

The Political Factor in Agricultural History: Trends in Irish Agriculture, 1922-85

By DESMOND A GILLMOR

Abstract

Agriculture in Ireland has had an unusual sequence of political contexts in the twentieth century in that it was at first under the single government of the United Kingdom, from partition of the island in 1922 it came under two separate sovereign states, and accession of both to the European Community in 1973 brought it again within a common policy framework. The effects of the changing political and economic circumstances together with other influences are investigated in this paper through analyses of the trends in farm enterprises and agricultural production in Northern Ireland and the Republic of Ireland. The farm enterprises studied comprise tillage, cows, beef cattle, sheep, pigs and poultry. Trends in the structure and volume of agricultural production are considered, and more briefly those in inputs and incomes. The trends combined indicate clearly a sequence in which divergence occurred between the agricultures of the two territories, and this was succeeded by tendencies towards convergence.

GOVERNMENTS have been a fundamentally important agency in shaping the agricultural histories of developed economies, with the overall impact of state intervention in agriculture having increased greatly in the twentieth century. The confinement of almost all studies in agricultural history to within the jurisdiction of one national government tends to camouflage the magnitude of this political effect and its variation between countries. Conversely, at a global level it is difficult to make accurate generalizations because of the great diversity which has occurred in the policies and measures of the many governments. Comparative studies between just two countries are more manageable. Even then, however, it is very difficult to assess the extent to which differences in their agricultural evolutions can be attributed to political differences, as compared with variations in other elements of the physical and human environments of farming in the two territories.

Irish agriculture in the twentieth century affords a unique opportunity to study the effect of the political factor in agricultural history. This is because farming on the island of Ireland had been subject to a single government at the beginning of the

century, then political partition led to divergent policies between two parts in separate sovereign states, and later accession of both of these to the same multistate economic grouping led to convergence of policies once again. Partition occurred in 1922 with the establishment of the independent Irish Free State, which was called Eire from 1937, and since 1949 has been known generally as the Republic of Ireland. The policy context of Northern Ireland remained essentially that of the United Kingdom, although until 1972 it had a separate parliament which had power to regulate agriculture. Since Ireland and the UK joined the European Community in 1973, farming in both Irish territories has come within the framework of the Common Agricultural Policy but the earlier agricultural history has had persistent effects.¹

¹ There is no comprehensive agricultural history book on the whole of Ireland. The fullest treatments are J O'Donovan, *The Economic History of Live Stock in Ireland*, Cork, 1940, and R D Crotty, *Irish Agricultural Production: Its Volume and Structure*, Cork, 1966. General works which include some consideration of the evolution of agriculture are J Johnston, *Irish Agriculture in Transition*, Dublin, 1951, and I F Baillie and S J Sheehy (eds), *Irish Agriculture in a Changing World*, Edinburgh, 1971. There is some treatment of agriculture in J Meenan, *The Irish Economy since 1922*, Liverpool, 1970, L M Cullen, *An Economic History of Ireland since 1660*, 1972, and M E Daly, *Social and Economic History of Ireland since 1800*, Dublin, 1981.

In this comparative study of agricultural history in Northern Ireland and the Irish Republic, the influence of government could be isolated more readily from other factors than in a normal international comparison, because of the fact that it was the same lands and peoples which were subjected to changing political environments. Furthermore there were fundamental contrasts in the values of the two governments because of the differing roles of agriculture in their economies. The more rural Republic of Ireland was heavily dependent on farming and on farm exports, whereas agriculture was a minor part of the UK urban-industrialized economy which was a major importer of food. Thus the British government could more readily support its agricultural sector, and it was more concerned about the interests of consumers. Within Northern Ireland itself, farming was much more important than in the UK in general, accounting for 26 per cent of employment in 1926, a proportion which in turn was only half that of the Irish Free State.

The differing economic contexts of the UK and the Republic of Ireland were reflected in marked contrasts in the government support available to farmers in the two parts of Ireland prior to accession to the EC, despite a tendency for differentials to narrow. In Northern Ireland there was a much greater volume of price support, and also a wider range of measures and higher level of assistance to promote production and development. Government expenditure as a percentage of the value added in agriculture for 1965-66 was sixty-three in Northern Ireland and sixteen in the Irish Republic, the values in 1970-71 being sixty-eight and twenty-eight respectively.² The level of expenditure per person engaged in farming in the Republic was

less than one-fifth that in Northern Ireland in the mid 1960s, rising to one-third in the early 1970s. Differences between the two areas in the prices received by farmers were lessening also, those in Northern Ireland having been 19 per cent higher in the 1940s and 7 per cent in the 1960s.³ Furthermore there was a greater degree of assurance of prices in Northern Ireland because of UK guarantee arrangements. The 1947 Agriculture Act in the UK and subsequent annual price reviews with deficiency payments to farmers had been of particular significance in accounting for the differences in state support between the two territories.

Divergence of political interests was greatest in the 1930s. This occurred after the coming to power of the Fianna Fail party with ardently nationalistic values and policies in the Irish Free State in 1932. In contrast to its predecessor, it favoured self-sufficiency in food production to as great an extent as possible, with stringent control of the home market, which became one of the most protected in the world. Exports were accorded a diminished role, and less economic dependence on Britain was sought, but with limited effect. The tendency towards trade isolationism was reinforced by an economic dispute with Britain which was precipitated by the Irish government's discontinuance of payment of land annuities arising from the programme of tenant purchase prior to independence. Retaliatory special duties and quotas were imposed by the UK on imports from the Irish Free State, with the levies on certain cattle being as high as 88 per cent. Agricultural exports from the Irish Free State to Britain halved between 1931 and 1935, while those of Northern Ireland increased by one-fifth.⁴ Farmers in Northern Ireland, being within the UK,

² M Cuddy and M Doherty, *An Analysis of Agricultural Developments in the North and South of Ireland and of the Effects of Integrated Policy and Planning*, New Ireland Forum Sectoral Studies, Dublin, 1984, pp 15-18.

