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# Balance sheet analysis and farming performance, England 2014/2015

This release presents the main results from an analysis of the profitability and resilience of farms in England using data from the Farm Business Survey. Six measures have been examined; liabilities, net worth, gearing ratios, liquidity, net interest payments as a proportion of Farm Business Income and Return on Capital Employed (ROCE). The key results are:

# Liabilities (section 1)

- Across all farms, the average (mean) level of liabilities (debt) was £186,200 per farm, continuing an upward trend. Thirteen percent of all farms had liabilities of £400,000 or more while 26% had liabilities of less than £10,000.
- Dairy farms had the highest average liabilities of £367,300 whilst grazing livestock farms (LFA and Lowland) had the lowest average levels of debt (£67,400 and £89,500, respectively).
- Average liabilities increased with farm size (both per farm and per hectare) from £53,700 (£860 per ha) for spare/part time farms to £642,400 (£1900 per ha) for very large farms.
- Farms of mixed tenure (partly owned or partly tenanted) had greater average liabilities (over £240,000) than wholly owned or tenanted farms. Tenanted farms had the lowest average liabilities of £94,100 in 2014/15.

#### Net worth (section 2)

- The average net worth across all farms was £1.6 million. Around a half (53%) had a net worth of at least £1million; these farm businesses are likely to be resilient to fluctuations in income, at least in the short term.
- Cereal (£2.4 million) and general cropping farms (£2.6 million) had the highest average net worth per farm, driven by the larger average area of land owned by these farm types. Horticulture and LFA grazing livestock farms had the lowest average net worth of approximately £770,000 and £758,000 per farm, respectively.
- Average net worth increased with farm size; increasing from £1.0 million for spare time and part time farms to £3.4 million for very large farms.
- Mixed mainly owner occupied farms had a greater average net worth (£2.3 million) than other tenure types.

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# Gearing ratio (section 3)

- The average gearing ratio across all farms was 10%. There has been a slight downward trend over the last 3 years.
- Around half (49%) of farms had a gearing ratio of less than 5%. This indicates that many of farms are in a favourable situation in terms of servicing any loans.
- Pig & poultry farms had the highest average gearing ratio of 26%.
- The gearing ratio increased with farm size from 5% for spare/part time farms to 16% for very large farms.
- Tenanted farms had a higher average gearing ratio (26%) compared to other farm tenures.

# **Liquidity (section 4)**

- The average liquidity ratio across all farms was 229% in 2014/15. There has been some fluctuation but no overall upward or downward trend over the last 5 years.
- The majority of farms had a strong liquidity ratio, with around two thirds having a ratio of at least 200%, indicating that the majority of farms are able to meet their current liabilities using current assets. However, 19% of farms potentially face financial difficulties with a liquidity ratio of less than 100%.
- On average, lowland grazing livestock farms had a liquidity ratio of 284%. For dairy farms the average ratio was 159%.
- The liquidity ratio generally decreased with farm size from 289% for small farms to 194% for very large farms.
- In terms of tenure, owner occupied farms had the highest average liquidity ratio (270%).

# Net Interest payments as a proportion of FBI (section 5)

- Net interest payments were on average 11% of Farm Business Income (FBI) in 2014/15. This measure has steadily increased from 6% in 2011/12. In 2014/15 net interest payments ranged from 9% of FBI for cereal farms to 18% for mixed farms.
- For 20% of farms net interest payments were less than 5% of their Farm Business Income; for 8% net interest payments were more than half of Farm Business Income.
- Twelve percent of farm businesses had a negative Farm Business Income and therefore would not have been able to pay some or all of the interest on their debts, without further borrowing or drawing on their assets.

#### Return on Capital Employed (section 6)

- Over the period since 2009/10, the median Return on Capital Employed (ROCE) peaked in 2011/12 at 1.6% but has declined in each subsequent year. In 2014/15, the median across all farms was -0.5%. There is a wide range of values across farms.
- Dairy (1.3%), cereal (0.4%) and general cropping (0.3%) farms had positive median ROCE values. For all other farm types the median values were less than zero.
- Larger farms tended to have a greater ROCE than smaller farms.

#### **Detailed results**

This release presents the main results from an analysis of the profitability and resilience of farms in England using data from the Farm Business Survey. This notice provides an analysis of six indicative measures:

Measure	Rationale
Liabilities	A measure of indebtedness
Net worth	A measure of wealth
Gearing	To explore investment habits and the potential risk associated with farming enterprises
Liquidity	To examine the short term financial viability of farms
Net interest payments as a proportion of Farm Business Income	To examine whether farms can afford to pay the interest on their debts
Return on Capital Employed (ROCE)	Provides an indication of productivity and efficiency

The data used for this analysis is from those farms present in the Farm Business Survey (FBS) during the period 2009/10 to 2014/15 and that had complete returns on their assets and liabilities. Weights were derived for this sub sample in line with the method described in the <u>survey methodology</u> section (e.g. to preserve the population totals for robust farm types and farm size groups).

Where data have been presented in real terms, a GDP deflator has been used.

The results are presented together with <u>confidence intervals</u>. The results presented in this notice can be found at: <u>https://www.gov.uk/government/organisations/department-forenvironment-food-rural-affairs/series/farm-business-survey#publications</u>

Figures in italics are based on fewer than fifteen observations and should therefore be treated with caution.

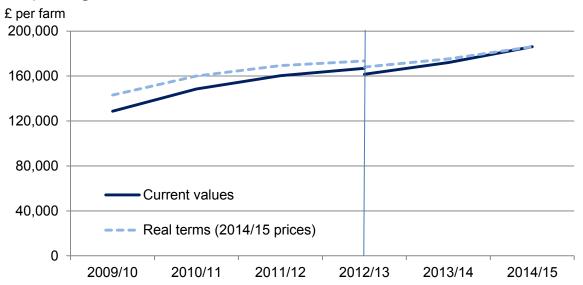
#### 1 Liabilities

#### **Key findings for 2014/15:**

- Across all farms, the average (mean) level of liabilities (debt) was £186,200 per farm, continuing an upward trend.
- Thirteen percent of all farms had liabilities of £400,000 or more while 26% had liabilities of less than £10,000.
- Dairy farms had the highest average liabilities of £367,300 whilst grazing livestock farms (LFA and Lowland) had the lowest average levels of debt (£67,400 and £89,500, respectively).
- Average liabilities increased with farm size (both per farm and per hectare) from £53,700 (£860 per ha) for spare/part time farms to £642,400 (£1900 per ha) for very large farms.
- Farms of mixed tenure (partly owned or partly tenanted) had greater average liabilities (£240,400 and £266,300, respectively) than wholly owned or tenanted farms. Tenanted farms had the lowest average liabilities of £94,100 in 2014/15.

This section examines liabilities to consider the indebtedness of farm businesses. Liabilities are the total debt (short and long term) of the farm business including mortgages, long term loans and monies owed for hire purchase, leasing and overdrafts. High levels of liabilities will require consistent income flows to ensure that interest on borrowing can be paid.

Figure 1.1: Average liabilities per farm in current values and real terms (2014/15 prices)<sup>(a)</sup>, England



Farms with at least 25,000 euros of Standard Output.

The average level of debt across all farms was around £186,200 in 2014/15, an increase in both real and current values since 2009/10 (Figure 1.1). This has been driven largely by increases in bank term and other long/medium term loans rather than by changes to overdrafts or other short term loans. Farm type, size and tenancy were found to be

<sup>(</sup>a) Deflated by GDP.

<sup>(</sup>b) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

influencing<sup>1</sup> factors. The variation between farm types may be due to differences in the scale of capital investment required or due to differences in profitability. Specialist dairy farms had the highest level of debt with average liabilities of around £367,300 in 2014/15. Grazing livestock farms (LFA and Lowland) had the lowest average levels of debts (£67,400 and £89,500, respectively).

