

# A COMPARISON OF THE PRINCIPAL ECONOMIC FEATURES OF ÉIRE AND DENMARK

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## Introductory.

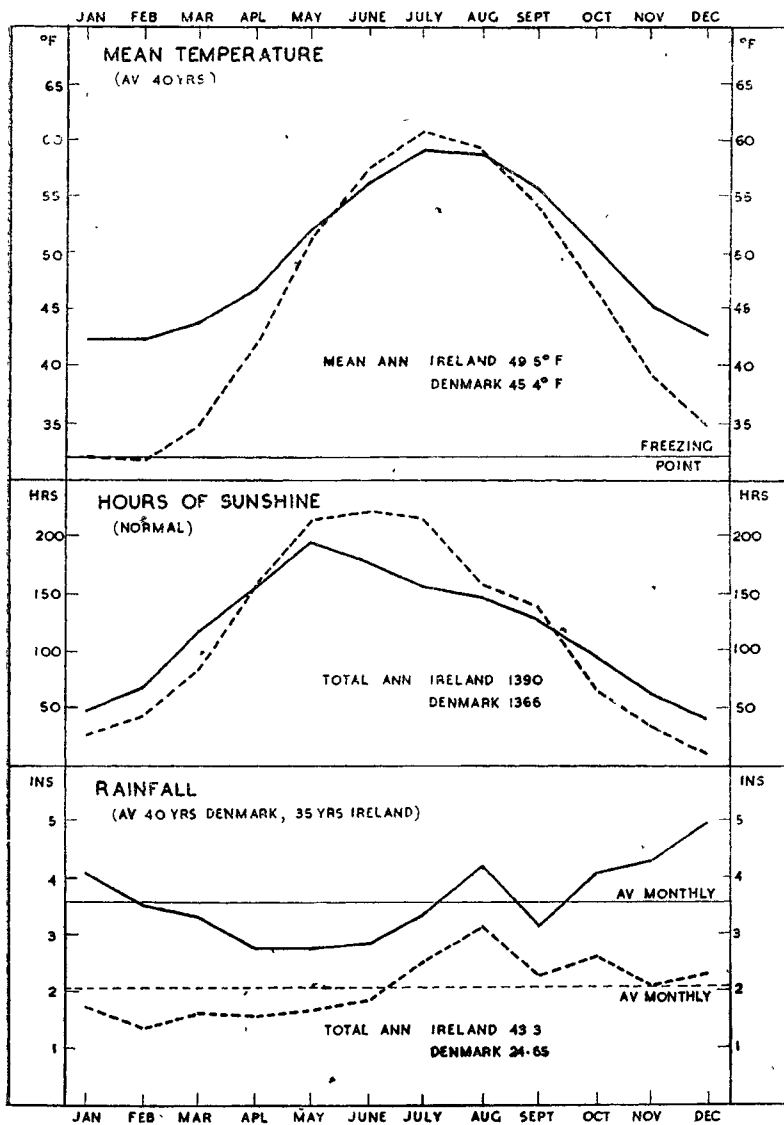
Denmark is not only a smaller country than Éire but her climate is less equable, her soils are, in general, lighter and poorer, she has no coal and no water power to compensate for its absence, nor has she any iron ore or other metallic ores to serve as a basis for industrial activities. Yet, in comparison with Éire, she has a bigger population, a greater agricultural output, a more extensive industrial system, a larger foreign trade, a lower national debt, a higher national income and a better standard of living. It is the purpose of this paper to throw some light on this unusual economic paradox.

Like Éire, Denmark may be regarded as insular since the country consists of a number of islands and the peninsula of Jutland which at its southern border is connected with the European Continent by an isthmus of only 30 miles in width. The total area is 16,575 square miles which is 62·3 per cent. of that of Éire (26,601 square miles), alternatively, Éire is 60·5 per cent larger than Denmark. Jutland occupies almost the same percentage of the total area as is occupied in Éire by Munster, Connacht and Ulster (part), and the Danish islands and Leinster cover approximately the same percentage of total area in their respective countries. Unlike Éire, Denmark has no mountainous regions and is a flat and, in parts, a gently undulating country, the highest point of which is only 564 feet above sea level. Thus, and the fact that no part of Denmark is more than 30 miles from the sea, constitute natural limitations to the size and power of rivers and account for the absence of any important streams and hence of water power.

There is some similarity in the location of the most fertile soils in both countries. The best soils in Denmark are in the eastern half of the country, i.e., the islands and E. Jutland (especially in the S E). From the centre of Jutland towards the W and in the S W are more than 2,200 sq miles of heaths and bogs, while the unindented west coast of Jutland is fringed with extensive sandy wastes behind which lie many lagoons. Elsewhere, the soils are not so good as in the eastern regions and in dry summers, agriculture in such areas, particularly N Jutland, is insecure. Over the whole country, the soils are of lighter texture than those of Éire.

## CLIMATIC CHART

IRELAND —, DENMARK -----



## Climate.

As regards climate, Denmark is a country of much wind and, being flat, is unsheltered. It is this exposure to strong and continuous winds which in central and western Jutland makes for stunted tree growth and lower soil temperatures so unfavourable to tillage operations. The prevailing winds and those of Éire are rather alike since their frequency is fairly evenly distributed over all directions between S. and N.W., but Denmark is liable to many shifts of wind and her proximity to the Continent exposes her to the severe outblowing easterly winds of that region. This and the fact that she is in approximately the same latitudes as Scotland explain why her winters are so much colder than those of Éire. That her summers are somewhat warmer than in Éire is due to her lower rainfall and her greater distance from moderating oceanic influences.

From the diagram (above) which shows average temperatures in Denmark and Ireland (there being no records for Éire for a sufficiently lengthy period) it can be seen that in only three months in the year (June to August) does the Danish temperature exceed that of Ireland, and that for the remaining nine months it is not only lower but in December–March is distinctly lower and is around freezing point in two of these months. It is characteristic of the Danish winter that there is much oscillation between a little freezing and a little thawing—a condition which imposes maximum strain on plant life. Temperatures below freezing point are usual during the three winter months, especially in the east—the Sound which separates Zealand from Sweden freezes on an average every second year for a mean duration of 47 days.

The diagram also deals with sunshine and rainfall. Though there is little difference between Denmark and Ireland in total sunshine hours (only 2 hours per month), the distribution is such that Ireland has more sunshine than Denmark from October to March, but has less in the important six months from April to September during which Denmark's advantage becomes more marked in June and July for which months there is a total of 100 hours more sunshine than in Ireland. These are two of the three months in which Danish temperature exceeds that of Ireland. As for rainfall, Ireland has the advantage of an average of over  $3\frac{1}{2}$  inches per month which is 76 per cent. greater than the Danish figure of just over 2 inches. At all times of the year Denmark has a lighter rainfall but it is distributed rather more evenly than that of Ireland since it does not deviate so much from the monthly average.

## Population.

Despite the absence of advantages in area, soil, climate, or natural resources, Denmark's population (3.71 mill. in 1935) is almost 25 per cent. greater than that of Éire (2.97 mill. in 1936). Her density of population per sq. mile is 224 which is double our figure of 112. Had we a similar density, our population would be almost 6 mill. This superiority in population figures is of comparatively recent growth. In 1880 Denmark's population was barely more than half of ours; even in 1911 it had not reached our figure, but while the Danish figures increased ours fell and provide the following marked contrast :—

*Percentage Change in Population*

	Denmark		Éire	
Over the past 75 years	1880-1925	88.2 Increase	1881-1936	22.3 Decrease
During the present century	1901-1935	51.3 Increase	1901-1936	7.9 Decrease

The relevant figures appear in Table 1

The changes in population are reflected in the figures for Births, Deaths and Marriages appearing in Table II. From 1871 onwards the birth rates of both countries have fallen throughout but the Danish decline has been at a more rapid rate than ours, and hence their birth rate which exceeded ours by 5.2 per 1000 of population in 1871/80, is now in excess by only 1.2 per 1000 of population. Offsetting to a substantial extent the fall in birth rates is a decline in the Danish death rates which is much more marked than the decline in our death rates. While the Danish birth rate fell between 1871 and 1930 by 10.6 per 1000 of population, the death rate also fell by 8.2 per 1000 of population and was thus responsible for limiting the reduction in natural increase to only 2.4 per 1000 of population. In the same period our natural increase fell by almost the same figure (2.5) but has in all years been substantially lower than that of Denmark (usually less than half). Since emigration is an additional factor affecting population changes, Table III shows the figures for both countries since 1871 as evidence of the much heavier drain of emigration on our population.

As for the marriage rates in Table II, ours, being among the lowest in the world, naturally contrast unfavourably with those of Denmark. These rates are reflected in the following figures as well as in those of Table IV which present a still more deplorable position especially in regard to persons between 20 and 40 years of age —

*Percentage of Population (Males and Females) according to Conjugal Conditions*

	MALES				FEMALES			
	Married	Widowed	Single	Total	Married	Widowed	Single	Total
Éire (1936)	27.5	3.9	68.6	100	29.3	8.8	61.9	100
Denmark (1935)	42.0	3.5	54.5	100	40.8	7.1	52.1	100

In the consideration of this matter it must be borne in mind that in comparison with Denmark not only have we a far greater proportion of unmarried persons in the various age groups but in the age groups 25-34 and 35-44 we have smaller proportions of our total population. Relatively, therefore, we have fewer marriages and fewer marriageable people. Table V bears on this point.

