

Statistical and Social Inquiry Society of Ireland

Agricultural Developments in Ireland, North and South

By E. A. ATTWOOD

*(Read before the Society in Dublin on November 25th, 1966 and in Belfast
on April 3rd, 1967)*

The agreement on the reduction of the trade barriers between the United Kingdom and the Republic of Ireland has given rise to hopes of a new impetus to the development of Irish agriculture. Although a detailed forecast of the increase in output and prices would not be justified in the light of present knowledge, an examination of the growth of agriculture in recent decades in the two parts of Ireland gives a basis for some general conclusions. Economic history is not reversible and no trade agreement could re-create the same precise relationships between the agriculture of Southern and Northern Ireland in 1966 that existed in 1926, but closer trade and economic ties will make the current farming trends in Northern Ireland of much greater significance to the rural community in the rest of Ireland than has been the case in recent years.

The actual agricultural output in any country is, of course, a function of many factors other than the agricultural area available, and its climatic environment. The size of the agricultural population, its training, ability and backing from advisory and research services, the level of equipment of the farms, the way land, labour and capital is organised into individual production units, the level of demand for farm products and the prices that prevail, the institutional arrangements for marketing farm output—all these factors are of very great importance. Some of these are measurable, e.g. the size of the labour force or the level of prices for individual products, but others cannot be fully evaluated in precise terms. This paper will concentrate on (i) the farming inputs—land, labour, fertilisers, feedingstuffs, machinery—and the way these are organised into individual farm units; (ii) the outputs in terms of acreages of the main crops and the production from the main farm enterprises; (iii) the level of prices and (iv) the institutional marketing arrangements. The role of government assistance and the development of agriculture within the economy as a whole are examined in the final section.

THE USE OF LAND AND LABOUR

The total land area of the Republic is 17·024 m. acres, and that of Northern Ireland is 3·352 m. In terms of the current pattern of land

utilisation, the proportion of the total area under crops and pasture production (which can be regarded as a reasonably valid measure of 'agricultural land') is slightly greater in the Republic than in the North. The potential for farm production, purely in terms of area and climate, of the Republic is over five times greater than that of Northern Ireland, particularly as the climate in the South is somewhat more favourable for agricultural production generally. The cropping pattern and livestock numbers are set out in the Appendix, Tables I and II. There is almost one-third of the total area of the Republic in 'other land', compared with one-quarter in the North and the proportion of crops and pasture acreage under tillage is nearly 50 per cent higher in the North than in the South.

The numbers engaged in farming in Ireland, both North and South, have been declining over recent decades, in common with the trend in all advanced economies. Agriculture plays a more important part in the national income, and consequently in the employment pattern, of the South (Table I). At the same time the percentage of the total population which is gainfully employed is slightly higher in Northern Ireland than in the South.

TABLE I
CHANGES IN AGRICULTURAL EMPLOYMENT, 1926-62 (000)

	Republic of Ireland			Northern Ireland		
	1926	1951	1961	1925	1950	1962
Farmers	268.9	235.3	210.3	} 166	60	47
Farm family*	264.1	171.1	108.0			
Hired full-time	} 139.1	106.1	74.4	29	16	9
Part-time and casual				15	21	14
Total in agricultural employment (A) ...	672.1	512.5	392.7	210	135	91
Total gainfully occupied (B)	1,307.7	1,219.7	1,108.1	n.a.	546	540
A as % of B	51.4	42.0	35.4	—	24.7	16.9

SOURCE: Statistical Abstract, Dublin, and Schemilt, H. J. 'Adjustments in Family Farming in the Northern Ireland Economy', *Ag. Econ. Soc.* XVI, 1, 1964.

* Excluding farmers' wives.

Since 1961 there has been a continued steady migration from agriculture, amounting in the South to 12,000 a year, and in the North to around 3,000 from the number of 'agricultural workers' (which includes family workers, but not farmers or their wives). Over the past 40 years the rate of decline in the numbers in agriculture has been slightly faster in the North, but the *current* trends make it likely that by 1975 the rate of migration from agriculture will be broadly the same for the previous 50

years. The main difference between the rates of migration has been that whereas in the North it has been fairly uniform over recent decades, in the South the outward movement since 1951 has been much more rapid than in the quarter century preceding that date. The pattern of migration from agriculture is generally one in which the hired workers and relatives assisting on farms tend to move out more rapidly than farmers and their wives, but the loss of the family workers tends to lead eventually to the non-replacement of farmers as they retire from small farms. This leads to a fairly rapid reduction in the number of farmers, particularly on the smaller farms. This stage has already been reached in Northern Ireland and seems likely to be reached in the Republic during the current decade.

The effects of this change in the number of farmers can be seen in the changes in the numbers of agricultural holdings over one acre. In the 1 to 15 acre category particularly, the figures are affected by residential developments in the rural area, but for holdings of 15 acres and upwards the figures are reasonably representative of farming trends in both North and South (Table II). The general pattern of a fall in the total number of holdings is apparent in both parts of Ireland, but whereas in the North this fall has occurred in all size groups (although not at an equal rate) in the South there has been an increase in the numbers of holdings over 100 acres which has been more than offset by a fall in the smaller ones.

TABLE II
NUMBER OF AGRICULTURAL HOLDINGS IN REPUBLIC OF IRELAND
AND NORTHERN IRELAND, 1948-60

	1-5 acres	5-15 acres	15-50 acres	50-100 acres	100 and over	Total
Republic of Ireland						
1949	26,360 (8.3)	62,423 (19.6)	149,436 (46.8)	51,287 (16.1)	29,042 (9.1)	318,548 (100.0)
1955	25,893 (8.3)	59,066 (18.9)	146,976 (46.8)	52,270 (16.7)	29,082 (9.3)	313,287 (100.0)
1960	23,312 (8.0)	47,476 (16.4)	135,351 (46.6)	54,209 (18.7)	29,960 (10.3)	290,308 (100.0)
Northern Ireland						
1949	14,218 (16.2)	20,682 (23.6)	34,898 (39.9)	12,787 (14.6)	4,957 (5.7)	87,542 (100.0)
1955	7,692 (10.3)	16,891 (22.6)	33,827 (45.4)	11,908 (16.0)	4,273 (5.7)	74,591 (100.0)
1960	5,914 (8.3)	16,269 (22.6)	33,816 (47.0)	11,792 (16.4)	4,125 (5.7)	71,916 (100.0)

SOURCE: Agricultural Enumerations for the relevant years.

Figures in brackets are percentage of total.

Although the policy towards land ownership is basically the same throughout Ireland, stemming from the Land Purchase Acts of the late nineteenth and early twentieth centuries, there is some difference in the

attitude towards conacre letting. The land ownership arrangements preclude the letting of land on a long-term landlord/tenant basis, but in Northern Ireland conacre is an accepted part of the farming economy which 'introduces some flexibility in what otherwise would be a rigid system of land tenure'.¹ In the Republic, on the other hand, conacre is less widely regarded as a useful form of land holding, and it has been officially recommended that 'holdings let and not properly worked or left vacant for five years might be taken over by the Land Commission and used for the relief of congestion'², and the Minister for Lands has stated that 'the owners will receive an offer from the Land Commission to purchase their lands; if they do not sell or alternatively return, live on and effectively work their holdings, wide compulsory powers are available for the acquisition of these lands'.³ These differences in attitude towards conacre represent, in part, the continued importance in the South of the problem of congestion. The 'big group of genuine Irish farmers—and there are probably some 60,000 of them—who are trying to derive a subsistence livelihood on undersized holdings'³ are of much greater significance in the rural areas of the Republic than are the equivalent groups of very small farmers in the North. There is, however, a problem of very small farm businesses in the North for these account for 'one in three of all farms, upon which the farmer, and perhaps an adult member of his family, depend entirely or almost entirely for a livelihood. By definition, the majority of these holdings do not provide an income as high as a farm worker's wage'.⁴ Schemilt goes on to suggest that a 'middle course' must be taken between the need to increase productivity by reducing the numbers in agriculture and the need to maintain employment levels on the land for social reasons.

