

STATISTICAL AND SOCIAL INQUIRY SOCIETY OF IRELAND.

THE SOCIAL INCOME OF THE IRISH FREE STATE, 1926-38.

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(*With Discussion.*)

(*Read on Thursday, 26th October, 1939.*)

In the *ECONOMIC JOURNAL* of March, 1933, Dr. T. J. Kiernan published an estimate of the national income of the Irish Free State for the year 1926, and followed it up with a paper, read before this Society in June, 1933, on the distribution of national expenditure in the same year. These were both interesting examples of very successful pioneer work, in a field where the material was scanty and largely unco-ordinated.

The Commission of Inquiry into Banking, Currency and Credit found that it required an estimate relating to some more recent date, and also, if possible, some indication of the changes consequent upon our economic convulsions of 1931-34. I undertook this work, and the results were published as Appendix No. 7 to that Commission's Report [P. No. 2628, 1938], together with some additional commentary and interpretation in the Report itself (para. 116-120).

Dr. Kiernan's estimate and mine, arrived at independently by the use of completely different methods, congrued very closely, which affords us some ground for hoping that they both lie reasonably near the truth.

This paper constitutes a revision and extension of the Appendix mentioned above, for permission to use which I am indebted to the Minister for Finance. In the three years which have elapsed since it was written, the numerous opportunities for revising older estimates and replacing former conjectures by estimates more soundly based have necessitated the almost entire reconstruction of many tables, but the methods of computation remain identical. I shall not, therefore, weary you with the details of either the corrections or the methods, except where some point worthy of mention arises, but shall present the broad results relating to the different main components of the social income and their changes between 1926 and 1938.

I should like particularly to refer your attention to the limitations which necessarily accompany an inquiry such as this, as set out more fully in the first four paragraphs of the Appendix cited. This inquiry can be only the basis, but yet the indispensable basis, for such further investigations as concern fiscal and cash incomes, the distribution of total income between groups and classes, the relation between income and consumption, the real burden of catastrophes such as the Economic War, the cost of "protection," the possibilities of raising the standard of living, the incentive to emigration, etc.

For the purposes of this paper I have selected the following years, each distinguished by some significant characteristic :

1926—the first comprehensive enumeration of agricultural and industrial output, census year and the year already investigated by Dr. Kiernan ;

1929—the top of the pre-war expansion, with a full census of industrial production and estimates of agricultural output ;

1931—the last year in which the effects of the great depression were still uncomplicated by those of domestic politics, with a full industrial census ;

1933—the bottom of the secondary depression induced by the economic war, with a Census of Distribution and a partial Census of Industrial Production ;

1936—which appeared to be the top of the recovery possible within the restrictive framework of the then existing legislation and external relations, with a Census of Population and a resumption of the full Census of Industrial Production and estimates of Agricultural Output.

1937—the latest year for which complete official estimates of agricultural and industrial output are available ;

1938—for which many of the estimates are provisional and conjectural.

It is hoped that it will be possible to present to the Society each year a brief Report in which the fundamental calculations used as the basis of the Appendix cited and of this paper will be brought up to date, revised where necessary and refined where possible.

I.—Income Derived from Agricultural Operations.

Formerly the estimates of agricultural output periodically published by the Statistics Branch of the Department of Industry and Commerce were not used directly, partly because of objections of principle in regard to the treatment of stocks and of milk-production, and partly from a desire to exhibit tables whose detailed application to the years for which no official estimate existed would be clear. The official estimates now follow the same principles as the Appendix cited, and have been revised retrospectively. Consequently, they are here adopted *en bloc*, and referred to the years 1926, 1929, 1936 and 1937. So far as possible, the estimates for 1931 and 1933 have been revised in the same manner, and the same methods used for 1938.

The drastic revisions which the official estimates have suffered since 1935 illustrate clearly the element of indeterminacy necessarily imposed upon such computations by the very nature of the material. The basis of the estimate in the cases of all or a large part of the output of potatoes, turnips, cabbage, milk and butter has been some enquiry into average *consumption*, distinguishing urban and rural population ; but—apart from the uncertainty attaching to the precise magnitude of “ agricultural consumption ” of produce like potatoes and milk, which are fed also to live stock—such enquiries necessarily are limited to a point or short period of time and to definite places. The extrapolation of the results over the whole series, which is our only recourse in default of explicit information relating to other times and places, the systematic collection of which would involve unjustifiable expense and labour, inevitably involves two illogical assumptions—that the numbers and distribution of the population remained constant throughout the period,

which is demonstrably not the case; and that the average consumption in each group remained stable, which is probably not the case. It is, for example, *a priori* hardly probable that the consumption of potatoes remained identical in years of short crops and high prices like 1931, and in years of large crops and low prices like 1932-3. While it is probable enough that the error is small over a period of years, necessary reliance on this method manifestly conceals a part of those variations from year to year which are often, especially in a period of convulsion, of the greatest interest. An uncertainty of precisely the same nature adheres to the figures accepted for the farm slaughtering of animals and poultry.

