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The Changes of Eight Years in Agricultural Economics

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DEVELOPMENTS IN NORTHERN IRELAND 1938–45

As in other European countries the war occasioned a complete change in agricultural conditions in Northern Ireland. The reorientation in agricultural production that took place during these years—in order to meet war conditions—dominated the whole agricultural economy and an appreciation of the extent of the change is a necessary background to a consideration of the economic developments that have occurred during the past seven or eight years.

Prior to 1939 the agricultural output of Northern Ireland was based on livestock and livestock products to an even greater extent than in the rest of the United Kingdom. In 1937–8 no less than 87 per cent. of the total value of the sales off farms (excluding vegetables for which particulars are not available) consisted of livestock and livestock products.

Up to 1939 the tillage area had been declining for many years, apart from the expansion which occurred during the 1914–18 War, and had reached the record low level of 471,000 acres—only 19 per cent. of the total area of crops and grass in the country. Moreover the great bulk of the crops grown was used not for sale off farms but for livestock feeding on the farms. In addition, large quantities of imported feeding stuffs were purchased to maintain the high livestock output.

This economy was drastically upset by the outbreak of war. Immediate steps were taken to increase the tillage area which rose to a peak of 851,000 acres in 1943—an increase of 81 per cent. over the figure at the outbreak of war. While part of the increase in tillage during the war was in order to replace feeding stuffs formerly imported—the area of oats increased from 291,000 to 475,000 acres—a very large part was in crops for sale off the farm. Potatoes increased from 115,000 to 198,000 acres; wheat and barley from around 3,000 acres each to peak figures of around 17,500 acres each. The most striking increase was, however, in flax which rose from 21,000 acres in 1939 to a high level of 124,500 acres in 1944. The war interrupted the importation of flax fibre from the Low Countries and the Baltic, and military, naval, air force, and civil defence requirements meant that flax production attained a very high level of priority in 1943 and 1944.

The interruption in the importation of feeding stuffs could not be fully offset by increased use of grass and the increased production of

protein foods at home. Consequently pig production had to be drastically reduced, and the number declined from 627,000 in 1939 to 237,000 in 1944. The numbers of cattle were more than maintained, however, while poultry, which form an integral part of the economy of the typical small farm in Ulster, were substantially increased. Sheep declined by about a quarter.

These major changes in the character and organization of agricultural production involved a considerable measure of planning and administration. Every farm over 10 acres in size was surveyed and a decision taken as to the potential extent of the arable area of the farm—i.e. the area of land capable of cultivation. Orders were made requiring every farmer—unless specially exempted—to plough up a percentage of his arable area. The highest percentage required was 45. While farmers had to plough a certain proportion of their arable area they were left free to decide the crops they would grow—there were no directions with regard to the growing of specified crops.

The great increase in the tillage area necessitated special administrative arrangements to supply the fertilizers, machinery, and labour required. Distribution of fertilizers rose from 70,000 tons in 1939–40 to 165,000 tons in 1943–4. A hire-purchase scheme was introduced by the Ministry of Agriculture to facilitate the provision of tractors, which rose from 550 pre-war to 7,300 at the end of the war. Finally, supplementary labour for harvesting was organized from the towns and transported to the farms as required.

The increase in sales of livestock and livestock products was substantially less than the increase in field crops and fruit. From accounting for 87 per cent. of the total output in 1937–8, livestock and livestock products declined to 69 per cent. in 1944–5. There were, however, significant changes within the livestock group. No striking increase was shown by cattle, while pigs recorded a very substantial reduction to only 36 per cent. of pre-war. The outstanding features were the very great increases in sales of milk (about 250 per cent.), eggs (about 185 per cent.), and poultry (about 173 per cent.).

A considerable part of the increase in values was, of course, due to the increase in prices that occurred. The general index number for agricultural commodities doubled between 1938 and 1943, from 85 to 181 per cent. of the 1927–9 average. Considerable variations from that average change occurred in the prices of different commodities. The index number for fat cattle increased from 95 in 1938 to 151 in 1944; bacon pigs from 85 to 165; eggs from 82 to 226; milk from 107 to

259; potatoes from 85 to 191; and flax from 79 to 289. Thus whereas the price increase for fat cattle and bacon pigs was markedly less than the general increase, eggs, milk, and flax showed increases substantially above the average. It was in the case of these commodities that the biggest expansion in output took place. There were, however, factors other than price at work during the war exercising considerable influence upon production policy. Thus in the case of pigs the shortage of imported feeding stuffs combined with a relatively unattractive price to restrict production. The increase in potato prices was only slightly above the average, but the area was greatly expanded as a result of the compulsory tillage requirements. With flax a high price had to be paid to encourage farmers to grow this crop rather than a cereal crop, especially in view of its heavy labour requirements.

