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AND IN THE FREE STATE AREA IN
SELECTED YEARS BETWEEN 1908
AND 1926/27

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Estimates of Gross and Net Output and Income Arising in Agriculture in All Ireland and in the Free State Area in Selected Years Between 1908 and 1926/27

R. O'Connor
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Introduction

Income arising in agriculture has always been an important element in the Irish national income. Throughout the 1940s, at the time when the first official estimates of national income were made for Saorstát Éireann, agriculture accounted for about 30 per cent of the total. This proportion is likely to have been higher in the 19th and early part of the 20th Century when manufacturing industry was poorly developed.

In the calculation of income arising in agriculture it is usual to start by estimating gross agricultural output, which broadly speaking represents sales off farms and consumption of own farm produce in farm households. From the gross output is then deducted the non-labour expenses incurred in producing the output to obtain the income arising. Traditionally in Irish accounting practice, the farm expenses are divided into two broad groups. The first referred to as farm materials (and consisting of animal feeding stuffs, fertilisers and seeds) is deducted from gross output to give net output. This entity was used in the early years of farm accounting to give a rough idea of income arising in the agricultural sector. The second group of expenses, consisting of land annuities, rates on land and farm buildings, repairs and depreciation of machinery, transport and marketing costs, etc., is deducted from net output to give income arising in agriculture. This income is also referred to as net value added in agriculture at factor cost. It represents the return to all labour and capital from the national farming activity.

Historical Background

The first official estimate of agricultural output for All Ireland was made for 1908 by the Department of Agriculture and Technical Instruction (*Agricultural Output of Ireland 1908*). It would appear that the main objective of this exercise was to prepare estimates of total agricultural production from all sources. The calculation of output figures seems to have been a secondary consideration.

In the report, output was defined as agricultural produce:-

- (1) Consumed as food by people in Ireland, or used as raw material in Irish industries other than agriculture.
- (2) Consumed by livestock in Ireland belonging to non-agriculturalists (e.g., by horses in towns).
- (3) Exported from Ireland.

Produce used for further agricultural production in Ireland (e.g., crops fed to livestock on farms or used as seed, milk fed to calves and pigs, etc.) was not included in output. This definition is largely that used over the years up to the present time.

The next official estimate of output relating to the year 1912/13 was specially prepared for the use of a Department Committee on Food Production in Ireland set up after the outbreak of the First World War. In this estimate the value of changes in livestock numbers between the beginning and end of the year was included in the output figures. These results were published in Appendix I of the Report of that Committee (*Statistics of the Production and Disposal of Irish Agricultural Products 1912/13*). No further official estimates of agricultural output for All Ireland were produced.

After the ratification of the Treaty in 1922, estimates of agricultural output were produced for Northern Ireland and the Irish Free State. The first estimate for output in Northern Ireland for the year 1925 was published in 1928 (*The Agricultural Output of*

Northern Ireland 1925). That for the Free State relating to 1926/27 appeared in 1930 (*The Agricultural Output of Saorstát Éireann 1926/27*). In these reports, the same definitions as those adopted in 1912/13 were used.

In more recent times, unofficial estimates of agricultural output for earlier years were produced by a number of historians. Barbara Solow (1971) produced figures for the gross value added in Irish agriculture for the years 1876, 1881 and 1886. Cormac O Gráda (1984) produced figures for Irish agricultural output before and after the Famine. W. E. Vaughan (1980) calculated figures for output in the years 1850-1880. P. Solar (1987) produced output data for a number of years before the Famine while Michael Turner (1987) calculated output figures for every year from 1850 to 1914 in preparing an agricultural price index for Ireland for those years.

Turner's work gave rise to a debate on the subject of agricultural productivity and farmers' profits in the decades after the Famine. The central questions in this debate have been discussed in a recent issue of *Irish Economic and Social History* (Vol. XVII, 1990) by Turner himself and by W. E. Vaughan. The debate centred to a considerable extent on the value to be placed on potatoes consumed in farm households. Turner valued these at market prices and showed that in years when the potato crop partially failed, and farmers' standards of living were greatly reduced, the value of agricultural output increased. This occurred because in the years of scarcity market prices for potatoes (which were the staple food for most people) were very high. The high prices were of little use to the large number of farmers who had no potatoes to sell, and had reduced quantities available for eating or feeding to animals. As a result of the debate, Turner revised his figures but the revised data have not yet been published.

In 1985, R O'Connor and C Guimard (1985) made estimates of gross and net

agricultural output for the Irish Free State area for 1912/13 and 1924/25. These authors produced volume and implied price indices for the years in question and linked them to the official indices available for 1926/27 and subsequent years.

Commenting on the O'Connor and Guiomard data, Professor K. A. Kennedy (1994) drew attention to the fact that there are no estimates of agricultural output for the years between 1912/13 and 1924/25, nor any well developed picture for industry and services in those years. Moreover, he says, "the relative level of income per capita North and South immediately before the First World War and its subsequent trend up to the mid-twenties is very uncertain. Clearly this period requires attention".

The Present Study

This study is the first step towards filling the statistical gap mentioned by Professor Kennedy. To do this we decided to produce output figures for the Free State area for 1908, and 1918/19 similar to those produced by O'Connor and Guiomard for the years 1912/13 and 1924/25. The year 1908 was selected because All Ireland agricultural output figures were already available for that year. The year 1918/19 was selected because it gives a picture of output value at a time of relatively high prices.

Agricultural prices which had been fairly static in pre-war years rose rapidly during the war, reaching a peak in 1920 and declining thereafter. The Agricultural Price Index for Saorstat Éireann rose from 100 in 1911-13 to 255.8 in 1919 and to 287.8 in 1920. It declined drastically thereafter to 83.4 in 1935. Individual commodity prices in All Ireland in those years show similar trends to those in the Free State area (see *Agricultural Statistics, Saorstat Éireann 1927-33*, pp. 130-135, also *Statistical Abstracts for Saorstat Éireann 1931 and 1940*).

Though agricultural prices were at their highest in 1920, this was not a suitable year for the calculation of output data in Ireland. Due to the war of independence, conditions were

very disturbed at that time. Creameries were burned down by the Black and Tans in the early part of 1920 and the country was in a general state of upheaval. The year 1918-19 was, therefore, selected as being more normal, even though prices were lower than in 1920. The split year 1918/19 was selected so as to enable the calculation of the value of livestock changes for inclusion in the output figures. December or January livestock numbers were not collected at that time.

To produce output figures for the Free State area for the years in question it was necessary to look closely at the existing All Ireland data available and to prepare a set of All Ireland figures for 1918/19 as well. Unfortunately it was not feasible to prepare the required data for the latter year. Detailed livestock and crop enumeration figures collected for 1918, were not published for All Ireland and in their absence the estimation of output figures for that year or for any part of it would be hazardous¹. We were forced therefore to produce All Ireland output figures for 1919 although this gave rise to problems in the calculations of the value of livestock changes between the beginning and end of the year. Estimates of December numbers of cattle, sheep and pigs had to be made. These estimates were based on the relationships between January and June livestock numbers in Saorstat Éireann in the 1940s. This exercise gave rise to many difficulties but it was the best we could do in the circumstances.