Of particular interest is the distribution of population between town and country areas. The figures at the latest Census dates are contrasted in Table VI and show that not only is the country population in Denmark smaller than in Éire (1.4 million against our 1.9 million) but it is proportionately smaller (38 per cent. of total population against our 6.5 per cent.) With a much larger town population than Éire it is but natural that Denmark should have not only larger cities and towns but

a greater number of them and the table bears out this—there are, for example, apart from the capital, eleven cities or towns of over 20,000 inhabitants, whereas there are only three in Éire. The changes in urban and rural populations have followed such different courses in the two countries over the past 65 years that the following comparison is of interest.—

Year		Population (thousands)				Percentage of total population			
Denmark	Éire	Urban		Rural		Urban		Rural	
		Denmark	Éire	Denmark	Éire	Denmark	Éire	Denmark	Éire
1870	1871	443	934	1,341	3,119	%	%	%	%
1901	1901	1,074	911	1,376	2,311	24.8	23.0	75.2	77.0
1930	1926	2,093	959	1,458	2,013	43.8	28.3	56.2	71.7
1935	1936	2,299	1,055	1,407	1,914	58.9	32.3	41.1	67.7
						62.0	35.5	38.0	64.5

(Denmark includes S Jutland in 1930 and 1935. The "urban" populations for Éire represent the populations within the 1936 boundaries of cities and towns with populations of 1,500 or over in 1936. The Danish and Irish definitions of "urban" and "rural" are not strictly comparable—such differences as there are would scarcely upset the general picture.)

The figures show that the Danish urban population has increased greatly both absolutely (over 5 times) and relatively, while the rural population has increased slightly (by 5 per cent. since 1870) though it has decreased relatively. In Éire, the urban population has also increased absolutely and relatively but the absolute increase is only 12½ per cent. and is trifling in comparison with Denmark. Our rural population has declined greatly both absolutely (by 39 per cent.) and relatively (by 12½ per cent.) and our loss of 1¼ millions rural population is only slightly reduced by the increase of 121,000 in urban population. Our rural areas have borne the whole weight of the decline in our population since 1871, while in Denmark the rural areas, shared to a slight extent in the increase in population. In 1870 Denmark's rural population was less than half of ours; in 1935, mainly because of shrinkage in our figures, Denmark's ratio had increased to over 70 per cent. Her urban population in 1870 was just over 47 per cent. of ours, in 1935, because of industrial development, it was more than twice as great as ours.

As to the economic activities of the respective populations, Table VII shows that while approximately one half of our working population is engaged in agriculture and rather more than a further one quarter are occupied in industrial and commercial pursuits, only a little over one-third of Danish workers are agriculturists and a further 40 per cent. are engaged in industry and commerce. One is aware of the hazards of international comparison (even in the very general manner of Table VII) of statistics of persons in occupational or industrial groups. The classification used for Éire is on the "industrial" basis, i.e. transport workers, clerks, etc., are attributed to this industrial or commercial group.

The following analysis of the figures for agriculturists is of interest :—

	Percentage of Occupied Agricultural Population	
	Denmark (1923)	Éire (1936)
Farmers	35 1	40 2
Farmers' children and relatives	20 0	37 9
Other Agricultural workers	44 9	21 9
<b>TOTAL</b>	<b>100</b>	<b>100</b>

The percentages indicate the greater extent to which non-family labour is utilised on Danish farms as compared with ours. There is a further difference in the fact that, in Denmark, 40 per cent. of the occupied agricultural population are agricultural labourers who are "living in," whereas the figure for Éire is only just over 5 per cent. The farm workers of the two countries live entirely differently. In Denmark, there is no significant number of farm workers who, like the majority of such workers in Éire, spend most of their lives as agricultural labourers living away from the farms on which they work and supporting themselves and their dependents on the wages they earn. Hence agricultural labourers as a class scarcely exist in Denmark. A considerable proportion of non-family farm workers are the sons and daughters of neighbouring farmers whose object in accepting employment is to gain wider experience, but irrespective of this, many farm workers share the same table as their employer and are neither regarded nor regard themselves as in any way socially inferior. In general they have the outlook of farmers rather than of employees.

As to density of agricultural population, though Denmark has a smaller rural population than Éire its density is greater in relation to the area of cultivated land. The following is a comparison based on such statistical material as is available:—

	DENMARK	ÉIRE
Occupied agricultural population	545,491 (1930)	643,965 (1936)
Cultivated area (thousands)	7,728 acres (1933)	11,607 acres (1936)
No per 1,000 Cultivated acres	70 6	55 5
Of which —		
Farmers	24½	22½
Farmers' children and relatives	14	21
Other agricultural workers	31½	12

As compared with Éire, Denmark has, therefore, 15 more persons per thousand cultivated acres, or one additional worker on each 67 acres. Had we a similar density our occupied agricultural population would be 174,000 (or 27 per cent.) more than in 1936, and our rural population, i.e. working agriculturists and their dependents, would number about 350,000 more.

#### Agriculture.

The explanation of the very great economic differences between Éire and Denmark is closely associated with the manner in which Danish

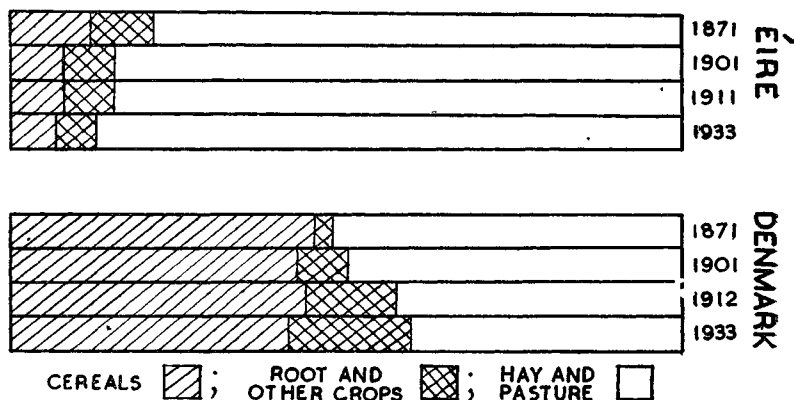
farmers utilize their land. That this differs considerably from that of Éire is evident from the following:—

Percentages of Total Area.

	DENMARK (1929)	ÉIRE (1931)
<i>Agricultural land</i>		
Tilled (excl. Fallow)	61.0	22.0
Permanent Grass	13.1	46.9
	74.1	68.9
<i>Non-agricultural land</i>	25.9	31.1
	100.0	100.0

(The tillage figures include Hay —Denmark (est.) 8%, ÉIRE 13.6%.)

There have been important changes in these ratios over the past 70 years. Between 1871 and 1931 the proportion of agricultural to non-agricultural land in Éire declined by  $7\frac{1}{2}$  per cent., while that of Denmark increased by about  $13\frac{1}{2}$  per cent. between 1870 and 1929. To a substantial extent the Danish improvement is attributable to the reclamation of great areas of Jutland heaths which was mainly achieved by private enterprise and brought about a 100 per cent. increase in the population of that area between 1860 and 1925. Apart from these altered ratios, the manner of utilisation of agricultural land underwent important changes which assumed a different character in each country. Table VIII and the following diagram shows that in Denmark there was but a slight reduction between 1871 and recent years in the substantial proportion of cultivated land used for cereals, a relatively large reduction in the proportion of hay and pasture areas and a very big increase in the proportion applicable to root crops and other corps. In Éire, the small proportion of cereal areas declined to a still lower figure, the hay and pasture proportion increased relatively largely and the proportion for root crops and other crops so declined that, while it was over  $3\frac{1}{2}$  times that of Denmark in 1871, it was less than one-third of the Danish 1933 proportion.



These changes reflect the different agricultural policies of the two countries. Up to almost 1880, Denmark was a cereal-exporting country, but altered the entire character of her agricultural system when, for reasons which have now passed into economic history, cereals declined in value relatively to dairy produce and meat. The following is an indication of the magnitude of this decline :—

	Value of 1 kg of Butter expressed as kg of		Value of 1 kg of Bacon expressed as 1 kg of	
	WHEAT	BARLEY	WHEAT	BARLEY
1871-5	8 5	13 6	5	8
1891-5	16 5	20 2	8 4	10 3

Even if these differences in values were not so marked, Denmark had little choice but to follow the agricultural policy she adopted. Apart from the competition in cereals by the newly-developed countries of the Western Hemisphere, her soil was too poor for a continuance of the same type of cereal cropping and her rainfall and general climatic conditions did not point the way to grazing. Hence her development has been on the lines of animal husbandry based upon tillage. She has therefore specialised in Dairy Produce, Bacon and Eggs in which she is among the world's leading producers and exporters. Her policy involves the growing of large quantities of cereals and forage crops for animal fodder which is supplemented by imported feeding-stuffs of high protein content. So great is the need for arable land that there is comparatively little permanent pasture; in fact, in only one small area of poor reclaimed fenland, is agriculture conducted on the basis of what an American writer describes as "opening and shutting gates." Climatic conditions are such that animals must be housed for a comparatively large part of the year and hence extensive farm buildings are required not only for this purpose but for the storage of fodder. This constant care of livestock is associated with that regular, as opposed to seasonal, production of livestock products which is so important a feature of marketing. These facts explain why Denmark continued to grow cereals not for export as human food but of the type more suited to her soil and climate and intended for animal fodder. They also explain the great expansion in the area under root and other crops and the reduction in the hay and pasture areas.