Thirteen percent of all farms in 2014/15 had liabilities of at least £400,000 whilst 26% had liabilities of less than £10,000 (Figure 1.2). More than half of dairy farms have liabilities of at least £150,000, compared to 12% of LFA grazing livestock farms. Almost half of horticulture farms (44%) have less than £10,000 worth of liabilities, compared to 8% of dairy farms.

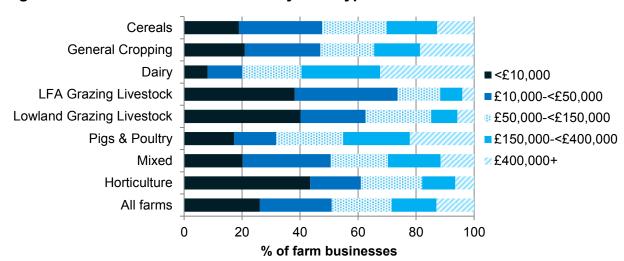


Figure 1.2: Distribution of liabilities by farm type 2014/15

As might be expected, levels of debt tend to increase with farm size<sup>2</sup> from an average of £53,700 for spare/part time farms to £642,400 for very large farms in 2014/15. Very large farms still have greater levels of debt even after accounting for area. Across all farms the average level of liability per hectare<sup>3</sup> was approximately £1,340 in 2014/15. Very large farms had the highest average liabilities per hectare at £1,900 compared with £860 to £1,350 per hectare for smaller farm size groups.

Figure 1.3 highlights that 44% of spare and part time farms have liabilities of less than £10,000, compared to just 3% of very large farms. Around a half (48%) of very large farms have liabilities of £400,000 or more, compared to 2% of spare and part time farms.

<sup>&</sup>lt;sup>1</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, tenure and economic performance) were significant in 2014/15. Farm type and size were highly significant (p<0.001); tenancy (p<0.01\*\*) was significant.

<sup>&</sup>lt;sup>2</sup> Farm sizes are based on the estimated labour requirements for the business, rather than its land area. Please see the section on definitions for more information.

<sup>&</sup>lt;sup>3</sup> Per hectare of farmed area. Farmed area = Utilised Agricultural Area + net land hired in (i.e. land hired in minus land hired out)

Spare & part-time Small ■<£10,000 £10,000-<£50,000 Medium £50,000-<£150,000 Large £150,000-<£400,000 £400,000+ Very large All farms 0 20 40 80 100 60

% of farm businesses

Figure 1.3: Distribution of liabilities by farm size 2014/15

Farms of mixed tenure (partly owned, partly tenanted) tended to have greater levels of liabilities (averaging over £240,400 per farm) than wholly owned or tenanted farms. Tenanted farms had the lowest average levels of debt with liabilities of £94,100 in 2014/15, probably because these farms had a lower asset base to borrow against. In 2014/15, over a third of owner occupied farms had liabilities of less than £10,000 (Figure 1.4) and just under 20% of mixed tenure farms had liabilities of at least £400,000.

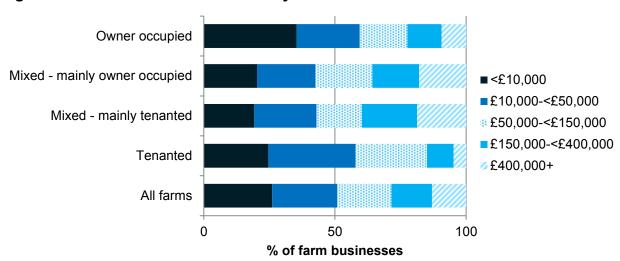


Figure 1.4: Distribution of liabilities by farm tenure 2014/15

The gearing ratio<sup>4</sup> can provide a deeper understanding of indebtedness. For those farms with less than £10,000 worth of liabilities, 96% have a gearing ratio of less than 5%, which shows that these farms are in a favourable situation. For further information on this please see section 3.

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<sup>&</sup>lt;sup>4</sup> The gearing ratio gives a farm's liabilities as a proportion of its assets.

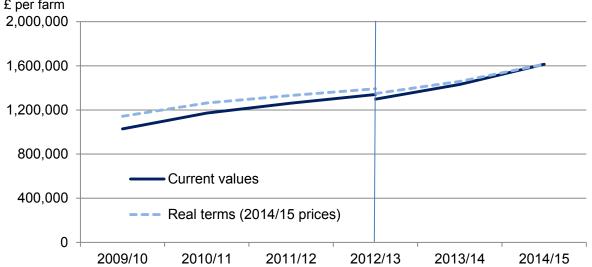
#### 2 Net worth

#### **Key findings for 2014/15:**

- The average net worth across all farms was £1.6 million. Around a half (53%) had a net worth of at least £1million; these farm businesses are likely to be resilient to fluctuations in income, at least in the short term.
- Cereal (£2.4 million) and general cropping farms (£2.6 million) had the highest average net worth per farm, driven by the larger average area of land owned by these farm types. Horticulture and LFA grazing livestock farms had the lowest average net worth of approximately £770,000 and £758,000 per farm, respectively.
- On a per farm basis, average net worth increased with farm size; from £1.0 million for spare time and part time farms to £3.4 million for very large farms. Per hectare (ha) there was a reduction falling from £15,700 per ha for spare time and part time farms to £9,900 per ha for very large farms.
- Mixed, mainly owner occupied farms had a greater average net worth (£2.3 million) than other tenure types.

This section examines the net worth of farm businesses. Net worth subtracts the value of total liabilities from total assets, including tenant type capital<sup>5</sup> and land. This represents the wealth of a farm if all of their liabilities were called in. Businesses with a high net worth are likely to be resilient, at least in the short term to fluctuations in their income. This is because they can draw on these reserves to support the business if the financial position of the farm deteriorates.

Figure 2.1: Average net worth per farm in current values and real terms (2014/15 prices)(a), England £ per farm 2,000,000



Farms with at least 25,000 euros of Standard Output.

(a) Deflated by GDP.

(b) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

The average net worth across all farms was around £1.6 million in 2014/15, an increase in both real and current values since 2009/10 (Figure 2.1) driven by the increased value of assets (largely land) over this period. Farm type, size, region, tenure and economic

<sup>&</sup>lt;sup>5</sup> For a definition of tenant type capital see the section on definitions

performance were all found to be influencing<sup>6</sup> factors for net worth. Cereal (£2.4 million) and general cropping farms (£2.6 million) had the highest average net worth at between in 2014/15, driven by the larger average area of land owned by these farm types. LFA grazing livestock and horticulture farms had the lowest average net worth of approximately £770,000 and £758,000 per farm, respectively. Across all farms, 53% had a net worth of at least £1 million in 2014/15 (Figure 2.2), implying that a large number of farms are likely to be resilient in the short term.

There are differences in the distribution of net worth between farm types; over two thirds of cereal farms had a net worth of at least £1 million in 2014/15 compared to 16% of horticultural farms, again reflecting land area with arable farms generally owning more land than horticulture farms. On a per hectare basis<sup>7</sup>, horticulture and pigs & poultry farms had, on average, greater levels of net worth (£33,500 per hectare and £21,700 per hectare, respectively) compared to other farm types. The lowest levels were £5,500 per hectare for LFA grazing livestock farms and £10,400 per hectare for dairy farms, respectively.

