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Methodology of Personal Income
Estimation by County

MICEAL ROSS

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METHODOLOGY OF PERSONAL INCOME
ESTIMATION BY COUNTY

CONTENTS

Table of Contents	3
List of Tables	8
Abbreviations	9
Acknowledgements	10
CHAPTER 1: INTRODUCTION	
1.1 The aims of the paper	11
1.2 The plan of the paper	11
1.3 The basic points of reference	12
1.4 Alternative approaches (National and Regional Accounts)	13
1.5 Differences between National and Regional Accounts	13
1.6 Data difficulties	15
1.7 Aggregates in Personal Income	
(a) Income from agriculture	15
(b) Non agricultural wages	16
(c) Income from self employment outside agriculture	17
(d) Rent of buildings	18
(e) Interest and dividends	18
(f) Other items	18
1.8 Aggregates in Income Arising	
(a) Agricultural income	19
(b) Non agricultural employee remuneration	19
(c) Alternative approaches to other non agricultural income	19
1.9 Net National Product	21
1.10 Expenditure and Savings	21
1.11 Summary	22
CHAPTER 2: AGRICULTURE, FORESTRY & FISHING	
2.1 GENERAL	
(a) Income estimates from survey data	24
(b) The basic approach of the national estimates	24
(c) County estimates	25
2.2 CATTLE:	
(i) National procedures	26
(a) Sales	26
(b) Inventories	26
(c) Prices	26

(ii)	County estimates	26
(iii)	Earlier attempts to estimate cattle output	27
(a)	The Allocation method	27
(b)	The Survivorship method	28
(c)	The Inventory method	28
(iv)	Prices	31
(v)	The results	32
2.3	MILK AND MILK PRODUCTS:	
(a)	Liquid consumption	32
(b)	Milk used in industry	33
(c)	Farmers butter, buttermilk and separated milk	34
2.4	OTHER LIVESTOCK:	
(a)	Sheep and wool	34
(b)	Pigs	35
(c)	Horses and ponies	36
(d)	Poultry and eggs	36
(e)	Other Livestock and livestock products	37
2.5	CROPS AND TURF	
(a)	Wheat	38
(b)	Barley	38
(c)	Oats	38
(d)	Potatoes	39
(e)	Sugar beet	39
(f)	Cabbage and turnips	39
(g)	Grass seed	40
(h)	Hay and straw	40
(i)	Fruit	40
(j)	Vegetables	40
(k)	Turf and timber	40
(l)	Comparison with AG estimates of crops and turf in 1960	41
2.6	AGRICULTURAL INPUTS	
(a)	Introduction	41
(b)	Feed	41
(c)	Seed	43
(d)	Fertilisers and lime	44
(e)	Other Expenses	45
2.7	INCOME ARISING IN AGRICULTURE:	
(a)	Land Annuities	46
(b)	Wages and Salaries	46

(i) the number of employees	47
(ii) the duration of employment	47
(iii) the AG calculations	48
(c) Income from self employment and other trading income	48
2.8 FORESTRY	48
2.9 FISHERIES	48
CHAPTER 3: REMUNERATION OF INDUSTRIAL EMPLOYEES	
3.1 Data sources	58
(a) The CIP industries—"allocated industries"	58
(b) The CIP industries—"specified industries"	58
(c) Non CIP small industries	58
(d) Other employment	58
3.2 The Allocated Industries	59
3.3 The Specified Industries	60
(a) Bord na Mona	60
(b) CIE (Industrial sectors)	
(i) The 1960 estimates	62
(ii) The 1965 estimates	63
(c) ESB	63
(d) Local Authorities (industrial employment)	64
(e) Government Departments	64
(f) Other specified industries	65
3.4 Other employment (non CIP)	66
3.5 Non CIP Industry—The Small Industries	66
3.6 Superannuation etc.	68
3.7 The AG approach	68
CHAPTER 4: REMUNERATION OF EMPLOYEES IN OTHER SECTORS	
4.1 DISTRIBUTION	
(a) General	77
(b) Retail 1960	77
(c) Retail 1965	78
(d) Wholesale Trade 1960	78
(e) The Wholesale Trade 1965	79
(f) The AG calculations	80

4.2	TRANSPORT AND COMMUNICATIONS	
	(a) Constituents	80
	(b) CIE	80
	(c) Air Transport	81
	(d) Sea Transport including Harbour Authorities	81
	(e) Private Road Transport Workers	81
	(f) Communications	82
	(g) Travel Agents	82
	(h) AG calculations	82
4.3	PUBLIC ADMINISTRATION AND DEFENCE	
	(a) Coverage	83
	(b) Data Sources	83
	(c) Central Government	84
	(d) Local Government	84
	(e) Summary for 1965	85
	(f) The position in 1960	85
4.4	EDUCATION:	
	(a) General	87
	(b) Primary Education	
	(i) General	87
	(ii) The 1965 calculations	88
	(iii) The 1960 calculations	89
	(c) Vocational Education	89
	(d) Secondary Education	
	(i) General	89
	(ii) The 1965 estimates	90
	(iii) The 1960 estimates	90
	(e) Universities	90
	(f) Other education	91
	(g) The AG calculations	91
4.5	OTHER DOMESTIC SECTOR (excluding Education)	
	(a) Health	91
	(b) Finance	92
	(c) The Professions	92
	(d) Irish Hospitals Trust	93
	(e) State Sponsored Bodies not elsewhere enumerated	94
	(f) Private Domestic Service	94
	(g) Laundries and Hairdressing	94
	(h) Hotels Catering and Entertainment	
	(i) Hotels and catering	95
	(ii) Lodging and boarding houses	95
	(iii) Entertainment and sport	96
	(iv) Clubs and miscellaneous	96
	(j) The AG calculations	96

CHAPTER 5: INCOME OF INDEPENDENT TRADERS OUTSIDE AGRICULTURE

5.1	General	106
5.2	Manufacturing Industry and Construction	106
5.3	Distribution	
	(a) Retail	107
	(b) Wholesale	107
	(c) Procedure	108
5.4	Transport	108
5.5	Education	108
5.6	Other Domestic	
	(a) Coverage	109
	(b) Finance	109
	(c) Hotels	109
	(d) Catering	111
	(e) Entertainment	111

CHAPTER 6: TRANSFER PAYMENTS

6.1	Constitutents	112
6.2	Education	112
6.3	Social Welfare	
	(a) Constituents	114
	(b) Changes in Coverage	114
	(c) Allocation of major items	115
	(d) Supplementary Unemployment Fund and Blind Welfare	115
	(e) Unemployment Payments	116
	(f) Other Items	116
6.4	Other Transfers	
	(a) Central Government	116
	(b) Local Authorities	118

CHAPTER 7: EMIGRANTS REMITTANCES AND PENSIONS ETC. FROM ABROAD

7.1	Emigrants' Remittances	119
7.2	Remuneration of Employees—Foreign	119

CHAPTER 8: RENT, INTEREST AND DIVIDENDS

8.1	General	121
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8.2	Rent element in Land Annuities	122
8.3	Actual and Imputed Rent of Dwellings	
	(a) General	122
	(b) Local Authority Dwellings	123
	(c) Private Dwellings	
	(i) General	123
	(ii) The 1960 calculations	124
	(iii) The 1965 calculations	124
	(iv) The AG calculations	125
8.4	INTEREST	125
8.5	DIVIDENDS	127

LIST OF TABLES

	<i>Page</i>	
2.1	Symbolic presentation of the calculation of sales volume and inventory change by counties	29
2.2	Symbolic presentation of the evaluation of sales and inventory change by counties	29
2.3	Symbolic representation of Inventory method	31
2.4	Main Categories of milk output 1960 and 1965	32
2.5	Value of poultry output in 1960 and 1965	36
2.6	Output of milk by use 1960 and 1965	50
2.7	Livestock output 1960	51
2.8	Livestock output 1965	52
2.9	Output of crops and turf 1960	53
2.10	Output of crops and turf 1965	54
2.11	Purchases of certain farm materials 1960 and 1965	55
2.12	Summary of incomes derived from farming, forestry and fishing 1960	56
2.13	Summary of incomes derived from farming, forestry and fishing 1965	57
3.1	Employee remuneration in allocated industries (excluding laundries) in selected years	59
3.2	Comparison of numbers engaged in turf production as reported by Bord na Mona and Census of Population	61
3.3	Numbers engaged in allocated industries in specified years	70
3.4	Particulars from the CIP of 1963 and 1965 relating to Establishments classified by location	71
3.5	CIP remuneration by county 1960	72
3.6	CIP remuneration by county 1965	73
3.7	Employment in transportable goods industries 1960 and 1965 (excluding Bord na Mona)	74
3.8	Employment in building and construction 1960 and 1965	75
3.9	Remuneration of employees in Industry by main categories 1960 and 1965 and revised 1960 figures using AG method	76
4.1	Composition of remuneration in Public Administration and Defence 1965/6	86
4.2	Distribution by county of the main categories of employee remuneration within the distribution transport and communications sector 1960 and 1965	98
4.3	Comparison of Ross and AG estimates for the distribution and transport sectors in 1960	99
4.4	Particulars of retail trade derived from Census of Distribution 1966	100
4.5	Particulars of wholesale trade from the 1956 Census of Distribution distinguishing location and legal status	101
4.6	Remuneration in the public administration and defence sector under specified votes in 1965 with a comparative total for 1960	102
4.7	Remuneration in Education 1960 and 1965	103
4.8	"Profits" in Education 1960 and 1965	104
4.9	Numbers and remuneration in the local authority health services (excluding administration) 1960/1 and 1965/6	105
5.1	Estimated net margins per bednight in different grades of hotels and guest houses 1956	110
6.1	Transfer payments to households etc. in selected years	112
6.2	Transfer payments in education in selected years	112

6.3	Analysis of main constituents of social welfare payments in selected years	114
6.4	Transfer payments 1960/1 and 1965/6	117
7.1	Estimates of pensions etc. from abroad and emigrants remittances 1960 and 1965	120
8.1	The derivation of personal income from rents, interest and dividends	121
8.2	Rent in 1960 and 1965	128
8.3	Distribution of sample of company profits compared with other distributions	129
8.4	Rents, interest and profits in 1960 and 1965	130

ABBREVIATIONS USED

1.	AG	Attwood and Geary, Irish County Incomes fn. 2
2.	CD	Census of Distribution.
3.	CIE	Coras Iompair Eireann (Irish Transport System).
4.	CIP	Census of Industrial Production.
5.	CP	Census of Population.
6.	CSO	Central Statistics Office.
7.	ISB	Irish Statistical Bulletin.
8.	ITJ&SB	Irish Trade Journal and Statistical Bulletin.
9.	NFS	National Farm Survey.
10.	NIE	National Income and Expenditure.
11.	R.	Ross, Personal Incomes by County fn. ¹
12.	RLT	Returns of Local Taxation.
13.	JSSISI	Statistical and Social Inquiry Society of Ireland.

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Beir rath is beannacht!

Methodology of Personal Income Estimation by County

MICEAL ROSS*

CHAPTER 1: INTRODUCTION

1.1 *The Aims of the Paper*

This paper presents in some detail the methods employed in Paper No. 49¹ to estimate personal incomes by county in 1965. It also discusses the methods used by Attwood and Geary² in calculating Irish county incomes for 1960. Reference to the latter paper reveals the substantial debt the current study owes to the pioneering efforts of these authors. It also reveals several areas where differences in emphasis has led to the development of a new methodology. In particular the current paper sets out to derive personal income directly, rather than to calculate income arising initially, and subsequently to estimate personal incomes. A brief discussion of the differences which such an approach introduces was presented in Paper No. 49; the present work examines these differences in greater detail.

This exercise has two functions. First, it provides a detailed guide to the methods used, which should be of considerable use to future workers in the field. More important it reveals the basic assumptions on which the concept of county incomes is based and so should help minimise the misunderstandings which may attend any attempt to use the estimates for inter-county comparisons or as indices of economic progress over time.

1.2 *The Plan of the Paper*

Initially this paper provides for a general statement of some of the conceptual and data problems encountered in making regional income estimates. In particular, the difficulties involved in basing the procedures on the Census of Population and the National Income Accounts are presented, followed by a brief discussion of how the aims of regional policy may require the development of data which differ in some instances from those used in national accounting. This is followed by a presentation of some of the data difficulties inherent in the

* The author is a member of the staff of The Economic and Social Research Institute. The paper has been accepted for publication by the Institute. The author is responsible for the contents of the paper including the views expressed therein.

¹M. Ross, "*Personal Income by County 1965*" E.S.R.I. Paper No. 49, 1969.

²E. A. Attwood and R. C. Geary, "*Irish County Incomes in 1960*" ERI Paper No. 16, 1963.

personal income approach, (used by Ross), the "income arising" approach, (used by Attwood and Geary), and the expenditure approach, (attempted by Attwood and Geary). These general statements are followed by several chapters setting out the detailed methodology employed for the different sectors.

1.3 *The Basic Points of Reference*

The estimates are expected to meet two basic requirements. Aggregate incomes have to agree with the national estimates published in the National Income Accounts, and county employment levels have to correspond with those of the Census of Population. Accordingly some observations on these two frames of reference seem appropriate.

The National Income Accounts

National Income estimates do not purport to measure all facets of national well-being, but only specific aspects of economic performance. They attempt to provide a commonly agreed-upon yardstick by which to measure the volume of economic activities. Since it is clearly impossible to monitor the flow of income in all its complexity over successive time spans, the accounts, like all accounting procedures, employ conventions which have been found adequate in seeking answers to specific policy questions at the national level. These conventions may prevent the resulting estimates from being acceptable as a well-being index. For instance, one such convention limits the scope of the income enquiry to transactions quantifiable in the market place. Therefore, transactions which cannot be quantified are omitted, as are all those which do not enter the market. These latter include not merely voluntary work and non-monetary services, but also what Mishan aptly calls "negative goods"—the increasing burden of disamenities in the modern world.

The Census of Population

The employment/occupational aspects of the Census of Population is also an attempt to measure a flow—the changing patterns of employment by industries over time. It is based on a cross-sectional investigation of the pattern on one specified day every five or ten years. The Census relates to the *de facto* population, so it includes visitors (including seamen) to Ireland on the specified day and excludes those Irish residents temporarily out of the country. Since these movements could upset the figures, the day selected is usually one on which passenger movements are thought to be at a minimum, and therefore, the distortion relatively insignificant. Within the country, persons on holidays or visiting relatives on the Sunday nights specified, inevitably bias the normal distribution of workers by location. Some measure of this bias will be obtained from the 1971 CP.

The value of the Census data for income studies is that it ensures that all those in the work force are accounted for in the estimates. However, the

Census is not designed for income estimation and, not surprisingly therefore, it does not include information which would be valuable for this purpose. The occupation or industry which a person attributes to himself gives no information on the duration of his work at that occupation, or in that industry. The number of women in the labour force tends to be underestimated.³ Except for those engaged in agriculture and the rated occupiers of land in 1961, no information is available on subsidiary occupations. Nor is it possible to track down the activities of seasonal migratory workers, such as "tatie hokers", whose foreign earnings make a substantial contribution to income in certain areas. In some cases, as perhaps that of University employees in Donegal, the residents of a border county may work outside the State. These should be excluded from any distribution of domestic earnings.

1.4 *Alternative Approaches (National and Regional Accounts)*

Not everyone would accept an approach linked so directly to national income accounting. Some⁴ would hold that, since regional income estimates seek to throw light on a different set of policy issues than those for which national income accounts were designed, there should be a completely different mode of calculation based on independent local records. In practice, data scarcity usually dictates some combination of both approaches.

Whatever approach is adopted the regional estimates should be reconciled with the national control totals to underline the analytical and statistical inter-dependence of regional and national estimates. This means, in effect, that the structure and definition of regional accounts is predetermined to some extent by the national accounting system. If regional accounts are to be developed from the national accounting framework, then priority should be given to those aspects of national accounts which can be most meaningful in answering the likely range of regional policy issues.

1.5 *Differences Between National and Regional Accounts*

National and regional accounts differ of their nature. National accounts distinguish clearly transactions with the rest-of-the-world from domestic activities. Nationally, the value of output of goods and services can, conceptually at least, be measured at three points in the productive process: at the point where the goods and services are produced (net product); where payments are made to the factors of production for their contribution to the productive process (aggregate incomes); and where the goods are bought and sold (total expenditure). Nationally producers, income earners and consumers are the same people (and institutions). Consequently, each income

³Cf. R. C. Geary and J. G. Hughes, "Certain Aspects of Non Agricultural Unemployment in Ireland", ESRI Paper No. 52, 1970, p. 30, also General Report of 1946 CP.

⁴W. Hochwald, "Conceptual Issues in Regional Income Estimation" in 'Regional Income', Vol. 21, *Studies in Income and Wealth*, Princeton 1957.

J. Meyer, "Regional Economics: a Survey", *American Economic Review*, Vol. 1, No. 2.

aggregate helps to interpret and evaluate changes in the others and the implications for welfare of the change are relatively clear.

Regional accountants do not possess the same advantages. In the first instance, net product, aggregate income and total expenditure relate to different but overlapping sets of economic institutions. One of the major problems specific to regional, as opposed to national, income estimates, is the identification of the transactors and transactions involved at the regional level. Consequently the task of compiling double entry book keeping checks, which is one of the great strengths of national income accounting, is extremely difficult at the regional level. For example, in the absence of independently compiled estimates of regional balances of payments the compiler may be faced with the difficulty of allocating residuals of ambiguous meaning, not knowing whether the residual results from activities unaccounted for within the region, or represents a net balance with the rest of the world. For this reason the emphasis in research into regional income has tended to concentrate on those aspects of national accounts which can be constructed with a minimum of ambiguity on a single entry basis. Primarily this has been "personal income", followed by "income arising", which, happily, are the concepts of most meaning for most regional policy issues.

The double entry checking system is not the only advantage national accountants possess. Each economic transaction can be seen either as the source or the termination of a value flow that must be the same wherever it is measured. Since nationally, the source and termination will be within the system, or monitored as it crosses the national boundary, data can be collected either at the source or the termination, depending on the data facilities available. This flexibility is not available to the regional analyst, since practically all value flows crossing the regional boundary will be unrecorded, and therefore, unmeasured. However, it is easier to make allowance for these unrecorded flows in the case of personal income than in the case of the other income aggregates, since personal income relates to the county of residence, for which data are more complete. As will be seen, personal income also involves fewer conceptual difficulties.

Another difficulty arises from regional differences in the commercialisation of certain activities. In poorer regions certain services may be provided in a non-market framework, which in the wealthier regions would be regarded as market transactions. Obvious examples are the consumption of home produced products and household services. At the national level it is rarely necessary to give explicit recognition to differences of this nature subsumed in a national aggregate. When making inter-regional (or inter-national) comparisons, failure to do so in constructing income estimates could vitiate the value of the results.

When working from market transactions, it is also important to avoid double counting in estimates of output or inputs. However, just as in input-output analysis the national value of sales by an industry exceeds the national

output of that industry by the amount of inter-industry transactions so too, in regional accounts, items which are netted out nationally may be very relevant as debits or credits to a particular county's income.

Regional differences in prices, about which little is known in Ireland, will reflect to some extent, regional differences in market structure. If local prices are used to evaluate production, or income earned, the resulting monetary values may refer to different real magnitudes in the various regions. A similar problem concerns the appropriateness of valuing unsold farm produce consumed by persons in farm households at retail rather than at farm prices.⁵ To use (regional) retail prices would mean a departure from the National Accounts standard. A thorough-going appraisal of the specific needs of regional analysis might well justify these and other changes in the scope, valuation and definition of net output used at the national level.

1.6 *Data Difficulties*

Apart from conceptual problems, data difficulties may also arise. In the current study many of these difficulties are avoided through the active co-operation received from the Central Statistics Office, the Government Departments, semi-state bodies etc. One common difficulty, however, proves as intractable here as elsewhere. This occurs where national estimates are derived from either a sample survey or from the projection of past relationships. In both cases the sample is adequate for national purposes but the paucity of observations poses difficulties for regional disaggregation by counties. Two Irish examples would be the earnings of professional persons, which are based on a small sample, and the imputed rents of dwellings, which are the product of national average rents and the national housing stock.

A few general observations on the derivation of the different national aggregates may help in understanding the nature of some of the major data and conceptual difficulties involved. For convenience, these aggregates will be grouped under the appropriate measure of total income, be it personal income, income arising or expenditure and saving.

1.7 *Aggregates in Personal Income*

(a) *Income From Agriculture*

In many ways the least ambiguous items to estimate on a county basis are the remuneration of employees engaged in farming and forestry and the income of self employed persons engaged in farming and fishing. The con-

⁵In a footnote to their 1960 estimates, Geary and Attwood point out that "In 1960 the distribution cost (i.e. the difference between value at retail and farm prices) of farm produce consumed on farms without process of sale was officially estimated as £18.7 million, equivalent to 69 per cent of this produce valued at farm prices (£27.1 million—see foot of column 12, Table 3). Applying this percentage to the Mayo figure of £2,637,000, an addition to the welfare income of Mayo of £1,820,000 is obtained, equivalent to £15 per head of population of Mayo, the corresponding addition for Dublin being less than £1. Accordingly, the welfare comparison of personal income per head, instead of being £153, as shown in Table 12, col. 6, would be £168. Adjustments on these lines may readily be made between all counties." This exercise did not use local retail prices.

ventional method of deriving income from agriculture is to deduct total expenses, excluding wages, from total output. This approach means that the results are obtained without reference to the numbers engaged in agriculture, except in the final division of the county's agricultural income between self employed and employees. In the case of employees errors in calculations of duration or remuneration of employment will affect the wage bill but not the total county income for farming. The main conceptual difficulties arise in overcoming the lack of detailed knowledge of livestock trading patterns between counties, and imperfect knowledge of differences in farming structure, which could influence the volume of expenses incurred regionally.

Part of the convention in determining farm incomes is to omit allocating interest on the farmers' own and borrowed capital. The only interest or rent element calculated relates to land annuities which, being paid to the Central Government, are excluded from personal income. Since farms are almost exclusively owner occupied family farms, no problems with dividends or absentee landlords arise. For these reasons it is clear that personal income from agriculture in a county will correspond closely with the net domestic product or, as it is termed, "income arising".

(b) *Non Agricultural Employee Remuneration*

The main source of information on employee remuneration in industry is the annual Census of Industrial Production. The CIP returns give wages, etc., paid out at the place of employment, and exclude wages paid by very small firms. Employment in these small firms is difficult to estimate adequately. The CP gives numbers at work in each industry by residence of worker and includes resident CIP and non-CIP employees and resident employees, (including own account workers and relatives assisting), all of whom work in the county. It also includes resident employees, both CIP and non-CIP, and employers who work elsewhere.⁶ The CIP returns include employees and proprietors in CIP industries, whether resident in the county or elsewhere. If the CIP returns are deducted from the CP figures, a multipurpose residual is obtained, which clearly contains more elements than resident employees engaged in non-CIP small industries.

Further problems are created by the nature of certain types of employment. For instance construction workers may live in one county, report to work in another and actually engage in physical construction in a third county. In the latter case, the site may shift from time to time over many areas. This problem is similar to that of the commercial traveller, or the barrister on circuit. By and large these problems create more difficulties for the estimation of income arising than personal income, tied, as the latter is, to the residence distributions specified in the Census.

The problems met in industrial employment are also found in distribution.

⁶Naturally, no information is available as to whether these employee commuters are from the top levels of management, the bottom grades, or are on average typical of employment in general.

For public administration and certain aspects of "other domestic" employment (notably education and health) the Departments concerned provide tabulations of wages paid by residence of the recipient. For many other categories of employment, especially in service industries, only a national breakdown is available of the division between employees, employers and relatives assisting them. It is very likely that the structure of these industries varies considerably, regionally. However, in the absence of further analysis of CP returns, it must be arbitrarily assumed that the regional proportions are the same as the national ratio. Although this assumption may result in some inaccuracy in the estimates of employee remuneration, a compensating error will occur in the subtotal for income of self employed. Thus, any misallocation has no effect on total county income.

Little is known about county differences in the earnings of employees in industries not covered by the CIP and the Census of Distribution. For these industries a weighting factor has been evolved, using one or both of these sources for the purpose. This may bias the weighting, since average county earnings in the CIP are at least as much a function of the industrial mix and the sex ratio in industrial employment as they are of geographical location.

(c) *Income from Self Employment Outside Agriculture*

At the national level, many estimates are based on sample surveys used to update benchmark incomes. The resultant estimates are adequate for national aggregates but frequently pose problems for regional calculations. Earnings of professionals, for example, are the product of volume of business and unit charges per job completed. In some instances, evidence suggests that unit charges are considerably lower in Dublin than elsewhere; in other instances, considerably higher. Little is known about the regional variations in the volume of business of, for instance, those in the legal and medical professions. This affects not merely their own earnings but their demand for, and ability to pay, assistants. Similarly, self-employed persons, such as taxi-drivers and small builders, may differ greatly in the volume and type of work available in different areas. For example, the large number of taxi registrations reported for Donegal may merely be an indication of the need caused by less frequent public services, rather than the reflection of the transport habits of the residents and seasonal tourists. *A priori* these taxis would be expected to work less intensively than those in the large Dublin car hire and taxi firms.

In retail trade some idea of county variations in earnings per self-employed worker (including employers and relatives assisting), can be obtained from the Census of Distribution by comparing net margins of unincorporated firms per non-employee. This Census also provides details for other industries, such as hotels, which enable the weighting factors to be applied to provincial, rather than national totals, with the possibility of greater accuracy as a result. In the remaining industries, county variations in the earnings of self-employed are taken to be the same as for employees.

(d) *Rent of Dwellings*

Rent is based on benchmark figures derived mainly from the relevant volumes of the Census of Population. This is updated by indices of rent costs and new construction, calculated annually on a national basis. Several problems face the regional analyst. How representative of the county stock are the rented dwellings for which county detail is available in the Census? If benchmarks can be evolved for counties how should they be updated? Do existing stocks and new additions relate to different quality levels regionally, and what is the regional structure of rents for similar housing services?

(e) *Interest and Dividends*

The ideal method of obtaining estimates for these items of personal income would be from the returns of the recipients—i.e. in the Income Tax returns. This may be feasible when the Income Tax returns are completely handled by computer. However, even if the Revenue Commissioners were to provide such information, difficulties would arise where a tax accountant, not resident in the recipient's county, handles his returns for him, since for tax purposes it is the accountant's location which would be recorded. A more serious difficulty arises where interest and dividends are earned by those outside the preview of the Revenue Commission, either because of low incomes, or because they are engaged in agriculture.

The approach used in this study is to study the county holdings of National Debt and Irish company stocks. This study is based on a minute sample of public companies and, of its nature, could not take account of dividends etc. from foreign companies. Even if Irish companies were adequately sampled the county distribution of Irish holdings in foreign companies could well be very different. Unless the Revenue Commissioners analyse the Income Tax returns, nothing will be known of the residence of the shareholders in private companies since there is no statutory requirements on them to provide such information.

(f) *Other Items*

The Social Welfare payments, which form the bulk of the Current Transfers from Public Authorities, present little difficulty since the Department of Social Welfare keeps excellent records by county of residence of the recipients. Only in the case of unemployment payments, which are recorded by local office, is it necessary to make special allocations by county. Transfer payments also include payments in non-profit-making institutions. Of these the most important are payments to secondary schools and universities. The sums involved are used for the remuneration of employees in education, which is included under the other domestic sector. In making welfare comparisons between counties it might be preferable if these and other income of non-profit-making institutions could be excluded from personal income. However, the separation of household income from the income of non-profit-making institutions would present very considerable data difficulties at the present time.

“Emigrants remittances” are calculated by the county where the remittances are cashed, which should correspond closely with the county of residence of the recipient. The net inflow of wages, salaries and pensions from the rest of the world is taken to be predominantly pensions and allowances from the British Treasury and distributed by the county of residence of those in receipt of such payments. This procedure overlooks pensions from other sources, particularly the United States, and ignores the possibility that Irish residents may be employed and paid by foreign companies for activities conducted outside the State. No attempt is made to estimate the gross amounts entering and leaving counties. Instead the net national figures are used to distribute sums to counties.

1.8 *Aggregates in Income Arising*

The concept of income arising is closely analogous to that of net domestic product. It is more difficult to calculate accurately since there is no basic reference point, such as the Census of Population, to ensure that all those at work in a county are included in the county calculations. The problems involved vary from sector to sector.

(a) *Agricultural Income*

In agriculture, the county of residence and county of work are taken to be synonymous. The calculations for wages and income from self-employment can be used directly but need to be supplemented by the rent element in land annuities excluded in the personal income estimates.

(b) *Non-Agricultural Employee Remuneration*

Wages and salaries calculated for personal income refer to the county of residence of the worker. These totals need to be adjusted for commuters, especially in the case of industrial workers. As explained earlier, the multi-purpose residuals obtained by deducting CIP returns from the Census of Population data make it impossible to distinguish commuters from workers unaccounted for in the CIP returns, and from self employed persons and their relatives assisting them. Therefore, in the attempt made by Attwood and Geary, and also by Ross, to calculate income arising, the personal income estimates were allowed to stand, even though in the case of turf production the county of employment was also available.

(c) *Alternative Approaches to ‘Other Non Agricultural Income’*

Almost 80 per cent of ‘total income arising’ is accounted for under items (a) and (b) above. As we have seen its distribution pattern is similar to that for the corresponding items included in personal income. The treatment of the remaining 20 per cent depends on the aim of the study. The purpose may be to effect a transition to income arising from personal income. In such a

case non-domestic sources of income, (such as 'emigrants remittances' and 'remuneration of employees from abroad'), must be eliminated from the remainder of personal income. Income transfers, such as current transfers from public authorities and interest payments on National Debt, must also be subtracted. Three items remain: (a) income of independent traders outside agriculture; (b) rent of dwellings (actual and imputed); and (c) dividends and interest paid to households and private non-profit making institutions.

The county distribution income of self-employed persons on an income arising basis will, in many cases, prove identical with that for personal income purposes. This is particularly true of major recipients, such as shop-keepers, doctors, and teachers who belong to religious orders who tend to live where they work. Where it is not so true, e.g. in the legal professions engaged in circuit court work, it is difficult to achieve a satisfactory compromise, so the fiction has been adopted that, as small numbers are involved, the use of residence as a distributor will not seriously upset the estimates. This, then, is also a common item to both the personal income and income arising approaches.

A similar course is adopted for the actual and imputed rent of dwellings. Where the dwelling is owner occupied, the distributions of income will coincide. Where it is rented from the Local Authority, the subsidy element will accrue to the occupier. Where it is rented from someone else, it is assumed that the owner resides in the same county. This may be unsatisfactory, but no alternative method proved feasible.

The last remaining item in personal income comprises dividends and interest paid to households, etc. As such it includes dividends, etc. received from non domestic sources. Where the source is a domestic one, the county where the income arises need not coincide with the county where the shareholder resides, and frequently does not. For these reasons, the county distributions, appropriate for personal income purposes, are irrelevant in distributing profits and interest arising domestically. Rather than make adjustments to the personal income subtotal, it is simpler to scrap the distributions entirely and calculate interest and dividends arising from the domestic activities of the county directly and add them in. The distribution of these distributed and undistributed profits by county of origin, and the distribution of Government trading and investment income complete the list of items necessary to achieve the transition from personal income to income arising.

An alternative approach takes the national income viewpoint. Once again employee remuneration and agricultural incomes can be eliminated. In this case the constituent elements of the balance are: (1) the trading profits of companies, including all corporate bodies before tax, (2) income of the Post Office and Post Office Savings Bank; (3) Other trading profits, professional earnings etc.; (4) Rental Income (dwellings and Land Annuities). Here, item 3 is the personal income of independent traders outside agriculture in a new guise.

Again if a sectoral viewpoint is taken, the first three items in the second

approach could be rearranged into "other income" from industry, distribution, transport and communications and the other domestic sector. These could be combined with employee remuneration in these sections to obtain total income arising by sector. This is the approach favoured by Attwood and Geary.

The allocation of the trading profits of companies, including the net income of the Post Office and Post Office Savings Bank, does, however, give rise to some problems of measurement. Company profits are not reported by establishment. Therefore, there is some ambiguity in allocating profits on the basis of gross margins, net output less employee remuneration, or other similar measures. For analytical purposes there are certain advantages in allocating company profits by sector but this may entail different procedures for each sector.

1.9 *Net National Product*

The calculation of income arising, or net domestic product at factor prices, amounts to a summing of the net value added by all production activities within the region. Such a measure is very informative when the focus is on changes within the regional economy. To link this aggregate to the national income concept of net national product it is necessary to allow, first, for stock appreciation i.e. that portion of the change in value of non-agricultural stocks arising from price changes during the year. Furthermore, it is necessary to estimate outflows to pay for factors in the region which are owned by non-residents, as well as inflows of payments to factors owned by residents, which are economically employed outside the region. The construction of such a regional balance of payments presents considerable difficulties, since there is no incentive for records to be kept of the relevant movements in most cases. If these balances are attempted on a residual basis, there is always the danger that the residuals may represent unrecorded transactions within the region, rather than inter-regional movements. To clear up this ambiguity, it would be necessary to make independent estimates of regional consumption, savings and investment. This is, of course, the third possible method of calculating regional income.

1.10 *Expenditure and Savings*

Some aspects of private consumption expenditure are well documented in the Census of Distribution but the records relate to the location of the seller, rather than that of the purchaser. It is necessary to allow for commuting shoppers. However, trading patterns differ with the type of purchase and customers may travel considerable distances when purchasing fashion and specialty goods as well as consumer durables. The purchase of services also relates to the seller. Here again the nature of the service will dictate whether producers and consumers can reside at considerable distances from each other. Domestic service will be provided at the consumers' residence but specialist medical consultations may take place outside the region. A particular aspect

of the problem would be to identify purchases of goods and services by non-residents of the State.

In addition to personal expenditure on consumers' goods and services, personal income includes taxes on personal income, which, by and large, should be identifiable by county from Revenue records. It also includes personal savings. This latter item would be difficult to estimate directly on a regional basis since the national estimate is itself a residual, obtained by deducting total personal expenditure from personal income. Being a residual, it would tend to contain the errors in the estimation of other magnitudes, especially purchases by non-residents of the county.

