

~~The Economic and Social Research Institute~~
~~Research Institute~~

Published by

THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

QUARTERLY ECONOMIC COMMENTARY

by

T. J. Baker

SEPTEMBER 1968.

QUARTERLY ECONOMIC COMMENTARY

SEPTEMBER 1968

by

T. J. Baker*

Incorporating: The Federation of Irish Industries and
The Economic and Social Research Institute
Joint Quarterly Industrial Survey

and: The Economic and Social Research Institute
Statistics of Economic Level and Trend.

* T.J. Baker is a Senior Research Officer of the Economic and Social Research Institute. The Commentary has been accepted for publication by the Institute. The author is responsible for the contents of the paper, including the views expressed therein.

CONTENTS

<u>Section</u>		<u>Page</u>
1	Summary	1
2	Forecasts of National Accounts	2
3	Commentary	4
4	F.I.I. — E.S.R.I. Joint Industrial Survey A Preliminary Appraisal	25
5	F.I.I. — E.S.R.I. Joint Quarterly Industrial Survey June 1968	33
6	Seasonally Corrected Quarterly Series (Formerly Statistics of Economic Level and Trend)	48
7	Charts	following p.56

Note.

In preparing the first three Sections of this paper, helpful criticism was received from M.P. Fogarty, R. O'Connor and K.A. Kennedy, but the author accepts full responsibility for the contents and conclusions of the paper and for the views expressed.

Section 5, The Joint Quarterly Industrial Survey is prepared in conjunction with the Federation of Irish Industries, who also supplied the commentary to this Section.

In using the forecasts in Section 2 it should be remembered that economic forecasting is an inexact science, subject to many uncertainties. In particular, projections for periods more than six months distant should not be regarded as more than a broad indication of what might be expected to happen on the specific assumptions set out.

SECTION 1:

SUMMARY

Domestic demand of all types was rising strongly in the first half of 1968. With earnings, total Public Authorities expenditure, private investment and credit creation all likely to maintain their growth, this rise in domestic demand can confidently be expected to continue in the second half of the year. Exports also increased rapidly in the first half of the year. Industrial exports appear to have benefited from devaluation and the continuing UK import boom, while good prices have helped agricultural exports to remain at the very high levels they reached last year. Some levelling off must be expected in the remainder of 1968, as UK imports are brought more under control and as meat and cattle prices probably recede from their present abnormal levels. Under the impact of high domestic demand and the growth in industrial exports, imports have risen sharply and this increase is expected to continue. The price level also is expected to rise considerably in 1968.

On the basis of these trends it is forecast that Gross National Product in 1968 is likely to rise by about 10.8% at current prices and by about 5.1% at constant prices. The Balance of Payments is expected to show a deficit of about £16 million for the year. Details of the forecast can be seen in Table 2.1 on the following page. Projecting forward the trends in domestic spending, but allowing for the likelihood of a check to the rise in exports, it is tentatively forecast that 1969 will see a growth rate of 4.2%, a further rapid rise in prices, and a Balance of Payments deficit of over £50 million, if present policies of demand management remain unchanged. The details are shown in Table 2.2.

The implication of these forecasts is that the present position of the economy, despite some significant differences, is remarkably similar to that in the early part of 1964, and 1969 is likely to repeat many of the features of the first half of 1965. Thus the time appears ripe for the responsible authorities to decide whether they can tolerate the probability of a large deficit on the Balance of Payments in the coming year. If they decide they cannot, then some modest action very soon to lessen the rate of growth of private consumption and of total building would appear appropriate. Slowing down the boom now should avoid the need to halt it altogether later. The possibility of taking appropriate action is not, of course, confined to public authorities. In particular, moderation in the size of pay claims would make the task of combining a high rate of growth with reasonable stability in prices and external reserves considerably easier.

SECTION 2: NATIONAL ACCOUNTS FORECASTS

Table 2.1: Forecast National Accounts 1968

	1967 Provisional £m	Change in 1968		1968 Forecast £m	Change in 1968		
		%	£m		Price	Volume	
					%	%	£m
A. Expenditure on Gross National Product							
Personal Expenditure	780	+11.5	+90	870	+ 5¼	+5.9	+46
Public Net Current Expenditure	144	+10.5	+15	159	+8	+2.1	+3
Gross Domestic Fixed Capital Formation	209	+17.7	+37	246	+7	+10.0	+21
Exports of Goods and Services*	459	+13.9	+64	523	+6	+7.5	+34
Physical Changes in Stocks:							
Agric.	-6	—	+7	+1	—	—	+7
Other	+6	—	+6	+12	—	—	+6
FINAL DEMAND	1,592	+ 13.8	+219	1,811	+6.3	+7.1	+117
Imports of Goods and Services*	444	+21.4	+95	539	+7	+13.4	+59
GROSS NATIONAL PRODUCT AT MARKET PRICES	1,148	+10.8	+124	1,272	+5.5	+5.1	+58
B. Gross National Product by Origin							
Agriculture etc. Total	171	+9.4	+16	187			
Non-Agric.: Wages etc.	520	+10.8	+56	576			
Profits etc.	175	+14.3	+25	200			
Total	695	+11.7	+81	776			
Other Income (including adjustment for price of stocks)	38	+5.3	+2	40			
NATIONAL INCOME	904	+11.0	+99	1,003			
Depreciation	84	+10.7	+9	93			
GNP AT FACTOR COST	988	+10.9	+108	1,096			
Taxes on Expenditure less Subsidies	160	+10.0	+16	176			
GNP AT CURRENT MARKET PRICES	1,148	+10.8	+124	1,272			
C. BALANCE OF PAYMENTS	+15	—	-31	-16			

*Including factor flows. General Assumption: Unchanged Policies. Detailed Assumptions: See Section 3.

Table 2.2: Projected National Accounts 1969

	1968 Forecast £m	Change in 1969		1969 Projection £m	Change in 1969		
		%	£m		Price	Volume	
					%	%	£m
A. EXPENDITURE ON GROSS NATIONAL PRODUCT							
Personal Consumer Expenditure	870	+11½	+100	970	+6	+5.3	+46
Public Net Current Expenditure	159	+8½	+14	173	+6	+2.4	+4
Gross Domestic Fixed Capital Formation	246	+17.0	+42	288	+6	+10.5	+26
Exports of Goods and Services*	523	+5.0	+27	550	+1½	+3.5	+18
Physical Changes in Stocks: Agric.	+1	—	+2	+3	—	—	+2
Other	+12	—	+4	+16	—	—	+4
FINAL DEMAND	1,811	+10.4	+189	2,000	+4.7	+5.5	+100
Imports of Goods and Services*	539	+12.0	+64	603	+3	+8.8	+47
GROSS NATIONAL PRODUCT AT MARKET PRICES	1,272	+9.8	+125	1,397	+5.4	+4.2	+53
B. GROSS NATIONAL PRODUCT BY ORIGIN							
Agriculture etc.: Total	187	+1	+2	189			
Non-Agric.: Wages etc.	576	+11½	+67	643			
Profits etc.	200	+12½	+25	225			
Total	776	+12	+92	868			
Other Income (including adjustment for price of stocks)	40	+5	+2	42			
NATIONAL INCOME	1,003	+9½	+96	1,099			
Depreciation	93	+11	+10	103			
GNP AT FACTOR COST	1,096	+9½	+106	1,202			
Taxes on Expenditure less Subsidies	176	+11	+19	195			
GNP AT CURRENT MARKET PRICES	1,272	+9.8	+125	1,397			
C. BALANCE OF PAYMENTS	-16	—	-37	-53			

*Including factor flows. General Assumption: Unchanged Policies. Detailed Assumptions: See Section 3.

SECTION 3:

COMMENTARY

This section discusses recent trends and probable future developments in the components of Final Demand and in other key economic variables. At the end of each Paragraph are set out the specific assumptions concerning that sector on which the National Accounts Forecasts have been based.

3.1 Personal Expenditure on Consumer Goods and Services

After remaining more or less static from the middle of 1966 to the middle of 1967, the Index of Weekly Retail Sales has since climbed rapidly. Beginning with the third quarter of 1967, the increases over the previous quarter in the Index (seasonally corrected) have been 2.0% 1.9% 3.0% and 2.3%. Thus by the second quarter of 1968 the Index was 9.5% above its level a year earlier. Since it was started in 1961, the Index has shown such large annual increases only in the third quarter of 1964 and the first quarter of 1965.

This impression of a high and accelerating growth of consumer expenditure is confirmed by the figures for receipts of turnover tax, which increased over the corresponding 1967 figure by 8.8% in the first quarter and 12.6% in the second. The receipts from February to July, which represent the first half of the year, were 10.8% above those for the first half of 1967.

In attempting to predict the likely behaviour of consumer spending in the remainder of 1968 and in 1969, some help may be obtained from Baker's quarterly consumption model.* This relates quarterly changes in the seasonally corrected Retail Sales Index to changes in average earnings in the transportable goods industries and in consumer credit. Due to alterations in statistical presentation, the series for consumer credit on which the model was constructed cannot be carried beyond the end of 1966. However, analysis of 1967 has shown that quite a good fit is obtained by using percentage changes in the new series.

On the assumptions that the model is still valid, that consumer credit expanded by almost 5% in each of the first two quarters of 1968 and will continue to expand at nearly 4% per quarter, and that the increase in average earnings will follow the path outlined in paragraph 3.10, the quarterly and annual percentage increases in the Retail Sales Index would be as follows.