Éire, on the other hand, with her heavier soils, her milder winters and her ample rainfall, adopted a system of animal husbandry based upon grass, and hence the decline in cereal and other tilled areas and the increase in hay and pasture areas. The disastrous effect of this system on population has already been indicated. Unlike Denmark, our selection had not the same element of compulsion. While our choice was not open to Denmark, hers was not closed to us. Our system, in the particular manner in which it was operated, involved pure grazing for livestock export and seasonal—and hence restricted—production of livestock products partially for export at the most highly-competitive period of the year to markets with which our dealings had



not the advantage of regularity. There resulted less employment, less activity on the land, fewer farm buildings and less farming capital. From the strict economic standpoint it no doubt represented our natural contribution to the international division of labour in a world of Free Trade; from the social standpoint, however, its effects have been in many respects deplorable.

As to the relative sizes of farms in both countries, Table IX compares the percentage distribution of farms of different sizes according to numbers and areas. Because of a different method of classification by size in Denmark, direct comparisons are not possible, but when estimated adjustments have been made it would appear that there is little difference between the two countries in regard to the percentages of total cultivated area which are applicable to farms of similar size. An exception is in the 15-30 acre group which accounts for a somewhat larger area in Éire than in Denmark. As regards numbers of farms as distinct from their areas, it would seem that we have rather more of the 1-15 acre and 15-30 acre types and rather fewer of the 50-100 acre and over 100 acre types

Table X shows in greater detail the manner in which cultivated areas were utilised in both countries in 1938 (the choice of the year being determined here, as elsewhere, by the availability of comparable statistics). The figures are so eloquent in themselves that it is only necessary to remark that in the Tillage section Éire's figures exceed those of Denmark in only two items—Potatoes and Turnips—but our excess is trifling in comparison with the enormous lead of Denmark in other items. Table XI carries the analysis further, *i.e.*, by reference to farms of various sizes and shows in general that the differences in the agricultural methods of the two countries are common to all sizes of farms.

The agricultural policies of both countries had important effects on the livestock position, which in 1938 was as follows:—

YEAR 1938 (THOUSANDS)

	Horses	Cows	Other Cattle	Total Cattle	Sheep	Pigs	Poultry
DENMARK	564	1,627	1,612	3,239	187	2,885 (a)	27,484
ÉIRE	442	1,282	2,774	4,056	3,197	959	19,630

(Note (a) the 1926-31 average was 4,023. The reduction is due to the changed British import policy after 1931.)

In the case of Denmark, considerable changes have taken place in livestock figures since 1871. Excluding the additional livestock acquired in 1920, on the restoration of S. Jutland, Danish milch cows increased in numbers between 1871 and 1938 by about 85 per cent., while in a similar period ours increased by less than 6 per cent. Similarly, Denmark's other cattle increased  $2\frac{1}{2}$  times, which compares, surprisingly for this category, with our 40 per cent. increase. In addition, her pigs increased  $5\frac{1}{4}$  times, while ours decreased by almost 28 per cent.

198 *A Comparison of the Principal Economic Features of Éire and Denmark*

A mere comparison of the respective numbers of livestock fails to bring out clearly the extent of the gap between the two countries in this respect, and hence the following is of interest since it compares the relative densities per 1,000 acres of crops and pasture.—

YEAR 1938

	Horses	Cows	Total Cattle	Sheep	Pigs	Poultry
DENMARK	72	204	405	24	361	3,497
ÉIRE	38	110	348	275	82	1,687

Except for sheep, which do not fit into the Danish system of agriculture, the figures for Denmark greatly exceed ours in all categories. Had we similar densities, we would have 1.1 mill. more milch cows, our total cattle would be increased by 660,000, and our numbers of pigs would be greater by over 3¼ million.

Table XII has been included so as to show that the substantial differences in the livestock densities of both countries are found in farms of all sizes though they become less marked as acreages increase.

The fact that the acreage under tillage is so extensive in Denmark means that there is not the same degree of choice as in Éire in the location of tillage areas, and hence one might reasonably expect higher crop yields in the latter country. Except for hay and potatoes, however, this is not so. Some figures on this matter are as hereunder:—

*Yields of crops per acre (1934-8 average).*

	Denmark	Éire	Per cent of Éire to Denmark
Wheat, cwts	24.2	18.9	78%
Barley, "	23.7	19.7	83
Oats, "	21.3	19.5	91½
Potatoes, tons	6.8	7.6	112
Mangels, "	23.4	19.0	81
Turnips, "	17.7	17.9	101
Sugar Beet (Factory) tons	13.5	9.8	73
Hay (1938 only) cwts	38.1	43.9	115

Milk yields follow the same general tendency. The Danish milk yield in 1925 has been estimated at 645 gallons per cow, as compared with about 400 gallons for Éire, *i.e.*, more than 50 per cent. greater. The comparison is, of course, a reflection of the difference between the Danish milking breeds and our dual-purpose breeds.

The Danish farming system obviously gives rise to a much higher money turnover than that of Éire. As to ultimate profitability, however, there are no comprehensive figures; all that has been attempted are sample investigations carried out officially in Denmark

and privately in Éire (see Mr. Murphy's important contributions in J.S.S.I., 1938/9 and 1941/2) and the results are summarised and contrasted in Table XIII for the two nearest years for which figures are available. They show a much higher family remuneration per acre in Denmark, irrespective of the size of farms. Though the figures for Éire represent a greater percentage return on capital, this arises only from our relatively lower capitalisation (about £21 and £24 per acre, respectively, on the N. Cork and W. Cork farms, as compared with £92 per acre on the Danish farms) Not only is more capital invested in Danish farms in buildings and livestock, but also in machinery. For 1932/3 it has been estimated that in Denmark the value of agricultural machinery, implements, etc., per acre, was just over £2.18.0, the figures for farms up to 25 acres and between 25 and 50 acres being 50 per cent. and 20 per cent. greater, respectively. These figures contrast with £1 and £1.14.0 respectively on the N. Cork and W. Cork farms surveyed by Mr. Murphy. To supplement this point, Table XIV shows the very great differences between Éire and Denmark in regard to the numbers of some leading items of agricultural machinery.

### Industrial Enterprise.

It has already been pointed out that despite absence of coal, water-power or metallic ores, a greater proportion of the Danish working population is engaged in industrial and commercial pursuits than in agriculture. Denmark's industry and trade are, however, closely linked with her agricultural system. They have developed so as to meet the needs of that system and have done so without tariff protection and despite proximity to two of the most highly industrialised nations of the world until to-day Danish industry supplies about 80 per cent. of total domestic market requirements. The agricultural system is such that it involves the production, repair and renewal of large stocks of agricultural machinery and implements, the upkeep of extensive farm buildings, the importation and distribution—and in some cases the processing and packing—of bulky products such as oil seeds, fertilisers, animal food-stuffs, etc., the collection, handling and exportation of the large quantities of agricultural products, and, finally, the satisfaction of most of the everyday requirements of a farming community with a high standard of living and with so marked a degree of specialisation in output that such goods as bread, meat and even vegetables are now purchased rather than produced on the farm. In addition, there is the demand of the large urban population itself for industrial products of all kinds and for commercial and professional services. Hence, it is not surprising to find such marked differences between Éire and Denmark as appear in the following—

#### *Industrial Output.*

	Value of Gross Output	Persons Engaged
EIRE (1936)	£81 2 mill	153,888
DENMARK (1935)	£219 6 ,,	459,775

(Net output figures are unfortunately not available for Denmark.)