In the course of examining the available All Ireland output data it was discovered that the 1908 and the 1912-13 figures were not entirely comparable. Five important differences in the two sets of figures were discovered.

1. The official 1908 figures do not include the value of livestock changes between the

¹ The 1918 enumeration data for Saorstat Éireann have been published in *Agricultural Statistics 1847-1926*. Also, some data on crop acreages and livestock numbers for all Ireland for 1918 and other years are published in Mitchell and Deane (1962, pp. 80-81, and 84-86).

beginning and end of the year, whereas the 1912-13 figures include such changes. It was decided, therefore, to prepare figures for the value of livestock changes in 1908 based on 1907 and 1909 June enumeration statistics. The changes calculated were those for cattle, sheep and pigs. Changes in horses, poultry or other livestock were not calculated because the value of such changes would be relatively small.

2. In preparing the 1908 results, exports were included at the values given in the Foreign Trade Report for that year (f.o.b. values) whereas in 1912/13 such exports were valued at the prices received by farmers (market prices). Clearly the 1908 valuations are too high and we reduced them by valuing the quantities involved at market prices or where such were not available at 90 per cent of the f.o.b. prices. (This was the procedure adopted in the Central Statistics Office (CSO) for many years in preparing the Agricultural Output estimates.)
3. Imports of livestock for further feeding in Ireland, i.e., horses, cattle, sheep and store pigs, were not deducted from exports in preparing the 1908 output figures. In the revisions these imports have been deducted at import prices. However, except for horses, the values involved are not very large.
4. The 1908 figures for the number and value of cattle consumed in the country are much higher than the corresponding figures for 1912/13 (296,000) valued at £3.106 million in the former year compared with an estimated 184,000 valued at £2.319 million in the latter). In making the official 1908 estimates it was assumed that the output of cattle (excluding stock changes) was 73 per 100 cows plus heifers in calf in the country in June of that year and when exports were deducted from this output the household consumption was obtained as a residual. As mentioned below in connection with potatoes the use of residuals to estimate household consumption is fraught with danger and in this case (where stock changes were not taken into account) it gave the unrealistically high figure of 0.0675 cattle consumed per head of the population compared with estimated figures of 0.042 for 1912/13 and 0.041 for Saorstat Éireann in 1926/27. In the latter year beef consumption was estimated directly on the basis of enquiries made to butchers under the statistics (Slaughter of Animals for Food) Order 1926 and can be taken as being fairly accurate (see *Agricultural*

Output for Saorstat Éireann op.cit., p. 34).

Accordingly we deemed it necessary to reduce the 1908 figures to bring them into line with those for subsequent years. The adjustment which took account of livestock changes gave a consumption figure of 193,000 cattle. This was over 100,000 less than the published figure (for more detail see under cattle on p. 11). The reduction in value was over £1 million which was compensated for to some extent by an increase in stocks of £320,000.

5. The method used to estimate the consumption by persons of potatoes in 1908 was the same as that adopted in preparing the cattle output. Total production was first estimated. From this was deducted the estimated amounts fed to farm animals (pigs and poultry) and exported leaving a small residual, which was deemed to be the amount consumed by persons. A residual such as this, which contains all the errors of the other estimates, cannot be relied upon and could indeed be in serious error. In fact the quantity of potatoes consumed by persons in the 1908 Report appears to be very much understated when compared with the 1926/27 figures for Saorstat Éireann and with the 1925 figures for Northern Ireland, both of which were estimated by direct survey. Similarly the 1912/13 figures (which were presumably estimated in the same way as those for 1908) appear to be overstated. There are also problems with the prices used for potatoes in both those years. They do not correspond with the published prices which are now available.

For these reasons the potato consumption estimates for All Ireland have been revised for 1908 and 1912/13 to bring them into line with what are considered to be firmer estimates for the later years. The original and revised potato output estimates for 1908 and 1912/13 are given in Table 1 together with comparable 1926/27 figures for Saorstat Éireann.² The original and revised output figures for all items in 1908 are given in Table 2.

The revisions in Table 1 show that for 1908 consumption of potatoes has been

² The Northern Ireland figure for potato consumption in 1925 at 0.239 tons per person is very close to a figure of 0.242 tons per person estimated for Saorstat Éireann in 1926/27. The latter figure was later reduced to 0.212 tons per person as a result of a survey of 30,000 households in one week in December 1935.

Table 1: *Original and Revised Estimates of Household Potato Consumption in All Ireland in 1908 and 1912/13, and in Saorstat Éireann (SE) in 1926/27*

		All Ireland		S.E
		1908	1912/13	1926/27
<i>Original Quantities</i>				
Total Household Consumption	(000) tons	658	1,347	717
Population	No. 000	4,385	4,357	2,964
Consumption per Person	tons	0.150	0.310	0.242
<i>Revised Quantities</i>				
Consumption per Person	tons	0.27	0.27	0.212
Total Consumption	000 tons	1,179	1,168	628
Original Consumption Values	£'000	1,525	5,759	3,667
Original Output Prices	£/ton	2.3167	4.175	5.114
Published Market Prices*	£/ton	3.465	3.628	4.917
Revised Consumption @ Market Prices	£'000	4,089	4,237	3,088

* Given in *Agricultural Statistics for Saorstat Éireann 1927-1933*, p. 130, *op. cit.*

increased from 0.15 to 0.27 tons per person while for 1912/13 this consumption has been reduced from 0.31 to 0.27 tons. For 1908, prices have been increased from £2.32 to £3.5 per ton, while for 1912/13, prices have been reduced from £4.175 to £3.708 per ton. The revised prices adopted are those given for All Ireland in *Agricultural Statistics Saorstat Éireann 1927-1933* (p. 130). The result of these revisions has been to increase the value of household consumption of potatoes in 1908 from £1.5 to £4.1 million and to reduce the 1912/13 value from £5.8 to £4.2 million. In view of the discussion on the Turner figures it might be argued that the price we have used for 1908 is too high, particularly for potatoes consumed on farms. However, we have estimated that if potatoes consumed on farms had to be replaced by flour or by oatmeal the cost would be higher than the value placed on the potatoes.

Original and Revised Output Values for 1908

The original and revised output values for all items in 1908 are given in Table 2. In addition to the export value adjustments, and to those for consumption of potatoes and cattle,

changes have also been made in this table to allow for imported oats fed to non-agricultural horses. Also household consumption of other crops has been increased to include peas, beans, turnips, cabbage and onions which were not included in the published volume. The egg output has also been adjusted slightly to bring it into line with that for 1912/13.

Table 2 shows that the overall value of disposals in 1908 (output excluding the value of livestock changes) has decreased by about £1 million as a result of the revisions (from £45.6 to £44.6 million). The estimated value of livestock changes worked out at + £315 thousand. When this is added to the value of disposals, gross output, including the value of livestock changes comes to £44.9 million.

Gross Agricultural Output in All Ireland in 1919

Because of a scarcity of data, on the use of agricultural produce in industry and on household consumption of agricultural produce, the 1919 results had to be based to a considerable extent on the 1926/27 figures for Saorstat Éireann, on the 1925 figures for Northern Ireland and on the All Ireland data for 1908 and 1912/13. For this reason the results must be taken with a certain amount of caution. The output figures, quantities and values for 1919 are given in Table 3 together with the revised figures for 1908 and 1912/13. We have also included in this table an estimate for turf cut by householders since this fuel has traditionally been included in the Saorstat Éireann agricultural output figures. Table 3 also contains estimates of farm expenses, net output and income arising in agriculture for the years in question. The methods used in calculating the different output items are discussed briefly below.