Table 3.1. Percentage Increases in the Retail Sales Index

	1967		1968				1969			
	III	IV	I	II	III	IV	I	II	III	IV
Model Prediction	1.1	2.1	3.0	2.8	2.7	2.5	2.3	2.3	2.3	2.3
Actual (Seasonally Corrected)	2.0	1.9	3.0	2.3	—	—	—	—	—	—
Annual			9.2				9.9			

* "The Irish Economy in 1967, Appendix 2" E.R.I. Paper No.39

Given that the Retail Sales Index generally understates the increase in private consumption, it would appear from Table 3.1 that Personal Expenditure on Consumer Goods and Services may increase by approximately 10.5% in 1968 and 11.5% in 1969. These are the figures included in the National Accounts forecasts. It should be stressed that they are based on a continuation of current policies with regard to demand management, and that accordingly, while the 1968 figure appears as a reasonable estimate of what actually is likely to happen, the 1969 forecast is hypothetical, as policies may not remain unchanged that long.

3.2 Public Authorities Net Current Expenditure

The Budget for 1968 estimates Government Current expenditure at £332.7 million in the year to 31st March, 1969. This is 8.9% above the provisional outturn for the year to March 1968, and, more significantly, since supplementary estimates almost invariably swell the total in the course of the year, 12.7% above the estimate for 1967/68. No comprehensive estimate is available for Local Authorities current expenditure, but partial evidence suggests that it is planned to rise by about 9% in the current financial year.

Of course Government and Local Authorities current expenditure in Budget terms includes many transfer payments such as debt interest and subsidies. The National Accounts item, Public Authorities Net Current Expenditure, excludes transfer payments and in fact is chiefly made up of wages and salaries. In the 1968 Budget, Government remuneration in the year to March 1969 is estimated at £88.1 million, an increase of 3.9% on the outturn, and 5.8% on the estimate, for the previous financial year. However, following normal practice the Budget estimates make no allowance for general salary increases, and in the light of current negotiations they therefore appear to be considerably too low. No figures are available for the remuneration element of Local Authorities expenditure, but it would seem probably that a parallel underestimate has been made in this part of the Budget.

Assuming that the volume of Public Authorities Net Current Expenditure will rise by about 2%, and applying an average price and wage increase of 8% for the year, an increase in 1968/69 of 10.5%, or £15 million, is reached. This is the assumption adopted in the National Accounts forecast for 1968. For 1969 a similar rise in the volume, but a smaller increase in the price element, of public consumption are assumed.

3.3 Gross Domestic Fixed Capital Formation

Short-term statistics for capital formation are few, and offer a very incomplete picture of the current situation. For the first half of 1968 completions of

state aided houses (including local authority houses) were nearly 3% lower than in the first half of 1967, although the number of local authority houses in progress and the number of persons employed in building them were substantially higher than in the previous year. Cement sales in the first half of the year were 11.8% higher than in the first half of the previous year. Imports of producers' capital goods in the first quarter of 1968 were 7.4% higher than in the first quarter of 1967. Bank advances for Building and Construction rose by 5.8% between February and May, although as this is a new series it is not known whether part of this rise is seasonal.

These scattered indicators confirm the impression, gained primarily from the Capital Budgets of 1967 and 1968 and the F.I.I. — E.S.R.I. Joint Industrial Surveys, that in the first half of the year public investment was running at a high level, but that private investment, at least in manufacturing industry, is only slowly gathering momentum.

In attempting to assess the annual increase in Fixed Capital Formation in 1968 and 1969 major reliance must be placed on the Capital Budget, and on an interpretation of the degree to which capacity is fully utilised in industry. At £136.4 million the Public Capital Programme for 1968/69 is 22.4% above the provisional outturn and 25.6% above the Budget Estimate for 1967/68. While the Public Capital Programme is not identical with the public Gross Fixed Capital Formation which is included in the National Accounts item, it is felt that the percentage changes in each are likely to be similar. It is possible that the effect of increased wages was not fully allowed for in the Capital Budget, in which case the rise in current price spending might be even greater than planned.

With regard to the private sector, it is felt that the growing incidence of capacity restraints shown in the latest F.I.I. — E.S.R.I. Joint Industrial Survey (see Section 5) will lead to an accelerating pace of industrial investment in the second half of 1968 and more particularly in 1969. The number of grants for private housing approved in the final months of 1967 and the early months of 1968 was exceptionally high, and so a major increase in private house building can be expected later in the year. In the absence of statistics it is felt that private capital formation other than industrial or housing is already at a high level and will remain so. In sum it is assumed that total private investment will be about 12% higher (at current prices) in 1968 than in 1967, and perhaps 18% higher in 1969 than in 1968.

It is expected that on present policies Public Authorities capital expenditure will remain high in 1969/70 but that the rate of growth will be lower than in the current year. Thus it is assumed that total Gross Fixed Capital Formation will increase by about 17% in both 1968 and 1969. This rate of growth is likely to impose a considerable strain on the resources of the building and construction industry.

3.4 Exports of Goods and Services

Merchandise exports have increased at a very satisfactory rate in the first half of 1968. Seasonally corrected figures show that total exports in the period were 17.5% above those for the first half of 1967, and 11.8% above those for the second.

The "Review of External Trade" for the first quarter of 1968, and the "Trade Statistics" for May, show that this increase in exports is based on a very wide range of products, with industrial exports playing the most spectacular role. On the C.S.O. definition, domestic industrial exports in the first quarter were 25.7% higher than in the first quarter of 1967, while domestic agricultural exports were 10.3% higher than a year previously. Geographically, the United Kingdom accounted for most of the rise, total exports to the U.K. increasing by 18.4% over the previous first quarter compared with 9.6% for exports to the rest of the world.

In order to consider the possible trend of merchandise exports in the remainder of 1968 and in 1969 it is useful to analyse the composition of domestic exports over the past few years. Table 3.2 breaks quarterly domestic exports into cattle and beef, other agricultural, industrial and unclassified, with each series seasonally corrected. The classifications are those of the C.S.O. with the exception of cattle and beef, which are extracted from the "Trade Statistics of Ireland".

It can be seen that cattle and beef is by far the most volatile element, reaching a peak of £20.4 million in the second quarter of 1964, thereafter declining to a trough of £13.1 million in the second quarter of 1965, reaching a new and very high peak of £24.5 million in the third quarter of 1967 since when there has been a modest decline.

Table 3.2. Quarterly Domestic Exports by Type 1963–1968 £ million, Seasonally Corrected

Year	Quarter	Cattle and Beef	Other Agricultural	Industrial	Unclassified	Total
		1	2	3	4	5
1963	I	13.0	13.0	13.4	4.1	43.5
	II	17.0	13.4	16.6	4.1	51.1
	III	15.6	14.2	15.7	3.4	48.9
	IV	14.4	14.1	16.4	3.7	48.6
1964	I	19.2	14.7	18.8	4.1	56.8
	II	20.4	12.5	19.0	4.5	56.4
	III	15.4	13.9	19.3	3.7	52.3
	IV	16.1	12.3	20.0	3.8	52.2
1965	I	15.3	12.9	18.2	3.8	50.2
	II	13.1	13.4	19.7	3.6	49.8
	III	16.4	14.4	22.0	4.8	57.6
	IV	16.2	14.7	21.3	4.2	56.4
1966	I	15.5	15.6	23.6	3.5	58.2
	II	13.6	14.1	21.0	3.4	52.1
	III	16.3	15.3	24.4	3.9	59.9
	IV	18.5	15.7	26.9	4.1	65.2
1967	I	17.6	15.4	28.4	3.8	65.2
	II	23.9	14.6	28.8	3.3	70.6
	III	24.5	15.0	27.1	3.4	70.0
	IV	20.9	14.8	30.7	3.7	70.1
1968	I	18.8	17.6	35.7	3.6	75.7
	II					(82.3)

Source: C.S.O., "Review of External Trade", and "Trade Statistics of Ireland".

Note: Seasonal Correction, Columns 1 to 4 by ratio to moving averages. Column 5 by sum of Columns 1 to 4.

Although details are not available, it seems very likely from the high level of total exports in the second quarter that cattle and beef exports were higher in the second quarter than the first (on a seasonally adjusted basis). The crucial question is whether the decline from the peak will gather momentum, as it did after the 1964 peak, or whether the level will be established at about its present value.

The value of cattle and beef exports from January to May was 10.6% higher than in the same period of 1967, because the increase in prices was sufficiently great to more than offset a fall of about 3½% in volume. Provisional estimates for June 1968 show that the number of cattle other than milch cows, heifers in calf and animals under one year was 91,000 (3.6%) lower than in June 1968. From this it is clear that the volume of cattle and beef exports should be lower in the second half of 1968 than in 1967, when a surplus of cattle accumulated in the previous years was being disposed of.

On the other hand prices of both cattle and beef still remain well above their 1967 levels. The best guess at present would appear to be that prices will remain above the corresponding 1967 levels until the final two months of the year, when the 1967 values rose sharply under the impact of the foot and mouth epizootic. If this is so the value of cattle and beef exports in the second half of 1968 could well approach that of the second half of 1967. However, the situation remains vulnerable, depending largely on the course of South American exports to the U.K., and a rapid fall in prices could still take place this year. In any case it would be prudent to allow for the probability that prices, and accordingly the value of cattle and beef exports, will be substantially lower in 1969 than in 1968. In terms of the table, a seasonally adjusted quarterly average of about £22 or £23 million for the last three quarters of 1968 seems a reasonable assumption to make, followed by a quarterly average of not more than £20 million in 1969.