An attempt at regional expenditure estimates was made by Attwood and Geary in their 1960 study, but was abandoned. This was due to the difficulty of reconciling the alternative estimates of personal income for Dublin, arrived at via net product and expenditure bases. No satisfactory method could be found to allocate the difference of £68 million, which they attributed partly to purchases by Irish residents living outside the county, and partly to purchases by foreign visitors to the city. This illustrates one of the measurement difficulties of the expenditure approach.

For these reasons the expenditure approach is the least well developed line of enquiry into regional incomes in Ireland and elsewhere. If regional analysis requires a set of checking double-entry keeping book records it will be necessary to overcome the data problems outlined above. However, regional policy may not require such a detailed set of accounts. The industrial origin of income received, and a record of regional production by key industries as they adapt themselves to changes in the national market, may be more helpful than the regional expenditure estimates required for the technical completion of a regional accounting system. A regional balance of payments, even if properly defined, has not the same policy implications as the national balance of payments, since independent regional commercial or monetary policies are not likely to be contemplated within the nation.

1.11 *Summary*

In this paper the assumption has been that the national aggregates will be adhered to strictly. This may not be entirely satisfactory from the viewpoint of regional analysis. National income accounts, designed to facilitate short run analyses of the economy, can assume stability in national economic institutions. Regional income estimates are geared to inter-regional comparisons of economies with differing economic and social structures. Some of the conventions underlying the national estimates may therefore be inappropriate to this purpose. Possible adaptations have been mentioned earlier. It might be advisable to include more non-market activities within the scope of the estimates. Different valuation procedures may be preferred. For example, farm consumption of own produce might be valued at retail, rather than farm

gate prices. Practices associated with the final product of Government and banking might be modified.

It is assumed that a main use of regional estimates will be inter-regional comparisons. Such a use involves a word of caution. As the income estimates stand, there may be serious omissions, which reduce their value for comparative purposes. Some of these are economic and have been touched on above. For instance, a given income level may result in a different standard of living in different areas, due to differences in local prices. Others relate to other social indicators, such as the distribution of incomes and the levels of living—health, education, recreational facilities, congestion, pollution, etc. Many of these have only begun to receive the attention they deserve from welfare economists and will take a more prominent position in comparative studies in the next decade.⁷ Again incomes must be related to population levels, dependency ratios, employment, consumption and savings. These provide a record of past achievements. To complete the analysis, it is necessary to study the present in terms of output levels and efficiency in factor employment and the future in terms of the region's potential to hold and attract growth industries.

The remaining chapters in this paper present the detailed methodology used in each sector. They discuss alternative methods of estimation, and in particular, indicate where there are major differences between the Ross approach and that employed by Attwood and Geary.

⁷For example, the fact that the age standardised death rate in Leinster at 12·47, is higher than that of Connacht at 10·65 is surely relevant in regional comparison, *Report on Vital Statistics, 1966*, Dublin.

CHAPTER 2: AGRICULTURE

2.1 GENERAL

(a) *Income Estimates from Survey Data*

The ideal⁸ method of determining income derived from agriculture in each county in 1965 would be to base it on an investigation such as the National Farm Survey.⁹ Such an approach might have been adopted were it not for the problem of sample bias. Since these farm surveys are based on fairly small samples it is difficult to ensure that the results are not biased upwards. For instance, the report of the National Farm Survey estimates¹⁰ that its results exceed the national averages of output, expenses and income by about one sixth. This bias relates to the sample as a whole, and the bias for individual regions or counties, being on fewer observations, could be expected to be much greater. In the present instance, a further difficulty is presented by the absence of any adequate National Farm Survey results for 1965.¹¹

For these reasons regional agricultural incomes cannot be satisfactorily estimated from farm accounting data. The alternative is to allocate the national figures among the different counties, using for this purpose allocators appropriate to the different commodities.¹² The successful use of this method requires familiarity with both Farm Survey results, (for suitable regional allocators), and the procedures used nationally to estimate farm incomes.

(b) *The Basic Approach of the National Estimates*

At the national level agricultural incomes as a whole are determined on the basis of commodities rather than by grossing up the figures obtained from farm surveys. The first step is to calculate the gross output by commodity. This consists of sales off the national farm to other sectors of the economy,

⁸"Despite other drawbacks, surveys are the best means of determining the level of farm incomes on different sizes and types of farms in different regions of the country". R. O'Connor, "Observation on the measurement and distribution of Irish farm income", *Irish Journal of Agricultural Economics and Rural Sociology*, Vol. 1, No. 2, Dublin 1968, p. 142.

⁹National Farm Survey, 1955/6-1957/8, Dublin 1961.

¹⁰*Op. cit.*, p. xviii.

¹¹The 1964 survey by An Foras Taluntais, which was based on a sample of just over 600 farms accounts, excluded the congested districts and was, in addition, designed to yield farm management data rather than estimates of national income.

¹²With different allocators and different levels of detail this approach was used by Byrne to estimate provincial outputs in selected years from 1926/7 to 1955; (cf. J. J. Byrne, "Some provincial variations in Irish Agriculture", *JSSSI*, Vol. XX, Part II, 1959) and for counties by Attwood and Geary (*op. cit.*). Ross, who compared the results for 1960 using both approaches, concluded that they were in broad agreement on the relative income levels of different farm sizes in different regions. (Cf. M. Ross, "A regional study of the relative prosperity of Irish farms of different sizes". *Economic and Social Review*, Vol. 1, No. 1, 1969).

plus exports less imports (in the case of livestock) plus consumption in farm households of unsold farm produce plus or minus inventory changes, (where applicable). Much of this information is derived from Foreign Trade Statistics and from special returns furnished by firms processing farm output, e.g. abattoirs, mills, creameries, etc. Additional data is provided by household budget enquiries, the National Farm Survey, and the replies to specific questions in the Agricultural Enumerations made in January and June each year. The prices used in the valuation of gross output are those which it is estimated were actually paid to farmers at the farm gate. Inventory changes, based on the January livestock enumerations, are computed separately for certain classes of livestock.

The next step is to deduct the expenses incurred by farmers in producing this Gross Output. Data on material inputs, such as fertilisers, feeding stuffs and seeds, are obtained mainly from the returns of suppliers and manufacturers, and from import statistics. These inputs are valued at prices actually paid by farmers. Other expenses are derived from a number of sources, but mainly from benchmarks calculated from the National Farm Survey. The balance remaining is the income arising from agriculture in the year in question. This is the sum available to pay for hired labour and to remunerate family workers for labour, management and interest on their own and borrowed capital employed in farming.

In National Accounting conventions in Ireland, income arising is equated with personal income derived from agriculture. (For non-agricultural industries income arising and personal income are not synonymous. Undistributed profits must be deducted from the income arising to arrive at an estimate of the personal income for the industry. Since farming by companies is a rarity no such deduction is necessary for agriculture.)

(c) County Estimates

To duplicate the national procedure at county level would require an estimate of county agricultural output based on sales off the county farm to other sectors of the county economy, plus net exports to other counties and out of the State, plus consumption in farm households of unsold farm produce. This would have to be valued at local ex-farm prices and, where livestock is concerned, would involve the calculation and evaluation of January to January changes in inventories. From county agricultural output the expenses incurred in production would need to be deducted. This is unfeasible, given the current levels of data availability. Practically nothing is known about interregional sales, local prices, or local variations in such factors as productivity. Information sources, which are adequate for national purposes, e.g. abattoirs and fertiliser manufacturers, would be totally inadequate when constructing county estimates.

For these reasons a different approach must be adopted. The remainder of this chapter discusses the methods used for each item in turn.

2.2 CATTLE

(i) *National procedures*

In national agricultural accounting practice, gross output of cattle is reckoned to be sales off the national farm less purchases, adjusted for the difference between the closing and opening inventories. It is obvious from this definition that output corresponds to births less deaths, but in practice neither births nor deaths are explicitly taken into account in calculating output. No doubt estimates of these items are used in checking the sales and stock figures.

(a) *Sales*

In estimating national output, live imports and exports, as well as deadmeat exports converted into live equivalents, are derived from the Foreign Trade Statistics. Slaughtering for domestic consumption are derived from returns by County Councils and from a special survey of butchers. All slaughtering, both for home consumption and for export, are checked against hide merchants' returns supplied to CSO, and against returns by registered meat export factories supplied to the Department of Agriculture. Though some small number of young cattle and calves are exported live, the sales figures relate predominantly to animals over 18 months old.

(b) *Inventories*

The opening and closing inventories are based on a 25 per cent sample taken at the beginning of January each year. This sample is adequate for its purpose, i.e. the estimation of inventory changes nationally, but county estimates would be subject to unacceptable margins of error. The greater coverage of the June enumeration permits the publication of county inventories by age group, though in years in which less than 100 per cent sample is taken, the figures are rounded to the nearest hundred.

(c) *Prices*

Cattle output is valued at the nearest point of sale to the farm. Trade statistics give the value of cattle at the point of export and an adjustment is made to bring this f.o.b. price back to the ex-farm price. The meat factories supply an annual statement of payments to farmers, while the categories of livestock slaughtered by butchers are valued at average national prices. In recent years inventory changes have been valued at average annual prices for each category of animal; previously the prices used were those obtaining in December of the year concerned.

(ii) *County Estimates*

As is well known, there is a considerable amount of regional specialisation in cattle rearing and fattening.¹³ This results in flows of cattle between counties

¹³M. Ross, *op. cit.*

at varying times over the two or three years of the animal's life. The length of sojourn in different areas will vary, e.g. many calves dropped in Limerick may be exported to Clare within a few days of birth but remain in Clare for several months. The timing of these movements is influenced by feed supplies, the traditions about winterage and by the regional variations in the monthly distribution of calf births. The task of the regional accountant is to quantify this general knowledge, by developing a set of data on births, deaths, slaughterings, imports, exports and inventories for each county. Apart from a small amount of regional information in the National Farm Survey, the only firm figures available at county level are the annual June livestock enumerations.

Some estimates of the numbers entering output in each county can, theoretically at least, be derived from three different sources: (a) the records of those engaged in trading or slaughterings; (b) from inventories taken at frequent intervals, and (c), as the difference between births and deaths. The first source, so fruitful for national estimates, is ruled out by lack of data at the county level. Accordingly the various attempts to construct county estimates have concentrated on the other sources, particularly on the second.

The difficulty with the second approach is that the interval between inventories—12 months—is too long to record adequately the timing of changes in county herds. If the January enumeration could be extended to yield accurate county estimates this would be a first step towards an improvement. It would also be desirable to have January figures since national estimates of stock changes are on a January-to-January basis.

The third approach is hampered by the lack of data on cow fertility and calving rates. Calving rates must be related to the breeding herd. The relevant size of this herd is impossible to determine from the June enumeration, due to regional differences in the timing of calving. In spring-calving areas, most of the heifers calving for the first time in the year will have calved, and will be classified as cows. In liquid-milk areas, where more of the calving is later in the year, these animals will not have calved yet.¹⁴ Thus, the relative number of calves estimated for any county will depend on whether cows, or cows plus heifers-in-calf, or some compromise, is used as a distributor.

(iii) *Earlier attempts to estimate cattle output*

At present day levels of data availability these difficulties cannot be overcome satisfactorily. As we shall see now, research workers have differed in the compromises they have employed to cater for these difficulties.

(a) *The Allocation Method*

The first published attempt at calculating regional cattle output appeared in 1959, when Byrne¹⁵ disaggregated the price of a mature animal into the

¹⁴The ratio of cows to heifers-in-calf for Westmeath, Kildare and Carlow in June 1960 were 4·81, 5·80, 5·85, while for Limerick, Kerry and Sligo they were 26·31, 17·27 and 16·91 respectively.

¹⁵Byrne, *op. cit.*

increments of value added over the duration of the four age categories used in the June enumeration (i.e. 0-1 years, 1-2 years, 2-3 years, and 3 years and over). The numbers in each age category in the provinces were then multiplied by the relevant increments of value added, to give provincial outputs. The sum of values added in each province were used to form a weighting factor to allocate national output. Byrne used the same prices for all provinces and did not calculate cow output,¹⁶ calf births, or inventory changes.

(b) The Survivorship Method

This is the traditional method of estimating cattle disappearances by age groups and is the one used by Attwood and Geary in calculating the contribution of cattle to county incomes in 1960. Using this procedure the output of cattle in a region is estimated by comparing numbers in different categories in two inventories a year apart. For example, if we assume the reconciling is done correctly and we postulate that there are no deaths or sales, then the number of cattle in any age group (cohort) this year must turn up in some other cohort next year. Now if all of a particular group do not turn up somewhere next year it must be presumed that they have sold off farms, or have died. Hence, by making certain assumptions about mortality, it is possible, by the examination of cohorts in successive years, to determine the sales of different classes of cattle in the intervening years. In addition, when Attwood and Geary valued these sales in 1960-61 at official 1960 prices and summed the results, the total value so obtained came out surprisingly close to the official figures for cattle output (excluding stock changes) in 1960, i.e. £52.81 million, as against the official 1960 figure of £52.24 m.¹⁷ One's first impression is that this result is somewhat fortuitous, since it relates to a June/June, as against the January/January, year. Similar calculations for other years, however, using pre- and post-calendar split years, also gave close estimates of the corresponding official outputs. Hence it must be concluded that the method has some merit. It has, also, some drawbacks, which are discussed below.

(c) The Inventory Method

In the survivorship method as used by Attwood and Geary, cattle sales (for a June-to-June year) were estimated independently of stock changes. The published figures for the latter (which were based on January counts), together with inventory changes for other livestock, were later distributed on a county basis by some method not stated. The author feels, however, that since cattle disappearances between June and June were used in obtaining the

¹⁶In the appendix to Byrne's article, on page 74, there appears to be a misprint, since "milch cows" are given as the first category of cattle in the provincial groups, and not "cattle under 1 year". Perhaps milch cows are used as a proxy for the latter?

¹⁷The estimates figure was therefore about 1 per cent above the actual and in order to get complete agreement the county figures are each multiplied by 100/101.

alone. This avoids the elaborate calculation of cohort analysis, etc. required by the survivorship method.

The above calculations, though giving the correct overall number of cattle in the output for the year to which the inventories relate, do not necessarily give the correct numbers in each category, and this is especially true in relation to the output of cows. If we carry out the simplification suggested above, and substitute the price of cows for those of heifers-in-calf, we find that the output of cows in a particular year is represented by the number of heifers-in-calf in the June enumeration, either of that or of some other year. This is not likely to be correct. Though the number of heifers-in-calf, which calve in any particular year, represents the disappearance of cows in that year (after allowance has been made for changes in cow numbers), the problem is that the numbers of heifers which calve during a year are not equal to the numbers of heifers-in-calf in June, since the latter are at a minimum at this time of year. This is borne out by the fact that the number of cows slaughtered in any year, which is known with a fairly high degree of accuracy, is practically always higher than the number of heifers-in-calf in June of any of the adjacent years.

In the years in question, (i.e. 1960 and 1965), the number of cows slaughtered were 16.62 and 19.31 per 100 cows in June in these years respectively. In order to get cow slaughtering correct, these culling rates, which we call (K), applied to the June Cows (M_2) are used instead of the number of heifers in calf (H_2). The same culling rate is used for each county, as it is felt that this rate does not vary significantly from one county to another. Since KM_2 is not equal to H_2 this substitution gives us an incorrect total number of cattle. Accordingly we must make a corresponding adjustment in some other category of cattle to offset this. The adjustment is made to the 1-2 year old cattle (Y_2) since it is assumed that all the heifers-in-calf come from this group. If KM_2 exceeds H_2 by E , then sales of cows becomes $M_1 + H_1 + E - M_2$, and output of 1-2 year olds $Y_1 - S_2 - H_2 - E$. When these modified outputs are combined with inventory changes the combined value of cows becomes $P_m(H_2 + E)$ or P_mKM_2 , while that for 1-2 year olds becomes $P_y(Y_2 - S_2 - H_2 - E)$ or $P_y(Y_2 - S_2 - KM_2)$.

Another modification has to be made in relation to calves. An expected number of calves for each county is calculated by multiplying the cow numbers in the county by the average number of cattle under 1 year per 100 cows in the national herd. If the expected number of cattle under 1 year is greater than that reported in the closing June inventory, then sales must have occurred; if it is less, then calves must have been purchased. The "calving rates" per 100 cows used are 85.32 and 87.35 in 1960 and 1965 respectively. This also needs to be incorporated in the calculations above. The expected surviving births are D_2 obtained from $R.M_2$ where R is the national calving rate adjusted for early mortality. The actual number under 1 year is C_2 ; therefore sales of young calves are $D_2 - C_2$ and receipts are $P_d(D_2 - C_2)$, where P_d

is the price of dropped calves. Set out in symbolic form the calculations of the inventory method are as shown in Table 2.3.

TABLE 2.3: *Symbolic representation of inventory method*

Category	Volume of output, i.e. sales and inventory change	Price	Value of output
<i>M</i>	$K.M_2$	P_m	$P_m(K.M_2)$
<i>F</i>	F_2	P_f	$P_f(F_2)$
<i>S</i>	$S_2 - F_2$	P_s	$P_s(S_2 - F_2)$
<i>Y</i>	$Y_2 - S_2 - K.M_2$	P_y	$P_y(Y_2 - S_2 - K.M_2)$
<i>C</i>	$C_2 - Y_2$	P_c	$P_c(C_2 - Y_2)$
<i>D</i>	$D_2 - C_2$	P_d	$P_d(D_2 - C_2)$

If we cancel the pluses and minuses in the volume column of this table it will be observed that the estimate of total numbers either sold or entering inventory is D_2 , or the estimate of the surviving calf crop. The value of output depends on the way this is distributed over the various age categories and the prices used for each category.¹⁸

(iv) Prices

The inventory method has been used by the author in estimating volume of cattle output for both 1960 and 1965.¹⁹ These output levels must be valued. Since cattle prices vary considerably from county to county, local prices, if they were available, would appear to be the logical choice. In their absence Attwood and Geary choose provincial prices as the best available alternative.

Provincial prices, however, may reflect other influences besides location, i.e. the average age and weight of animals sold within any age category and the timing of these sales. Thus, in the under-1-year-old category dropped calf prices in 1960 were only 40 per cent of those of young stores over 9 months old. The per cwt. price of stores in November was only 75 per cent of the corresponding price in April. If a better record of cattle movements were available than that which can be deduced from the annual June enumerations, it would be preferable to use regional prices. In the absence of this information national averages are used. These have the additional merit of avoiding the problem of deciding whether to price inter-provincial transactions at the seller's or the buyer's price.

¹⁸The application of standard national culling (K), and calving (R), rates to the number of milch cows does not overcome the problem of the variation between counties in the ratio of cows to heifers-in-calf, with its attendant difficulties.

¹⁹The results were kindly supplied by Michael Laffey who experimented with a number of approaches before finally settling for this one.

(v) The Results

On the basis of average national prices the inventory method yields county estimates, which total £55.2 millions and £81.4 millions in 1960 and 1965, respectively. These totals are quite close to the official estimates for the same years, *viz.* £53.71 and £84.15 millions. These county estimates have been adjusted to make their totals agree with the official estimates, *i.e.* by - 2.7 per cent and + 3.3 per cent respectively.

These national figures are exclusive of net payments under the Bovine Tuberculosis Eradication scheme, and also exclude the value of casualty cattle hides. The latter is distributed in the same proportions as the county estimates of cattle output; the former in proportion to expenses incurred in the B.T.E. scheme, as published for each county by the Department of Agriculture.²⁰ The totals for each county are presented in Tables 2.7 and 2.8.

2.3 MILK AND MILK PRODUCTS

Published information on the output of milk products is summarised in Table 2.4.

TABLE 2.4: *Main categories of milk output, 1960 and 1965*

<i>Nature of Output</i>	<i>Estimated Quantity</i>		<i>Estimated Value</i>	
	<i>million gallons</i>		<i>£000</i>	
	<i>1960</i>	<i>1965</i>	<i>1960</i>	<i>1965</i>
Consumed by persons	127	133	14,035	16,722
Used in Industry	281	391	23,190	38,058
Buttermilk and separated milk	16	18	181	267
	<i>thousand cwt.</i>			
Farmers' butter	245	130	4,603	2,535
TOTAL	—	—	42,009	57,582

(a) Liquid Consumption

Three categories of consumers can be distinguished:

- (i) Those supplied by the Dublin and Cork District Milk Boards.
- (ii) Other non-farm consumers who have local sources of supply.
- (iii) Farm households.

²⁰*Annual Report, Department of Agriculture and Fisheries.*

Figures for the Dublin District Milk Board are based on a study of monthly supplies from each county, by Mr Cuddy.²¹ These deliveries are valued at the appropriate contract prices.²² Since the supply area for Cork does not extend beyond the county boundaries no allocation problems arise.

In 1965 the official estimate of national consumption of liquid milk was 133 million gallons, of which 55 million gallons was estimated to have been drunk by those living on farms. Thirty-eight million approximately were consumed in the cities of Dublin and Cork, leaving a balance of 40 millions odd to be consumed by the remainder of the non-farm population. In April 1966 the national population was given as 2,884,002; the urban population as 1,419,064, and the population on farms as 717,579. These figures are available on a county basis. From them it is possible to divide each county's population into three groups: (1) urban, (2) rural non-farm, and (3) farm populations. Apart from the farm population, all those in Dublin as well as those in Cork County Borough and Bray Urban District, are assumed to be catered for by the Dublin and Cork District Milk Boards—a total of 922,659 people. These are omitted from the county figures, which are aggregated into farm and non-farm components. The non-farm population is then employed to distribute the 40 million gallons attributed to this group. Similarly, the farm population is the distributor of farm milk consumption.

The 1960 estimates by Attwood and Geary are accepted without alteration. The procedure followed is broadly the same, differing only in the degree of detail. Supplies in the Dublin District Milk Board area are valued at an average price and distributed over the counties in the production area in accordance with the numbers of producers reported by the Dublin District Milk Board to be resident in each county. Farm consumption of milk is distributed using the number of "Males engaged in farm work in each county and province" (as published in the 1961 Statistical Abstract) as a surrogate for farm population. Distribution of non-farm consumption, outside the two areas mentioned, is also on a male basis. It is reckoned that of the estimated 1,416,100 males in the country in 1960, just over 1,007 thousand have been catered for above, either as Dublin and Cork consumers, or as farmers. The balance of 408,062 represents the non-farm consumers, assumed to be supplied by local producers. The county distribution of these non-farm males has been used to estimate farm sales in these counties.

(b) *Milk Used in Industry*

The estimation of this major item of milk output is greatly facilitated by the excellent creamery statistics kept by the Department of Agriculture. Among other details, these provide a statement of quantities of milk (butterfat)

²¹M. P. Cuddy, "Distribution of Income Supports to Agriculture in 1964/5 by County and Farm Size". Unpublished M. Agr. Sc. thesis, UCD, Dublin 1968.

²²Contract prices in Dublin were 2/2 per gallon May-August, 3/- in January-April and September, and 3/2 in October-December. Somewhat different prices were paid in Cork.

supplied by county and the average prices paid. They also set out the quantity and value of separated milk purchased by creameries. Unfortunately the county figures relate to the locations of the creameries supplying the data, and not to the location of the farms supplying the milk. This means that the figures do not give the exact county distributions. For example, because there were no creameries in Wicklow or Louth, the Department's figures did not credit these counties with any industrial milk. By making inquiries with the creameries, however, Cuddy found that Louth produced about 1.4 million gallons and Wicklow 0.9 million gallons in 1965. This prompted the author to consult with a number of creamery managers. In the light of their advice, the different county figures, as furnished by the Department, were adjusted where necessary. The adjusted figures have been used to distribute the official figure for milk used in industry, which differs slightly from the Department's return. The county figures so obtained are given in Table 2.6.

As far as can be ascertained, Attwood and Geary used intake at central and independent auxiliary creameries to distribute the manufacturing milk by county in 1960. The use of such a distributor will bias the county estimates where an auxiliary not independently registered, a separating station, or even part of the catchment area is located in another county. For this reason, a number of counties show no production of creamery milk in that year (see Table 2.6). Due to the lapse of time it was not possible to make adjustments similar to those made in 1965 returns. The AG estimates as calculated have, therefore, been accepted for this study also.

(c) *Farmers Butter, Buttermilk and Separated Milk*

Data on the manufacture of farmers butter are collected in the agricultural enumerations. The consumption of buttermilk and separated milk refers predominantly to farm use, and is distributed in accordance with the estimates of farm consumption of whole milk. County distributions for these outputs are given in Table 2.6.

2.4 OTHER LIVESTOCK

(a) *Sheep and Wool*

In the AG calculations output of sheep and wool were combined and distributed according to the number of ewes in each county. In eight Western counties output was valued at £6.5 per ewe, compared with £7.6 per ewe in the remainder of the country.

Subsequently additional information from the agricultural enumerations was published, giving the breed type of ewes in each county for both 1960 and 1965. The four types distinguished are "Cheviots", "Blackface", "Galways" and "Downs and others". On consultation with the sheep experts of An Foras Taluntais, estimates²³ were made of the amount of mutton and lamb produced

²³These estimates took cognisance of the data on fertility and rates of survival of the various sheep breeds published in the National Farm Survey.

by each breed type annually, and also of the quantity and quality of the wool clip. In terms of 1960/1 prices the estimates are £3.5, £6.6 and £8.6 per head, respectively for Blackface, Cheviot, and Other Breeds.²⁴ By 1965 wool prices had declined, but lamb prices risen so that the corresponding totals for the latter year are £6.4, £3.4 and £8.365. When these prices are applied to the ewe population the estimates correspond almost exactly with the official figures. These latter are:

	1960 £000	1965 £000
Sheep and Lambs	9,455	12,006
Wool	3,471	2,896
Inventory change	-566	+15
	<hr/>	<hr/>
Total	12,360	14,917

The county estimates for 1965, and the revised estimates for 1960, are set out in Tables 2.7 and 2.8.

(b) *Pigs*

The AG calculations used number of pigs per county in June as a distributor of output. In the present study an allowance is made for regional differences in fertility and for inter-regional trading. The National Farm Survey gives the numbers of pigs weaned per sow per year by major regions: East and Midland, 15.5; South, 15.3; and North and West, 16.8. If these estimates are reduced by 1 per cent (to allow for deaths) and multiplied by the sow population of the counties in each region, the total output so obtained tallies exactly with national estimates for 1960. The adjustment for 1965 would be almost 2.2 per cent. These rates are used to calculate the expected output in each county.

The June 1965 Census returned 551,638 pigs, other than breeding stock, as being over 3 months old. Pigs are ready for the factory at just over 6 months old. Therefore, if pig output is continuous, the relationship between pigs over 3 months old in the Census and annual output would be about 1 to 4. In fact the relationship was 1 to 3.54. When the numbers of pigs over 3 months enumerated in each county are multiplied by this ratio, an estimate of county outputs is obtained, which agrees with the official volume estimates. This can be converted to value terms by pricing each pig sold at £15.7.

This estimate of the volume of output can be compared with the expected

²⁴The breakdown between wool and meat for each breed is:—

	<i>Blackface</i>	<i>Cheviot</i>	<i>Other</i>
	£	£	£
Wool	2.84	1.2	1.575
Meat	.66	5.4	7.025

county output in 1965, as derived from the National Farm Survey data. If it is greater than the latter, it implies purchases from outside the county. If the reverse holds, then exports are postulated. Such inter-county trading usually occurs when the pigs are 8 to 14 weeks old and are worth, on average, £5.9 each. Using this price to value imports and exports, the earlier estimate of the value of county output can be adjusted to cater for intercounty flows of weaners. Similar calculations are made for 1960, with slightly lower prices for bonhams and fat pigs, and a lower ratio (3.3125), between pigs over 3 months in June and annual output. The estimates of pig output, which appear in Tables 2.7 and 2.8, include the change in January/January inventories, reckoned to be + £887,000 in 1960 and - £507,000 in 1965.

(c) *Horses and Ponies*²⁵

The output of horses consists of net exports of horses, the slaughter of horses for meat, and the sales of horses off the national farm for use in horse riding and commercial haulage. Laffey assumes that all horses permanently exported to the UK, USA and Canada were thoroughbreds. The remainder of output consists of exports of working horses, for work or meat, and domestic slaughterings. The output of thoroughbreds has been distributed, using the thoroughbred population reported in the June census. The population of working horses in each county is the distributor used for the remainder of output. The AG calculation used the "total numbers of horses and ponies" in each county to distribute national output.

(d) *Poultry and Eggs*

The national values of the several poultry products which constitute poultry output are listed in Table 2.5. In the AG calculations, the June census of

TABLE 2.5: *Value of poultry output in 1960 and 1965*

<i>Product</i>	<i>1960</i>	<i>1965</i>
		£000
Turkeys	1,396	1,131
Geese	344	228
Ducks	142	135
Ordinary fowl	2,116	3,851
Hen eggs	9,578	10,518
Duck eggs	308	215
Feathers, day-old chicks, etc.	152	219
Change in inventory	-99	-73
TOTAL	13,937	16,224

²⁵For this study Mr. Laffey kindly provided the estimates for 1965.

turkeys, geese, ducks and ordinary fowl over 6 months old were used to distribute the first six items listed, meat and egg production being combined in the case of ducks and ordinary fowl. The revised county figures for 1960 and the estimates for 1965 are derived from Laffey's thesis. The distribution of turkeys, geese, ducks and duck eggs follows the AG method, the only differences being the treatment of ordinary fowl, feathers, etc. and inventories.

Ordinary fowl are divided into broilers and other fowl. Information on county broiler production is collected annually by the poultry instructors for the Department of Agriculture, and this data was made available to Mr Laffey. The returns for registered and seasonal broiler producers by county are used to distribute an estimated output for broilers in 1965. The remaining output would be mainly culls from the laying flock, and a large proportion would be consumed by farm households themselves. The AG distributor is applied to this output. The same procedure was used in calculating 1960 output.

The total output of eggs is distributed to many uses; part goes to hatcheries to produce chicks for broiler production and for the export of day old chicks and poults, part goes to produce replacements for cullings from the laying flock and part to consumers and industrial users. The production of day old chicks is taken to be twice the number of "ordinary fowl under six months old" in June, plus exports less imports. The figure of "twice" is chosen because *a priori* 50 per cent of the chicks can be expected to be cocks. Laffey assumes 75 per cent hatchability. From these estimates we obtain a figure of 19.7 million eggs for hatching in 1965 valued at £266,000. These are distributed in proportion to the number of breeding stock in each county as returned by the Department of Agriculture.

The volume of chicks output is derived from the number of broilers plus the number of day-old chick exports. It is assumed that the rest of the chicks were reared on the farms where they were hatched and do not enter output of chicks. The added value of these chicks compared to hatching eggs is distributed on the basis of numbers of breeding stock in each county.

The value of output of eggs for consumption and industrial use is obtained by deducting the value of hatchery eggs from the total output of eggs. This is then distributed, using the AG distributor. Total output of poultry and eggs are adjusted to allow for the decline in inventories for both 1960 and 1965 and to cater for the output of feathers. The modified method of county distribution follows more closely official practices in the estimation of poultry and egg output. It should be noted that a considerable part of total output is consumption on the farm itself, which tends to justify the use of the June poultry populations as employed by AG. This is particularly true of geese, ducks and duck eggs.

(e) *Other Livestock and Livestock Products*

The main elements here are feathers, honey and, in recent years, day-old

chicks. The feathers and day-old chicks are catered for in the poultry section. Output of honey by county in 1965 is obtained from the annual horticultural surveys and valued using £0.1583 per lb. for run honey and £0.225 a section for section honey. The same distribution as in 1965 is assumed for 1960 honey output.

2.5 CROPS AND TURF

(a) *Wheat*

The estimated produce of corn crop in each county and province published in the *Statistical Abstract*, gives details of the production of wheat by county for 1960 and 1965. Wheat is grown for sale, so very little of it fails to enter output. These figures are used as distributors in preference to the acreage figures used in the AG calculations.

(b) *Barley*

The AG methodology for distributing barley output is retained in this study. Barley is grown for malting or animal feed. It is assumed that malting barley is grown for sale and the acreages under malting barley are used as a distributor of the national estimate of malting barley output. A considerable part of feeding barley production is not sold. This proportion varies regionally. Connacht, with 1.5 per cent of sales, accounted for 5.4 per cent of the acreage. This may also be the result of differences in yields. A special enquiry in the January enumeration collects data for barley sales by farmers and these data are used to distribute feeding barley output. The 1960 national estimates for feed and malting barley output were revised subsequent to the AG calculations. Advantage was taken of these revisions to calculate anew the 1960 figures.

(c) *Oats*

The main outlet for oats production is through livestock, and only a fraction of the total is sold to those outside farming. Oat sales, as a proportion of production, vary markedly from county to county and are particularly important in Donegal. This latter fact led AG to distribute sales proportionate to acreage, with double weighting for Donegal. AG offset these higher sales in Donegal, assuming lower sales per acre over the remainder of Ulster and Connacht.

In this study, information was supplied by An Bord Grain on oats purchased by them for feed and milling. The Department supplied information on stocks suitable for meal, or bloodstock feeding, held by merchants in each county in mid-January. In addition, two officers of the Department, experienced in the oats trade for many years, gave their views of the relative weighting of counties in the percentage of the crop sold. From these multiple sources a distribution was evolved which is held to be the same for both years.

(d) *Potatoes*

Like oats, only a small part of production (less than 30 per cent in 1965) enters output, so that acreages grown may not reflect the importance of the crop to individual counties. Within output itself, four major outlets are distinguished:

- (i) Table potatoes consumed on the farm,
- (ii) Table potatoes consumed by non-farm families in Ireland,
- (iii) Ware potatoes used in domestic alcohol factories and exports,
- (iv) Seed.

The national figures for output rightly ignore inter-farm sales, but on a county basis these may be important. This is particularly true of sales of seed potatoes by the main seed-producing districts to farmers elsewhere in Ireland.

Farm consumption of table potatoes accounted for about 60 per cent by value of total output in both 1960 and 1965. This is distributed proportionate to the farm populations in these years.

The official estimates of the volume of sales through the other three outlets have been increased to allow for inter-farm sales of seed, which are netted out in the national calculations. The total volume of off-farm sales is distributed by county, using data on off-farm potato sales from the January agricultural enumeration. Detailed county studies of the volume and value of seed and early potato sales in both 1960 and 1965 have been published in the Department of Agriculture's Farm Bulletins.²⁶ When these are deducted from the county totals, the remainder is presumed to be maincrop potatoes, which are valued at the prices ruling in their respective years.