Horses, Asses, Mules and Jennets

The output of asses, mules and jennets was taken as the net exports (exports less

Table 2: *Original and Revised 1908 Gross Output Values*

	<i>Original</i>			<i>Revised</i>		
	<i>Consumed in Ireland</i>	<i>Exported</i>	<i>Total</i>	<i>Consumed in Ireland</i>	<i>Net Exports</i>	<i>Total</i>
<i>Livestock and Products</i>	<i>£'000</i>			<i>£'000</i>		
Horses, Mules, Jennets, Asses	117	1,353	1,470	117	992	1,109
Cattle	3,106	10,935	14,041	2,026	9,859	11,885
Milk Consumed by Persons	2,909	3	2,912	2,909	3	2,912
Other Milk Products	2,715	4,046	6,761	2,715	3,642	6,357
Pigs	2,162	3,706	5,868	2,162	3,572	5,734
Sheep and Goats	900	1,316	2,216	900	1,118	2,018
Wool	22	407	429	63	366	429
Poultry	363	797	1,160	363	718	1,081
Eggs	1,401	2,729	4,130	1,381	2,593	3,974
Other Livestock Products	77	2	79	77	2	79
Total Livestock and Products	13,772	25,294	39,066	12,713	22,865	35,578
<i>Crops</i>						
Wheat	226	24	250	226	21	247
Oats	942	435	1,377	872	456	1,328
Barley	766	14	780	766	13	779
Potatoes	1,525	396	1,921	4,089	387	4,476
Hay and Straw	706	64	770	620	58	678
Grass Seed*	421	-	421	107	314	421
Flax and Tow	404	+	404	404	+	404
Fruit	347	13	360	347	12	359
Other Crops	97	6	103	185	25	210
Timber	131	-	131	131	-	131
Total Crops	5,565	952	6,517	7,743	1,286	9,033
Total Gross Output	19,337	26,246	45,583	20,460	24,151	44,611
Value of Livestock Changes	-	-	-	-	-	+315
Gross Output including Livestock Changes						44,926

* In the 1908 publication all the grass seed output is given under the heading "consumed in Ireland" with a footnote saying "Considered as a raw material". There were almost 20,000 tonnes of grass seed exported in 1908 and we have included this amount at its output price under net exports, and reduced the home consumption accordingly.

+ Less than £500.

imports) of these animals. The output of horses was taken as net exports plus sales of horses to non-agriculturalists in Ireland. The latter figure as in 1926/27 was taken as 12.5 per cent of the number of horses in the country used for traffic and manufacture and for amusement and recreation. The prices used for such horses were the 1908 prices adjusted in proportion to the change in cattle prices over the period 1908 to 1919. We did not attempt to value the changes in stocks of horses between the beginning and end of the year, but since there was little change in the total number of horses in the State between 1918 and 1919 (see Mitchell and Deane, 1962), any estimate of the value of the change would be small.

Cattle

Output of cattle, including stock changes is equal to births, less mortality. Births and mortality are related to the number of cows and heifers in calf in the State during any year.

In 1908 (as revised) 1912/13 and 1926/27, output including stock changes was estimated at about 68 per cent of the number of cows and heifers in calf in the State in those years. The output in 1919 worked out at about the same ratio. Home consumption in that year was estimated at 0.045 cattle per person compared with 0.042 in 1912/13 and 0.041 in Saorstat Éireann in 1926/27. Exports were valued at 90 per cent of the export values. The price for home consumed cattle was obtained by increasing the 1908 price in the ratio of fat cattle prices in 1919 to fat cattle prices in 1908. The prices used for stock changes were taken from the 1931 Statistical Abstract which gives prices for all classes of stock in Saorstat Éireann for the years 1911 to 1930. There was very little difference between the All Ireland and Saorstat Éireann prices which are published for those years.

Sheep and Wool

As with cattle, sheep output including stock changes is equal to births less mortality,

while births and mortality are related to the number of ewes in the June enumeration. In 1912/13, sheep output, including stock changes was estimated as being 0.94 times the average number of ewes in the country in 1912 and 1913. The ratio for 1908 was 0.84 and for 1926/27 it was 0.85. The figure for 1919 worked out at 0.9. Home consumption was estimated at 0.16 sheep and lambs per person in that year compared with 0.13 in 1908 and 0.17 in 1912/13. Wool output was taken at 7.4 lb per sheep 1 year old and over in June. The corresponding figures were 6.4 lb for 1908, 7.06 lb for 1912/13 and 7.9 lb for 1926/27.

Pigs

Output of pigs including stock changes was taken as 14 times the average number of sows in the country in 1919. This compared with a similar ratio for 1912/13. The figures for 1908 and 1926/27 were 13.3 and 15.0 respectively. Household consumption of pigs was estimated at 0.16 pigs per person in 1919. This compared with 0.146 in 1908, 0.163 in 1912/13 and 0.155 in Saorstat Éireann in 1926/27.

Poultry and Eggs

The output of poultry was related to the estimated number of young birds (under 6 months) of the different breeds on farms in June 1919³. Output ratios used were 0.9 times the estimated number of young turkeys and geese, 0.85 times the number of young ducks and 1.3 times the number of young ordinary fowl in the country in June 1919. These ratios were somewhat similar to those obtaining in 1926/27 in Saorstat Éireann.

After allowing for eggs used for hatching, output of hen eggs was estimated at 105 eggs per adult bird in 1919. This compared with about 95 eggs per adult bird in 1908 and

³ Figures for the different breeds of poultry in All Ireland were not published for 1919 and had to be estimated from the 1917 numbers.

1912/13 and about 119 in 1926/27. The output of duck eggs was estimated at 75 eggs per adult bird on farms in 1919 compared with 90 per adult bird in 1926/27 and 62 in 1908.

Milk and Milk Products

The milk yield was estimated at 440 gallons per cow compared with 400 gals in 1908, 436 and in 1912/13 and 487 gals in 1926/27. Milk fed to animals in 1919 was estimated at 55 gals each per calf and 3 gals per pig sold or consumed on farms. Consumption by persons was reckoned to be 22 gals per head, a figure that compares with 30 gals per person in 1926/27, 20 gals in 1908 and 21 gals in 1912/13. Because the figure given for consumption in Northern Ireland was 24 gals per person in 1924/25, the 1926/27 Saorstat Éireann figure of 30 gallons per person seems rather high. We note, however, that the latter was based on a survey of a large sample of farmers in April and August 1927 and January 1928.

Butter consumption was reckoned at 30 lb per person in 1919 compared with 15 lb in 1908, 28 lb in 1912/13 and 37 lb in 1926/27.

Milk prices for 1919 are not published and had to be estimated from the 1926/27 prices using the price of butter as an adjustor.

Crops

Though annual production figures for all major crops are available for both All Ireland and the Free State area, for all the years under review, most of these data are of little use in calculating crop outputs. Except for wheat, barley and flax the other crops are fed mainly to livestock on the farms where produced and as indicated above there are considerable errors involved in estimating livestock consumption. For these crops the outputs had to be estimated directly from household consumption, industrial use and exports.