³ S J Sheehy, J T O'Brien and S D McClelland, *Agriculture in Northern Ireland and the Republic of Ireland*, Co-operation North Paper 3, Dublin and Belfast, 1981, pp 15-17.

⁴ D S Johnson, 'The Northern Ireland Economy, 1914-39', in L Kennedy and P Ollerenshaw (eds), *An Economic History of Ulster, 1820-1940*, Manchester, 1985, p 189.

continued to have free access to the British market.

Despite these contrasts, some difficulties were encountered in assessing the political effect, and some of these would arise in any comparative study. The long history within one political unit, and the propensity for agricultural policy to have continuity through aggregation over time, together lessened the likelihood of policies in the two parts of Ireland diverging on partition. The strategies devised by the Irish Department of Agriculture and Technical Instruction established in 1900 had lasting effects,⁵ though this was most influential in the 1920s when its approach was very similar to that applying in Northern Ireland. Deviation in policies between the two territories was also reduced by the extent to which the interrelationships between the economies of Ireland and the UK survived political division, including the high level of Irish dependence upon the British market. Also it was not always easy to determine the extent to which divergent trends could be attributed to government measures because these did not necessarily elicit the anticipated responses from farmers, and they were far from being the only factor shaping agricultural change. Discordance in the nature of the statistics between the two territories and over time also hindered comparisons. Furthermore data relating to production and trade were distorted by the extent of smuggling which the border generated, the amount and direction of this unrecorded movement fluctuating with changes in government measures, prices and exchange rates.⁶

Even within the small area of Ireland, there were differences between the two territories in some of the other variables

to which farmers were subject, and in the characteristics of the farmers themselves, together with internal regional variations in agriculture.⁷ The nature of the land tenure system is thought to have had particular significance as a retardative influence on Irish agricultural development.⁸ Decline over the period 1931–80 in the number of agricultural holdings exceeding 5 acres was twice as great in Northern Ireland (–42 per cent) as in the Republic of Ireland (–21 per cent). This reduced the differential in the average area of crops and pasture per holding, which by 1980 was 48 acres in the Irish Republic and 42 acres in Northern Ireland. In addition, there is more short-term letting of land on the conacre system in Northern Ireland, 18 per cent as compared with 7 per cent in the Irish Republic, serving to increase the operational size of holdings. A comparison on this basis indicates that the mean total size of holding is 63 acres in Northern Ireland and 56 acres in the Republic of Ireland.⁹

The decline in the agricultural labour force was much greater than that in the numbers of holdings but the differential between the two territories was less, the rates over the period 1926–81 being –80 per cent in Northern Ireland and –71 per cent in the Irish Republic. Different trends over this period in the age structures of the agricultural labour force are indicated by a decrease in the percentage aged over 60 years from 22 to 16 in Northern Ireland but an increase from 21 to 26 in the Republic of Ireland. The proportions of farmers and farm managers aged over 60 in 1981 were 19 per cent in Northern Ireland and

⁵ D Hootor, *The Department's Story: a History of the Department of Agriculture*, Dublin, 1971.

⁶ One sector of smuggling was examined in D S Johnson, 'Cattle Smuggling on the Irish Border 1932–38', *Irish Economic and Social History*, VI, 1979, pp 41–63.

⁷ Regional patterns of farming and aspects of their evolution are discussed in L Symons (ed), *Land Use in Northern Ireland*, 1963, and D A Gillmor, *Agriculture in the Republic of Ireland*, Budapest, 1977. Irish agricultural distributions are shown in L D Stamp, *An Agricultural Atlas of Ireland, 1931*, and A A Horner, J A Walsh and J A Williams, *Agriculture in Ireland: a Census Atlas*, Dublin, 1984.

⁸ Crotty, *op cit*.

⁹ Statistical Office of the European Communities, *Community Survey of the Structure of Agricultural Holdings 1979/1980*, Luxembourg, 1985.

31 per cent in the Republic. These data suggest greater mobility of land ownership in Northern Ireland and, related in part to this, more favourable trends in demographic structure. These differentials seem likely to have had some influence on the relative performances of the two territories in agricultural development. However, the available data do not permit fully comprehensive comparisons of their trends in farm ownership and demographic characteristics, and it would not be possible to measure the effects of the differences between the two on agricultural production.

Agricultural development in the two territories is compared in this paper by analysing trends in crop areas and livestock numbers, and in agricultural production.¹⁰ The base year against which change is measured is taken as 1926. This is because of the reliability of the data for the first complete agricultural census for the whole of Ireland after partition, and because there had been violence and unsettled economic conditions in the early 1920s. In the later parts of the paper, comparisons are made between the periods before and after 1960. This year corresponds approximately with what is recognized as the watershed in the modern agricultural and economic development of the Irish Republic, when major transformation began.¹¹

I

The most important trend in Irish agricultural land use has been the tendency under normal circumstances for the area of arable