The AG methodology was broadly similar, if less detailed. Inter-farm sales of seed were omitted and farm sales of early and seed potatoes were not distinguished from sales of the main crop. Comparison is hampered by the subsequent revision of the national estimates, on which the AG calculations were based.

(e) *Sugar Beet*

The Statistical Abstract publishes "Quantities in terms of Factory weight of Sugar Beet delivered from various counties". These tables form the basis for distributing output in both years with the output of "other counties" in the tables proportionate to their acreages. This was the AG approach.

(f) *Cabbage and Turnips*

In estimating cabbage output a distinction must be made between "horticultural" cabbage, as reported in the horticultural surveys, and "other" cabbage. The former is assumed to be sold and output is distributed in proportion to the counties' horticultural acreages. The output of "other cabbage" is assumed to be consumed entirely by farm families without process of sale. This assump-

²⁶*Farm Bulletins*, Department of Agriculture and Fisheries. Various issues incl. June 1967-July 1967.

tion is also made of turnip output. In these latter cases the value of output is distributed in proportion to each county's farm population.

(g) *Grass Seed*

The acreages and yields of grass seed grown for sale were supplied by the Department of Agriculture. The value of output has been distributed over the eleven counties concerned. The AG calculations used the acreages of rye-grass grown for seed in the June enumerations.

(h) *Hay and Straw*

Output in 1965 was made up of £101,103 of exports and £246,900 on home sales. The exports are attributed to border counties, in proportion to their acreages of *first hay*. Home sales are distributed in proportion to the numbers of horses in each county in the *traffic, manufacture and amusement* category on the grounds that these are the principal domestic outlets for these commodities. The AG calculations used the acreage of *other hay* to distribute hay, and allocated straw proportionate to cereal acreages. The total amounts involved are small.

(i) *Fruit*

The Department of Agriculture's *Estimates of area under commercial horticultural production* in 1960 and 1965 provide the basic data for distributing output. In addition, the Department provided separate estimates of the value of output per acre for culinary and dessert apples, pears, plums and damsons, strawberries, raspberries, blackcurrants and gooseberries. The sums of the products of acreage and output per acre are used to apportion the national estimates for "apples" and for "other fruit" in both years.

(j) *Vegetables*

The CSO provided individual national estimates for sixteen major vegetables in 1965, and an aggregate estimate for twelve of these in 1960, with separate estimates for peas and beans, mushrooms and tomatoes. The distribution of the 1965 output is relatively straightforward, since Department returns give county details of the areas under all the crops individually in both 1965 and 1960. In the case of 1960, Department officials took the trouble to suggest the value of output per acre of each of the aggregated crops for that year. From this, a total county figure for the twelve crops was obtained, and used to distribute the national total.

The AG calculations took the total output of cabbage, turnips, fruit and other crops and distributed it in accordance with the total area under *beans and peas, vegetables, tree and berried fruit, horticultural bulbs, flowers and bushes*.

(k) *Turf and Timber*

The agricultural enumerations provide annual estimates of the quantity of *turf drawn from the bog* in each county. These were used by Attwood and Geary, and also in the present estimates. A similar estimate of timber for sale and home use has been used in the present study to distribute timber output. The AG

estimates of timber output were based on the area under trees on holdings in each county.

The aggregate results obtained for crops and turf in 1965 have been adjusted slightly to allow for small crops omitted from the calculations. A larger adjustment was required for 1960.

(1) *Comparison with AG estimates of crops and turf in 1960*

Although the AG and present approaches differ in many aspects of procedure, when the final outcomes for 1960 are compared the provincial totals are very similar:—

	AG	Present study
	£000	
Leinster	20,482	20,120
Munster	12,735	12,721
Connacht	6,257	6,464
Ulster	3,603	3,772

The present approach tends to favour the North and West, mainly at the expense of Leinster. In individual counties, Kilkenny was reduced by 10 per cent while Louth rose by 17 per cent (£202,000). The only other major change is a rise of 8 per cent in Donegal (£192,000). In other counties the aggregate changes are relatively small.

County breakdowns of the main categories of crop output are presented in Tables 2.9 and 2.10.

2.6 AGRICULTURAL INPUTS

(a) *Introduction*

In the derivation of agricultural income nationally, the gross value of agricultural output, including the value of changes in livestock inventories, is first estimated. Next, the value of *certain farm materials* is deducted to arrive at net output. The expenses of agriculture are then calculated and subtracted. When the *subsidy under the Land Acts*, and *other subsidies not related to sales* (calved heifer subsidy and clear herd bonus) are added to the result, the sum obtained represents *Income arising in Agriculture*. This aggregate is subdivided into *Land Annuities*, *Wages and Salaries*, and *Income from self-employment and other trading profit*.

(b) *Feed*

The farm materials mentioned above consist of *feed, seed and fertilisers*. The national figures for feed are obtained by estimating the production, or sales, of sixteen major feeds e.g. wheat, offals, barley, fish meal and wet grains, etc. To these are added imports, net of exports, and changes in stocks, to arrive at total supply. This supply may be sold straight, or disposed of in four major categories of compounds. These latter are estimated separately. The official estimates were made available for each of these feed types, giving both quantity

and value. The individual feed stuffs were allocated to livestock, using as a basis some unpublished material on O'Connor and Breslin's input-output table for Irish agriculture²⁷ as well as information from other sources.²⁸ To a considerable extent the estimates also draw on Laffey's knowledge of farm practice and feed requirements. From these various elements a scheme was drawn up which calculated feed requirements for each category of animal. These requirements are met by allocations from the various types of feed available appropriate to the animal in question. The total ration is evaluated and distributed by county.

Pigs are assumed to require 5.7 cwt. per fatterer. Each weaner is assumed to consume 0.3 cwt., and to account for 2.0 cwt. of the sow's annual feed. Of the 8 cwt. per pig so obtained, 73 per cent is assumed to be purchased. (In the allocation we are only concerned with purchased feed). In 1960 the volume of pig compounds manufactured was insufficient to supply all these requirements and the balance was made up of barley, wheat offals, meat and bone meal, etc. In 1965 the greatly increased volume of pig compound manufacture meant that total requirements could be met while leaving a balance to be fed to other livestock.

Pig feed consumption by county is allocated in the main on the basis of the estimated output of pigs, but in addition an allocation is made to pigs forming part of the increase in inventory. The total value of feed fed to pigs accounted for 60 per cent of all purchased feed in 1960.

The value of purchased feed fed to sheep and horses is reckoned to have been small in both 1960 and 1965. Lowlands ewes are reckoned to consume 24 lb. per annum, while thoroughbred horses are fed 4 lb. daily. For sheep, beet pulp molasses is assumed to be the main feed, with some barley, while horses are allocated oats, oilseed cake and conserved grass. The respective distributors are numbers of lowland ewes and numbers of thoroughbred horses in each county in the June enumeration.

The requirements of purchased feed for different types of cattle are estimated as follows:—

Calves	$\frac{1}{2}$ lb. each daily for 30 days
Weanlings	1 lb. each daily for 120 days
1-2 year olds	$1\frac{1}{2}$ lb. each daily for 120 days
2-3 year olds	2 lb. each daily for 90 days
Winter liquid milk—	
cows (Dublin and	
Cork)	7 lb. each daily for 180 days
Other cows and	
heifers-in-calf	1 cwt. annually

²⁷R. O'Connor and M. Breslin, *An input-output analysis of the Agricultural Sector of the Irish Economy in 1964*, ESRI Paper No. 45, 1968.

²⁸M. Ross, *Economics of Pig Production*, Economic Research Series No. 6, An Foras Taluntais, Dublin 1962.

Different types of feed are attributed to different types of cattle, e.g. calves are assumed to be fed calf compounds, while 2-3 year olds are fed wet pulp. For other categories, the ration is a mixture which varies considerably in unit price. The number of animals in each category is multiplied by the value of annual purchases of feeding stuffs per animal to arrive at county totals. In the case of winter milk, only cows on supply farms in the Dublin and Cork Milk Board areas are allocated the special winter ration.

Broilers are assumed to be fed only purchased compounds and to have a conversion rate of 2.75:1. Ordinary fowl are assumed to consume a cwt. per annum, of which $\frac{1}{4}$ is assumed to be purchased. Turkeys are assumed to have a conversion rate of 4:1 from a ration, $\frac{2}{3}$ of which has been purchased. From these assumptions purchased feed requirements are estimated. These are predominantly maize meal and compounds in 1960. By 1965, compounds accounted for the vast bulk of the ration. The value of feed is allocated to each county using the appropriate poultry numbers as a distributor. After pigs, poultry are the most important consumers of purchased feed, accounting for nearly 30 per cent of the total in 1960.

The grand total of all feed inputs for each county has been adjusted slightly to bring the total into line with official estimates. These final figures are presented in Table 2.11.

The AG calculations allocated 52.7 per cent of the national total of feed to pigs, 39.1 per cent to grazing stock and 8.2 per cent to poultry,²⁹ and distributed the subtotals by county. County populations of grazing stock were calculated on a livestock unit basis, but giving cows in the liquid milk areas three times as much purchased feed as other cows. This simpler procedure led to an estimated feed bill lower by 2 per cent in Munster and 8 per cent in Ulster, but higher by 6 per cent in Leinster and 3 per cent in Connacht.

(c) Seed

Seed requirements are either met by imports or by domestic production. In the latter instance the requirements may be met by the farmer retaining some of his own crop for use as seed in the following year. This tendency varies from crop to crop. While all wheat and 90 per cent of barley is reckoned to be purchased, the figure for oats is 55 per cent and potatoes 10 per cent.

Using an assumed seeding rate of 1.6 cwt. per acre for wheat and 1.2 cwt. for barley, estimates can be made of total seed purchase requirements for those crops. Purchases of home grown seed can then be calculated by deducting imports. These seed expenses are distributed separately in proportion to their respective acreages. Similar calculations are made for sugar beet, peas and beans, turnips and mangels, kales, vegetables and other roots. In the case of rye grass seed the distributor is the area under *1st hay*.

The calculations for potatoes and oats are separate. The Department of

²⁹This was the distribution reported in E. A. Attwood and B. O'Carroll, *National Supply of Feeding Stuffs in Ireland*, Report No. 5, Economic Research Series, An Foras Taluntais, Dublin (1962).

Agriculture³⁰ publishes the area of certified seed potatoes grown in each county. Output is either sealed for export or domestic sales, sold unsealed, retained for the grower's own use, or fed to livestock. Assuming purchases are only 10 per cent of seed sown in any county an estimate of purchases is obtained. After the certified potatoes retained in the county are deducted the deficit in seed requirements is assumed to be purchased for just over £16 a ton in 1960. The sale price was £6 cheaper. Both purchase and sales prices were about three times dearer in 1965.

Details of oats purchased by farmers in each county were obtained from the January enumeration and used to distribute the national estimate for oat seed. The official estimates for oat seed expenses comprise the value of imports, plus the retail and cleaning charges on home grown seed.

The AG calculations used the area under crops (excluding other hay and permanent meadow) to allocate the total cost of all seeds purchased.

(d) *Fertilisers and Lime*

The Department of Agriculture was able to supply details of ground limestone deliveries by county for both years. These are used to distribute the total for lime. As an alternative method, AG used the *acres treated with lime* as reported in the agricultural enumerations.

The official estimates for expenditure on other fertilisers are based on annual data, collected by the Department of Agriculture, from manufacturers and suppliers. These data include straight fertilisers, such as Super-Phosphate, Sulphate of Ammonia and Muriate of Potash, as well as compounds, such as special potato manure. Each of these fertilisers can be expressed in terms of N.P.K. to obtain national estimates of usage by type of nutrient.

There are several potential distributors of fertiliser expenditure by county. In 1965/6 the Department of Agriculture used data on manufacturers' sales to merchants to estimate county consumption of N.P.K. The estimates appear to be reasonably accurate on a provincial basis but county estimates would suffer from the difficulty that the location of a merchant's warehouse is no indication of where the fertilisers are used. The estimates excluded basic slag and some small imports of potash for direct resale by small importers. Nitrogen consumption is reckoned to be overestimated somewhat, as it included the considerable carry-over stocks from 1964/5 and the stocks carried into 1966/7 by merchants. Estimates of county consumption were not made for 1960.

A second source of information is the special enquiry in the agricultural enumerations on the amount of fertiliser used on grassland. No breakdown between N.P. and K. is sought.

An Foras Talúntais published a survey³¹ of the amounts of N, P, and K applied per acre of the seventeen major land uses, e.g. wheat, oats, silage, etc. No analysis was made of regional differences, although enterprise studies by

³⁰*Farm Bulletins*, Department of Agriculture and Fisheries. Various issues incl. June 1967, July 1967.

³¹E. A. Attwood and W. E. Murphy, *Fertiliser Use Survey*, An Foras Talúntais, Dublin (1966).

An Foras Talúntaís had shown differences by area and farm size. These studies were not extensive enough to be an alternative source of county information.

Expenses have been distributed by each method in turn (and the results are available on request). The method selected estimates the county use of N, P and K on a crop-by-crop basis, using the national averages published in the AFT survey. The county estimates of fertilisers applied to grassland were preferred to a crop-by-crop approach to rotation hay, permanent hay, silage and pasture. Expenses are calculated using separate unit costs for N, P and K respectively.

In the AG method the area of grassland treated with fertilisers was added to the area under crops, (excluding both *other hay* and *permanent pasture*) and the total acreage so obtained used as a distributor of fertiliser purchases by county. The AG calculations are very much simpler to make, and for about 19 counties difference between these and the estimates used are not so great as to make the complicated procedure employed worthwhile. However, the estimates appear to be rather low for Leinster and high for Connacht and therefore the other estimates have been retained.

(e) *Other Expenses*

The Department of Local Government provided a statement setting out, for each county, in 1960 and 1965, the gross rates on land, the agricultural grant, and the net rates. The figure for net rates is £7,755,118 in 1960 and £7,109,832 in 1965. Among the numerous details provided is a statement of total land valuations in each county in 1960/1. This can be deducted from the valuation of land and buildings in each county to arrive at an estimate of the valuation of buildings alone. These resulting valuations are multiplied by the rate struck for 1960/1 and 1965/6 in each county to get estimates of rates on buildings by county for the two years. (It will be noted that the agricultural grant applies to land valuations alone). The products obtained are then used to distribute the estimated national totals for rates on farm buildings and added to the net rates on land.

The AG method used rates payable on agricultural land as a distributor.

In the estimation of expenses nationally, *depreciation of machinery* is calculated separately from *repairs to machinery*. However, since they both relate to the same capital stock they will be treated as one in this report. With the assistance of Noel O'Reilly, machinery editor of the *Irish Farmers Journal*, average prices were agreed for the eleven most important types of machinery, e.g. tractors, combine harvesters, milking machines, etc. These prices are used to evaluate the machinery stock in each of these categories in each county, and the results used to distribute the national total for depreciation and repairs. Separate evaluations have been carried out for 1960 and 1965.

The AG distribution was the total numbers of tractors and combine harvesters in each county.

The main consumers of *fuel* are assumed to be tractors, self-propelled combines

and farm trucks. On the advice of Mr. O'Reilly, a relative weighting of 30:6:25 is employed for these machines to arrive at the relative consumption of each county. Separate estimates have been made for 1960 and 1965 and the results used to distribute the national total.

Two expense items are involved in the *farm share of car*—depreciation and fuel. The number of motor cars, motor lorries, vans and station wagons under 2 tons capacity, as enumerated in the June 1960 enquiry, have been used to distribute both the 1960 and 1965 totals.

Two alternatives have been examined in allocating the *farm share of electricity*. The ESB supplied the number of motive power units in rural areas for 1960/1 and 1965/6. This includes non-farm appliances and is based on the Board's ten districts, which do not coincide with county boundaries. Therefore, this approach was not used. Instead, with the assistance of the Board, approximations were made of average consumption by electric grain dryers, electric fences, electric root cutters and pulpers, electric engines and milking machines. These consumption rates have been applied to the county stock of such equipment, and the results used to distribute the national total.

Veterinary expenses are reckoned to be proportional to the number of cattle and calves and distributed accordingly. Transport and marketing expenses are allocated proportionate to total output, excluding inventory changes. Other expenses are allocated proportionately to total expenses.

2.7 *Income Arising in Agriculture*

The constituent elements of output and expenses have now been allocated. From these to county estimates of total output and total expenses is but a short step. The difference in these totals provides estimates of *net output less expenses*. To arrive at income arising in agriculture this aggregate needs to be supplemented by the *subsidy element in the Land Annuities*, and by *subsidies not related to sales*, such as the calved heifer subsidies.

The subsidy under the Land Acts is distributed proportionate to payments of Land Annuities as supplied by the Department of Lands, while the Department of Agriculture provided the county details for other subsidies. The total of income arising in agriculture thus derived can be decomposed into: (a), *the rent and subsidy elements in the Land Annuities*; (b), *Wages and Salaries, (including employers' contributions to Social Security)* and (c), *income from self-employment and other trading income*.

(a) *Land Annuities*

The rent and subsidy elements in the Land Annuities are distributed by county, proportionate to the payment of these annuities, as supplied by the Department of Lands.

(b) *Wages and Salaries*

Nationally the estimate of agricultural wages and salaries is determined on the basis of changes in the statutory agricultural wage rate and in the number

of farm employees. The latter is determined every five years at the Census of Population, and in the intervening years the figure is adjusted using as a trend indicator the number of male employees returned in the annual June enumeration of agriculture. For 1960 and 1965 the returns of the Census of Population in April 1961 and April 1966 are sufficiently close to make it preferable to use these returns rather than those of the June enumerations.

(i) *The Number of Employees*

The number of employees in agricultural industries in April 1966 is returned as 46,180. This includes 4,886 forestry workers. Excluding these, the total is 41,294, of which 683 are women. This total can be further subdivided:³²

	<i>Total gainfully occupied</i>	<i>Employees</i>		
		<i>Total</i>	<i>Male</i>	<i>Female</i>
Farming and stockrearing on farms	332,486	39,389	38,968	421
Market and nursery gardening	1,714	1,170	965	205
Agricultural contracting and others	1,485	735	678	57
	335,685	41,294	40,613	683

When the number of employees is compared with the total gainfully occupied, the proportion in farming proper is much smaller than the proportion in market and nursery gardening, or in agricultural contracting. Presumably the figure for farming proper is the one which relates to the National Farm Survey benchmark.

It would be useful if the industrial volume of the Census of Population gave a county breakdown of employees in agriculture. Unfortunately this is not so. Instead, recourse was made to the Occupations volume of the Census. Where the *industries* volume shows that of the 39,389 employees, 37,847 were either *agricultural labourers living in*, *agricultural labourers living out* or *farm managers*, the *occupations* volume lists 47,482 in these occupations and gives a county distribution. These occupational data are used to distribute the 39,389 employees on farms. Similarly, the occupational distribution of 5,265 market and jobbing gardeners is used to distribute the 1,170 employees in market gardening, while the 3,218 in the contracting and other agricultural occupations are used to distribute the remaining agricultural employees by county. From this, a county distribution of all 41,294 male employees is obtained.

(ii) *Duration of Employment*

Next, the National Farm Survey was consulted to determine if hired labour worked equally long per annum in each region. This meant grossing up the Survey return for hired labour expenses for each farm size in each region. From this, it appears that labour expenses were approximately distributed

³²Cf. Table 11, Vol. III, CP 1966.

as follows: 45.2 per cent East and Midland; 46.7 per cent South, 8.1 per cent North and West. On this basis, the wages bill in the North and West is estimated to be £1.26 millions and it has been distributed to the six counties involved (i.e. Ulster and Connacht excluding Galway and Roscommon), in proportion to the number of employees in each county.

In the remainder of the country no distinction is made between East Midland and Southern areas. Instead, the calculated population is weighted by the appropriate minimum agricultural wage rate. In 1960, Area A (Dublin county) is weighted 1.10476, Area B (Wicklow, Kildare, Louth, Meath and parts of other counties) is weighted 1.0476 while Area C (the remainder of the State) is 1.0. The weighted populations are then used to distribute the balance of the agricultural wages bill.

For 1965 a similar procedure is adopted. Taking into account trends in the numbers of farm labourers in the North and West, compared to the remainder of the State, the 1965 wage bill for the North and West is reckoned to be slightly in excess of £1.39 millions.

In distributing the wages in the remainder of the State, new weights were used and applied to the areas then defined as A, B and C by the Agricultural Wages Board.

(iii) *The AG calculation*

The AG calculation, based on provisional national estimates and lacking the as yet unpublished data of the Census of Population, followed a different procedure. The distributor was the number of males returned in the June 1960 Agricultural enumeration. Those under eighteen were reckoned to be 62.5 per cent of the adult equivalent, while temporary workers were given a weight of approximately 60 per cent compared to permanent employees.

(c) *Income from Self-Employment and Other Trading Income*

This is determined as a residual after deduction of Land Annuities and Wages from "Income Arising in Agriculture". It has been designated "Family Farm Income" in the AG study.

2.8 FORESTRY

This is taken to comprise the wages of those directly engaged in the State afforestation programme. The Department of Lands provided a statement of wages and salaries for 1965. In accordance with National Accounts practices, the wages are allocated to *agriculture* while the salaries are included in the *Public Administration and Defence* sector. The 1960 estimates used in the AG report are accepted without change.

2.9 FISHERIES

At the time of publication of the AG report it was customary to distinguish between wages and income from self-employment in fishing. This "somewhat

arbitrary division"³³ was dropped in the 1962 *NIE* accounts and the total has been included under *other income* ever since.

The Fisheries Division of the Department of Lands supplied a statement for both 1960 and 1965 of the value of sea-fish lands on the east, south and west coasts, which distinguished 75 separate landing places. These values have been allocated to their respective counties of landing. In addition the Division provided a statement of the *quantity and value of salmon, sea trout and eels taken by all engines and by Fishery Districts*. The 17 Districts concerned are based on river basins and not on county boundaries. It is therefore necessary to apportion the total catch in any district over the counties concerned, e.g. the Dublin District took in Dublin, Kildare and part of Wicklow. In the course of allocation, reference was made to the number of persons described as *inland fishermen* in the 1961 Census of Population. Apart from the output of these fishery districts, 40 per cent of the salmon catch of the Foyle fisheries is attributed to the Republic and this has been allocated to Donegal.

By 1965 exports of Rainbow trout had become important. Output is attributed mainly to Wicklow and Kerry.

Following the National Accounts convention, 66 per cent of the sea-fish are assumed to be income, as are 90 per cent of inland fishery output. The estimates of income are then added to those from agriculture to arrive at a total for the sector:

A general presentation of the constituents of income derived from Agriculture, forestry and fishing is given in Tables 2.12 and 2.13.

³³*NIE* 1962, ref. 2, p. 33.

TABLE 2.6: *Output of Milk by Use, 1960 and 1965 (£000's)*

County	1960				1965			
	Milk Used in Industry	Direct Consumption	Farmers Butter Buttermilk etc.	Total	Milk used in Industry	Direct Consumption	Farmers Butter Buttermilk etc.	Total
Carlow	—	208	99	307	109	248	44	401
Dublin	—	835	16	852	—	896	15	911
Kildare	—	835	101	937	114	1,026	45	1,185
Kilkenny	1,094	319	53	1,466	2,067	338	18	2,424
Laois	190	240	172	603	444	254	86	785
Longford	—	177	154	331	320	185	70	576
Louth	—	423	118	541	91	596	68	728
Meath	65	1,668	179	1,913	177	1,852	94	2,122
Offaly	—	293	295	588	67	328	154	549
Westmeath	—	317	270	587	94	359	149	602
Wexford	127	482	530	1,138	705	568	268	1,540
Wicklow	—	757	87	844	140	978	43	1,160
<i>Leinster</i>	<i>1,477</i>	<i>6,553</i>	<i>2,075</i>	<i>10,105</i>	<i>4,329</i>	<i>7,601</i>	<i>1,054</i>	<i>12,984</i>
Clare	1,303	396	65	177	1,888	474	34	2,396
Cork	5,918	1,632	131	7,681	9,509	2,166	93	11,768
Kerry	3,638	576	43	4,258	4,020	693	41	4,753
Limerick	4,199	554	4	4,757	5,657	699	11	6,368
Tipperary	2,950	594	86	3,630	4,684	687	44	5,416
Waterford	1,238	273	20	1,530	1,806	353	12	2,172
<i>Munster</i>	<i>19,246</i>	<i>4,027</i>	<i>349</i>	<i>23,622</i>	<i>27,564</i>	<i>5,071</i>	<i>239</i>	<i>32,873</i>
Galway	—	795	867	1,661	453	988	553	1,995
Leitrim	287	210	90	586	494	224	37	754
Mayo	—	680	666	1,346	505	817	477	1,799
Roscommon	—	353	338	691	617	405	179	1,200
Sligo	599	273	53	925	770	325	45	1,139
<i>Connacht</i>	<i>886</i>	<i>2,311</i>	<i>2,013</i>	<i>5,210</i>	<i>2,839</i>	<i>2,758</i>	<i>1,290</i>	<i>6,887</i>
Cavan	936	327	63	1,326	1,835	361	22	2,218
Donegal	152	564	207	923	325	646	164	1,138
Monaghan	494	253	76	824	1,166	286	32	1,484
<i>Ulster (part)</i>	<i>1,581</i>	<i>1,144</i>	<i>349</i>	<i>3,072</i>	<i>3,326</i>	<i>1,292</i>	<i>219</i>	<i>4,838</i>
Total	23,190	14,035	4,784	42,009	38,058	16,722	2,802	57,582

TABLE 2.7: *Livestock output, 1960 (£000's)*

<i>County</i>	<i>Cattle</i>	<i>Milk</i>	<i>Horses</i>	<i>Sheep and Wool</i>	<i>Pigs</i>	<i>Poultry</i>	<i>Total Livestock and Products*</i>
Carlow	729	307	55	413	425	228	2,158
Dublin	843	852	296	179	965	186	3,320
Kildare	1,528	937	462	373	330	257	3,888
Kilkenny	2,048	1,466	141	361	1,088	415	5,523
Laois	1,628	603	62	192	631	305	3,420
Longford	1,258	331	41	102	361	302	2,396
Louth	777	541	38	155	276	234	2,022
Meath	2,935	1,913	373	755	473	412	6,861
Offaly	1,584	588	58	239	495	346	3,310
Westmeath	1,790	587	107	351	324	328	3,487
Wexford	2,043	1,138	144	762	1,230	505	5,841
Wicklow	1,020	844	75	585	396	248	3,168
<i>Leinster</i>	<i>18,183</i>	<i>10,105</i>	<i>1,852</i>	<i>4,466</i>	<i>6,995</i>	<i>3,764</i>	<i>45,395</i>
Clare	3,072	1,765	104	291	309	430	5,973
Cork	6,513	7,681	348	807	5,231	1,787	22,384
Kerry	3,104	4,258	79	377	1,499	710	10,027
Limerick	3,219	4,757	236	65	1,393	529	10,200
Tipperary	4,425	3,630	368	610	1,571	617	11,224
Waterford	1,533	1,530	117	227	789	268	4,465
<i>Munster</i>	<i>21,866</i>	<i>23,622</i>	<i>1,252</i>	<i>2,378</i>	<i>10,791</i>	<i>4,341</i>	<i>64,273</i>
Galway	3,323	1,661	118	2,529	588	1,369	9,590
Leitrim	1,180	586	20	143	239	330	2,498
Mayo	2,902	1,346	79	856	460	1,049	6,692
Roscommon	2,320	691	39	801	147	615	4,613
Sligo	1,508	925	34	259	236	385	3,347
<i>Connacht</i>	<i>11,233</i>	<i>5,210</i>	<i>289</i>	<i>4,588</i>	<i>1,670</i>	<i>3,747</i>	<i>26,741</i>
Cavan	1,937	1,326	42	113	1,119	670	5,206
Donegal	1,884	923	38	757	257	686	455
Monaghan	1,391	824	38	57	825	729	3,865
<i>Ulster (part)</i>	<i>5,212</i>	<i>3,072</i>	<i>118</i>	<i>927</i>	<i>2,201</i>	<i>2,084</i>	<i>13,617</i>
TOTAL	56,494	42,009	3,511	12,360	21,658	13,937	150,025

*Including honey.

TABLE 2.8: *Livestock output, 1965 (£'000's)*

<i>County</i>	<i>Cattle</i>	<i>Milk</i>	<i>Horses</i>	<i>Sheep and Wool</i>	<i>Pigs</i>	<i>Poultry</i>	<i>Total Livestock and Products*</i>
Carlow	1,151	401	46	571	455	379	3,004
Dublin	1,083	911	217	260	864	236	3,574
Kildare	2,251	1,185	393	615	523	367	5,336
Kilkenny	3,310	2,424	124	505	1,510	409	8,283
Laois	2,492	785	56	287	833	347	4,801
Longford	1,463	576	36	138	440	264	2,918
Louth	1,209	728	27	271	350	242	2,828
Meath	4,052	2,122	274	1,123	683	550	8,806
Offaly	2,373	549	53	404	599	405	4,382
Westmeath	2,400	602	102	499	501	337	4,441
Wexford	3,264	1,540	131	997	1,905	673	8,520
Wicklow	1,565	1,160	63	763	617	479	4,649
<i>Leinster</i>	<i>26,614</i>	<i>12,984</i>	<i>1,522</i>	<i>6,435</i>	<i>9,281</i>	<i>4,689</i>	<i>61,543</i>
Clare	4,138	2,396	138	264	432	425	7,794
Cork	10,965	11,768	324	830	7,066	1,959	32,915
Kerry	4,737	4,753	113	369	2,232	746	12,950
Limerick	5,057	6,368	211	76	1,557	767	14,037
Tipperary	7,180	5,416	319	783	2,199	610	16,508
Waterford	2,565	2,172	102	296	943	381	6,461
<i>Munster</i>	<i>34,642</i>	<i>32,873</i>	<i>1,207</i>	<i>2,617</i>	<i>14,429</i>	<i>4,888</i>	<i>90,664</i>
Galway	5,011	1,995	159	2,766	992	1,364	12,287
Leitrim	1,527	754	26	104	359	291	3,062
Mayo	4,240	1,799	95	888	897	1,007	8,927
Roscommon	3,229	1,200	49	937	250	572	6,237
Sligo	2,031	1,139	39	263	459	366	4,297
<i>Connacht</i>	<i>16,038</i>	<i>6,887</i>	<i>369</i>	<i>4,959</i>	<i>2,957</i>	<i>3,600</i>	<i>34,810</i>
Cavan	2,899	2,218	45	133	1,756	737	7,788
Donegal	2,698	1,136	36	691	513	721	5,795
Monaghan	1,893	1,484	31	82	1,747	1,590	6,827
<i>Ulster (part)</i>	<i>7,490</i>	<i>4,838</i>	<i>112</i>	<i>906</i>	<i>4,017</i>	<i>3,048</i>	<i>20,410</i>
TOTAL	84,783	57,582	3,210	14,917	30,682	16,224	207,428

*Including honey.

TABLE 2.9: *Output of crops and turf, 1960 (£000's)*

<i>County</i>	<i>Cereals</i>	<i>Sugar Beet</i>	<i>Potatoes</i>	<i>Cabbage etc.*</i>	<i>Horti- culture</i>	<i>Turf and Timber</i>	<i>Total†</i>
Carlow	781	502	41	33	34	11	1,472
Dublin	656	4	531	249	429	5	1,966
Kildare	1,268	358	60	81	146	86	2,097
Kilkenny	1,449	485	113	52	140	15	2,363
Laois	1,121	631	75	31	17	87	2,058
Longford	81	—	76	28	10	130	341
Louth	835	39	238	107	87	3	1,371
Meath	892	19	179	91	100	41	1,386
Offaly	926	265	105	40	9	221	1,644
Westmeath	247	26	73	33	11	179	596
Wexford	2,519	660	157	81	275	10	3,881
Wicklow	636	73	95	33	48	18	945
<i>Leinster</i>	<i>11,411</i>	<i>3,062</i>	<i>1,742</i>	<i>859</i>	<i>1,306</i>	<i>806</i>	<i>20,120</i>
Clare	73	36	189	71	23	418	848
Cork	2,801	1,418	543	195	160	207	5,583
Kerry	249	125	270	97	164	617	1,595
Limerick	148	6	154	113	97	110	657
Tipperary	1,491	594	212	121	119	92	2,757
Waterford	807	178	90	44	91	13	1,281
<i>Munster</i>	<i>5,569</i>	<i>2,355</i>	<i>1,458</i>	<i>641</i>	<i>654</i>	<i>1,457</i>	<i>12,721</i>
Galway	383	554	545	145	31	913	2,697
Leitrim	8	—	103	40	4	159	327
Mayo	53	51	417	134	28	1,087	1,857
Roscommon	102	14	185	82	54	480	961
Sligo	32	8	168	47	19	317	621
<i>Connacht</i>	<i>578</i>	<i>629</i>	<i>1,418</i>	<i>448</i>	<i>136</i>	<i>2,956</i>	<i>6,464</i>
Cavan	50	—	175	87	3	121	458
Donegal	539	—	1,097	140	7	659	2,562
Monaghan	116	—	173	361	38	30	753
<i>Ulster (part)</i>	<i>705</i>	<i>—</i>	<i>1,445</i>	<i>587</i>	<i>48</i>	<i>810</i>	<i>3,773</i>
TOTAL	18,263	6,046	6,063	2,535	2,144	6,029	43,077

*Includes Cabbage, Turnips, Grass-seed, Hay and Straw.

†Includes other crops not specified.