It can be seen from the same table that exports of other agricultural products have been much more stable than those of cattle and beef. The most striking feature of this column is the remarkably steep rise in the first quarter of 1968. Comparison of the Trade Statistics for the first five months of 1968 with those for 1967 shows that the increase in value was spread over a very wide range of agricultural products, and was the result of increases in both volume and prices. Some of the price rises may be a more or less permanent adjustment to devaluation, others the result of temporary factors such as the effect of the U.K. beef shortage on other meats. A fair forecast to make for the remainder of 1968 is to project this column forward at a little below its first quarter level, say a quarterly average of about £17 million.

Apart from a slight setback in the first half of 1965, presumably the effect of the U.K. import levy, and a purely temporary check due to the strikes in the second quarter of 1966, industrial exports show a rapid and fairly steady rise from the

beginning of 1963 to the end of 1967. The jump in the first quarter of 1968 however is unprecedented, and it looks from the level of total exports as if there was a further rise in the second quarter. The effects of devaluation, coupled with the unexpected bouyancy of total U.K. imports must be responsible for the size of this improvement.

Given the short time-lag between orders and production in most Irish Industries it was perhaps foreseeable that the benefits of devaluation would be seen quickly, but the sheer size of the improvement is even greater than was hoped for.

In looking forward it seems wise to anticipate some belated fall in the level of the total U.K. imports of manufactured goods in the remainder of 1968. The possibility also cannot be ignored that the U.K., in spite of current statements to the contrary, may be forced to take some direct action to curb its imports, and in spite of the Free Trade Agreement these could again affect Ireland. Even if neither event occurs, it seems possible on the evidence of the latest F.I.I. — E.S.R.I. Joint Industrial Survey and the indications of a developing domestic consumer boom, that supply constraints will slow down the rate of growth of industrial exports.

In the face of these various factors, the most reasonable assumption to make concerning industrial exports is that they will stabilise at around the level they appear to have reached in the second quarter, before resuming their growth in the middle of 1969. This would fit well into the pattern of the past few years where periods of rapid expansion have been followed by plateaux lasting for about a year, and would agree with the N.I.E.S.R. forecasts concerning the course of U.K. imports.

Putting together these various speculative assumptions, the expectation is that total merchandise exports will maintain but not improve on the very high seasonally adjusted level reached in the second quarter of 1968 for the remainder of the year, but that there is a very real possibility of a slight fall from this level in the first half of 1969. In a field as uncertain as export forecasting, events could make nonsense of this prediction in either direction. On balance it is felt that if it errs it is on the side of optimism rather than the reverse.

With regard to invisible exports, it can be assumed that devaluation has helped the net exports of the Shannon Free Trade Area as spectacularly as those of normal industrial exports. Net earnings from investments can also be expected to show some improvement over the 1967 levels.

The tourist season, now past its peak, appears to have been a very good one. In spite of the fact that travel was depressed in the first quarter by the foot and mouth precautions, passenger movement inwards by sea and air in the first half of the year was more than 5% higher than in 1967. Two thirds of the first half improvement

came in the month of June, when arrivals were 10.9% above 1967, and this higher rate of increase can probably be applied to the vital months of July and August. Given also that figures for the final quarter of 1967 were very much affected by the foot and mouth restrictions, it can be seen that the number of visitors by sea and air in 1968 as a whole could well be more than 10% higher than in 1967. Although the average amount spent per visitor has tended to fall in recent years, it seems probable that this year the rise in prices, both of hotel charges and in general, will go far to offset this reduction. In general it seems reasonable to assume that for 1968 as a whole, the value of tourism (excluding the earnings of Irish carriers) will increase by about 10% (£7 million), with a slightly smaller rise following in 1969.

The expectations concerning exports on which the National Accounts forecasts are based are summarised in Table 3.3.

Table 3.3. Export Assumptions 1968–1969

Category	1967	1968		1968		1968		1969	
	Year	Increase in first 7 months		Increase in last 5 months		Increase in Year		Increase in Year	
		£m	%	£m	%	£m	%	£m	%
Merchandise Exports	284	30	19	19	14	49	17	15	4½
of which:									
cattle & beef	87	-	-	-	-	1	1	-7	-8
other agricultural	60	-	-	-	-	10	17	5	7
industrial	115	-	-	-	-	35	30	16	11
other and re-exports	23	-	-	-	-	2	9	1	4
Invisible Exports (including factor flows)	175	-	-	-	-	15	9	12	6
of which:									
tourism	70	-	-	-	-	7	10	6	8
other	105	-	-	-	-	8	8	6	5
TOTAL EXPORTS (including factor flows)	459	-	-	-	-	64	14	27	5

3.5 Value of Physical Changes in Stocks

It is assumed that there will be little change in the level of livestock numbers in the course of 1968. After the reduction in cattle stocks in the course of 1967

there is little scope for a further significant reduction in 1968. On the other hand the high price levels ruling this year make a heavy build-up of stocks unlikely. On balance a rise of £1 million appears a reasonable assumption, in view of the likely change in the age composition of the cattle herd.

With regard to non-agricultural stocks, the greatly increased level of industrial activity seems likely to cause a large rise in stocks of materials and work in progress. However the developing consumer boom may well have the effect, if only temporarily, of reducing stocks of finished products (vide Section 5). The net effect of these tendencies is assumed to be a rise in the volume of non-agricultural stocks of about £12 million.

3.6 Imports of Goods and Services

In the first seven months of 1968, merchandise imports were £50 million (21.6%) higher than in the corresponding period of 1967. In the second quarter of 1968 they reached a seasonally corrected annual level of £477 million compared with a total of £391m in 1967. Some part of the import bill in the first half of the year may have been due to shipments held over from the final quarter of 1967, due to U.K. labour disputes, but such delayed shipments can account for only a small portion of the total increase. With both private consumption and industrial production expected to continue their growth in the second half of the year, and private industrial investment to gather pace, a further rise in imports during the remainder of the year must be allowed for.

The assumption made in the National Accounts forecast is that by the final quarter merchandise imports will be running at a seasonally corrected annual rate of almost £500 million, giving a total for the year of £483 million. It is further assumed that invisible imports (defined for this purpose as the difference between merchandise imports and total current import items in the Balance of Payments Account) will increase by £3 million (6%) in 1968 as a whole. With regard to 1969 it is assumed that if present policies continue merchandise imports will grow fairly steadily by about £4 million per quarter (seasonally corrected), making an annual average of £545 million, with an increase of £2 million in invisible items.

The assumptions for both 1968 and 1969 on an annual basis accord fairly closely with the values given by econometric tests. These give an increase in total exports of between 18.0% and 23.8% in 1968, compared with the assumption of 21.4% and of between 9% and 11% in 1969 compared with the assumption of 12%. A figure higher than that shown by the models is assumed for 1969 because the composition of the projected rise in Final Demand is more than usually import intensive.

3.7 Industrial Production

Industrial production rose strongly during the past winter, under the stimulus of both home demand and exports. The seasonally corrected series based on the C.S.O. Quarterly Industrial Inquiry shows that the volume of production in the transportable goods industries increased by 3.1% in the fourth quarter of 1967 over the third quarter and by 3.7% in the first quarter of 1968 over the fourth quarter of 1967. For manufacturing industry alone the increases were slightly greater. These are very high quarterly rates of increase unmatched for two consecutive quarters since 1963.

The evidence of the F.I.I. — E.S.R.I. Joint Industrial Survey suggests that this rapid rise continued in the second quarter of 1968. In the most expansionary response since the Survey adopted its present form a weighted 80% of the firms sampled reported higher production in the second quarter than a year previously, while only 12% reported lower production. According to one formula derived elsewhere in this publication*, this indicates that the volume of production in manufacturing industry was 9.3% higher in the second quarter of 1968 than in the corresponding quarter of 1967. Alternative calculations, based on a similar formula*, but using averages of the latest three quarters instead of relying on the figures for an individual quarter, suggest an increase over the year to the second quarter of between 8% and 9%. Thus it appears probable, on the basis of the Survey, that the volume of production index (1951=100) for manufacturing industry reached a level of between 206 and 209 for the second quarter. Seasonally corrected the range becomes from 204.5 to 207, showing an increase of between 2% and 3% over the level of the first quarter. After increases of well over 3% in each of the preceding quarters, such an increase represents the continuation of a very strong expansion in production in the second quarter of the year.

Reference to the paragraphs dealing with exports, private consumption and capital formation will show that this production boom in manufacturing industry reflects a very buoyant state of final demand during the first half of the year. Consideration of the level of imports and their composition in the first quarter confirms the picture of a very high and rising level of industrial activity in the first half of 1968.

It would be unrealistic simply to extrapolate the trend of production in the last three or four quarters over the remainder of 1968. A glance at Chart 7.1 at the end of this publication will show that trends, especially steeply rising ones, seldom continue for long without interruption or slackening. Also constraints either of supply or demand may be foreseeable, and in any case must be considered.

So far as demand restraints are concerned, other paragraphs consider

* See Section 4, Table 4.2, lines 1a and 1b.

the subject in detail. In summary, it can be assumed that domestic demand will remain very buoyant, but that some easing of the growth of export demand may be expected as the deflationary measures in the U.K. take increasing effect, although this may be partly offset by increased exports to non-devaluing markets.

On the supply side it is to be expected that after a prolonged period of rapid expansion, shortage of capacity, certain types of labour, and some raw materials will become increasingly evident. Thus even if total demand continues to grow, some slackening of the rate of increase of the volume of industrial production is likely to be imposed.