While there would be no point in reproducing here the tables of estimates in any very detailed form, some indication of the broad movements of agricultural income is certainly desirable.

TABLE I.
Agricultural Output.

	1926	1929	1931	1933	1936	1937	1938
	£000.						
Cereals	2,050	1,454	1,264	1,672	3,697	3,517	3,647
Roots, cabbage	4,485	3,869	5,292	3,231	5,087	4,559	4,434
Other crops	628	712	475	362	498	496	533
Crops	7,163	6,035	7,031	5,265	9,282	8,572	8,614
Horses	1,235	1,384	1,022	557	802	769	1,039
Cattle and hides	13,253	15,903	13,127	7,038	9,280	10,061	10,679
Milk and butter	11,994	12,940	9,823	8,674	9,727	10,789	9,553
Sheep and wool	3,319	3,733	2,413	1,616	2,650	2,977	2,362
Pigs	8,271	8,717	5,759	3,867	5,873	6,059	6,526
Poultry products	9,051	9,518	7,726	6,061	5,928	6,610	6,667
Live stock and live-stock products	47,123	52,195	39,870	27,813	34,260	37,265	36,826
Other products ²	3,905	3,931	3,405	3,199	3,776	3,825	3,735
TOTAL (£ mn.)	58.2	62.2	50.3	36.3	47.3	49.7	49.2
	± 2.3	± 2.5	± 2.0	± 1.5	± 1.9	± 2.0	± 2.0

¹ Provisional conjectures, based on acreages, stocks, exports and price-indices; the corresponding conjectures for 1937 fell short of the recently published official estimate by 5 per cent., a large part of which is accounted for by the difference between the calendar year and "agricultural year" bases.

² Fruit, honey, timber, turf.

Some points of interest in connection with this table may be mentioned. Reference has already been made (para. 9) to the inevitable element of indeterminacy; in 1936-37 the sum of the items containing a large element of conjecture amounted to £17 million, or 36 per cent. of the total output. No doubt, over a period of years a picture substantially accurate is obtained, but the possibility of error in regard to any one particular year affected by special conditions is significant. Weighing the plausible range of error of each conjectural item, we must

admit a margin of uncertainty in their case of 10 per cent., equivalent to 4 per cent. of the aggregate output. This margin of indeterminacy is being steadily narrowed.

Secondly, gross agricultural income, even under the influence of the pre-war boom in a neighbouring island, barely attained the levels of the depression year 1931, and seemed indeed, until conditions were altered by the onset of war, to have reached the limit of recovery and to be facing a contraction. Further, the real comparison is worse than these figures suggest; practically the whole of the 1931 income was earned in a free market; of the 1936-38 income a large part consists of concealed taxation, transferred by political action from one set of pockets to another. This situation represents a fundamental problem, not merely a superficial effect of changing values, for by 1938 agricultural prices had recovered the level of 1931. It is the physical volume of production that has failed to expand, as shown by the following indices (calculated by revaluing each year's output at 1929-30 prices):

TABLE II.

Physical Volume of Agricultural Production (Index 1929=100).

	1926	1929	1931	1933	1936	1937	1938
Crops ¹	104	100	91	103	130	124	120
Livestock ² & Livestock Products	92	100	103	93	98	90	93
TOTAL	94	100	101	95	103	95	98
Prices ³	101	100	81	62	72	78	82

¹ Includes fruit, timber and turf, whose inelasticity significantly supports the general level.

² Includes honey.

³ Official index of agricultural prices, twelve-month average relating to the same period as the output figures.

This index is now currently published in the official estimates of agricultural output.

This table illustrates strikingly the inelasticity of agricultural production in the face of falling price-levels, maintained to some extent by liquidation of stocks during the crisis years 1932-34. It offers also an occasion for the most disquieting reflection, and provides the realistic background to the Agreement of April, 1938, and the appointment of a Commission on Agriculture in January, 1939. The volume of production shows an obstinate reluctance to expand, and it is somewhat startling to realise that in 1938 it was at least no greater than ten years before. While it may be hoped that the sharply-rising price-levels of more recent times will bring some alleviation of the situation, and some encouragement to increased output (unless this advantage is outweighed by war-time difficulties in procuring essential materials), such an unsubstantial improvement should not be allowed to conceal the probability that some radical disequilibrium exists in our agricultural economy, and the need for the critical examination of long-term agricultural policies.

It may, perhaps, appear surprising at first sight that tillage output also is failing to hold its own, in spite of the great governmental encouragement lavished on it at the expense of other forms of production. On

consideration, however, it is not so surprising—hot-house growths, good enough to rake in some extra cash out of the public purse when times are bad, are easily abandoned when more natural cultures are once more permitted to show signs of profitability.

