of the farm.

**Farm corporate income** represents the return on own capital invested in the farm business, to risk and to entrepreneurship. 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 we are able to deduct an estimate of unpaid manual labour but not of unpaid managerial labour and so the data are only approximate. However, we plan to undertake a research project to produce a method for deriving an estimate of unpaid managerial labour, so that we can produce better data for this measure in future.

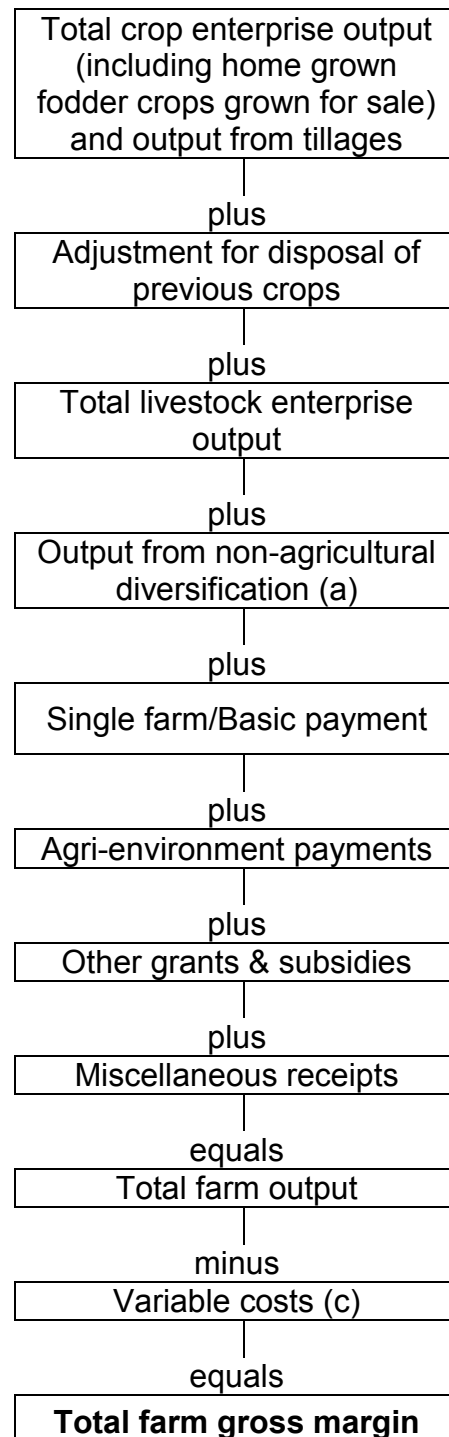
**Farm investment income** represents the return on all capital invested in the farm business *whether borrowed or not*, to risk and to entrepreneurship. It is a general measure of the profitability of farming as an activity rather than of a particular business. It is derived by adding net interest payments to Farm Corporate Income. Since currently the data for Farm Corporate income are only approximate, so too are the data for Farm Investment Income