TABLE 2.10: *Output of crops and turf, 1965 (£,000's)*

<i>County</i>	<i>Cereals</i>	<i>Sugar Beet</i>	<i>Potatoes</i>	<i>Cabbage etc.*</i>	<i>Horti- culture</i>	<i>Turf and Timber</i>	<i>Total†</i>
Carlow	544	439	69	39	69	9	1,179
Dublin	1,026	3	868	257	1,729	5	3,915
Kildare	1,001	278	113	89	285	59	1,838
Kilkenny	975	448	266	51	159	14	1,926
Laois	752	501	140	43	49	73	1,568
Longford	36	1	119	27	13	119	318
Louth	838	27	440	87	175	3	1,580
Meath	758	7	329	94	208	31	1,436
Offaly	514	176	176	37	49	185	1,144
Westmeath	73	14	141	31	32	114	407
Wexford	1,849	1,163	305	69	285	10	3,705
Wicklow	650	78	139	35	85	15	1,009
<i>Leinster</i>	<i>9,016</i>	<i>3,136</i>	<i>3,106</i>	<i>858</i>	<i>3,138</i>	<i>637</i>	<i>20,024</i>
Clare	40	12	314	70	38	352	832
Cork	3,725	1,595	1,010	218	479	177	7,251
Kerry	214	171	540	93	134	592	1,755
Limerick	58	1	290	146	338	94	933
Tipperary	1,035	406	420	104	189	74	2,244
Waterford	763	257	182	45	118	10	1,384
<i>Munster</i>	<i>5,835</i>	<i>2,441</i>	<i>2,756</i>	<i>676</i>	<i>1,296</i>	<i>1,299</i>	<i>14,399</i>
Galway	228	302	805	148	87	802	2,387
Leitrim	3	1	168	38	3	150	364
Mayo	78	18	724	129	43	982	1,989
Roscommon	49	7	287	97	104	428	979
Sligo	17	3	243	46	65	285	665
<i>Connacht</i>	<i>375</i>	<i>330</i>	<i>2,226</i>	<i>458</i>	<i>302</i>	<i>2,647</i>	<i>6,383</i>
Cavan	36	—	327	73	7	70	516
Donegal	546	—	1,605	177	40	538	2,928
Monaghan	74	—	376	201	131	22	808
<i>Ulster (part)</i>	<i>656</i>	<i>—</i>	<i>2,309</i>	<i>451</i>	<i>178</i>	<i>630</i>	<i>4,253</i>
TOTAL	15,882	5,908	10,396	2,443	4,914	5,213	45,061

*Includes Cabbage, Turnips, Grass-seed, Hay and Straw.

†Includes other crops not specified separately.

TABLE 2.11: Purchases of Certain Farm Materials 1960 and 1965* (£000's)

County	1960			1965		
	Feed	Fertiliser and Lime	Seeds	Feed	Fertiliser and Lime	Seeds
Carlow	342	211	184	642	289	181
Dublin	714	161	130	945	226	158
Kildare	407	290	254	995	424	244
Kilkenny	828	417	330	1,494	561	305
Laois	506	318	242	974	413	227
Longford	344	103	37	544	124	34
Louth	276	155	132	494	227	104
Meath	634	369	215	1,427	503	190
Offaly	447	283	184	843	331	139
Weathmeath	363	146	75	775	219	65
Wexford	943	540	495	1,880	850	482
Wicklow	389	201	158	908	354	155
<i>Leinster</i>	<i>6,194</i>	<i>3,193</i>	<i>2,436</i>	<i>11,922</i>	<i>4,521</i>	<i>2,284</i>
Clare	440	258	51	910	486	64
Cork	3,814	1,354	723	6,463	2,256	865
Kerry	1,206	392	138	2,159	632	188
Limerick	1,092	323	82	1,923	461	64
Tipperary	1,287	662	331	2,491	929	301
Waterford	598	296	186	1,080	494	206
<i>Munster</i>	<i>8,437</i>	<i>3,286</i>	<i>1,512</i>	<i>15,027</i>	<i>5,258</i>	<i>1,687</i>
Galway	947	527	162	1,684	695	171
Leitrim	299	49	20	498	99	26
Mayo	734	292	101	1,393	430	146
Roscommon	390	205	37	768	315	24
Sligo	326	110	29	668	149	43
<i>Connacht</i>	<i>2,696</i>	<i>1,183</i>	<i>350</i>	<i>5,010</i>	<i>1,688</i>	<i>409</i>
Cavan	917	192	67	1,702	283	68
Donegal	457	251	91	866	442	52
Monaghan	755	170	67	2,294	235	98
<i>Ulster (part)</i>	<i>2,130</i>	<i>612</i>	<i>226</i>	<i>4,863</i>	<i>961</i>	<i>219</i>
Total	19,458	8,275	4,525	36,822	12,428	4,598

*For county totals see Tables 2.12 and 2.13.

Table 2.12 Summary of Incomes Derived from Farming, Forestry and Fishing, 1960

County	Gross value of output including inventory change	Value of certain farm materials	Total expenses*	Net output less expenses	Subsidy under Land Act	Income Arising	of which			Wages in Forestry	Profits in Fishing	Total Wages Farm and Forestry	Total Self-Employed
							Land Annuities	Wages	Family Farm Income				
Carlow	3,630	736	1,526	2,104	13	2,117	53	417	1,648	11	1	427	1,649
Dublin	5,286	1,005	1,996	3,289	17	3,306	71	875	2,361	121	195	996	2,556
Kildare	5,985	951	2,299	3,686	27	3,713	113	819	2,781	25	—	844	2,781
Kilkenny	7,887	1,574	3,088	4,799	26	4,824	107	724	3,993	59	11	783	4,004
Laois	5,479	1,067	2,191	3,287	21	3,308	85	488	2,735	101	—	588	2,735
Longford	2,736	484	944	1,792	11	1,804	46	176	1,582	13	—	190	1,582
Louth	3,393	593	1,357	2,036	14	2,050	60	437	1,554	9	33	446	1,587
Meath	8,247	1,218	2,868	5,379	48	5,428	200	1,025	4,203	—	17	1,025	4,219
Offaly	4,954	915	1,923	3,031	21	3,052	87	364	2,601	22	6	386	2,607
Westmeath	4,083	584	1,389	2,694	27	2,720	110	399	2,211	14	12	413	2,223
Wexford	9,723	1,979	4,057	5,666	27	5,693	112	1,246	4,335	81	90	1,327	4,425
Wicklow	4,114	748	1,662	2,452	16	2,468	66	531	1,871	228	13	758	1,883
<i>Leinster</i>	<i>65,515</i>	<i>11,825</i>	<i>25,299</i>	<i>40,216</i>	<i>268</i>	<i>31,874</i>	<i>1,110</i>	<i>7,499</i>	<i>31,874</i>	<i>682</i>	<i>377</i>	<i>8,182</i>	<i>32,251</i>
Clare	6,821	749	1,544	5,277	27	5,304	110	326	4,868	38	18	364	4,885
Cork	27,966	5,891	10,507	17,459	74	17,533	306	2,089	15,138	173	204	2,262	15,342
Kerry	11,623	1,737	2,898	8,724	27	8,751	110	735	7,905	43	132	779	8,037
Limerick	10,856	1,498	2,848	8,009	41	8,050	170	1,193	6,687	24	19	1,217	6,705
Tipperary	13,981	2,280	4,539	9,442	51	9,494	213	1,330	7,951	139	9	1,468	7,960
Waterford	5,747	1,081	2,158	3,589	19	3,607	77	547	2,984	85	252	632	3,236
<i>Munster</i>	<i>76,994</i>	<i>13,235</i>	<i>24,494</i>	<i>52,500</i>	<i>238</i>	<i>52,738</i>	<i>986</i>	<i>6,220</i>	<i>45,533</i>	<i>502</i>	<i>634</i>	<i>6,722</i>	<i>46,166</i>
Galway	12,286	1,637	3,010	9,277	46	9,323	192	376	8,755	133	97	509	8,851
Leitrim	2,825	368	689	2,136	10	2,147	43	76	2,028	30	2	106	2,029
Mayo	8,549	1,127	1,982	6,568	34	6,602	143	182	6,277	56	105	239	6,382
Roscommon	5,574	632	1,350	4,224	29	4,253	120	145	3,988	16	—	160	3,988
Sligo	3,969	465	912	3,057	17	3,074	71	112	2,891	33	29	146	2,920
<i>Connacht</i>	<i>33,204</i>	<i>4,229</i>	<i>7,942</i>	<i>25,262</i>	<i>138</i>	<i>25,399</i>	<i>570</i>	<i>891</i>	<i>23,938</i>	<i>269</i>	<i>231</i>	<i>1,160</i>	<i>24,170</i>
Cavan	5,664	1,176	1,951	3,713	19	3,732	80	236	3,417	24	20	259	3,437
Donegal	7,107	799	2,000	5,107	20	5,128	84	488	4,555	110	279	598	4,834
Monaghan	4,618	993	1,871	2,747	17	2,764	70	166	2,528	18	—	184	2,528
<i>Ulster (part)</i>	<i>17,389</i>	<i>2,968</i>	<i>5,822</i>	<i>11,568</i>	<i>57</i>	<i>11,624</i>	<i>234</i>	<i>890</i>	<i>10,500</i>	<i>152</i>	<i>299</i>	<i>1,042</i>	<i>10,799</i>
TOTAL	193,102	32,257	63,557	129,545	700	130,245	2,900	15,500	111,845	1,605	1,541	17,105	113,386

*Including Column 2.

Table 2.13 Summary of Incomes Derived from Farming, Forestry and Fishing, 1995

County	Gross value of output including inventory change	Value of certain farm materials	Total Expenses*	Net output less expenses	Subsidy under Land Act	— Calved Heifer	Income Arising	of which					Profits in Fishing	Total Wages Farm and Forestry	Total Self Employed
								Land Annuities	Wages	Family Farm Income	Wages in Forestry				
Carlow	4,183	1,112	2,010	2,172	15	36	2,223	54	545	1,623	22	1	567	1,625	
Dublin	7,489	1,330	2,468	5,021	18	17	5,056	69	1,100	3,887	13	194	1,113	4,081	
Kildare	7,174	1,662	3,180	3,994	32	67	4,094	121	957	3,016	27	—	984	3,016	
Kilkenny	10,209	2,360	4,199	6,010	29	103	6,142	109	890	5,143	47	16	937	5,159	
Laois	6,369	1,615	2,958	3,411	24	73	3,507	89	539	2,880	102	—	641	2,880	
Longford	3,237	703	1,233	2,004	12	53	2,069	46	191	1,832	19	—	210	1,832	
Louth	4,409	825	1,738	2,671	16	39	2,726	62	507	2,157	11	46	518	2,203	
Meath	10,241	2,120	3,990	6,252	57	116	6,426	215	1,160	5,050	—	29	1,160	5,080	
Offaly	5,526	1,314	2,434	3,092	25	59	3,175	93	396	2,686	48	13	444	2,699	
Westmeath	4,848	1,059	1,963	2,885	32	64	2,980	119	424	2,438	29	26	452	2,405	
Wexford	12,226	3,211	5,751	6,474	29	109	6,612	109	1,517	4,986	121	114	1,638	5,100	
Wicklow	5,658	1,417	2,505	3,154	18	47	3,218	66	679	2,473	257	44	937	2,517	
<i>Leinster</i>	<i>81,567</i>	<i>18,727</i>	<i>34,428</i>	<i>47,139</i>	<i>308</i>	<i>783</i>	<i>48,229</i>	<i>1,153</i>	<i>8,904</i>	<i>38,172</i>	<i>696</i>	<i>485</i>	<i>9,600</i>	<i>38,657</i>	
Clare	8,625	1,460	2,491	6,134	30	108	6,272	113	344	5,814	95	34	439	5,848	
Cork	40,166	9,584	15,873	24,293	83	363	24,739	312	2,344	22,084	313	227	2,657	22,310	
Kerry	14,705	2,980	4,719	9,987	30	166	10,182	113	911	9,159	99	221	1,010	9,380	
Limerick	14,970	2,448	4,457	10,513	46	189	10,749	174	1,257	9,318	41	41	1,298	9,339	
Tipperary	18,752	3,721	6,752	11,999	59	238	12,296	220	1,529	10,547	189	14	1,718	10,561	
Waterford	7,845	1,780	3,083	4,762	21	89	4,872	79	693	4,100	151	166	844	4,266	
<i>Munster</i>	<i>105,064</i>	<i>21,972</i>	<i>37,375</i>	<i>67,688</i>	<i>270</i>	<i>1,152</i>	<i>69,109</i>	<i>1,011</i>	<i>7,078</i>	<i>61,021</i>	<i>887</i>	<i>704</i>	<i>7,965</i>	<i>61,724</i>	
Galway	14,674	2,549	4,283	10,391	54	149	10,593	202	440	9,951	182	153	622	10,104	
Leitrim	3,426	623	1,069	2,356	12	69	2,437	43	90	2,303	55	3	145	2,306	
Mayo	10,916	1,968	3,138	7,777	40	134	7,952	151	189	7,612	107	123	296	7,735	
Roscommon	7,216	1,107	2,017	5,199	34	92	5,325	126	186	5,013	42	—	227	5,013	
Sligo	4,961	860	1,455	3,507	20	68	3,595	75	148	3,372	39	34	187	3,406	
<i>Connacht</i>	<i>41,193</i>	<i>7,107</i>	<i>11,964</i>	<i>29,230</i>	<i>159</i>	<i>512</i>	<i>29,901</i>	<i>597</i>	<i>1,053</i>	<i>28,251</i>	<i>425</i>	<i>312</i>	<i>1,478</i>	<i>28,563</i>	
Cavan	8,304	2,054	3,197	5,107	21	112	5,240	80	284	4,877	44	39	327	4,917	
Donegal	8,724	1,360	2,842	5,882	23	103	6,008	86	578	5,344	202	427	780	5,771	
Monaghan	7,635	2,628	3,841	3,794	19	68	3,881	73	205	3,603	21	—	226	3,603	
<i>Ulster (part)</i>	<i>24,664</i>	<i>6,042</i>	<i>9,880</i>	<i>14,783</i>	<i>64</i>	<i>282</i>	<i>15,129</i>	<i>238</i>	<i>1,066</i>	<i>13,825</i>	<i>267</i>	<i>466</i>	<i>1,333</i>	<i>14,291</i>	
TOTAL	252,488	53,848	93,648	158,840	800	2,729	162,369	3,000	18,100	141,269	2,275	1,967	20,375	143,236	

*Including Column 2.

CHAPTER 3: REMUNERATION OF INDUSTRIAL EMPLOYEES

3.1 DATA SOURCES

(a) *The CIP industries—“allocated industries”*

The national aggregate is comprised of three main categories of employment. The first and largest category consists of employment in industries covered by the Census of Industrial Production—the CIP industries. For the bulk of CIP industries the Statistical Abstracts provide an annual statement of numbers employed classified by location. The industries covered in this statement comprise all transportable goods industries with the exception of Bord na Móna and the CIE rail and bus workshops. In addition they include some non-transportable goods industries: building and construction, laundries, cleaning and dyeing establishments and gaswork undertakings. Excluding employment by Local Authorities, these industries will be called for convenience the *allocated industries*.³⁴

(b) *CIP industries—specified industries*

The remaining CIP industries, called for convenience the “specified industries”, are, with the exception of Bord na Móna, not engaged in the manufacture of transportable goods. They are Bord na Móna, ESB, Canals, Docks and Harbours and Waterworks Undertakings, together with the industrial sectors of CIE, Government Departments and Local Authorities (including gasworks). Of these industries, the CIP gives a county breakdown of the national totals only for Local Authorities.

(c) *Non-CIP Small Industries*

The second category in the national aggregate comprise those industries which, by reason of size, fall outside the scope of the CIP. For these “small industries”, the national accounts only provide a global estimate, which distinguishes industries engaged in the manufacture of transportable goods from those in building and construction. From the nature of the case, data relating to these industries is less comprehensive than for those furnishing annual CIP returns.

(d) *Other Employment*

The third category in the national aggregate is a relatively minor one, being composed of employment given in *special employment schemes* and the *improvement of estates* which are not included under employment by Government Departments in the CIP census.

³⁴These are the industries in AG, Table 5.

3.2 THE ALLOCATED INDUSTRIES

County details of numbers employed in the allocated industries is available from the CIP for 1960 and 1965. Remuneration as well as employment is given by county for 1958 and 1963. The task is therefore to adjust the county remuneration for 1958 and 1963 to fit in with the national remuneration totals and the county employment figures for 1960 and 1965.

One minor difficulty is that the Laundry, Cleaning and Dyeing Industry was classified in the 'industrial' sector in 1958 and 1960, but was transferred to the 'other domestic' sector in the NIE from 1963 onwards. Accordingly, the figures for the earlier years must be adjusted so as to exclude this industry. The results are given in Table 3.1.

TABLE 3.1: *Employee remuneration in allocated industries (excluding laundries) in selected years (£000's)*

	1958	1960	1963	1965
Allocated transportable goods industries	54,614	64,939	88,613	106,689
Building and construction	7,509	8,802	14,369	19,002
Gasworks (excluding Local Authorities)	1,077	1,185	1,395	1,607
Total Allocated Industries	63,200	74,926	104,377	127,297

The simplest method of distributing the national aggregates for 1960 and 1965 is to allocate them by the county shares obtaining in 1958 and 1963. This is the method followed by AG in making their 1960 estimates. The drawback of this procedure is that it implies two assumptions; that average earnings increased by the same rate in each county and that employment rose by the same proportion in each county between 1958 and 1960. The first of these assumptions is not unreasonable, and in any case there are no data on which to base any alternative calculations. The second assumption is demonstrably unsound.

Table 3.3 sets out county employment in the allocated industries for 1958, 1960, 1963 and 1965, and shows the percentage changes between 1958 and 1960 and between 1963 and 1965. As can be seen, there is a very wide range in the rate of increase from county to county, particularly in the 1958 to 1960 period, when Clare showed an increase of 71 per cent while Laois suffered a decline of 8 per cent.

In making revised estimates for 1960 therefore, the procedure adopted has been to apply the 1958-60 rates of change in employment for each individual county to that county's 1958 wage bill. This in itself raises the national aggregate wage bill by £4.25 million from the 1958 total. This revised national

aggregate is 11 per cent below the actual 1960 total, implying an increase of 11 per cent in average rates of pay. The county wage bills, arrived at after allowing for employment changes, are raised by a uniform 11 per cent to reach the final 1960 estimate.

A similar procedure is followed for 1965. In this case the implied increase in average earnings between 1963 and 1965 is 16.6 per cent.

3.3 THE SPECIFIED INDUSTRIES

(a) *Bord na Mona*

Bord na M6na were particularly prompt in furnishing data on numbers employed and the total wage bill for each county in both 1958 and 1965, as set out in Table 3.2. At the national level these figures correspond closely with those published in the CIP category *Turf production and Bog development* and, in the case of 1965, with the 1966 CP data.³⁵ At the county level, the *Bord's* returns, which are based on the location of the activity, show some differences from the Census of Population, which is based on the residence of the worker. As data is available, and as earnings from *Bord na M6na* tend to be higher than the general level in industry, it is felt desirable to make specific adjustments in this instance, rather than include *Bord na M6na* employees in the calculations for general commuting by industrial employees.

The *Bord's* returns for 1958 and 1965 are set out in Table 3.2. The county figures for 1958 have been increased uniformly (by about 23 per cent) to agree in aggregate with the CIP total of 5,546 for 1960. While the figures thus calculated differ for the 1961 CP by only 29 at the national level, they are below the CP totals in Leinster and Ulster, and considerably above the CP total for Connacht. Where calculated employment is higher than that in the CP, the CP populations are assumed to be residents working in the county and earning the county rate, while the balance are assumed to be commuters from neighbouring counties paid at the appropriate county rate. A map of the location of the major workings was obtained and with its help it is possible

³⁵The comparison with the CIP is as follows:—

		1958
Bord na Mona Return	4504 persons for	£1,944,804
CIP	4593 persons for	£1,945,303
		1965
Bord na Mona Return	5123 persons for	£3,586,898
CIP	5188 persons for	£3,588,520

The CIP distinguishes the wage earners from those in receipt of salaries. For wage earners the report gives the average numbers employed over the year as well as those employed in mid-October; for salaried employees only in mid-October figure is published. The figure of 5188 for 1965 is made up of 416 salary earners in October and the average annual number of wage earners, 4772.

These employment figures have also to be related to the Census of Population which gives those engaged in turf production at the time of the enumeration (i.e. April). The 1961 Census gives a figure of 5,575 compared to the CIP return for that year of 5,546, i.e. 403 salaried staff and 5,143 wage earners. The corresponding figures for 1966 were Census 5,052, CIP 5,150.

TABLE 3.2: *Comparison of Numbers Engaged in Turf Production as Reported by Bord na Mona and the Census of Population*

County	Bord na Mona 1958		1960 CIP distributed as Bord na Mona return	Census of Population 1961	Bord na Mona 1965		Census of Population 1966
	earnings per head	average number employed			earnings per head	average number employed	
Carlow	£	Numbers	Numbers	Numbers	£	Numbers	Numbers
Dublin	731	198	244	206	1,375	219	183
Kildare	424	1,486	1,830	1,245	677	1,175	1,010
Kilkenny				24			23
Laoighis	502	1	1	261	635	115	311
Longford				314	602	326	323
Louth				1			1
Meath	386	188	232	122	645	159	82
Offaly	431	1,499	1,846	1,791	700	2,000	1,672
Westmeath	354	144	177	437	585	121	391
Wexford							1
Wicklow				2			1
LEINSTER	439	3,516	4,330	4,403	715	4,115	4,001
Clare				7			1
Cork				13			10
Kerry	383	84	103	106	598	35	37
Limerick				1			1
Tipperary	408	303	373	362	669	233	231
Waterford							2
MUNSTER	403	387	476	489	659	268	282
Galway	362	130	160	192	616	182	190
Leitrim				2			5
Mayo	395	131	161	226	640	342	301
Roscommon	433	293	361	139	661	137	158
Sligo				5			7
CONNACHT	407	554	682	564	638	661	661
Cavan				9			10
Donegal	399	47	58	108	594	79	97
Monaghan				2			1
ULSTER (part)	399	47	58	119	594	79	1,081
TOTAL	424	4,504	5,546	5,575	700	5,123	5,052

to determine the likely commuter flows over county boundaries from the surplus counties of Meath, Kildare and Offaly to the deficit areas of Laois, Longford and Westmeath.

The national total for remuneration obtained from this procedure is based on average earnings in 1958. County estimates therefore, have to be increased marginally to relate them to the slightly higher remuneration obtained in 1960. The net result of this exercise is a considerable redistribution of earnings

between counties. For example Laois wage bill, which had been returned at £502 in 1958 (based on one CIP worker), is now put at £111,345 in 1960 (based on 261 CP residents). On the other hand Kildare's earnings were reduced by over £100,000.

The identical procedure was used to adjust the Bord na Móna returns for commuters in 1965.

(b) CIE (Industrial Sectors)

(i) The 1960 estimates

The next industry to be considered is the industrial sector of CIE. The CIP distinguishes three elements—the manufacture, repair and servicing of rail equipment; the manufacture, repair and servicing of road vehicles; and the maintenance of railroad permanent way.

The CIP return for the railroad equipment industry in 1958 allocates remuneration to 3 counties—Dublin, Louth and Donegal. On the other hand Code 108 of the CP 1961—*building and repair of railway locomotives and rolling stock*—covers 11 counties with one fifth of all employees being resident in Limerick. The late fifties were a period when CIE and the GNR amalgamated and when the GNR workshops at Dundalk were closed. It is felt that the 1961 CP distribution is probably a more accurate reflection of the situation in 1960 than the 1958 CIP. However the 1960 CIP total of numbers engaged, 2,435, is greatly at variance with the CP figure of 1,536. Nevertheless the CP distribution has been used. When the results are compared, wages paid in Dublin do not differ greatly from those returned in the 1958 CIP. However, where remuneration was put at £390,000 for Louth and at £8,209 for Donegal in 1958, the changed distribution, based on the CP, reduces them to £12,242 and £1,749, respectively. Limerick, which did not feature in 1958, now has wages in excess of £260,000. It should be noted that the CIP return for total remuneration in 1960 is 12 per cent less than that for 1958.

The 1961 CP Code 110, *viz:—manufacture, assembly and repair of omnibuses*—lists 867 persons as engaged in the industry, compared to 1,406 given as average employment in the 1960 CIP. No county breakdown of the CIP is available so the CP distribution has been used.

An alternative approach to these last two industries would be to use a statement provided by CIE of payments to those engaged in their Rail and Bus workshops in 1956. The total sum paid, £2,106,000, is very close to the combined CIP totals for 1960—£2,129,000. If this is used as a distributor instead of the 1961 CP, the picture changes somewhat. The provincial patterns are largely the same but the 1956 statement would have attributed about £450,000 of Dublin's wage bill to Louth in Leinster. In Munster, Limerick earnings would have been halved with almost £80,000 ascribed to Cork. Differences in other counties would not be large.

The 1956 CIE return shows wages and salaries associated with the mainten-

ance of the railway's permanent way at £1,404 thousand. The 1960 CIP total is £1,312 thousands. The 1956 distribution by counties has been accepted and each county's earnings reduced by about 6.6 per cent to agree with the 1960 CIP total.

(ii) *The 1965 estimates*

The 1965 calculations are to some extent simplified by the fact that CIE furnished a statement for the financial year 1965/6. There are, nonetheless, discrepancies between these figures and those furnished in the CIP, *viz.*—

	<i>Bus and Rail Workshops</i>		<i>Railway Permanent Way</i>	
	<i>Number of staff</i>	<i>earnings</i>	<i>Number of staff</i>	<i>earnings</i>
CIE	5,684	£3,807,002	2,374	£1,352,157
CIP	3,787	£2,785,190	2,670	£1,761,121

Neither set of figures corresponds to the 1966 CP returns. These give 802 persons engaged in the bus workshop and 1,864 in the rail. These figures may well exclude those engaged in servicing the road freight fleet which, if true, would account in part for the lowness of the returns. The CP does not distinguish those engaged in maintaining the permanent way.

Both sets of figures were furnished by CIE. They pointed out that the two sets were compiled on different bases and for different purposes. Some of the staff which they had included in non-industrial sections of their company in the statement to ESRI were classified in the CIP return as being engaged in industrial activities. The CIP return, moreover, does not include pensioners and payments made to them. Nor would it include the sum of £67,000 reckoned to be contributions to superannuation in 1965.

It was decided to accept the CIP totals for numbers employed and remuneration, and distribute them by county in accordance with the CIE return.

(c) *ESB*

The next major industry considered is electricity. This is deemed to be synonymous with the ESB. (Electricity generation by other *permitted undertakings* was infinitesimal—less than 0.03 per cent in 1956/7 and only slightly more in 1960). The 1960 estimate is obtained by grossing up a special return from the ESB setting out the employment position on September 30, 1958, and the remuneration for the year 1958 on a county basis. A similar return was received for 1965 and stating the employment position on the same date in 1965. In this the ESB pointed out that their company is organised into 9 line districts which makes it difficult to apportion staff by counties. For example, the Port Laoise district includes North Tipperary an addition to Laois and parts of other counties.

The ESB return for employment on 30 September, 1965, gives 9,749 employees compared to the CIP figure of mid-October of 9,339. The difference is due to the inclusion of salesmen, temporary meter readers and fishery staff in the ESB return. The ESB return of remuneration is for the calendar year 1965 and gives a figure of £7.71 millions compared with £7.91 millions for the CIP in 1964/5 and £8.43 millions for 1965/6. The ESB suggest that the lower return may be due to the exclusion of approximately £0.5 million for pensions and Social Welfare payments. However these should also be omitted from the CIP return. An alternative explanation may be an unduly conservative estimate of overtime payments when the county estimates were made. In allocating the 1965 figures, the national employment level is based on the CIP total of 9,524, i.e. the annual average number of wage earners plus the number of salaried workers at mid-October. This involves a reduction of approximately 2 per cent in the ESB employment return for each county. On the other hand, the county remuneration figures have been adjusted upwards by a little over 9 per cent to bring them into line with the CIP national total.

(d) *Local Authorities (Industrial employment)*

Income from industrial employment by Local Authorities presents no difficulties since a county breakdown of remuneration is available from the CIP. The 1965 figures are used directly, while those for 1958 have been increased proportionately to agree with the 1960 national total.

(e) *Government Departments*

The calculation of the county distribution of the industrial employment income from Government Departments is more complex. The published CIP reports indicate that the major employer is the Department of Posts and Telegraphs. Other substantial employers are the Office of Public Works, Department of Lands, Irish Lights and the Ordnance Survey. Each of these were very helpful in attempting to apportion their staff and remuneration by counties. From their replies it is possible to subdivide the CIP total of remuneration as follows:—

	1960	1965
	£000	
Post Office	1,748	3,508
Office of Public Works	753	1,263
Irish Lights	51	76
Ordnance Survey	23	28
Department of Lands	18	24
Total	2,598	4,898

In the National Accounts, employment by the Post Office is allocated partly to the industrial sector and partly to Transport and Communications. In assigning remuneration to a county, any deficiencies in the amount assigned under the Industrial heading would be compensated for under the Transport and Communication heading. (This would also apply in the case of CIE). For 1965 the Department of Posts and Telegraphs provided a statement of the county distribution of total employment by the Department as well as a separate statement covering the Engineering and Storage branches, which come under the CIP.

The AG estimates attributed the CIP employment of Government Departments to Dublin. In the revised version of the 1960 estimates the pattern is assumed to be the same as in 1965.

The situation is similar for the Office of Public Works. In the 1965 return the Office provided a county breakdown of remuneration paid under subhead A (part of the Public Administration and Defence sector in NIE) and the remainder (CIP wages and salaries). These figures can be compared with the return for 1958 which does not make this distinction. It is possible to make a rough division of remuneration in 1960 based broadly on the 1965 return, but not entirely proportionate since the relative weighting of counties has changed, while some counties can be assumed to employ mainly one type or the other.

The Irish Light Commissioners provided figures on the numbers and county of residence of persons engaged on the maintenance of Lighthouses in 1965. It also provided some information on casual employment. The income earned by these latter has been deducted from the total, and the balance—almost 5/6 of the total—attributed to the Dublin depots. This distribution is also employed for 1960.

The CIP part of Ordnance Survey presents no difficulties, being entirely located in Dublin. The direct industrial employment by the Department of Lands is also highly concentrated in a few Leinster counties. The value of work done in 1965 has been used to distribute remuneration by county. The same proportions are applied to 1960 as to 1965.

(f) Other Specified Industries

The last three industrial sectors in the CIP remaining to be distributed are all relatively minor ones and indeed have not been treated separately in the AG calculations. They are Local Authority Gasworks, Waterworks Undertakings and Canals, Docks and Harbours. The first of these is distributed in proportion to the expenditure of Local Authorities on Gasworks, as reported in the Returns of Local Taxation for the year in question. Few counties are involved. Waterworks undertakings are distributed using the number engaged in the water supply industry, as set out in the Census of Population (Code 132 in 1961, Code 101 in 1966). Returns of the value of work done at various ports in 1965 have been used to estimate employee remuneration by county for that year and the same ratios are applied to the 1960 estimates.

3.4 OTHER EMPLOYMENT (NON CIP)

The next step is to allocate the remuneration of persons engaged in the improvement of estates and special employment schemes. Presumably these should normally be included in the Government section of the CIP but are treated separately to maintain comparability of CIP records over time. The Land Commission was able to provide a record of average employment and salaries paid in the improvement of estates for 1965. The same distribution has been applied to the 1960 total. The Department of Local Government supplied a similar statement covering rural improvement, bog development and other special employment schemes. The 1958 return of the Department of Local Government for the Special Employment Scheme Office included civil servants as well as industrial workers. With the help of Department officials the remuneration of these civil servants was estimated by county and deducted from the total to arrive at the 1958 estimate, which was then used to distribute the 1960 total.

3.5 NON-CIP SMALL INDUSTRIES

The remaining category of industrial employment is employment in industries which are excluded from the CIP because they employ less than three persons. Total remuneration for this class of employment is not published separately. In this exercise it could be calculated for both 1960 and 1965 by deducting the sum of remuneration for the types of employment already discussed, together with superannuation and social welfare contributions, from the National Accounts total of remuneration of employees in industry in the NIE for each year.

In order to distribute the national aggregate thus obtained, it is necessary to know the numbers employed in the small industries in each county, and their average earnings per head. Unfortunately neither set of data exists, and therefore recourse must be had to calculating approximate figures.

For estimates of employment, the only method available is to deduct CIP employment figures (including also the small numbers in special employment schemes) from the Census of Population returns of those engaged in industry. On a national level this should give a reasonably close approximation to the numbers of employees engaged in small industries, since national figures distinguish between employees on the one hand and proprietors, own account workers and relatives assisting on the other. Some small discrepancies may occur for a variety of reasons. CP refers to the number at work on a specified day while the CIP refers to annual averages for wage earners and employment in October for salaried workers. The CIP numbers at work include the small number of proprietors of unincorporated firms whose remuneration, being regarded as "profits" is omitted. It also excludes outside pieceworkers whose remuneration is included in the total CIP remuneration. If workers have two jobs they may be recorded twice in the CIP but only once in the CP. The CP

records the main occupation and industry of the worker as he returns it. The CIP records his industry as his employer returns it.

At county level employees are not separately identified in any CP industry and there is also the complicating factor of commuters. These twin difficulties present greater problems than those discrepancies discussed in connection with the national estimates which also obtain at the county level. The commuter problem arises due to the fact that the CP records workers by residence, while the CIP records by place of work. When the CIP figures are deducted from the CP figure the residual can be taken to include residents of the county who are employees in small industries, but not merely these. It will also include an estimate of other residents at work in small industries, e.g. as employers, and a net adjustment for residents commuting out of the county for employment either as employers or employees. There will be included a small margin for discrepancies due to people with two jobs and also due to the timing of the two Censuses.³⁶

There are likewise, difficulties in selecting an appropriate method of calculating average employee earnings in each county. In the absence of directly relevant data, the choice lies between assuming that rates of pay in small industries and for net commuters are the same in all counties, or assuming that these rates of pay in each county are related to the earnings of other industrial workers. The latter assumption appears more reasonable, and has therefore been adopted.

It does, however, have inescapable drawbacks. In the first place the average earnings of workers in CIP industry in a county may be influenced more by the composition of industry in that county than by actual rates of pay within each individual industry.³⁷ Secondly, applying average pay rates of a county to commuters who in fact work in an adjoining county may result in either overstating or understating their actual earnings. This could impart a considerable bias in the case of counties with a large number of commuters and a significant differential in average earnings compared with adjacent counties.³⁸ Nevertheless, in the absence of alternatives, this method has been adopted.

Average earnings per worker in transportable goods industries and in building and construction for each county can be calculated for 1958 and 1963. These figures have been used to weight the number of small industry workers calculated to be in either of these categories in each county, thus arriving at a distributor for remuneration.