From the gross income already computed two deductions fall to be made in order to ascertain the net income. One is the purchase price of materials (seeds, fertilisers and feeding-stuffs: it has not been practicable to include machinery and implements); the other consists of bounties and subsidies on export, which are merely income transferred by taxation from one set of pockets to another, and must be eliminated somewhere in order to avoid double-counting.

TABLE III.

Agricultural Income (£ mn.)

	1926	1929	1931	1933	1936	1937	1938
Gross Income (Table I) ..	58.2	62.2	50.3	36.3	47.3	49.7	49.2
Deduct :							
(a) Materials	8.5	9.9	8.1	4.9	6.8	7.8	8.1
(b) Bounties	—	—	—	2.0	2.0	2.0	0.6
Net Income	49.7	52.3	42.2	29.4	38.5	39.9	40.5

It will be noticed that no allowance is made either for depreciation of land, buildings and equipment, or for changes in the size and value of stocks. Although the former is an item of much moment, and has been of peculiar importance in the convulsed period here covered, it is, and I fear must remain, unascertainable. In the case of stocks, I am now convinced, for reasons more fully set out in the Appendix cited (para. 9), that no satisfactory treatment is possible, and the official estimates also now leave them out of consideration. The essential difficulty is one of arbitrariness and illogicality in any system of valuing stocks and computing changes in their valuation. It might be added that the valuation of output also is similarly infected, but to a less degree. How shall one value a bullock added to stock because he cannot be sold, particularly if in the process he deteriorates from a fattened to a store condition? Equally, how shall one value a sheep killed and eaten because he cannot be sold? These are among the insoluble problems on the psychological penumbra of economics. The diet of many Irish farmers was improved for the time being because British and Irish politicians combined to compel them to eat animals and birds they were prevented from selling, and to do without many things they were therefore unable to buy: did they gain or lose?

II.—Income Derived from Fisheries.

See summary table at end.

III.—Income Derived from Industrial Occupations.

Net output may be taken directly from the complete Census of Industrial Production relating to 1926, 1929, 1931, 1936 and 1937. The item for small enterprises must be regarded as very conjectural for the later years, until it can be checked by comparison with the occupational figures of the 1936 Census of Population. From 1932 to 1935 (inclusive).

partial Censuses of Industrial Production only were taken, and in the Appendix cited very minute estimates had to be framed by a variety of devices of the progress of the excluded industries; these estimates were remarkably closely confirmed in the complete Census of 1936, and the estimate for 1933 is adopted here with very little change. For 1938 the results relating to 35 industries (not counting here "Railways and Tramways") have just been published in the "Irish Trade Journal," and exhibit a decrease of 0.26 per cent. compared with 1937; we may perhaps generalise this movement, as these published returns cover 77 per cent. of the aggregate net output.

TABLE IV.
Industrial net outputs (£000)

	1926	1929	1931	1933	1936	1937	1938
Group A ¹ ..	12,789	14,293	14,328	14,338	19,618	20,475	—
Group B ² ..	6,952	8,082	8,280	8,795	10,861	10,645	—
Group C ³ ..	6,800	8,000	7,000	6,360	5,400	5,080	—
TOTAL ..	26,541	30,375	29,608	29,493	35,879	36,200	36,100
(£ mn.) ..	26.5	30.4	29.6	29.5	35.9	36.2	36.1

¹ Industries enumerated in the partial and the complete Censuses.

² Industries enumerated in the complete Censuses only, estimated in detail for 1933.

³ Small industries.

This table differs from the summary totals of the Censuses of Industrial Production only by the inclusion of Group C and the exclusion of railways and tramways, local authorities and government departments, which are more easily treated as parts of larger wholes elsewhere.

This computation also, like that of agricultural income, must be taken as subject to important reservations: it is an estimate of the selling value of the physical output in each year, irrespective of whether it was in fact sold or added to stock; likewise, no allowance whatever is made for depreciation of plant and equipment. Consequently, it is not exactly equivalent to "true income," but must be accepted as the nearest feasible approximation.

A comparison of Tables I-IV suggests, as is *a priori* plausible enough, that within a generally restrictionist scheme, and especially one so severely restrictionist as that within which this economy has struggled for some years past, the limits of recovery and expansion are definitely found at a relatively low level, even in respect of those activities, such as tillage farming and the processing of industrial products for the home market, which have been given a privileged position at the expense of the rest.