AGRICULTURAL OUTPUT

The total farm output has been increasing in the Republic and the North over recent years at fairly similar rates of growth (Table III—although the expansion in farm output in the South in 1964 was greater than that in the North in that year). Over the past 40 years, however, farm output in the North has expanded very much more rapidly; it has been estimated that it has roughly doubled over this period.⁵ In the Republic the level of output was virtually static in the 1930's and 1940's, and by 1951 was only some 5 per cent higher than in 1926–27. It is only in the past 15 years that agricultural output has really expanded, and is now over 35 per cent higher than it was in 1951. The new free trade area agreement has enhanced the prospects for a narrowing of the gap in the output of agriculture per acre of the North and South, which has widened

¹Schemilt, H. J. 'Adjustments in Family Farming in Northern Ireland Economy', *Journal of Ag. Econ. Soc.* XVI, 1, 1964.

²O'Morain, M. Paper to Agricultural Science Association, published in the Report of the Land Commissioners, 1961–62, Pr. 7040, Stationery Office, Dublin, 1963.

³*ibid.*

⁴Schemilt, H. J. *op. cit.*

⁵Schemilt, H. J., *ibid.*

between 1926 and 1951. Had the farms in the South expanded their output over this period as a whole at the same rate as their Northern counterparts, the volume of output in the Republic would be some 50 per cent higher than it is at present.

TABLE III
VALUE OF GROSS AND NET AGRICULTURAL OUTPUT, 1954-64

	Average of 1954-56	1960-61	1961-62	1962-63	1963-64	1964-65
Northern Ireland						
Gross output ...	89.5	98.6	103.1	105.8	102.2	106.5
Net output ...	49.0	54.4	55.0	57.3	54.3	54.9
Republic of Ireland						
Gross output ...	177.8	193.1	206.5	213.0	215.2	240.1
Net output ...	146.1	160.8	169.4	171.9	172.1	195.5

SOURCE: Statistical Abstract and Statistical Review, Ministry of Agriculture, Northern Ireland.

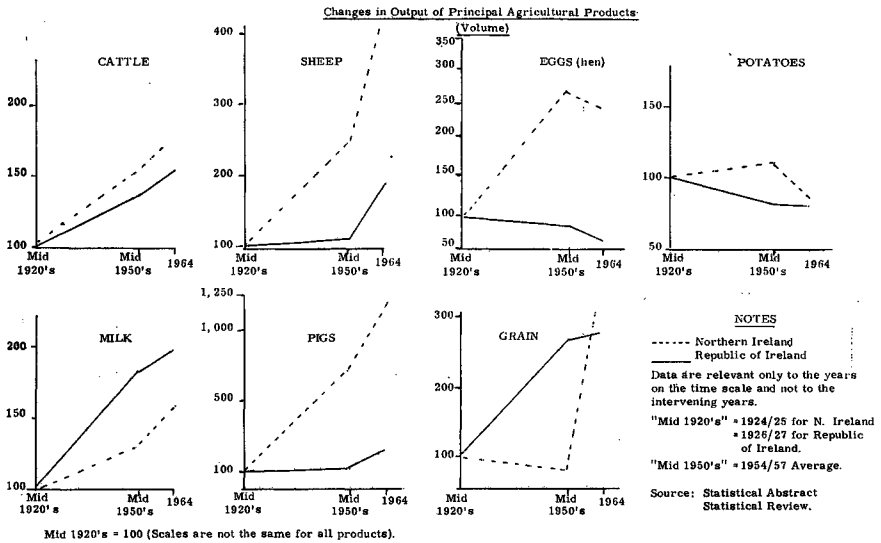
* Gross Output as defined in N. Ireland Statistics minus imports of livestock. For the Republic of Ireland the figures are for the calendar years 1954-56 and 1960-64.

It is an over simplification to ascribe the more rapid growth in farm output in the North to their access to the British deficiency payments system. The increases in output were already quite substantial before the passing of the 1947 Agricultural Act, on which the deficiency payments system is based.⁸ Some of the inherent advantages of a large but protected market were exploited during the 1930's in the U.K. and it was the opportunities of this situation which have proved of particular advantage to the Northern farmer. The new agreement on free trade between the U.K. and Ireland is expected to create some of the same opportunities, but it is unlikely to confer the same degree of advantages on the Southern farmers as have been available to those in the North.

The specific enterprises which the farmers in the North and South have been able to develop most successfully are shown in Diag. I. Every enterprise in this diagram (except potatoes) has shown a very marked expansion in the North, the most important being the livestock products, especially pigs, eggs, milk and sheep. The role of the marketing boards for pigs and milk has been of considerable significance, but the work of these boards should be seen as one aspect of the general agricultural development rather than as an isolated feature determining the output levels of the particular products in question. This vital question of the factors determining the rates of expansion in output are discussed later, but for the present it is of interest to note the wide difference in the

⁸Some elements of the subsidy system in the U.K. were already in operation before 1947, but they were put on a more regular and comprehensive basis under this Act.

economic characteristics of the three farm products whose output has expanded most rapidly in Northern Ireland over the past 40 years, i.e. pigs, sheep and grain.



Production and marketing characteristics of these products are quite different and although the reasons for their rapid expansion might simply be in the rate of profitability in production compared with other farm products, there are no data available to substantiate or disprove this.

In the Republic, sheep, grain and pigs have also expanded in output over the past 40 years but not as rapidly as in the North. With the exception of sugar beet and milk, the growth in output of the main farm products in the South has been lower over these decades as a whole, and there have not, in general, been the widely differing growth rates for the various products which have occurred in the North.

These changes in output have resulted in a different combination of products in the agricultural output of the two economies. The really striking difference is in the role of the farmyard enterprises (Table IV). Pigs and poultry (including eggs) in the North account for over 45 per cent of output, compared with around 18 per cent in the Republic. This means that the relative importance of grazing livestock and tillage production is necessarily lower in the North than in the South. In particular wheat and sugar beet are of no significance in the agriculture of Northern Ireland, this being partly offset by potato production.

This product-mix is reflected in the combination of inputs. In Northern Ireland purchased feedingstuffs account for 60 per cent of total costs, compared with less than 30 per cent in the Republic. The other cost items