The F.I.I. — E.S.R.I. Joint Quarterly Industrial Survey taken at the beginning of July confirms this expectation. The key questions here are those concerning stock levels, constraints on increased production, and expected sales in the coming quarter. For the first time since the present survey was started at the beginning of 1967, a significant proportion of respondents (19%) reported that stocks of finished products were inadequate, compared with only 5% with excessive stocks. This experience of inadequate finished stock levels was fairly generally spread among all industrial groups except drink and tobacco. As firms do not willingly keep their stocks of products at levels they consider inadequate, the responses suggest that a substantial proportion of firms are finding difficulty in raising output to keep pace with orders.

A higher proportion (35%) of respondents than at any time in the past eighteen months replied that they could not have produced more with their present resources. The most frequent reason given was shortage of capacity, which was common to all groups except Paper and Printing, while labour shortages were reported as serious in Textiles, Clothing and Footwear and Metals and Engineering, and shortage of materials were important in Food, Wood and Furniture and Metals and Engineering. It is perhaps of special significance that for the first time the great majority of respondents in the Glass, Clay and Cement Industry Group reported capacity constraints.

The net weighted proportion of respondents expecting sales to increase in the third quarter of 1968 compared with the third quarter of 1967 was 67%. This compares reasonably well with the 68% who reported increased production in the second quarter. However it is shown in Section 4 that actually reported results tend to fluctuate less than expectations. If this tendency is followed on this occasion, and bearing in mind that the third quarter of 1967 showed a rather lower level of industrial production than the second, the seasonally corrected volume of production in manufacturing industry would actually fall slightly in the third quarter of 1968 compared with the second.

This is probably too extreme a view, particularly as the Survey forecasts

have proved far from infallible in the past. Nevertheless it does give support to the view that industrial production will tend to level off a little in the remainder of the year after its rapid rise in the first half.

The assumptions made concerning industrial production in arriving at the forecast of National Accounts are therefore as follows.

- (i) The volume of production index for manufacturing industry for the second quarter of 1968 stood at the seasonally corrected level of 206. (1951 = 100).
- (ii) The rate of growth of manufacturing will be slower in the second half of the year, averaging one per cent in each of the third and fourth quarters on a seasonally corrected basis. Thus the index will reach a seasonally corrected value of 210 by the fourth quarter.
- (iii) The average annual increase in the index over 1967 will therefore be approximately 9½%. This is an exceptionally high rate of increase, exceeding even those of 1961 and 1964.
- (iv) Mainly due to supply constraints, the rate of growth of production will be slower in 1969 than in 1968, the annual average of the volume of production being not more than 6% higher in 1969 than in 1968.

3.8 Agricultural Output

As discussed in paragraph 3.11 dealing with prices, the Agricultural Price Index in the first half of 1968 was 10.8% above its level of the first half of 1967, and on a seasonally corrected basis, 9.5% above the average level for the whole of 1967. Assuming some fall in the index in the second half of the year, on a seasonally corrected basis, it seems fair to assume an average price level for 1968 about 8% above that of 1967.

With regard to the prices of inputs, substantial increases have taken place in the cost of fertilizers and feeding stuffs, largely as a result of devaluation, and moderate increases in rates and other expenses must also be allowed for in estimating the income arising in agriculture in 1968.

So far as the volume of production is concerned, it is reasonable to expect a modest increase in gross output (including stock changes) in 1968. Although the number of cattle sold will be below the 1967 level, it will be achieved without the heavy running down of stocks apparent last year. If the provisional June enumeration of milch cows, heifers in calf and cattle under one year (which shows a total rise in these categories of 76,000 over June 1967) is confirmed, then the improvement in the stock situation should outweigh the drop in sales of cattle. The rise in the number of milch cows, allied to improving yields should substantially increase the output of milk.

Judged either by the June provisional enumeration or by deliveries to

bacon factories the volume output of pigs is also likely to be significantly higher than in 1967, and should more than counterbalance any fall in the output of sheep and lambs.

The rise of 16% in wheat acreage shown in the provisional June estimates far more than compensates for the fall of 1% in barley acreage, assuming that yields will be satisfactory. Sugar beet production is expected to be a little above the 1967 level, while for most other crops relatively little change is expected.

In total, an assumption that the volume of agricultural output, including stock changes, will increase by about 2%, does not appear unreasonable. Taken in conjunction with the higher prices ruling in 1968 and the increased cost of inputs, an increase of 9.4% or £16 million in income arising in agriculture in 1968 is assumed. For 1969, a continuation of the growth in the volume of production is projected, but a fall in agricultural prices, particularly of meat and cattle, is expected to remove most of the benefit of this increase.

It must be stressed that both the forecast for 1968 and the projection for 1969 are heavily dependent on the assumptions made concerning the course of prices. A sudden large fall in U.K. prices for beef and associated products, which could happen at almost any time if massive shipments of beef were made from South America, could still remove some of the forecast improvement in income arising in agriculture in 1968. Conversely if Argentina remains virtually out of the U.K. market, prices might not fall in 1969, and consequently income arising in agriculture would rise by much more than has been projected.

3.9 Employment

On the evidence available there was little improvement in the employment situation in the first half of 1968. Numbers employed in the transportable goods industries in the first quarter were no higher than the average for 1967 on a seasonally corrected basis. The F.I.I. — E.S.R.I. Joint Industrial Survey suggests that the numbers employed in manufacturing industry may have risen slightly in the second quarter, but certainly not by any dramatic amount. Local Authority statistics show a slight decline in the number employed in building and construction in the early months of 1968 compared with the corresponding period of 1967. First quarter sales of wet-time stamps show only a marginal rise compared with 1967, while total sales of insurance stamps in the first quarter are no higher than the average for 1967 on a seasonally corrected basis.

Unemployment statistics, difficult as they are to compare with earlier years due to changes in definitions, certainly show no signs of any fall in seasonally corrected unemployment up to the end of August, and the total live register remains

about 8% above the 1967 level.

There are grounds for expecting some improvement in the non-agricultural employment situation in the second half of 1968. The experience of industry in increasing output with a virtually unchanged labour force since the third quarter of 1966 can hardly be expected to continue indefinitely. Past experience in both Ireland and elsewhere suggests that as output grows towards capacity limits employment begins to rise quite sharply. There are signs in the latest F.I.I. — E.S.R.I. Joint Industrial Survey that this may be about to happen. Expectations regarding employment in the third quarter are noticeably higher than at any previous period in the 18 months that the Survey has been conducted in its present form, and a slightly higher proportion of firms than usual indicate that production is being held back by labour shortages. With industrial output expected to continue its growth during the remainder of 1968 and 1969, prospects for an increase in industrial employment must be regarded as brighter than for some years.

As the 1968/69 public capital programme is put into effect, and as private investment in manufacturing, housing and other activities gathers pace, employment in building and construction should show a significant increase. The consumer boom now apparently taking place should lead to an increase in service employment.

Whether these putative increases in non-agricultural employment will suffice to reduce the level of unemployment (seasonally adjusted) over the next few months depends largely on the rate of exodus from agriculture and the rate of emigration. Both are to a large extent imponderables although it is reasonable to expect that while unemployment in the UK remains high, as seems likely for a further year at least, the emigration rate will be slightly depressed and the Irish unemployment rate will be correspondingly inflated.

The assumptions made in the National Accounts forecasts concerning non-agricultural employment are that the average for 1968 will be about 1½% above that for 1967, while the 1969 average will be 2½% above that for 1968.

3.10 Earnings

Average weekly earnings in the transportable goods industries during the first quarter of 1968 were £13. 0. 6d. On a seasonally corrected basis this was 5.6% higher than in the first quarter of 1967, 4.8% higher than in the third quarter and 1.0% higher than in the fourth quarter. Thus the strong increase in earnings in evidence in the final months of 1967 appears to have moderated during the early months of 1968. Although no firm statistics are available, it appears certain that the rise was resumed in the second quarter and will continue strongly for the remainder of the

year. Not only have new agreements been made in many cases and negotiations been commenced in many more, but also the second stage of most of the earlier agreements become due for payment at various times during the second half of 1968.

The changing form of industrial relations, with phased increases replacing single stage "wage rounds" and with most industries negotiating separately rather than according to the national pattern, has important implications. The rise in average earnings in 1968 may be a little slower and a little smaller than in some previous years, such as 1964, but, instead of being followed by a period of relative stability in money earnings, it will be followed by a further substantial increase in 1969.

With such a variety of agreements being reported, and with most of them including clauses concerning shorter hours and fringe benefits, predicting the size and timing of the increase in average earnings is more than usually hazardous. The assumptions actually made in arriving at the forecasts of National Accounts are that by the end of 1968 average weekly earnings in the transportable goods industries will reach a level 9% above that of the final quarter of 1967, and more than 12% above that of the third quarter of 1967, which can be taken as the base from which the current series of increases started. It is assumed that earnings will increase towards this level fairly evenly over the second, third, and fourth quarters of the year, giving an annual average level for 1968 about 8½% above that for 1967. The continuing increase of earnings in 1969, due to the operation of the later stages of the agreements made in 1967 and 1968 and to any new agreements made in the course of the year is assumed to lead to an average level in 1969 8% above that for 1968. Other earned incomes are assumed more or less to keep pace with average earnings in the transportable goods industries.

3.11 Prices

The Consumer Price Index (1953=100) stood at 160.0 in May 1968. This is 4.4% above the previous May, and 3.7% above the November 1967 level. This six monthly increase is the highest since 1964, but considering that the period includes both devaluation and high meat prices which largely reflect the impact of the U.K. foot and mouth disease last winter, the rise is relatively modest. The middle of 1966 saw almost as large a percentage rise without either of these factors operating. It would appear that the full impact of devaluation has not yet been felt on consumer prices, while the effects of the current series of pay increases have likewise yet to become apparent. Consequently it seems prudent to expect a further considerable rise in the Index over the remainder of the year. The assumption made concerning 1968 is that the Consumer Price Index will reach 164.0 by November, giving an increase in the annual average of 5¼% over 1967. With regard to 1969, it is assumed that if present policies remain in

force, the growth of money demand and higher costs will force consumer prices up by a further 6%.