These two large branches of our productive economy, agriculture and industry, are likely to be affected by the present war in divergent ways. Unless—as, unfortunately, seems probable—the occurrence of the war is used as a pretext for the further forcible distortion of the pattern of our agricultural production in pursuit of political wills-of-the-wisp, both the volume and value of agricultural production should increase, some effect being apparent even in the figure for 1939. This June, compared with June, 1938, the area of cultivated ground decreased by 5 per cent.; the live stock population, which had increased during the preceding

twelve months by proportions varying between 0·8 per cent. for cattle and 1·8 per cent. for pigs in January, 1939, in June, 1939, showed decreases varying between 0·1 per cent. for cattle and 5·1 per cent. for sheep, only poultry showing any increase (0·2 per cent.) Even before the war broke out, the index of agricultural prices was running on an average 2·4 per cent. above the level of 1938. Putting these changes together, and making an allowance for the effects of the war, a net agricultural income of some £42 mn. may be conjectured for 1939. With the steady drift of our rural population away from the land, a drift which has been accentuated in recent years but whose magnitude cannot be fully established until the occupational distribution of the 1936 Census is published, a not remote possibility obstructing our deriving the maximum advantage from war conditions is shortage of agricultural labour, for we need not flatter ourselves that many of those who have drifted into urban life will return to agricultural work, even if disemployed from their new industrial occupations.

The prognosis for industrial income is very different, but the materials for assessing it are much more fragmentary. Already before the war (January–June), the number of persons on the live register (residing in cities and urban districts) was running 7·9 per cent. higher than in 1938, and the issue of Unemployment Insurance stamps (January–July) 3·8 per cent. lower. Then the outbreak of war demonstrated, not the desirability of the autarkic day-dream, but the futility of a pretence of it founded on the importation of semi-manufactured articles. In the first weeks of war, unemployment mounted rapidly; there does not seem to be any prospect of the disemployed being re-absorbed into productive employment in this country, and time will be necessary before they can take advantage of the opportunities elsewhere. Even allowing, therefore, for the masking effects of scarcity increases of price it would be rash to assume an industrial income for 1939 exceeding £34 mn., and scarcely even holding its own thereafter.

IV.—Income Derived from Occupations in Transport, Commerce and Finance.

It seems unnecessary to repeat here all the detailed estimates, which may be found in the Appendix cited, the same methods being applied to later years. The following table summarises the group results, in which there are no remarkable variations:

TABLE V.
Net Income (£000).

	1926	1929	1931	1933	1936	1937	1938
Transport ¹ ...	5,876	6,061	5,618	4,728	5,613	5,529	5,557
Finance ² ..	4,521	4,824	5,178	5,086	5,284	5,369	5,412
Commerce ³ ..	14,800	15,200	13,600	12,000	14,000	14,200	14,200
TOTAL ..	25,197	26,085	24,396	21,814	24,897	25,098	25,169
(£ mn.) ..	25·2	26·1	24·4	21·9	24·9	25·1	25·2

¹ Railways, tramways, passenger road services, road goods haulage, taxi service, shipping.

² Banks, insurance companies, other financial institutions.

³ The findings of the Census of Distribution, 1933, corrected by an index of the volume of distribution.

For 1939, taking into account the improvement in railway traffic, emergency stocking and war-dislocation, a total of £25 mn. is probably not far wrong.

So far as it approximates to the truth, this table illustrates the relative stability of this intermediate kind of income, as well as its importance as a component of the total social income.

V.—Income Derived from Occupations of Personal Service.

Up to this point there can be little dispute about the legitimacy of the inclusion as parts of the social income of the activities represented by the valuations which have been added together to give income totals. The farmer, the industrial manager and worker, the trader and the railway man all contribute something positive to the social heap from which all must draw, the simplicity of the problem not being seriously complicated in this country by the production of armaments or drugs. The contribution of particular groups may be much less than is popularly supposed, or much less than they are paid for it, or much less than it would be if the pattern of production were not distorted by political ideas, but it is scarcely likely ever to be negative, even in the case of the worst excesses of "protectionism." But the position in regard to personal services is much less simple. The legitimacy of the inclusion here as part of the social income of any particular sets of payments is a matter of opinion, resting on the judgment whether the alleged "service" for which the payment is made does or does not represent a contribution to the social whole. So far as the great bulk of the public service and professional workers is concerned, no serious dispute is possible: their services are useful and necessary, and for our purposes the payments received for those services may be taken as a not unfair representation of them, although doubt may be felt whether a particular person's services are "worth" the income he pulls down. But there is room for illegality even here. Suppose an increase in lawlessness, necessitating an increase in police and prison staffs, financed by taxation. That increase in the burdensomeness of social life would appear in these computations as an increase in this branch of the social income, which is absurd. But there are many cases where even this agreement, limited by absurdity, is impossible; for example—the amounts paid in civil and police pensions in 1926–31, and in 1933–38 the amounts paid in army pensions, increased army establishment, and the staff necessitated by the complex schemes of tariffs, quotas and subsidies. Each of these "payments for services rendered" has critics who regard the recipient's activities as not merely idle but positively mischievous. But it is clearly not feasible to draw an objective line separating those activities nourished by the public funds which represent the contribution of useful services from those which are futile or even predatory. Precisely the same problem arises with respect to the production of the engines used by the predatory elements of society: are armaments and munitions a part of the social income in any genuine sense? Fortunately, we can perhaps say that in the ascertainable figures relating to the social income of this country the bulk of the predatory activities and their implement-production is neither significantly large nor changing in a significant degree.