Numerous small concerns have been excluded from the figures for Éire, but the addition of their gross output, estimated at £10 millions, has little effect on the large gap between the two sets of figures. Table XV gives the details of which the above is a summary. In no group do our figures approach those of Denmark, nor do our groups follow the same order of importance, our principal groups and those of Denmark being, from the employment standpoint, in the following order :—

EIRE (Over 10,000 Employees per Group)	DENMARK (Over 20,000 Employees per Group)
Foodstuffs (includes <i>inter alia</i> breweries, distilleries, bakeries and flour mills, bacon, biscuit* and tobacco factories)	Iron and Metals (includes <i>inter alia</i> shipbuilding and machinery construction and repair)
Technical and Chemical (includes <i>inter alia</i> electricity, gas and water works, laundries, dyers and cleaners printers and soap and candle manufacturers)	Building and Construction
Building and Construction	Foodstuffs (as per description for Éire).
Iron and Metals (including assembly, construction and repair of vehicles)	Technical and Chemicals ( do
	Wood ( <i>i.e.</i> , wooden manufactures).
	Stone (includes bricks, cement, pottery, glass, etc.)
	Textiles (mainly spun, woven and knitted fabrics)

Apart from the substantial difference in the sizes of the two industrial systems, being due mainly to different agricultural policies, Denmark's figures are influenced by other factors—for example her shipbuilding industry. With her numerous islands, her deeply-indented coastline, and her many harbours, her people have for centuries been closely associated with the sea, and from this fact has arisen this important industry which not only caters for her own requirements and gives rise to an export trade in ships but is the source of a substantial freight revenue from abroad in respect of shipping services performed for other countries in all parts of the world—a revenue which in 1937/8 exceeded £9 millions (almost as much as the value of our entire cattle exports in 1938). Arising out of the Danish Diesel Motor industry, there is also a considerable manufacture and export of marine engines, while arising out of her limestone deposits, which are the basis of her cement industry (home and export) Denmark is among the leading world exporters of machinery for the manufacture of cement. As a specialist in dairying, it is not surprising that she is also an important exporter of dairy machinery, while her importation of raw materials for the manufacture of animal feeding-stuffs has given rise to the export of such processed products as hydrogenated fats and soya bean flour.

The organisation of industry in Denmark differs from that of Éire inasmuch as in the former country there is a substantially larger percentage of small and medium-sized industrial concerns and a much smaller percentage of large concerns. The percentages in the following table, based on average numbers employed in the various sizes of enterprises, may be taken as satisfactory for the purposes of general comparison :—

## Size of Business Enterprises (Personnel)

DENMARK (1935)			ÉIRE (1936)		
	Persons Engaged	%		Persons Engaged	%
Small (including "one-man" concerns)	48,599(a)	37.9	Small (including "one-man" concerns)	58,430(b)	27.9
With 1-5 persons	125,692		Under 5 persons	2,455	
„ 6-20 „	78,656	17.1	With 5-19 „	18,459	8.5
„ 21-100 „	92,935	20.2	„ 20-99 „	42,902	19.7
„ over 100 „	113,893	24.8	„ 100 „ and over	95,783	43.9
	459,775	100		218,029	100

(a) Obviously working proprietors, (b) excluded from Census of Industrial Production

Thus, the Danish small and medium-sized concerns (*i.e.*, employing up to about 20 workers) account for 55 per cent. of persons engaged, while similar concerns in Éire account for only about 28 per cent. of total persons engaged. At the other end of the scale there are, of course, many large concerns in Denmark, though the Irish percentage for personnel in enterprises with 100 or over persons is conspicuously the greater. For example, in the industry which provides the most employment, *i.e.*, construction of ships (iron) and machines, there were over 32,000 workers in 1935, of which almost 22,000 were engaged by 48 enterprises—the average per enterprise being considerably greater than that of our brewing industry.

## Internal Trade

Marked differences between the two countries also exist in regard to internal trade, both wholesale and retail. Our population is 80 per cent. of that of Denmark, but the greater proportion of urban population in that country and the substantial volume of rural purchasing so increase the volume of internal trade that ours falls short of it by much more than 20 per cent. The following summarises the position for which detailed figures, so far as retail trade is concerned, appear in Table XVI:—

	DENMARK (1935)			ÉIRE (1933)
	General	Agents, etc	Total	
<i>Wholesale Trade</i> —				
Enterprises (Nos)	6,044	5,631	11,675	1,419
Persons engaged (Nos)	50,461	14,288	64,749	18,871
Turnover (£ mill)	£161.1	£39.2	£200.3	£37.3
<i>Retail Trade</i> —				
Enterprises (Nos)	—	—	86,566	37,629(a)
Persons engaged (Nos)	—	—	192,476	124,799(a)
Turnover (£ mill)	—	—	144.8	62.3 (a)

((a) Cover 82% of all shops. According to our 1933 Census of Distribution, figures of £65 to £70 mill might represent the turnover of all shops).

The turnover of our wholesale and retail trade in 1933 was nearly twice as large as our external trade and over  $1\frac{3}{4}$  times as large as our gross industrial output; in Denmark the relative positions are somewhat similar. The Danish wholesale trade is considerably more developed than ours, and as to retail trade, though our turnover per shop is only slightly below that of Denmark, our turnover per person engaged is only £499, as compared with the Danish figure of £752. The explanation of this is that we have relatively fewer shops of a medium size (£500-£5,000 turnover).

As to the share of the capital cities of each country in retail trade, the following shows the relatively wider marketing area tapped by Dublin shops, many of which have customers' all over Éire:—

	DENMARK (1935)			ÉIRE (1933)			
	No of Shops	Persons Engaged	Turn-over £ Mill	No of Shops	Persons Engaged	Turn-over £ Mill	
Total	86,566	192,476	144 8	Total	37,628	124,799	62 3
Copenhagen	22,965	64,655	50 5	Dublin Co Borough	5,609	29,455	20 4
Percentage	26 5	33 6	34 9	Percentage	14 9	23 6	32 8

To conclude the review of industry and internal trade it should be said that about 79,000 persons were engaged in Denmark in 1935 in transport and communications as compared with 69,000 in Éire in 1936. In this category, therefore, figures are more in relation to total population than in either industry or internal trade.

### External Trade.

The following contrasts the 1938 foreign trade of Denmark with that of Éire:—

	DENMARK		ÉIRE	
	£ Mill	Per Head of Population (latest Census) £	£ Mill	Per Head of Population (latest Census) £
Imports	72 5	19 6	41 4	14 0
Exports	68 5	18 5	24 2	8 1
TOTAL TRADE	141	38 1	65 5	22 1

Éire's import trade was, therefore, 57 per cent. of that of Denmark; her export trade was 35 per cent.; her total trade was  $46\frac{1}{2}$  per cent., and her trade per head of population was 58 per cent. Denmark's exports almost paid for her imports—the small deficiency being more than cancelled by Danish shipping freights earned abroad. Éire's exports fall short of her imports by over £17 millions, and to this extent were paid for in the main by income from foreign investments supple-

mented by pensions and emigrants' remittances from abroad, the investments being partly fortuitous to the extent that they arose through the exceptional circumstances and high price levels associated with the 1914-18 War.

On the export side, Table XVII sets out the most important export items in the foreign trade of both countries. Denmark's trade in Butter was almost 8 times that of Éire, in Bacon nearly  $7\frac{1}{2}$  times and in Eggs over 5 times, while our trade in Live Animals was  $3\frac{1}{4}$  times that of Denmark. Our trade is much less diffused, i.e. we have one large export item (live cattle) against which Denmark has two such items (butter and bacon) each of which is over  $1\frac{1}{2}$  times greater than ours—in fact Denmark's trade in eggs alone, which is her third item of export, represents 60 per cent. of our cattle trade. Alternatively, our trade in live animals is offset by the Danish trade in live animals and machinery; our drink trade is offset by the Danish trade in animal and vegetable oils, fats and waxes and this leaves the very great difference of £36 mill. in dairy products, eggs and meat, in addition to a further £2 $\frac{3}{4}$  mill. in fish and non-metallic minerals. The two sums are over  $1\frac{1}{2}$  times our total export trade in 1938.

From the figures for export trade, interesting comparisons which are summarised in Table XVIII, may be drawn. The figures show that while there are  $1\frac{1}{4}$  times as many milch cows in Denmark as in Éire, the former country produces over three times the amount of butter. Denmark exported over 80 per cent. of her output (in previous years over 90 per cent.) while Éire exported not quite one-third of output, the result being that Danish exports were  $8\frac{1}{4}$  times those of Éire in quantity and, because of a somewhat lower average price, was over  $7\frac{3}{4}$  times ours in value.

In regard to bacon, with a pig population of nearly three times that of Éire, Denmark's output was nearly four times greater. She exported two-thirds of her output while we exported 47 per cent. of ours, the resultant Danish exports being  $6\frac{1}{4}$  times that of Éire in quantity and, because of higher prices, over  $7\frac{1}{4}$  times in value.

As for eggs, with not quite  $1\frac{1}{2}$  times the number of our poultry Denmark produced over  $1\frac{3}{4}$  times our output of eggs, of which she exported 77 per cent. as against our 30 per cent. and hence her exports were  $4\frac{3}{4}$  times greater than ours in numbers and  $5\frac{1}{4}$  times greater in value since Danish eggs commanded a 10 per cent. higher price.