Agricultural prices, as measured by the Agricultural Price Index (seasonally corrected), were 9.5% higher in the first half of 1968 than their average level for the whole of 1967. It is assumed that the seasonally corrected level of the Agricultural Price Index will drift gradually lower during the remainder of 1968, so that the increase of the annual average over 1967 will be about 8%. In 1969 it is assumed that the annual average of the index will fall by about 2% under the influence of falling U.K. meat prices.

The unit value of exports rose by 5.8% between the final quarter of 1967 and the first quarter of 1968. Much of the rise was due to the high cattle and beef prices being obtained, but a fairly widespread gain in prices of other products can presumably be attributed largely to the effects of devaluation. For the purposes of the National Accounts forecast it has been assumed that there will be a slight further increase in the course of 1968, taking the average rise in merchandise export unit value to nearly 7% for the year. With the price of invisible items assumed to keep in line with the Consumer Price Index the assumption is that the average price of total exports will be about 6% higher in 1968 than in 1967. A further annual rise in the price of total exports of about 1½% is assumed for 1969, with an increase in the price of other exports offsetting the fall in the price of cattle and meat.

Import unit values rose by 6.6% between the fourth quarter of 1967 and the first quarter of 1968. Again devaluation is presumably responsible for most of the increase. While a further rise in the price of many imports can be expected in the course of 1968, it is possible that the effect will be partly offset by switching some imports to sources which have also devalued. The assumption made for the National Accounts forecast is that the average unit value of imports, including invisibles, for 1968 as a whole will be 7% higher than for 1967, with 1969 showing a further 3% rise.

3.12 Money and Credit

Money Supply, defined as the total of currency outstanding and current accounts, not adjusted for banks' holdings of currency or uncleared cheques, reached a seasonally corrected level of £376.4 million in the first quarter of 1968 and £376.3 million in the second. These figures are 9.9 per cent above the average level of the first half, and 4.0 per cent above the average level of the second half, of 1967. This annual rate of increase is easily the largest since 1964, and is roughly in line with changes in consumption and industrial production.

Bank credit has expanded even more dramatically since the middle of 1967. The percentage increases over the preceding quarter since the beginning of 1967 in bills, loans and advances (not adjusted for uncleared cheques) has been as follows:

Table 3.4 Quarterly Changes in Bills, Loans and Advances

Year	Quarter			
	I	II	III	IV
1967	+0.1%	-1.3%	+3.4%	+5.5%
1968	+4.2%	+4.0%		

Thus by the second quarter of 1968 the average level of bills, loans and advances was 17.6 per cent above its level a year previously. This rate of expansion exceeds even those of 1964 and early 1965.

Changes in the presentation of statistics render it impossible to construct a long-term series for consumer credit. However the Central Bank's new series for Total Instalment Credit since the end of 1966 and for Personal Bank Advances in February and May 1968 show that consumer credit from these two sources has been growing very rapidly since the Autumn of 1967.

Table 3.5 Consumer Credit

	1966	1967				1968	
	IV	I	II	III	IV	I	II
End of Quarter							
Instalment Credit	50.4	51.9	53.7	54.5	57.3	60.1	61.8
Mid Month:	Oct.	Jan.	Apr.	July	Oct.	Feb.	May
Personal Advances (New Series)	—	—	—	—	—	38.6	41.4
Personal & Professional Advances (Old Series)	42.0	42.0	43.2	45.0	45.2	—	—

Under the terms of the letter of advice on Credit from the Governor of the Central Bank of Ireland on 31st May 1968 the aggregate credit extended by the Association Banks can increase in the year to mid-April 1969 by about the same amount (£64.2 million) as in the year to mid-April 1968. On a quarterly basis this implies that by the second quarter of 1969 the average level of bills, loans and advances (not adjusted for cheques) would be in excess of £450 million, about 15% above the second quarter of 1968. Consequently, if the advice remains unaltered, a further rapid increase in bank credit can be envisaged, about half of which will probably be available to the private sector. Some part of this increase can be expected to find its way to the

consumption sector in the form of personal advances. At the same time, on present policies, there seems no reason to expect the growth in instalment credit to slacken in the remainder of the year. While it is difficult to quantify the potential increase in consumer credit (personal advances and instalment credit) it could well be as high as 4½% per quarter as long as present policies are in force. However a more modest rise of a little under 4% per quarter has been assumed for the purpose of the National Accounts Forecasts.

3.13 General Synthesis

The forecast of National Accounts for 1968 and the projection for 1969 shown in Section 2 have been built up on the basis of the assumptions made following the analysis of individual items. Econometric methods have been used only with regard to personal expenditure and imports.

The forecasts reached in this way are however reasonably consistent with past experience as embodied in Leser's consistency model.* The following table compares the forecasts of the components of Final Demand with the values given by the application of this model on the basis of the projected increases in overall Final Demand.

Table 3.6. Consistency Check on Forecasts
% increases at current prices

	Forecast Model		Projection Model	
	1968	1968	1969	1969
Personal Expenditure	11.5	10.3	11.5	7.2
Public Current Expenditure	10.5	15.0	8.5	10.9
Gross Domestic Fixed Capital Formation	17.7	16.9	17.0	17.6
Exports of Goods and Services	13.9	14.6	5.0	11.5
Final Demand (excl. stocks)	12.9	12.9	10.2	10.2
Imports of Goods and Services	21.4	23.2	12.0	9.1
Gross National Product	10.8	11.6	9.8	10.4

The correspondence between the forecast and the model for 1968 is very close, the only significant difference being in public consumption where the normal rate of growth seems to have slowed in recent years compared with the average for the period on which the model is based.

For 1969 the correspondence is not nearly so close, which implies that

* C.E.V. Leser. The Irish Economy in 1964 and 1965. E.R.I. Paper No.27.

if the projected outturn comes about, 1969 will be a year of abnormal growth pattern. The principal reasons for this are the assumptions that there will be a much higher than normal expansion in consumer credit if present policies are maintained, and that a fall in the export prices of cattle and meat will coincide with a period of difficulty in the U.K. market for industrial exports.

The divergences of the projection for 1969 from the normal pattern as exemplified in the model computations are rather similar to those experienced in 1965, although much more extreme. The causes of the divergences are similar in the two cases, although in 1965 the fall in cattle exports was due to a fall in volume rather than price. The difference in degree between the two years is because the projection for 1969 is based on the explicit assumption that policies will remain unchanged throughout the year, whereas in 1965, of course, vigorous policy measures were taken in the middle of the year to reverse the trends of the first half.

To pursue this analogy with the past a little further, definite similarities can be seen between developments in 1968 as assumed in the forecast and in 1964. In each year there was a high overall increase in Final Demand, with its various components conforming reasonably closely to the normal pattern. In each case personal consumption is seen to rise by slightly more than the model computation under the joint impact of rapidly increasing earnings and a large expansion of consumer credit. In each case exports show a substantial increase, in line with that computed by the model, but with various factors suggesting that the rate of growth is unlikely to be maintained.

There are some important differences between 1964 and 1968 however. In the former year there was a large increase in the volume of public current expenditure at constant prices, whereas in 1968 only a modest increase in volume is planned for. In the second place the rise in earnings in 1964 came mainly in one large step at the beginning of the year followed by a long period of relative stability. In 1968 the rise appears likely to be more evenly paced, but to continue indefinitely. A further difference concerns imports and the balance of payments. Imports had risen steeply in 1963 and that year saw a current account deficit of £22.1 million. Thus there was not much leeway during 1964 for a further deterioration in the current balance. In contrast imports in 1967 were exceptionally low, in relation to the level of economic activity, and there was a current account surplus of £15.2 million. Consequently a much higher relative rise in imports is possible in 1968 before the balance of payments becomes a restraining factor on growth. A final major point of difference is that unemployment is a great deal higher at present than at any time in 1964.

Nevertheless, in spite of these important differences, the similarities between the two years remain striking. Perhaps it would be more accurate to state that

the situation in the second half of 1968 resembles quite closely that in the early part of 1964, with the prospects for 1969 being not dissimilar to events in the second half of 1964 and the first half of 1965. As in that period, the principal danger facing the economy is that of an unacceptably large balance of payments deficit on current account, brought about by a predictable but temporary check to the expansion of exports coinciding with rapidly growing imports. Pressure of unit wage costs on the competitiveness of industrial exports could develop in the course of 1969, although it is not yet in evidence in any general way. Inflationary pressure on the general internal price level, however, is likely to be seen much earlier, but should coincide with some improvement in the employment situation.

3.14 Policy Implications

If the foregoing analysis is accepted, the decision as to whether or not to initiate changes in the policy of demand management depends on the relative weight attached to different policy objectives.

It may be felt that in the light of the present state of the external reserves, and the possibility of an increase in the long term capital inflow as private investment grows and corporate profits improve, the likelihood of a very substantial current account deficit is a worthwhile price to pay for rapid economic growth and a substantial increase in non-agricultural employment. If this view is taken, no action is necessary at the present time, and the period of high deficit can be endured in the hope that exports will subsequently resume a more rapid rate of growth.