From the discussion above it will be clear that the figures for remuneration from non-CIP small industries, especially when allocated by county, cannot be taken entirely at face value. In addition to actual remuneration from this

³⁶In 1960 the residual for Carlow was negative, indicating a net inflow of commuters. By 1965 Louth and Clare joined Carlow in this respect.

³⁷The Building and Construction industries which can be regarded as more homogenous between counties than the transportable goods industries did however also display much the same geographic variations.

³⁸Incomes in Meath and Laois may be understated somewhat for this reason.

source, the figures include adjustments for commuters in industry as a whole, and for such factors as discrepancies between the CP and the CIP. Viewed as a residual item including these factors the calculations in fact fulfil a highly necessary role in providing a convenient place for enabling balancing adjustments for county incomes as a whole to be made.

3.6 SUPERANNUATION, ETC.

This completes the estimation of industrial remuneration, except for superannuation and employers contributions to Social Welfare. The official estimates for these items were distributed over the counties on the assumption that they were proportionate to total remuneration.

3.7 THE AG APPROACH

A large part of the differences between the Ross and AG results published for 1960 can be attributed to:—

(a) revisions in the National Income totals as reported in various issues of *National Incomes and Expenditure*;

(b) the publication of the *Industries* volume (volume IV) of the 1961 Census of Population resulted in revision of the numbers nationally employed in non-CIP industry and therefore a change in remuneration, (AG used the 1951 Census);

(c) the completion of the analysis of CIP 1960 resulted in firmer figures for total remuneration;

(d) the laundry, cleaning and dyeing industry was transferred to the *other domestic* sector.

AG used the 1958 return for allocated industries, including laundries, to distribute not only the corresponding industries in 1960 but also waterworks undertakings, CIE manufacture and repair of road vehicles, remuneration for special employment schemes and improvement of estates, plus superannuation and employer contributions to Social Welfare. In the grossing up from 1958 to 1960, a uniform ratio was applied and changes in county employment levels were disregarded.

With regard to remuneration in specified industries, AG attributed all industrial employment in Government Departments, Local Authority Gasworks undertakings and on canals, harbours and docks to Dublin. The distribution of Bord na Móna wages and salaries was based on the Bord's return for 1958.³⁹ The distribution of employment in CIE rail workshop was based on the CIP return for 1958, which attributed 74 per cent to Dublin, 25.5 per cent to Louth and 0.5 per cent to Donegal. The Ross method is based on the 1961 CP, and reflects the change in Louth by attributing a much smaller

³⁹The CP 1961 volume on industrial employment was not yet published so even if it was deemed desirable, Attwood and Geary were not in a position to modify the return in the light of the CP residential pattern.

fraction to that county. The AG estimates for CIE employment on the maintenance of the permanent way, for industrial employment by Local Authorities and by the ESB did not differ from the Ross method.

The final element in the AG calculation was the remuneration of employees in small industries. Since the 1961 CP volume on industrial employment was not yet in print, the authors were forced to use the county differences between CIP employment and the Census of Population as reckoned a decade earlier in 1951. These differences were weighted by a loading factor which was based on a subjective evaluation of the likely variations in wages between counties. In several instances this loading factor differed considerably from that used in the Ross method, which is based on an index of average CIP earnings in each county.

The three elements in the AG methodology were updated to correspond with the revisions in NIE tables and are presented in Table 3.9.

TABLE 3.3: *Numbers Engaged in Allocated Industries in Specified Years*

<i>County</i>	<i>1958</i>	<i>1960 (estimated)</i>	<i>1958-60 change</i>	<i>1963</i>	<i>1965</i>	<i>1963-65 change</i>
	<i>Numbers</i>	<i>Numbers</i>	<i>%</i>	<i>Numbers</i>	<i>Numbers</i>	<i>%</i>
Carlow	1,840	1,984	8	2,710	2,314	15
Dublin	79,003	83,558	6	94,236	98,674	5
Kildare	3,041	3,691	21	4,163	4,447	7
Kilkenny	2,931	3,055	4	3,345	3,415	2
Laoghais	1,331	1,222	-8	1,240	1,269	2
Longford	403	445	10	571	646	13
Louth	7,573	8,279	9	9,713	10,189 ^e	5
Meath	1,956	2,176	11	2,452	2,458	—
Offaly	2,473 ^e	2,817	14	2,712	3,029	12
Westmeath	1,421	1,524	7	1,489	1,436	-4
Wexford	2,471 ^e	2,474	—	2,748	2,762	1
Wicklow	2,530 ^e	2,704	7	2,494	2,420 ^e	-3
<i>Leinster</i>	<i>106,973</i>	<i>113,929</i>	<i>7</i>	<i>127,873</i>	<i>122,059</i>	<i>4</i>
Clare	1,101	1,885	71	3,312	4,535	37
Cork	22,721	23,633	4	26,972	26,042	-3
Kerry	1,945	2,329	20	2,674	3,006	12
Limerick	5,339 ^e	5,474	3	6,417	7,217	12
Tipperary	4,974 ^e	5,245	5	6,141	6,318	3
Waterford	4,285 ^e	4,724	10	5,197	5,561	7
<i>Munster</i>	<i>40,365</i>	<i>43,290</i>	<i>7</i>	<i>50,713</i>	<i>52,679</i>	<i>4</i>
Galway	2,710 ^e	3,160	17	3,998	3,995	—
Leitrim	372	365	-2	400	431	8
Mayo	2,543 ^e	2,463	-3	2,726	2,842	4
Roscommon	632	684	8	803	820	2
Sligo	1,434	1,612	12	1,794	1,870	4
<i>Connacht</i>	<i>7,691</i>	<i>8,285</i>	<i>8</i>	<i>9,721</i>	<i>9,958</i>	<i>2</i>
Cavan	1,184 ^e	1,441	22	1,768	1,960	11
Donegal	3,308 ^e	3,410	3	3,858	4,028	4
Monaghan	1,318	1,389	5	1,627	1,827	12
<i>Ulster (part)</i>	<i>5,810</i>	<i>6,240</i>	<i>7</i>	<i>7,253</i>	<i>7,815</i>	<i>8</i>
Total	160,839	171,744	7	195,560	203,509	4

The 1963 and 1965 are official estimates. The official estimates for 1958 have been adjusted to exclude laundries. This means that for some counties (marked with "e") approximations have been resorted to. The 1960 estimates are the official estimates for 1961 reduced by 4.6 per cent to make them agree with the national totals for 1960.

TABLE 3.4: *Particulars from the CIP of 1963 and 1965 relating to Establishments classified by Location*

County	<i>Number of Firms</i>	<i>Gross output</i>	<i>Net output</i>	<i>Persons engaged</i>	<i>Persons engaged</i>	<i>Salaries and Wages Paid</i>
	<i>Numbers</i>	<i>£000</i>		<i>Numbers</i>	<i>£000</i>	
	1965			1963		
Carlow	47	11,553	4,365	2,314	2,710	1,693
Dublin	1,549	315,060	125,513	101,704	94,236	53,824
Kildare	71	19,731	5,291	4,447	4,163	2,064
Kilkenny	84	12,673	3,557	3,415	3,345	1,803
Laoighis	45	4,440	1,201	1,269	1,240	552
Longford	32	1,415	494	646	571	230
Louth	132	47,652	12,510	10,218	9,713	5,068
Meath	64	5,240	2,267	2,458	2,452	1,054
Offaly	54	8,505	2,833	3,029	2,712	1,209
Westmeath	44	3,793	1,353	1,453	1,489	674
Wexford	91	10,982	3,367	2,862	2,748	1,345
Wicklow	67	5,670	2,553	2,535	2,494	1,127
<i>Leinster</i>	<i>2,280</i>	<i>446,712</i>	<i>165,304</i>	<i>136,350</i>	<i>127,873</i>	<i>70,641</i>
Clare	76	18,581	7,861	4,634	3,312	1,520
Cork	505	117,668	33,507	26,473	26,972	14,526
Kerry	95	14,243	3,058	3,024	2,674	1,293
Limerick	185	29,502	8,550	7,295	6,417	3,215
Tipperary	188	27,760	7,038	6,318	6,141	3,188
Waterford	114	18,647	6,477	5,594	5,197	2,654
<i>Munster</i>	<i>1,163</i>	<i>226,401</i>	<i>66,491</i>	<i>53,338</i>	<i>50,713</i>	<i>26,396</i>
Galway	143	9,475	3,952	4,186	3,998	1,833
Leitrim	27	1,450	367	431	400	149
Mayo	107	8,510	2,497	2,849	2,726	1,136
Roscommon	36	2,779	652	820	803	378
Sligo	63	7,308	2,323	1,901	1,794	807
<i>Connacht</i>	<i>376</i>	<i>29,523</i>	<i>9,790</i>	<i>10,187</i>	<i>9,721</i>	<i>4,303</i>
Cavan	70	9,208	2,574	1,991	1,768	826
Donegal	133	9,034	2,987	4,089	3,858	1,498
Monaghan	62	7,920	1,831	1,827	1,627	713
<i>Ulster (part)</i>	<i>265</i>	<i>26,162</i>	<i>7,391</i>	<i>7,907</i>	<i>7,253</i>	<i>3,036</i>
TOTAL	4,084	728,799	248,976	207,782	195,560	104,377

NB—The particulars in this statement cover transportable goods industries (excluding Bord na Mona and CIE) and the Building and Construction, Gasworks (excluding Local Authority) and Laundry, Cleaning and Dyeing Industries. For similar figures for 1958 see AG., *op. cit.*, Table 5.

TABLE 3.5: CIP Remuneration by County 1960 (£000's)

County	Allocated Industries	Specified Industries					Total CIP
		Bord na Mona	CIE	ESB	Local Authorities and Government Departments	Canals, etc.*	
Carlow	996	—	13	11	129	4	1,152
Dublin	38,110	151	2,012	2,146	2,696	468	45,584
Kildare	1,540	529	62	84	167	17	2,398
Kilkenny	1,365	10	23	30	238	11	1,677
Laoighis	475	111	27	162	160	6	941
Longford	145	134	13	22	120	2	436
Louth	3,545	1	142	127	189	22	4,026
Meath	757	47	36	45	242	7	1,135
Offaly	1,042	773	29	145	141	12	2,141
Westmeath	551	169	44	107	232	3	1,105
Wexford	1,032	—	52	22	229	10	1,345
Wicklow	1,070	1	31	13	278	23	1,417
<i>Leinster</i>	<i>50,628</i>	<i>1,926</i>	<i>2,485</i>	<i>2,914</i>	<i>4,821</i>	<i>583</i>	<i>63,357</i>
Clare	672	2	35	114	321	9	1,154
Cork	10,731	5	156	492	1,110	160	12,653
Kerry	958	41	64	140	329	6	1,538
Limerick	2,352	—	336	302	294	45	3,331
Tipperary	2,350	148	79	34	519	10	3,140
Waterford	1,940	—	80	168	297	41	2,526
<i>Munster</i>	<i>19,004</i>	<i>197</i>	<i>751</i>	<i>1,251</i>	<i>2,870</i>	<i>270</i>	<i>24,342</i>
Galway	1,253	72	45	103	784	22	2,279
Leitrim	116	1	14	33	150	2	317
Mayo	882	92	70	66	319	12	1,440
Roscommon	253	60	19	23	168	8	530
Sligo	601	2	17	142	199	7	967
<i>Connacht</i>	<i>3,105</i>	<i>227</i>	<i>164</i>	<i>367</i>	<i>1,620</i>	<i>52</i>	<i>5,533</i>
Cavan	553	3	14	31	184	10	795
Donegal	1,133	41	6	203	399	9	1,791
Monaghan	505	1	21	30	103	6	665
<i>Ulster (part)</i>	<i>2,191</i>	<i>45</i>	<i>41</i>	<i>265</i>	<i>686</i>	<i>24</i>	<i>3,251</i>
TOTAL	74,926	2,394	3,441	4,796	9,997	929	96,483

*Including Waterworks; Docks and Harbours, also Local Authority Gasworks.

TABLE 3.6: CIP Remuneration by County 1965 (£'000's)

County	Allocated Industries	Specified Industries					Total CIP
		Bord na Mona	CIE	ESB	Local Authorities and Government Departments	Canals, etc.*	
Carlow	1,685	2	14	12	199	2	1,914
Dublin	66,355	257	2,787	4,039	4,136	656	78,230
Kildare	2,569	698	81	127	273	19	3,767
Kilkenny	2,145	16	40	13	340	33	2,588
Laoighis	659	213	37	303	259	7	1,478
Longford	303	198	38	51	207	—	798
Louth	6,192	1	115	215	287	48	6,859
Meath	1,231	54	22	55	380	5	1,748
Offaly	1,574	1,197	28	358	152	4	3,313
Westmeath	757	264	92	255	501	10	1,879
Wexford	1,592	1	96	45	346	10	2,090
Wicklow	1,313	1	42	18	376	5	1,756
<i>Leinster</i>	<i>86,375</i>	<i>2,903</i>	<i>3,392</i>	<i>5,492</i>	<i>7,457</i>	<i>799</i>	<i>106,419</i>
Clare	2,452	1	23	97	428	12	3,014
Cork	16,427	6	306	716	1,615	241	19,310
Kerry	1,669	23	63	291	406	48	2,500
Limerick	4,231	1	298	484	747	89	5,850
Tipperary	3,823	158	96	53	742	75	4,947
Waterford	3,316	1	93	272	479	65	4,227
<i>Munster</i>	<i>31,919</i>	<i>189</i>	<i>878</i>	<i>1,913</i>	<i>4,417</i>	<i>531</i>	<i>39,848</i>
Galway	2,161	120	113	247	832	4	3,477
Leitrim	187	3	8	31	190	—	420
Mayo	1,373	197	80	111	751	38	2,551
Roscommon	450	106	27	82	88	6	759
Sligo	986	5	37	225	305	8	1,565
<i>Connacht</i>	<i>5,157</i>	<i>431</i>	<i>266</i>	<i>697</i>	<i>2,165</i>	<i>56</i>	<i>8,771</i>
Cavan	1,079	6	2	45	220	13	1,365
Donegal	1,835	59	7	261	612	36	2,810
Monaghan	933	1	—	27	189	9	1,159
<i>Ulster (part)</i>	<i>3,846</i>	<i>66</i>	<i>10</i>	<i>333</i>	<i>1,021</i>	<i>59</i>	<i>5,334</i>
TOTAL	127,298	3,589	4,546	8,435	15,060	1,445	160,373

*Including Waterworks, Docks and Harbours also Local Authority gasworks.

TABLE 3.7: *Employment in Transportable Goods Industries 1960/1 and 1965/6 (excluding Bord na Mona)*

County	1961	Average	non	Average	CP	Average	non	Average
	CP	CIP	CIP	wage	1966	CIP	CIP	wage
	Numbers at work			£	Numbers at work			£
Carlow	1,920	2,008	—88	451	2,037	2,276	—239	632
Dublin	84,203	77,495	6,708	405	88,805	82,361	6,444	555
Kildare	3,731	3,625	106	377	4,622	4,333	289	498
Kilkenny	3,104	2,953	151	403	3,331	3,058	273	547
Laoighis	2,027	1,156	871	349	1,859	1,186	673	455
Longford	540	346	194	295	581	455	126	401
Louth	8,692	8,288	404	385	9,553	9,761	—208	520
Meath	3,225	1,998	1,227	314	4,007	2,240	1,767	421
Offaly	3,003	2,887	116	332	2,962	2,930	32	449
Westmeath	1,638	1,377	261	326	1,596	1,330	266	454
Wexford	3,153	2,421	732	367	3,539	2,679	860	495
Wicklow	3,653	2,685	968	352	3,941	2,345	1,596	443
<i>Leinster</i>	<i>118,889</i>	<i>107,239</i>	<i>11,650</i>	<i>396</i>	<i>126,833</i>	<i>114,954</i>	<i>11,879</i>	<i>540</i>
Clare	1,873	1,779	94	322	3,554	4,235	—681	460
Cork	24,644	22,062	2,582	407	27,156	24,714	2,442	535
Kerry	3,153	2,192	961	370	3,726	2,800	926	486
Limerick	6,520	5,218	1,302	384	8,946	6,398	2,548	496
Tipperary	5,735	5,241	494	404	6,172	6,008	164	524
Waterford	5,464	4,476	988	369	6,329	5,139	1,190	514
<i>Munster</i>	<i>47,389</i>	<i>40,968</i>	<i>6,421</i>	<i>395</i>	<i>55,883</i>	<i>49,294</i>	<i>6,589</i>	<i>519</i>
Galway	3,432	2,748	684	352	4,149	3,265	884	452
Leitrim	557	349	208	288	612	389	223	377
Mayo	2,553	2,193	360	321	2,871	2,569	302	416
Roscommon	961	639	322	334	1,135	737	398	482
Sligo	1,929	1,562	367	337	1,894	1,786	108	458
<i>Connacht</i>	<i>9,432</i>	<i>7,491</i>	<i>1,941</i>	<i>335</i>	<i>10,661</i>	<i>8,746</i>	<i>1,915</i>	<i>443</i>
Cavan	1,598	1,282	316	342	1,895	1,706	189	472
Donegal	4,349	3,357	992	297	4,945	3,672	1,273	386
Monaghan	1,899	1,396	503	329	2,404	1,748	656	438
<i>Ulster (part)</i>	<i>7,846</i>	<i>6,035</i>	<i>1,811</i>	<i>314</i>	<i>9,244</i>	<i>7,126</i>	<i>2,118</i>	<i>418</i>
TOTAL	183,556	161,733	21,823	390	202,621	180,120	22,501	525

TABLE 3.8: *Employment in Building and Construction 1960/1 and 1965/6*

County	CP	CIP	Other	Average	CP	CIP	Other	Average
	1961	including Local Authority	Firms	wage 1951	1966	including Local Authority	Firms	wage 1963
	Numbers at work			£	Numbers at work			£
Carlow	610	324	286	269	650	251	399	514
Dublin	18,970	16,171	2,799	345	24,483	20,679	3,804	650
Kildare	1,233	726	507	259	1,843	682	1,161	454
Kilkenny	1,124	702	422	226	1,437	839	589	477
Laoighis	846	488	358	238	1,019	519	500	381
Longford	627	559	68	222	671	546	125	408
Louth	1,404	799	605	260	1,741	881	860	543
Meath	1,526	865	661	257	2,297	775	1,522	481
Offaly	1,007	473	543	248	1,021	402	619	356
Westmeath	1,136	927	209	244	1,527	974	553	444
Wexford	1,251	662	587	216	1,882	660	1,222	420
Wicklow	1,403	513	890	247	2,065	481	1,584	599
<i>Leinster</i>	<i>31,137</i>	<i>23,209</i>	<i>7,928</i>	<i>328</i>	<i>40,636</i>	<i>27,689</i>	<i>12,947</i>	<i>624</i>
Clare	1,665	1,061	604	355	1,872	1,018	854	447
Cork	7,719	5,057	2,662	274	9,542	5,879	3,663	562
Kerry	2,010	1,184	826	260	2,128	967	1,161	468
Limerick	2,797	1,544	1,253	245	3,644	2,215	1,429	527
Tipperary	2,180	1,091	1,089	246	2,855	1,333	1,522	424
Waterford	1,516	1,071	445	328	1,811	1,040	771	483
<i>Munster</i>	<i>17,887</i>	<i>11,008</i>	<i>6,879</i>	<i>280</i>	<i>21,852</i>	<i>12,452</i>	<i>9,400</i>	<i>531</i>
Galway	2,866	1,944	922	275	3,033	1,986	1,047	483
Leitrim	502	353	149	162	447	252	195	343
Mayo	1,550	1,035	515	232	1,740	1,050	690	419
Roscommon	1,036	691	345	278	1,026	594	432	367
Sligo	901	600	301	225	908	481	427	366
<i>Connacht</i>	<i>6,855</i>	<i>4,623</i>	<i>2,232</i>	<i>255</i>	<i>7,154</i>	<i>4,363</i>	<i>2,791</i>	<i>443</i>
Cavan	901	678	223	238	1,084	682	402	440
Donegal	2,031	1,188	843	298	2,481	1,289	1,192	413
Monaghan	776	449	327	240	933	414	519	430
<i>Ulster (part)</i>	<i>3,708</i>	<i>2,315</i>	<i>1,393</i>	<i>277</i>	<i>4,498</i>	<i>2,385</i>	<i>2,113</i>	<i>425</i>
TOTAL	59,587	41,155	18,432	309	74,140	46,889	27,251	588

TABLE 3.9: *Remuneration of Employees in Industry by main categories 1960 and 1965 and revised 1960 figures using AG method (£,000's)*

County	1965		1960		Revised* AG estimates
	GIP	Total including pensions, etc.	GIP	Total including pensions, etc.	
Carlow	1,914	2,051	1,152	1,264	1,345
Dublin	78,230	88,113	45,584	50,993	51,802
Kildare	3,767	4,597	2,398	2,701	3,188
Kilkenny	2,588	3,108	1,677	1,936	2,108
Laoighis	1,478	2,028	941	1,355	1,238
Longford	798	942	1,436	536	459
Louth	6,859	7,487	4,026	4,547	4,817
Meath	1,748	3,314	1,135	1,783	1,629
Offaly	3,313	3,690	2,141	2,407	2,612
Westmeath	1,879	2,363	1,105	1,322	1,216
Wexford	2,090	3,136	1,345	1,811	1,758
Wicklow	1,756	3,486	1,417	2,150	2,091
<i>Leinster</i>	<i>106,419</i>	<i>124,315</i>	<i>63,357</i>	<i>72,804</i>	<i>74,353</i>
Clare	3,014	3,271	1,154	1,442	1,301
Cork	19,310	23,527	12,653	15,121	14,661
Kerry	2,500	3,643	1,538	2,218	1,983
Limrick	5,850	8,045	3,331	4,373	4,056
Tipperary	4,947	5,871	3,140	3,774	3,835
Waterford	4,227	5,348	2,526	2,102	3,036
<i>Munster</i>	<i>39,848</i>	<i>49,704</i>	<i>24,342</i>	<i>30,032</i>	<i>28,872</i>
Galway	3,477	4,687	2,279	2,984	2,592
Leitrim	420	609	317	441	405
Mayo	2,551	3,133	1,440	1,822	1,742
Roscommon	759	1,166	530	768	808
Sligo	1,565	1,854	967	1,210	1,221
<i>Connacht</i>	<i>8,771</i>	<i>11,449</i>	<i>5,533</i>	<i>7,225</i>	<i>6,828</i>
Cavan	1,365	1,704	795	1,001	1,034
Donegal	2,810	3,926	1,791	2,398	2,424
Monaghan	1,159	1,701	665	940	932
<i>Ulster (part)</i>	<i>5,334</i>	<i>7,332</i>	<i>3,251</i>	<i>4,339</i>	<i>4,392</i>
TOTAL	160,373	192,800	96,483	114,400	114,444

*This estimate is based on the AG methodology but using the revised NIE totals.

CHAPTER 4: REMUNERATION OF EMPLOYEES IN OTHER SECTORS

4.1 DISTRIBUTION

(a) General

The total employee remuneration in distribution amounted to £37.1 million in 1960 and £56.1 million in 1965. These aggregates are made up of an estimate for enterprises covered by the Census of Distribution (CD), and an estimate for those enterprises which failed to make returns. Among those which made returns, a distinction is drawn between retail and wholesale trade.

(b) Retail 1960

The major source of data for the retail trade in 1960 is the 1956 Census of Distribution, as summarised in the AG paper, Table 6. Numbers at work in those establishments which responded to the 1956 CD questionnaire were 110,205. Of these 65,828 were paid employees with 4,880 of them employed part time. Forty-three per cent of them were female, over 13 per cent under 18 years of age. The balance of those engaged, i.e. 44,377, was made up of the 29,750 proprietors and 14,627 unpaid family members. The size of the enterprises varied considerably and with it the ability of the shop to pay its employees and owners.

Compared to the CD figure of 110,205 at work in reporting establishments in 1956 the last three CPs enumerated those at work in all establishments to be 113,838 in 1951, 107,261 in 1961 and 112,576 in 1966. The CD figure, adjusted for non-response, is estimated to be 122,600 in 1956⁴⁰ and 119,900 in 1966. The difference is most likely due to the fact that in a complete enumeration, such as the CP, which asks for principal occupation only, some people will be returned in other occupations, e.g. housewife or student, while in an enumeration confined to a sector these may be returned as relatives assisting or part-time employees. Thus in the CP the number of relatives assisting is considerably fewer than in the CD. For example, the national breakdown of the retail industry by employment status in the 1961 CP gave the following totals:

Employers	7,967
Own account workers	25,052
Relatives assisting	5,920
Employees	62,921
Apprentices	5,401
	<hr/>
	107,261

⁴⁰The estimate in the 1956 CD report was 123,600. This was reduced to 122,600 CD report⁴⁰ as in 1966, a considerable number of establishments, which were classified as *Country General Shops* in the Census ten years previously, were transferred to *Wholesale Trade* as these were mainly engaged in selling fertilisers, feeding stuffs, etc.", see CD 1966, p. xxiii.

The CP gives total numbers at work in each county but does not distinguish by employment status at the county level. Presumably the relative proportion in each status category varies from county to county. The importance of this distinction only arises when an attempt is made to allocate income from the retail trade in each county between employees' remuneration and income of self employed.

The numbers reported for each county in the 1961 CP are first assumed to earn their county's average remuneration per person engaged in 1956.⁴¹ Different rates have been applied to the populations in the county boroughs as distinct from the rates applied to the remainder of the populations in the relevant counties. The result totals £17.55 millions nationally compared with £18.3 millions in 1956 which reflects the decline in employment between 1956 and 1960. This total has been increased by 34 per cent to allow for the rise in wage rates and the bias of non-response reported in the CD publication.

(c) *Retail Trade in 1965*

Although the report of the 1966 Census of Distribution was not available for 1965 the CSO kindly made available the totals for the provinces and county boroughs from their working sheets. Revised estimates of these have been subsequently published and are set out in Table 4.4. The 1966 CD figures for the county boroughs are taken to be the 1965 level of remuneration. Although figures related to 1966 tend to be higher than those of 1965, the non-response factor in the Census acts in the opposite direction. The numbers at work in the remainder of the State are taken from the 1966 CP and weighted by the same county factors as in 1960 and the resulting figures used to distribute the remuneration estimated for each province. The availability of provincial totals limits the possibilities of error to errors in the distribution of remuneration between counties in a province, which may arise from any changes in the relative wages between counties in the decade 1956-1966.

(d) *Wholesale Trade 1960*

The 1961 CP listed 33,787 persons at work in *trading and wholesale distribution* compared with 28,067 enumerated in the 1956 CD. About 11 per cent of establishments made no returns. At most these would account for 3,000 workers and probably a lot less if those who failed to reply were the smaller firms. Another reason for the difference may be a difference in the method of classification in the CP and the CD. Country general shops, which had been regarded as retail in the 1956 CD, were reclassified as wholesale in the 1966 CD with a resultant transfer of about a thousand workers.⁴² The discrepancy could be due in part to the difference of 5 years between the CD and

⁴¹Average earnings per person engaged is clearly the product of the average wage per employee and the proportion of employees in the work force. It should be noted that one unexpected feature of this calculation was the very low earnings of employees in Meath. This was repeated in the CD 1966.

⁴²See also CD 1956-59, p. lxiv.

CP. Fourthly, the CP seems to have included more businesses than the CD. The CP codes for those *trading in livestock* (horses, cattle, sheep and pigs) have no corresponding heading in the CD. If these livestock traders are omitted, the CP total of 30,914 is much closer to the CD figure of 28,067. It was not clear whether the 3,793 listed in the 1961 CP as engaged in *trading in timber, scrap metal and other materials* were covered by the CD. If not, they in turn could account for the difference.

The wealth of detail published for the retail trade in the 1956 CD is not repeated for the wholesale trade. The CD figures for 1956 covered only three areas of the state. The first step has been to gross up these returns to the 1960 level on a proportionate basis.

The Dublin and Dun Laoire CD figure for remuneration in 1956 has been simply grossed up to 1961 and assumed to represent the income of all those in County Dublin in the 1961 CP. The combined total for Cork, Limerick and Waterford county boroughs in the 1956 CD has been grossed up by the same factor and split between the three cities in proportion to their respective numbers of wholesale workers.

The CD gives some details of the types of wholesale business which incurred the wage bill of £2,377,000 in the remainder of the state in 1956. About 80 per cent was attributable to businesses engaged in selling builders' materials, grain and forage, groceries, wine and spirits and petrol. Average wages were estimated for each of these types as well as for the unspecified types. Compared to the average wage of £329 per employee, petrol wholesalers paid £434, builders providers £353, and wine, grocery and wholesalers £326. The rest paid about £307.

In calculating remuneration in the remainder of the State the CP figures for those at work were first weighted by adding 41 per cent per person engaged in petrol wholesaling, 15 per cent for builders providers, and 6 per cent for those at work in firms wholesaling food and drink. This allows for the higher pay to employees in these businesses. The resulting figures are again weighted, this time using the county retail wage index per employee in 1956 and then used to distribute the estimated 1960 wage bill for the remainder of the State among the counties. This, combined with the wages separately calculated for the cities, completes the calculations for 1960.

(e) *Wholesale Trade 1965*

In calculating the 1965 figures, the changes in the numbers at work in trading and wholesale distribution between the 1961 and 1966 CP have been determined. The 1960 estimated wages are adjusted to allow for the changes in employment and these figures increased to take care of the increases in wage rate over the five year period. The estimate for Dublin is assumed to apply to the entire county and no further income has been allocated. In the Munster county boroughs the estimate is split on the basis of numbers at work in each borough. This leaves a balance to be distributed over the remainder of the

State. Numbers at work in each area have been weighted as before, using the 1956 indices since more recent ones were not available. This completes the estimates of wages in the Distribution sector.

(f) *The AG Calculations*

The authors grossed up the 1960 retail wage bill directly from the county totals of wages and salaries as reported in the 1956 Census of Distribution. As observed above, the wholesale data was not as abundant. The returns for the county boroughs were allocated and the remainder distributed in proportion to the numbers at work in trading and wholesale distribution in the 1951 CP. The grossing up factor used for retail trade was employed to estimate the 1960 county distribution of wages and salaries in this sector. The results obtained by this simpler method do not differ greatly from those resulting from the more elaborate approach described earlier.

4.2 TRANSPORT AND COMMUNICATIONS

(a) *Constituents*

The components of the transport sector are CIE, harbour authorities, private road hauliers, taxis and other private carriers, and, in 1965, travel agents. Communications can be divided into the Post Office and RTE. Thus some elements are State companies with copious records, others are private individuals operating taxis and lorries, whose incomes have to be estimated. Fortunately the report of the Sample Survey of Road Freight Transport 1964⁴³ is available to fill in some of the gaps.

(b) *CIE*

The wage bill of CIE accounts for about half of the total for transport in both 1960 and 1965. CIE provided a statement which allocated salaries, wages and pensions by county for 1956. This return distinguishes workers engaged in the bus and rail workshop and in maintaining the railway permanent way from the remainder. The former categories have been used in estimating wages and salaries in industrial (CIP) employment. The latter, broadly speaking, corresponds to the transport sector, but not entirely. It also includes payments to workers in *Ostlanna Iompair Eireann* (the CIE hotels) which should come under the *Other Domestic* sector. The 1956 return has been adjusted for this hotel employment, using the number of beds per county as a distributor of the total wage bill. The counties affected are Kerry, Galway, Donegal and Sligo (in descending order of payments). The net figures for 1956 are then used to gross up to the 1960 national total.

A similar return was received for 1965. This also has been adjusted for the hotels. The net figure so obtained corresponded closely to the official figure in the National Accounts and county totals have been reduced slightly to achieve complete agreement.

⁴³Sample Survey of Road Freight Transport 1964 Final Report, Pr. 9,572, CSO Dublin (1967).

(c) *Air Transport*

Air transport workers are almost exclusively employed by the three major air companies—Aer Lingus, Aer Rianta and Aer Linte. The accounting procedures of these companies do not enable them to provide any figures that are meaningful in the context of county income estimation. Instead, the CP figures of 1961 and 1966 are used to distribute the national totals. It is curious that even in 1951 the CP shows people resident in 17 counties as being at work in the air transport industry though some of these counties would be a considerable distance from an airfield. By 1966 only Leitrim did not report anyone in this industry. Presumably these are local representatives of the air companies.

(d) *Sea Transport including Harbour Authorities*

This covers two major categories; first, the employment of seamen and others by such companies as Irish Shipping, B + I, Palgrave Murphy's, and second, the employment of dockers by the Dublin Master Stevedores Association and the Dublin Cross Channel Shipping Company. Inspection of the national aggregate suggests that a weighting of 25 per cent be applied to Dublin workers and 10 per cent to those in Cork. The actual numbers used as distributors are the county totals of all persons at work in the *water transport* industry as reported in the CP returns of 1961 and 1966. Approximately 80 per cent of the total is allocated to Dublin and Cork in both years.

In addition to sea transport the National accounts calculate the remuneration arising from employment by harbour authorities, e.g. pilots. Information for 25 ports for 1965 was used to calculate the county distribution. The same distribution has been employed for 1960.

(e) *Private Road Transport Workers*

This heading includes employment by private road hauliers, taxis and other private carriers including car hire firms. In developing a distribution for the first category—private road hauliers—considerable use was made of the *Sample Survey of Road Freight Transport 1964*. In particular Table 3 of that Survey gives the region of origin of the 6.35 million tons carried by *other licensed hauliers* starting from places within the State. The county figures for Dublin, Galway and Donegal are given separately, otherwise they are aggregated into groups of two, three or four counties. Code 180 of the Industries group of the 1961 CP—*persons at work in transporting goods by road*—has been used to resolve these aggregates into their county constituents. The distribution of wages is based on the tonnage carried, not on the numbers employed and the same distribution is applied to both years. It should be noted that this results in over 30 per cent of the wages being allocated to Cork and Kerry.

The allocation of wages by county for employees of car hire firms and taxi owners was first attempted on the basis of the number of public service vehicles with less than seven seats as licensed in each area. The result showed rather

low figures for Dublin and high ones for several Western counties, such as Galway, Mayo and Donegal. It is felt that the mere numbers are no indication of the intensity of use of these vehicles, many of which may be owned by part-time farmers, etc. As an alternative, the numbers at work in the CP industry, *Other Road Passenger Transport*, (Code 179/1961, 148 in 1966), has been used to distribute the total wages of the industry. The results allocate almost 37 per cent to Dublin, which is probably an understatement of the position but a very considerable improvement on the alternative estimate by the previous method. If a suitable weighting factor could be applied, it would probably tip the scale more heavily in favour of the capital city. However the sums involved, even nationally, are rather small.