TABLE VI.

Personal Service Incomes (£ mn.)

Group	1926	1929	1931	1933	1936	1937	1938
Government departments ..	14.4	14.1	14.0	11.6	12.8	12.9	13.2
Local authorities ..	3.0	3.1	3.3	4.0	4.5	4.5	4.5
Professional and personal Service ¹	12.0	12.0	12.0	12.0	12.0	12.0	12.0
TOTAL	29.4	29.2	29.3	27.6	29.3	29.4	29.7

¹ Professional occupations; domestic service; lodging and boarding houses, hotels, restaurants and clubs; entertainments and sports; miscellaneous personal services all separately estimated, partly on the basis of the distribution of occupations in 1926. It is, unfortunately, impossible to make any correction for the temporal fluctuations of this figure, which must have been considerable.

VI. and VII.—Incomes Derived from Housing and from Abroad.

It is not necessary to add to or vary the remarks in the Appendix cited on the modes of computing these items, except to say that the net income arising abroad is the balance of the current credit over current debit items (excluding merchandise) in the estimates of the balance of payments periodically published in the "Irish Trade Journal."

TABLE VII.

Aggregate Income in Terms of Money (£ mn.)

	1926	1929	1931	1933	1936	1937	1938 ¹	1939 ²	1938 ^{2nd white value}
I. Agriculture ..	49.7	52.3	42.2	29.4	38.5	39.9	40.5	42.0	38.2
II. Fisheries ..	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	
III. Industry ..	26.5	30.4	29.6	29.5	35.9	36.2	36.1	34.0	34.0
IV. Distribution ..	25.2	26.1	24.4	21.9	24.9	25.1	25.2	25.0	25.0
V. Personal service	29.4	29.2	29.3	27.6	29.3	29.4	29.7	29.0	29.0
VI. Housing ..	10.5	10.7	10.8	10.9	11.5	11.8	12.0	12.2	7.0
Total home-produced	141.8	149.1	136.6	119.5	140.5	142.7	143.8	142.5	146.2
VII. Income from abroad.. ..	12.3	12.3	10.3	15.0	13.5	13.1	12.5	12.0	12.0
TOTAL	154.1	161.4	146.9	134.5	154.0	155.8	156.3	154.5	158.2
Index (1929=100) ..	95	100	91	83	95	96	97	96	

¹ Provisional. ² Conjectural.

The disquieting aspect of this table is the failure which it reveals of our monetary income to recover the levels of 1929, and the apparent slowing down of such recovery as is proceeding. This disquiet must be heightened by the contrast with the United Kingdom, whose monetary income, according to Mr. Colin Clark's estimates, had already by 1935 well exceeded all previous levels. In the absence of the political disjunction of the two economies, our total social income would presumably have approximated more closely in its movements to that of the United Kingdom.

Price-correction.

Clearly, through the price-fluctuations that have characterised the last twenty years, a given monetary income has represented very variable capacities to purchase consumable goods and services. Unfortunately, no general price index for this country exists, and an effort has to be made to construct one. The total social income, so far as currently expended, is applied to the purchase of the following categories of goods—imports, domestic industrial products, domestic agricultural products, personal and professional services (including distribution). There is no evidence that the prices paid for the last category have suffered any material change. Price-indices are available relating to the first three, which, even if not absolutely appropriate, are usable. In the case of imports, customs duties must be allowed for, and the division into materials and consumers' goods neglected, although the change in this distribution over recent years has been significant and has had significant effects upon the domestic price-level. In the case of domestic industrial products, a price-index is available until 1935, and for subsequent years can be derived from the indices of volume of production and gross output; such an index is, of course, incapable of displaying the price-changes resulting from the substitution of domestic processing for importation in consumable form. In the case of agriculture it is not possible to segregate the movements of export and consumption prices, although it is notorious that the prices for domestic consumption of many products have been kept artificially at a price higher than the export price. All three of these indices, then, have a strong bias towards understating the resistance to falling, or tendency to rise, of prices affecting our consumers. Weights are attributed to the four series in the proportions 1, 2, 1, 2, which correspond very closely to the mean proportions in which total expenditure was divided between imports (less those used in domestic production), domestic industrial production (less exports and products used in further domestic production), domestic agricultural production (consumed as such), and personal services, in the years 1929 and 1936.

TABLE VIII.

Real Income (Indices).