On the other hand it may be considered that the probability of a deficit in the region of £50 million, with a possibility that it could be even worse, cannot be regarded with equanimity. In this case it is almost certainly better that some moderate action be taken now to curb the rate of expansion, particularly with regard to private consumption and building activity, rather than delay until the middle of 1969 when much more drastic steps might have to be taken. If it is decided to restrain the growth of demand, action to moderate the apparent rapid increase in private credit, particularly consumer credit, would appear to be the most sensible first step. If, through such measures as mild hire purchase controls and Central Bank advice to the Associated Banks, the rate of growth of consumer credit were held to half that assumed in the projection for 1969, it seems likely that the result would be a rise in current price Gross National Product of around 8 per cent rather than 10 per cent, a growth rate of perhaps just under 4 per cent rather than just over, a slower rise in prices, and a balance of payments deficit of around £30 million rather than £50 million. On this calculation quite modest action, taken soon, would suffice to keep the situation well under control.

If it became apparent with the availability of further information that the initial action was either too strong or too weak it would be possible to modify it at various times over the period, or to offset or reinforce it by fiscal means at the next Budget.

The decision remains one for the responsible authorities, and according to the relative importance attached to the growth rate, employment, internal prices and the state of the reserves, a plausible case could be made for either taking action or not. One warning however bears repetition. If it is decided that a large deficit is not tolerable, but nevertheless to wait until overwhelming evidence is available before taking any action, the correct moment for that action will almost certainly be past. There appears now to be sufficient evidence on which to base a decision according to principle. Waiting for further evidence is not likely to be conducive to well-timed demand management.

Whether the authorities choose an active or a passive course, a moderation in the size and timing of pay claims would make the task of achieving a high but sustainable rate of economic growth considerably easier. If an active policy is chosen the progress of wage and salary increases may well determine the severity of the action to be taken.

Section 4

The F.I.I. — E.S.R.I. Joint Industrial Survey

A Preliminary Appraisal

4.1. Purpose

In making economic forecasts in the past, the Economic and Social Research Institute has used the Joint Industrial Survey only in a general and subjective manner. The incorporation of the Survey into this more comprehensive publication provides an apt opportunity to establish whether it can be used in a more scientific way for forecasting. This is a limited study concerned solely with how well the Survey ties in with official statistical series which are commonly taken to be key indicators of the performance of the economy.

It is recognised that the Survey possesses a value wider than its mathematical use in forecasting. Indicators of how businessmen in various sectors of the economy view the current state of their businesses and their future prospects are of interest whether subsequent statistics support the views they take or not. However, this study makes no attempt to assess the value of the Survey in this broad, general sense, and it remains up to its individual users to decide how useful they find it as a whole.

In attempting to measure relationships between the Joint Industrial Survey and appropriate official series, two major difficulties arise. The Survey has been running in its present form and coverage only since March 1967. Thus there are too few observations of the answers to any single question by any single industrial group for meaningful statistical analysis. There are two ways around this difficulty and both have been followed here. In the first place the time series can be carried back to 1962 on the basis of the earlier Joint Industrial Survey. Although both the sample of firms involved, and the form of some of the questions was different in the earlier Survey, it is felt that there is sufficient continuity over the period so far as the responses for all manufacturing industry are concerned. However, the changes in the sample preclude comparisons over the longer period with regard to individual industrial groups. The second way around the difficulty is to take the responses from each industrial group separately during the period of the new Survey, and thus obtain a set of results which are part time series and part cross-section.

The second difficulty concerns the nature of the questions in the Survey. Respondents are asked to answer only whether production, exports and so on

are higher, the same, or lower than in the corresponding period of the previous year. They are not asked to quantify these changes. On the other hand the official statistical series are by their nature quantified. The implicit assumption made in all the comparisons attempted here is that there is a linear relationship between the size of any percentage change in the output, exports or employment of any industrial group and the proportion of firms in that group reporting a change in that direction. In other words, it is assumed that a greater increase in, say, output in one period than in another is due to a higher proportion of firms (weighted according to size) producing more, rather than to the same proportion of firms producing much more.

The analysis which follows is as much a test of the validity of this assumption as it is of the validity of the sample of firms used in the Survey, the accuracy of their responses, and the various other factors which might account for erratic results.

4.2. Results

The analysis falls into two parts. In the first part an attempt is made to relate Survey responses to questions referring to the quarter just ended to official statistical series. In the second part, Survey expectations for the coming quarter are compared with the results reported for that quarter in the subsequent Survey.

4.3. Comparison with Official Series

A number of tests are applied linking Survey answers for the quarter just ended with appropriate time series based on official statistics. In each case the official time series are converted to show the percentage change on the corresponding period the previous year while the Survey responses are measured by the proportion of "increase" answers minus the proportion of "decrease". The comparative analysis is by means of simple linear regression by least squares, with the official series being the dependent (Y), and the Survey responses the independent (X) variable. The specific regressions calculated are set out in Table 4.1 below, with the results in the Table 4.2 following.

Series Tested for Relationship		
1. Production	Dependent Variable	Independent Variable
1 a	Volume of Production Index Manufacturing Industry (C.S.O. Quarterly Industrial Inquiry).	"Production was" (in some quarters "Total sales were"). All manufacturing. (Joint Industrial Survey).
	Period 1st Quarter 1962 to 1st Quarter 1968	

1. Production	Dependent Variable	Independent Variable
1 b	As "a" Each series smoothed by conversion to three quarterly moving averages. Period 1st Quarter 1962 to 4th Quarter 1967.	As "a"
1 c	Volume of Production Index by Industrial Group (excluding "other manufacturing") (C.S.O. Quarterly Industrial Inquiry). Period 1st Quarter 1967 to 4th Quarter 1968.	"Production was" (in some quarters "Total Sales were") by Industrial Group (excluding "other manufacturing"). (Joint Industrial Survey).
2 a	Total Domestic exports <u>less</u> live animals, unprocessed cereals and fresh vegetables, eggs and fish, raw materials, minerals, fuels and oils, parcel post and special transactions. (C.S.O. Trade Statistics of Ireland). Period 1st Quarter 1964 to 1st Quarter 1968.	"Exports were" All manufacturing. (Prior to 1st Quarter 1967, the figure taken is the mean of "Exports are" at the beginning of the quarter and the beginning of the next quarter). (Joint Industrial Survey).
2 b	As "a". Each series smoothed by conversion to three quarterly moving averages. Period 2nd Quarter 1964 to 4th Quarter 1967.	As "a".
<u>Employment</u>		
3 a	Numbers employed in manufacturing industry. (C.S.O. Quarterly Industrial Inquiry).	"Employment was" All manufacturing (Prior to 1967, the mean of "Employment is" at the beginning and end of quarter). (Joint Industrial Survey).
3 b	As "a". Each series smoothed by conversion to three quarterly moving averages. Period 1st Quarter 1964 to 4th Quarter 1967.	As "a".

Data was also assembled for cross section regressions for Exports and Employment for the period 1st Quarter 1967 to 1st Quarter 1968, but on inspection it could be seen that in each case the regression would have little or no significance, and so the calculations were not made. However, the cross section data strongly suggested that within several Industrial Groups the relationship between survey responses and official series will become significant when more observations are available. The difficulty rather is that the relationship tends to differ between different groups, thus invalidating the cross-section approach.

Table 4.2. Linear Regressions : Official Series on Survey Responses

Regression Number	No. of Observations N	Result $Y_c = a + bX + u$	Coefficient of Correlation r	Standard Error of Estimate $S_y (e)$	Maximum Deviation of Y	Significance	
						(t)	level
1	2	3	4	5	6	7	8
<u>Production</u>							
1 a	25	$2.84 + 0.095X$	.673	2.29	7.94	4.36	1%
1 b	24	$2.37 + 0.104X$	.853	1.16	4.42	7.65	1%
1 c	45	$2.14 + 0.107X$	.422	6.52	18.2	2.78	1%
<u>Exports</u>							
2 a	17	$10.54 + 0.232X$	.389	12.53	20.2	1.64	20%
2 b	15	$7.65 + 0.315X$	.650	7.57	16.3	3.23	1%
<u>Employment</u>							
3 a	17	$1.4 + 0.051X$	.597	0.78	2.1	2.89	2%
3 b	16	$1.15 + 0.056X$	.780	0.45	1.2	4.66	1%

Note: The formulae in column 3 may be used to estimate percentage changes in output. For example in line 1a, if the Survey shows percentages for production, "Up" 45, "No change" 30, "Down" 25, the estimated percentage change in output compared with the same quarter last year would be 4.7 (i.e. $2.84 + 0.095 \times 20$). It should be noted that the same percentage will be found if the Survey responses are 20, 80, 0.

These comparisons show that there is indeed a significant relationship between shifts in Survey responses to the question "production was" and changes in the level of the volume of industrial production. The degree of fit, represented by r, may be regarded as a little disappointing especially in the case of the "cross-section" regression. It is however reassuring that the result of the cross-section regression is so

similar to that of the "time-series" regressions (although the fit is much worse). There is no technical reason why the results of the two different approaches should agree with each other, and the fact that they do so suggests that there is a genuine underlying relationship between the two sets of figures.

The "smoothed" series used in equation 1b have the effect of eliminating purely temporary variations due to such factors as the timing of holidays, strikes or abnormal weather conditions. As the variations caused by these factors may well be different as between the official and the Survey series, it is to be expected that the relationship between the "smoothed" series, reflecting underlying cyclical and secular trends, will be better than that between the "raw" series which are subject to these temporary factors. The results show that this expectation is amply justified.