TABLE IV
OUTPUT COSTS AND INCOMES IN IRISH AGRICULTURE

Livestock and livestock products	1963		1963-64		1964		1964-65	
	Republic		N. Ireland		Republic		N. Ireland	
	(£m.)	%	(£m.)	%	(£m.)	%	(£m.)	%
Horses	3.0	1.4	—	—	3.6	1.5	—	—
Cattle*	62.0	28.8	19.9	19.5	70.0	29.2	20.9	19.6
Milk	47.9	22.3	17.7	17.3	53.6	22.3	19.3	18.1
Sheep*	11.0	5.1	4.2	4.1	12.2	5.1	3.3	3.1
Wool	3.5	1.6	0.6	0.6	4.2	1.7	0.6	0.6
Pigs	24.7	11.5	31.7	31.0	27.0	11.2	31.7	29.8
Poultry*	4.2	2.0	1.0	1.0	4.9	2.0	1.2	1.1
Eggs	10.7	5.0	13.5	13.2	9.9	4.1	15.5	14.6
Other	0.3	0.1	—	—	0.3	0.1	—	—
Total livestock ...	167.3	77.8	88.6	86.7	185.6	77.3	92.5	86.9
Wheat	7.3	3.4	—	—	7.0	2.9	—	—
Oats	1.6	0.7	0.5	0.5	1.6	0.7	0.5	0.5
Barley	8.4	3.9	1.6	1.6	8.9	3.7	2.1	2.0
Sugar beet	6.5	3.0	—	—	6.8	2.8	—	—
Potatoes	6.5	3.0	5.2	5.1	7.7	3.2	4.9	4.6
Grass seeds	0.2	0.1	0.3	0.3	0.3	0.1	0.3	0.3
All others (incl. veg.) ...	6.7	3.1	1.8	1.8	6.2	2.6	2.1	2.0
Fruit	1.4	0.7	1.0	1.0	1.1	0.5	1.0	0.9
Turf and other items ...	5.6	2.6	2.8	2.7	5.1	2.1	2.8	2.6
Total	44.2	20.6	13.2	12.9	44.7	18.6	13.7	12.9
Value of changes of livestock	+3.6	1.7	+0.4	0.4	+9.7	4.0	+0.3	0.3
Gross agricultural out- put	215.1	100.0	102.2	100.0	240.0	100.0	106.5	100.0
Animal feed	27.1	28.7	43.1	58.1	28.3	28.5	47.0	60.5
Fertiliser and lime ...	11.2	11.9	3.9	5.3	11.9	12.0	3.8	4.9
Seed	4.6	4.9	0.9	1.2	4.4	4.4	0.8	1.0
Rent and rates	9.7	10.3	2.2	3.0	9.4	9.5	2.2	2.8
Wages	14.8	15.7	7.4	10.0	16.0	16.1	7.1	9.1
Machinery	16.4	17.4	10.8	14.6	17.6	17.7	10.9	14.0
Transport and market- ing	3.5	3.7	—	—	3.8	3.8	—	—
Misc. (less capital ex- penses	7.1	7.5	5.9	8.0	7.8	7.9	5.9	7.6
Total	94.4	£00.0	74.2	100.0	99.2	100.0	77.7	100.0
Less production grants †	0.5	0.5	9.4	12.7	2.3	2.3	8.0	10.3
Total less grants ...	93.9	99.5	64.8	87.3	96.9	97.7	69.7	89.7
Net family income ...	121.1	56.3	37.4	36.5	143.2	59.6	36.7	34.5

* Cattle and sheep outputs are less imports and poultry less purchases of day-old chicks.

† Production grants exclude the subsidy on fertiliser and lime in both the Six Counties and the Republic. They also exclude £0.7m. subsidy under the Land Act. These grants are already deducted from the individual costs.

consequently play a bigger part in the cost structure of the farms in the South—particularly fertiliser, seeds, rent and rates and wages. If the very high input of animal feed was not such a marked feature in Northern Ireland, the relative proportions of the major farm inputs would be broadly similar to those in the Republic.

The part played by pigs and poultry in the total output also affects the share of total returns which accrue to the farm family. This greater incidence of the intensive enterprises, with a low profit margin per unit of turnover, has meant that the ratio of income to output is much lower in the North than in the South. This is one of the consequences of the more intensive nature of farm production in Northern Ireland.

FARMING INPUTS

The expansion in output of farm products which has taken place in Ireland has involved a substantial change in the quantities of inputs, and in the way in which these inputs are combined. As has already been discussed, recent decades have seen a steady fall in the numbers engaged in agriculture; this has been offset by a substantial rise in the capital used in the production process. For some of these additional capital inputs, the necessary data on their expansion are readily available, but in other cases it is far more difficult to ascertain the extent to which a real expansion has taken place.

The total area of land has, of course, been virtually constant but the area recorded as being under crops and grass has tended to fall since the first decade of this century. Due to problems of enumeration, it is impossible to assess accurately the change in crops and pasture acreage over this period. There have been substantial expenditures on land improvement, particularly on drainage in both North and South. This has been undertaken with government assistance and in each case has been assisted by the expenditures on arterial drainage which have been expanding in recent years.

Of more immediate importance in the growth of capital inputs has, however, been the rise in expenditure on fertilisers, feedingstuffs, machinery and equipment. In the case of fertilisers, Table V gives the trend in recent years. The expenditure on fertilisers per acre is twice as high in the North as in the South. This is due in part to the higher proportion of tillage in the agriculture of Northern Ireland, but this factor does not account for anything like all the differences involved.

As can be seen there has been some deceleration in the expansion of fertiliser use in the last year or two, in spite of the fact that substantial government assistance is made available to reduce its cost. At the same time the expenditure on feedingstuffs has tended to move upwards in a slightly more erratic fashion but without any evidence that it has now begun to even out (Table VI).

No detailed information is available on the allocation of feedingstuffs to the different farm enterprises, but clearly pig production in the North accounts for a very considerable proportion of the total feed input. The

TABLE V
FERTILISER AND LIME USE 1960-61/1964-65

	1960-61	1961-62	1962-63	1963-64	1964-65
Republic of Ireland					
Tonnage of nutrients (000 ton)	114.6	135	155.4	160.4	155.0
Purchase of lime (000 ton) ...	607	972	1,010	1,079	1,121
Net cost to farmers (£000) ...	8,275	8,412	10,235	10,221	11,930
Fertiliser and lime costs per acre, crops and grass (£)* ...	0.7	0.7	0.9	0.9	1.0
Northern Ireland					
Tonnage of nutrients (000 ton)	56.4	75	56	66	60
Purchase of lime (000 ton) ...	600	740	787	560	594
Net cost to farmers of fertiliser and lime (£000) ...	3,400	4,500	3,600	3,900	3,800
Fertiliser and lime costs per acres, crops and grass (£)* ...	1.8	2.3	1.9	2.0	1.9

SOURCE: Statistical Abstract and Statistical Review, Ministry of Agriculture, Northern Ireland.

* In interpreting these figures regard must be had to the fact that the farmer in the Republic paid 72.6 per cent of the total cost in 1964, compared with 64.4 per cent in Northern Ireland. In practice, this is most unlikely to affect the comparison to any material degree.

TABLE VI
TOTAL FARM COSTS AND NATIONAL IMPORTS OF ANIMAL FEEDING-STUFFS (£m.)

	1961	1962	1963	1964
Republic of Ireland				
Total feed costs (at farm gate prices) ¹ ...	23.4	26.3	27.7	29.1
Imports of animal feedingstuffs (at c.i.f. prices) ²	5.7	9.2	6.8	7.6
Northern Ireland³				
Total feed costs (at farm gate prices) ¹ ...	42.4	44.2	43.1	46.1
Imports of animal feedingstuffs (at c.i.f. prices)	10.2	12.9	11.1	12.1

SOURCE: Trade Statistics, C.S.O., Ulster Year Book.

¹Farm costs of animal feedingstuffs include the value of offals from grain milling and the value of home-grown feedingstuffs used by the compounding industry.

²Imported animal feedingstuffs here include only those imported as such, and do not include feedingstuffs derived from by-products of imported food.

³Figures for Northern Ireland refer to the farming year beginning in March of the year concerned.

poultry and milk enterprises are also large scale users of purchased feed and the total bill for imported feedingstuffs has tended to be considerably higher in the North than in the South. In the Republic, expansion in feedingstuffs cost has come about partly through a rise in the degree of specialisation in feed grain production and its conversion into animal products, and partly from the expansion in livestock production as a whole—particularly grazing animals. Even in the case of poultry and pig production, which have not expanded in total in any great degree in recent years, it seems likely that the dependence on purchased feedingstuffs has tended to expand with the decline in the relative importance of the enterprises depending on by-products of the farm and farmhouse.

The other major inputs in agriculture are machinery and buildings. A valuable indicator of the degree of mechanisation is the number of tractors. There were just over 60,000 tractors in the Republic in 1965, equivalent to one tractor for between three and four farmers. In Northern Ireland in 1963 there were 33,000 tractors, equivalent to two tractors for every three farms. On the basis of the number of tractors, the Northern farmer has double the amount of machinery available to his Southern counterpart. The annual investment in farm machinery in 1963 has been estimated⁷ at £4 m. in the North, compared with £7.1 m. in the South. This is equivalent to £2.0 per acre of crops and grass in the North and £0.62 per acre in the South.

Data on investment in farm buildings are not available in the same detail as in the case of machinery. Both in the North and South of Ireland, government assisted schemes for improving the current building position are in operation. These have given an impetus to the work of bringing the available buildings more clearly in line with the needs of a modern farm production system. The more rapid expansion of farm output in Northern Ireland in recent decades would appear to have led to a more widespread improvement of farm buildings than in the South, although the extent to which the current farm building programme meets the requirements cannot be assessed in either the North or South given the information currently available.