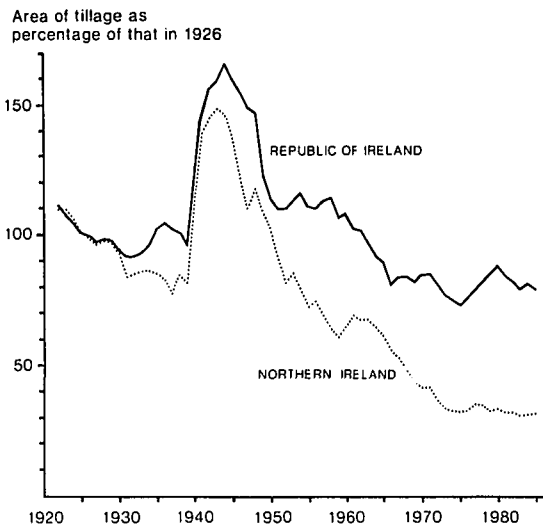


FIGURE 1
Trends in the areas of tillage, 1922-85

crops or tillage to decline. The mild and moist climate and the nature of the soils, combined with the influence of traditional practices, market outlets and price trends, have been much more favourable towards pastoral farming. With grain available from places where its comparative advantage was greater, Irish farmers tended to revert more to livestock production. Tillage occupied only 13 per cent of the agricultural land in the Irish Free State in 1926 and 23 per cent in Northern Ireland.

The similar downward trends in tillage in both territories under the free trade conditions of the 1920s were a postwar reversion to earlier tendencies (Fig 1). The marked divergence which occurred in the 1930s resulted from encouragement given to tillage by the government of the Irish Free State as part of its self-sufficiency strategy, and its effort to maximize rural employment.¹² The onset of the Second World War and associated compulsory tillage orders brought dramatic increases in

¹⁰ The data used throughout this paper, including the compilation of the graphs and tables, were based on the official annual agricultural statistics issued by the Central Statistics Office, Dublin and the Department of Agriculture, Belfast. The statistics did not distinguish precisely between dairy and beef cattle, so that the number of milk cows was taken to represent the dairy enterprise and the number of other cattle depicted beef production.

¹¹ Meenan, *op cit*; D A Gillmor, *Economic Activities in the Republic of Ireland: a Geographical Perspective*, Dublin, 1985; J W O'Hagan (ed), *The Economy of Ireland: Policy and Performance*, Dublin, 1987.

¹² L O'Nuallain, 'A Comparison of the Economic Position and Trend in Eire and Northern Ireland', *Journal of the Statistical and Social Inquiry Society of Ireland*, (hereafter JSSISI) XVII, 1945-46, pp 513-14.

both areas. These had a continuing influence as a time-lag effect on the downward trends which were re-established with the return to peacetime conditions. The Republic of Ireland retained the differential over Northern Ireland initiated in the 1930s, even though its agriculture had not been reoriented to the extent that the government had intended. The acreages of arable crops later stabilized in both territories under the protected market and price regime of the EC.

The main differences between the two parts of Ireland in individual crop trends date from the 1930s but the effects were persistent. The introduction of protection and subsidy for wheat production in the Irish Free State led to its price being double the world level by 1936. The area increased from 20,800 acres in 1931 to 255,300 acres by 1939, and a wartime peak of 662,500 acres in 1945, which was the largest area of wheat since agricultural statistics began in the 1840s.¹³ Although decline to one-seventh of this acreage occurred by 1985, wheat remained much more important than in Northern Ireland. Legislation provided for the use of domestic grain in the manufacture of flour and animal feedstuffs. The wartime tillage effort was directed proportionately more towards providing food for direct human consumption than for feeding livestock as compared with Northern Ireland.¹⁴ A sugar manufacturing industry was inaugurated by the Irish Free State in the 1920s, and greatly expanded by a semistate company under protection in the 1930s. Thus the area of sugar beet grew from nothing to over 80,000 acres, whereas none was grown in Northern Ireland. There was also protection for growers of fruit and vegetables but the advent of free trade conditions within the EC resulted in major decline in the area of horticulture.

¹³ F S Lyons, *Ireland since the Famine*, 1973, p. 623.

¹⁴ L P F Smith, 'Recent Developments in Northern Irish Agriculture', *JSSIS*, XVIII, 1948-49, p. 149.

II

Trends in the important livestock enterprises have differed from those in arable cropping in that the performance of Northern Ireland has been relatively higher than that of the Republic. Yet there was closer correspondence between the two territories in the trends in milk cows than in tillage. The only significant differences in cows were expansion in Northern Ireland in the 1940s and a somewhat earlier and greater growth there in the 1960s. Numbers increased by over one-quarter as a result of the priority and financial incentives given to milk production in the UK during the Second World War but the gain was lost rapidly in the early 1950s. At the end of the decade the cow herds in both parts of Ireland were only the same as at the time of partition but rapid expansion began then. This was aided by huge financial support of the dairy industry by both governments. A large part of state expenditure on agriculture in the Irish Republic went to milk production, which was actively promoted by the farm advisory service. Record numbers of cows were reached in both areas in 1974, from which decline occurred because of a crisis in the cattle trade then, followed by agricultural recession in the late 1970s and early 1980s. The number of cows in 1985 was 108 per cent above that of 1926 in Northern Ireland and 76 per cent in the Republic of Ireland.