In estimating the wages of those engaged in taxi work, car hire or private road haulage it is recognised that many of those at work in these industries are self employed. The total earnings of self employed and employees have been calculated by county and distributed partly to wages and salaries and partly to income of self employed using the same proportions for each county. If one element is over-estimated for a county a compensatory understatement will appear in the other element so that the total income will be correct.

(f) *Communications*

The Department of Posts and Telegraphs supplied a statement of numbers employed and total remuneration by county for both 1958 and 1965. In the 1965 return separate figures were supplied for CIP employment and these used to estimate the county distribution of CIP employment in 1960. The balance—the non CIP employment—has been divided on an arbitrary basis between the Post Office Savings Bank and the Post Office proper. Over-estimation of Savings Bank employment in any county will be balanced by underestimation for the Post Office.

The other constituent of the communications section, Radio Telefis Eireann, presents no problems as the authority made available a statement of remuneration by county for both 1960 and 1965.

(g) *Travel Agents*

In recent reports of the NIE the remuneration of employees of travel agents has been transferred from the services sector, i.e. *Other Domestic* to *Transport and Communications*. The sums involved are small and are distributed in proportion to the numbers at work in *Other Transport and Communications* (Code 186 CD 1961 and Code 155 CP 1966). These numbers have been weighted by the simple average of the industrial and retail wage indices. It should be noted that in both years about 80 per cent of total remuneration is attributed to Dublin county.

(h) *AG Calculations*

The AG report distinguished *CIE employment* costing £7.9 million and *other transport* costing £6 million in employee remuneration. The CIE figure is

exclusive of pensions and basically the same figure as that used in this report. The estimates for *other transport* have been considerably revised nationally when the industries volume of the 1961 CP became available. As indicated earlier, the total transport sector was £15,274,000, or almost £1.4 millions higher than the figures on which the AG calculations were based.

The AG calculations for CIE were based on the 1956 return from CIE without an adjustment for *Ostlanna Eireann Teoranta*. The distribution of *other transport* was based on employment listed under Codes 183 and 184 of the 1951 CP report i.e. *Other Road Passenger Transport* and *Cartage and Haulage* contracting. The AG calculations have been adjusted to bring them into line with the revised national totals, and are presented in Table 4.3 in conjunction with the estimates for 1960 used in this study.

The AG calculations tend to give lower estimates for most of the counties with large ports. In particular, there is a very considerable difference between the two estimates for Dublin. It appears therefore to be worthwhile to make special calculations for water and sea transport, as is done in this study. Another cause of the differences would be the exclusion of the CIE hotels in the Western counties. For the most part, the differences between the AG and R estimates for transport are compensated to some degree by differences in the opposite direction in distribution. Thus, apart from Louth, Wexford and Limerick, the combined totals tend to be more in agreement than the figures for transport alone.

4.3 PUBLIC ADMINISTRATION AND DEFENCE

(a) Coverage

This category of employment comprises those receiving remuneration from Central and Local Government sources. It includes not only civil servants and local authority officials but also the President and members of the *Oireachtas*. Following international practice it excludes some employees of Government, i.e. forestry workers included with *Agriculture*, industrial workers covered by the CIP, industrial workers employed in the improvement of estates and special employment schemes, Post Office workers who are catered for under *Distribution, Transport and Communications*, those engaged in teaching who are allocated to the *Other Domestic* sector, Local Authority workers included in *Industry*; and certain Health employees included in the *Other Domestic* sector.

(b) Data Sources

The main sources of information on Central Government employment are the annual *Estimates for Public Services* which provide considerable detail on proposed Central Government expenditure and the *Appropriation Accounts* which record the sums actually expended. In national accounting, all expenditure in these accounts is classified into one of the nineteen categories, of which one, wages, salaries and pensions, concerns us here. The assistance of

the Department of Finance was enlisted to obtain from Government Departments a statement of the numbers and remuneration of those employed in each county as included in the 49 votes for the Public Services in the estimates of the year 1965/6. Only one minor office was unable to supply the information requested. In some cases the totals returned did not agree with the *Appropriations Accounts*. The usual reason for this was that pensions or payments in kind has been omitted. Where this occurred a methodology was developed in conjunction with the Department concerned to account for the remainder on a county basis.

(c) *Central Government*

The payment of members of the Oireachtas is allocated to their official residences and supplemented where necessary for office holders. A similar arrangement is made for *law charges*. In the case of the Department of External Affairs many of the employees are resident abroad, but the sums involved enter National Accounts. Those resident in Ireland have been allocated to their counties of residence; the balance has been distributed as if to the employees of foreign governments resident in Ireland, using as a distributor the appropriate code in the Census of Population.

Detailed data is not available on the residence of those in receipt of Civil Service pensions. In some cases, such as the Gardai and the Army, separate pension funds exist. These latter have been either allocated by the Department concerned or the pattern of current salaries or wages used as a distributor. For those Departments which draw their pensions from the general pension fund the appropriate current expenditure pattern for these Departments alone has been employed to distribute the pension funds.

In addition to the amounts voted in the annual estimates some Central Government expenditure is drawn from other sources. These extra budgetary funds are the *Finance Accounts XVI to XVIII*⁴⁴ which provide for payments to the President, Leaders of Opposition parties and certain members of the Law Courts as well as for pensions to former ministers, etc. These sums have been distributed with the help of the Department of Finance. Other funds provide for secondary teachers pensions and are distributed in proportion to current salaries of secondary teachers.

Finally, the remuneration of employees of the Industrial Development Authority and An Foras Tionscal are included under this heading and have been distributed with the help of these bodies.

(d) *Local Government*

The county distribution of the wages and salaries of Local Authority employees was provided by the Department of Local Government and amounted to £31 million in 1965. When provision has been made for pensions and payments in kind it rises to slightly more than £34 million. Of this total

⁴⁴Finance Accounts 1960/61, 1965/6, Stationery Office, Dublin.

just over £14.5 millions, paid to those at work in the Health Services (apart from those engaged in an administrative capacity), belongs to the *Other Domestic* sector and has been deducted (using a return supplied by the Department of Health). A further deduction of £10.4 million was necessary to exclude Local Authority employees engaged in CIP activities who are already included in *Industry*. The net figure remaining for the Local Authorities is just over £9 million.

When this net figure has been calculated on a county basis some anomalies appear. Payments to the Health Services and industrial workers in County Sligo exceed the total wage bill of all employees of the Sligo County Council by 20 per cent, and are also slightly in excess in County Wicklow. Part of the difficulty may be due to the difficulty of allocating wages where a number of counties operate common health services, e.g. the Longford-Meath-Westmeath Mental Health Board, the Western Health Institutions Board, the Sligo-Leitrim Mental Health Board. Part of the difficulty arises from there being a multiplicity of data sources—the Department of Local Government, the Department of Health and the CIP, all of whom compile information on a basis suitable to their own work but which may not be compatible with other data. It was not possible for the Departments concerned to reconcile these returns. It is important, however, not to exaggerate the importance of these differences. The total remuneration of Local Authority workers in any county is attributed to the county. It may be that in allocating these amounts between sectors too much is allocated to the *Other Domestic* sector in some cases and not enough to *Public Administration*. These pluses and minuses clearly cancel out as far as the county is concerned.

(e) *Summary for 1965*

A summary of the composition of the sector in 1965/6 may be set out as in Table 4.1. Details of its distribution by county are presented in Table 4.6 at the end of this chapter.

(f) *The Position in 1960*

The Department of Finance collaborated with Attwood and Geary in obtaining a county breakdown of expenditure by Central Government for the year 1958/9. Wages and salaries of Local Authorities in the same year were supplied by the Department of Local Government. Of the total of £41.8 millions for Public Administration and Defence in 1958 these returns accounted for £33.2 million. This figure was used to distribute the £45.3 million paid in wages, salaries and pensions in the sector in 1960.

Since the AG calculations the national estimates have not only been revised but several elements transferred to other sectors. Since these required major adjustments in the 1960 estimates it was felt worthwhile to re-examine the entire return. Items omitted, such as the remuneration of members of the Oireachtas and the distribution of extra budgetary funds (which include

TABLE 4.1: *The Composition of Remuneration in Public Administration and Defence 1965/6*

	£000	£000
<i>Central Government</i>		
Total wages and salaries from Appropriations Accounts, excluding Post Office	61,917	
Extra budgetary funds	592	
		62,509
Deduct transfers to other sectors:*		
to Agriculture: Forestry	1,546	
to Industry: Special Employment	344	
Improvement of Estates	322	
Office of Public Works	603	
to "Other Domestic": Education	17,903	
Total deductions		20,718
<i>Net Central Government</i>		41,791
<i>Local Authorities</i>		
Remuneration in cash and kind, superannuation		34,055
Deduct transfers:—		
to "Other Domestic": Health	14,522	
to Industry (CIP work)	10,394	
Total Deductions		24,916
<i>Net Local Authority</i>		9,139
<i>Net Government, Central and Local</i>		50,930

*The relevant Votes are Vote 36 C2 and C3, Vote 9F GHI, Vote 35.1, Vote 8 F-H, Votes 29-32 and Vote 50 (pt.).

the Shannon navigation scheme), have been calculated. Partial returns have been completed, e.g. Vote 52 (Army Pensions) was not included in the Defence return, which also omitted payments to the reserve forces, marriage allowances, etc. Similarly the return for the Gardai omitted the value of pensions, allowances and clothing supplied. General pensions to the Civil Service have been recalculated based on wages and salaries of those Departments which are without special pension arrangements, i.e. it excludes Gardai, the Army and the teachers. These and other adjustments carried out on analogy with the 1965 returns do much to increase the coverage of the returns and by being specific to the vote in question, increase the accuracy of the estimate.

The updated data has then to be adjusted for definitional changes. The most important of these—the transfer of Local Authority health personnel to the *Other Domestic* sector is simplified by a return for 1960 supplied by the Department of Health. Adjustments in the Post Office return have been carried out, assuming the same pattern as in 1965 but using the 1960 totals. In view of the extent of these adjustments there is little to be achieved in comparing the AG and R results for 1960.

4.4 EDUCATION

(a) General

The fourth and final major division in non-agricultural employee remuneration—the *Other Domestic* sector—is constituted mainly of services industries. Education accounts for about 20 per cent of remuneration in the sector. It comprises five main types, *viz.*, primary, secondary, vocational, university education and private tuition. Not all salaries are included in employee remuneration. The earnings of religious teaching in schools are regarded as a type of income from self-employment and are assigned to the category of “profits” in the National Accounts. This is true whether the payment arises as a direct payment of salary, as in a classification school, or by way of a grant as in a capitation school. While the estimation of the remuneration of religious should properly be considered under *Income of self employed*, it is an integral part of the current calculations and is discussed here.

(b) Primary Education (including Training Colleges)

(i) General

In the NIE the Appropriation Accounts for the relevant financial year are used to deduct remuneration in Education from the total remuneration in the *Public Administration and Defence* sector. Separate returns for the calendar year are supplied by the Department of Education and are substituted for remuneration in Education in the *Other Domestic* sector for NIE purposes. Minor differences between the two estimates reflect the different time periods involved and the differences in source.

Remuneration in primary education in 1965/6 is summarised as follows:—

<i>Salaries of Teachers in Classified schools and grants to capitation schools:</i>	£000
(i) Payments to teachers in classification schools	11,315
(ii) Grants to capitation schools	1,969
(iii) Payments to Lay Assistants in capitation schools	1,551
(iv) Allowances*	1,048
Superannuation of Teachers	1,883
Preparatory Colleges and Model Schools	23
	<hr/>
	17,787

*Annual allowances to principals, children's allowances, Gaeltacht grants etc.

Some explanations are called for. Classification schools are those where salaries are paid directly by the Department. In 1965 the staff comprised 4,400 principals, 5,100 vice principals and assistant teachers and 1,200 untrained junior assistant mistresses. Some of these staff were members of religious communities.

Capitation schools, which include reformatories and industrial schools, received in 1965/6 a capitation grant of about £22-£24 for the first 100 pupils and about £15-16 for the remainder. In that year, 348 convents and 92 monasteries opted for the capitation system. Although run by religious communities their staffs included about 1,300 lay assistant teachers whose salaries were paid directly by the Department. A deduction of £137 per lay teacher was made in the total amount of the grant paid to the conductor of the school. The net amount of the grant belonged to the religious community.

The Department returns for the 1960 and 1965 calendar years can be summarised as follows:—

	1960	1965
	£000	
Teachers with personal salaries	7,797	13,683
Grants to primary schools	1,320	1,814
Superannuation* and Social Welfare payments	1,316	2,087
	10,433	17,584

*Superannuation relates to all teachers. Over 90 per cent of it relates to primary teachers. As the distribution of the remainder is not available it was distributed by county in the calculations, using the same distributor as the superannuation of primary teachers.

For the reason given earlier these figures differ slightly from those in the Appropriation Accounts. In addition, the personal salaries of teachers includes a small amount for payments by religious communities to lay teachers in their schools.

(ii) The 1965 Calculations

The primary branch of the Department of Education made available county distribution of payments and other teachers in classification schools. Access to Department files on capitation schools was readily provided so that the capitation grant to school conductors in each county could be calculated. The files also provided the salary payments to lay assistants in these schools for one specific month and these were multiplied by a fraction over 12 to bring them into agreement with the National totals.

Salaries of religious in classification schools are assumed to be a fixed proportion of each county's *payments to principals*. These, together with net grants to conductors in capitation schools make up total profits in primary education in each county. The balance of payments to principals are combined with

lay teacher salaries in capitation schools and used to distribute allowances, such as children's allowance and recoupment of payments to substitute teachers, which mainly concern lay teachers. These figures are then used to distribute superannuation and social welfare payments. Grants to training colleges of £185,000 (cf. £121,000 in 1960) are allocated to employee remuneration in Dublin. Thus a total for employee remuneration in primary education is obtained for each county.

(iii) *The 1960 Calculations*

A similar procedure is used for 1960. The Department of Education supplied the county totals of payments to national teachers on personal salaries in classification and capitation schools in the financial year 1958/9. When grossed up 25 per cent, this gives the distribution of total employee remuneration in 1960. This distributor is used to calculate the county distribution of the remuneration of religious in classification schools. The profit calculation is completed by using the return of the Department on the capitation grant paid in the financial year 1958/9 to distribute the 1960/1 total which is approximately $7\frac{1}{2}$ per cent higher.

(c) *Vocational Education*

While a small number of vocational teaching staff are wholtime or part-time employees of the Department of Education, the great majority are employed by the Vocational Education Committees, which match Department of Education payments on a pound for pound basis. The payments to Vocational Education Committees presented in the "General Purposes" Expenditure Tables of the Returns of Local Taxation⁴⁵ have been used as distributors of the national totals.

(d) *Secondary Education*

(i) *General*

The basic source of remuneration of secondary school teachers, (both lay and religious), is the incremental salary grant from the Department of Education.⁴⁶ In 1960, incremental salaries paid to lay teachers amounted to £896,000 and to religious, £828,000. In 1965 the figures were lay, £2,202,000 and religious, £1,552,000. In addition, the schools themselves supplement the income of these lay teachers by the payment of a basic amount to each. This supplement totalled £689,000 in 1965. The schools also paid a total of £187,000 to a number of lay teachers who did not qualify for the Department grant. A larger number of members of the religious communities received no payment from either state or school. The total school payments for 1960/1 were £521,000.

In addition, 585 Secondary schools in 1965/6 were recognised as eligible

⁴⁵Returns of Local Taxation, Department of Local Government, Dublin. (a) 1960/1, Pr. 6,654. (b) 1965/6, Pr. 9,666.

⁴⁶Paid under subhead B of Vote 30 in 1965/6 in the *Estimates for Public Services* and a similar subhead in 1960.

for capitation grants ranging from £8 to £14 for each recognised junior pupil and £10 to £19 per recognised senior pupil. In all 98,560 pupils were recognised. Payments of these grants were £1,568,000 in 1965.⁴⁷ Of this, £145,000 was paid to schools under lay control and so allocated to remuneration. The balance of £1,423,000 was paid to schools under religious control and, in keeping with the NIE convention, allocated to "profits". The corresponding figure for profit in 1960 is £891,000.

(ii) *The 1965 Estimates*

The Secondary branch of the Department of Education made their files available to the ESRI for an analysis of incremental salaries.⁴⁸ These files were then analysed, grouping teachers by sex, marital status and whether religious or not. The teaching experience of each teacher was noted as well as the special qualifications, number of children, etc. Applying the appropriate payments gave total payments per county, distinguishing remuneration of lay teachers from the profits of religious. While the total results agreed with the national estimates, somewhat more was paid to members of religious communities than had been previously reckoned, i.e. £1,634,000. The salaries of lay teachers paid directly from public funds were reckoned to be £2,120,000. The county distribution of this amount was used to distribute payments from the schools themselves, etc.

A second analysis of the Department file classified secondary schools into 5 groups by the number of pupils, viz. less than 100, 100-149, 150-199, 200-299 and over 300 pupils. The number of pupils and teachers in each class were compared with the quota of teachers to discover if a school was employing more than the number of pupils would warrant and so paying the cost of the salary itself. Applying the relevant capitation grant, total capitation grant per county is obtained and allocated to profits, or remuneration, as appropriate.

(iii) *The 1960 Estimates*

The Department analysed incremental salaries paid in each county in the financial year 1958/9. This is used to distribute the personal salaries of both lay teachers and religious derived from public funds as well as the basic salaries of lay teachers paid by the schools themselves. A similar figure is not available for the capitation grants and the 1965 figures have been used to distribute those of 1960.

(e) *Universities*

Details of the remuneration paid to University employees in both years are

⁴⁷The *Estimates for Public Services* include under capitation grants, teachers salaries grants (not to be confused with incremental salary grants).

⁴⁸These consist of two scales:

Married men: £640 + 35 × 5 + 45 × 5 + 60 × 6 = 1,400

Women and unmarried men: £470 + 28 × 5 + 36 × 5 + 56 × 5 + 56 × 5 = 1,070.

An increment of £110 is paid to holders of an accepted honours qualification and upto £50 those teaching through Irish. Married men and widows were paid £32 children's allowance per child while probationer teachers were paid £200 per annum.

available for the six institutions involved, viz. UCC, UCD, UCG, Trinity College, Maynooth and NUI. In the light of the data in the 1961 CP it does not seem reasonable to assume that all University staff live in the county where the institution that employs them is located. Instead, UCG staff are assumed to be potential residents of Connacht, Clare and Limerick Boroughs, UCC staff of the rest of Munster. University staff in the CP in counties of Leinster, Cavan and Monaghan are assumed to be associated with teaching in Dublin and Kildare while University teachers in Donegal are taken to be employed in Northern Ireland. These CP records are used to distribute the total for the relevant university.

(f) *Other Education*

Remuneration in this category increased over 80 per cent between 1960 and 1965. The distributors are the numbers engaged in *Other Education*, i.e. excluding primary, vocational, secondary and university. The relevant CP codes (197 in 1961 and 166 in 1966) return 2,937 in the industry in 1961 and 1,910 in 1966.

(g) *The AG Calculations*

The combined returns for classification and capitation schools for 1958/9 supplied by the Department of Education, and described earlier, provided a distributor for remuneration in primary education. The remuneration of vocational teachers, etc., was based on the same distributor as above—the expenditure of Vocational Education Committees but using the 1959/60 *Returns of Local Taxation*. These two categories correspond to the 1951 CP codes 208 and 209, i.e. *Education (central government)*; *Education (local authority)*. Code 210 covered those at work in the *Remainder of Education*. Twelve hundred of these were assumed to be University employees earning £1,324,000, who were distributed between Dublin, Cork and Galway on the basis of assumed numbers engaged in each area. Code 210 minus University employees was employed not only to distribute remuneration in *Other Education* but also all profits.

4.5 OTHER DOMESTIC SECTOR (EXCLUDING EDUCATION)

(a) *Health*

In NIE 1962 and subsequently, persons in the Local Authority health service who are not engaged on administrative activities are to be regarded as belonging to the *Other Domestic* sector, rather than Public Administration. This requires an adjustment in the AG estimates.

The Department of Health made available a detailed statement of wages, salaries, emoluments and fees paid under a large variety of headings by Health Authority institutions. These totalled £8,852,000 in 1960 and £14,522,000 in 1965, excluding administrative expenses and the remuneration of office staff. The Department also estimated approximate numbers employed and total remuneration for each county in both 1960/1 and 1965/6 as set out in Table 4.9.

The totals are fairly close to the NIE estimates and are used as distributors of the NIE total.

(b) *Finance*

Finance comprises many industries—commercial banking, the Central Bank, the Post Office Savings Bank, stock brokers, finance companies, pawnbroking, insurance, auctioneering, valuing, real estate agencies and advertising.

Through the good offices of the Banks Standing Committee the numbers and the remuneration of those employed in the commercial banks in each county were obtained for both 1958/9 and 1965. The return for the calendar year 1965, 6,297 persons earning £6,904,000, is grossed up to the NIE estimate of £8.3 millions, which includes pensions and Social Welfare contributions. A similar adjustment brings the 1958 figures into line with the 1960 estimates.

The remuneration of employees of the Central Bank in both years is attributed to Dublin while the remuneration of those in the Post Office Savings Bank is proportionate to the county distribution of Post Office employees not covered by the Census of Industrial Production.

Numbers at work in the CP industry—*Insurance* (Code 174, 1961 and 143, 1966,) have been used to distribute the aggregate remuneration of employees in insurance. Similarly the county estimates for advertising are based on the relevant codes for *Advertising and Bill Posting Agencies*, though this industry tends to be concentrated in Dublin. The remainder of the remuneration in finance has been distributed proportionate to numbers at work in *Finance*, Code 176 (CP 1961) and Code 145 (CP 1966).

(c) *The Professions*

This heading covers those employed in the professions industries as defined in the *Industries* volume of the CP. Where professional people are employed by manufacturing industry and government their remuneration is allocated to those industries.

In 1961 the CP lists 85,952 persons at work in the professions industries. Of these 47,155 have been catered for elsewhere as being engaged in teaching, Local Government medicine and An Foras Talúntais. The balance of 38,797 are engaged in *Accountancy, Law, Non-Local Authority Medicine, Dentistry, Veterinary Surgery, Consultant Engineering, Surveying, Architecture, Religion, Trade and Professional Associations*.

Not all of these people have professional occupations.⁴⁰ To facilitate the

⁴⁰For instance, 4,123 persons were at work in the *Law* industry in 1961. Almost half, 2,055 were females. Of these females, 1,879 were clerks or typists, 67 were charwomen or caretakers and only 96 barristers or solicitors. 1,582 of the 2,068 males were barristers or solicitors and 408 were clerks. Of the 4,123 total, 810 (including 37 women) were self employed and 489 (including 7 women) were employers. Apart from 23 relatives assisting the rest were employees. Clearly then, while the bulk of the employees were clerks and typists, at least 9% were either barristers or solicitors. These latter may include articulated clerks, pupils and other professional students. In Table 7 of the 1951 CP these were reckoned to be 373 male and 41 female. No similar entry appears in Table 6 of the 1961 CP, or Table 8 in the 1966 CP.

calculations the total at work are divided into two groups—the higher professionals and the rest. The former include barristers, solicitors, medical doctors, dentists, veterinary surgeons, chartered accountants, architects, consultant engineers and surveyors. These numbered 5,228 in 1961 and almost a quarter (1,298) were reckoned to be employees. On the other hand, 93 per cent of the “rest”—32,090—were reckoned to be employees.

In most professions industries the majority of males are higher professional workers. On the other hand apart from doctors and dentists very few of the females are professionals. It is assumed that the county distribution of lady doctors and dentists is not different from that of men.

The number of males at work in *Law, Other non-Local Authority Medicine, Dentistry, Consultant Engineering, Surveying, Architecture and Veterinary Surgery* (i.e. codes 198, 204, 205, 208 CP 1961) have been aggregated for each county and the total then reduced by 15 per cent to arrive at county totals for all those in professional occupations (male and female) in these industries. In addition 30 per cent of the males at work in *hospitals, (excluding mental hospitals), not under Local Authority control*, (Code 202, 1961), has been taken to supplement the numbers of medical doctors derived from *Other Non-local Authority Medicine*. The results give a county breakdown of higher professional workers which is then weighted, using Geary's arbitrary weighting factor,⁵⁰ to allow for regional differences in earnings. This provides a distributor for the NIE estimate for higher professional workers, from which both employee remuneration and income of self employed can be derived assuming constant proportions in each county. A similar exercise is undertaken for 1965 with a slightly different percentage reductions, (14 per cent), applied to the males at work in each county.

The remainder of those engaged in the professions industries—has been used to distribute the NIE estimate for the non professional workers, the county totals being split in turn between remuneration of employees and income of self employed in proportion to the NIE division.

In addition to their regular sources of income, veterinary surgeons receive fees from the Department of Agriculture for services under the Eradication Schemes for Brucellosis and Bovine Tuberculosis. The Department of Agriculture provided a county breakdown for fees paid under each of these schemes for the financial year 1965/6 and these are used to distribute the figures for both 1965 and 1960.

(d) *The Irish Hospitals Trust*

The bulk of those at work in *Sweepstakes, Lotteries etc.*, (Code 225 CP 1961) comprise the reported employment of the Irish Hospitals Trust. Of the 2,549 reported at work in the 1961 CP 2,313 were residents of county Dublin and

⁵⁰Dublin 115, Cork, Louth, Wicklow 110, Limerick, Waterford, Carlow, Meath 105, Kildare, Kilkenny, Laois, Offaly, Wexford, Tipperary, Sligo 100, Westmeath, Roscommon, Cavan, Monaghan 95, Longford, Clare, Kerry, Galway, Mayo, Donegal 90, and Leitrim 85.

104 within commuter distance of the capital. The only major cluster outside the Dublin area was Cork (74) where the Trust maintains an office. The CP distribution has been employed to distribute the NIE total in both years.

(e) *State Sponsored Bodies not Elsewhere Enumerated*

This includes Córas Trachtála, Bord Fáilte, the Dublin and Cork District Milk Boards, the Inland Fisheries Trust, the Foyle Fisheries Trust, An Foras Talúntais, the Dublin Institute for Advanced Studies, the Voluntary Health Insurance Board and An Bord Bainne. All these bodies were contacted and were able to supply information for both years from their records.

(f) *Private Domestic Service*

In 1960 about 10 per cent of the remuneration of employees in the *Other Domestic* sector consisted of payments to domestic servants. By 1965 numbers at work in this industry had declined by more than 20 per cent so that its share of the total was reduced to less than 7 per cent:

The most detailed statement of the composition of this industry in recent times is contained in CP 1951, Table 7. In that year 53,257 persons were at work in the industry with almost 90 per cent of them female (47,639). Of these, two-thirds were *domestic servants living in* and one-third *domestic servants living out*. This suggested that three separate estimates be made—remuneration of female domestic servants (a) living in; and (b) living out; and (c) of males at work in the private domestic service industry.

No county distribution is available for private domestic service which distinguishes between female domestic servants living in and living out. However, in the *Occupations* volume of the 1951 CP 57,589 are returned as belonging to one of these two occupations. This is about 10,000 more than the number in these occupations in the *Private Domestic Service* industry. The proportions living in and living out in a particular county on the 1951 occupational basis applied to the total number of females in that county in the 1961 Industry classification to obtain a subdivision on an industrial basis. The relative annual wages in 1960 of the two categories are obtained from an official enquiry. The male wage rate is applied uniformly to the males at work in the industry in 1961. Similar calculations are applied to the 1966 CP. The results of these calculations have been used to distribute the employers' contributions to Social Welfare.

(g) *Laundries and Hairdressing*

Prior to 1963 laundries were deemed part of the industrial sector and are still covered by the Census of Industrial Production. In view of the small numbers of laundries in the CIP only data for groups of counties could be obtained. National CIP figures were supplied for numbers employed in 1958, 1963 and 1965; and for wages and salaries in 1963. Working from this data, and the CP codes 216 and 185 for *Laundries and Dry Cleaning* in 1961 and 1966

respectively, it is possible to distribute the 1960 and 1965 remuneration by county in a manner that preserves the regional variations in average wages per person at work. The same distributors are used to distribute the income of self employed persons in the work force.

The Census of Distribution 1956-9 included a survey of hairdressing establishments from which much of our knowledge of the industry is derived. The survey covered about five out of every six establishments and showed that three-quarters of the wages are paid out in the county boroughs of Leinster and Munster. In the country generally those engaged were evenly balanced between employees and proprietors with their family assistants, but in the county boroughs there were five employees for every three self employed. Thus only 58 per cent of the net margin (Gross Margin less Wages) accrued to establishments in these areas.

Supplementary information on the industry, contained in the CP reports for 1961 and 1966, is weighted by the weekly pay for male and female hairdressers by area.⁵¹ The weighted employment figures are then used to distribute both remuneration of employees and income of self employed. Compared to the Census of Distribution this method tends to underestimate remuneration in the county boroughs and over-estimate other income. The divergences are small in absolute terms and cancel each other out.

(h) Hotels, Catering and Entertainment

(i) Hotels and Catering

Once again the 1956 Census of Distribution provides a bench mark for income arising from hotels, guesthouses and catering establishments. From Table 12 and 13 the average wages paid per person at work in hotels and guesthouses are calculated for the county boroughs and for the provinces excluding these boroughs. Applying weights derived from the average wage per employee in retail distribution in each county in 1956 to these provincial averages county levels of wages per person engaged are obtained. These wage rates are applied to the numbers at work in hotels in each county in the 1961 CP (Code 212). The totals so obtained have been increased proportionately to allow for the higher wage rates obtaining in 1960 compared with 1966. A similar calculation has been made for 1965 based on the 1966 CP (Code 182).

Tables 19 and 20 of the 1956 CP provided comparable data for catering establishments. From these tables county wages per person engaged are estimated and applied to the numbers at work in restaurants and cafes (Code 213/1961, Code 183/1966). The results in both cases are adjusted to allow for rises in wages rates.

(ii) Lodging and Boarding Houses

The methodology used to estimate wages and profits in this industry is analogous to that employed for hairdressing establishments. The CP figures

⁵¹Four areas identified, Dublin, Rest of Leinster, Munster, Connacht and Ulster.

for those at work in this industry (Codes 214 and 184 respectively) show that women outnumber men at least ten to one, and that only a quarter of these women are paid employees. The numbers at work are weighted, using the same weights as are used for hairdressing establishments. The total weighted population in each county is then used to distribute both the national totals for remuneration and profits in both years.

(iii) *Entertainment and Sport*

In the CP Reports this group of industries comprises *Cinemas and Film Studios, Theatres and Broadcasting, Horse-racing, Bookmaking etc.* It includes also those at work in *Sweepstakes and Lotteries* but these have been discussed separately. Tables 33-47 of the CD 1956-9 give details of income derived from cinemas and theatres as well as bookmaking (both on course and off course). These proved more amenable to the estimation of income of self employed than employee remuneration. The total at work in the industries specified above in each county has been weighted by retail wage index per employee and the resulting distribution grossed up to the relevant NIE total.

(iv) *Clubs and Miscellaneous*

The only industries remaining in the CP for which remuneration has not been calculated are clubs, undertaking, photography, welfare and charitable services and other personal services, a group giving employment to three and a half thousand persons in both years. In 1966, two-thirds of these were in Dublin. The combined totals for these industries are used to distribute the small NIE totals involved for both remuneration and profits.

The CP reports also have an entry for those who failed to indicate the industry to which they belonged on completing the Census form. An allowance was made for these in the more recent NIE accounts. The small total involved is distributed over the counties in proportion to the numbers involved but weighted by the simple average of the two indices of employee remuneration derived from the 1963 Census of Industrial Production and the 1956 Census of Distribution retail trade respectively.

(j) *The AG Calculations*

Compared to the revised national estimates of £55.8 million, total remuneration in the AG calculation was taken to be £44.1 millions. This did not include employment in the Local Authority Health Services nor Laundries, both of which were transferred to this sector subsequently. It included travel agencies which have been transferred out since then. The net figure for adjustments is an addition of £10 million. The balance of the discrepancy is attributable to minor adjustments in various industries in the light of the 1961 CP.

The total numbers at work in all professions excluding Education was abstracted from the 1951 CP (Codes 198-214 excluding 208-210) and

weighted by the Geary loading factor.⁵² The weighted populations were employed to distribute both remuneration and profits.

A second grouping consisted of the personal service industries excluding private domestic service, i.e. Codes 216-225 in the 1951 CP. These included hotels, lodgings, catering, clubs, laundries, hairdressers, undertakers, charitable organisations, photographers, etc. When weighted by the Geary loading factor, these county populations were used to distribute both wages and profits of these industries.

The remuneration of those engaged in private domestic service was calculated as the product of the number of females reported to be in the occupations *Domestic servants living in* and *Domestic servants living out* and the annual wage in 1960 of such servants as estimated for Dublin, the rest of Leinster, Munster and Connacht and Ulster. The totals so obtained were adjusted to bring the figures into line with the NIE estimates.

The Finance sector was divided into two components—banking and other finance. In the banking sector the remuneration of the Central Bank was attributed to Dublin, that of the commercial banks was grossed up on the basis of the return of the Banks Standing Committee for the calendar year 1958. The estimation of *Other Finance* was based on Codes 178-180 of the 1951 CP. These included insurance, pawnbroking, money-lending and other financial institutions. The county population was weighted by the Geary loading factor and the product used to distribute the NIE totals.

⁵²See footnote, page 93.