Much attention has been given to the improvement of the quality and health of livestock. Livestock improvement schemes have been a feature of State action for many years, and broadly similar lines of approach have been adopted including the licensing of bulls and boars, the provision of premiums, the licensing of hatcheries and progeny testing schemes. In recent years the eradication of bovine tuberculosis has been a part of the scheme for health improvement, and currently the eradication of brucellosis is being undertaken throughout Ireland.

MARKETING ARRANGEMENTS

The major economic difference between agriculture in the Republic and in Northern Ireland lies in the support given in the marketing of farm

⁷Northern Ireland Agriculture, 24th General Report of the Ministry of Agriculture, Cmnd. 486, 1965, Belfast H.M.S.O.

products and the consequent levels of prices which prevail. Farmers in Northern Ireland benefit from the guaranteed prices under the U.K. agricultural support policy, and in some cases, particularly pigs, they have derived greater benefits than producers in the rest of the U.K. Pigs, milk, seed potatoes, eggs, wool and herbage seeds are marketed by statutory marketing boards (some of which are specifically Northern Ireland boards; and others operate for the U.K. as a whole.) Cattle and sheep are marketed under the Fatstock Guarantee Scheme; recently the proportion slaughtered locally has increased to 47 per cent in the case of cattle and to 67 per cent in the case of sheep, and this has been combined with a fall in the number of live cattle exported to the Republic or to Great Britain.

The actual procedures for marketing farm products in the Republic are not markedly different from those in the North but the method of providing price support is different, and for some products there is an important price differential in favour of the Northern producers. Marketing boards (not run solely by producers, as in the North) operate for manufactured milk products, pigs, potatoes for seed and grain, but these are very largely confined to the problems of organising and financing exports of the farm products concerned. The basic concern with finding remunerative outlets for that part of farm output which is not consumed at home has been the dominant problem in farm marketing policy in the Republic. This is a quite different problem from that of the Northern producer, who is part of a large economy which is more dependent than any other on being supplied with farm products from abroad.

During recent years the prices of individual farm products in the South (Table VII) have come close to those in the North. The largest important difference occurs in the price of milk, but even here the effect of the different seasonal production patterns is a contributing factor. The widespread belief that the Northern farmer receives substantially better prices than his Southern colleague over a wide range of products is no longer valid.

The problems for a largely agriculturally based economy in providing the necessary funds to give a measure of farm income support through price assistance have materially affected the level of farm prices ruling in the Republic. Having neither a large home market for farm products, nor a large and relatively prosperous non-agricultural sector from which a measure of assistance for agriculture can be drawn has meant that marketing and price policy have inevitably been much more circumscribed than in the North. Nevertheless, the recent developments in agricultural policy have tended to bring marketing arrangements and prices closer together, although there remain important differences between them. In Table III of the Appendix, the levels of government assistance to agriculture are given; this shows that over recent years the level of State expenditure has been declining in the North and rising in the South. The figures are not directly comparable for any one year but show that direct price subsidies have been of greater relative significance in the North and capital grants of greater significance in the South.

TABLE VII

AVERAGE PRODUCER PRICES OF INDIVIDUAL FARM PRODUCTS
FOR THE REPUBLIC AND NORTHERN IRELAND

	1963		1964		1965	
	1963	1963-64	1964	1964-65	1965	1965-66 (forecast)
	Republic	N. Ireland	Republic	N. Ireland	Republic	N. Ireland
Fat steers and heifers ¹ (per head)	£59.3	£66.2	£70.9	£72.2	£74.7	£72.9
Fat cows and bulls (per head)	£42.9*	£44.2	£53.0*	£51.9	£57.7*	£56.6
Store cattle (per head)	£56.2	£53.2	£60.1	£57.1	£65.2	£56.0
Fat sheep ¹ (per head)	£5.9	£5.7	£6.4	£6.1	£6.4	£5.8
Wool ¹ (per lb.)	3/8½	3/8	4/2½	3/10½	2/11½	—
Fat pigs ¹ (per head)	£14.8	£15.8	£15.9	£16.1	£15.9	£15.8
Milk ^{1 2} (per gal.)	1/10	2/7½	1/11½	2/8½	2/0½	2/8
Eggs ¹ (per doz.)	3/2	3/1	3/-	2/9½	3/3	3/3
Barley (per cwt.)	20/4	21/5	22/2	21/6	22/6	22/9
Oats (per cwt.)	20/3	20/10	21/-	21/-	22/9	22/-
Potatoes (per ton)	£12.5	£12.3	£14.3	£13.9	£22.6	£14.6

* Republic prices are those at fairs and markets.

¹Six country prices include the value of price guarantee payments.

²Milk prices in the Republic do not include any allowance for skim milk returned to farmers.

SOURCE: Statistical Abstract and Statistical Review, Ministry of Agriculture, Northern Ireland.

AGRICULTURAL EDUCATION AND ADVISORY WORK

As is general in the agriculture of advanced economies, great attention is paid in Ireland to 'the need for every farmer to know his job really well and to have access to new information'.⁸ The policy aimed at achieving this is to provide formal agricultural education for young men (normally between the ages of 17 and 22) and to provide an agricultural advisory service to give direct advice to individual farmers and a series of lectures, demonstrations etc. to farming groups.

Formal agricultural education is provided at university level in Dublin and Belfast and at agricultural colleges and schools throughout the Republic and Northern Ireland. Three residential schools, run by the Department of Agriculture in the South provide instruction for 100 full-time students and seven private agricultural schools receiving grants from the Department of Agriculture provide agricultural instruction for another

⁸Report of the Ministry of Agriculture, op. cit.

700 each year. In the North, agricultural instruction is provided for 140 taking a one year course at Greenmount, and for 86 students taking the 3 year course at Loughry, and for those taking the short 3 month courses at Strabane. Two new colleges are being planned, and the Northern Minister for Agriculture has said that 'within 20 years or a little bit longer every full-time farmer will have at least one year in an agricultural school, we hope.'⁹ In general the scale of full-time agricultural education is similar in the Republic and Northern Ireland, but the proposals for increasing the provision of new places appear to be further advanced in the North at present.

The organisation of the agricultural advisory services is slightly different in the Republic and the North; in the North this is directly provided by the Ministry of Agriculture, whereas in the South it is provided by the County Committees of Agriculture and by the Department of Agriculture. The systems are, however, very similar in many ways, and advisory officers could interchange between the Northern and Southern counties.

In Northern Ireland, however, the adviser handles all the farmers' business affairs regarding grants, subsidies etc., whereas in the Republic the farmer has to contact a number of different agencies concerned with different aspects of State assistance.

Just recently in Northern Ireland considerable emphasis has been placed on the improvement of the farm business in its advisory work. A new Farm Business Recording Scheme has been started, with up to 20,000 potential applicants. A grant is to be paid to farmers keeping farm records and accounts, and advice is being made readily available to help them with any problems that arise.

INSTITUTIONAL AND ENVIRONMENTAL FACTORS

When due account has been taken of the differences in physical circumstances, in marketing arrangements and prices, in the provision of State subventions to lower the costs of inputs, and in the changes in the farm labour force, there still remain major differences in the organisation of farm production in the Republic and in Northern Ireland, and in the role of agriculture in the national economy. The larger contribution of agriculture to the Gross National Product, and the larger percentage of the total labour force it employs in the Republic is due largely to the historical dependence of Southern Ireland on agriculture when industrial developments were relatively much more important in the North. This is not the place to discuss the historical factors affecting location of industry in Ireland, but clearly the relatively smaller role of agriculture in the Northern Ireland economy makes the problems of adjustment less acute than those in the South.