A further point worth noting is that the figures used for the index of industrial production are the latest revisions available, which means that they are finalised up to the end of 1965. As a means of predicting these finalised figures the Survey responses compare reasonably well with the original figures for the index published in the Quarterly Industrial Inquiry. Over the period 1st Quarter 1960 to 4th Quarter 1965, measured in terms of the percentage change each quarter on the corresponding quarter of the previous year, the regression between the finalised series and the originally published figures yields an r of only .828. It is doubtful whether smoothing of the type adopted for the Survey results, would substantially improve this fit. Thus the originally published figures are no better correlated to the finally revised figures than are smoothed responses to the Survey. There is a further implication to this finding. Graphical comparison shows that the fit between the Survey responses and the Index of Industrial Production is worst in 1966 and 1967. It is possible that when the Index for these years is finally revised the total fit for the period 1962 to 1967 will be significantly improved.

The fit of the regressions concerning exports and employment is noticeably worse than for production, while the absence of any cross-check between "time-series" and "cross-section" regressions removes the reassuring factor found in the case of production. Any use made of these equations must therefore be even more cautious than in the case of the production equations. There are however good grounds for expecting that a further investigation, when more results are available for analysis, will provide more reliable relationships.

4.4.

Comparison of Expectations with Outturn

As the Joint Industrial Survey is available almost three months ahead of either the "Quarterly Industrial Inquiry" or "Trade Statistics of Ireland", any firm relationship discovered between the responses for the quarter just ended and the official series is of great value in shortening the time-lag between events and their

statistical delineation. However, the Survey also includes industrialists expectations as to total sales, exports and employment in the quarter about to begin. If these forecasts normally prove accurate, or even if they are inaccurate in a uniform and predictable way, then the value of the Survey in short-term forecasting is obviously increased still further.

Consequently the forecasts made for each quarter from the second quarter of 1967 to the first quarter of 1968 in respect of total sales, exports and employment in each Industrial Group are compared with the responses given to the appropriate questions for these quarters in the subsequent issues of the Survey. Again the technique adopted is simple linear regression by least squares, with the final responses as the dependent (Y) variable and the forecasts as the independent (X).

One hundred and twenty pairs of observations are available. In attempting to isolate any stable relationship, it is desirable to split up this data in various ways. Accordingly regressions have been run on the total sample of 120 pairs of observations, on the forty pairs of observations available each for the questions concerning production, exports and employment, and on the ten sets of twelve pairs of observations for each industrial group. A further regression using the twelve pairs of observations relating to the weighted average for total manufacturing industry has also been calculated.

It was observed from the data that the fit of the regressions is seriously impaired by the presence of five exceptionally poor pairs of results. The regressions on the total data, and those for production, exports and employment, have been recalculated after eliminating these five results, to see how far they are responsible for any poor fit obtained. They are not eliminated from any of the Industry Group regressions, as it is felt that to reduce the pairs of observations below twelve would rob them of much meaning.

Table 4.3 following shows the results of these 19 regressions. Eleven of them are significant at the one per cent level, and a further three at the five per cent. The remaining five have little or no significance. As in the case of the previous comparisons, the degree of fit, as shown by r , is rather disappointing.

However, again as in the case of the comparison between Survey responses and the Index of Industrial Production, there is consolation to be found in the consistency of the various regression coefficients. All the significant regressions have a value for "b" of between 0.5 and 1.0, with a strong clustering in the range 0.7 to 0.8. As there is no logical necessity for the regressions to yield similar results, it seems probable that there is a basic tendency for the relationship to be in or near this range.

Table 4.3. Linear Regressions: "Was" on "Will be".

Regression	No. of Observations	Result $Y_c = a + bX + u$	Coefficient of Correlation	Significance	
				(t)	level
1	2	3	4	5	6
Total	120	$3.1 + .642X$	.599	8.9	1%
Total less 5 worst results	115	$1.2 + .790X$	.764	12.6	1%
<u>By Type</u>					
Employment	40	$0.4 + .710X$	.626	4.9	1%
Employment less 1 worst result	39	$-1.1 + .795X$	.695	5.9	1%
Production	40	$10.7 + .638X$	.399	2.7	2%
Production less 1 worst result	39	$5.8 + .758X$	.511	3.6	1%
Exports	40	$18.9 + .165X$	.114	0.7	50%
Exports less 3 worst results	37	$10.9 + .544X$	.525	3.6	1%
<u>By Industry</u>					
<u>Group</u>					
Food	12	$2.3 + .877X$	.894	6.2	1%
Drink & Tobacco	12	$2.3 + .186X$	.190	0.6	60%
Textiles	12	$3.1 + .766X$	.859	5.3	1%
Clothing & Footwear	12	$1.9 + .631X$	.874	5.7	1%
Wood & Furniture	12	$27.9 + .367X$	.475	1.7	20%
Paper & Printing	12	$3.7 + .727X$	.742	3.5	1%
Chemicals	12	$25.6 + .384X$	.422	1.5	20%
Glass, Clay, Cement	12	$7.4 + .951X$	.823	4.6	1%
Metal & Engineering	12	$11.5 + .168X$	.210	0.7	60%
Other	12	$-32.4 + .608X$	.654	2.7	5%
Weighted all Industry	12	$4.9 + .545X$	.681	2.9	2%

The implication of this is that in general businessmen's expectations regarding total sales, employment and, to a lesser extent, exports are in line with what subsequently transpires. Expectations tend to be more volatile than the recorded events, so that the actual change is likely to be only about three-quarters of that anticipated. However this general accord is marred by a few forecasts which turn out to be spectacularly wrong, as when 97% of the Drink and Tobacco companies in the sample anticipated a rise in exports for a quarter, and later 86% of them reported that exports had declined in that quarter. The difficulty in using the forecast of course lies in attempting to identify which few of them will be the ones that are seriously wrong.

4.5. General Conclusions

This preliminary appraisal has shown that statistically significant relationships exist both between Survey reports and official economic series, and between Survey anticipations and Survey reports. With the aid of the equations worked out, the Survey answers to questions concerning production, exports and employment can be converted into the form of the official series.

As the Survey is available so long before the official figures this is of considerable value, and in the case of production it is even possible that the Survey results are as accurate, in terms of the finally revised statistics, as the initially published official estimates. In general however it must be admitted that although a relationship undoubtedly exists, the degree of fit obtained by the regressions is not very good. Thus any individual figures obtained from the Survey by the use of these equations must be regarded with some reserve.

It is felt that the most prudent course for the short-term economic forecaster is to compare the results obtained from the Survey with an extrapolation of seasonally corrected data, which will be available for the quarters intervening between the periods dealt with in the Survey. If the results of the Survey analysis and the extrapolation agree with each other, they can probably be accepted with reasonable confidence. Where they diverge, the forecaster is thrown back on the use of qualitative information, econometric relationships between different time series, and in the last resort, on hunch.

Even used in this limited manner the formal analysis of Survey answers worked out in this preliminary study adds a useful further tool to the Institute's array of techniques for identifying economic trends and predicting their future behaviour. Further study when a longer run of observations from the Survey in its present form is available will undoubtedly allow this tool to be improved greatly.

SECTION 5

THE FEDERATION OF IRISH INDUSTRIES

AND

THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

JOINT QUARTERLY INDUSTRIAL SURVEY

JUNE 1968

5.1 Introduction

This Section contains the results of the June Industrial Survey conducted jointly by the Federation of Irish Industries and the Economic & Social Research Institute. The survey covered the second quarter of 1968 compared with the second quarter of 1967 with forecasts for trends in the third quarter of 1968 compared with the corresponding period of 1967. 83% of respondents replied and the results can be taken to represent the views of a good cross section of industry. However, the survey is still at a preliminary stage of development and it is recommended that the results be treated with caution. In this context attention is drawn to Section 4 preceding, in which some of the results of earlier Surveys are examined in the light of official statistics, and a methodology for interpreting the Survey results is set out.

Section Index

	<u>Table No.</u>	<u>Page No.</u>
Commentary	—	4
All Manufacturing	5.1	37
Food	5.2	38
Drink & Tobacco	5.3	39
Textiles	5.4	40
Clothing & Footwear	5.5	41
Wood & Furniture	5.6	42
Paper and Printing	5.7	43
Chemicals	5.8	44
Glass, Clay & Cement	5.9	45
Metals & Engineering	5.10	46
Other Manufacturing	5.11	47

5.2 Commentary

a. Significant Indications of the Survey:

The June Quarterly Industrial Survey results indicate higher production and sales both at home and abroad and expectations that home sales and export sales in the coming months will continue to increase. Employment does not seem to be increasing significantly but the survey indicates that a marginal increase has taken place in the last quarter compared with the corresponding quarter of 1967. Compared with previous Surveys a higher proportion of firms feels that stocks of finished products are at an inadequate level, and a greater proportion reports capacity constraints on output. Manufacturing investment continues to show no great upturn and survey replies indicate that it will increase only slightly in the coming months.

b. Overall Results:

Production in the June Quarter of 1968 was satisfactorily higher than in the June Quarter of 1967. All industries registered higher production in the Quarter than in the corresponding Quarter of 1967. It is anticipated that in the coming months the trend of increasing home sales will be maintained.

The results show that exports have increased compared with the corresponding period of 1967 and it is expected that in the third quarter of 1968 the increase in exports will be maintained but possibly at a slower rate.