The differences in these figures are reflected in the value of the agricultural output in each country. There are no official estimates available for Denmark but a private estimate (presented in a paper read by Mr. R. J. Thompson to the Royal Statistical Society in 1926) of £88.8 mill. in respect of 1922 compares with £64.8 mill. for Éire in 1926/7. Even when allowance is made for a fall of about  $12\frac{1}{2}$  per cent. in agricultural prices between 1922 and 1926 the Danish figure is still in excess of ours. More strikingly, the Danish figures adjusted as above to show output per agricultural worker and output per 100 acres of crops and pasture, work out at about 67 per cent. and 52.5 per cent. respectively, greater than ours. A further unofficial estimate for 1937 Danish production is £52 mill. which compares with our official estimate of £49.7 mill. for 1937/8. On this basis the output per 100 acres of cultivated area in Éire was about 63 per cent. of that of Denmark and per agricultural worker was about 81 per cent. Despite the absence of a reliable basis

of comparison these figures help towards an appreciation of the magnitude of the greater agricultural productivity of Denmark.

As regards imports, Table XIX compares the main import items of both countries. The type of imports which constitute our 20 leading items and represent nearly 79 per cent. of total imports account in Denmark for about 72 per cent. of total imports but their order and magnitude in the import lists differ considerably. In addition, some of Denmark's leading types of imports have no counterparts in our list. In general we import relatively more consumers' goods while Denmark, because of her greater industrialisation and her different agricultural technique, imports relatively more producers' goods. Compared on the basis of the League of Nations' Classification of Imports, the 1938 figures are :—

	DENMARK		EIRE	
	£ (000's)	%	£ (000's)	%
<i>Imports —</i>				
Crude	21,042	29.1	14,899	36.0
Simply transformed	27,091	37.4	8,194	19.8
More elaborately transformed	24,363	33.5	16,941	40.9
Unclassified	Nil	—	1,380	3.3
	72,496	100	41,414	100

In crude products, our actual figures exceed those of Denmark in such goods as wheat, maize, food, beverages (tea is nearly £½ mill. more) and tobacco (£1.35 mill. more) and we import relatively more coal, whereas Denmark imports actually and relatively more fertilisers, oil seeds, nuts, etc. In simply transformed goods, Denmark's substantial lead is in animal foodstuffs, iron and steel, oils and fats, coke and petrol. In more elaborately transformed goods our relative lead is mainly in goods ready for retail sale or consumers' use and in capital equipment which we do not ourselves manufacture, while Denmark's figures exceed ours actually and relatively in such items as textile fabrics, vehicles and transport equipment, wood, cork, pulp and chemicals.

As to destination of the exports and the sources of the imports of both countries, we have a greater degree of reliance on a single export destination and a somewhat more restricted field in the matter of imports. Our trade with Great Britain and Northern Ireland about balanced in 1938 (imports almost £21 mill., exports £22 mill.) and we utilised our income from external sources to purchase goods from other countries. Denmark's trade with Great Britain in the same year resulted in an export surplus of over £13 mill. which she used to finance purchases elsewhere.

The regularity of exports is an important marketing feature and in this the Danish figures are rather better than ours. Between January and May Danish exports reach 40 per cent. of their annual total, our figure being about 32 per cent. Denmark's monthly percentages vary



between 7.3 per cent. and 9.1 per cent. and are in the main very steady; ours vary between 5.9 per cent. and 10.8 per cent. and are less steady. If, however, instead of total exports, a comparison was based on exports of butter, bacon and eggs our figures would be very much less steady than those of Denmark—for example between 55 per cent. and 60 per cent. of our creamery butter production is between May and August.

### National Income; National, Local and Agricultural Debt.

As might be expected from the various figures already quoted, the national income of Denmark is greater than that of Éire. In the Majority Report of the Banking Commission (p. 304) the figures shown in respect of the national incomes per head of population in Éire and Denmark indicate that the total national income of the former country was in excess of ours by about £66½ millions, or almost 45 per cent. How far this difference is representative of a number of years is difficult to assess, but at least one other estimate (that of Mr. Colin Clark) which relates to 1925/34, puts the Danish national income at approximately 40 per cent. in excess of ours.

Despite our lower national income, our national debt is greater than that of Denmark. Quoting again from the above Report, the Danish national debt in 1934 was £59½ mill. or £16 per head of population, while ours was £73 mill. or £24 per head of population. The bulk of our debt (about 92 per cent.) carries interest rates not exceeding 4½ per cent., whereas 37 per cent. of the Danish debt is at rates varying from 5 per cent. to 6 per cent. Only an insignificant part of our debt is external and is covered many times over by our substantial foreign investments of upwards of £300 mill. (pre-1939), whereas over half (54.7 per cent.) the Danish funded debt (£53½ mill. in 1938) is external, Denmark being a debtor country. In 1871, however, she was a creditor country having foreign investments of some 140 mill. Kroner, which at the then existing value of money and in relation to her size and importance was substantial. With her considerable capital investments at home, particularly in agriculture, she has not only realised her foreign investments but has borrowed abroad to the extent of over £29 mill.

A point of importance is that if the value of State assets are set against Denmark's national debt there is a net State wealth of about £16 mill. These assets consist of cash, securities, State lands and undertakings such as State Railways, the Postal System, Parks, Forests, State Buildings, etc. and yield a revenue sufficient to meet about 85 per cent. of the total interest charge on the national debt. In Éire, our State assets are insufficient to cancel our State debts and hence what has been termed our net dead-weight debt (over £37 mill. in 1937) is substantial.

The debts of local authorities in both countries also differ. In 1938, those of Denmark amounted to £53.6 mill. or £14 10s. per head of (1935) population. In Éire, such debt amounted to £30.1 mill. or a little over £10 per head of (1936) population. As in the case of national debt in Denmark, the value of the capital assets of local bodies exceeded liabilities, the surplus being £28.3 mill. Comparable figures for Éire are not available.

As to agricultural debt, the nature of the farming activities in Denmark involves considerable capital investment in buildings, machinery and livestock and hence very few farms are free of all debt. It has been estimated that over the 50 years ended in 1926 the average farm indebtedness represented about 50 per cent. of the total value of all land and

buildings. In July, 1937, out of almost 202,000 agricultural holdings only just over 7,400 were free from debt, while 60 per cent. of all properties were mortgaged to the extent of about 76 per cent. of their mortgage value, Jutland being the biggest borrower. Total mortgage debt was over £184 mill. to which should be added a further £13½ mill. other debt, making in all £198 mill. of which 64 per cent. referred to Jutland which covers 45 per cent. of Danish territory. These figures indicate a debt of over £25 10s. per cultivated acre. The bulk of the finance is provided as follows, the portion provided by commercial banks being relatively small:—

	£ Mill.
By Agricultural Credit Societies ..	89.5
„ Savings Banks .. ..	32.7
„ State .. ..	15.4
„ Commercial Banks .. ..	7.4
„ Other financial organisations ..	34.4
<hr/>	
TOTAL .. ..	£179.4 (90.6% of total debt)

By contrast, the figures for Éire are very small and are symptomatic of our light agricultural capitalisation rather than of freedom from the necessity to borrow. According to the Majority Report of the Banking Commission the advances to farmers by Irish Banks amounted to £12.6 mill. at January, 1937. To this should be added £.8 mill. for loans to Co-operative Societies and £1.4 mill. (at 31/10/'36) for loans by the Agricultural Credit Corporation. These amount in all to £14.8 mill. or a little over 25/- per cultivated acre. Even if there is added the £26.8 mill. outstanding Land Bonds at 31st March, 1937 (a debt which has no Danish counterpart) the total of £41.6 mill. or just over £3 10s. per cultivated acre is still very far short of that of Denmark and indicates the room which exists in Éire for further agricultural investment.

### Standard of Living

Despite substantial payments by so large a part of the Danish community for interest and amortisation charges, there is a higher standard of living than in Éire as indeed is suggested by the respective national incomes of both countries. While available statistics do not admit of precise measurement in this matter, a few facts will serve to support the point. In Denmark in 1938 there was a telephone to every 10 or 11 persons; in Éire there was not quite one to every 100 persons. So also, nearly one out of every five persons had a wireless set as compared with a little over one to every 20 persons in Éire. These and other amenities are not confined to urban districts. Unlike Éire, in nearly all rural homes there is electric light; in many there is central heating, a bathroom and a telephone; while in even the smallest house there is usually a wireless set. In addition, Denmark had over 2¼ times more automobiles than Éire in 1938.

As to food, the following figures are of some interest:—

## 1937 Consumption per Head per annum

	DENMARK	ÉIRE (Estimated)
Tea	0.3 lbs	8.6 lbs
Coffee	16.5 lbs.	0.2 lbs
Sugar	7.9 stones	5.4 stones
Tobacco	4.9 lbs	3.2 lbs

(Figures for Éire have been estimated on the basis of imports except in the case of sugar for which 100,000 tons has been taken as the annual national consumption.)