In recent years, the promotion of industrial developments has been a very important feature of official government policy in both parts of Ireland. This has been largely tied up, especially in the Republic, with the need to provide employment for those unable to find a satisfactory livelihood on the land. The more successfully this policy is promoted, the

⁹*Irish Times*, January 14th 1966.

lower will be the relative importance of agriculture in the economy—but the level of income and of output of farming in a rapidly expanding national economy is likely to be greater absolutely than in a stagnating one. It is quite clear that Northern Ireland has travelled further along the road to a high capital/low labour farm production system than has been the case in the Republic, although the actual *rates* of progress in this direction are probably very close at present.

The development of management criteria as a means of improving farm incomes has been pursued more intensively in Northern Ireland than in the Republic. The effect of this can be seen most clearly on the size of the individual farm enterprises (Table VIII). For example, 28 per cent of sow herds contain 6 sows or more in Northern Ireland compared with 4.2 per cent in the Republic; 22.2 per cent of cows in dairy herds of 10 cows and over in the North, 17.5 per cent in the South, 35.3 per cent of poultry flocks are over 100 hens in the North, 6.6 per cent in the South (Table VIII). The development of this higher degree of specialisation and

TABLE VIII.
SIZE OF SOME FARM ENTERPRISES IN IRELAND

Cows	Republic				N. Ireland			
	No. of cows	%	No. of herds	%	No. of cows	%	No. of herds	%
1- 4 ...	345,730	26.9	144,156	62.2	55,752	17.0	24,540	51.1
5- 9 ...	337,805	26.3	51,721	22.3	85,788	26.2	12,828	26.7
10-14 ...	228,421	17.8	19,842	8.6	68,225	20.8	5,910	12.3
15-19 ...	129,728	10.1	7,832	3.4	36,649	11.2	2,208	4.6
20 and over ...	242,003	18.8	8,278	3.5	81,028	24.8	2,547	5.3
Total... ..	1,283,687	100.0	231,829	100.0	327,442	100.0	48,003	100.0
Sows	No. of sows	%	No. of herds	%	No. of sows	%	No. of herds	%
1-2	49,863	45.6	35,684	74.7	14,165	11.3	9,173	35.8
3-5	35,292	32.2	10,036	21.0	35,512	28.5	9,273	36.2
6-9	9,832	9.0	1,406	2.9	32,395	26.0	4,591	17.9
10 and over ...	14,457	13.2	617	1.3	42,630	34.2	2,574	10.1
Total... ..	109,444	100.0	47,743	100.0	124,702	100.0	25,611	100.0
Poultry	No. of poultry	%	No. of flocks	%	No. of poultry	%	No. of flocks	%
1- 49 ...	3,618.5	32.4	147,218	65.2	469.2	7.68	20,814	43.90
50- 99 ...	4,746.2	42.5	63,707	28.2	602.7	9.86	9,832	20.74
100-499 ...	2,273.2	20.3	14,790	6.5	2,768.0	45.31	14,776	31.16
500-999 ...	97.4	0.9	130	0.1	842.9	13.80	1 311	2.76
1,000 and over	436.2	3.9	73	—	1,426.6	23.35	678	1.44
Total... ..	11,171.5	100.0	225,918	100.0	6,109.4	100.0	47,411	100.0

SOURCE: Agricultural Statistics 1960 and Statistical Abstract, Statistical Review, June, 1964-May, 1965, Ministry of Agriculture, N. Ireland.

intensification of enterprise is likely to be of great significance in the further expansion of agricultural output in viable economic units in the future in Ireland, particularly in the South.

In recent years farmers have become more dependent on increasing efficiency and on the progressive increase in the size of farm business as a means of keeping average farm income running at a rate comparable with that of other sections of the community. The increase in the average size of farm business has resulted mainly from the amalgamation of smaller farms and means that the total income from farming is shared between fewer people—thus giving each one more.¹⁰

The need to channel assistance in agriculture towards smoothing the changes created by the underlying economic forces has found more explicit expression in the North than in the Republic. This willingness to accept the realities of economic growth may be simply a facet of the attitude of life of the 'hard headed Northern men', but it is one which must be given wide recognition throughout Ireland if the potential advantages of the free trade agreement are to be fully exploited. The fact that major changes in output and inputs have been occurring over a much larger part of the present century in the North than in the Republic has made their path of transition a somewhat easier one, but it seems probable that during the coming decade the agricultural economies of Northern Ireland and the South will come much closer than at any time during the previous fifty years.

APPENDIX

TABLE I

CHANGES IN LIVESTOCK NUMBERS 1939 AND 1964 (000s)

	Republic		N. Ireland	
	1939	1964	1939	1964
Cows	1,260.2	1,399.9	245.0	328.0
Heifers-in-calf	83.8	202.3	25.0	47.0
Over 2 years	760.4	1,007.9	89.0	185.0
122 years	297.2	1,119.7	190.0	269.0
Under 1 year	1,025.7	1,232.7	204.0	283.0
Total cattle	4,057.3	4,962.4	753.0	1,112.0
Breeding ewes	1,298.3	2,200.3	403.0	520.0
Other sheep	1,749.5	2,749.3	492.0	574.0
Total sheep	3,047.8	4,949.6	395.0	1,094.0
Sows and gilts	95.3	133.5	63.0	125.0
Other pigs	835.6	974.5	546.0	1,027.0
Total pigs	930.9	1,108.0	627.0	1,152.0
Total ordinary fowl	15,965.0	10,353.1	9,295.0	10,322.0
Turkeys	1,013.0	633.3	406.0	110.0
Geese	914.8	299.2	104.0	32.0
Ducks	1,658.4	341.0	415.0	93.0
Total poultry	19,551.2	11,262.6	10,220.0	10,557.0

SOURCE: Statistical Abstract of Ireland, Statistical Review, Jne, 1964–May, 1965, Ministry of Agriculture, Northern Ireland.

¹⁰24th General Report, Ministry of Agriculture, op. cit.

APPENDIX

TABLE II

CHANGES IN CROP ACREAGE 1939-64 (000s)

	Republic				N. Ireland			
	1939		1964		1939		1964	
	Acres	% of total	Acres	% of total	Acres	% of total	Acres	% of total
Wheat	255.3	1.5	214.4	1.3	3.0	0.1	3.0	0.1
Oats	536.7	3.2	288.6	1.7	291.0	8.7	125.0	3.8
Barley	73.8	0.4	453.9	2.7	3.0	0.1	165.0	4.9
Total corn (incl. other) ...	867.9	5.1	965.4	5.7	297.0	9.9	293.0	8.8
Potatoes	317.2	1.9	182.3	1.1	115.0	3.5	72.0	2.2
Sugar beet	41.7	0.2	78.5	0.5	—	—	—	—
Other root and green crops ...	252.9	1.5	199.3	1.2	27.0	0.8	11.0	0.3
Total root and green crops ...	611.8	3.6	460.1	2.7	142.0	4.3	83.0	2.5
Flax	4.1	—	—	—	21.0	0.6	—	—
Fruit	8.2	—	12.6	0.1	8.0	0.2	8.0	0.2
Total tillage ...	1,492.0	8.8	1,438.0	8.5	471.0	14.0	384.0	11.3
Hay	2,061.9	12.1	1,931.5	11.3	435.0	13.1	531.0	15.9
Pasture	8,052.4	47.3	8,147.4	47.9	1,571.0	47.1	1,088.0	32.7
Total grassland	10,114.3	59.4	10,078.9	59.2	2,006.0	60.2	1,619.0	48.6
Total crops and pasture ...	11,606.2	68.1	11,517.0	67.7	2,478.0	74.4	2,003.0	60.1
Other land ...	5,418.3	31.8	5,506.7	32.3	854.3	25.6	1,329.3	39.9
Total area ...	17,024.5	100.0	17,023.7	100.0	3,332.3	100.0	3,332.3	100.0

SOURCE: Statistical Review, June, 1964—May, 1965, Ministry of Agriculture, Northern Ireland.