	1926	1929	1931	1933	1936	1937	1938
Agricultural price-index (weight 1)	100.6	100.0	79.0	60.3	65.0	75.3	80.3
Industrial price-index (weight 2)	104.1	100.0	82.7	81.7	88.8	93.5	94.0 ¹
Import price-index (weight 1)	109.3	100.0	80.1	75.1	78.7	86.5	85.0
Personal services index (weight 2)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total index	103	100	87	83	87	91	92
Money income	95	100	91	83	95	96	97
Real income	92	100	105	100	109	105	105

¹ Conjectural.

For 1939 a highly conjectural index of real income of 101 may be hazarded, compounded of an index of prices 95 and index of money income 96.

DISCUSSION ON PROFESSOR DUNCAN'S PAPER.

Mr. BRENNAN, proposing a vote of thanks, recalled the valuable work done by Professor Duncan as a member of the Banking Commission. A comparison of Professor Duncan's present views, his conclusions and figures, with those in his Appendix to the Report of the Commission was very interesting and indicated the progress he had made in giving them an improved presentation of the subject. It was reasonably possible to get a full survey of the production of goods, but the task to be performed when one came to personal services was extremely difficult. No doubt Mr. Duncan realized fully that there was still a great deal of work to be done in this field before they had really measured the income of the country.

On the agricultural output Professor Duncan in the Appendix discussed the important question of modification of the official methods of reckoning that were formerly in vogue, especially in regard to agricultural stocks and the output of milk and butter. On that there were some figures in the paper that perhaps Professor Duncan might explain to them. In 1931, in the table of live stock and live-stock products there was a figure of £39,870,000. In the report Professor Duncan's figure was £45,350,000. That was very much in excess of what was here, and it was not clear what had caused such a large change to be made in the paper.

PROFESSOR DUNCAN: The discussion in the Appendix dealt only with the methods by which the results were arrived at, but since then the Statistics Branch has altered the concrete content.

Mr. BRENNAN said it was an astonishing change of figures. Then they had the heavy falling off in some of their agricultural exports—eggs, for example, fell from £3,220,000 in 1929 to £860,000 in 1937. In the total of agricultural income as given in Table III there were some rather striking changes in figures that had previously been published for some of those years in the report.

In 1929, for example, they were given a net agricultural income of 52·3 million pounds in the paper; that was 54·5 in the report. In 1931 it was 42·2 in the paper and 47·7 in the Appendix. 1933 was remarkable because there was a tremendous dip—29·4 million pounds in the paper; that was 33 millions in the Appendix.

With regard to income derived from personal services, Mr. Brennan said the figures varied very little over the years listed, but there was a pronounced dip in 1933, and it was curious that in the treatment of that particular topic in the Appendix that dip did not occur at all. The figures in Table VI left him under the impression that they were on more uncertain ground than they were in relation to the output of goods, and some of the figures were in conflict with impressions that one got from other sources of information. The returns of the Revenue Commissioners dealing with income tax were not very reliable for this purpose, but by way of contrast from the steady figure of 12 million pounds given here for professional and personal services, there are great variations from the review of the Revenue Commissioners for Schedules C and D. For the year 1929 the figure for Schedule D was 27 million pounds; in 1933 it had fallen to 22½ millions. Schedule E was 23 millions in 1929 and went down to 18½ in 1933. In Table VII the figures from 1931 to 1933 in the income from abroad no doubt reflected the savings in the

land annuities. The fall immediately afterwards was very striking, and they had to bear in mind that that figure seemed likely to continue in its downward course.

Finally, the framing of a general price index for conversion of monetary income to real income was a matter of great interest and complexity which had necessarily been briefly dealt with in the paper. In any future examination of this important point the possibility of using the Cost of Living Index as an element in the calculation seemed to deserve consideration.

Mr. Brennan again thanked Professor Duncan for his paper and hoped that he would carry the work further on future occasions.

MR. E. BLYTHE, seconding the vote of thanks, said he was very much impressed with Professor Duncan's contribution to the Report of the Banking Commission and with this very succinct and searching paper. The Appendix involved great labour, because estimating the national income was like working through a morass or wilderness with difficulties on every side. No matter how fully it may be done the value of such an estimate obviously had limitations, and it was when they had these estimates, year by year over a number of years, that really useful conclusions could be drawn from them. At the moment he thought it would be unwise to use Professor Duncan's estimate as a guide for practical conclusions of any sort. The paper should be read with the Appendix to the Majority Report of the Banking Commission, and in the Appendix there were many important items of the income of the agricultural community which do not appear in the paper at all—items represented by old age pensions, by road works, by grants and so on. It struck him when reading the Appendix that Professor Duncan did not touch on the question of rents, but he included the value of houses, and he might as well have included the value of the service to the community of roads. There was an element there that required some consideration. A great many of the views a person takes on political economy sometimes depend on a person's political outlook. If you excluded income derived from, say, armaments and alcoholic liquor you might go so far as to exclude the income from pictures and so forth. There was quite an element of doubt as to whether many of these items should be included in national income. It would seem absurd that the national income should go up because lawlessness had increased in the country. Methods of conducting business may often change, and there may seem to be increased incomes when there was really an increase in burdens on some of the community. Professor Duncan's paper and the Banking Commission Report Appendix was a remarkable piece of work and everyone was indebted to him for what he had done, and they would be much more indebted to him if he went on with it. He would like to see some other economist investigate the question from some other angle (using, for example, the Taxable Income method).