The beef cattle industry is the leading branch of Irish farming, so that its trends are of major significance to the country's agricultural history. There have been generally rising numbers of cattle over the period under consideration, except towards its beginning and end, but with divergence between the two territories which was initiated in the 1930s (Fig 2). The higher rate of growth in Northern Ireland in the 1940s was made possible by the wartime expansion of the breeding herd there. Examples of features felt in both areas and reflected in the graphs

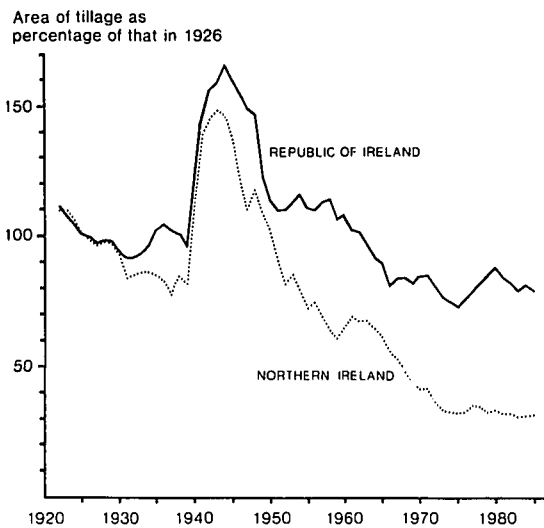


FIGURE 2

Trends in the numbers of beef cattle, 1922-85

included the difficult market conditions of the 1920s, high mortality because of very wet weather in 1924,¹⁵ the effects of the crisis in the cattle trade in 1974-75, and the later agricultural recession. The growth in the number of cattle prior to 1960, while the breeding herd was generally static, was made possible by reduction in the mortality of calves.

The economic war and discouragement of the export-oriented cattle industry in order to promote agricultural self-sufficiency had severe repercussions in the Irish Free State, a short-lived bounty on calf skins even being used to curtail numbers. Between 1931 and 1936 the number of cattle declined by 5 per cent, while it increased by 17 per cent in Northern Ireland. Growth there reflected the imposition of restrictions on beef imports to the UK in 1932, cross-border smuggling from the Irish Free State, and the introduction in 1934 of a direct subsidy on fat cattle. This scheme and its later extension not only

encouraged the expansion of cattle numbers in Northern Ireland but also promoted a shift towards finishing cattle in the area rather than shipping store cattle to Britain. Some of the benefit from the UK fatstock guarantee payments accrued to farmers in the Irish Republic, as the subsidies applied to cattle from there after a minimum period spent on farms in Northern Ireland or Britain. Nearly half of the beef finished in Northern Ireland was at times derived from store cattle imported from the Republic.¹⁶ This contributed to the number of cattle recorded in Northern Ireland, and it indicated a degree of complementarity between farms in the two territories. Indirectly it retarded the development of the meat processing industry in the Irish Republic, where the trend towards finishing of stock was delayed as a result of it. There were other aids to cattle production in Northern Ireland, such as calf and hill cattle subsidies, and the beef industry was emphasized by the state more strongly relative to dairying than in the Irish Republic. Schemes were introduced in the Republic from the 1960s but at a lower level of support.

The farm enterprise on which the political differences between the two parts of Ireland showed least effect was sheep production. Numbers declined in the Irish Free State during the difficulties of the livestock sector in the 1930s, while they increased substantially in Northern Ireland, but thereafter the fluctuations in the two areas matched each other almost precisely. These reflected changing market conditions, and also the competition with other enterprises which resulted from the fact that on lowland farms sheep were a subsidiary activity. Thus numbers diminished during the wartime conditions, when sheep gave way to tillage. Decline was greater in Northern Ireland where there was additional competition for land from

¹⁵ R O'Connor and C Guionard, 'Agricultural Output in the Irish Free State Area Before and After Independence', *Ir Ec Soc His*, XII, 1985, p 97.

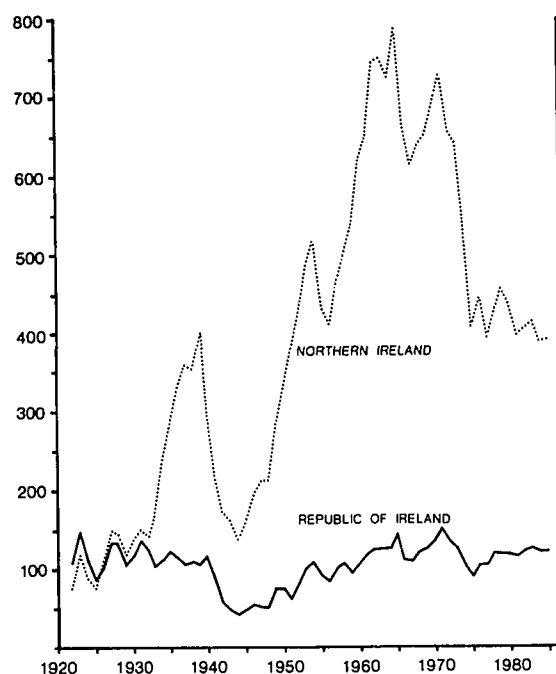
¹⁶ Symons, *op cit*, p 50.

the expanded cow herd. The mountain flocks in both territories suffered under exceptionally severe weather conditions in the winter of 1946–47. Sheep numbers then rose steeply to peaks in the early 1960s under favourable trading circumstances and government grants to production in upland areas, first in Northern Ireland, and later in the Republic. The decline which followed was mainly on the lowlands, where sheep gave way to the expanding dairy and beef herds. The industry suffered from comparative lack of state support and technical advance relative to other farm enterprises. The political context changed within the EC when Irish lambs were given preferential access to the French market in 1977, a common sheep policy was adopted in 1980, and milk production was curtailed. Sheep numbers rose steeply from the late 1970s, with the response to the new situation being earlier and much greater amongst Northern Ireland farmers. The number there in 1985 was 200 per cent above that in 1926, compared with 33 per cent in the Irish Republic.