APPENDIX

Table III
GOVERNMENT EXPENDITURE IN RELATION TO AGRICULTURE—REPUBLIC OF IRELAND,
AGRICULTURE SUBSIDIES AND GRANTS—NORTHERN IRELAND

	1962-63		1963-64		1964-65	
	Republic (£m.)	N. Ireland (£m.)	Republic (£m.)	N. Ireland (£m.)	Republic (£m.)	N. Ireland (£m.)
Price Subsidies						
Cattle/Carcase beef	—	3.0	—	4.3	0.1	0.9
Sheep	—	1.5	—	1.0	—	0.3
Pigs/Bacon	2.8	10.6	1.4	5.4	2.0	5.9
Milk/Butter and milk products	3.2	3.7	6.0	3.6	8.2	3.4
Eggs	—	2.4	—	2.3	—	3.9
Wool	—	0.1	—	—	—	0.1
Potatoes	—	—	—	0.1	—	0.1
Cereals/Wheat	1.5	2.2	0.6	2.3	0.1	2.3
Total price subsidies	7.5	23.5	8.0	19.0	10.3	16.9
Production Grants						
Fertiliser	3.0	1.7	3.6	1.6	3.8	1.3
Lime	0.6	1.1	0.6	0.8	0.7	0.8
Ploughing subsidy	—	1.2	—	1.2	—	0.7
Attested herds/Bovine T.B.	6.5	1.2	4.7	1.0	3.1	0.9
Brucellosis	—	—	—	0.5	0.0	0.3
Calf subsidy/Calf Heifer grant	—	2.5	—	2.3	3.2	2.3
A.I. milk production and live-stock improvement	0.1	—	0.1	—	0.1	—
Administration of improvement	0.3	—	0.3	—	0.5	—
Hill cattle and hill cow subsidies	—	0.7	—	0.7	—	0.6
Hill sheep subsidy	—	—	—	—	—	0.2
Grants to small farmers	—	2.9	—	2.1	—	1.8
Winter keep grants	—	—	—	—	—	0.2
Remoteness grant	—	1.1	—	1.5	—	0.9
Miscellaneous	—	0.1	—	0.1	—	0.1
Total production grants	10.5	12.5	9.2	11.8	11.4	10.1
Capital Grants						
Agricultural development scheme	—	0.7	—	0.7	—	0.8
Hill farm improvement	—	0.1	—	0.1	—	0.1
Farm improvement scheme	—	1.9	—	1.7	—	1.8
Silo subsidy scheme	—	0.1	—	0.1	—	0.1
Arterial drainage	1.6	—	1.8	—	1.9	—
Land project	2.1	—	2.2	—	2.4	—
Improvement on L.C. estates	0.7	—	0.7	—	0.8	—
Gaeltacht and Congested Districts scheme	0.2	—	0.2	—	0.3	—
Farm buildings	1.4	—	1.5	—	2.1	—
Other improvement schemes	0.5	—	0.5	—	0.5	—
Dept. capital expenditure on land and buildings	0.2	—	0.4	—	0.2	—
Forage harvesting	—	—	—	—	0.1	—
Rural electrification	1.0	—	0.9	—	1.3	—
Capital for A.C.C. Ltd.	0.1	—	0.9	—	3.9	—
Total capital grants	7.7	2.8	9.1	2.6	13.4	2.8
Total grants and subsidies	25.7	38.8	26.4	33.4	35.1	29.8
Education Research						
Education	0.5	—	0.5	—	0.6	—
Research	0.8	—	1.0	—	1.2	—
Advisory services	0.4	—	0.5	—	0.6	—
Rural organisations	0.0	—	0.0	—	0.0	—
Technical services	0.2	—	0.3	—	0.3	—
Total education, etc.	1.9	—	2.2	—	2.7	—
Income Assistance						
Land annuities, halving of land annuities	0.8	—	0.8	—	0.8	—
Bonus to vendors and other costs	0.1	—	0.1	—	0.1	—
Relief of rates—agricultural grant	8.5	—	9.0	—	11.2	—
Total income assistance	9.4	—	9.9	—	12.2	—
Total grants to agriculture	37.0	—	38.5	—	50.0	—

DISCUSSION

Dr. Louis Smith: The title of Dr. Attwood's paper caught my interest because I spent most of a year on this comparison, and presented a paper to this Society on the subject, in 1949. It provides a case study of two agricultural areas, treated almost alike up to 1926, but with different policies since the 1930's. It is of interest to trace the consequences. I am glad to propose a vote of thanks to Dr. Attwood for mapping the divergent courses of agriculture north and south.

The crucial changes in policy occurred during the 1930's and continued in the War years. The basic difference is between self sufficiency and a trading policy. This showed in many symptoms, e.g. (i) fodder price differences in the 1930's, which at times amounted to 30 per cent; during War years the difference was one of availability. Recently this price difference seems to have disappeared. (ii) Prices for produce were substantially higher in the 1930's and, as shown in this paper, certain important prices are still much higher. Combined with the fodder price difference, this accounts for much of the difference in volume and direction of production trends. (iii) Subsidies, introduced in 1930's, added to the price effects. (iv) Fertiliser supplies multiplied fourfold in the Six Counties during the War while the 26 Counties received 200 tons in one year. The effect of increased fertility is cumulative. (v) The difference in marketing systems is noted by Dr. Attwood and is worth special study. (vi) Quotas imposed on imports to Britain during 1930's and again in recent years prevent a similar response in the 26 Counties to that experienced in the North. The feeling of restriction and the experience that increased production will cause lower prices through failure of market outlets is a major, though intangible, difference between the two areas.

The border counties of the Republic which were similar to the Six Counties before 1926 reflect these influences on production.

The phases of agricultural protection by the United Kingdom have been four:

- (i) Of price difference protected by tariff in the 1930's;
- (ii) War-time controls;
- (iii) The deficiency payments system;
- (iv) The managed market into which we are now entered.

In this last phase price differences or similarities do not provide a basis for comparison of opportunity.

I query whether the effects of the free trade agreement between Britain and Ireland can bring any substantial identity of farming between the two areas for the following reasons:

- (i) Quotas continue. We cannot achieve levels of density of farm yard products, pigs and poultry, similar to Northern Ireland, because market outlets are not available in the managed market of today.
- (ii) Though production subsidies decline as management of the market takes over they still remain, and for some products important price differentials exist.
- (iii) There is a cumulative effect of higher income. As shown in the Tables though the conclusion is not drawn, the labour income per head is 50 per cent higher in the Six Counties. There has already

been higher investment and fertility better maintained. One may even note that the effect of freer education in the North lessens the demand on farmers' investment. I suggest that this effect may be cumulative.

Inside the European Economic Community there might of course be a genuine equalisation of opportunity.

I take issue with the inclusion of the table Government Expenditure in Relation to Agriculture in the Appendix. The subject is relevant but the treatment—which I am aware is not that of Dr Attwood—is inadequate to the point of being misleading. For the Six Counties a total is given which, so far as I am aware, is of grants paid to farmers. For the Republic some of the entries are paid to farmers as grants; some, such as the capital provided for the Agricultural Credit Corporation (£3·9 million), are repayable in full with normal bank overdraft level of interest; some, such as Gaeltacht and Rural Electrification, do not necessarily go to farmers. There is no comparison of figures for Education and Research. Under Income Assistance the item Relief of Rates, accounts for over 20 per cent of the total Government expenditure in relation to agriculture. There has been discussion as to the degree to which relief of a tax is a subsidy, but in this case we have the curious result that the farmers in the Republic, because they pay rates on their land, receive a large subsidy in relief, while those in the Six Counties, whose liability for rates on land has been completely wiped out, therefore receive no subsidy.

The main assistant to agriculture in each area is in the regulation of the market and there are also many items of tax and income tax which might be bandied about if we were to reproduce in this Society the hot, current controversy of which this table forms a part. Because the figures are not consistent or comparable I am sorry that they should be included in the record of this Society whose object is the establishment of facts by scientific methods.

Some interesting material emerges in the milk output graph with its 80 per cent increase in the Republic, between mid 20's and mid 50's, though the number of cows went down from 1,234,000 in 1927 to 1,187,000 in 1956. In the population trend of Table I, the outflow has been remarkably faster in Northern Ireland. This seems to be associated with the much greater decrease in the 1 to 5 acre farms in that area. One wonders were these actual farms and what the reasons behind this difference in trend may be.