SENATOR SIR JOHN KEANE said he would like to ask to what extent capital expenditure affected social income. He pointed out that in Table VI there was an error in the tot. The total for the year 1933 should be 27.6, not 26.6.

PROFESSOR DUNCAN : That is quite right.

MR. BROWNE, supporting the vote of thanks, said it was obvious from Professor Duncan's incisive style, his notes and explanations as given in the Appendix, that he had taken considerable trouble, and he had freely shown how he had made assumptions, what they were worth, and within what limits the figures may be relied upon. The figures did appear to be convincing, but at the same time he thought the general tendency would be to attempt to draw definite conclusions for the future and this would be dangerous. These figures must be taken for what they were purported to be; they represented a statement of the position during a particular period only. Though the period might normally be regarded as sufficiently long for the purpose of establishing a trend, it should be remembered that it contained unusual factors. One factor of a special nature operated in this country for a few years and retarded normal recovery during the period; a possible future breach of the peace in Europe brought about a stimulation in business. He thought therefore that the table as set out should be confined to the particular period. At the same time one was entitled to draw conclusions from these tables as to what may happen in the future. It would be very interesting to ascertain to what extent there had been capital imports in the way of plant and machinery. It was rather remarkable to find there was a steadiness in the population of live stock, and this showed there was a certain expectation on the part of the farmers that recovery would come. It was to be hoped that the recovery in agriculture would reach the 1929 level, and go beyond it without interfering with certain industrial progress. Perhaps the outbreak of war would stimulate agriculture, and would also help industries here.

PROFESSOR G. O'BRIEN said he would not have risen except that after hearing the speeches of Mr. Brennan and Mr. Blythe he was afraid the impression might go abroad that the paper did not lead to any results and had no value at all. Such was not his view. It was an exceedingly important paper from the national point of view. What Professor Duncan aimed to do and succeeded in doing was to show the movement through time. The difficulties of margins of error were the same from year to year. If it could be shown that the national income of this country was not growing at the same rate as in other countries, that was a matter of great importance to our budget and to our debt and a matter of which the public should make a note. He thought nobody in the room could seriously challenge Professor Duncan's conclusions.

DR. H. KENNEDY said that Professor Duncan's work showed quite clearly that one half of this country did not know how the other half lived. One half had double the income of the other—the urban as against the agricultural population. Nobody seemed to see a way out of this unfortunate position of the very low income per head of the agricultural population. Agricultural production had been stagnant for forty years, and the solution of their economic and social evils was to get busy with the problem of making agriculture profitable. He thought Professor Duncan's estimate of the agricultural income was on the high side. In the Appendix the figure for the output of potatoes was roughly 700 thousand to 750 thousand tons valued at about three million pounds. That was a value of £4 per ton. He (speaker) doubted if that was ever the selling value from the farms, and certainly it was not the value to the farmer of potatoes consumed on his farm.

PROFESSOR DUNCAN : In the valuation of potatoes consumed on the farms, that was the human consumption—not the potatoes given to animals.

DR. KENNEDY added that there had not been a single attempt to solve the question of self-sufficiency on the farm. They had bounties on all sorts of things but never on potatoes, yet they grew the best potatoes in the world. In addition there was the question of the unbroken field. In Germany this year he had seen machines that covered three drills, opened three drills and made three rows, and these things did not happen in Germany by accident. They brought engineers in and said : “ Build machines that will do such and such a thing and if they are not right break them up and build more.”

The future of this country would be very dark indeed if they did not see a better future for agriculture and a greater production from agriculture. He had frequently quoted the exports from Denmark for 1925—40 millions net export from Denmark, and 13 millions from this country on twice as much land. The future of this country was the future of agriculture.

COLONEL O'BRIEN said that unless the withdrawal of agricultural labour during the past ten years has been offset by (a) the introduction of labour-saving agricultural machinery, or/and (b) by the introduction of improved methods of cultivation and more productive seed, and/or (c) increased fertility of soil, the agricultural output must have diminished.

The author shows that the physical volume of agricultural production has only diminished very slightly, so presumably the farmer has applied all these methods in order to maintain his production in face of a diminished labour supply.

But the tables give no information on the decrease or increase of the farmer's capital in the period covered : has the diminution in the volume of live-stock production been accompanied by a great fall in the numbers of live stock ?

Has the increase in crops which so nearly compensates for the comparatively small fall in live stock been at the expense of capital ?