Wheat

In 1908 and 1912/13 the output of wheat was estimated at about 95 per cent of total production, the remainder being fed to livestock. We used the same ratio in estimating wheat output for 1919. This output includes the amount of home grown seed used in the following year. It was assumed that all wheat seed was sold and repurchased from seed assemblers in Spring at retail wheat seed prices. In calculating net output this seed is included as a farm cost.

Barley

In the years in question all the barley grown in Ireland was mainly for malting purposes but there was always some left over for animal feeding. The output/production ratio was 75 per cent in 1908, 84 per cent in 1912, and 79 per cent in 1926. We took a figure of 78 per cent for 1919. The barley output includes sales for seed. As with wheat this seed is assumed to be purchased by the growers each Spring from the maltsters, and is included as a cost in calculating net output.

Oats

As most oats are fed to farm animals output was estimated directly, as household consumption of home produced oatmeal, exports of whole oats and oatmeal, and oats fed to non-agricultural horses. It was assumed that 0.556 cwts of oatmeal were manufactured from 1 cwt of oats.

According to the published results household consumption of oatmeal from all sources appears to have declined from an oat equivalent of about 0.32 to 0.21 cwt per person between 1908 and 1926/27. Household consumption is not distinguished separately in the 1912/13 results but we estimate that it was about the same as in 1908. On the basis of the trend in

Table 3: *Agricultural Output and Income Arising in All Ireland in 1908, 1912-13 and 1919*

<i>Livestock and Livestock Products</i>	<i>Unit of Quantity</i>	<i>Quantity (000)</i>			<i>Value £000</i>		
		1908	1912/13	1919	1908	1912/13	1919
Horses, Mules, Jennets, Asses	No	30	36	27	1,109	1,521	1,447
Cattle	No	1,058	1,012	970	11,885	13,052	30,026
Milk Consumed by Persons	Gals (000)	88	92	96	2,912	2,492	7,381
Other Milk Products	Gals (000) ^(a)	434	529	482	6,357	9,888	22,991
Pigs	No	1,731	1,920	1,280	5,734	8,328	14,186
Sheep and Goats	No	1,278	1,636	1,313	2,018	3,296	5,797
Wool	lb	15,263	15,530	15,408	429	696	1,822
Poultry	No	10,522	12,955	11,896	1,081	1,575	4,740
Eggs	Gt Hds	9,686	10,359	10,626	3,974	4,832	17,472
Other Livestock Products	-	-	-	-	79	182	246
Total Livestock and £ Livestock Products	-	-	-	-	35,578	45,862	106,108
<i>Crops and Turf</i>							
Wheat	cwts	707	790	1185	247	306	1,007
Oats	"	5,011	5,140	5,773	1,328	1,715	4,735
Barley	"	2,283	2,613	2,714	779	1,126	3,178
Potatoes	tons	1,291	1,318	1,388	4,476	4,780	10,185
Hay and Straw	tons	223	233	202	678	770	1,957
Grass Seed	cwts	523	586	442	421	385	589
Flax and Tow ^(b)	stones	1,584	2,591	2,760	404	894	4,139
Fruit	-	-	-	-	359	436	2,025
Other Crops	-	-	-	-	210	245	523
Timber	-	-	-	-	131	167	454
Turf	Tons	4,645	4,554	4,472	3,817	3,886	9,588
Total Crops, and Turf					12,850	14,710	38,380
Gross Output excluding Livestock Changes					48,428	60,572	144,488
Value of Livestock Changes					+315	-126	+2,409
Gross Output including Livestock Changes					48,743	60,446	146,897
<i>Farm Materials</i>							
Feeding Stuffs					6,487	7,801	13,456
Fertilisers					616	1,035	2,068
Seeds					592	729	2,476
Total Farm Materials					7,695	9,565	18,000
Value of Net Output including Livestock Changes					41,048	50,881	128,897
Other Expenses					5,100	6,889	16,034
Income Arising in Agriculture					35,948	43,992	112,863

(a) Whole milk equivalent of milk products.

(b) Includes dressed tow.

these figures an estimate of 0.275 cwt per person has been made for 1919. From the total consumption calculated using these coefficients we deducted the net equivalent of oatmeal imports to obtain consumption by persons of home grown oats.

Total oats (home grown and imported) fed to non-agricultural horses rose from about 37 cwt per animal in 1908 to 40 cwt in 1912/13 and declined to about 35 cwt in 1926/27. This variation is due more to the mix of non-agricultural horses in the country than to the pattern of feeding, the working horses receiving more oats than those used for amusement and recreation. We estimated a figure of 37.9 cwt for 1919 and from this we deducted the import of whole oats, since as stated above, such oats are usually fed to racehorses. Such deductions were made in revising the 1908 and 1912/13 published results.

Potatoes

Potato output consists of household consumption, estimated at 0.25 tons per head of the population in 1919, and exports in that year. The exports valued at prices received by farmers were taken from the Import and Export Statistics Report for 1919. (See Imports and Exports Ireland 1919-21.) The household consumption figure of 0.25 tons per person compares with 0.27 tons per annum in 1908 and 1912/13 and 0.21 tons in 1926/27.

Hay and Straw

The hay and straw included in agricultural output were the amounts exported and used by non-agricultural horses in Ireland. Exports in 1919 were 42,000 tons. The quantity of hay fed to non-agricultural horses was estimated at 190,000 tons (i.e., 3 tons per horse used for traffic and manufacture and 2 tons per horse for those used for amusement and recreation). These rates were the same as those used in 1908 and 1912/13. The amount of straw used was estimated at 0.2 tons per horse, the same also as in 1908 and 1912/13.

Grass Seed

It was assumed, as in the published 1908 and 1912/13 results, that all grass seed produced commercially was sold, and the amount not exported, later repurchased from seed merchants for sowing the following year. The output of grass seed was therefore calculated by estimating the amount required for sowing in 1920, adding to this the amount exported in 1919, and deducting from this total imports of grass seed in 1920. The amount required for sowing was taken as the area of first year's hay the following year multiplied by 40 lb.

This definition of output was not the same as that used in preparing the official 1926/27 results for Saorstat Éireann and the O'Connor/Guionard figures for this area in 1924/25 and 1912/13. In these publications, output of grass seed was taken as exports only, while that used within the State was taken as an inter-farm sale. In preparing the Free State area results in this paper we have adopted the All Ireland definition outlined above and revised the previously produced Free State area figures to take account of this.

Flax

The quantity of scutched flax produced every year in All Ireland and published in the Agricultural Statistics Reports was not given in the 1919 Report. The yield per acre for that year in the Free State area was, however, published in the Saorstat Éireann reports and we applied this yield to the All Ireland acreage to obtain the quantity produced for 1919. The price of scutched flax in 1919 was available from Agricultural Statistics 1927-1933. The quantity of tow was taken as being $\frac{1}{4}$ the quantity of scutched flax while the price of tow was taken as $\frac{1}{12}$ the flax price. These were the same as the ratios used in 1908

Other Crops

Other crops which consist mainly of vegetables for human consumption were adjusted

in relation to output and acreage figures in 1926/27. Included in this group are beans, peas, turnips, carrots, parsnips, onions, cabbage and other green crops.