The enterprise in which trends in the two parts of Ireland differed most strikingly was pig production (Fig 3). After similar fluctuations in the 1920s, rapid divergence began in the 1930s. By 1939 the number of pigs in the Irish Free State was little above that of 1926, while that in Northern Ireland was three times greater. In the peak year of 1965 the pig population of Northern Ireland had increased by 688 per cent on the 1926 level but that of the Republic of Ireland by only 43 per cent. Despite subsequent major decline in Northern Ireland, and the large expansion which had occurred in the Republic over the period 1944–71, the industry remained at a much higher level in Northern Ireland by the 1980s.

One major reason for the contrasting fortunes of pig production in the two territories was differential access to feedstuffs. The protection of domestic grain growing in the Irish Free State which began in the

Number of pigs as percentage of that in 1926



Trends in the numbers of pigs, 1922–85

1930s resulted in high feed costs for pig producers, and also in the early decades there was much use of food grown on the same farms. Pig producers in Northern Ireland relied predominantly on imported feedstuffs which were available at low world prices. The disruption of these supplies during the Second World War caused abrupt but temporary decline in the industry, and it also had some influence on the fall in numbers in the Irish Free State. Subsequently the advantage of Northern Ireland's access to comparatively cheap feed was exploited even more fully. The decline of the industry there can be attributed mainly to deterioration in the input situation as the costs of feedstuffs rose. This occurred initially through the establishment of a floor price for grain within the UK in the 1960s but much more so after accession to the EC with its protected cereal markets. Within the UK there was a shift of competitive advantage to British producers because of their lower feed costs, being closer to sources. Pig producers in

the Republic of Ireland were also affected by the price-cost squeeze of the early 1970s but they had less to lose in comparison with their northern counterparts.

Other factors contributed to the relative success of pig production in Northern Ireland. Its status within the UK was a major advantage, affording free access to the British market and the assurance of guaranteed prices. The establishment of a marketing board and scheme for pigs in 1933 under the Northern Ireland Agricultural Marketing Act resulted in organization and stabilization of the market. This contributed considerably to the initial expansion of the industry in the 1930s, and it gave Northern Ireland producers an advantage even over those in Britain. The small size of farm holdings was an incentive to adopt intensive enterprises such as pig production. The characteristics of hard work and enterprise which farmers in Northern Ireland exhibit were an important asset. The capital investment, trade linkages, momentum, and skills which had been established enabled the industry to continue at a higher level than that in the Irish Republic, even after some of its other comparative advantages had ceased in the 1970s.

The development of the poultry industry in Northern Ireland was favoured over that in the Republic of Ireland by relative advantages similar to those which affected pigs, comprising principally price support, cheap feedstuffs, and organized marketing. Poultry numbers had increased there in the 1920s and 1930s but the major expansion was a doubling during the 1940s. This was in response to the favourable UK market situation during and immediately after the Second World War. Growth was made possible through use of fodder grown on the farms as part of the expanded tillage programme. Numbers fell subsequently as domestic production in Britain expanded. Increases occurred again in the 1960s because of the development of a major broiler industry based on the use of

imported feedstuffs. The increased costs of these initiated decline from the early 1970s.

The trend in poultry numbers in the Irish Free State diverged from that of Northern Ireland in the early 1930s, and there was gradual decline over the following half century. The exception was growth in the late 1940s in response to British demand and government promotion, and then rapid decline in the early 1950s as this market diminished and prices fell. The subsequent decrease in numbers resulted mainly from the efficiency of modern intensive management systems as compared with the preceding farmyard flocks, so that increasing production to supply the expanding home market was achieved from a diminishing national flock. By 1985 the number of poultry in the Republic of Ireland was only 42 per cent of that in 1926, as compared with 127 per cent in Northern Ireland.

III

The diversity amongst the individual farm enterprises in their historical trends, and between the two parts of Ireland led to differential changes in the structure of agricultural production, as measured by the contributions to the value of gross output (Table 1).¹⁷ Yet the overall orientation of farming in both areas retained a basic similarity in that it was predominantly livestock production on a commercial basis. The resemblance was to be expected given their shared island location, largely common historical evolution prior to partition, and similar physical environment, though with regional variation. This inherent similarity facilitates recognition of the differential impacts of the two political contexts.

¹⁷ Gross agricultural output is that part of production which is sold off farms or consumed by farm households. Estimates of output in the mid 1920s were made in Northern Ireland for 1925 and in the Irish Free State for crops in 1926 and livestock in 1926-27, so that for convenience all are referred to here as being for 1926.

TABLE 1
Percentage Structure of the Value of Gross
Agricultural Output

Farm enterprise	Northern Ireland			Republic of Ireland		
	1926	1960	1985	1926	1960	1985
Tillage	21.6	9.1	6.6	14.6	20.4	11.3
Milk	19.4	17.0	27.8	24.1	23.1	36.5
Cattle	23.2	21.1	40.8	24.3	30.3	38.8
Sheep	4.3	5.8	4.1	5.0	7.0	4.0
Pigs	9.3	28.3	10.5	16.0	11.4	5.7
Poultry	22.3	18.7	10.2	15.9	7.7	3.7
Index of specialization	0.20	0.20	0.27	0.19	0.21	0.30

Over the period 1926–60, the consequences of division into separate states, and the resultant differential advantages conferred on individual enterprises, were most evident with respect to the divergent trends in tillage, and in pig and poultry production (Table 1). The role of crop production diminished by more than one-half in Northern Ireland, while expanding substantially in the Republic of Ireland. Conversely, that of pigs trebled in Northern Ireland but declined in the Republic. Although the relative contribution of poultry lessened in both areas, the decline by half was much greater in the Irish Republic. The farmyard enterprises of pig and poultry production together had accounted for more than one-half of the value of Northern Ireland agricultural output in 1950 and, although the role of poultry then lessened, their combined 47 per cent of output in 1960 contrasted with the decline to 19 per cent in the Republic of Ireland. The leading role of cattle production was further strengthened in the Republic. The overall consequence of change during the period 1926–60 was for the agricultural structures of the two parts of Ireland to become substantially less similar. This was measured by the index of dissimilarity, which more than doubled by increasing from 13.3 in 1926 to 27.9 in 1960.¹⁸ With

¹⁸ The index of dissimilarity for the two areas in any year is the percentage of output which would have to be reapportioned

respect to every enterprise, the difference in percentage shares between the two territories increased between 1926 and 1960.