TABLE 4.2: *Distribution by County of the Main Categories of Employee Remuneration within the Distribution Transport and Communications Sector 1960 and 1965 (£'000's)*

County	1960			1965		
	Distribution	Transport and Communications	Total	Distribution	Transport and Communications	Total
Carlow	336	100	436	413	216	629
Dublin	19,296	11,603	30,898	31,585	19,392	50,977
Kildare	418	220	638	579	292	871
Kilkenny	433	168	601	699	238	937
Laois	328	145	473	396	200	595
Longford	178	86	265	214	124	338
Louth	941	667	1,608	1,168	862	2,031
Meath	349	170	520	484	255	740
Offaly	418	150	569	507	243	759
Westmeath	471	320	791	610	410	1,020
Wexford	804	409	1,213	974	640	1,613
Wicklow	526	311	838	706	462	1,169
<i>Leinster</i>	<i>24,499</i>	<i>14,349</i>	<i>38,849</i>	<i>38,336</i>	<i>23,343</i>	<i>61,679</i>
Clare	269	274	543	372	577	949
Cork	4,221	2,554	6,775	6,298	3,991	10,289
Kerry	589	352	941	835	701	1,536
Limerick	2,031	1,078	3,109	2,877	1,532	4,409
Tipperary	875	401	1,276	1,228	622	1,851
Waterford	1,146	610	1,756	1,613	1,036	2,650
<i>Munster</i>	<i>9,130</i>	<i>5,268</i>	<i>14,399</i>	<i>13,224</i>	<i>8,459</i>	<i>21,684</i>
Galway	906	554	1,460	1,259	984	2,244
Leitrim	135	114	248	161	143	304
Mayo	546	1,911	917	716	615	1,331
Roscommon	216	159	375	278	230	508
Sligo	401	223	625	519	453	971
<i>Connacht</i>	<i>6,650</i>	<i>1,422</i>	<i>3,626</i>	<i>2,932</i>	<i>2,425</i>	<i>5,357</i>
Cavan	329	162	491	395	193	589
Donegal	643	310	953	823	467	1,290
Monaghan	260	143	473	415	155	571
<i>Ulster (part)</i>	<i>1,301</i>	<i>758</i>	<i>1,917</i>	<i>1,633</i>	<i>817</i>	<i>2,450</i>
TOTAL	37,135	21,655	58,790	56,125	33,554	91,170

TABLE 4.3: Comparison of Ross and AG estimates* for the Distribution and Transport Sectors in 1960 (£,000's)

County	Retail and Wholesale		Transport		Total	
	Ross	AG	Ross	AG	Ross	AG
Carlow	336	306	45	74	381	380
Dublin	19,296	19,854	8,665	7,086	27,961	26,940
Kildare	418	394	129	208	547	602
Kilkenny	433	397	88	190	521	587
Laoighis	328	286	74	152	402	438
Longford	178	189	36	65	214	254
Louth	941	857	559	517	1,500	1,374
Meath	350	317	79	191	429	508
Offaly	418	371	82	147	500	518
Westmeath	471	414	235	277	706	691
Wesford	804	747	276	260	1,080	1,007
Wicklow	527	501	207	228	734	729
<i>Leinster</i>	<i>24,500</i>	<i>24,633</i>	<i>10,476</i>	<i>9,395</i>	<i>34,976</i>	<i>34,028</i>
Clare	269	251	160	177	429	428
Cork	4,221	4,404	1,921	1,821	6,142	6,225
Kerry	589	561	167	436	756	997
Limerick	2,031	1,818	868	795	2,899	2,613
Tipperary	875	852	210	399	1,085	1,251
Waterford	1,146	1,188	491	449	1,637	1,637
<i>Munster</i>	<i>9,131</i>	<i>9,074</i>	<i>3,817</i>	<i>4,077</i>	<i>12,948</i>	<i>13,151</i>
Galway	907	817	338	503	1,245	1,320
Leitrim	135	137	42	64	177	196
Mayo	545	522	171	319	716	841
Roscommon	216	224	50	113	266	337
Sligo	401	392	145	205	546	597
<i>Connacht</i>	<i>2,204</i>	<i>2,087</i>	<i>746</i>	<i>1,204</i>	<i>2,950</i>	<i>3,291</i>
Cavan	329	339	50	112	379	451
Donegal	643	621	127	368	770	989
Monaghan	330	346	57	118	387	464
<i>Ulster (part)</i>	<i>1,302</i>	<i>1,306</i>	<i>234</i>	<i>598</i>	<i>1,536</i>	<i>1,904</i>
Total	37,137	37,100	15,274	15,274	52,411	52,374

*These AG estimates employ the AG methodology, but the revised national totals. They are not the original AG estimates.

TABLE 4.4: *Particulars* of Retail Trade derived from Census of Distribution 1966*

County	Gross Margin	Wages	Net Margin	Persons at Work	Net Margin per person at work	Wages
		£000		Numbers	£	
Carlow	691	269	422	1,058	399	254
Dublin	36,585	15,829	20,756	31,176	1,822	1,299
Kildare	1,320	454	844	1,775	475	268
Kilkenny	1,064	338	726	1,760	413	192
Laois	720	219	501	1,186	422	185
Longford	452	142	310	745	416	191
Louth	1,914	756	1,158	2,438	475	310
Meath	918	302	616	1,365	451	221
Offaly	937	358	579	1,494	388	240
Westmeath	1,022	361	698	1,582	418	228
Wexford	1,963	675	1,288	2,824	456	182
Wicklow	1,407	515	892	1,735	514	297
<i>Leinster</i>	<i>48,997</i>	<i>20,240</i>	<i>28,757</i>	<i>49,135</i>	<i>585</i>	<i>412</i>
Clare	1,182	353	829	1,985	418	179
Cork	8,857	3,209	5,568	11,269	995	591
Kerry	2,154	684	1,470	3,464	424	198
Limerick	3,671	1,382	2,289	4,845	879	496
Tipperary	2,526	788	1,738	4,057	428	194
Waterford	2,191	845	1,346	2,713	951	582
<i>Munster</i>	<i>20,581</i>	<i>7,341</i>	<i>13,240</i>	<i>28,333</i>	<i>467</i>	<i>259</i>
Galway	2,492	782	1,710	3,754	456	208
Leitrim	341	97	244	801	305	121
Mayo	1,572	470	1,102	3,073	359	153
Roscommon	665	194	471	1,341	351	145
Sligo	1,074	384	690	1,626	424	236
<i>Connacht</i>	<i>6,144</i>	<i>1,927</i>	<i>4,217</i>	<i>10,595</i>	<i>398</i>	<i>182</i>
Cavan	796	276	520	1,615	322	171
Donegal	1,746	544	1,202	2,936	409	185
Monaghan	784	270	514	1,299	396	208
<i>Ulster (part)</i>	<i>3,326</i>	<i>1,090</i>	<i>2,236</i>	<i>5,850</i>	<i>382</i>	<i>186</i>
Total	79,042	30,598	48,450	93,913	516	326

*These figures are provisional.

TABLE 4.5: *Particulars of Wholesale Trade from the 1956 Census of Distribution*
distinguishing location and legal status*

	<i>Sales</i>	<i>Gross Margin</i>	<i>Wages</i>	<i>Employment</i>	
				<i>Total</i>	<i>Paid Employees</i>
<i>By Location</i>					
		<i>£000</i>		<i>Numbers</i>	
State	207,324	28,819	11,173	28,067	26,867
Dublin etc.	115,411	17,385	6,829	15,434	14,963
Munster cities	34,952	4,803	1,967	4,805	4,686
Remainder of State	56,961	6,631	2,377	7,828	7,218
<i>By Legal Status**</i>					
Individual Proprietor	26,342	—	—	3,790	2,875
Partnership	9,943	—	—	1,191	906
Co-operative	14,459	—	—	745	745
Private Company	124,906	—	—	15,804	15,804
Public Company	48,572	—	—	6,456	6,456
Statutory body etc.	1,616	—	—	81	81

*Figures from the 1966 CD were made available but are not as yet published.

**Sales figures include some sales on Commission.

TABLE 4.6: *Remuneration in the Public Administration and Defence Sector under Specified Votes in 1965 with a comparative total for 1960 (£000's)*

County	A: Gardai Justice Courts Law Charges Prisons	B: Lands Agriculture Forestry	C: Defence inclusive Pensions	All Departments	
				1965	1960
Carlow	66	42	23	206	147
Dublin	4,100	2,396	4,546	25,673	16,230
Kildare	158	88	1,940	2,502	1,706
Kilkenny	143	57	126	587	297
Laois	167	33	28	364	215
Longford	85	23	43	245	185
Louth	164	58	54	551	387
Meath	109	43	143	417	326
Offaly	112	47	35	385	282
Westmeath	124	87	1,026	1,662	948
Wexford	193	71	60	611	373
Wicklow	168	64	78	415	278
<i>Leinster</i>	<i>5,590</i>	<i>3,010</i>	<i>8,102</i>	<i>33,618</i>	<i>21,373</i>
Clare	217	83	78	933	544
Cork	843	343	2,071	5,145	2,211
Kerry	292	122	119	1,043	624
Limerick	381	136	384	2,230	1,318
Tipperary	545	175	260	1,427	831
Waterford	197	96	50	1,080	345
<i>Munster</i>	<i>2,476</i>	<i>956</i>	<i>2,962</i>	<i>11,858</i>	<i>5,873</i>
Galway	408	261	315	1,426	988
Leitrim	95	34	28	445	202
Mayo	285	157	76	874	584
Roscommon	135	67	44	630	453
Sligo	143	89	48	276	168
<i>Connacht</i>	<i>1,065</i>	<i>610</i>	<i>510</i>	<i>3,651</i>	<i>2,395</i>
Cavan	147	106	35	546	410
Donegal	283	147	85	896	595
Monaghan	127	32	18	360	341
<i>Ulster (part)</i>	<i>557</i>	<i>286</i>	<i>138</i>	<i>1,802</i>	<i>1,346</i>
Total	9,688	4,861	11,712	50,930	30,987

A Votes 16, 21-25.

B Votes 35, 36, 39 and Rent and Interest a/c s 1, 2, 3.

C Votes 43, 44.

TABLE 4.7: *Remuneration in Education 1960 and 1965 £(000's)*

County	1960				1965			
	Primary	Vocational	Secondary	University	Primary	Vocational	Secondary	University
Carlow	82	18	22	—	167	44	26	16
Dublin	1,506	439	404	932	3,446	937	1,057	1,844
Kildare	150	27	33	45	304	73	75	64
Kilkenny	190	36	29	3	332	64	54	6
Laois	119	22	22	1	168	55	33	2
Longford	101	22	16	—	160	38	11	—
Louth	201	31	32	15	336	67	78	16
Meath	206	43	29	2	299	95	47	11
Offaly	138	27	13	—	280	64	24	11
Westmeath	154	33	31	2	309	67	51	8
Wexford	230	40	33	2	431	98	42	11
Wicklow	163	33	27	22	283	78	34	44
<i>Leinster</i>	<i>3,240</i>	<i>771</i>	<i>690</i>	<i>1,023</i>	<i>6,514</i>	<i>1,681</i>	<i>1,533</i>	<i>2,024</i>
Clare	266	40	33	8	405	77	49	7
Cork	906	176	173	210	1,601	340	434	349
Kerry	476	50	54	10	673	87	121	17
Limerick	368	65	86	4	809	137	199	11
Tipperary	359	71	77	5	709	153	131	15
Waterford	171	32	50	6	412	62	98	18
<i>Munster</i>	<i>2,547</i>	<i>433</i>	<i>472</i>	<i>243</i>	<i>4,609</i>	<i>856</i>	<i>1,081</i>	<i>417</i>
Galway	541	73	68	121	876	136	147	160
Leitrim	141	19	8	1	192	30	24	—
Mayo	506	48	54	11	699	86	84	29
Roscommon	230	31	20	7	336	63	33	25
Sligo	196	34	25	3	318	51	36	5
<i>Connacht</i>	<i>1,615</i>	<i>205</i>	<i>175</i>	<i>142</i>	<i>2,421</i>	<i>366</i>	<i>325</i>	<i>219</i>
Cavan	231	24	13	1	326	58	22	1
Donegal	817	48	22	8	723	80	75	14
Monaghan	200	26	25	—	276	48	43	2
<i>Ulster (part)</i>	<i>1,248</i>	<i>98</i>	<i>60</i>	<i>9</i>	<i>1,325</i>	<i>186</i>	<i>139</i>	<i>17</i>
TOTAL	8,650	1,508	1,397	1,417	14,870	3,088	3,078	2,676

Basic Data relating to salaries in Primary Education for the financial years 1958/9 and 1965/6 is available in county detail on request from the ESRI. This includes personal salaries, grants to conductors and in 1965/6 estimated salaries of Lay Assistants.

TABLE 4.8: "Profits" in Education 1960 and 1965 (£000's)

County	1960			1965		
	Primary	Secondary	Total	Primary	Secondary	Total
Carlow	28	22	51	52	53	106
Dublin	505*	497	1,002	821*	740	1,561
Kildare	64	39	103	105	69	174
Kilkenny	50	32	81	85	52	137
Laois	38	25	62	65	45	110
Longford	21	20	41	35	51	86
Louth	29	42	72	49	78	126
Meath	33	33	67	45	56	100
Offaly	47	18	65	76	38	115
Westmeath	42	40	82	75	83	157
Wexford	65	36	101	100	69	169
Wicklow	34	31	65	55	58	113
<i>Leinster</i>	955	836	1,791	1,562	1,391	2,953
Clare	42	41	84	67	83	150
Cork	221	212	433	290	345	635
Kerry	39	65	105	52	125	177
Limerick	115	101	216	185	163	348
Tipperary	110	95	205	182	173	355
Waterford	72	57	129	112	80	192
<i>Munster</i>	600	571	1,172	889	968	1,858
Galway	104	99	203	162	216	379
Leitrim	15	12	27	19	23	42
Mayo	60	69	129	78	142	220
Roscommon	37	27	64	56	51	107
Sligo	32	31	63	52	56	108
<i>Connacht</i>	249	237	486	367	488	855
Cavan	23	16	39	23	31	55
Donegal	64	30	94	39	50	89
Monaghan	12	27	40	17	46	64
<i>Ulster (part)</i>	100	74	174	80	128	207
TOTAL	1,904	1,719	3,623	2,714	2,975	5,689

*Includes Training Colleges £121,000: 1960, £185,000:1965.

TABLE 4.9: *Numbers and Remuneration in the Local Authority Health Services (excluding Administration) 1960/1 and 1965/6*

County	1960/1		1965/6	
	Number of Staff	Salaries etc. £000	Number of Staff	Salaries etc. £000
Carlow (a)	221	167.3	244	200.8
Dublin	3,659	2,273.6	4,312	2,821.1
Kildare	125	96.2	190	155.9
Kilkenny	354	268.2	385	352.3
Laois (c)	341	253.8	394	310.3
Longford	116	60.1	131	98.6
Louth	380	238.1	393	311.1
Meath	242	127.0	238	196.3
Offaly	163	97.9	185	152.5
Westmeath (f)	496	400.7	563	448.6
Wexford	404	264.3	483	374.3
Wicklow	111	90.8	143	130.3
<i>Leinster</i>	<i>6,612</i>	<i>4,338.0</i>	<i>7,661</i>	<i>5,552.1</i>
Clare	416	305.6	533	377.9
Cork	2,154	1,600.6	2,351	1,646.2
Kerry	533	369.5	575	502.5
Limerick	990	510.1	1,110	785.1
Tipperary N.R.	252	114.9	257	194.2
Tipperary S.R. (e)	432	320.0	486	398.4
Waterford	651	361.2	727	491.3
<i>Munster</i>	<i>5,428</i>	<i>3,581.9</i>	<i>6,048</i>	<i>4,395.6</i>
Galway (b)	1,404	905.1	1,566	1,117.7
Leitrim	126	56.5	108	90.4
Mayo	524	374.5	576	511.3
Roscommon	316	101.1	346	171.2
Sligo	372	298.0	393	363.4
<i>Connacht</i>	<i>2,742</i>	<i>1,735.2</i>	<i>2,989</i>	<i>2,254.0</i>
Cavan	232	105.7	257	190.5
Donegal	514	333.4	572	458.8
Monaghan (d)	392	274.7	422	317.8
<i>Ulster (part)</i>	<i>1,138</i>	<i>713.8</i>	<i>1,251</i>	<i>967.1</i>
Total	15,920	10,368.9	17,949	13,168.8

- (a) The figures for Carlow include Carlow/Kildare Mental Board.
- (b) The figures for Galway include Galway/Roscommon Mental Health Board and the Western Health Institutions Board.
- (c) The figure for Laois include Laois/Offaly Mental Health Board.
- (d) The figures for Monaghan include Cavan/Monaghan Mental Health Board.
- (e) The figures for Tipperary (S.R.) include Tipperary (urban) Mental Health Board.
- (f) The figures for Westmeath include Longford/Meath/Westmeath Mental Health Board.

CHAPTER 5: INCOME OF INDEPENDENT TRADERS OUTSIDE AGRICULTURE

5.1 GENERAL

The national figures for this category, £39.9 million in 1960 and £57 million in 1965, comprise the earnings of self-employed persons and relatives assisting them. The incomes of shopkeepers form the largest constituent item, amounting to between 35 per cent and 40 per cent of the total in both years. Next in importance are professional earnings, at between 14 and 16 per cent. However, it is proposed to consider the industries in the sequence used to discuss the remuneration of employees, rather than in descending order of magnitude. It should also be noted that many of the national totals are either confidential or conjectures of the author based on the available evidence. Furthermore, no comparison is made with AG estimates, since as discussed in Chapter 1, the line of approach differed considerably in regard to the income of self-employed.

5.2 MANUFACTURING INDUSTRY AND CONSTRUCTION

The first step in estimating income for self-employment in this sector is to locate those industries which have a high proportion of self-employed persons at work in them. Table 9 of the CP 1961 provides a breakdown nationally of each industry into employers, own account workers, relatives assisting, employees, apprentices and unemployed. Working from this table, the industrial workers selected are *tailors (050)*,⁵³ *dressmakers (050)*, *cobblers (056)*, *leather-workers (059)*, *sawmill workers (061)*, *carpenters (062)*, and (065), *cabinet makers (066)*, *masons (088)*, *smiths (095)*, *other metal workers (101)* and *watchmakers (117)*. The proportion of those at work in each of these industries who were neither employees nor apprentices has been calculated. The county totals of all workers in these industries have been weighted by the relevant proportions used to distribute the national estimates of income of self-employment in manufacturing industry.

An analogous procedure is used for those at work in building and construction. In this case the industries are *other building and construction, electric wiring, painting and decorating, plumbing and heating*, (Codes 123, 127-129 CP 1961). The numbers of self-employed involved are 6,683 and 8,045 respectively.

Should these numbers be weighted for differences in average income? *A priori* one assumes that earnings are highest in the most urbanised areas and

⁵³The code number is given in parenthesis.

therefore warrant a heavier weighting. On the other hand the numbers of self-employed in each county has been determined by assuming that the same percentage are self-employed in each industry in each county, ignoring the fact that most of those at work in urbanised areas are employees. The greater number of employees would suggest a lighter weighting be applied to urban areas. Since there is no way of knowing which factor predominates, the populations are not weighted except between industries.

5.3 DISTRIBUTION

(a) Retail

Table 1B of CD 1956-9 provides a statement by county and county borough of the Gross Margin earned by retail establishments in 1956. Table 9 of the same report subdivides Gross Margins earned by legal status of ownership—individual proprietorship, partnership, private and public limited companies and cooperative societies. For these classifications only 9 geographic areas are specified, i.e. the five county boroughs and the four provinces. In some cases the entries are small and therefore aggregated. The gross margins of all retail shops in each county outside the county boroughs have been reduced proportionately to achieve the relevant provincial total for establishments other than private and public companies. This gives a distribution by county of gross margins earned by non-companies.

Next, wages paid in these establishments are calculated. Again Table 6 provides the total number of paid employees in these nine areas distinguishing companies from the rest. The average wage per employee in all establishments in each of these areas has been applied to the employees in non-companies to obtain the total wage bill per area. Within the areas, the county distribution of total wages paid in all establishments has been used to distribute the area total. In this way a distribution by county of wages paid by non-companies is obtained and then deducted from the county gross margin to arrive at net margins per county for non-companies.

(b) Wholesale

In the case of wholesale distribution the information available is meagre. The only analysis by legal status published (see Table 4.5) is for the State as a whole and gives number of establishments, total sales, proprietors, unpaid members of family and paid employees. The 972 establishments reported in the Census to be run by either individual proprietors or partnerships accounted for 43 per cent of the establishments in the Census, 16 per cent of the sales, all the self-employed and 14 per cent of the employees. The Census also provides a locational breakdown of numbers of self-employed which distinguishes three areas, *viz.* Dublin and Dun Laoghaire, the three Munster cities, and the remainder of the State. Using this information on self-employment the 972 private firms were allocated to these three areas respectively, *viz.* 364, 92 and

471. Nationally, companies report four times the sales of private firms. On analogy with retail trade, the multiple has been put at 3.5 for Dublin and 4.5 elsewhere. Weighting the private firms by the inverse of these multiples, the Gross Margins earned by all establishments in each of these three areas has been split between private firms and companies. The results are:—

(a) Dublin and Dun Laoire	£2,546,000
(b) The Munster Cities	£469,000
(c) The remainder of the State	£1,325,000

The total for the State, £4,340,000 is slightly more than 15 per cent of the Gross Margins earned by all establishments. This is a reasonable outcome since private firms account for 14 per cent of the employees and 16 per cent of the sales.

Next, the numbers at work in wholesale distribution in each county have been weighted by the average Gross Margin per person engaged in retail trade in 1956, as set out in Table 75 of CD. These weights are used to divide the Gross Margin of the three Munster cities between their respective counties and also to allocate the £1.325 millions for the remainder of the State. This provides an estimate of gross margins earned by private wholesale firms in each county. CD Table 75 also provides data for each county on wages and salaries so that a "net margin" can be calculated as a proportion of the county's gross margin. These proportions have been applied to the county gross margins to obtain a county distribution of net margins earned by private firms in wholesale distribution.

(c) *Procedure*

The combined net margins from retail and wholesale have been used as a distributor for the NIE estimate of income of self-employed in distribution. In making the estimates for 1965, the net margins of private firms in retail trade are weighted by the change in numbers at work in retail distribution between the 1961 and 1966 Censuses of Population and a similar weighting is applied to the net margins in wholesale distribution. The combined net margins obtained after these adjustments are used to distribute the 1965 NIE total.

5.4 TRANSPORT

Income in this case arises from the ownership of taxis and road freight vehicles. The amounts involved are estimated in conjunction with the estimation of employee remuneration in these industries and using the same distributor.

5.5 EDUCATION

The income of the self employed in education, namely the remuneration of religious communities, was discussed along with employee remuneration in education in Chapter 4.

5.6 OTHER DOMESTIC

(a) Coverage

As in the case of transport and education, much of the income of self-employed in this sector has been estimated in conjunction with employee remuneration and is described in Chapter 4, i.e. the professions, laundries and hairdressing, lodging and boarding houses and clubs. This section discusses finance, hotels, catering and entertainment.

(b) Finance

The national totals for finance industries in 1960 and 1965 were assumed to be distributed as follows: *Accountancy* 37 per cent, *Insurance and other finance* 25 per cent, *Consulting engineering* 25 per cent, *House auctioneering etc.*, 10 per cent, *Advertising* 3 per cent. This income refers to income of self-employed only and not company profits. The numbers at work in each of these industries has been weighted by its share of the total and the combined county totals used as distributors.⁵⁴

(c) Hotels

The 1956 CD provides some detail relating to the hotel and guest house industry. Table 16 indicates that 48 per cent of all bed-nights are in hotels and guesthouses run by unincorporated individuals or partners, but that these hotels account for only 30 per cent of annual wages and salaries. Tables 17 and 18 show that about 70 per cent of the bed-nights in company owned hotels are in hotels of 50 bedrooms and over. The 43 hotels in this size group account for about 45 per cent of all wages paid. At most, 3 of them are privately owned. There is thus a tendency for workers in the smaller hotels to receive more of their income through profits rather than wages.

A special analysis of the CD section on hotels was made in an attempt to quantify this tendency. The first step was to attempt to estimate Gross Margins by hotel grade. Working from the CD finding that 51 per cent of receipts in guesthouses consisted of gross margins compared to 46 per cent in hotels generally it was assumed that the ratio ranged from 44 per cent in Grade A* 45.5 per cent in Grade A, 47 per cent in Grade B, 47.5 per cent in Grade, B/C, 48 per cent in Grade C to 50 per cent in Grade D. Such a distribution would average out at 46 per cent for hotels in general and fit in with the finding of 51 per cent in guesthouses. Slightly different assumptions would not effect the results materially. The estimated gross margins are presented in Table 5.1 together with the total net margins and net margins per bed-night. These latter do lend support to the thesis stated earlier that workers in small hotels tend to derive more of the income from profits compared with larger hotels.

The next step is to discover the number of bed-nights spent in private

⁵⁴The relevant codes are CP 1961:192, 174, 176, 207, 172, 173; CP 1966: 151, 143, 145, 176, 141 and 142.

TABLE 5.1: *Estimated Net Margins per Bed-night in Different Grades of Hotels and Guesthouses 1956*

Grade	Number of bed-nights	Receipts	Gross Margin	Annual Wages	Net Margin	
					Total	per bed- night
	Numbers		£000			£
All classes	2,426,438	7,526	3,486	1,419	2,067	·85
All hotels	2,297,556	7,340	3,390	1,393	1,997	·87
A*	295,116	1,314	578	352	226	·77
A	706,492	2,470	1,124	502	622	·88
B	673,615	1,985	933	322	611	·91
B/C	193,903	545	259	77	182	·94
C	367,783	866	416	119	297	·81
D	60,647	160	80	21	59	·97
Guest-houses	118,882	187	95	26	70	·50

hotels. Two lists of hotels have been supplied by Bord Fáilte.⁵⁵ One of these lists enables hotels to be segregated into company owned and private. The second specifies the grade and the number of rooms of each hotel and guest-house. The percentage of rooms in privately owned hotels has been applied to the 1965 return for bed-nights per county to obtain an estimate of the distribution of guest bed-nights in privately run hotels. Next, an average net margin was estimated for the county based on the privately run hotels and guesthouses using the net margin per bed-night in Table 5.1 to weight the reported grade of the accommodation. The product of this average net margins and total bed-nights in privately owned hotels is used to allocate the income of self-employed persons in the hotel industry by county.

In addition to those regularly employed in the hotel industry many people derive part of their income from keeping tourists. The accommodation they provide is listed in Bord Fáilte's guide to angling, farm and supplementary accommodation.⁵⁶ Bord Fáilte kindly provided a county breakdown of the 475,000 bed-nights spent in such lodgings in 1965. A flat rate has been applied per bed-night to all this accommodation irrespective of location and the results are included in the total for hotels and catering.

Since county breakdown of bed-nights is not available for 1960 the 1965 estimates have been used to distribute those for 1960. The calculating of income from supplementary accommodation has been omitted, as being a more recent development.

⁵⁵*Lists of Hotels mimeographed*. Official guide to hotels, guesthouses, holiday camps and hostels, Ireland 1965: Bord Fáilte, Dublin.

⁵⁶Ireland (1965): *Supplementary and Angling Accommodation, including Farmhouses*, Bord Fáilte, Dublin.

(d) *Catering*

In estimating catering the CD has been again consulted. Net margins are published by province and county boroughs. Using the index of net margins per person engaged in retail trade, estimates of net margins for catering in each county can be made by reference to the numbers at work in restaurants and cafes. This provides a distributor for the estimated national total. These earnings by 758 employers and self employed among the 7,092 at work in the industry supplement the estimate of wages earned by the remainder of the work force.

(e) *Entertainment*

This final section deals with the income of self-employed in the entertainment industries. At first sight the information contained in the CD 1956 appears to offer a basis for distribution. However it covers only a few of the industries, and provides no guide to the relative weighting to be attached to income of self-employed as distinct from company profits or gross margins. As an alternative, the numbers at work have been weighted by the net margin per person engaged in retail and the results used to distribute the estimated national totals.

CHAPTER 6: TRANSFER PAYMENTS

6.1 CONSTITUENTS

The payments in Table A.19 of the 1966 NIE may be grouped as in Table 6.1.

TABLE 6.1: *Transfer payments to households, etc., in selected years (£ million)*

	1958/9	1960/1	1965/6
National Debt and Land Bond interest	15.8	18.3	31.8
Education	3.8	4.7	9.4
Social Welfare	32.1	33.7	55.6
Other transfers by Central Government	0.6	0.7	1.3
Other transfers by Local Authorities	0.6	0.5	0.6
Total	53.0	57.9	98.6
Total excluding interest	37.2	39.6	66.8

The figures for national debt and land bond interest can be excluded since these are part of *interest dividends and rents* described in Chapter 8.

6.2 EDUCATION

TABLE 6.2: *Transfer payments in education in selected years (£000)*

	1958/9	1960/1	1965/6
University	808	1,137	2,296
Secondary	2,237	2,694	5,340
Other	565	639	1,018
Scholarships and Prizes	220	240	727
Total	3,830	4,710	9,381

Table 6.2 gives the breakdown of educational transfers.

In the case of University education the total comprises 13 payments, for which details are readily available. These include the National University of Ireland, the constituent colleges, TCD, Maynooth, the College of Surgeons, Dublin Dental Hospital and specific faculties within Universities.

The bulk (96 per cent) of the Secondary education transfers in 1956/6 is made up of the capitation and incremental salary grants discussed in detail in the *Other Domestic* sector. The balance consists of laboratory grants and grants to Irish and bilingual schools. Lacking information on the county distribution of this balance it has been distributed in the same ratios as for the 96 per cent in the main grants.

Other educational transfers were paid under 17 separate headings in 1965/6. Of these, the largest payments were made to (i) industrial, reformatory and approved schools, (ii) training colleges and capitation grants for teacher training, (iii) the Institute of Advanced Studies, the Catholic Workers College, the College of Pharmacy, and private agricultural schools, (iv) Colleges providing courses in Irish, and (v) grants under section 109 of the Vocational Education Act (mainly to the nautical college and residential schools of domestic training). Between them these account for 96 per cent of other educational transfer payments. The distributor for reformatories, etc. is expenditure on reformatories and industrial schools listed under *General Purposes Expenditure* in the *Returns of Local Taxation*. Information on training colleges, schools providing courses in Irish and residential colleges of domestic training was supplied by various sections of the Department of Education, while the Department of Agriculture did the same for private agricultural schools. The remaining schools are at known locations. The balance of *other educational transfers* not accounted for has been distributed pro rata.

The final category, scholarships and prizes, consists of eleven items, of which Local Authority scholarships and those awarded by the Vocational Education Committees accounted for 80 per cent in 1965/6. Details of Local Authority scholarships to Universities and Secondary Schools are published annually in the *Returns of Local Taxation*, while those offered by the Vocational Education Committees are available from the Department of Education.

One third of the balance was made up of *scolaireachtaí saoire sa Gaeltacht* (holiday scholarships to the Gaeltacht). The very efficiency of the statistical services of Roinn na Gaeltachta raises problems in distributing this £51,000 of fo-mhírcheann F of Vote 88, since the Department provides not only a statement of the county in which the scholarship was awarded but also the county in which it was spent. This is a problem which also applies to University scholarships, teachers' training grants, reformatories, etc. Should the transfer payment be allocated to where the recipient originally resided, or where the benefits are availed of? In this case the sum awarded in each county has been used to distribute the total, since this is the practice for Local Authority scholarships generally. On the other hand, the transfer payments to the Universities themselves are allocated to the county in which the university is located.

6.3 SOCIAL WELFARE

(a) *Constituents*

The major elements in total transfer payments are those broadly classified as Social Welfare payments. A breakdown of the components of this group, in Table A.19 of the NIE 1966, has been supplemented with information published in the reports of the Department of Social Welfare.

TABLE 6.3: *Analysis of main Constituents of Social Welfare Payments in Selected Years*

	1958/9	1960/1 £ thousand	1965/6
<i>Social Assistance</i>			
Old age pensions (non-contributory)	10,366	11,071	12,173
Widows and Orphans (non-contributory) pensions	1,645	1,781	2,294
Childrens allowances	7,073	7,095	10,246
Unemployment assistance	1,400	1,083	2,070
Welfare of the blind	14	19	27
<i>Social Insurance</i>			
Old age (contributory) pensions	—	802	7,045
Widows and Orphans (contributory) pensions	1,921	2,243	5,177
Disability benefit	3,981	4,369	8,025
Unemployment benefit	3,108	2,624	4,458
Marriage benefit	72	73	87
Maternity benefit	111	123	207
Treatment benefit	230	333	607
<i>Local Authority</i>			
Home Assistance	617	591	762
School Meals	192	183	220
Maintenance allowances to persons suffering from infectious diseases	395	281	202
Rehabilitation and maintenance of disabled persons	696	728	1,609
Blind Welfare		235	189
Other payments*	252	93	171
	32,073	33,727	55,569

Other payments was for all intents and purposes the *supplementary unemployment fund*, i.e. the Wet-Time Scheme.

(b) *Changes in Coverage*

The totals presented above are considerably lower than those used by Attwood and Geary, i.e. £39,107,000 in 1958/9 and £40,793,000 in 1960/1.

The major reason for this difference is a change in concept introduced in the 1962 NIE which stated "All expenditure on Local Authority Health services, except actual grants in cash or kind to private persons, is now treated as expenditure by public authorities. Previously the expenditure on goods in connection with the health services was treated as a transfer payment to persons"⁵⁷. This has the effect of reducing the transfers compared to AG by £7,190,000 in 1958/9 and by £7,270,000 in 1960/1. One consequence of these revisions is to rule out any direct comparison between the AG and R estimates for social welfare transfers.

(c) *Allocation of Major Items*

The task of allocating the 18 types of payment listed above has been greatly facilitated by the excellent records kept by the Department of Social Welfare.⁵⁸ Detailed figures were supplied for 14 headings. In one instance, Blind Welfare, the Department of Local Government also provided a statement of expenditure which completed the return furnished by the Department of Social Welfare. Maintenance allowances and rehabilitation payments to the disabled are Local Authority expenditures and are fully documented in the annual *Returns of Local Taxation*.

(d) *Supplementary Unemployment Fund and Blind Welfare*

In two cases the Department of Social Welfare were unable to furnish county estimates. Their observations on the larger item—the supplementary unemployment fund, are of interest. "Contributions by employers and insured persons are paid into this Fund which is administered by the Department. The benefit due to an insured person is payable to him by his employer and the amount so paid is repayable to the employer by the Department. The state bears the cost of administering the fund. No breakdown of repayments to builders on a county basis is possible. A high proportion of building firms (even small contractors) engage in work well outside their home areas so that the address of a firm is no sure guide to the geographical distribution of "Wet-Time" payments. Furthermore the actual address at which a stoppage of work occurs is no guide to the home address of the workmen concerned and there is no way of checking the current addresses of workmen whose names appear on claims for repayments. It would be difficult to devise methods for collecting this information in acceptable form owing to the frequent movement of workers and the widely dispersed operations of building firms." In view of these difficulties it has been decided to distribute the sums involved in proportion

⁵⁷NIE 1962, p. 33.