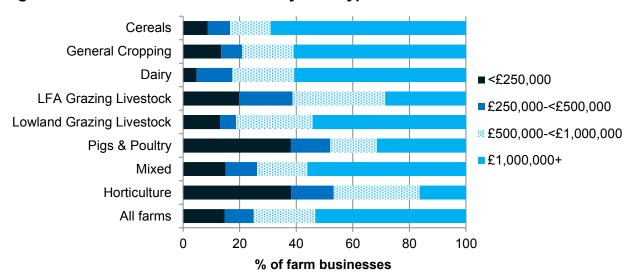


Figure 2.2: Distribution of net worth by farm type

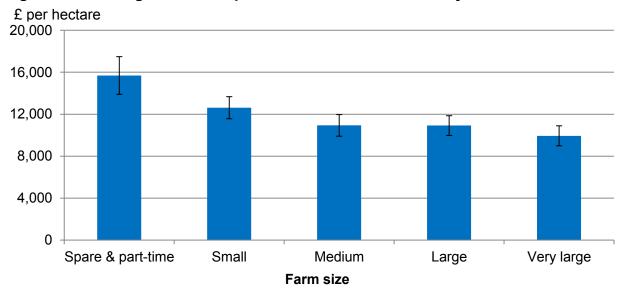
As might be expected, average net worth per farm increased with farm size<sup>8</sup>; from £1.0 million for spare time and part time farms to £3.4 million for very large farms. However, on a per hectare<sup>7</sup> basis (Figure 2.3), average net worth tends to decline as farm size increases, from £15,700 per hectare for spare and part time farms to £9,900 per hectare for very large farms. Across all farms, average net worth was approximately £11,700 per hectare in 2014/15.

<sup>&</sup>lt;sup>6</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, tenure and economic performance) were significant. All factors were found to be highly significant (p<0.001).

<sup>&</sup>lt;sup>7</sup> Per hectare of farmed area. Farmed area = Utilised Agricultural Area +net land hired in (i.e. land hired in minus land hired out)

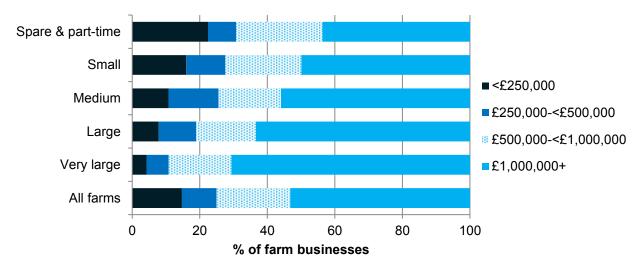
<sup>&</sup>lt;sup>8</sup> Farm sizes are based on the estimated labour requirements for the business, rather than its land area. Please see the section on definitions for more information

Figure 2.3: Average net worth per hectare of farmed area by farm size



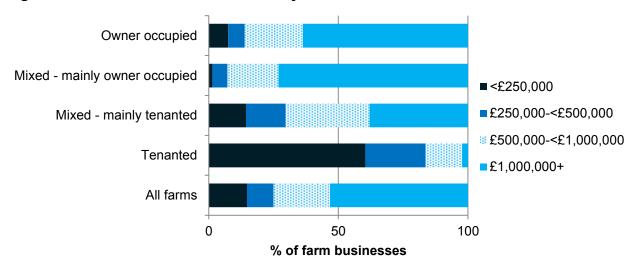
The proportion of farm businesses with a net worth of less than £250,000 decreased with farm size in 2014/15, from 22% of spare and part time farms to just 4% of very large farms (Figure 2.4). The proportion of farm businesses with a net worth of £1 million or more increased with farm size, from 44% of spare and part time farms to 71% of very large farms.

Figure 2.4: Distribution of net worth by farm size



Land forms a major contribution to the asset base of farms; those farms with greater levels of ownership tend to have greater levels of net worth. Mixed mainly owner occupied farms had the highest average net worth at £2.3 million in 2014/15 whilst tenanted farms had an average net worth of £268,000. Just over 60% of tenanted farms had less than £250,000 of net worth compared to just 1% of those that were mixed mainly owner occupied. Only 2% of tenanted farms had a net worth of £1 million or more, compared to over 70% of mixed mainly owner occupied farms (Figure 2.5).

Figure 2.5: Distribution of net worth by farm tenure



The gearing ratio  $^9$  compares what the business owes with the assets that the owners have tied up in the business. The proportion of farms with a gearing ratio of 40% or more decreases as the amount of net worth increases. For those farms with a net worth of less than £250,000, around a third had a gearing ratio of 40% or more in 2014/15, compared to just 1% of those farms with at least £1,000,000 net worth. For further information on the gearing ratio please see <a href="section 3">section 3</a>.

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<sup>&</sup>lt;sup>9</sup> The gearing ratio gives a farm's liabilities as a proportion of its assets.

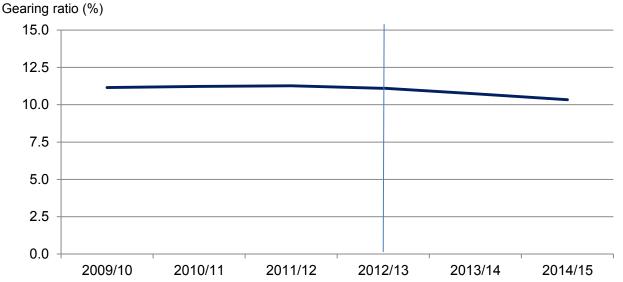
#### 3 Gearing

# **Key findings for 2014/15:**

- The average gearing ratio across all farms was 10%. There has been a slight downward trend over the last 3 years.
- Around half (49%) of farms had a gearing ratio of less than 5%. This indicates that many farms are in a favourable situation in terms of servicing any loans.
- Pigs and poultry farms had the highest average gearing ratio of 26%.
- The gearing ratio increased with farm size from 5% for spare/part time farms to 16% for very large farms.
- Tenanted farms had a higher average gearing ratio (26%) compared to other farm tenures.

In order to get a deeper understanding of indebtedness in the industry we can compare what the business owes with the assets that the owners have tied up in the business. We use an accounting measure which gives a farm's liabilities as a proportion of its assets, sometimes referred to as the **gearing ratio**. If a farm has assets equal to its liabilities, this will give a gearing ratio value of 100%. If a farm's assets are twice as large as its liabilities, the gearing ratio will be 50%. The gearing ratio provides a measure of the **long term financial viability** of a farm. A lower ratio (less than 50%) is generally seen as more acceptable because this suggests that the farm business is more likely to be able to meet its investment needs from earnings. A higher ratio may be seen as a greater risk as interest costs will be higher and the farm will have lower funds to borrow against. However, being highly geared does not necessarily imply an unsuccessful business. Investment can increase profitability, so increasing the gearing ratio can lead to better performance.

Figure 3.1: Average gearing ratio per farm, England



Farms with at least 25,000 euros of Standard Output

The average (mean) gearing ratio across all farms was 10% in 2014/15, continuing a gradual decline (Figure 3.1). Around half (49%) of farms had a gearing ratio of less than 5% whilst 8% of farms had a gearing ratio of at least 40%. This indicates that the vast

<sup>(</sup>a) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

majority of farms are in a favourable situation. Farm type, size, tenure and economic performance were found to be influencing<sup>10</sup> factors.

Pig & poultry farms had a higher average gearing ratio in 2014/15 (26%) than other farm types, with 28% having a gearing ratio of 40% or more (Figure 3.2). Cereals (8%), grazing livestock (8%) and mixed farms (9%) had the lowest average gearing ratios.

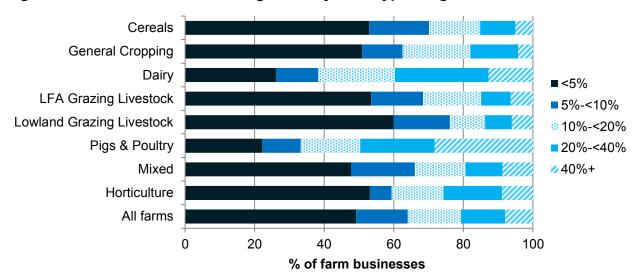


Figure 3.2: Distribution of Gearing Ratio by farm type, England 2014/15.

The gearing ratio increased with farm size in 2014/15 from 5% for spare/part time farms to 16% for very large farms. Almost two thirds of spare/part time farms had a gearing ratio of less than 5%, compared to almost a quarter of very large farms (Figure 3.3).