Timber

The value of the timber output in the 1908 report was based on the area of woodland cleared in that year as published in the official report on agricultural statistics. Figures were not available for the area cleared in 1919 and we were forced to base the results for that year on the exports of rough timber. These results could be in considerable error but as the values involved are not very large (£300,000) the overall effect is slight.

Turf

Turf output volume was estimated initially for the Free State area for the three years 1908, 1918 and 1919 on the basis of the trend in the number of male farmers and relatives assisting in that area in those years and using the O'Connor/Guionard figure for 1912/13 as a base. The prices used for 1918 and 1919 were trended from the 1912/13 base using the agricultural output price index published in the 1931 issue of the Saorstat Éireann Statistical Abstract. The 1908 price was linked to the 1912/13 price using an average of changes in cattle prices between the two years. A rather arbitrary figure of 650,000 tons per annum valued at Free State area prices was added for Northern Ireland. This figure was based on the relationship between turf drawn from the bog in 1917⁴ and the number of farms in Donegal, Cavan and Monaghan compared with a similar relationship for the counties of Armagh, Londonderry, Fermanagh and Tyrone in that year. It was assumed that little or no turf was cut in Antrim and Down.

⁴ Survey mentioned in *The Agricultural Output of Saorstat Éireann 1926/27* (op. cit. p. 42).

Aggregate Results - All Ireland

Gross Output

Reference to Table 3 shows that the value of Gross Output including turf but excluding livestock changes at current prices increased from £48.7 million in 1908 to £60.6 million in 1912/13 and to £144.5 million in 1919. The main items of output were cattle, milk consumed by persons, and other milk products. Cattle output accounted for about 21 per cent of gross output excluding stock changes in 1912/13 and 1919 and for about 26 per cent in 1908. Milk and milk products combined accounted for about the same proportion as cattle in 1912/13 and 1919 but the milk output was much less than that of cattle in 1908. Pigs were also a high item in those years but were exceeded in value by poultry and eggs in 1919. The large egg output value in that year was due to a slight increase in the number of eggs produced and to an exceptionally high price for eggs. Egg prices rose 252 per cent between 1912/13 and 1919 compared with a rise in pork prices of 164 per cent over the same period. The high egg price in 1919 no doubt stimulated production and led to a large increase in exports from 6.3 million Great Hundreds in 1912/13 to 9.2 million in 1919. Potatoes were also an important output item in the years under review accounting for 8 to 10 per cent of gross output excluding stock changes in those years.

When the value of livestock changes was taken into account gross output was £48.7 million in 1908, to £60.4 million in 1912/13 and to £146.9 million in 1919.

Net Output

Net output is obtained by deducting the value of farm materials, i.e., feeding stuffs fertiliser and seeds from gross output. As no previous estimate of these inputs had been made for the years in question All Ireland figures had to be calculated for the years 1908, 1912/13 and 1919. The results are given at the bottom of Table 3. These figures show that feeding

stuffs were by far the largest item accounting for 84 per cent of the farm materials in 1908 but declining to 75 per cent in 1919. The feeding stuffs included here are mainly imports. Most of the home produced feeds except bran, pollard and brewers grains are treated as inter-farm sales and are omitted from both outputs and inputs. As a result of the war, imports of many feeding stuffs were drastically curtailed resulting in reduced amounts in 1919. Imports of maize declined from over 700,000 tons in 1912/13 to about 230,000 tons in 1919, and even though this decrease was compensated for to some extent by a rise in the amount of home grown oats produced, we had to assume that the drop in maize had a depressing effect on the pre-war trend in the yields of pigs, and possibly milk. The extra oats produced was probably used to feed the poultry and produce the high priced eggs.

Fertilisers were mainly imported in those years also. These imports did not, however, decline greatly between 1912 and 1919 and crop yields were therefore maintained at about pre-war year levels (see Table 4).

A high proportion of the seeds used in those years were home grown on the farms where used and therefore were not included as farm inputs. We assumed that all potato, oats and rye seeds fell into this category. On the other hand, 90 per cent of both wheat and barley seeds were treated as being purchased from merchants as were all turnip, mangels, flax and vegetable seeds. Practically all of the flax seed and a high proportion of the vegetable seeds were imported. Per acre seed requirements were:- wheat – 1.8 cwt, barley – 1.4 cwt, beans & peas 1.7 cwt, turnips & cabbage – 4 lb, mangels 8 lb and flax 2.4 cwt. As stated above, the amount of grass seed used was obtained by multiplying the area of first year hay by 40 lb. Imports were deducted from this amount to obtain the amount of home grown seeds used. All home grown seeds were valued at output prices plus 25 per cent for a mark-up. Imported seeds were valued at import prices plus a 25 per cent mark-up also.

Table 4: *Agricultural Statistics for All Ireland and for the Free State area in selected years*

	<i>All Ireland</i>				<i>Saorstát Éireann</i>				
	1908	1912	1918	1919	1908	1912	1918	1919	1926
<i>Livestock (000)</i>									
Milch Cows	1,498	1,509	na	1,471	1,206	1,219	1,213	1,211	1,184
Total Cattle	4,792	4,848	4,863	5,029	4,020	4,049	4,093	4,232	3,947
Total Sheep	4,126	3,829	3,627	3,513	3,703	3,466	3,218	3,045	3,003
Total Pigs	1,218	1,324	974	978	1,046	1,100	859	863	884
Total Poultry	24,031	25,529	24,421	na	18,103	19,141	18,652	17,074	21,367
Horses	605	618	619	625	472	487	487	490	424
<i>Crops (000) acres</i>									
Wheat	37	45	157	70	29	37	135	59	29
Oats	1,060	1,046	1,580	1,442	706	695	1,129	1,012	647
Barley	154	165	185	187	150	162	183	184	141
Potatoes	587	595	702	589	418	425	508	424	375
Other Root & Green	422	427	444	396	345	354	377	341	712
Hay "	2,799	2,487	2,470	2,520	1,841	2,034	2,023	2,079	2,288
<i>Crop Production</i>									
Wheat (000) cwt	747	838	3,040	1,320	609	690	2,633	1,118	619
Oats "	18,240	19,105	28,980	24,440	12,481	12,800	20,968	17,424	12,775
Barley "	3,055	3,111	3,580	3,480	2,963	3,047	3,546	3,434	2,868
Potatoes (000) tons	3,200	2,547	3,863	2,747	2,100	1,803	2,682	1,893	1,932
Hay "	4,917	5,006	4,728	4,810	4,038	4,189	3,967	4,158	5,234

na = Not available

Sources: All Ireland Results:-Agricultural Statistics Dept. of Agric. and Technical Instruction Dublin. Detailed Annual Reports for the years in question. Mitchell and Dean, 1962 (*op. cit.*).

Saorstát Éireann Results:-

Agricultural Statistics 1847-1926 Report and Tables. Dept. of Industry and Commerce Dublin.

Table 3 shows that the value of farm materials increased from £7.7 million in 1908 to £9.6 million in 1912/13 and to £18.0 million in 1919. When these values were deducted from the gross output figures, net output, including livestock changes, went from £41.0 million in 1908 to £50.9 million in 1912/13 and to £128.9 million in 1919.