⁵⁸There are some minor differences between the NIE totals and those used in this study. Where a scheme was contributory, such as the old age contributory pension scheme, a qualified member is entitled to payments whether resident in the country or not. Thus there is an outflow of £120,000 in 1960 and of £325,000 in 1965/6. These payments are included in Table A.19 but are clearly inappropriate for the estimation of county incomes. The latter, of course, contains the corresponding inflows from abroad.

to the numbers at work in *Other Building and Contracting* as reported in the *Industries* volume of the 1961 and 1966 Census of Population.

In the case of *Welfare of the Blind* the Department noted that "State expenditure on welfare of the blind is mainly in the form of capitation grants paid to approved institutions for the blind in respect of the maintenance and employment of inmates and workers. For the year 1965-66 this expenditure amounted to £27,398. A breakdown by county of this figure is not available." The sum involved was not large and was distributed on the same basis as *Blind Welfare*.

(e) *Unemployment Payments*

The amounts of unemployment assistance and unemployment benefit listed for payment in each of 121 local offices were supplied by the Department of Social Welfare and only required to be aggregated to county totals. In the course of aggregation a map was drawn up indicating the location of the office. In the case of 21 towns, the hinterland of the office clearly takes in parts of a neighbouring county. This for instance, some of the payments in Carlow town, in Birr and in Athy are made to residents of county Laois while some payments made in Portarlinton probably go to county Offaly. The towns concerned were Ardee, Athy, Balbriggan, Ballina, Ballinasloe, Ballyshannon, Birr, Boyle, Carlow, Carrick-on-Shannon, Castlerea, Drogheda, Edenderry, Granard, Kilmallock, Limerick, Maynooth, New Ross, Portarlinton and Roscrea. In these cases the payments are divided in proportion to the population in the area in each county assumed to be served by the office. This procedure has been used for both the 1965/6 and the 1958/9 returns.

(f) *Other Items*

The Local Government returns for Blind Welfare are used rather than those of the Department of Social Welfare, as they correspond more closely with the NIE estimates. The Social Welfare return distinguishes seven categories of expenditure and states that two of these (payments to institutions and contributions to the Board for the Employment of the Blind) are paid by local authorities to agencies in cities, for the most part outside their boundaries. *Payments to Institutions* comprise payments to institutions in Dublin, Cork or Limerick in respect of blind persons from the Local Authority area. Contributions to the Board are proportionate to the rateable valuation of Local Authority areas. Similarly the figures for *Home Assistance* published in the *Returns of Local Taxation* are preferred since these can be calculated net of repayments as in the NIE tables. In the case of *Treatment Benefit* the totals include a small number of cheques issued but not subsequently cashed.

6.4 OTHER TRANSFERS

(a) *Central Government*

The total for *Other transfers by Central Government* amounted to £1,294,000 in 1965/6 was made up of 45 sections. One item—*special allowances to those who*

served in *Easter Week*—accounts for over half the total in both years, viz. £666,000 in 1965/6, and has been distributed with the assistance of the Department of Defence. Payments to various bodies are allocated to their headquarters, e.g. Dublin, in the case of the *Institute of Public Administration, the Irish Folklore Commission, the Royal Zoological Society, the Royal Irish Academy*; elsewhere in the case of the *Irish Countrywomens' Association, Muintir na Tire, Eagrais Airithe Gaeilge*. In the last mentioned case Roinn na Gaeltachta was particularly helpful in allocating payments. Grants for the preservation of game reserves are allocated on the basis of a return from the Department of Lands. The

TABLE 6.4: *Transfer payments 1960/1 and 1965/6 (£000's)*

County	1960				1965			
	Education	Social Welfare	Other	Total	Education	Social Welfare	Other	Total
	£000							
Carlow	44	404	5	453	88	661	10	760
Dublin	1,899	7,576	179	9,654	3,941	12,977	370	17,289
Kildare	95	653	15	764	175	1,032	24	1,231
Kilkenny	71	694	10	775	123	1,066	17	1,206
Laoighis	49	505	7	560	88	795	12	895
Longford	40	442	17	499	75	697	28	801
Louth	77	827	3	907	158	1,427	16	1,602
Meath	79	704	6	789	146	1,147	11	1,304
Offaly	37	579	11	627	81	953	19	1,053
Westmeath	89	639	13	741	167	1,068	21	1,256
Wexford	77	1,080	9	1,166	138	1,712	16	1,865
Wicklow	56	681	4	741	106	1,093	6	1,206
<i>Leinster</i>	<i>2,613</i>	<i>14,784</i>	<i>279</i>	<i>17,675</i>	<i>5,287</i>	<i>24,629</i>	<i>551</i>	<i>30,466</i>
Clare	77	929	36	1,043	145	1,447	60	1,653
Cork	593	3,970	77	4,639	1,155	6,546	130	7,832
Kerry	135	1,618	78	1,830	268	2,629	131	3,028
Limerick	227	1,652	24	1,904	436	2,586	38	3,061
Tipperary	202	1,453	25	1,679	396	2,398	48	2,841
Waterford	111	876	8	996	191	1,361	13	1,566
<i>Munster</i>	<i>1,345</i>	<i>10,499</i>	<i>247</i>	<i>12,091</i>	<i>2,591</i>	<i>16,969</i>	<i>421</i>	<i>19,981</i>
Galway	320	1,850	42	2,213	642	3,065	82	3,789
Leitrim	23	534	19	575	54	870	33	957
Mayo	130	1,885	34	2,049	256	3,080	59	3,395
Roscommon	51	790	13	855	101	1,239	22	1,362
Sligo	58	711	14	784	103	1,074	25	1,202
<i>Connacht</i>	<i>582</i>	<i>5,771</i>	<i>123</i>	<i>6,476</i>	<i>1,156</i>	<i>9,328</i>	<i>221</i>	<i>10,705</i>
Cavan	36	753	10	799	68	1,130	20	1,218
Donegal	76	1,695	33	1,803	173	2,864	65	3,102
Monaghan	59	603	10	672	105	884	17	1,006
<i>Ulster (part)</i>	<i>170</i>	<i>3,051</i>	<i>54</i>	<i>3,275</i>	<i>346</i>	<i>4,878</i>	<i>101</i>	<i>5,326</i>
Total	4,710	34,104	703	39,517	9,381	55,803	1,294	66,478

distribution of *Deontais do Thuismitheoiri 7rl. sa Gaeltacht* (£46,000 in 1960/1 and £85,000 in 1965/6) is based on a return from Róinn na Gaeltachta. Injury grants are distributed on the basis of employment in forestry while payments to soldiers, seamen and their dependents are based on the numbers in these occupations in the CP. It would be tedious to spell out all the distributors employed, but in general one appropriate to the payment in question has been selected.

(b) *Local Authorities*

Transfers made by Local Authorities are a miscellaneous group costing approximately half a million pounds in both years studied. Data are available for four items. The Department of Social Welfare supplied county details on schemes for footwear and cheap fuel totalling approximately £0.2 million. Details of payments of compensation for criminal injuries were supplied by the Department of Local Government for 1965/6 and the same pattern was assumed for 1960/1, while details on *State Aided Schemes* are published in the *RLT*. These four items accounted for five-sixths of the total in 1960/1 and somewhat less in 1965/6.

A small number of items of payment incurred by either the Central Government or the Local Authorities remained to be allocated to individual counties. These were distributed proportionate to the general pattern of Social Welfare payments.

CHAPTER 7. EMIGRANTS REMITTANCES AND PENSIONS, ETC. FROM ABROAD

7.1 EMIGRANTS REMITTANCES

The Banks Standing Committee provided estimates of emigrants' remittances through banks by county for both 1960 and 1965, viz. £6.9 million and £8.4 million. This was 53 per cent and 60 per cent of the national estimate in the respective years. The Department of Posts and Telegraphs undertook a special survey of a proportion of payments made through the Post Office.

In the allocation of emigrants' remittances the payments by banks are allotted as reported and the balance distributed in accordance with the findings of the survey by the Department of Posts and Telegraphs. In the case of the AG calculations only the bank returns were available to employ as distributors so that differences occur from county to county. The AG calculations allot £1,072,000 to Galway and £1,349,000 to Mayo; this study, distributing a similar total, allocated £891,000 and £1,558,000 respectively. The two methods can be compared by reference to Table 7.1.

7.2 REMUNERATION OF EMPLOYEES—FOREIGN

This item represents a net inflow of £5.2 million in 1960 and £7.0 million in 1965. No attempt is made to estimate gross flows. The inflow is made up predominantly by British Social Welfare allowances and pensions received by Irish residents. The Department of Posts and Telegraphs cash these pensions on behalf of the British Government, and is therefore in a position to provide a county breakdown of £4.5 million of allowances cashed in the financial year 1966/7. The county distribution so obtained is assumed to apply to the years 1960 and 1965 and to the balance unaccounted for.

In the AG calculations for 1960, £5.7 million were distributed using as distributor the male population aged 45 years and over in town areas in the CP 1951 Vol. 11, Part I. This method tends to over-estimate the pensions paid in towns and underestimates payments along the western seaboard. Dublin was £2.77 million in AG estimates but only £1.64m. in this study. Mayo on the other hand was £77,000 AG and £349,000 in this study.

TABLE 7.1: *Estimates of pensions, etc. from abroad and emigrants' remittances 1960 and 1965 (£,000's)*

County	Pensions, etc.			Emigrants Remittances		
	1960		1965	1960		1965
	Ross	AG		Ross	AG	
Carlow	42	58	56	103	146	159
Dublin	1,638	2,770	2,205	1,510	1,821	1,707
Kildare	78	62	104	81	185	173
Kilkenny	71	55	95	171	165	194
Laois	53	39	71	51	59	82
Longford	42	23	56	385	254	279
Louth	142	179	191	232	214	240
Meath	62	39	83	199	205	174
Offaly	61	70	82	155	147	204
Westmeath	75	64	101	247	236	265
Wexford	146	125	197	143	283	298
Wicklow	145	98	195	140	243	211
<i>Leinster</i>	<i>2,253</i>	<i>3,582</i>	<i>3,437</i>	<i>3,417</i>	<i>3,958</i>	<i>3,987</i>
Clare	92	54	124	452	331	446
Cork	785	797	1,057	1,583	1,491	1,794
Kerry	116	129	156	1,070	772	922
Limerick	232	257	312	717	765	883
Tipperary	168	216	227	513	524	551
Waterford	178	190	240	291	294	277
<i>Munster</i>	<i>1,572</i>	<i>1,643</i>	<i>2,116</i>	<i>4,626</i>	<i>4,176</i>	<i>4,873</i>
Galway	136	166	183	1,072	890	1,096
Leitrim	23	—	31	479	284	217
Mayo	349	77	470	1,349	1,558	1,555
Roscommon	83	21	111	380	344	448
Sligo	98	69	132	283	262	304
<i>Connacht</i>	<i>689</i>	<i>333</i>	<i>927</i>	<i>3,563</i>	<i>3,338</i>	<i>3,620</i>
Cavan	59	29	79	483	348	422
Donegal	277	46	373	657	919	929
Monaghan	51	67	69	254	260	268
<i>Ulster (part)</i>	<i>381</i>	<i>142</i>	<i>520</i>	<i>1,394</i>	<i>1,527</i>	<i>1,620</i>
Total	5,200	5,700	7,000	13,000	13,000	14,100

CHAPTER 8. RENTS, INTEREST AND DIVIDENDS

8.1 GENERAL

The NIE accounts provide annual estimates of the total personal income derived from rent, interest and dividends, the figures for 1960 and 1965 being £60.5 millions and £85.2 millions respectively. These estimates are derived as residuals rather than as direct estimates, by calculations similar to those in Table 8.1. If personal income is being derived from estimates of income arising in each county, as in the case of AG, items 1 to 6 (excluding 3) will have been

TABLE 8.1: *The derivation of personal income from rents, interest and dividends*

	1960	1965
	£ million	
1. Trading profits of companies (including all corporate bodies) before tax	53.8	79.0
2. Income of Post Office and P.O. Savings Bank	2.1	4.9
3. Inflow of profits, etc. from abroad		
Gross Inflow	33.7	48.7
Gross Outflow	-18.7	-26.5
Net Inflow	15.0	22.3
4. National Debt Interest	18.3	31.8
5. Rent of dwellings (actual and imputed)	15.0	17.9
6. Rent element in Land Annuities	2.9	3.0
<i>Less</i>		
7. Government Trading and Invest- ment Income	-15.0	-21.6
8. Undistributed Profits of companies (before tax)	-31.6	-52.1
	60.5	85.2

allocated already to their respective counties. The transition to personal income in this instance calls for, first, excluding payments to non-personal institutions, i.e. the State (item 7) and companies (item 8); second, the calculation of the county destinations of the net inflows of profits from abroad, and finally, an

adjustment by which distributed profits are transferred from their county of origin to the county where they enter personal income. This is the methodology favoured by Attwood and Geary.⁵⁹

If, as in this study, personal income is being estimated directly it is difficult to separate the global total for rents, interest and dividends into its constituent elements. While some NIE items, such as *National Debt Interest*, clearly belong to a particular income category, the proportion paid to households and non-profit-making institutions is not published separately. In other cases the item includes all three categories. For example, in the NIE, interest and rents payable by a company are not deducted as operating expenses but are allocated to profits. For this reason and to avoid double counting, trading profits exclude interest, rent and dividends received by the company. Furthermore trading profits are based on economic activity within the State. This means including the operations of extern concerns within the State and excluding the revenue of Irish concerns which arises from the operations and investments abroad. In calculating National Income the profits, etc., derived from the domestic activities of extern concerns are part of the gross outflow of profits while foreign earnings of Irish companies are part of the inflow. Here again, profits, interest and rents accruing to private households are not separately identified.

The approach adopted in this study has been to calculate, where possible, the personal income element in the various NIE aggregates and allocate it to the counties using suitable distributors. In practice this has meant the subsidy element in Land Annuities and Local Authority housing, the actual and imputed rents of private dwellings and *National Debt Interest* payments made to private households, etc. The residual amount is assumed to have the same county distribution as dividends and is distributed accordingly.

8.2 RENT ELEMENT IN LAND ANNUITIES

Of the £3 millions approximately in the *rent element of Land Annuities*, approximately £0.7 millions is a subsidy which can be regarded as personal income. A schedule from the Department showing the total amount of Land Annuities collected in each county in 1960/1 and 1965/6 provided the distributor. AG used rates payable on agricultural land as a distributor.

8.3 ACTUAL AND IMPUTED RENTS OF DWELLINGS

(a) General

The relevant total which we wish to allocate by county is net rents, actual and imputed, which enter personal income. Net rents can be defined as gross

⁵⁹Ignoring the signs, this involved distributing sums in excess of £300 millions, or 54 per cent of total personal incomes.

rents paid, plus gross imputed rents, minus expenses such as interest payments (e.g. on mortgages), rates, depreciation, repairs and maintenance. From total net rents those paid to Local Authorities and to companies must be deducted. However, in the case of Local Authority tenants, the difference between the actual rents paid and full economic rents constitutes a subsidy element which can be properly regarded as a form of imputed rent enjoyed by private households. In the case of private dwellings no allowances are made for net rents paid to profit-making corporate landlords, and the whole of the private housing rents is thus assumed to accrue to private households. Most of it is in the form of imputed rents of owner occupied houses, while the actual rents included are assumed to be paid to individual landlords or non-profit-making institutions in the same county as the house on which the rent is paid.

(b) *Local Authority Dwellings*

In the NIE, loan charges on *other housing* in the housing accounts of the *RLT* are used as a surrogate for gross rental income of Local Authorities. Net rentals are assumed to be two-thirds of this total, i.e. £3.7 millions in 1960 and £4.7 millions in 1965. Deducting these figures from the national totals for income arising from rents of dwellings in Table 8.1 gives the net rentals of private housing as £11.3 millions and £13.2 millions in 1960 and in 1965 respectively.

Only the subsidy element in Local Authority housing enters personal income. For NIE purposes, this subsidy is reckoned to be the difference between (i) loan charges, maintenance and repairs and other expenditure, and (ii) rents and other receipts in the housing accounts of the *RLT*. The total amounts for 1960 and 1965, £4,759,000 and £6,336,000 respectively, are distributed proportional to gross rental incomes.

(c) *Private Dwellings*

(i) *General*

No such simple distributor is available for actual and imputed rents of private housing. It is, however, possible to construct distributors from the information contained in the *Housing* volume of the 1961 CP. This information includes a fairly detailed breakdown of the housing stock, as well as average rents paid for rented accommodation in urban and rural areas, in each county.

Various methods of using this information to obtain a suitable distributor have been examined. The simplest is to multiply the housing stock in urban and rural areas by the appropriate average rent. This procedure is not satisfactory since these average rents include the subsidised rents of Local Authority dwellings. However, it is possible to remove Local Authority dwellings from the calculations since the *CP* gives numbers of such dwellings and the *RLT* gives rents paid to Local Authorities. Multiplying all private dwellings by the estimated rents of private rented dwellings produces estimates

which are satisfactory nationally but less acceptable at the county level.⁶⁰ The method implies the assumption that rented houses form an acceptable sample of the total housing stock in each county. Quite obviously they do not, (40 per cent of houses were rented in urban areas but only 7 per cent in rural areas according to the 1961 CP) and the results of calculating a distributor by this method confirms the belief that it induces some serious distortions. The same arguments apply in the case of any other simple rent index, such as one based on average Local Authority rents in each county.⁶¹

(ii) *The 1960 Calculations*

The method adopted attempts to take some account of the varying quality of the housing stock. The CP (Table 10) classifies dwellings by the number of rooms occupied and distinguishes aggregate urban and rural areas in each county. Nine categories were distinguished of from 1 to 9 rooms plus two further categories "10 or more" and "not stated".⁶² Gross rents are imputed to dwellings of different sizes in rural and town areas separately and applied to the housing stock. The total so obtained amounts to £37.6 million, of which £24.6 is in aggregate town areas. This method implies that the full economic rent of Local Authority housing is approximately £10 millions in 1960. The balance relates to private dwellings and is used to distribute the 1960 net rental income derived from private dwellings.

(iii) *The 1965 Calculations*

The subsidy on Local Authority houses is estimated as before, using the *RLT*. The rental income of private houses derives from houses that existed in April 1961 and from those built subsequently. The older houses bear higher charges for rates, repairs and depreciation and their net rental income is accordingly estimated to be £10.3 million. This is distributed on the same basis

⁶⁰Some of the results obtained were surprising as a few figures will reveal. In aggregate urban areas rents excluding L.A. housing were highest in Connacht at £89 annually, followed by Leinster at £86, Munster at £68, and finally Ulster at £62. Galway rents were higher than those in Dublin city and Dun Laoire. In rural areas the highest rents (including LA housing) were in Dublin £39, followed by Mayo, Leitrim and Sligo. The lowest was Wexford £14.6. Excluding LA housing, Meath, previously £21, was highest at £51, Dublin was third lowest at £24 annually. All Connacht was over £40 with Leitrim at £48. Munster and Ulster averaged £37 and Leinster £34. Part of the difficulty may be due to the different sources of rent data.

⁶¹Monaghan rents at £26.4 annually were only surpassed by those of Dublin. In contrast the Cavan average was £14.2.

⁶²It would have been appropriate to take account of the age of dwellings as well as their size. The proportions vary considerably from area to area as a few statistics indicate, e.g. houses over 100 years old in rural areas: average 28 per cent, Dublin 22 per cent, Laois 36 per cent; in town areas, average 18 per cent, Dublin 5 per cent, Wexford 34 per cent. Houses under 20 years old in town areas: average 31 per cent, Dublin county (excluding Dublin city and Dun Laoire) 68 per cent, Wexford 17 per cent. These variations in the age of houses would influence the gross rental value. The new houses would generally be higher in valuation so that the deductions for rates and depreciation would also tend to be higher. The range in net rental values could be expected to be less extreme than that for gross rentals. Accurate measurements of these deductions would, however, require multiplying total house valuations in each county by the current level of rates. These latter vary considerably from county to county and tend to be highest in Western counties. If total dwelling house valuations were available by county this in itself would be a useful distributor of net rentals.

as for 1960. New houses are reckoned to produce net rental income of £2.8 millions, making the total for private housing £13.2 million.

The housing volume of the 1966 CP was not available to distribute this income so an alternative procedure has been evolved.⁶³ The Department of Local Government provided a schedule of the number of new houses completed with the aid of grants under the Housing Acts in both of the financial years 1964/5 and 1965/6. The average for those two years—6,924 houses—has been allotted to each county and then subdivided into houses in aggregate town and rural areas respectively assuming the same ratios as applied in 1961. The estimated new houses in rural areas are given a weighting of 72.3 per cent—again based on 1961 experience, and the two areas combined once more. These weighted totals are then employed to distribute the net rental income derived from new housing.

(iv) *The AG Calculations*

The authors of the AG report did not have the benefit of the 1961 CP volume on housing and were forced to update the results published in the 1946 CP. From this they extracted the average rent per dwelling and the number of dwellings in each county. They adjusted the latter by the change in population reported between 1946 and 1961. The product of these three factors gave them their distributor for 1960 net rental income.

A number of unforeseen developments made some of these estimates fall wide of the mark. Population change was not a satisfactory predictor of new dwellings in the period 1946–61. Apart from Dublin county, where the number of new houses was almost 60 per cent higher than predicted, it tended to predict more dwellings being built than were in actual fact. In 6 counties actual new dwellings were about 40 per cent fewer than expected. In 6 more about 30 per cent fewer and in 6 more about 20 per cent fewer.

Movements in average rents were also unexpected. In Dublin the average increased 85 per cent, in most other counties the increase was about 200 per cent; in some like Meath it exceeded 300 per cent. To some extent the higher rate of new construction in Dublin compensated for the slower rise in average rents. Even so similar calculations based on the 1961 CP would have predicted £4,853,000 for Dublin compared to £5,970,000 based on updating the 1956 estimates. The Ross calculations for Dublin at £5,488,000 are quite close to the AG calculations. For most of Leinster and Munster, they tend to be higher than the AG estimates and, therefore, lower for the remainder of the country.

8.4 INTEREST

Interest is earned from many sources, but undoubtedly the most important element is interest on the National Debt. As mentioned earlier, this is also the

⁶³In fact the 1966 Volume published in December 1969 contained no information on rents or the age of dwellings.

only form of interest which is specifically identified in NIE. Accordingly, only National Debt interest is considered in this section, and all other forms of interest paid to private households are included with dividends in section 8.5.

National Debt interest amounted to £18.3 million in 1960 and to £31.8 million in 1965. The problem is to determine what proportion of these payments enter the personal incomes of those resident in the Republic of Ireland. From these totals the sums of £1,952,000 and £2,832,000 paid abroad in 1960 and 1965 respectively can be deducted as not being part of personal income.

Further deductions should be made to exclude payments to companies etc. However these sums are not published. To overcome this difficulty, and also to obtain a county distribution, a study was made of two National Loans,⁶⁴—the 5½ per cent Exchequer Stock 1971/4 and the 7 per cent National Loan 1987/92. These had outstanding principals of £14,183,000 and £29,218,000 respectively in November 1968, and were taken as representative of a loan nearing maturity and a more recent one.

Even though only two stocks were selected from the number in the National Debt portfolios, these could not be analysed in full. Complete analysis of the 7 per cent national loan would have involved studying the 12,900 accounts. Instead it was decided to abstract all accounts in excess of £1,500 and a 10 per cent sample of the remainder. This meant over 6,000 accounts from both Loans. Accounts entered with a personal name or that of a non-profit-making institution, such as a parish, were allocated to the appropriate county while those held by a company or bank nominees were excluded.

Of the 3,658 accounts analysed for the 7 per cent National Loan, 512 were held by interests outside the Republic,⁶⁵ by Bank Nominees and companies. Of these 409 were for sums over £1,500 and in fact these included the large holdings of National stocks by Insurance Companies and Banks. The analysis of both stocks indicated that about 45 per cent were held privately within the Republic. Some of the nominee holdings may well be on behalf of private individuals, but there is no way of knowing what proportion, or to which counties they should be allocated. It therefore seems safer to exclude all nominee holdings. Any error thus induced will be balanced by an overstatement of dividends. Accordingly £8.3 million and £14.3 million have been computed as entering personal income in 1960 and 1965 respectively. The simple average of the two county distributions is the distributor used. This puts Dublin's share at just under 30 per cent and may reflect the preference which farmers and other rural dwellers have for stocks on which interest is not deducted and for which the same degree of knowledge is not required prior to investment as would be the case for industrial stocks. For these latter stocks Dublin's share exceeded 63 per cent. The same distributor was used for the 1965 total.

The AG calculations did not contain a separate estimate for National Debt

⁶⁴With the consent of the Department of Finance the Bank of Ireland made the ledgers available.

⁶⁵It is curious that the Isle of Man and the Channel Islands feature prominently in the UK private holdings, no doubt reflecting the local tax laws to some extent.

Interest paid to households and other non-profit-making institutions. When distributing total National Debt interest they used the county's share of the 1951 population of higher status personnel (i.e. number of farmers and farm managers £100 valuation and over, higher professions, employers and managers and one-third of lower professional plus salaried workers). In many respects the two distributors were very similar: Dublin was 30.8 per cent in the AG calculations and 29.8 per cent in the survey, the 1 per cent difference being equivalent to £8,300 in 1960 or £0.1125 per head of population.

8.5 DIVIDENDS

Dividends entering personal income are calculated as residuals following the deduction of rent and interest from the published figures. The figures thus include any net errors in the calculation of rent and interest. Little is known about the magnitudes of dividends paid by domestic companies, either private or public, or arising from investments abroad by private individuals.

The allocation procedure followed is based on the results of a sample of six public companies drawn from the register of companies. The companies selected come from a variety of industries and are of differing ages, Unidare, Batchelors, Roadstone, Jacobs, Allied Irish Banks and the New Ireland Insurance Company. Thus the pattern of county holdings in each company had some peculiarities which reflected the residences of the major shareholders—often the original families that set up the firm. The pattern for New Ireland Insurance Company and the Allied Irish Banks indicated that these had not been open to public subscription in the normal way and less weight has been attached to the results.

Notwithstanding their individual characteristics there exists a broad measure of similarity underlying these patterns so that a composite distribution could be established, see Table 8.3. A comparison between this distribution and those derived from (a) the Gross Income assessed under Schedule D per county, (b) the gross yield of Schedule D tax, (c) the remainder of net output in transportable industries, and (d) the distribution of higher status personnel, shows broad similarities between it and (b) and (c) and more especially (a). The distribution is therefore employed to distribute dividends in both years.

TABLE 8.2: *Rent in 1960 and 1965* ('000's)

County	1960			1965		
	<i>Subsidy element in Land Annuities</i>	<i>Rent subsidy L.A.</i>	<i>Net rental income other dwelling</i>	<i>Subsidy element in Land Annuities</i>	<i>rent subsidy L.A. housing</i>	<i>Net rental income other dwelling</i>
			<i>£000</i>			
Carlow	13	85	104	15	107	116
Dublin	17	1,847	4,048	18	2,068	5,094
Kildare	27	106	184	32	142	204
Kilkenny	26	104	188	29	133	186
Laois	21	51	145	24	75	156
Longford	11	40	91	12	59	106
Louth	14	16	276	16	202	312
Meath	48	103	187	57	126	217
Offaly	21	80	172	25	90	196
Westmeath	27	79	182	32	97	200
Wexford	27	126	311	29	183	312
Wicklow	16	106	239	18	113	253
<i>Leinster</i>	<i>268</i>	<i>2,886</i>	<i>6,128</i>	<i>308</i>	<i>3,934</i>	<i>7,352</i>
Clare	27	83	230	30	107	273
Cork	74	665	1,413	83	885	1,557
Kerry	27	122	371	30	150	379
Limerick	41	261	480	46	357	571
Tipperary	51	182	459	59	229	481
Waterford	19	149	294	21	194	290
<i>Munster</i>	<i>238</i>	<i>1,463</i>	<i>3,248</i>	<i>270</i>	<i>1,921</i>	<i>3,553</i>
Galway	46	91	494	54	111	570
Leitrim	10	9	104	12	10	107
Mayo	34	48	381	40	49	407
Roscommon	29	31	197	34	45	211
Sligo	17	42	189	20	49	198
<i>Connacht</i>	<i>138</i>	<i>221</i>	<i>1,365</i>	<i>159</i>	<i>263</i>	<i>1,493</i>
Cavan	19	44	184	21	50	205
Donegal	20	101	306	23	118	326
Monaghan	17	45	171	19	49	171
<i>Ulster (part)</i>	<i>57</i>	<i>189</i>	<i>660</i>	<i>64</i>	<i>218</i>	<i>702</i>
TOTAL	700	4,759	11,400	800	6,336	13,100

See Table 8.4 for totals.

TABLE 8.3: *Distribution of sample of company profits compared with other distributions (figures per 1,000)*

<i>County</i>	<i>Composite of companies studied</i>	<i>Gross income assessed Schedule D</i>	<i>Gross yield of Schedule D tax</i>	<i>Remainder of net output</i>	<i>Higher status personnel</i>
		<i>per 1,000</i>			
Carlow	8.4	5.2	4.3	7.6	14.8
Dublin	632.6	621.0	675.8	533.2	308.1
Kildare	27.1	11.5	8.6	22.3	29.1
Kilkenny	10.3	10.0	7.0	15.2	26.9
Laois	4.2	5.3	4.0	6.3	16.6
Longford	1.8	5.2	5.1	1.3	9.2
Louth	15.6	22.7	22.0	59.8	23.6
Meath	14.0	11.2	9.9	8.8	28.3
Offaly	7.0	9.1	7.8	7.3	17.0
Westmeath	5.5	7.9	6.2	6.3	21.7
Wexford	14.3	15.2	12.4	15.1	30.7
Wicklow	32.0	19.6	15.7	8.4	24.5
<i>Leinster</i>	<i>773.8</i>	<i>744.0</i>	<i>779.9</i>	<i>691.6</i>	<i>550.5</i>
Clare	7.2	7.1	5.0	5.0	18.4
Cork	85.5	93.4	94.5	153.1	120.7
Kerry	7.4	12.2	8.5	9.7	24.4
Limerick	28.0	24.8	21.1	32.9	47.7
Tipperary	18.8	24.0	19.7	28.6	49.6
Waterford	14.6	16.1	14.2	22.5	34.2
<i>Munster</i>	<i>161.5</i>	<i>177.6</i>	<i>162.9</i>	<i>251.9</i>	<i>295.0</i>
Galway	17.8	16.8	12.4	8.7	39.5
Leitrim	1.6	2.7	1.8	1.7	7.1
Mayo	13.7	14.8	11.4	10.7	24.4
Roscommon	5.8	5.2	3.7	1.4	14.6
Sligo	4.5	6.8	4.9	6.6	14.6
<i>Connacht</i>	<i>43.4</i>	<i>46.2</i>	<i>34.2</i>	<i>29.1</i>	<i>100.2</i>
Cavan	3.1	5.7	3.7	8.5	14.0
Donegal	12.9	20.6	15.2	12.7	25.6
Monaghan	5.2	6.1	4.2	6.2	15.2
<i>Ulster (part)</i>	<i>21.2</i>	<i>32.2</i>	<i>23.0</i>	<i>27.4</i>	<i>54.8</i>
TOTAL	1000.0	1000.0	1000.0	1000.0	1000.0

TABLE 8.4: Rents, interest and profits in 1960 and 1965 (£000's)

County	1960				1965			
	Rents	Interest	Dividends	Total	Rents	Interest	Dividends	Total
				£000				
Carlow	202	82	298	582	237	142	426	804
Dublin	5,913	2,472	22,420	30,804	7,720	4,259	32,050	44,029
Kildare	317	144	960	1,421	378	247	1,373	1,998
Kilkenny	318	166	365	849	348	286	522	1,156
Laois	217	85	149	451	255	147	213	616
Longford	142	73	64	279	177	126	91	394
Louth	447	210	588	1,246	531	362	841	1,734
Meath	339	156	496	991	400	269	709	1,378
Offaly	273	89	248	610	311	153	355	818
Westmeath	288	131	195	614	329	226	279	833
Wexford	464	283	507	1,254	524	488	724	1,736
Wicklow	361	229	1,134	1,725	384	395	1,621	2,400
<i>Leinster</i>	<i>9,281</i>	<i>4,120</i>	<i>27,424</i>	<i>40,825</i>	<i>11,594</i>	<i>7,099</i>	<i>39,204</i>	<i>57,896</i>
Clare	340	203	255	798	411	349	365	1,125
Cork	2,152	1,065	3,034	6,250	2,524	1,835	4,347	8,706
Kerry	520	320	262	1,102	559	551	375	1,485
Limerick	782	448	992	2,222	975	771	1,419	3,165
Tipperary	692	430	666	1,789	769	741	952	2,462
Waterford	462	225	517	1,204	505	388	740	1,632
<i>Munster</i>	<i>4,948</i>	<i>2,690</i>	<i>5,727</i>	<i>13,366</i>	<i>5,743</i>	<i>4,635</i>	<i>8,197</i>	<i>18,575</i>
Galway	632	354	631	1,617	735	611	902	2,247
Leitrim	123	53	57	233	128	92	81	301
Mayo	464	203	486	1,152	496	349	694	1,539
Roscommon	257	136	206	599	290	235	294	818
Sligo	248	135	159	543	267	233	228	728
<i>Connacht</i>	<i>1,724</i>	<i>881</i>	<i>1,538</i>	<i>4,143</i>	<i>1,916</i>	<i>1,519</i>	<i>2,199</i>	<i>5,634</i>
Cavan	246	139	110	495	276	239	157	672
Donegal	427	328	457	1,212	467	565	654	1,686
Monaghan	233	142	184	557	240	245	253	738
<i>Ulster (part)</i>	<i>906</i>	<i>608</i>	<i>751</i>	<i>2,266</i>	<i>984</i>	<i>1,048</i>	<i>1,064</i>	<i>3,096</i>
Total	16,859	8,300	35,441	60,600	20,236	14,300	50,664	85,200

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