While we are among the heavy tea-drinking nations, Denmark as a consumer of coffee drinks about one-third more per head than U.S.A. and is also one of the world's heaviest consumers of sugar. In Butter and Milk she falls far short of Éire, some figures regarding this being:—

## Consumption per Head per annum.

	Butter (lbs)	Milk (gals)	Milk equivalent of Butter and Milk (gals)
Éire, 1938/39	32	31	111
Denmark, 1925	12	19	50 (increased greatly after 1931)

This, however, is no indication of a higher standard of living, since the figures in the final column compare with 65 for Great Britain and 82 for U.S.A.; all that the figures signify is that we use butter and milk as alternatives to other foods to a much greater extent than many other countries. This is a reflection of our relatively low purchasing power which restricts the shopping activities of our rural population. We are also heavy consumers of eggs, our figures per head in this respect being a little over twice those of Denmark. In meat, however (i.e. a dearer commodity and one which must usually be purchased in shops) our consumption is substantially lower than that of Denmark; per head of population we eat about 40 per cent. less pig products and only about half as much fresh meat. So also in cheese, our consumption is trifling while that of Denmark is, in weight, over 75 per cent. of her butter consumption. Finally, Denmark's consumption of fish in 1938 was 36-lbs. per head of population which contrasts with approximately 12½-lbs. in Éire.

## Conclusion

For reference purposes, an Appendix sets out figures for both countries in regard to the balance of payments, legal tender circulation, bank deposits and the revenue and expenditure of the State and Local Authorities. There is also included a condensed statistical comparison of co-operative organisations. So much has been written on co-operation.

in Denmark and also on her advanced educational system (in particular, adult education through the Folk Schools) that it is unnecessary to do more than acknowledge the great importance of their contributions to Danish economic advancement. Emphasis on this importance, powerful and far-reaching as it has been, might perhaps distract attention from what has been stressed in this paper as the fundamental explanation of the differences between Éire and Denmark in economic prosperity and social welfare. Primarily and indeed, paradoxically, it is our climatic advantages which are the cause of our relative economic and social disadvantages since they permit us, though they do not compel us, to adopt a system of agriculture which has led to a declining population, a heavy emigration, a low agricultural productivity, restricted activity in agriculture, in industry, in commerce and in foreign trade and a lack of opportunity for profitable domestic investment of capital resources. If Éire is to advance towards the realisation of her true and greater economic destiny it can only be on the basis of an agricultural system involving a far more intensive utilisation of her natural resources than at present. It is for agricultural experts to advise on the means to this end, and no doubt our great advantages in the production of grass will dictate a system with a pattern somewhat different from that of Denmark.

There remains the difficulty of finding profitable markets for a greater agricultural output. Apart from the home market which would expand under a more intensive agricultural system (especially if, because of better education, public standards of taste in food, clothes and housing improved) access to export markets on the basis of regular and not merely seasonal production would be necessary. No one can foresee the course of international trade but this does not involve refraining from catering for it especially by means of a system which permits of as much flexibility as possible, and hence of adjustment to changes in demand (eggs and bacon being examples of commodities which react quickly to price changes). At any rate the task of gearing a more highly developed agricultural system to the most suitable available volume and type of export trade is not an insuperable one. With any system we must have exports to pay for our imports. What is important is that the system shall be free from the restrictive effects of our present one and by stimulating maximum profitable agricultural activity and employment will enable us ultimately to attain greater general economic prosperity by that natural method of progress epitomised by the late Sir Horace Plunkett in his familiar phrase "Better farming, Better business, Better living."

I wish to express my gratitude and thanks to the Danish Consul (Mr. H. A. V. Osterberg) and his Staff who so kindly permitted me access to official Danish publications, to Mr. B. Olsen for his help in translation difficulties, and to the officials of the Meteorological Office, in particular Dr. L. W. Pollak, our colleague in this Society, for providing me with climatic data.

Before concluding I should again like to remind readers of the difficulties which arise in the comparison of international statistics, through the fact that a definition in one country may differ in meaning from an apparently similar definition in another country. Hence, there is need for caution in assumptions of exact comparability, but I am

satisfied that this consideration does not necessitate the qualification of any of the conclusions in this paper.

Finally, I desire to pay a tribute to the excellence of the official statistics of Éire. Not only do they measure up fully to the high standards of the Danish statistics, but in certain important respects are distinctly superior—in particular, in relation to agricultural and industrial output.

## TABLES.

I—Changes in Population in Denmark and Éire, 1880–1936.

DENMARK			ÉIRE		
Year	Population (thousands)	% Increase	Year	Population (thousands)	% Decrease
1880	1,969	—	1881	3,870	—
1890	2,172	13.5	1891	3,469	10.4
1901	2,450	12.8	1901	3,222	7.1
1911	2,757	12.6	1911	3,140	2.5
1925 (a)	3,435	24.6	1926	2,972	5.3
1935 (a)	3,706	7.9	1936	2,968	1.3

(a) Include South Jutland, acquired under Treaty of Versailles

II.—Marriages, Births and Deaths since 1871 (per 1,000 of Population).

	DENMARK					ÉIRE			
	M	B	D	Natural Increase (Births less Deaths)		M	B	D	Natural Increase (Births less Deaths)
1871–1880	7.8	31.4	19.4	12.0	1871–1881	4.5	26.2	18.1	8.0
1881–1890	7.3	31.9	18.5	13.4	1881–1891	4.0	22.8	17.4	5.3
1891–1900	7.2	30.2	17.5	12.7	1891–1901	4.4	22.1	17.6	4.5
1901–1910	7.3	28.6	14.2	14.4	1901–1911	4.8	22.4	16.8	5.6
1911–1920	7.4	24.9	13.0	11.9	1911–1926	5.0	21.1	16.0	5.2
1921–1930	7.8	20.8	11.2	9.6	1926–1936	4.6	19.6	14.2	5.5





212 *A Comparison of the Principal Economic Features of Éire and Denmark*

IX.—*Percentage Distribution of Farms*

ÉIRE (1931)			DENMARK (1933)		
Acres	Numbers of Farms (Percentage)	Areas of Farms (Percentage)	Acres	Numbers of Farms (Percentage)	Areas of Farms (Percentage)
1-15	30.9	7.0	1-12	27.2	5.2
15-30	26.9	15.5	12-25	24.5	11.4
30-50	18.6	17.9	25-37	13.2	10.5
50-100	14.9	24.9	37-74	22.3	30.7
Over 100	8.7	34.7	74-148	10.5	26.6
			Over 148	2.3	15.6
	100	100		100	100

Holdings in Éire under 1 acre have been excluded so as to facilitate comparison with the Danish figures.)

X.—*Utilisation of Areas under Crops and Pasture.*

Description	Acres (Thousands)		Percentage of Total Area under Crops and Pasture	
	ÉIRE (1938)	DENMARK (1938)	ÉIRE (1938)	DENMARK (1938)
<b>CORN CROPS —</b>			%	%
Wheat ... ..	230	331	2.0	4.1
Oats ... ..	570	941	4.9	11.8
Barley ... ..	118	999	1.0	12.5
Rye ... ..	2	364	—	4.6
Mixed Cereals ... ..	—	758	—	9.5
Others ... ..	— (b)	9	—	0.1
<b>TOTAL ..</b>	<b>920</b>	<b>3,402</b>	<b>7.9</b>	<b>42.6</b>
<b>ROOT AND GREEN CROPS —</b>				
Potatoes ... ..	327	199	2.8	2.5
Turnips ... ..	143	35	1.2	0.4
Mangels and Swedes ... ..	85	844	0.7	10.6
Sugar Beet ... ..	51	150	0.5	1.9
Others ... ..	29	87	0.3	1.1
<b>TOTAL ..</b>	<b>636</b>	<b>1,315</b>	<b>5.5</b>	<b>16.5</b>
Flax and Fruit and other cropped land ... ..	12	109	0.1	1.3
<b>Total Corn, Root and Green Crops, Flax and Fruit ... ..</b>	<b>1,568</b>	<b>4,826</b>	<b>13.5</b>	<b>60.4</b>
Green Fodder, Lucerne and Hay ... ..	2,037	933	17.5	11.6
<b>Total Crops (including Hay) ... ..</b>	<b>3,605</b>	<b>5,759</b>	<b>31.0</b>	<b>72.0</b>
Pasture ... ..	8,040	2,236	69.0	28.0
<b>Total Area under Crops and Pasture ... ..</b>	<b>11,645</b>	<b>7,995</b>	<b>100.0</b>	<b>100.0</b>

(b) Under 500 Acres.