## Flow chart of income measures

### Financial Accounting

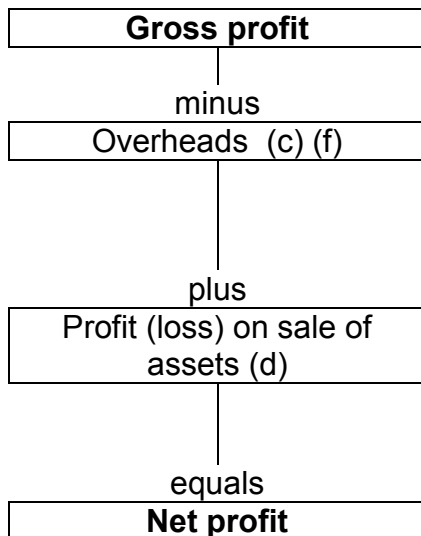


### Management Accounting

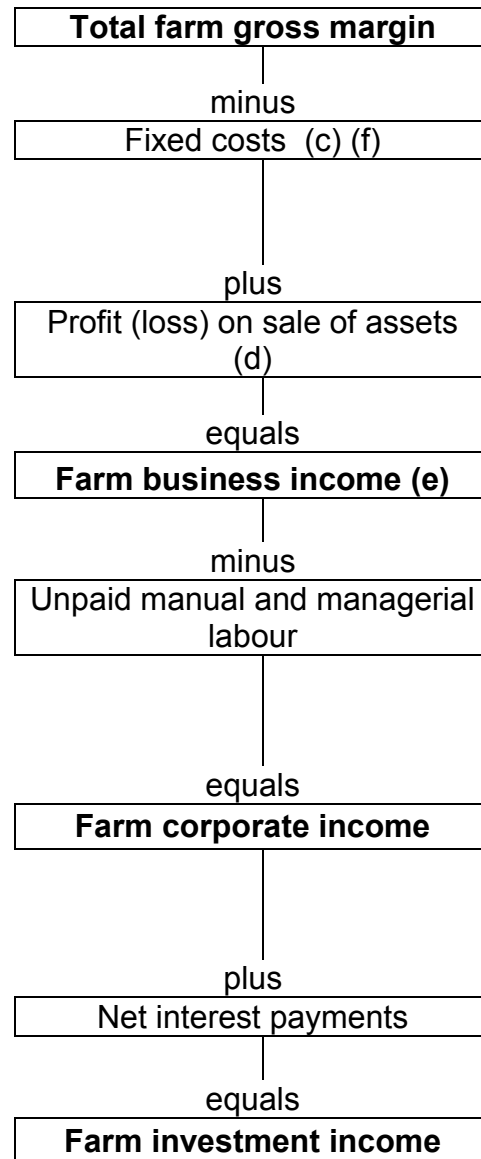


**Flow Chart of Income Measures (continued)**

**Financial Accounting**



**Management Accounting**



- (a) In financial accounting, the picture is mixed in terms of which diversified enterprises are included in Net Profit as prepared by accountants and it must not be assumed that Net Profit includes separable as well as inseparable diversification activities.
- (b) In principle in financial accounts farmhouse consumption and benefits in kind are included in total turnover and benefits in kind are included in labour costs; in practice they may be excluded as not material.
- (c) Including those from non-agricultural diversification.
- (d) Assets in this context refer to tenant type assets such as machinery, equipment, glasshouses and permanent crops. The number is negative if there is a loss on sale of assets.
- (e) In broad definition terms, Farm Business Income (sometimes referred to as Farm Business Profit) is very similar to Net Profit. In practice they are likely to differ because Net Profit is derived from financial accounting principles and Farm Business Income is derived from management accounting principles. For example in financial accounting output stocks are usually valued at cost of production, whereas in management accounting they are usually valued at market price. In financial accounting depreciation is usually calculated at historic cost whereas in management accounting it is often calculated at replacement cost. A further difference is that Net Profit includes breeding livestock stock appreciation but Farm Business Income excludes it. As noted at (a) there might also be differences in terms of the range of diversified enterprises included within net profit and farm business income.
- (f) Overheads and fixed costs include Director's emoluments because Directors of companies are essentially employees. Their emoluments (pay and perks) are therefore included in overheads/fixed costs and hence are deducted in deriving Net Profit/Farm Business Income



## Farm Business performance

### **Economic performance bands of farm businesses in the FBS**

Economic performance for each farm is measured as the ratio between economic output (mainly sales revenue) and inputs (costs); the higher the ratio, the higher the economic efficiency and performance. Performance bands based on economic performance percentiles are as follows:

- Low performers - bottom 25% of economic performers
- Medium performers -middle 50% of performers
- High performers - top 25% of performers

## Land Areas, livestock units and Stocking

**Total area of farm** is the utilised agricultural area plus woodland and other areas of the farm not used for agriculture (e.g. buildings, roads, water, and household gardens).

**Utilised agricultural area (UAA)** is the crop area, including fodder, set-aside land, temporary and permanent grass and rough grazing in sole occupation (but not shared rough grazing) i.e. the agricultural area of the farm. It includes bare land and forage let out for less than one year.

**Adjusted utilised agricultural area** comprises the utilised agricultural area with rough grazing in sole occupation converted to a permanent pasture equivalent.

**Forage Crops** are all crops, grass and rough grazing grown on the farm specifically for grazing livestock, but not crops harvested as grain and pulses.

**Forage Area** comprises the area of *Forage Crops* grown for consumption on the farm, including land hired in, net of land let out, less any land used exclusively by outdoor pigs or poultry. It includes the land equivalent in hectares of any home-grown fodder fed to intensively-reared, non-grazing livestock, e.g. veal calves and barley-beef and the area equivalent of grazing from cash crops of hay or seed, but only if this is very significant.

**Total tillage** comprises the utilised agricultural area, plus bare land and forage hired in from others in the accounting period, minus temporary and permanent grass and rough grazing in sole occupation (but not shared rough grazing).

**Total area farmed** comprises the total area of the farm minus woodlands and buildings, etc. plus net land hired in.

**Stocking figures** are the average annual level of stocking based on estimated average livestock numbers on the farm for the year, including fractions for livestock on the farm for less than a year.