In contrast, the striking feature of enterprise change over the period 1960–85 was the distinct trend towards convergence in the output structures of the two territories (Table 1). A complete reversal occurred in the index of dissimilarity, which diminished from 27.9 in 1960 to 13.4 in 1985. Convergence resulted from the pronounced tendency towards specialization in cattle and milk production, and decline in the other enterprises. The direction of shift in all sectors was the same in both areas, and the difference in percentage share between the two territories lessened in all except milk production. The dairy and beef industries were favoured by high levels of government support, expanded market opportunities and favourable price trends, especially within the context of the EC. Although relative growth was greater in Northern Ireland, particularly in cattle production, the combined level of dominance by the beef and dairy enterprises in 1985 was higher in the Irish Republic. Their 75 per cent of the total value of farm output there represented the attainment of a high degree of product specialization. The difficulties in the pig and poultry industries had led to a decline in their combined contribution to Northern Ireland output to 21 per cent, though this was still more than twice the level in the Irish Republic, reflecting historical influences. The greater concentration of farm enterprises was measured by the index of specialization, which had remained almost constant over

amongst the individual enterprises to enable precise correspondence between the output structures of the two territories. It was found by adding the differences between the two areas in the percentage shares of output contributed by each enterprise and dividing the sum by two. Thus the index of dissimilarity measures the extent to which the two areas differ in their output structures; an index of 0 would indicate complete correspondence and a value of 100 would show total divergence.

the previous period but increased substantially in both areas between 1960 and 1985.¹⁹

IV

Change occurred not only in the structure of agricultural output but also in the total volume of production, as was suggested by the trends in the individual enterprises. Because of the extent to which livestock dominated Irish farming, the trend in their aggregate numbers was used as a consistent indicator of the changing intensity of agriculture (Fig 4). The different categories of livestock were equated in terms of livestock unit equivalents.²⁰

The numbers of livestock units in the two parts of Ireland followed similar trends under the generally common circumstances of the 1920s but there was marked divergence subsequently. This aggregate production tendency accords with the findings reported earlier in respect of many of the individual enterprises, in that differences in agricultural trends between the two territories did not begin with the political partition of the country, but from the early 1930s with the contrasts in policies between the two governments and the economic war. Some differences were accentuated during the Second World War. Livestock production in Northern Ireland

Number of livestock units as percentage of that in 1926

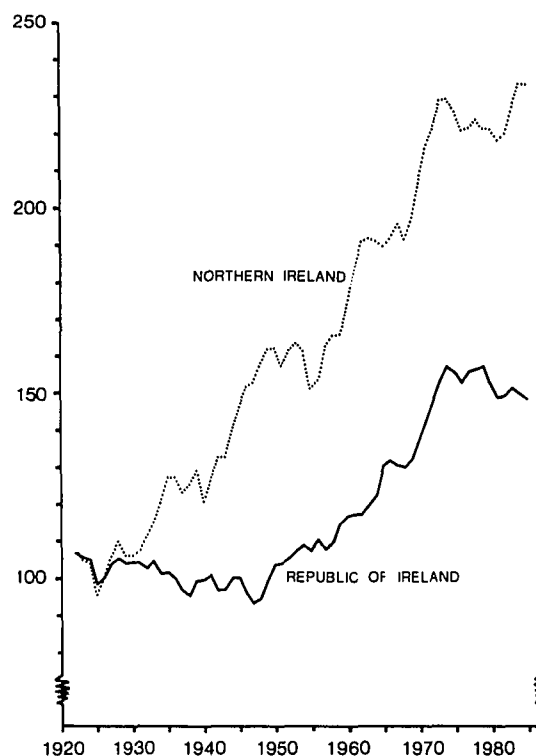


FIGURE 4

Trends in the total numbers of livestock units, 1922-85

expanded in the 1930s and 1940s as part of UK agriculture, favoured by market growth and protection, and by government support and wartime conditions. The temporary setback in the early 1950s was a result of the postwar decline in the numbers of cows and poultry. Total production in the Irish Free State suffered severely under the policies and economic conflict of the 1930s. This included the effects of the emphasis on tillage which was contrary to comparative advantage. By the late 1940s the number of livestock units was less than in 1926. Growth there in the 1950s was mainly on land released by decline in the number of working horses, so that only in 1960 did the number of all livestock units exceed that at independence. This lends support to recognition of 1960 as a date of demarcation. The Republic of Ireland had lost considerable ground, and

¹⁹ The index of specialization for an area in a particular year was calculated by squaring and summing the individual enterprises' shares of total gross output, given unit value. The index would have a maximum value of 1.00 if the entire output were contributed by one enterprise, and, where six enterprises are being considered, the minimum value would be 0.17 if output were equally distributed amongst the six enterprises.

²⁰ Absolute numbers of animals would be an inadequate basis for comparison of the different categories of livestock, as the various types and ages of animal differ greatly in size and requirements. The most satisfactory method of equating the categories is on the basis of food consumption, in terms of livestock units. The system of livestock unit equivalents used here was that given in D A Gillmor, 'Spatial distributions of livestock in the Republic of Ireland', *Economic Geography*, XLVI, 1970, p 388. Horses were omitted from the computations, as they were from the investigation of individual trends, because their direct contribution to output was small and appropriate data were not available for all years.

the 1930s had a long-lasting effect on its agriculture.