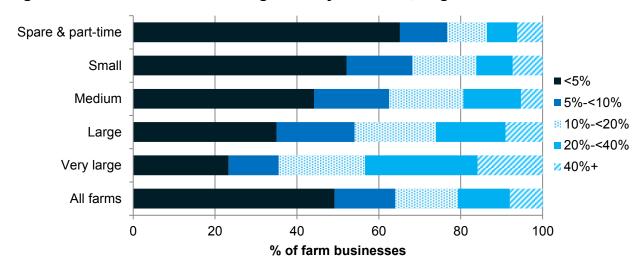


Figure 3.3: Distribution of Gearing Ratio by farm size, England 2014/15.

Tenanted farms had a higher average gearing ratio in 2014/15 (26%) compared to other farm tenures. The average gearing ratio for owner occupied farms was 7%. A quarter of tenanted farms had a gearing ratio of 40% or more, compared to 3% of mixed mainly owner occupied farms (Figure 3.4). These figures highlight the importance of the value of land in contributing to owner occupied and mixed tenure farms' asset base.

<sup>&</sup>lt;sup>10</sup> A generalised linear regression model was fitted to examine which factors (farm type, size, region, tenure and economic performance) were significant. Farm type, size, tenure and economic performance were found to be highly significant (p<0.001).

Owner occupied Mixed - mainly owner occupied **■** <5% **■**5%-<10% Mixed - mainly tenanted **10%-<20%** 20%-<40% **Tenanted 40%** All farms 0 20 40 80 100 60 % of farm businesses

Figure 3.4: Distribution of Gearing Ratio by farm tenure, England 2014/15.

For those farms with less than £10,000 of liabilities, 96% had a gearing ratio of less than 5% (Table 3.1), which shows that these farms are in a favourable situation. For those farms with at least £400,000 of liabilities, just over a quarter had a gearing ratio of 40% or more. The proportion of farms with a gearing ratio of 40% or more increases as the amount of liabilities increases.

Table 3.1 Proportion of farms by Gearing ratio and liabilities, England 2014/15.

		Liabilities				
		£10,000-	£50,000-	£150,000-		
Gearing Ratio	<£10,000	<£50,000	<£150,000	<£400,000	£400,000+	
<5%	96	69	29	6	1	
5%-<10%		12	33	21	9	
10%-<20%	4	12	19	37	22	
20%-<40%		7	9	25	42	
40%+	0	,	11	12	26	
All farms	100	100	100	100	100	

Some data have been grouped due to insufficient observations.

For those farms with less than £250,000 of net worth, 32% had a gearing ratio of 40% or more (Table 3.2). For those farms with a net worth of at least £1million, 58% had a gearing ratio of less than 5%. The proportion of farms with a gearing ratio of 40% or more decreases as the amount of net worth increases.

Table 3.2 Proportion of farms by Gearing ratio and net worth, England 2014/15.

Gearing Ratio	Net Worth				
	<£250,000	£250,000- <500,000	£500,000- <£1,000,000	£1,000,000+	
<5%	26	39	49	58	
5%-<10%	10	13	17	16	
10%-<20%	16	18	15	15	
20%-<40%	15	19	13	11	
40%+	32	12	7	1	
All farms	100	100	100	100	

#### 4 Liquidity

#### **Key findings for 2014/15:**

- The average liquidity ratio across all farms was 229%. There has been some fluctuation but no overall upward or downward trend over the last 5 years.
- The majority of farms had a strong liquidity ratio, with around two thirds having a ratio
  of at least 200%, indicating that the majority of farms are able to meet their current
  liabilities using current assets. However, 19% of farms potentially face financial
  difficulties with a liquidity ratio of less than 100%.
- On average, lowland grazing livestock farms had a liquidity ratio of 284%; for dairy farms the average ratio was 159%.
- The liquidity ratio generally decreased with farm size from 289% for small farms to 194% for very large farms.
- Owner occupied farms had the highest average liquidity ratio at 270%.

'Liquidity' is a measure of the **short term financial viability** of farms. A large proportion of the assets on a farm, such as land or machinery, will typically have a monetary value that is difficult or costly to realise in the short term. The liquidity ratio<sup>11</sup> provides an indication of the ability of a farm to finance its immediate financial demands from its current assets, such as cash, savings or stock. If the liquidity ratio is equal to or above 100%, then a farm is able to meet its current liabilities using current assets. If the ratio is less than 100%, then a farm is unable to meet its immediate financial demands using current assets.

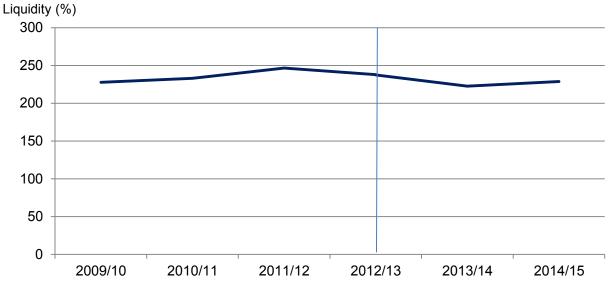


Figure 4.1: Average liquidity per farm, England

Farms with at least 25,000 euros of Standard Output

(a) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

(b) Farms with no recorded current liabilities have been excluded from this analysis.

The average liquidity ratio across all farms in 2014/15 was 229%. There has been some fluctuation but no overall upward or downward trend over the last 5 years (Figure 4.1). Farm type, size, tenure and economic performance were found to be influencing <sup>12</sup> factors.

<sup>11</sup> Liquidity ratio is current assets divided by current liabilities.

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<sup>&</sup>lt;sup>12</sup> A generalised linear regression model was fitted to examine which factors (farm type, size, region, tenure and economic performance) were significant. Farm type and economic performance were found to be highly significant (p<0.001), farm size and tenure were found to be significant (p<0.01\*) in 2014/15.

The majority of farms had a strong liquidity ratio; around two thirds had a ratio of at least 200% in 2014/15 (Figure 4.2). One in five farms (19%) had a liquidity ratio of less than 100% and potentially face financial difficulties. These farms were more likely to be pigs & poultry and dairy farms (farm type was found to be the sole influencing factor for those farms with a liquidity ratio of less than 100%<sup>13</sup>). Lowland grazing livestock farms (291%) had the highest average liquidity ratios in 2014/15. Dairy farms had the lowest average liquidity ratio (159%), although over two thirds had a liquidity ratio of more than 100%.

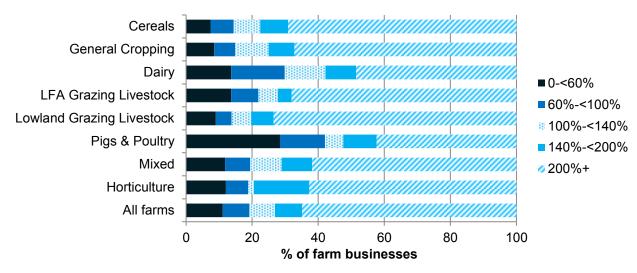


Figure 4.2: Distribution of liquidity ratio by farm type, England 2014/15

A small number of farms (47) with no recorded current liabilities have been excluded from this analysis.

The liquidity ratio generally tends to decrease with farm size from 289% for small farms to 194% for very large farms in 2014/15. A quarter of very large farms had a liquidity ratio of less than 100%, compared to 17% of spare/part time farms (Figure 4.3). Nearly three quarters of spare/part time farms had a liquidity ratio of 200% or more.