**Total livestock units** are used as an approximate measure of stocking intensity and are based on the estimated energy requirements of different species and ages of livestock. The factors used are set out in the table below.

**Table 1: Livestock Unit Coefficients**

Type of Stock	Livestock Units	Type of Stock	Livestock Units
<b>Cattle</b>		<b>Pigs</b>	
Dairy cows	1.00	Boars	0.35
Beef Cows	0.75	Breeding sows	0.44
Heifers in calf (rearing)	0.80	Gilts in pig	0.20
Bulls	0.65	Maiden gilts	0.18
Other cattle, under 1 year	0.34	Other pigs	0.17
Other cattle, 1 to 2 years	0.65	<b>Poultry</b>	
Other cattle, 2 years and over	0.80	Cocks, hens, pullets in lay	0.0017
<b>Sheep</b>		Pullets, one week to point of lay	0.0030
Rams	0.08	Broilers	0.0017
Lowland ewes	0.11	Other table chicken	0.004
Upland ewes	0.08	Turkeys	0.005
Hill ewes	0.06	Ducks, geese, other poultry	0.003
Store lambs, under 1 year	0.04	<b>Other Livestock</b>	
Breeding ewe hoggs, 6 months to 1 year	0.06	Horses	0.80
Other sheep, over 1 year	0.08	Breeding female goats	0.16
		Other goats	0.11

**Annual labour units (ALU)** are the estimated number of full time worker equivalents of persons working on the holding during the year. Part-time workers are converted to full-time equivalents in proportion to their actual working time related to that of a full-time worker. One ALU represents one person employed for 2,200 hours.

## Yields and Implied Output prices

**Crop yields** are calculated as total production divided by crop area.

**Implied output prices** are average unit returns excluding direct subsidies. For crops they are calculated by dividing the value of sales, closing stocks, farm house consumption, benefits in kind and own-produced feed by total production. Sales are value at prices actually received at the farm gate before the deduction of marketing charges paid direct by the farmer such as drying and cleaning costs. More detailed information about sales volumes is collected for livestock and, in this case, the unit returns refer to sales of livestock including casualties. In both cases, any compensation payments or insurance payouts for output produced in the current year and destroyed are included.

## Balance Sheet terms

**Liabilities** are the total value of claims on the Assets of a business by the various suppliers of funds to it.

**Assets** are anything of value in the possession of the business and claims on anything of value in the possession of others. In valuing the assets of a business, current market value is the preferred approach.

**Total fixed assets** include milk and livestock quotas, as well as land, buildings, breeding livestock, and machinery and equipment. For tenanted farmers, assets can include farm buildings, cottages, quotas, etc., where these are owned by the occupier.

**Liquid assets** comprise cash and sundry debtors.

**Bank term loans and other long and medium term loans** are loans which exceed 12 months.

**Net Worth** represents the residual claim or interest of the owner in the business. It is the balance sheet value of assets available to the owner of the business after all other claims against these assets have been met.

## Flow of Funds

**The Flow of Funds Statement** demonstrates how funds have been generated by the business (source of funds) and where these funds have been spent (disposal of funds). It shows the importance of Net Farm Income as a source of funds compared to other sources such as sales of property, changes in loans outstanding and other funds introduced (e.g. from a private source). To derive the amount of cash funds generated by the business a number of adjustments are made to net farm income; specifically depreciation, imputed costs and unpaid labour costs are added back to net farm income. The total cash sources are completed by adding in sales of property, changes in loans outstanding and transfers into the business of funds from outside. The disposals show how the funds have been spent, for example purchase of property and quotas, capital expenditure and private drawings. The difference between the sources and disposals is a surplus if total sources are greater than total disposals and a deficit if total disposals are greater than total sources.

**The reconciliation of the flow of funds** shows how the surplus or deficit has been distributed in terms of financial assets and financial liabilities, i.e. the change between the opening and closing valuations in terms of bank balance, cash-in-hand, debtors and creditors.

## FBS Survey Terms

### **Accounting Years**

To ensure consistency in harvest/crop year and commonality of subsidies within any one FBS year, only farms which have accounting years ending between 31 December and 30 April inclusive are allowed into the survey. (For Scotland, accounting years up to 31 May are allowed).

The FBS accounting year for an individual farm in the survey is normally the same as the tax year for that business (for convenience in compiling the account). The tax year will normally be chosen by the farmer, not the tax authorities.

Aggregate results are presented in terms of an accounting year ending at end-February, the approximate average of all farms in the FBS. Hence published results for the 2014/15 accounting year cover the period 1 March 2014 to 28 February 2015.