Subsequent trends in livestock units in the two territories were much more comparable but with maintenance of the differential which had arisen (Fig 4). Improved conditions in the economy of the Irish Republic, and increased government support there contributed to agricultural modernization in the 1960s. Greater access to the British market and the prospect of membership of the EC provided stimuli to expansion.²¹ Measured against its smaller base, the rate of growth was greater than in Northern Ireland. Adverse economic influences which later affected livestock unit trends in both areas included the cattle market crisis in 1974-75, and cost-price squeeze and recession towards the end of the decade. Recovery occurred only in Northern Ireland.

The growth in livestock units over the period 1926-85 was 131 per cent in Northern Ireland and 48 per cent in the Republic of Ireland. This expansion and the difference in it were only in small part related to decreases in arable cropping; the percentage of the agricultural land under tillage declined from 23 to 9 in Northern Ireland and from 13 to 11 in the Irish Republic. The increased intensity of land use was indicated by the growth in the number of livestock units per acre of crops and pasture from 0.27 to 0.74 in Northern Ireland and from 0.32 to 0.51 in the Republic of Ireland. Even if pigs and poultry were omitted from the calculations, the data would show that much more intensive use of land had developed in Northern Ireland.

The trends in livestock numbers and tillage areas indicated only part of the growth in agricultural production, as they did not show the increased productivity of the animals and crops. This included

higher milk, egg, and crop yields, and more rapid turnover of poultry, pigs, cattle and sheep. The changes in the volume of outputs of the principal individual commodities are shown in Table 2, though the data may not have been precise, not all were strictly comparable, and some were distorted by smuggling. The contrasts between the two periods are again evident. In 1926-60, decline occurred in only one commodity in Northern Ireland compared with five in the Irish Republic. The rate of growth was higher in Northern Ireland in all commodities except the arable crops. In 1960-85, decline occurred in four commodities in Northern Ireland, and three in the Republic of Ireland. The rates of change were much more comparable between the two areas than in the earlier period, with the increase being greater or decrease less in six commodities in the Republic, and three in Northern Ireland. The individual commodities differed greatly in their importance to farmers in monetary terms, and this can be allowed for in part by computation of an index of growth.²² The value of this index for the period 1926-60 was +149 in Northern Ireland, and only +9 in the Irish Republic. In the period 1960-85, it was +30 in Northern Ireland, and +71 in the Republic, reflecting the change in relative agricultural growth in the two parts of Ireland. The relative performance of Northern Ireland in the second period reflected the measurement of growth against its much higher base, together with the decline of its important pig and egg production, which enabled the Irish Republic to make up some of the leeway that had arisen in the earlier period.

²¹ Department of Agriculture and Fisheries, *Report of the Committee on the Review of State Expenditure in Relation to Agriculture*, Dublin, 1970; D A Gillmor, 'Aspects of Agricultural Change in the Republic of Ireland during the 1960s', *Ir Geo*, VI, 1972, pp 492-8.

²² The index of growth is based on enterprises' rates of change in volume of output and their contributions to the total value of gross output. The index for a particular period was calculated by multiplying each commodity's percentage share of output value at the beginning of the period by its percentage change in volume over the period divided by 100, and then summing all the products while taking the positive or negative direction of change into account.

TABLE 2
Percentage Changes in the Volume of Gross
Agricultural Output by Commodity

Commodity	Northern Ireland		Republic of Ireland	
	1926-60	1960-85	1926-60	1960-85
Milk	+55	+122	-4	+116
Cattle	+39	+66	+22	+69
Sheep	+324	-2	+41	+39
Wool	+166	+30	+23	-16
Pigs	+876	-33	-14	+44
Poultry	+126	+493	-39	+312
Eggs	+159	-21	-35	-14
Grain	+161	+10	+201	+106
Potatoes	-27	-21	-24	-21
Sugar Beet			+987	+38

In order to assess the relationships and growth in farm production as a whole in another way, aggregate gross agricultural output values were compared, though these data were limited. The official statistics indicate that gross output per acre of crops and pasture in the Irish Republic expressed as a percentage of that in Northern Ireland was 75 in 1926, 32 in 1960 and 55 in 1985. Relationships in output per person employed in agriculture were similar. Estimates suggested that the volume of output had more than doubled over the first forty years in Northern Ireland but that in the Irish Free State by 1951 it had increased by only 5 per cent on the 1926 level.²³ Gross output in real terms then doubled in the Irish Republic between the years 1960 and 1985. Differences in data hinder comparisons with Northern Ireland but the recent rate of growth in output was only about half that of the Republic. These comparisons indicate that the growth in production began earlier in Northern Ireland, and that after 1960 the differential in levels of output narrowed.

The expansion in agricultural production was obtained from an almost constant land base by a much reduced labour force using greatly increased capital inputs. The dearth of data on capital inputs hinders comparisons over time. Extensive farm mechanization was the most obvious feature of the substitution of capital for labour and horses. The number of tractors per 1000 acres in 1960 was 14.7 in Northern Ireland and only 3.9 in the Republic of Ireland; by 1980 the numbers were 23.4 and 12.5 respectively. A higher rate of recent growth in the Republic also characterized fertilizer use but yet by 1985 the level of application was still one-half greater in Northern Ireland. Similar trends and differences applied to the use of purchased feedstuffs for livestock, and to the construction and modernization of farm buildings. The earlier capital intensification and technological change in Northern Ireland agriculture were facilitated by its more stable market context, and by greater state support, both boosting the confidence of farmers. Government policy and measures there gave more active encouragement to investment of capital, and to increasing productivity than in the Irish Republic. With the improvement in the environment for farming in the Republic from 1960, and its more commercial orientation, the rate of growth in input use was greater there. Yet capitalization remained higher in Northern Ireland, partly because of the significance of pig and poultry production. Input costs amounted to 64 per cent of gross output value in 1985 there and to 47 per cent in the Republic of Ireland. In addition to being more capitalized, farms in Northern Ireland had reached higher levels of specialization and concentration of enterprises.