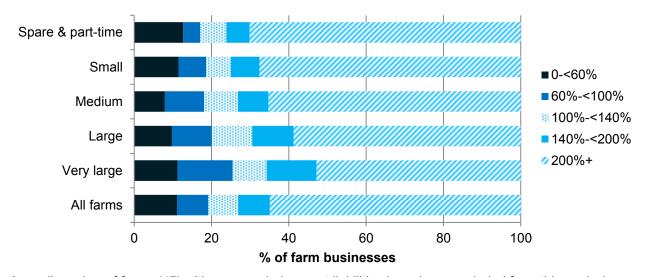


Figure 4.3: Distribution of liquidity ratio by farm size, England 2014/15

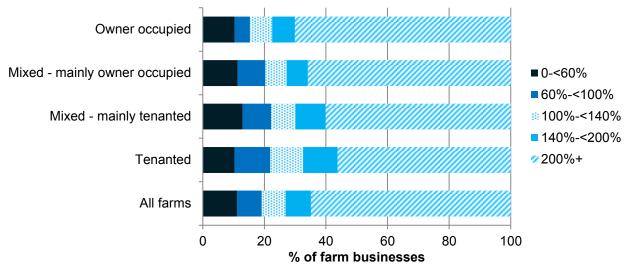
A small number of farms (47) with no recorded current liabilities have been excluded from this analysis.

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<sup>&</sup>lt;sup>13</sup> A generalised linear regression model was fitted to examine which factors (farm type, size, region, tenure and economic performance) were significant for those farms with a liquidity ratio of less than 100%. Farm type was found to be highly significant (p<0.001).

Owner occupied (270%) had the highest average liquidity ratio in 2014/15 whilst mixed, mainly tenanted farms had the lowest average liquidity ratio at 190%. Seventy percent of owner occupied farms had a liquidity ratio of 200% or more compared to 56% of tenanted farms (Figure 4.4).

Figure 4.4: Distribution of liquidity ratio by farm tenure, England 2014/15



A small number of farms (47) with no recorded current liabilities have been excluded from this analysis.

# 5 Net Interest payments as a proportion of Farm Business Income (FBI)<sup>14</sup>

# **Key findings for 2014/15:**

- Net interest payments were on average 11% of Farm Business Income (FBI) in 2014/15. This measure has steadily increased from 6% in 2011/12. In 2014/15 net interest payments ranged from 9% of FBI for cereal farms to 18% for mixed farms.
- For 20% of farms, net interest payments were less than 5% of their Farm Business Income; for 8% net interest payments were more than half of Farm Business Income.
- Twelve percent of farm businesses had a negative Farm Business Income and therefore would not have been able to pay some or all of the interest on their debts, without further borrowing or drawing on their assets.

This section examines net interest payments as a proportion of Farm Business Income. This measure provides an indication of whether farms can afford to pay the interest on their debts.

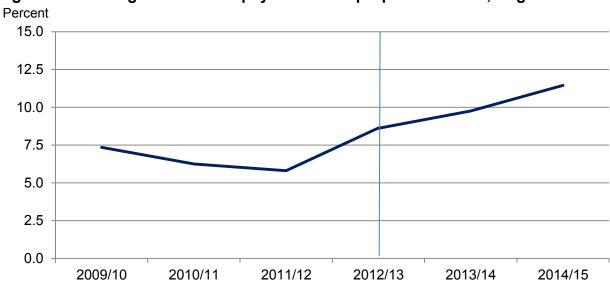


Figure 5.1: Average net interest payments as a proportion of FBI, England

Farms with at least 25,000 euros of Standard Output.

(a) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

Net interest payments were on average 11% of Farm Business Income (FBI) in 2014/15. This measure has steadily increased since 2011/12 (Figure 5.1). Farm type, size and economic performance were found to be influencing factors in 2014/15. Mixed farms had the highest net interest payments as a proportion of FBI (18%), while cereal farms had the lowest at 9%. A third of farm businesses paid no interest (i.e. no loans) or their interest received (i.e. had savings) was greater than the interest paid on loans. Almost half of horticultural farms paid no interest or received interest, compared to 19% of dairy and pigs & poultry farms (Figure 5.2). Twenty percent of all farms had net interest payments of less than 5% of their FBI in 2014/15, whilst for 8% of farms net interest payments were at least half of their FBI. Twelve percent of farm businesses had negative Farm Business Income farm businesses had negative Farm Business Income

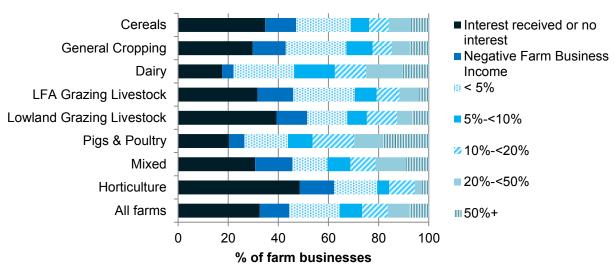
<sup>&</sup>lt;sup>14</sup> Before deducting interest.

<sup>&</sup>lt;sup>15</sup> A generalised linear regression model was fitted to examine which factors (farm type, farm size, region, tenure and economic performance) were significant. Farm type, size, and economic performance were found to be highly significant (p<0.001) in 2014/15.

<sup>&</sup>lt;sup>16</sup> This includes those businesses where FBI is negative before and after deducting interest payments.

and therefore would not have been able to pay some or all of the interest on their debts, without further borrowing or drawing on their assets.

Figure 5.2: Distribution of net interest payments as a proportion of Farm Business Income by farm type



The negative Farm Business Income (FBI) group includes those where FBI is negative before and after deducting interest payments.

Larger farms tended to have the highest net interest payments as a proportion of Farm Business Income (12%). Around 8% of very large farms have negative Farm Business Income<sup>11</sup> compared to 11% of spare and part time farms.

Mixed, mainly tenanted farms had the highest net interest payments as a proportion of Farm Business Income at 14%, compared to 9% for tenanted farms.

# 6 Return on Capital Employed

# Key Findings for 2014/15:

- Over the period since 2009/10, the median Return on Capital Employed (ROCE) peaked in 2011/12 at 1.6% but has declined in each subsequent year. In 2014/15, the median across all farms was -0.5%. There is a wide range of values across farms.
- Dairy (1.3%), cereal (0.4%) and general cropping (0.3%) farms had positive median ROCE values. For all other farm types the median values were less than zero.
- Larger farms tended to have a greater ROCE than smaller farms.

Return on capital employed (ROCE) is a measure of the return that a business makes from the available capital. ROCE provides a more holistic view than profit margins, focusing on efficient use of capital and low costs and allowing an equal comparison across farms of differing sizes. A positive ROCE value shows that a farm is achieving an economic return on the capital used.

ROCE = <u>Earnings before Interest and Tax</u>
Total Assets less Current Liabilities

Earnings have been calculated by using Defra's main income measure, Farm Business Income (FBI), minus the imputed cost of all unpaid labour. Capital employed is the available amount that each farm could use to earn profit in the upcoming financial year. It has been calculated by subtracting current<sup>17</sup> (i.e. short term) liabilities from total assets.

An additional measure of ROCE that uses Net Farm Income<sup>18</sup> was also investigated and the results of this can be found in the accompanying workbook of results. Further information on the measures of ROCE can be found in annex A.

A negative ROCE value<sup>19</sup> indicates that a farm is not achieving an economic return on the capital employed. The median ROCE for all farm businesses has fallen since 2011/12 and was -0.5% in 2014/15 (Figure 6.1). Around 43% of farms had a positive ROCE value in 2014/15 with around 4% having returns of over 10%. Farm type, size, tenancy and economic performance were each found to be influencing<sup>20</sup> factors.

<sup>&</sup>lt;sup>17</sup> Short term liabilities are deducted in order to measure the capital assets that would remain after short term commitments have been met. Overdrafts are treated as a long term liability and therefore not deducted.

<sup>&</sup>lt;sup>18</sup> For a definition of Net Farm Income please see the section on definitions.

<sup>&</sup>lt;sup>19</sup> Note that the incidence of negative ROCE is higher than the incidence of negative FBI. This is because the value of unpaid labour has been deducted from FBI.