## XI—Utilisation of Crops and Pasture Areas by Sizes of Holdings (Holdings over 1 Acre).

ÉIRE (1931)							DENMARK (1933)						
Size of Holding	Corn Crops	Root and Green Crops	Total Ploughed Land	Hay	Pas-ture	Total Crops and Pas-ture	Size of Holding	Corn Crops	Root and Green Crops	Total Ploughed Land	Hay, Green Fodder and Lucerne	Pas-ture	Total Crops and Pas-ture
Acres	%	%	%	%	%	Acres (000)	Acres	%	%	%	%	%	Acres (000)
5	8.0	17.1	25.6	29.4	45.0	93	1- 4	37.3	25.2	66.5	11.7	21.8	20
10	8.5	10.7	19.3	27.7	53.0	272	4- 7	42.0	22.8	66.6	13.4	20.0	107
15	8.2	9.0	17.2	26.1	56.7	454	7- 12	43.8	21.8	66.6	13.3	20.1	272
30	7.4	7.3	14.7	23.7	61.6	1,812	12- 25	43.7	20.6	64.7	13.5	21.8	882
50	7.1	6.2	13.3	21.9	64.8	2,087	25- 37	43.1	18.8	62.3	13.6	24.1	814
100	7.0	5.3	12.3	20.1	67.6	2,901	37- 74	42.6	17.1	60.2	14.0	25.8	2,369
200	6.2	4.2	10.4	17.2	72.4	2,269	74-148	41.4	15.1	57.2	13.7	29.1	2,052
over 200	3.8	2.5	6.3	12.5	81.2	1,781	148-296	39.4	13.0	53.6	12.8	33.6	707
							above 296	41.6	12.8	58.8	9.3	31.9	505

## XII—Livestock Densities in Relation to Farms of different sizes (Holdings over 1 Acre). Numbers of Livestock per 1,000 Acres of Cultivated Land

ÉIRE (1931)							DENMARK (1933)						
Area (Acres)	Total Cattle	Milch Cows	Pigs	Sheep	Poultry	Horses	Area (Acres)	Total Cattle	Milch Cows	Pigs	Sheep	Poultry	Horses
1- 5	500	233	275	351	10,317	85	1- 4	514	390	1,095	27	25,650	91
5- 10	442	185	164	292	5,340	55	4- 7	520	391	935	21	13,000	108
10- 15	400	156	152	253	4,253	49	7- 12	504	355	896	12	7,857	125
15- 30	362	130	134	253	3,045	45	12- 25	454	296	738	12	4,864	98
30- 50	351	121	125	271	2,130	43	25- 37	430	254	626	20	3,278	68
50-100	348	112	112	275	1,461	39	37- 74	414	225	570	23	2,349	60
100-200	328	82	74	322	894	31	74-148	373	191	481	26	1,599	53
above 200	292	41	32	410	451	22	148-296	329	164	410	25	924	43
							296-593	308	166	328	20	520	34
							593 and over	284	166	250	16	285	34

## XIII—Summary of Financial Results of Selected Farms

	No of Farms	Average Area per Farm (Acres)	Gross Receipts per Acre	Expenses per Acre		Family Remuneration per acre (incl in Labour charge)	Percentage of Gross Receipts from				
				Labour	Other Expenses		Crops	Cattle	Pigs	Poultry	Sundries
937-8 Éire (N Cork)	98	74	5.02	2.72	2.30	1.90	6.1	66.3	17.2	9.3	1.1
940-1 ,, (W. Cork)	61	28	9.15	4.73	4.42	4.12	19.5	32.4	20.3	23.7	4.1
986-7 Denmark	811	93.7	27.5	13.0	14.5	8.3 (a)	10.9	45.6	28.6	8.6	6.3

(a) Compares with 6.3 which is the average for 20 years 1913/4-1933/4 on 515 farms of 110 acres each

214 *A Comparison of the Principal Economic Features of Éire and Denmark*

XIV—*Agricultural Machinery.*

Type	DENMARK (1936)	ÉIRE (1929)
<i>Power Machinery —</i>		
Tractors . . . . .	6,660	797
Steam Engines . . . . .	1,268	580
Electric Motors . . . . .	73,511	177
Oil, Petrol and Gas Engines . . . . .	34,822	2,430
Windmills . . . . .	15,514	74
<i>Field Machinery —</i>		
Seed-Sowing Machinery—Corn Drills . . . . .	112,237	13,134
—Broadcast sowers . . . . .	15,823	3,372
Mowers and Reapers . . . . .	126,539	106,472
Self Binders . . . . .	82,303	17,558
Potato Diggers . . . . .	7,133	10,826
Beet Lifters . . . . .	19,954	No figures
Manure Distributors . . . . .	11,965	3,343
Liquid Manure Distributors . . . . .	5,499	
<i>Stable and Barn Machinery —</i>		
Ordinary Threshers . . . . .	33,163	8,473
Other Threshers (including combined Threshers and Finishers and Winnowers)	109,020	20,648
Straw Balers (or Compressors) . . . . .	43,796	292
Crushers . . . . .	86,089	6,033
Chaff Cutters . . . . .	139,728	22,011
Liquid Manure Containers or Pits . . . . .	174,418	No figures
Ensilage Containers or Pits . . . . .	1,218	

XV — *Industrial Production*

(NOTE—Irish figures are exclusive of small, including "one-man" concerns, gross output of which was about £10 mill)

ÉIRE (1936)				DENMARK (1935)			
Nature of Commodity	Enterprises	No of Persons Engaged	Gross Value of Production	Nature of Commodity	Enterprises	No of Persons Engaged	Gross Value of Production
			£ Mill				£ Mill
Foodstuffs (including Drink and Tobacco)	1,048	31,411	43.7	Iron and Metals	17,619	95,164	30.7
Transport and Local Authorities and Government Depts	139	28,764	4.6	Building and Construction	18,711	79,087	18.1
Technical and Chemical and Others	790	25,192	10.5	Foodstuffs (including Drink and Tobacco)	16,045	73,677	99.5
Building and Construction	614	18,207	5.4	Technical and Chemical and Others	16,367	70,888	31.9
Iron and Metals	383	10,618	5.3	Clothing	11,757	49,597	12.5
Clothing	331	15,440	3.8	Wood	10,653	31,390	8.3
Wood	367	6,769	2.4	Stone, Ceramics and Glass	2,357	22,445	5.6
Leather	91	6,474	2.4	Textiles	980	20,129	8.4
Stone, Ceramics and Glass	269	4,993	1.0	Leather	7,807	17,398	4.6
Textiles	91	6,020	2.1				
<b>TOTAL</b>	<b>4,123</b>	<b>153,888</b>	<b>81.2</b>	<b>TOTAL</b>	<b>102,296</b>	<b>459,775</b>	<b>219.6</b>

## XVI—Retail Trade

DENMARK (1935)				ÉIRE (1933)			
RETAIL TRADE	Enter-prises	Persons Engaged	Turn-over	RETAIL TRADE	Enter-prises	Persons Engaged	Turn-over
	No		£ Mill		No		£ Mill
Grocers (incl Co-op Societies)	16,748	36,625	42.3	Grocery and Provisions	11,947	31,089	15.1
Bread, Milk, etc	10,218	20,276	12.6	Public Houses and Grocery (comb)	4,784	15,983	8.3
Butchers (ie Meat, including Pork)	6,257	10,158	9.7	Public Houses	4,085	10,127	4.2
Fruit, Vegetables and Flowers	4,793	8,466	3.8	Bread, Flour, Confectionery	311	1,181	0.5
Tobacco and Wines	4,280	5,709	4.6	Fresh Meat	1,489	5,402	2.4
Other Foodstuffs	5,107	11,532	6.6	Vegetables and Fruit	506	1,259	0.4
Drapers	8,558	24,764	22.5	Sweets, Tobacco and Newspapers	2,812	6,002	2.1
Boot and Shoe Retailers	2,432	3,338	2.6	Milk and Dairy Products	803	2,521	0.9
Paper, Books, Music, Etc	2,430	5,705	3.1	Other Foodstuffs	355	1,550	1.0
Woodworkers, etc	2,732	5,349	6.0	Drapers	3,048	16,176	10.2
Furniture	3,571	4,491	4.3	Boot and Shoe Retailers	(Included elsewhere)		
Hardware, Glass, Porcelain	1,328	4,855	3.1	Books	141	923	0.4
Autos, Cycles and Vehicles	2,764	3,266	5.3	Hardware, Glass and Porcelain	(Included elsewhere)		
Hotels	1,975	12,728	3.3	Cycles and Autos (incl Garages)	879	3,958	2.3
Restaurants and Pensions	6,384	25,900	8.0	Hotels and Restaurants	1,001	7,520	2.2
Sundry Others	7,079	9,814	7.0	Coal Merchants	273	1,944	1.3
				Metals & Metal Goods	241	1,386	0.9
				Jewellery, Watches, etc	200	809	0.4
				Chemists	736	2,432	1.2
				Hucksters	1,773	2,430	0.2
				Others	2,244	12,078	8.3
<b>TOTAL</b>	<b>96,566</b>	<b>192,476</b>	<b>144.8</b>	<b>TOTAL</b>	<b>37,628</b>	<b>124,799</b>	<b>62.3</b>

216 *A Comparison of the Principal Economic Features of Éire and Denmark*

XVII—*Export Items Exceeding £1 Mill*

GROUP	ÉIRE			DENMARK		
	Value	Mainly Consisting of	Percentage of Total Domestic Exports	Value	Mainly Consisting of	Percentage of Total Domestic Exports
	£000	£000	%	£000	£000	%
Live Animals (chiefly for food)	10,390	Cattle 9,574	43.5	3,145	Cattle 2,192 Pigs 915	4.6
Dairy Products, Eggs and Honey	3,692	Butter 2,160 Eggs 1,177	15.5	24,351	Butter 16,903 Eggs 6,211	35.6
Meat	3,070	Bacon 2,206 Other Pig Products 238 Poultry 427	12.8	18,411	Bacon 16,174	26.9
Beverages	2,345	Porter, Beer and Ale 2,205	9.8	—	—	—
Machinery, Vehicles and Transport Equipment	—	—	—	7,847	Machinery 3,140 Ships 3,329 Autos, including Chassis 1,340	11.5
Animal and Veg Oils, Fats, Greases and Waxes and their Manufactures	—	—	—	2,501	Hydrogenated Oils and Fats 558 Lard 500	7.6
Fish	—	—	—	1,594	—	2.3
Non-Metallic Minerals	—	—	—	1,166	Cement 236	1.7
<b>TOTAL</b>	<b>19,497</b>	<b>—</b>	<b>81.6</b>	<b>50,015</b>	<b>—</b>	<b>86.2</b>

NOTE—The inclusion of Horses and Greyhounds, etc., in the figures for Live Animals exported from Éire would increase the total to £11,942,000 and the percentage to 50.0 per cent. It would increase the total of the Table to £21,049,000 or 88.1 per cent of total domestic exports. The item has been omitted as it does not come within the group description.