Income Arising

As stated in the introduction, income arising in agriculture is obtained by deducting

from net output all the other non-labour expenses, incurred in producing the output. The estimation of these expenses for the early years of the century was a hazardous undertaking and we had to rely on work done by other writers for many of the data.

For the interest element in land annuities Professor Louis Cullen (1995) gave a figure of £2.7 million for 1911 and we adjusted this figure for the other years on the basis of data for land purchase annuities collected in different years and published in the 1931 Statistical Abstract for Saorstat Éireann (p. 22). The interest element for All Ireland worked out at £2.4 million for 1908, £2.9 million for 1912/13 and £3.1 million for 1919.

For rates on land and farm buildings information was provided by the Report of the Commission of Enquiry into Derating (1931). This report showed that in 1897 the amount raised by poor rates and county cess on Agricultural land and buildings was £1.094 million in the Free State area and £257,000 in Northern Ireland, giving a total for the country as a whole of £1.351 million. The Local Government Act of 1898 specified that an agricultural grant of half this amount be paid by the exchequer in every future year. Accordingly the fixed 1887 amount was paid every year up to 1923 for the Northern Ireland area, when derating of land commenced in the UK, and up to 1925 in the Free State area when the grant was doubled from £599,000 to £1.198 million. Despite the increased grant the Derating Report showed that the amount of rates paid on land and buildings in Saorstat Éireann in 1929/30 was £2.3 million. Using all these figures, along with data on local taxation in Saorstat Éireann in 1921-26 (Stationery Office, Dublin 1927), poundages for a number of counties in 1919 supplied by the Valuation Office, and information on local taxation given in the 1931 Statistical Abstract, we made estimates of rates paid on agricultural land and buildings in All Ireland and in the Free State area for all the years under review. The All Ireland figure for 1908 was estimated at £750,000, that for 1912/13 worked out at £907,000 while the figure

for 1919 came to £1,858,000.

No useful information was available on the remaining expenses and for want of better data we estimated that expenses other than feedingstuffs, fertilisers and seeds were on average about 11 per cent of gross output in the years in question. This ratio is in line with the data produced by Louis Cullen for 1911 and the Central Statistics Office for Saorstat Éireann in the 1940s when agricultural conditions were not very different from those obtaining 40 years earlier. When rates and annuities are deducted from the totals calculated in this way the remaining expenses come to £2.0 million for 1908, £3.1 million for 1912/13 and £11.0 million for 1919. Deducting the other expenses from net output gives figures for income arising in Agriculture in All Ireland of £35.9 million in 1908, £44.0 million in 1912/13 and £112.9 million in 1919 (see Table 3).

Volume and Price Changes for All Ireland

All Ireland volume and price changes for gross and net output and for Income arising are given in Table 5. The volume of livestock and livestock products rose by 7.3 per cent between 1908 and 1912/13 but declined by 8.4 per cent between 1912/13 and 1919. This decline was due mainly to a decrease in milk products and pigs as a result of a scarcity of imported feeding stuff during the war years. Crops and turf output on the other hand increased

Table 5: *Volume and Price Index Numbers for Agricultural Output and Farm Materials in All Ireland in 1908 1912/13 and 1919*

Year	Volume Indices ^(a)						Price Indices ^(b)				
	Livestock & Products	Crops & Turf	Gross Output	Net Output	Farm Materials	Income Arising	Livestock & Products	Crops ex turf	Gross Output	Farm Materials	Income Arising
1908	100	100	100	100	100	100	100	100	100	100	100
1912/13	107.3	103.2	106.2	101.7	129.7	103.1	118.2	110.9	116.8	95.8	118.7
1919	98.3	108.2	101.5	105.2	81.8	105.8	305.9	265.1	297.7	286.1	296.7

Notes: (a) Including value of livestock changes.

(b) Excluding value of livestock changes.

by 4.8 per cent between 1912/13 and 1919 as a result of the increase in tillage acreage particularly in the war years (see Table 4). The overall result was an increase in the volume of gross output of 6.2 per cent between 1908 and 1912/13 followed by a decline of about 4.4 per cent between 1912/13 and 1919. The volumes of net output and income arising kept closely in line over the 11 year period in question. Income arising volume rose by 3 per cent between 1908 and 1912/13 and by a further 2.6 per cent between 1912/13 and 1919. The rise over the latter period was due to a sharp decline in the volume of farm materials purchased as a result of war scarcities, particularly imported maize. The price index of livestock and livestock products increased by 206 per cent between 1908 and 1919 and that of crops by 165 per cent over the same period. The result of these price increases was a rise of 198 per cent in the price index of gross output and of a similar rise in the price index of income arising over the same period.

The Free State Area Results

The results for the Free State area were calculated by adjusting the All Ireland data in proportion to livestock numbers, crop areas and the human population in the two parts of the country in the years in question. In preparing these figures difficulties arose in allocating portal exports and imports for a number of items. The available Foreign Trade Reports relate to All Ireland and it was not easy to decide on the proportions of these which should be allocated to the Free State area. Also no figures of any kind were available for trade between the North and the South of the country, which Saorstat Éireann figures for the 1920s have shown to be quite substantial for many items.

Where it was necessary to estimate Free State Area trade separately we made judgements of portal trade on the basis of the ports involved, while north/south trade was based on the Saorstat Éireann figures available for the 1920s. It was assumed that post-Treaty

Table 6: Agricultural Output and Income Arising in Agriculture in the Free State Area in Selected Years

Livestock and Livestock Products	Unit of Quantity	Quantity (000)					Value £000				
		1908	1912/13	1918/19	1924/25	1926/27	1908	1912/13	1918/19	1924/25	1926/27
Horses, Mules, Jennets, Asses	No	22	28	24	21	12	885	1,200	1,292	1,472	1,235
Cattle	No	850	802	732	955	754	9,501	10,399	22,070	16,964	12,791
Milk Consumed by Persons	Gal.(000)	63	66	71	83	82	2,097	1,780	5,236	3,550	3,196
Other Milk Products	Gal.(000)	357	428	350	359	366	5,213	7,996	15,513	9,905	8,726
Pigs	No	1,504	1,582	1,198	1,300	1,337	4,920	6,883	11,746	8,533	8,271
Sheep and Goats	No	1,129	1,441	1,133	1,032	1,005	1,773	3,000	4,661	3,443	2,634
Wool	lb.	13,791	14,080	13,185	13,289	14,459	388	631	1,281	782	685
Poultry	No	7,927	9,726	9,859	11,874	12,000	814	1,182	3,753	2,452	2,300
Eggs	Gt Hd	7,297	7,506	8,226	10,532	10,791	2,992	3,502	13,836	7,588	6,690
Other Livestock Products	-	-	-	-	-	-	75	146	201	184	185
Total Livestock and Products							28,658	36,719	79,589	54,873	46,713
Crops and Turf											
Wheat	cwt	576	659	2,370	234	233	204	255	2,014	153	142
Oats	cwt	3,783	3,871	3,810	2,694	2,753	1,003	1,292	3,158	1,200	1,066
Barley	cwt	2,212	2,567	2,801	2,123	2,256	757	1,106	2,404	1,380	902
Potatoes	tons	874	860	796	653	652	3,202	3,369	5,424	4,847	3,334
Other Crops	-	-	-	-	-	-	1,222	1,464	4,826	2,702	2,501
Turf	tons	3,983	3,904	3,837	3,250	3,567	3,273	3,331	7,962	3,453	3,317
Total Crops and Turf							9,661	10,817	25,788	13,735	11,262
Value of Livestock Changes											
Gross Output including Livestock Changes							293	+39	+1,655	-4,753	+1,717
Farm Materials											
Feeding Stuffs							38,612	47,575	107,032	63,855	59,692
Fertiliser							4,772	5,739	8,276	7,273	6,559
Seeds							509	897	1,310	1,430	1,301
Total Farm Materials							391	490	1,638	859	775
Net Output including Livestock Changes							5,672	7,126	11,224	9,562	8,635
Other Expenses							32,940	40,449	95,808	54,293	51,057
Income Arising in Agriculture							4,027	5,423	11,773	7,603	7,631
							28,913	35,026	84,035	46,690	43,426