<sup>&</sup>lt;sup>20</sup> A generalised linear regression model was fitted to examine which factors (farm type, size, region, tenure and economic performance) were significant. Farm size, tenancy and economic performance were highly significant in 2014/15 (p<0.001).

Figure 6.1: Return on capital employed (ROCE, median values) per farm, England

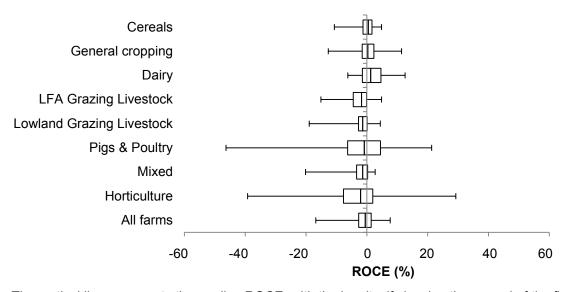


Farms with at least 25,000 euros of Standard Output.

(a) Standard output coefficients were updated in 2012/13 from a 5 year average centred on 2007 to a 5 year average centred on 2010. Results for 2012/13 have been calculated using both for comparability.

Cereal, general cropping and dairy farms had a positive median ROCE in 2014/15 (Figure 6.2). For grazing livestock, pigs & poultry, mixed and horticultural farms the median ROCE was negative. Horticultural farms had the lowest median ROCE (-1.8%) whilst dairy farms had the greatest median return (1.3%).

Figure 6.2: Box plot showing spread of ROCE by farm type covering 5%, 25%, 50%, 75% and 95% of farms, England 2014/15.



The vertical line represents the median ROCE, with the box itself showing the spread of the first and third quartiles; the spread between this and the first 5% of farms and the top 5% of farms are represented by the horizontal lines

Around three quarters of grazing livestock and mixed farms had a negative ROCE in 2014/15 compared to 41% of cereal farms and 36% of dairy farms (Figure 6.3). Twelve percent of pigs & poultry and 16% of horticulture farms had a positive return of 10% or more, compared to 1% of grazing livestock farms.

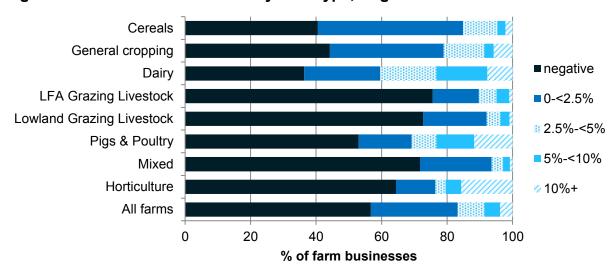
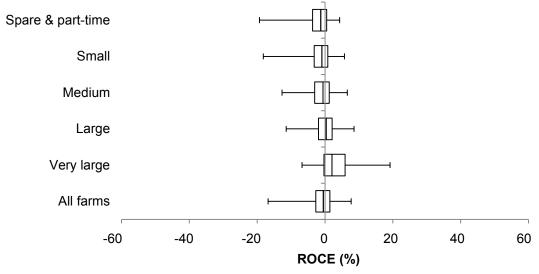


Figure 6.3: Distribution of ROCE by farm type, England 2014/15.

The 5%-<10% and 10%+ groups have been combined for mixed farms due to insufficient observations.

Larger farms tended to have a greater ROCE than smaller farms in 2014/15 (Figure 6.4). Spare and part-time and very large farms had a median ROCE of -1.2% and 2.1%, respectively.

Figure 6.4: Box plots showing spread of ROCE by farm size covering 5%, 25%, 50%, 75% and 95% of farms, England 2014/15.



The vertical line represents the median ROCE, with the box itself showing the spread of the first and third quartiles; the spread between this and the first 5% of farms and the top 5% of farms are represented by the horizontal lines

Figure 6.5 shows the distribution of ROCE for each farm size. A smaller proportion of very large farms have a negative ROCE compared to other farm size groups. In 2014/15, 11% of very large farms had a return of 10% or more, compared to 2% of spare and part-time farms.

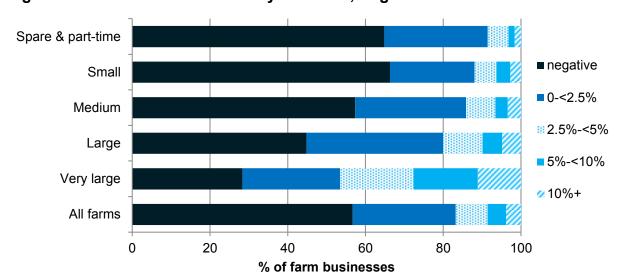
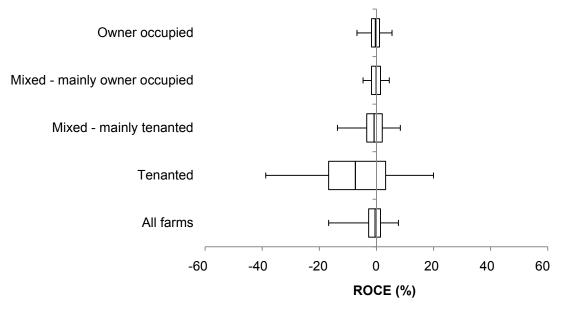


Figure 6.5: Distribution of ROCE by farm size, England 2014/15.

All farm tenure groups had a negative median return ROCE in 2014/15 (Figure 6.6). Note that the measure does not include imputed rent for owner occupied farms.

Figure 6.6: Box plot showing spread of ROCE by farm tenure covering 5%, 25%, 50%, 75% and 95% of farms, England 2014/15.



The vertical line represents the median ROCE, with the box itself showing the spread of the first and third quartiles; the spread between this and the first 5% of farms and the top 5% of farms are represented by the horizontal lines

A greater proportion of tenanted farms (68%) had a negative ROCE (Figure 6.7) than other tenure types. Fourteen percent of tenanted farms had a return on capital of 10% or more compared to less than 4% of other tenure types.

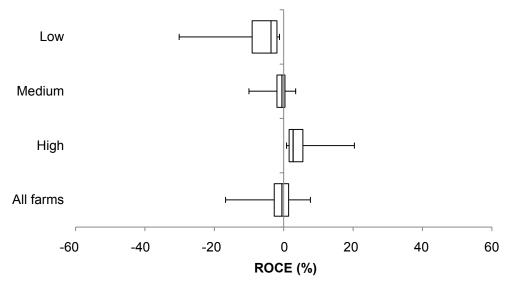
Owner occupied ■ negative Mixed - mainly owner occupied **■** 0-<2.5% Mixed - mainly tenanted **2.5%-<5% 5%-<10% Tenanted 2** 10%+ All farms 0 20 80 100 40 60

Figure 6.7: Distribution of ROCE by farm tenure, England 2014/15, England 2014/15.

Higher economically performing farms tended to have a greater ROCE than those exhibiting a poorer performance in 2014/15 (Figure 6.8). The lowest and highest quartiles of performing farms had a median ROCE of -3.6% and 2.7%%, respectively.

% of farm businesses

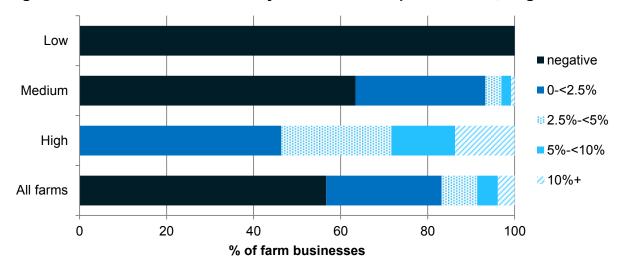
Figure 6.8: Box plots showing spread of ROCE by farm economic performance covering 5%, 25%, 50%, 75% and 95% of farms, England 2014/15.



The vertical line represents the median ROCE, with the box itself showing the spread of the first and third quartiles; the spread between this and the first 5% of farms and the top 5% of farms are represented by the horizontal lines

Figure 6.9 shows the distribution of ROCE by economic performance band. Farms in the lowest quartile all had a negative ROCE in 2014/15. No farm in the highest performing quartile had a negative ROCE in 2014/15 whilst 14% had a return of 10% or more.