The increases in prices that occurred in 1940 and 1941 resulted in a substantial increase in agricultural profitability, but thereafter rising costs more or less stabilized the net agricultural income at around the level then established. The estimated net income of farmers in Northern Ireland, i.e. total gross income less labour, rent, purchased requisites, &c., was £13·39 millions in 1940–1; £14·43 millions in 1941–2; £13·05 millions in 1942–3; £13·29 millions in 1943–4; £13·66 millions in 1944–5. Corresponding data are not available for assessing the prewar income with sufficient accuracy. A small sample of farms for which accounts have been kept shows an average profit per acre of £2·8 in 1937–8; £1·7 in 1938–9; £4·8 in 1939–40; £5·7 in 1940–1; £6·7 in 1941–2; £4·8 in 1942–3; £4·4 in 1943–4; and £4·9 in 1944–5.

It must be emphasized that the number of accounts is too small to place great reliance on the figures as a basis for assessing the profitability of the whole industry, but they confirm broadly the independent calculation of net income based upon the value of the gross output less deductions in respect of total farm expenditure.

In the case of milk, accounts showing cost of production have been kept for a number of years. Before the war costs of production were about 10*d.* or 11*d.* per gallon. The table on p. 83 shows the way in which costs have varied during the war years. They relate to Grade 'B' milk, which is broadly equivalent to accredited milk in Great Britain.

The shifts of production, the scarcity of certain requisites, and the rising costs meant not only a lot of technical readjustment but also a greater emphasis on economic problems in the managing of farms. It may be recalled that prior to 1939, when the co-operation of a number of farmers was sought for keeping accounts of the cost of milk produc-

tion, fees had to be paid to these farmers to recoup them for the trouble involved. There are now approximately 550 farmers keeping financial accounts and various enterprise costs, including 38 for potato costs, 40 for milk costs, and 60 for poultry costs. This represents a very large increase compared with pre-war and indicates a marked change in the attitude of farmers. To-day, with the help and co-operation of the Ulster Farmers' Union, an increasing number of farmers are coming forward who are prepared freely to undertake the work of detailed account keeping—whether in respect of financial accounts or enterprise costs. Full use is made of the accounts to give advisory assistance to the farmers supplying them, and a considerable increase in this work will take place in the future.

Cost of Milk Production

Average net farm costs (price per gallon)

GRADE 'B'

	Concentrates	*Bulky food*	*Grazing*	*Labour*	*Miscellaneous*	*Herd replacements*	*Gross costs*	*Credits*	*Net costs*
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
1937–8	4·23	2·45	0·99	2·16	0·77	..	..	..	..
1938–9	4·10	1·89	1·10	2·14	0·77	..	..	..	..
1939–40	3·98	2·39	1·12	2·11	0·89	..	..	..	..
1940–1	5·01	3·91	1·44	2·72	0·92	0·34	14·34	0·83	13·51
1941–2	4·77	4·81	2·52	2·89	0·94	1·31	17·24	0·73	16·51
1942–3	4·74	5·22	2·82	3·31	0·99	1·92	19·00	0·70	18·30
1943–4	5·31	6·15	3·36	3·89	1·01	1·89	21·62	0·92	20·70
1944–5	6·18	5·57	2·99	3·77	1·07	1·75	21·33	1·08	20·25
1945–6	6·01	5·00	3·08	3·82	1·24	1·70	20·35	1·08	19·77