trade patterns between the two areas obtained in the pre-treaty period. Mostly, however, it was possible to avoid having to make direct foreign trade estimates. Where total production, household consumption, industrial use and stock changes could be estimated directly net exports (exports less imports) were taken as residuals.

Figures for the quantity and value of gross output and for the value of net output and income arising in the Free State area for the years 1908, 1912/13, 1918/19, 1924/25 and 1926/27 are given in Table 6. This table shows that the value of gross output including livestock changes at current prices increased from £38.6 million in 1908 to £47.6 million in 1912/13 and to £107.0 million in 1918/19. It then declined to £59.7 million in 1926/27.

The value of farm materials increased from £5.7 million in 1908 to £7.1 million in 1912/13 and to £11.2 million in 1918/19. There was a decline in the value of these materials to £8.5 million in 1926/27. When these values were deducted from the gross output figures, the value of net output at current prices increased from £32.9 million in 1908 to £40.4 million in 1912/13 and to £95.8 million in 1918/19. There was a decline in net output thereafter to £54.4 million in 1924/25 and to £51.1 million in 1926/27.

Other expenses which were related to those for All Ireland increased from £4.0 million in 1908 to £5.4 million in 1912/13 and to £11.8 million in 1918/19. There was a decline thereafter to £7.6 million in 1926/27. When the other expenses were deducted from net output income arising went from £28.9 million in 1908 to £35.0 million in 1912/13 and to £84.0 million in 1918/19. It then fell to £46.7 million in 1924/25 and to £43.4 million in 1926/27.

Volume and Price Changes for the Free State Area

Volume and price changes for gross and net output, income arising and farm materials in the Free State area for the years under review are given in Table 7. This table shows that

the volume of gross output (including livestock changes) increased by 4.7 per cent between 1908 and 1912/13 but declined by about 5 per cent between 1912/13 and 1918/19. It declined by about 8.3 per cent between 1918/19 and 1924/25 and increased by about 8 per cent between 1924/25 and 1926/27. The volume index of farm materials increased by 31 per cent between 1908 and 1912/13 but declined by about 45 per cent during the war years. The result was that net output rose by about 4 per cent between 1908 and 1918/19.

Table 7: *Volume and Price Index Numbers for the Free State Area for 1908, 1912/13, 1918/19, 1924/25 and 1926/27*

Year	Volume Indices ^(a)						Price Indices ^(b)				
	Livestock & Products	Crops & Turf	Gross Output	Net Output	Farm Materials	Income Arising	Livestock & Products	Crops ex Turf	Gross Output	Farm Materials	Income Arising
1908	100	100	100	100	100	100	100	100	100	100	100
1912/13	105.7	101.6	104.7	100.2	130.7	101.7	119.7	113.0	118.5	96.1	119.1
1918/19	95.7	109.5	99.2	103.9	71.8	103.5	291.4	235.3	281.3	275.7	280.9
1924/25	95.9	84.0	91.0	87.6	108.4	87.2	178.0	189.0	179.8	154.3	185.2
1926/27	102.0	89.3	98.8	95.2	119.2	94.8	160.2	138.0	188.4	126.6	158.4

Notes: (a) Including value of livestock changes.

(b) Excluding value of livestock changes.

The price indices show that livestock and livestock product prices rose by about 20 per cent between 1908 and 1912/13 and by a further 143 per cent between 1912/13 and 1918/19. Crop prices did not rise to the same extent. The increase between 1912/13 and 1918/19 was about 108 per cent. The overall result was an increase in the price index of gross output of about 18.5 per cent between 1908 and 1912/13 and of about 137 per cent between 1912/13 and 1918/19. The price index of farm materials shows a drop of about 4 per cent between 1908 and 1912/13 and a rise of about 187 per cent between 1912/13 and 1918/19. The decline in the farm materials price index between 1908 and 1912/13 was due to a large drop in the price of imported maize between the two years.

Comparison of the Data in the Two Areas

The All Ireland and the Free State area data for the years in question are compared in Tables 8, 9 and 10. Table 8 gives the output quantities and the changes in livestock numbers in the two areas. Table 9 gives the output values, the value of livestock changes, the various expenses and the income arising in the different years in both areas. The volume and price indices for the two areas are compared in Table 10.

The relationships between the quantities in the two areas vary depending on the product involved. A very high proportion of the barley output was produced in the Free State area, the barley area in Northern Ireland being rather small in those years. On the other hand, the vast bulk of the flax and grass seed was produced in Northern Ireland. The potato output in All Ireland is much higher than that in the Free State area, not because there was an unusually large area of potatoes in Northern Ireland, but because there were relatively high exports of potatoes from this region compared with the Free State area. The exports are recorded as output (as defined here) and increase the output from the export area. The potatoes fed to farm animals do not enter output and this is reflected in the relatively small potato output in the Free State area where the vast bulk of the crop was fed to animals.

The wheat output in the Free State area in 1918/19 was much higher than that in All Ireland in 1919. This arises because the acreage of wheat in the country was considerably higher in 1918 than in 1919. The total production in the Free State area in 1918/19 was 2.633 million cwts compared with a production of only 1.317 million cwts in All Ireland in 1919 when compulsory tillage was abolished (see Table 4).

The Free State area values as percentages of All Ireland values for certain aggregates in 1908 and 1912/13 are as follows:

Table 8: Comparison of Agricultural Output Quantities for All Ireland and the Free State Area in Selected Years