No figures are given for the increase in physical output of industry : indeed such a figure would be meaningless owing to the great diversity of products.

None the less the output must have increased more than is indicated by the value figures owing to the great improvements made in methods of production.

In regard to the main conclusion of the paper that the money value of our aggregate income has shown no increase in ten years, it may be observed (a) that a pound to-day buys a good deal more than in 1929 ; (b) that the true index of the wealth of the country, viz., the sum of the value of the agricultural, fisheries and industrial outputs shows a decrease, viz., from 83.1 to 76.3.

DR. GEARY said that his few observations were not intended to detract in any way from his sense of the value of the paper. They were really not criticisms but suggestions for Professor Duncan's consideration in his future estimates. In the first place he would like to refer to the treatment of farm produce consumed on the farms where they were produced in the estimate of national income. National income was, broadly speaking, the aggregation of the incomes of the people of the

country, and it was equal, therefore, to the value of retail prices of the goods and services consumed in the country. If they wish to compare the national income of the people in this country and in England, for instance, farm produce consumed on farms should surely be valued at retail prices.

From the manner in which the estimates were set out in Table I it might be suggested that in the change between consecutive years there might be an error of £4 millions, and he did not think Professor Duncan intended that.

PROFESSOR DUNCAN : The error might be constant.

DR. GEARY said that the *change* from year to year was certainly not subject to a possible error of anything like £4 millions ; at the outside it might be £½ million.

Professor Duncan made no deduction for depreciation. Dr. Geary was aware of the difficulty of determining such a figure for this country and suggested that it might be as much as £6 millions. Sir Alfred Flux made an allowance for England of £300 millions, equivalent to 7½ per cent. of national income. He suggested that the " balance unaccounted for " in the Balance of International Payments for the greater part must be regarded as a current credit invisible item. In other words, it represented a substantial balance from the tourist traffic and other items for which it had not yet been found possible to frame estimates. It seemed to him it should be added to the figure of income from abroad.

He was greatly interested in the estimate which Professor Duncan had made of the price index (Table VIII). He himself had a sort of prejudice in favour of the Cost of Living Index for this purpose, but he would compromise in this way, that on the future occasion Professor Duncan might consider using an average of the official Cost of Living Index and his own figure, which he (Dr. Geary) thought was too low.

MR. FREEMAN quoted from page 7 of the paper : " We need not flatter ourselves that many of those who have drifted into urban life will return to agricultural work, even if disemployed from their new industrial occupations," and suggested that meant that the position may develop where there would be a large number of people on the dole in the towns whereas there would not be enough for agricultural purposes. Therefore, the man power on the land was presumably becoming less and the " dole power " in the towns becoming greater. In the United States of America between the years of economic crisis, 1930 and 1935, 6,000,000 people moved from the towns to the country and 6,600,000 moved to the towns. The movement of people from the towns to the country was due to the depression in the towns. Those who returned to the country found large areas derelict owing to neglect. This paper should be very carefully considered by the Society because it did seem that a very serious position might arise from unemployment in the towns.

THE PRESIDENT, in putting the vote of thanks to the meeting, said he would like to add his own thanks to Professor Duncan for this paper, and the Society should be very proud to have two of its members' names—Professor Duncan and Dr. Kiernan—associated with this very difficult task of assessing the national income of the country. Statistical data were available from many sources, and Professor Duncan had certainly

made the most able use of the information at his disposal. The general tenor of the remarks by the speakers this evening would convey the impression that the word conjecture which was mentioned a few times in the paper might now be eliminated so close had Professor Duncan brought his estimates.

PROFESSOR DUNCAN, replying to the vote of thanks, said that in writing this paper he was compelled either to run to excessive length or to refer back to the Report of the Banking Commission, which left too much to the imagination. The proper allowance to cover the element of uncertainty was an open question: in regard to agriculture, he did not agree with Dr. Geary that he had over-estimated it; in regard to the professions, etc., one had to repeat for successive years the little direct information for one year available, since, whatever impressions one might have of changes occurring, these could not be translated into concrete figures; in correcting these uncertainties, income tax statistics were of no use whatever. But if one considered the whole field of social income in the Free State, the possible range of error in any given year would not be in excess of 4 to 5 millions. In connection with the valuation of farm produce consumed on the farms, he would like to ask Doctor Geary: Is a pound of butter of the same value to the farmer who produces it as to the consumer in London?

DR. GEARY: I say yes.

PROFESSOR DUNCAN: I say definitely no: the latter includes the service of transport among other things. Income was only a reflection of the things people had to do in order to keep them alive: the income of the population in a temperate climate must be greater than the income of people in a tropical climate because it took more to keep them alive. Direct comparison of the income of the population of Ireland with that of the people of Tahiti was prevented by a fundamental illogicality.

DR. GEARY: The difference in the standard of living is too great. You cannot compare them.