Figure 6.9: Distribution of ROCE by farm economic performance, England 2014/15.



# Survey details

#### Survey content and methodology

The Farm Business Survey (FBS) is an annual survey providing information on the financial position and physical and economic performance of farm businesses in England. The sample of around 1,900 farm businesses covers all regions of England and all types of farming with the data being collected by face to face interview with the farmer. Results are weighted to represent the whole population of farm businesses that have at least 25 thousand Euros of standard output<sup>21</sup> as recorded in the annual June Survey of Agriculture and Horticulture. In 2014, this accounted for approximately 57,500 farm businesses<sup>22</sup>.

For further information about the Farm Business Survey please see: <a href="https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey">https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/series/farm-business-survey</a>

#### Data analysis

The results from the FBS relate to farms which have a standard output of at least 25,000 Euros. Initial weights are applied to the FBS records based on the inverse sampling fraction for each design stratum (farm type by farm size). These weights are then adjusted (calibration weighting<sup>23</sup>) so that they can produce unbiased estimators of a number of different target variables.

The data used for this analysis is from those farms present in the Farm Business Survey for 2009/10 to 2014/15 that have complete returns on their assets and liabilities. In 2014/15 this sub sample consisted of 1867 farms. This subsample has been reweighted using a method that preserves marginal totals for populations according to farm type and farm size groups. As such, farm population totals for other classifications (e.g. regions) will not be in-line with results using the main FBS weights, nor will any results produced for variables derived from the rest of the FBS (e.g. farm business income).

#### Accuracy and reliability of the results

We show 95% confidence intervals against the results. These show the range of values that may apply to the figures. They mean that we are 95% confident that this range contains the true value. They are calculated as the standard errors (se) multiplied by 1.96 to give the 95% confidence interval (95% CI). The standard errors only give an indication of the sampling error. They do not reflect any other sources of survey errors, such as non-response bias.

For the Farm Business Survey, the confidence limits shown are appropriate for comparing groups within the same year only; they should not be used for comparing with previous years since they do not allow for the fact that many of the same farms will have contributed to the Farm Business Survey in both years.

<sup>&</sup>lt;sup>21</sup> For a definition of standard output please see the UK classification document here https://www.gov.uk/farm-business-survey-technical-notes-and-guidance

Prior to the 2010/11 campaign, the coverage of the FBS was restricted to those farms of size ½ Standard Labour Requirement (SLR) or more. For a definition of SLR please see the UK classification document here: https://www.gov.uk/farm-business-survey-technical-notes-and-guidance

Further information on calibration weighting can be found here: <a href="https://www.gov.uk/farm-business-survey-technical-notes-and-guidance">https://www.gov.uk/farm-business-survey-technical-notes-and-guidance</a>

We have also shown error bars on the figures in this notice. These error bars represent the 95% confidence intervals (as defined above).

For the FBS, figures based on less than 15 observations these have been highlighted in the tables.

#### Availability of results

This release contains headline results for each section. The full breakdown of results, by farm type, farm size tenure, region and economic performance can be found at: <a href="https://www.gov.uk/government/collections/farm-business-survey#documents">https://www.gov.uk/government/collections/farm-business-survey#documents</a>

Defra statistical notices can be viewed on the Food and Farming Statistics pages on the Defra website at <a href="https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics">https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs/about/statistics</a>. This site also shows details of future publications, with pre-announced dates.

#### **Data Uses**

Data from the Farm Business Survey (FBS) are provided to the EU as part of the Farm Accountancy Data Network (FADN). The data have been used to help inform policy decisions (e.g. Reform of Pillar 1 and Pillar 2 of Common Agricultural Policy) and to help monitor and evaluate current policies relating to agriculture in England (and the EU). It is also widely used by the industry for benchmarking and informs wider research into the economic performance of the agricultural industry.

### User engagement

As part of our ongoing commitment to compliance with the Code of Practice for Official Statistics <a href="http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html">http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html</a>, we wish to strengthen our engagement with users of these statistics and better understand the use made of them and the types of decisions that they inform. Consequently, we invite users to make themselves known, to advise us of the use they do, or might, make of these statistics, and what their wishes are in terms of engagement. Feedback on this notice and enquiries about these statistics are also welcome.

### **Definitions**

#### Mean

The mean (average) is found by adding up the weighted variable of interest (e.g. liabilities or net worth) for each individual farm in the population for analysis and dividing the result by the corresponding weighted number of farms. In this report average is usually taken to refer to the mean.

#### **Percentiles**

These are the values which divide the population for analysis, when ranked by an output variable (e.g. ROCE or net worth), into 100 equal-sized groups. For example, twenty five percent of the population would have incomes below the 25th percentile.

#### Median

The median divides the population, when ranked by an output variable, into two equal sized groups. The median of the whole population is the same as the 50<sup>th</sup> percentile.

# **Farm Type**

Where reference is made to the *type of farm* in this document, this refers to the 'robust type', which is a standardised farm classification system.

#### **Farm Sizes**

Farm sizes are based on the estimated labour requirements for the business, rather than its land area. The farm size bands used within the detailed results tables which accompany this publication are shown in the table below. Standard Labour Requirement (SLR) is defined as the theoretical number of workers required each year to run a business, based on its cropping and livestock activities.

Farm size	Definition
Spare & Part time	Less than 1 SLR
Small	1 to less than 2 SLR
Medium	2 to less than 3 SLR
Large	3 to less than 5 SLR
Very Large	5 or more SLR

# Farm Economic performance

Economic performance for each farm is measured as the ratio between economic output (mainly sales revenue) and inputs (costs). The inputs for this calculation include an adjustment for unpaid manual labour. The higher the ratio, the higher the economic efficiency and performance. The farms are then ranked and allocated to performance bands based on economic performance percentiles:

- Low performance band farms who took part in the fertiliser survey and were in the bottom 25% of economic performers
- Medium performance band farms who took part in the fertiliser survey and were in the middle 50% of performers
- **High performance band** farms who took part in the fertiliser survey and were in the top 25% of performers.

#### Assets

Assets include milk and livestock quotas, as well as land, buildings (including the farm house), breeding livestock, and machinery and equipment. For tenanted farmers, assets can include farm buildings, cottages, quotas, etc., where these are owned by the occupier.

Personal possessions (e.g. jewellery, furniture, and possibly private cash) are not included.

#### Net worth

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. Net worth takes total liabilities from total assets, including tenant type capital and land. This describes the wealth of a farm if all of their liabilities were called in.

#### Liabilities

Liabilities are the total debt (short and long term) of the farm business including monies owed. It includes mortgages, long term loans and monies owed for hire purchase, leasing and overdrafts.

#### Tenant type capital

Tenant type capital comprises assets normally provided by tenants and includes livestock, machinery, crops and produce in store, stocks of bought and home-grown feeding stuffs and fodder, seeds, fertilisers, pesticides, medicines, fuel and other purchased materials, work in progress (tillages or cultivations), cash and other assets needed to run the business. Orchards, other permanent crops, such as soft fruit and hop gardens and glasshouses, are also generally considered to be tenant-type capital.

#### Return on capital employed (ROCE)

Return on capital employed (ROCE) is a measure of the return that a business makes from the available capital. ROCE provides a more holistic view than profit margins, focusing on efficient use of capital and low costs and allowing an equal comparison across farms of differing sizes. It is calculated as economic profit divided by capital employed.

#### Liquidity ratio

The liquidity ratio shows the ability of a farm to finance its immediate financial demands from its current assets, such as cash, savings or stock. It is calculated as current assets divided by the current liabilities of the farms.

#### Gearing ratio

The gearing ratio gives a farm's liabilities as a proportion of its assets

# **Utilised Agricultural Area (UAA)**

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.