The main impetus to increase the volume of data collected on the general profitability of farming and the costs of individual products was the policy of government buying at fixed prices. In the years before the war, government policy in Northern Ireland had devoted considerable attention to the improvement of agricultural marketing. It is true to say that it was in this branch of agricultural economics that most work had been done. In the nineteen-twenties a series of measures had been passed designed to improve the quality and packing of Ulster produce. This legislation was in advance of any corresponding steps in Great Britain, where efforts at improving the marketing of home produce were confined to voluntary arrangements under the National Mark. Northern Ireland, however, sends a large part of her agricultural output to Great Britain and, although Northern Ireland is part of the United Kingdom, it was found essential to prepare Ulster produce for the British market in as attractive condition

as imported produce from Denmark and the Dominions, or other countries. Consequently steps were taken for the compulsory grading and inspection of eggs, fruit, meat, and potatoes shipped to Great Britain. Then in the nineteen-thirties a further step forward in agricultural marketing took place, when measures were introduced under the agricultural marketing acts to deal with price control, distribution, transport, and processing. The commodities affected were particularly pigs, milk, and eggs.

During the war these marketing arrangements were in greater or lesser degree suspended and replaced by war-time arrangements associated with direct government purchase of the principal products. In some cases this made possible the extension of organized marketing to products not covered by pre-war legislation. The changed emphasis with regard to production has also had considerable repercussions on individual marketing arrangements. The position may be surveyed briefly in regard to the principal products.

Prior to 1940 all cattle and sheep, whether store or fat, were sold by private treaty at farms and markets throughout the country, or at a small number of auction marts. A substantial proportion were shipped to Great Britain, and prices for fat stock were governed by prices in Great Britain, less the cost of carriage and marketing. Marketing arrangements were unsatisfactory, and a large army of small dealers were engaged in buying for the shippers who generally operated in a fairly large way.

At the beginning of 1940 government purchase of cattle and sheep was introduced, and uniform prices were adopted throughout the United Kingdom. In Northern Ireland the actual purchase was undertaken by veterinary officers of the Ministry of Agriculture. The system is still in operation at sixty-eight centres for cattle and sixty-six for sheep. Purchase takes place once a week, once a fortnight, or once a month, according to the supplies available at each centre. The animals required for the rationed meat supply of Northern Ireland are sent for slaughter to seventeen abattoirs taken over and operated by the Ministry of Agriculture. Meat from the abattoirs is distributed direct to butchers in accordance with their ration requirements. Cattle and sheep surplus to those required for Northern Ireland consumption are shipped by the Ministry of Agriculture to the Ministry of Food in Great Britain.[1]

[1] In this article 'Ministry of Agriculture' means the Ministry of Agriculture for Northern Ireland, 'Ministry of Food' refers to the U.K. Ministry.

Shipments of fat cattle to Great Britain during the war years fluctuated from year to year, increasing from 54,000 in 1940 to 108,000 in 1941 and 111,000 in 1942; and then sharply declining to 77,000 in 1943, increasing again to 96,000 in 1944 and to the high figure of 157,000 in 1945. Shipments of fat sheep, on the other hand, fell sharply from 388,000 in 1940 to 71,000 in 1941 and then steadily to 14,000 in 1944, rising slightly to 17,000 in 1945.

Before the war less than 40 per cent. of the sales of milk off farms in Northern Ireland went direct for human consumption—the balance was used almost entirely for manufacture into butter and cream. In these circumstances it was impossible to operate a pooling system, and there was a sharp division between the market for milk for liquid consumption and that for milk for manufacture. All producers who sold milk for liquid consumption had to be licensed, and the prices and contract terms upon which this milk was bought by distributors were fixed by a Joint Milk Council representative of producers, distributors, and consumers, with an independent chairman and two other members. The Council also fixed retail prices. A levy was imposed on sales of milk for liquid consumption and was used to help to pay certain subsidies to producers whose milk was used for manufacture.

During the war a very great increase took place in the Northern Ireland market for milk for liquid consumption—it increased by almost 150 per cent.—and in addition three or four million gallons of milk were shipped to Scotland each winter during the later years of the war. Further, a number of new outlets for milk manufacture were developed, particularly in condensing and spray drying, for which substantially higher prices were obtainable than for butter manufacture. Sales of cream were prohibited.