	Unit of Quantity	All Ireland			Free State Area					
		1912/13			1918/19					
		1908	1912/13	1919	1908	1912/13	1918/19	1924/25	1926/27	
Livestock and Livestock Products										
Horses, Mules, Jennets, Asses	No	30	36	27	22	28	24	21	12	
Cattle	No	1,058	1,012	970	850	802	732	955	754	
Milk Consumed by Persons	Gals ('000)	88	92	96	63	66	71	83	82	
Other Milk Products	Gals ('000)	434	529	482	357	428	350	359	366	
Pigs	No	1,731	1,920	1,280	1,504	1,582	1,198	1,300	1,337	
Sheep and Goats	No	1,278	1,636	1,313	1,129	1,441	1,133	1,032	1,005	
Wool	lb	15,263	15,530	15,408	13,791	14,080	13,185	13,289	14,459	
Poultry	No	10,522	12,955	11,896	7,927	9,726	9,859	11,874	12,000	
Eggs	Gt Hds	9,686	10,359	10,626	7,297	7,506	8,226	10,532	10,791	
Other Livestock Products	value only	-	-	-	-	-	-	-	-	
Crops and Turf										
Wheat	cwts	707	790	1,185	576	659	2,370	234	233	
Oats	cwts	5,011	5,140	5,773	3,783	3,871	3,810	2,694	2,753	
Barley	cwts	2,283	2,613	2,714	2,212	2,567	2,801	2,123	2,256	
Potatoes	tons	1,291	1,318	1,388	874	860	796	653	652	
Hay and Straw	tons	223	233	202	155	165	134	119	117	
Grass Seed	cwts	523	586	442	95	94	91	90	92	
Flax and Tow	stones	1,584	2,591	2,760	437	533	718	270	180	
Turf	tons	4,645	4,554	4,472	3,983	3,904	3,837	3,250	3,567	
Other Crops	value only	-	-	-	-	-	-	-	-	

Table 9: Comparison of Agricultural Output Values and Income Arising in Agriculture in All Ireland and the Free State Area in Selected Years

	All Ireland			Free State Area				
	1908	1912/13	1919	1908	1912/13	1918/19	1924/25	1926/27
Livestock and Livestock Products		£'000				£'000		
Horses, Mules, Jennets, Asses	1,109	1,521	1,447	885	1,200	1,292	1,472	1,235
Cattle	11,885	13,052	30,026	9,501	10,399	22,070	16,964	12,791
Milk Consumed by Persons	2,912	2,492	7,381	2,097	1,780	5,236	3,550	3,196
Other Milk Products	6,357	9,888	22,991	5,213	7,996	15,513	9,905	8,726
Pigs	5,734	8,328	14,186	4,920	6,883	11,746	8,533	8,271
Sheep and Goats	2,018	3,296	5,797	1,773	3,000	4,661	3,443	2,634
Wool	429	696	1,822	388	631	1,281	782	685
Poultry	1,081	1,575	4,740	814	1,182	3,753	2,452	2,300
Eggs	3,974	4,832	17,472	2,992	3,502	13,836	7,588	6,690
Other Livestock Products	79	182	246	75	146	201	184	185
Total Livestock and Products	35,578	45,862	106,108	28,658	36,719	79,589	54,873	46,713
Crops and Turf								
Wheat	247	306	1,007	204	255	2,014	153	142
Oats	1,328	1,715	4,735	1,003	1,292	3,158	1,200	1,066
Barley	779	1,126	3,178	757	1,106	2,404	1,380	902
Potatoes	4,476	4,780	10,185	3,202	3,369	5,424	4,847	3,334
Hay and Straw	678	770	1,957	472	545	1,138	524	333
Grass Seed	421	385	589	76	62	353	111	99
Flax and Tow	404	894	4,139	114	179	903	183	84
Other Crops	700	848	3,002	560	678	2,432	1,884	1,985
Turf	3,817	3,886	9,588	3,273	3,331	7,962	3,453	3,317
Total Crops and Turf	12,850	14,710	38,380	9,661	10,817	25,788	13,735	11,262
Value of Livestock Changes	+316	-126	+2,409	+293	+39	+1,655	-4,753	+1,717
Gross Output including Livestock Changes	48,743	60,446	146,897	38,612	47,575	107,032	63,855	59,692
Feed, Fertilisers and Seeds	7,695	9,565	18,000	5,672	7,126	11,224	9,562	8,635
Net Output	41,048	50,881	128,897	32,940	40,449	95,808	54,293	51,057
Other Expenses	5,100	6,889	16,034	4,027	5,423	11,773	7,603	7,631
Income Arising	35,948	43,992	112,863	28,913	35,026	84,035	46,690	43,426

	1908	1912/13
Livestock and Livestock Products	80.5	80.0
Crops and Turf	75.2	73.5
Gross Output Including Livestock Changes	80.0	78.2
Net Output Including Turf	80.2	79.5
Income Arising	80.0	79.1

Except for crops, the aggregate values in the Free State area in 1908 and 1912/13 were around 80 per cent of those in All Ireland. Because of the high production of flax and grass seed in Northern Ireland and the high potato exports from that region the crop output values in the Free State area were only 74-75 per cent of those in All Ireland in those years.

We also did a comparison between the two areas for 1924/25 by adding the gross and net output figures for Northern Ireland (taken from the report *Agricultural Output of Northern Ireland in 1925*, op. cit.) to the O'Connor/Guimard Free State area figures for that year. This

Table 10: *Volume and Price Index Numbers for Gross and Net Agricultural Output, Farm Materials and Income Arising in All Ireland and the Free State Area in Selected Years*

	All Ireland			Free State Area				
	1908	1912/13	1919	1908	1912/13	1918/19	1924/25	1926/27
<i>Volume Indices (incl. Stocks)</i>								
Livestock and Products	100	107.3	98.3	100	105.7	95.7	95.9	102.0
Crops and Turf	100	103.2	108.2	100	101.6	109.5	84.0	89.3
Gross Output	100	106.2	101.5	100	104.7	99.2	91.0	98.8
Net Output	100	101.5	105.9	100	100.2	104.1	87.6	95.2
Farm Materials	100	129.7	81.8	100	130.7	71.8	108.4	119.1
Income Arising	100	103.1	106.5	100	101.7	103.5	87.2	94.8
<i>Price Indices (excl. Stocks)</i>								
Livestock and Products	100	118.2	305.9	100	119.7	291.4	178.0	160.2
Crops (excluding Turf)	100	110.9	265.1	100	113.0	235.3	189.0	138.0
Gross Output	100	116.8	297.7	100	118.5	281.3	179.8	156.5
Net Output	100	122.1	298.3	100	122.6	281.7	188.4	163.1
Farm materials	100	95.8	286.1	100	96.1	275.7	154.3	126.6
Income Arising	100	118.7	296.7	100	119.1	280.9	185.2	158.4

comparison shows that gross and net output (excluding turf and timber) in the Free State area in 1924/25 were, as in the other years, about 80 per cent of those in Northern Ireland.

The figures for the two areas are as follows:

	<i>Gross Output £'000</i>	<i>Net Output £'000</i>
Northern Ireland	15,073	11,185
Free State Area	60,292	50,807
Total	75,365	61,992
Free State as % of Total	80.0	81.9

It can be taken therefore that in those years gross and net agricultural output and possibly income arising in the Free State area were about 80 per cent of those in All Ireland.

Table 10 which compares the volume and price index numbers in the two areas shows, that for all the aggregates (except farm materials) given, the volume rise between 1908 and 1912/13 was slightly greater in All Ireland than in the Free State area. The difference however would likely be classed as statistically insignificant. The price indices on the other hand show an opposite trend, slightly higher rises in the Free State area than in All Ireland between 1908 and 1912/13. Again these differences are unlikely to be significant.

Comparison of the indices for All Ireland in 1919 and the Free State area for 1918/19 must be taken with caution particularly the price indices. The Free State area outputs are valued at 1918/19 prices whereas the All Ireland outputs are valued at 1919 prices. There was a considerable increase in most prices between 1918 and 1919 and this is the reason for the higher rise in the All Ireland 1919 price indices compared with those for 1918/19 in the Free State Area.

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