The trends in agricultural incomes in the two territories varied with the prices of outputs and inputs, and with the levels of government support. The comparisons which researchers have made were hin-

²³ H J Schemilt, 'Adjustments in Family Farming in the Northern Ireland Economy', *J Agric Econ*, XVI, 1964, pp 57-8; E A Attwood, 'Agricultural Developments in Ireland, North and South', *JSSISI*, XXI, 1966-67, p 12. Estimates for the Irish Free State in earlier decades, in O'Connor and Guimard, *op cit*, p 95, showed that the volume of gross output in 1938/39 was 6 per cent less than in 1912/13 but a comparable series is not available for Northern Ireland.

dered by data variations, and they differed by the time period, and the interpretations of the individual authors.²⁴ The conclusion must be, however, that the comparative advantages of farming in the two areas altered with the internal and external relationships of the changing political and economic framework. From the 1930s to the 1960s, agricultural development and incomes were appreciably higher in Northern Ireland, being favoured by membership of the UK. Farming in the Irish Republic had been almost static in many respects until the 1960s but then the expansion of other sectors of the economy, the anticipation and realization of EC membership, and the substantial real increases in agricultural prices which occurred in the 1970s brought rates of growth exceeding those in Northern Ireland. The ratio of income to output was higher in the Republic of Ireland because of its lower level of capital inputs. Both parts of Ireland suffered in the agricultural recession from 1979, with farmers' incomes falling in real terms to less than those on accession to the EC and far below the level in other economic sectors.

V

The changing political and related economic circumstances in the two parts of Ireland since 1922 resulted in differential trends in individual farm enterprises, and consequently in the structure and amount of agricultural output between the two

territories. The nature and extent of the differences varied by enterprise, and over time, but it has been demonstrated that the overall tendencies were towards divergence at first, and then towards convergence. There was a high degree of agreement between the various trends in indicating this sequence. Yet the initiation of these tendencies did not correspond precisely with the political events of partition in 1922 and accession to the EC in 1973.

The close correspondence between trends in the Irish Free State and Northern Ireland in the 1920s reflected the fact that there had been no abrupt change in the market environment or agricultural policy, as both governments continued to follow essentially *laissez-faire* approaches, and those measures which they applied were similar. Divergence came instead in the 1930s with political change and autarky in the Irish Free State, and with import market controls and subsidization of farming in the UK. These led to a major gap in productivity and had persistent impacts on the differentials in Irish agriculture.

The movement towards convergence predated but was accelerated by accession to the EC, and it can be traced to about 1960. The farm sector in the Republic of Ireland began to benefit from the major growth and transformation in the economy, and from the associated greatly increased exchequer support of agriculture. Then the prospect and realization of EC membership afforded important stimuli, as agriculture in the Irish Republic had much more to gain than in Northern Ireland because of its previous relative disadvantage in market access and prices, and in financial support. Its more rapid development led to a narrowing of the differences between the two territories, though disparities have not been eliminated.

Limits to agricultural expansion in both parts of Ireland are now being imposed within the EC in order to curtail its surplus production and cost of support. This was

²⁴ Smith, *op cit*, pp 143-60; Attwood, *op cit*, pp 9-34; L Symons, 'Rural Land Utilisation in Ireland', in N Stephens and R E Glasscock (eds), *Irish Geographical Studies in Honour of E. Estyn Evans*, Belfast, 1970, pp 259-73; Sheehy, O'Brien and McClelland, *op cit*; G W Furness and T F Stainer, 'Economic Performance in Agriculture in Northern Ireland and the Irish Republic', in Department of Agriculture, *Annual Report on Research and Technical Work*, Belfast, 1981, pp 57-9; E A Attwood and M O'Sullivan, 'Some Aspects of Agricultural Development in Ireland North and South since Accession to the EEC', *Agric Econ Soc Ir Proc* 1983-84, pp 137-72; Cuddy and Doherty, *op cit*; J M Whittaker and J E Spencer, *The Northern Ireland Agricultural Industry: Its Past Development and Medium Term Prospects*, Belfast, 1986.

done first and most significantly for Ireland through the quotas specified under a milk super-levy introduced in 1984, with heavy penalization should output exceed ceiling levels. Such quotas circumscribe production regardless of physical capacity or historical differentials. Despite the intensification of Irish agriculture which has occurred, there is still considerable inherent potential for more productive use of the land, especially in the Republic of Ireland.²⁵ Because of the major retardation in its growth historically, the Republic is being curtailed at an earlier stage in its farm

development than is Northern Ireland. Within the UK, Northern Ireland is disadvantaged in relation to more advanced regions. The differential implications of EC curtailment are even more evident when Irish farming is compared with the highly developed and intensive agriculture of countries such as the Netherlands. There is no general consideration given to past trends or allowance for differential stages of development in the setting of production ceilings. This is an example of where agricultural history can have lasting effects, and should be relevant to the formulation of modern agricultural policy.

²⁵ J Lee and S Diamond, *The Potential of Irish Land for Livestock Production*, Dublin, 1972.