I have listened to this paper with great attention and interest, and the thanks of the Society are due to Dr. Attwood for his development of this theme.

Dr. S. Sheehy: I am privileged to be asked to second this vote of thanks to Dr. Attwood for his interesting paper.

It is always interesting to compare the statistics of our own country with those of another. Comparison of the agricultural inputs shows us that we have 5·75 times the crop and pasture acreage of the North and 4·3 times the labour employed on that acreage. The ratio of labour to land

is, therefore, one-third higher in the North than in the Republic. The farm structure is similar in both regions, as is indicated by the closeness of the distributions by farm size; the main difference is that farms over 100 acres are nearly twice as prominent in the Republic. Comparisons of capital and management inputs are not easy. Tractor density is used to indicate a more capitalised industry in the North; this evidence could have been reinforced by an estimate of livestock investment per acre which would appear to be about 60 per cent greater in the North. About management Dr. Attwood has said little and I appreciate his dilemma for it is very hard to come to grips with this factor. Nevertheless, we should recognise that it is a key factor in production and that there is widespread belief that the level is higher in the North than in the Republic.

In comparing output Dr. Attwood has concentrated on the output mix, emphasising the greater importance of farmyard enterprises in the North and associated importance of home-grown and imported feedingstuffs. The actual levels of output are also interesting. The gross output per acre of crops and pasture being £53 in the North and £21 in the Republic in 1964. The corresponding net output figures are £18 and £12 in the North and Republic, respectively. However, the data in Table III indicates a substantially more rapid rate of increase in the values of both gross and net output in the Republic.

The price comparison presented in Table VII is interesting, showing an important difference only in the case of milk. The form in which these prices are established, however, is quite different. In the North they consist of a relatively low market price supplemented by a deficiency payment, while in the Republic the domestic market price is raised by barriers while the export market price is supplemented by taxpayers' contributions. The domestic consumers' contribution does not appear in the State expenditure in the Republic which is one reason why direct price subsidies have not been as important in the Republic. I was rather disappointed after being promised an examination of the role of government assistance in the second paragraph to find it being dismissed in six lines in the text.

This leads me to the broader question of what is the purpose of this whole exercise. It appears that the argument runs as follows: by virtue of the Free Trade Agreement we now have some of the same opportunities as the people in the North have enjoyed for years; therefore, our prospects of attaining the levels of income now realised in the North are enhanced, and a survey of the situation in the North should show us where we are going.

If this is the argument then I would expect an analysis of the extent to which the Free Trade Agreement has narrowed our opportunities North and South. This would be a substantial project on its own and might be more rewarding, for I feel that Dr. Attwood has spread himself too thinly over too broad an area to derive many useful policy conclusions from his exercise.

I am rather sceptical, however, that even with a more thorough analysis than was possible in this paper much of policy significance would emerge. Analysis by analogy when comparables are being compared may yield

useful results. There is some real doubt as to whether comparables are being compared in this case. There are many reasons why the North might be considered different, apart altogether from the opportunities open to it. The history of the region, reflected even 40 years ago in the attitude, religion and state of industrialisation of the area would surely make the area different from the Republic today even if there had been no border. Indeed, the original differences between the areas were the reason for the border. Even within the Republic there is tremendous variability today. In the case of the difference in farmyard enterprises emphasised by Dr. Attwood it is interesting to note that if Cork and Kerry, with nearly the same acreage as the North, were compared with the rest of the Republic a somewhat similar difference in farmyard enterprises would exist.

But Dr. Attwood is not comparing the North of today with the Republic of today; the comparison is between the North of the past with the Republic of the future. If the areas were not comparable 40 years ago it is less likely that the North of the past can be usefully compared with the Republic of the future. When we take into consideration the Economic War of the 'thirties and the World War of the 'forties, which must account partly for the difference in the rates of development in the North and the Republic, we can only wonder what analogous events might occur in the future.

A comparison such as Dr. Attwood has made is interesting but, I am afraid, not very fruitful. It has not given me any insights into the policy changes in the Republic that are necessary to increase our rate of growth. The facts are that the volume of net agricultural output has been virtually stationary over the past 5 or 6 years while State commitment to supporting farm incomes has considerably increased. The State never intended that its support to agriculture should be solely to redistribute income; the goal of redistribution is involved but associated with it is the goal of increasing output. The fundamental policy question today then is whether or not State support to agriculture is being optimally allocated.

Dr. Attwood's paper does not answer this question but it does give rise to two questions which we can talk about: the first question is whether or not our native wheat policy has inhibited the growth of feed-grain production; the North, as can be seen in Table II of the Appendix, has little native wheat but has a sufficient density of feed-grains to more than offset the lack of wheat. The second question concerns the nature and administration of our grants. There seems to be a law which states that it is easier to initiate a grant than to terminate it. The merit of some of our existing grants is certainly open to question. One example is the heifer grant which by its very nature must be less effective the closer we get to production capacity.

More important than the actual grants being operated is the method of their administration. Most of our grants are at present given for a particular purpose with little regard to the overall development of the farm. The approval of the grant is the responsibility of one person, the 'grants-man', while the development of the farm is the responsibility of another, the agricultural adviser. Dr. Attwood has indicated that in the North the

advisory officer is responsible for both. I wish he had given us information on the density of such officers. I wonder what the implications in the Republic would be if, instead of our existing system, grants were given to farmers as part of a farm development plan. The merits and ability of the farmer would be assessed, not those of a building or a drain as under the present system and the assessment would be done by development officers possibly including the existing advisory and grant officers. This, I might point out, is akin to the Small Farm Plan proposed by the N.F.A. but is not the same thing for there is no necessary size limitation. It is, in fact, a 'Good Farmer's Plan' not a Small Farm Plan.

Sooner or later we must recognise that there is only a living in the world of tomorrow for competitive farmers (and indeed for competitive College lecturers). There are some farmers who are professionally obsolete and whose economic rehabilitation is impracticable. These will disappear. As they do it is important to orientate public policy towards ensuring that those who remain are as competitive as possible.

Professor Johnston: As an ex-President of this Society I owe it an explanation of my failure to attend its meetings in recent years. The Society has gone all econometric and the papers are usually incomprehensible to a person of my limited understanding of mathematical matters.

I have a special reason for attending on this occasion both personal and otherwise. Dr. Attwood sat nominally at my feet while I sat in fact at his and watched him complete a most brilliant Ph.D. thesis, still unfortunately not yet published. His present paper is a most useful supplement to that thesis. It is of vital importance, not so much for what it says, as for what it implies. I want to cross some of the t's and dot some of the i's.

On p. 13 he writes, 'Had the farms in the South expanded their output over this period as a whole (1926-66) at the same rate as their Northern counterparts the volume of output in the Republic would be some 50 per cent higher than it is at present.' Fifty per cent higher than a net output of £195.5 millions in 1964-65 would be most of 100 million pounds and most of that would have been family farm income. There are about 200,000 'farm business units' in the Republic if we ignore the very small farms and the farms owned by persons who are not primarily farmers at all. An extra £100,000,000 divided among them would mean an average increase of not far short of £500 a year in the average family farm income. What is the present average family farm income? In 1965 income arising in agriculture (I.T.J. June 1966, p. 98) is said to be £162.4 millions. Averaged among 200,000 'farm business units' that works out at £812 per farm.

Making the same comparison for N.I. in 1963-64 net family farm income is officially given as £37.5 millions. If we ignore farms under 10 acres there were in 1963 40,000 farm business units in N.I. The average family farm income is thus £940 as compared with £812 p.a. down here.