#### Farm business income (FBI)

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)**

Net Farm Income (NFI) is intended as a consistent measure of the profitability of tenant-type farming<sup>24</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 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.

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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.

# Annex A: How the Return on Capital Employed measure has been calculated using the FBS

Return on capital employed (ROCE) is a measure of the return that a business makes from the available capital. ROCE provides a more holistic view than profit margins, focusing on efficient use of capital and low costs and allowing an equal comparison across farms of differing sizes. Return on Capital Employed (ROCE) is calculated as:

# Earnings before Interest and Tax Total Assets less Current Liabilities

'Total assets less current liabilities', or TALCL, gives the value of the assets held by a farm which contribute to its ability to generate revenue.

**Earnings before interest and tax'**, or EBIT, is the net revenue generated by the farm's use of this asset base. This therefore allows for direct comparisons of the efficiency of different farms at using their assets to generate revenue, taking into account their relative ability to keep costs down.

This means that a higher ROCE can be achieved by either having a large net profit relative to the assets held by the farm, or by having a small capital employed base. A low ROCE will be generated where a farm has low profits and/or has a large amount capital employed relative to profits.

The Farm Business Survey collects detailed accounting data on a sample of around 1,900 farms per year. This information can be used to build up a measure of ROCE for each farm by calculating the associated EBIT and TALCL.

Although the calculation is simple there are issues which need to be addressed in order to ensure that the measure is robust and that any comparisons that are made give insight into real differences in profitability and efficiency of farms, and are not simply an artefact of the measurement process.

There are three particular areas which will determine the robustness of the measure:

- Ensuring that the large fluctuations in farm income from year to year do not distort the picture of profitability;
- How farms of different tenure types are treated.
- Ensuring that we understand the structure of farm debts and the psychology behind farm borrowing and how this relates to the definition of current and long term liabilities.

#### **Tenure types**

Tenanted farms have much smaller capital bases than owner occupied farms. Given the use of the asset base in the denominator of the ROCE measure, comparing the ROCE of an owner occupied farm and a tenanted farm of the same type, size and with the same EBIT, the ROCE of the tenanted farm will be artificially inflated. Many farms are partially tenanted so ways to ensure that the measure treats tenanted and owner occupied farms equally were considered. Two ways were considered of how to do this.

 An imputed rent could be calculated for owner occupied farms and taken from their EBIT. The FBS systematically calculates an imputed rent for all owner occupied land on the basis of the grade of the soil and the rental value of surrounding land. Given that the profitability of both tenant type capital and owner occupied farms now allows for a return on the value of the land (which is siphoned to the real or assumed land owner), ROCE should be measured with EBIT relative to tenant type capital (less current liabilities). This measure may mean that some large owner occupied farms will show negative EBIT as a result of charging imputed rent where they would not have done otherwise.

 A net present value of tenanted land could be calculated and added onto the tenant type capital of tenanted farms to make their asset bases comparable to owner occupied farms. EBIT would then be calculated without subtracting rent from tenanted farms' gross incomes. This is more difficult to do because of the need to make assumptions about the length of the tenancies.

The ROCE measure represents the return on the money invested into the business, so for owner occupied farms these farms do not in fact have any associated rent. Therefore within this statistical notice it was decided that the ROCE measure presented (Farm Business Income based) would not deduct an imputed rent for owner occupied farms. A measure based on Net Farm Income (NFI) was investigated which does deduct an imputed rent for owner occupied farms and the results of this can be found in the accompanying workbook.

#### Structure of debt

Current liabilities are defined as liabilities which could be called in over the next year. Generally current liabilities include the cost of hire purchase, leasing, creditors and bank overdraft. It is important to understand the structure of debt in the farming industry. Capital employed (or TALCL) is meant to capture the capital the farm has at its disposal with which to earn profit on over the year. Farms often have very large overdrafts, making up a large proportion of their total liabilities. Farmers enjoy the flexibility of using overdrafts to borrow money compared to using structured loans. This raises the question of how overdrafts should be treated. A previous study using the 2007/08 to 2009/10 FBS showed that a little over 40% of farms did not use their overdrafts; these farms would not be affected by the treatment of the overdraft. However, about 1/3 farms were overdrawn for all three years of 2007-2009 so it was not clear cut whether overdraft should be treated as a long or short term liability.

Table A.1, shows ROCE (Net Farm Income based) where the overdraft was treated as a short term liability on the horizontal against ROCE (Net Farm Income based) where the overdraft was treated a long term liability on the vertical. The impacts of using the ROCE measure that treats the overdraft as a long term liability were:

- Many farms which appeared to have a negative ROCE in the measure treating an overdraft as a current liability had a positive ROCE in the measure with the overdraft as a long term liability. It is likely that these farms are using overdrafts as a flexible form of borrowing.
- Returns tend to be suppressed relative to the measure treating the overdraft as a short term liability. This is because treating the overdraft as a short term liability reduces the level of working capital for farms, implying higher returns relative to the capital employed. If a farm does not intend to pay off their overdraft in that year then the measure treating the overdraft as a short term liability will inflate the apparent profitability of that farm.

Treating the overdraft of the farm as a long term liability was therefore preferred.

Table A.1: Comparing Impacts of Treating Overdraft as a Long and Short Term Liability in Measuring ROCE (Net Farm Income based), 2007-2009 FBS

	•	ROCE (overdraft short term liability)						
		Negative	≥0 <0.1	≥0.1 <0.2	≥0.2 <0.4	≥0.4 <0.6	≥0.6 <1	≥1
ROCE (overdraft long term liability)	Negative	65%	0%	1%	0%	0%	0%	0%
	≥0 <0.1	27%	97%	11%	2%	0%	3%	5%
	≥0.1 <0.2	4%	2%	88%	17%	1%	8%	0%
	≥0.2 <0.4	3%	0%	0%	81%	42%	24%	2%
	≥0.4 <0.6	1%	0%	0%	0%	56%	16%	21%
	≥0.6 <1	0%	0%	0%	0%	0%	50%	8%
Ř	≥1	0%	0%	0%	0%	0%	0%	65%

Source: Farm Business Survey, 2007/08 to 2009/10

#### Calculation

The ROCE measure presented in this statistical notice has been calculated in the following way:

 Earnings are calculated by using Defra's main income measure, Farm Business Income (FBI), minus the imputed cost of all unpaid labour. Capital employed has been calculated by subtracting current liabilities<sup>25</sup> (i.e. short term) from total assets.

An additional measure of ROCE that uses Net Farm Income was also investigated and the results of this can be found in the accompanying workbook of results. This was calculated in the following way:

Earnings is calculated by the total output of farm businesses (including diversified enterprises) minus total costs (including rents, imputed rents on owned land, costs associated with diversified enterprises, and the imputed cost of all unpaid labour); this is Defra's Net Farm Income (NFI) measure minus unpaid labour of the farmer and spouse and net interest payments<sup>26</sup>. Capital employed has been calculated by subtracting current<sup>19</sup> (i.e. short term) liabilities from tenant type capital<sup>27</sup>.

#### Issues with the measure

The FBS survey will take the capital base of a farm at a certain point in the year. Where farms can seasonally have large differences in the tenant type capital we will not be correctly capturing the denominator of the measure. For example, it is possible that the FBS survey of a poultry farm could take place immediately after all the birds have been slaughtered, although this is only likely to happen on farms that are very small. This would make the capital much lower than it is in reality, making the apparent profitability too high.

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<sup>&</sup>lt;sup>25</sup> Short term liabilities are deducted in order to measure the capital assets that would remain after short term commitments have been met. Overdrafts are treated as a long term liability and therefore not deducted.

<sup>&</sup>lt;sup>26</sup> Net interest payments = interest payments paid-interest payments received.

<sup>&</sup>lt;sup>27</sup> For a definition of Tenant type capital see the section on <u>definitions</u>.