The high priority attaching to milk production, and the need to stimulate quality production in order to cater for the greatly expanded liquid market made it necessary to introduce a uniform price for milk. For the first time in Northern Ireland this was done in the autumn of 1942. Supplies of milk, other than those sold by producer-retailers, were concentrated at about thirty centres, and all milk received at these centres was graded by officers of the Ministry of Agriculture and paid for as either 'liquid quality' or 'manufacturing quality'. Producers who held Grade 'A' (Tuberculin tested) or Grade 'B' (equivalent to accredited) licences received quality premiums over and above the basic price. Under the Milk Act, 1944, all producers who sold milk

were required to be licensed and not only producers who sold on the liquid market as had been the case prior to the war. This meant that large numbers of producers were called on to effect substantial improvements to their cowsheds and to provide proper dairy premises, or else cease selling milk. The effect of licensing, and the system of payment on a quality basis, had a marked effect in improving the general quality of the milk supplies in areas where previously producers had sold milk—at low prices—to a large number of small creameries, and had had little incentive to pay much attention to quality milk production.

The improvement effected consequent upon the introduction of payment on a quality [basis] is shown by the fact that in 1943–4 9·2 per cent. of the milk was graded below liquid quality, whereas in 1944–5 only 4·9 per cent., and in 1945–6 only 4·0 per cent. was so graded.

Before the war the only wholesale milk market in Northern Ireland was in connexion with the supply to the city of Belfast, which could be supplied by producers within about a fifteen-mile radius of the city. The greatly increased demand for milk for liquid consumption during the war, including shipments to Scotland, meant that the milk shed area had to be greatly widened. There were, however, no adequate facilities for milk handling and processing in the newly tapped areas. Consequently some seven modern milk depots were established by the Ministry of Agriculture for the purpose of handling this milk. At four of these depots roller driers were subsequently installed to deal with the surplus of separated milk which was caused by the decline in the pig population. Before the war the separated milk from butter manufacture had been an important factor in connexion with pig production. The great decline in the pig population left a surplus which during the war was dried into skim-milk powder. The replacement of butter manufacture by the manufacture of products such as condensed and spray-dried whole milk will, however, soon mean a considerable reduction in the quantities of skim milk.

As has already been seen, milk prices in Northern Ireland have increased substantially during the war. A special feature has been the increase in winter prices. Before the war there was comparatively little variation between winter and summer prices—for manufacture the guaranteed minimum average price was 5*d.* in summer and 6½*d.* in winter. In 1938–9 the liquid price was 15*d.* per gallon for seven winter months and 13*d.* per gallon for five summer months (subject

to levies). In 1946–7 the liquid quality price range was from 16*d.* per gallon in June to 40*d.* per gallon in December and January.

As a result, while milk output in 1945–6 was greater in every month of the year than in 1938–9, the December, January, February, and March increases were 111, 103, 108, and 124 per cent. respectively, whereas the June, July, August, and September increases were only 59, 49, 35, and 36 per cent. respectively. The April and May increases were 97 and 92 per cent. and the October and November increases were 54 and 73 per cent.

The following figures emphasize the changes in production and utilization of milk. The total sales off farms increased from 40·4 million gallons in 1939–40 to 66·75 million gallons in 1945–6. In the former year, 38 per cent. was used for liquid consumption, 60 per cent. for making cream and butter, and about 1½ per cent. for dried whole milk. In 1945–6, 56 per cent. of the much larger output went into liquid consumption, only 27 per cent. into butter and cream, 5 per cent. into dried whole milk, 7 per cent. into condensed milk, and 5 per cent. shipped to Scotland.

Government purchase of pigs was introduced in 1940. The pre-war machinery of the Pigs Marketing Board was transferred to the Ministry of Agriculture for this purpose. The decline in pig production meant that the throughput of the Ulster bacon factories was greatly reduced, and instead of shipping substantial quantities of bacon to Great Britain the production in Northern Ireland was barely sufficient for her own rationed requirements.

The total numbers of pigs cured in 1938, 1939, and 1940 were 654,000, 778,000, and 722,000 respectively. By 1944 the number had dropped to 124,000 followed by a slight increase to 144,000 in 1945. The numbers in the intervening years were: 438,000 in 1941, 204,000 in 1942, and 182,000 in 1943.

Government purchase of eggs put an end to the system that had existed pre-war under which fixed prices to producers were announced each week, on the basis of the prices realized for Northern Ireland eggs on the wholesale markets in Great Britain. The organization of licensed egg collectors and packers which had been in existence before 1939 continued and provided the administrative machinery for war-time control.