XVIII.—*Value of Export Trade in relation to Stocks of Animals (1938).*

	DENMARK (1)	ÉIRE (2)	RATIO OF (1) TO (2)
No. of Milch Cows	1,599,200	1,281,852	1.2 to 1
Butter Produced (cwts.)	3,72 m	1.2 m	3.1 to 1
Butter Exports—Quantity (cwts.)	3,111,200	377,467	8.2 to 1
—Value (£000)	16,903	2,160	7.8 to 1
No. of Pigs	2,841,600	958,805	3.0 to 1
Output (cwts.)	4,568	1,160	3.9 to 1
Bacon Exports—Quantity (cwts.)	3,425,900	545,834	6.3 to 1
—Value (£000)	16,174	2,206	7.3 to 1
No. of Hens and Ducks	14.5 m	10.05 m	1.4 to 1
Egg Output (Gt. Hunds.)	16.9	9.17	1.8 to 1
Egg Exports—Quantity (Gt. Hunds.)	12.988	2.726	4.8 to 1
—Value (£000)	6,211	1,177	5.3 to 1

## XIX—Twelve Leading Import Items (1938)

IRE				DENMARK			
Description	Value	Per-centage of Total Imports	Large Individual Items	Description	Value	Per-centage of Total Imports	Large Individual Items
	£000	%			£000	%	
Cereals	5,530	13.4	{ Wheat 3,048 Maize 2,258	Products for Heating- Lighting and Power, Lubricants, etc	10,880	15.0	{ Coal 4,334 Coke 2,382 Petrol 1,702
Products for Heating, Lighting & Power, Lubricants, etc	5,083	12.3	{ Coal 3,310 Petrol 695 Lamp Oil & White Spirit 302 Lubricating Oil 196	Animal Foodstuffs	5,306	7.3	Oilcakes 4,707 (Mainly Cotton and Sunflower Seeds, Ground Nuts)
Textile Fabrics	2,348	5.7	{ Cotton 1,003 Wool and Fine Hairs 548 Art Textile Fabrics 357	Iron and Steel	5,063	7.0	Bars, Sheets and Tubes
Vehicles and Transport Equipment	1,830	4.4	Motor Cars (Chassis) 805 (Bodies) 531	Textile Fabrics	4,745	6.5	{ Cotton 1,858 Wool, etc 1,627 Artificial 659
Tea, Coffee, Cocoa, etc	1,804	4.3	Tea 1,672	Cereals	4,710	6.5	{ Maize 1,868 Wheat 1,515 Rye 704
Base Metal Manufactures	1,766	4.3		Vehicles and Transport Equipment	3,868	5.3	{ Autos (in parts, 2,182 Autos (complete) 617 Ships 492
Non-Electric Machinery	1,753	4.2		Oil Seeds	3,359	4.6	{ Soya Beans 1,520 Copra 864
Food, Cork and Manufactures	1,462	3.5		Fertilisers	2,881	4.0	{ Calcium Nitrate, Sulphate of Ammonia, Nitrate of Soda, Phosphates and Potash.
Electric Machinery	1,241	3.0		Wood, Cork, etc	2,793	3.9	
Iron and Steel	1,234	3.0	(Plates, Sheets, Bars, Rods and Tubes)	Non-Electric Machinery	2,266	3.1	
Soap, Paper, etc	1,183	2.8		Pulp, Paper etc	2,120	2.9	
Wools and Thread	1,162	2.8	{ Wool and Fine Hair 582 Cotton 370	Base Metal Manufactures	2,037	2.8	
	26,396	63.7			50,028	68.9	

APPENDICES.

(1)—*State and Local Taxation—1937-8*

	ÉIRE		DENMARK	
State Taxation .. ..	£31·21 m		£23·25 m.	
Local Taxation . . . .	5 85 m		22 82 m.	
TOTAL .. . . .	£37·06 m		£46 07 m	
<i>Per head of population</i>	£12 6		£12 4	
Combined Expenditure	£ Mill	Percentage of Total Revenue	£ Mill	Percentage of Total Revenue
Social Expenditure . . . .	7 9	21 3	14 7	31·9
Education . . . . .	5·1	13·8	6 9	15 0
Roads, Streets, Bridges and Sanitary Services	3 6	9·6	5 9	12 8
Justice .. . . .	2 1	5 7	2·1	4 6
Agriculture and Fisheries	4·1	11·1	1 9	4 1
Defence . . . . .	1 5	4 0	1 7	3 7
Debt Service .. . . .	1 8	4·9	—	—
TOTAL . . . . .	—	70 4	—	72·1

(2)—*Legal Tender Circulation*

	DENMARK	ÉIRE
Legal Tender Notes and Bank Notes in Circulation (end of 1938)	£19·7 m	£15·9 m
<i>Per head of population</i>	£5·3	£5·4

## (3)—Bank Deposits, 1938.

Deposits	DENMARK	ÉIRE
Current, Deposit and other Accounts	£114.4 m	£157 0 m
Savings Bank Deposits	98 1 m	Trustee 2 3 m P.O.S.B (inc. Gt B) 11 4 m
TOTAL (approx)	£212.5 m	£170 7 m
Per head of population	£57 3	£57 5

## (4) Balance of Payments, 1938—Main Items only

£ Million

	DENMARK			ÉIRE	
	Outward	Inward		Outward	Inward
<i>Capital Items</i>					
Debt Amortisation	2 0	—	Financial Agreement		
Loans	—	2 5	Payment	10 00	—
Foreign Investment	3.3	1.3	Foreign Investment	4 32	5 54
Foreign Credits or Debits (i.e. short term)	5 2	0 9	<i>Changes in</i>		
Sundries	0 7	0.4	Sterling Holdings of Currency Com	2 00	
			Net External assets of Banks	—	5 05
			Other sterling holdings	0 27	1 28
			Payment to Foreign L A Coys	0 16	—
			Sundries	1 30	4 27
Total Capital Items	11 2	5 1		18 05	16.08
<i>Current Items</i>					
Imports & Exports	74 3	70 6	Imports & Exports	41 05	23.88
Loan Interest	4 0	0 7	Investment Income	7 10	13 40
Remittances (Business)	0 7	1 8	Emigrants' Remittances	—	3 43
Tourists	2.2	1 6	Pensions from abroad	—	2 43
Freights earned abroad	—	12 5	Sundries	1 07	3.33
Navigation Exes	4 3	3 3			
Sundries ...	0 9	0 9			
Total, Current Items	86.4	91 4		49 22	46 47

220 *A Comparison of the Principal Economic Features of Éire and Denmark*

(5A) *Co-Operative Organisations*

DENMARK (1937)				ÉIRE (1938)			
Description	No of Organisations (Local Societies)	No of Members	Turn-over £m	Description	No of Organisations	No of Members	Turn-over £m
Co-operative Dairies	1,405	190,000	25.9	Creameries	219	52,160	7.0
Co-operative Bacon Factories	61	192,180	20.8	Other Agricultural Productive Societies	7	14,053	0.95
Egg Exporting Societies	800	45,000	1.1	Other Productive Societies	8	1,802	—
Cattle " "	18	16,682	0.8	Agricultural Distributive Societies	85	18,958	1.2
Feeding Stuff " "	1,476	93,275	6.0	Other Distributive Societies	21	15,145	0.2
Fertiliser " "	1,458	55,757	1.1	Other Societies	168	44,672	0.3

(5B) *Co-Operative Organisations—Denmark (1923)*

Description	% of Total No of Farms Represented	% of Total Livestock Represented
Co-operative Dairies	89.5	Cows 86.2
Co-operative Bacon Factories	69.4	Pigs 75.4
Cattle Exporting Socs	11.2	Cattle 17.6
Egg Collecting Centres	21.5	Poultry 25.9
Feeding Stuffs Societies	31.2	Cows 33.4
		Pigs 35.1
Fertiliser Societies	24.3	Area 28.8