In 1963-64 price subsidies and production grants amounted to £30.7 million in the case of N.I. These two items are *directly* reflected in annual income. Capital grants (Appendix, Table III) and expenditure on education

take much longer to mature into an increase in annual income and are ignored by me in this comparison in both N.I. and Republic calculations. Price subsidies plus production grants of £30.7 millions divided among 40,000 farm business units average about £775 per farm—a high proportion of the average farm business unit income of £940. In the case of the Republic in 1963–64 price subsidies plus production grants came to £17.2 millions. This, averaged among 200,000 farm business units, works out at £86 per farm. The Treasury hand out to the N.I. farmer is about 9 times per farm unit more generous than our Treasury can afford. After all, as Dr. Attwood has stated elsewhere, British agricultural policy regularly makes a present of £1,000 per farm p.a. to about 300,000 farmers in the U.K. and we can't afford that sort of thing.

Our present agricultural troubles really began in 1912 when our northern neighbours threatened armed resistance to a Home Rule Bill that would have preserved the economic unity of these islands while transferring considerable powers of local self-government. By doing what they did then they started a chain reaction which made it a matter of national pride that we should cut ourselves off from the U.K. national economy—in 26 of our 32 counties. In fact, though not in form, our Northern neighbours pushed us out of the U.K. national economy with the result that they now have an Irish monopoly of the privileges and advantages of being part of the U.K. economy while remarkably exempt from some of its inconveniences and liabilities.

The British Agriculture Act of 1947 is an outstanding example of the dangers of economic planning based on econometrics. It was forecast in 1947 that the terms of trade for the U.K. would be persistently unfavourable to a country so dependent on food imports. In the early 50's this forecast proved persistently false but the policy continued by its own momentum and still continues though it has long since ceased to make sense even from a narrow British point of view. While we were still part of a U.K. national economy if any British Minister had come forward with a proposal that prices for a certain schedule of agricultural produce would be guaranteed on a certain scale but those originating in 26 Southern Irish counties would command £60 *millions a year less* than similar produce originating elsewhere in the U.K.—if such a proposal could be imagined the Minister making it would have qualified for a place in a mental home. Yet this is precisely the kind of thing that has regularly been happening for years as an indirect result of present British agricultural policy.

The plain truth is that our agricultural problems are insoluble within the framework of our small national economy however sovereign politically, and the recent Free Trade agreement with the U.K. goes only a short step towards restoring equality of status for our agriculture in the British market. We lost that status *de jure* in 1922 and *de facto* in the 1930's and there is little we can do about it.

D. J. Alexander (Belfast): One of the fascinations of comparing the agricultural economies of the North and South of Ireland is the possibility

of evaluating different policies on two areas of approximately the same climate, proximity to markets, farm size etc. Dr. Attwood has shown that the comparison is basically between a high input-high output type of agriculture (Northern Ireland) with a low input-low output agriculture in the Republic. The divergence in intensity between the two agricultures might be traced to 1931 when the British National Government broke away from traditional free trade policy. Reservation of the United Kingdom market by quota, levy and subsidy gained for Northern Ireland at least a proportional share of the British market and enabled her to expand her output in the range of commodities for which she was best suited. The chief commodities affected were pigs, poultry and sheep, all of which increased considerably in numbers in the ten years before the war. The economic environment for southern producers was different. During the 'economic war' the British market was largely closed to the Free State by special tariffs. Furthermore, changes in relative prices in the 1930's in the South reversed the tendency for small farmers there to shift from tillage for human consumption to livestock production; wheat had doubled in price by 1936 and maize was 30 per cent dearer than in the North.¹ The comparative prosperity achieved by Northern farmers in this period was due to an assured market for produce of a type suited to small farms rather than to subsidies. For example, in the North pig production increased very considerably in the 1930's while even today, in the South, it is relatively less important and planned increases are modest.

Another difference between the North and South in the 1930's was in marketing policy. Marketing policy in Northern Ireland had two distinct features as compared with the South at that time; in the first place arrangements were made compulsory and, secondly, they were State controlled. Mansergh² suggested that the Marketing Acts may have been *ultra vires* in their provisions, but they were undoubtedly beneficial in the practical business of agricultural marketing.

During the 1939-45 war Northern Ireland did not adopt a policy of self-sufficiency. Wheat imports were maintained and, although supplies of maize were cut off, farmers went over to production of food for animals rather than for direct human consumption. A system of farming could be followed which allowed concentration on livestock and specialised products such as grass seed, flax and seed potatoes. War-time controls made possible further rationalisation of the industry by the Government.

The creditable performance of Northern Ireland agriculture up to the end of the Second World War was due to two factors: the full advantage of British protective policy was exploited by Northern Ireland's position inside the 'home market'; and, secondly, the expansion of the bacon and poultry industries took place.¹

Agriculture has been given much attention in programmes for expansion in the Republic. There has been less room for manoeuvre in the North where agricultural policy follows closely that of the United Kingdom. As the Wilson Report³ states:

'Recommendations for development in agriculture must, of course, be made against the background of agricultural policy in the United Kingdom.

The support afforded by that policy had conferred immense benefits upon the Northern Ireland farmer, but it has to be recognised that its nature imposes effective limits upon the expansion of output of many agricultural products in the United Kingdom as a whole.'

In any case scope for expansion is greater in the Republic where it can be done merely by increasing the intensity of production. Rasmussen and Sandilands⁴ indicated that while in Britain scarcity of land was a limiting factor, scarcity of other inputs is the limiting factor for the Republic in economic expansion of output. Dr. O'Connor⁵ has accepted this result despite the fact that Irish farms are much smaller in area than those in Britain. This is because many farms are understocked and underfertilised; the indications were that high returns could be obtained from extra expenditure on fertilisers, seeds, feeds etc.

There is little doubt that one of the major unexploited resources in this island is our grassland. Many Irish farmers both North and South seem neither able nor inclined to face the managerial problems of conservation and of turning conserved grass into milk and beef. Although experiments have shown that excellent silage can be made in Ireland in all years, expansion of silage making has been slow despite liberal grants for equipment. Much more work is required on the technical and economic aspects of grassland productivity. Relative price changes under the Common Market regime would demand better exploitation of Irish grasslands.

The future growth of agriculture in both parts of Ireland will depend on how successfully increased output can be disposed of. Both parts have been trying for many years to improve marketing and the North may have something to learn from the hard-selling techniques for branded products which has been a feature of Southern marketing in the last decade or so. The Republic can, no doubt, take courage from the thought that its agriculture is one of the lowest cost producers in Europe.

Although the agricultural policies pursued in the North have kept farmers' incomes reasonably high, there is still a wide distribution of incomes among Northern Ireland farmers as Dr. Attwood recognises in his reference to sub-viable units. All L. P. F. Smith¹ could say in 1948 is that 'Government policy has sheltered and directed agriculture but has never attempted to alter it'. It is only in recent years that a number of governments have attempted to re-organise farm production through structural adjustments policies. The problem, North and South, may be reduced to matching human abilities, both inherited and acquired, with appropriate combinations of land and capital. Successful matching will result in most people engaged in farming keeping step with the rest of the community in income, leisure and general satisfaction. There is, however, no guarantee that land, labour and capital will automatically realign themselves into better combinations as people retire from, or transfer out of, farming. This kind of change is complicated and needs intensive study in both parts of the country.

The last paragraph of Dr. Attwood's paper suggests that what we might call 'agricultural fundamentalism' is stronger in the South than in the North. However, none of us is completely willing to 'accept the realities

of economic growth ' especially when they mean discomfort for ourselves and come as something as a surprise. It is therefore of great importance to explain to farmers and the rest of the community how the ever-quicken- ing tempo of change will affect them and the agricultural industry. This in itself is a major task.

E. A. Attwood: The main point emerging from the discussion has been that the paper does not deal with those basic policy issues which have determined the rates of growth of the agricultural sector in the Republic and Northern Ireland. It should be said that the complex issues which must be analysed to understand in full the determinants of agricultural growth require far more study than has been possible in preparing this paper. The purpose of this paper was to present the basic data that is available in the trends in the level of output and of inputs in the agricul- tural sectors, as a basis for an examination of these determinants of development. The discussion on this paper has begun this examination and this has justified its preparation. It is clear that much further examina- tion is required, and I hope that this will be undertaken in the future.