Some features of the war-time arrangements have represented retrograde steps so far as the egg trade is concerned. First of all the pre-war arrangements for purchase by weight had to be discontinued,

thus removing the incentive to breed for the production of large eggs. Then concentrated feeding-stuffs had constituted the foundation of winter egg production, and the shortage led to an increase in spring and summer production which was accentuated by the policy, general throughout the United Kingdom, of paying a uniform price for eggs all the year round.

The effects are seen in the annual throughput of packing stations. Where, in 1939, 65·8 per cent. of the annual production was marketed in the six months January to June inclusive, and 34·2 per cent. in July to December inclusive, by 1943, 72·7 per cent. was produced in the first half of the year, and only 27·3 per cent. in the second half. In 1945 the corresponding percentages were 71·3 per cent. and 28·7 per cent.

The war-time increase in the price of eggs encouraged a fairly substantial increase in the poultry population. Thus total poultry increased from 10,220,000 (9,295,000 of them fowls) to 17,471,000 (16,050,000 fowls). It should be noted, however, that the effect of late hatching has been to include in the June census cockerels which pre-war would have been killed before June.

There is little doubt that a fairly substantial decrease occurred in the yield of eggs per laying bird due partly to the shortage of feeding-stuffs and partly to later hatching, which shortened the egg production period.

There was no organized marketing of poultry before the war. In 1943, however, a scheme was introduced providing for the shipment of all poultry from Northern Ireland to retailers' buying groups in a number of the largest cities in Great Britain. Prices to the producer were fixed although the government was not the buyer. During 1943 to 1946, however, prices for poultry in Great Britain were pressing hard against the maximum prices fixed by the Ministry of Food, and in these circumstances it was possible to operate fixed prices to producers in Northern Ireland. When maximum prices were raised in the late summer of 1946, so that at times prices for poultry were below the maximum, this arrangement of sale to retailers' buying groups had to be discontinued, and a free market was reintroduced subject to maximum prices.

Fortunately it has been possible to continue the arrangements for the licensing of poultry packers and collectors in Northern Ireland and as a consequence there has been a substantial improvement in the conditions under which poultry are handled. An official inspection

system in regard to poultry shipped from the country has also been introduced. It is hoped that these features will be retained as a permanent policy.

The increase in poultry prices has been relatively less favourable than the increase in the price of eggs. The index figure rose from 80 in 1938 to 166 in 1945.

The area under potatoes rose by 72 per cent. between 1939 and 1944, and the government guaranteed a market for all potatoes offered for sale. Considerable exports of potatoes to Great Britain have taken place for many years past, and throughout the war period the potato crop constituted the principal food reserve for the population of the United Kingdom. Northern Ireland being a large surplus-producing area, it was worth while, because of shipping difficulties and the greatly increased crop, for the Ministry of Agriculture to erect and operate, on behalf of the Ministry of Food, twelve potato-drying factories to deal with supplies which could not be utilized directly for human consumption. The production of certified seed potatoes also increased in importance. The area of seed rose from 12,747 acres in 1939 to 52,408 acres in 1946. The quantity of seed shipped from Northern Ireland rose from about 18,000 tons pre-war to 90,000 in 1945.

In the case of flax, which made the most remarkable increase during the war when the whole production was purchased by the government at fixed prices announced in advance of sowing, the chief agricultural difficulty was that of ensuring an adequate supply of seed. The over-running of the continental flax-seed producing countries in 1940 made us dependent thereafter on home-saved or Empire seed. Under the normal method of flax production in Northern Ireland the flax is dam retted, and the seed is lost. During the war a number of factories were erected to handle unretted flax straw by first de-seeding the flax and then scutching the de-seeded straw. As has already been indicated, the increase in flax prices was greater than in the case of any other commodity. With the restoration of peace-time conditions and access to continental supplies of flax, prices have been reduced substantially and the acreage under this crop has already fallen very greatly. In 1946 only some 35,000 acres were grown, compared with the peak figure of nearly 125,000 acres in 1944.

The teaching of agricultural economics continued at the Queen's University throughout the war years—which, indeed, gave an impetus to all higher agricultural education. So far as advisory work is concerned full advantage has been taken of the opportunities afforded

during the war years, but it will be appreciated that war-time necessities have had first preference, and although the staff of the Ministry of Agriculture on farm economics and farm accounts has substantially increased they have been largely engaged upon work directly connected with the war effort.