The Survey suggests that Employment in the first quarter of 1968 was marginally higher than in the same quarter of 1967 and future indications of Employment from the Survey are that no great increase will take place. However, as already stated in previous Survey results, when compared with official employment statistics published in the Quarterly Industrial Enquiry there tends to be a slight negative bias in the Survey Results. Thus, the present responses while indicating a rather stable position could be interpreted to indicate a slight upturn in Employment. The general impression in most industry groups was that more orders could have been met with available resources and that stocks of finished goods raw materials were adequate during the Second Quarter of 1968. However, a higher proportion of respondents than in previous Quarters stated that more orders could not have been met, and listed insufficient capacity, insufficient raw material supply and insufficient skilled labour as the main causes of this. Respondents with financial years ending in the June Quarter of 1968 reported that there had been very little increase in investment in the year just ended and they expect investment in the coming year to increase only marginally.

c. Sector Results:

The trend of higher production was evident in all industry groups, most industries reporting substantial increases in the quarter. All industry groups had higher home sales in the Second Quarter of 1968 compared with the Second Quarter of 1967 and with the exception of the Drink and Tobacco Industry all industries anticipate the trend of higher home sales to continue in the coming quarter. Textiles, Clothing and Footwear, Paper and Printing, Chemicals, Glass Clay and Cement and Metals and Engineering reported higher exports in the quarter while exports from the Food, Drink and Tobacco, Wood and Furniture and "Other Manufacturing" Industry Groups did not increase significantly. No industry reported lower exports in the Quarter. Drink and Tobacco, Textiles, Clothing and Footwear, Paper and Printing, Chemicals, Glass Clay and Cement, Metals and Engineering and "Other Manufacturing" expect exports in the coming Quarter to be higher than in the Third Quarter of 1967, while Food and Wood and Furniture Industry Groups anticipate no significant change in exports in the coming quarter. No industry expects that exports will be lower in the Quarter. With the exception of Clothing and Footwear, Wood and Furniture, Glass Clay and Cement and Metals and Engineering, which reported higher Employment in the Quarter no other industry experienced a rise in Employment. Food, Drink and Tobacco, Textiles and Chemicals reported that Employment remained at the same level as in the Second Quarter of 1967 while Paper and Printing and "Other Manufacturing" experienced a drop in Employment during the Quarter compared with the corresponding Quarter of 1967. For the coming Quarter Textiles, Clothing and Footwear, Wood and Furniture, Glass, Clay and Cement and Metals and Engineering expect Employment to increase while Food, Drink and Tobacco, Paper and Printing, and Chemicals anticipate no significant change in Employment. "Other Manufacturing", however, expects Employment to drop in the coming Quarter.

While the majority of respondents in the Clothing and Footwear, Wood and Furniture, Glass Clay and Cement and "Other Manufacturing" Industry Groups did not feel that they could produce more with existing capacity, all other industries felt that more orders could have been met. The increase in the proportion of respondents in the Glass Clay and Cement Industry Group which felt that more could not be produced with present resources was particularly striking. Firms whose financial year ended in the June Quarter of 1968 reported on investment as follows: Food, Textiles, Wood and Furniture, Paper and Printing reported that investment had increased in the last year while Clothing and Footwear, Glass Clay and Cement and "Other Manufacturing" Industry Groups reported no significant change. Metals and Engineering did, however, experience a drop in investment during the year.

In the coming year Clothing and Footwear, Wood and Furniture, Metals and Engineering and "Other Manufacturing" Industry Groups anticipate that this type of expenditure will rise while Textiles and Glass Clay and Cement expect no change in investment. Food and Paper and Printing, do, however, expect investment in the coming year to be lower than that in the year just ended.

Table 5.1 **INDUSTRY GROUP – ALL MANUFACTURING**

IN 2ND QUARTER 1968

COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
80	8	12	Higher
77	13	10	Higher
53	16	31	Higher
35	38	27	Same

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive Adequate Insufficient			
5	75	20	Adequate
5	85	10	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

	<u>Yes</u>	66	Yes
	<u>No</u>	34	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	42	Insuff- icient Capacity
" Skilled Labour	17	
" Unskilled Labour	10	
" Raw Material Supply	20	
" Cash and/or Credit	5	
Any Other Reason	6	

IN 3RD QUARTER 1968 COMPARED

WITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
71	26	3	Higher
55	17	28	Higher
38	40	22	Same

FOR FIRMS WHOSE FINANCIAL YEAR

ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
40	25	35	Same
50	18	32	Same

Table 5.2

INDUSTRY GROUP — FOOD

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
74	17	9	Higher
66	30	4	Higher
53	7	40	Same
25	50	25	Same

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
8	70	22	
7	70	23	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

Yes	82	Yes
No	18	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	38	Insuff- icient Raw Material Supply
" Skilled Labour	—	
" Unskilled Labour	—	
" Raw Material Supply	53	
" Cash and/or Credit	9	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPARED
WITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
73	24	3	
42	17	41	Higher
31	44	25	Same

FOR FIRMS WHOSE FINANCIAL YEAR
ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
61	—	39	
33	—	67	Higher

Table 5.3

INDUSTRY GROUP – DRINK & TOBACCO

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
74	5	21	Higher
78	—	22	Higher
7	93	—	Same
4	74	22	Same

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
—	100	—	
—	100	—	Adequate
			Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

	Yes	86	Yes
	No	14	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	100	Insufficient Capacity
" Skilled Labour	—	
" Unskilled Labour	—	
" Raw Material Supply	—	
" Cash and/or Credit	—	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
18	82	—	
93	7	—	Same
4	74	22	Higher
			Same

FOR FIRMS WHOSE FINANCIAL YEARENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
—	—	—	
—	—	—	

Table 5.4

INDUSTRY GROUP — TEXTILES

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
74	11	15	Higher
67	11	22	Higher
71	12	17	Higher
31	36	33	Same

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
19	63	18	Adequate
4	95	1	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

	Yes	55	Yes
	No	45	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	60	Insufficient Capacity
" Skilled Labour	34	
" Unskilled Labour	1	
" Raw Material Supply	4	
" Cash and/or Credit	1	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPARED
WITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
71	17	12	Higher
73	21	6	Higher
40	45	15	Higher

FOR FIRMS WHOSE FINANCIAL YEAR
ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
27	73	—	Higher
42	4	54	Same

Table 5.5

INDUSTRY GROUP — CLOTHING & FOOTWEAR

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
84	2	14	Higher
69	17	14	Higher
70	5	25	Higher
55	27	18	Higher

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
2	86	12	Adequate
7	91	2	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

<u>Yes</u>	32	No
<u>No</u>	68	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	16	Insufficient Skilled Labour
" Skilled Labour	53	
" Unskilled Labour	3	
" Raw Material Supply	6	
" Cash and/or Credit	6	
Any Other Reason	16	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
75	19	6	Higher
87	4	9	Higher
52	30	18	Higher

FOR FIRMS WHOSE FINANCIAL YEARENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
49	5	46	Same
91	9	—	Higher

Table 5.6

INDUSTRY GROUP — WOOD & FURNITURE

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
81	5	14	Higher
81	—	19	Higher
13	74	13	Same
46	44	10	Higher

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive Adequate Insufficient			
9	68	23	Adequate
14	82	4	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

	<u>Yes</u>	47	No
	<u>No</u>	53	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	25	Insufficient Raw Material Supply
" Skilled Labour	6	
" Unskilled Labour	—	
" Raw Material Supply	50	
" Cash and/or Credit	16	
Any Other Reason	3	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
63	33	4	Higher
11	89	—	Same
37	54	9	Higher

FOR FIRMS WHOSE FINANCIAL YEARENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
100	—	—	Higher
100	—	—	Higher

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
68	8	24	Higher
73	8	19	Higher
64	31	5	Higher
6	44	50	Lower

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
—	81	19	
8	87	5	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

<u>Yes</u>	100	Yes
<u>No</u>	—	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	—	
" Skilled Labour	—	
" Unskilled Labour	—	
" Raw Material Supply	—	
" Cash and/or Credit	—	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
84	16	—	
74	21	5	
8	68	24	Same

FOR FIRMS WHOSE FINANCIAL YEARENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
60	—	40	
—	—	100	Lower

Table 5.8

INDUSTRY GROUP – CHEMICALS

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
92	5	3	Higher
100	—	—	Higher
70	30	—	Higher
31	26	43	Same

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive Adequate Insufficient			
Excessive	Adequate	Insufficient	
—	87	18	Adequate
—	95	5	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

<u>Yes</u>	85	Yes
<u>No</u>	15	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	50	Insufficient Capacity and Insufficient Skilled Labour
" Skilled Labour	50	
" Unskilled Labour	—	
" Raw Material Supply	—	
" Cash and/or Credit	—	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	Higher Higher Same
90	10	—	
56	30	14	
31	26	43	

FOR FIRMS WHOSE FINANCIAL YEAR ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
—	—	—	
—	—	—	

Table 5.9

INDUSTRY GROUP — GLASS CLAY & CEMENT

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
100	—	—	Higher
92	8	—	Higher
92	—	8	Higher
67	23	10	Higher

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
—	32	68	
—	100	—	Insufficient Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

<u>Yes</u>	6	No
<u>No</u>	94	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	64	Insufficient Capacity
" Skilled Labour	9	
" Unskilled Labour	—	
" Raw Material Supply	—	
" Cash and/or Credit	—	
Any Other Reason	25	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
92	8	—	
52	18	30	Higher
59	31	10	Higher

FOR FIRMS WHOSE FINANCIAL YEARENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
56	—	44	
56	—	44	Same

Table 5.10 INDUSTRY GROUP — METALS & ENGINEERING

IN 2ND QUARTER 1968

COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
91	4	5	Higher
82	14	4	Higher
56	14	30	Higher
74	17	9	Higher

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive Adequate Insufficient			
Excessive	Adequate	Insufficient	
4	83	13	Adequate
4	83	13	Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

		Yes
<u>Yes</u>	60	
No	40	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	7	Insuff- icient Unskilled Labour
" Skilled Labour	10	
" Unskilled Labour	39	
" Raw Material Supply	36	
" Cash and/or Credit	8	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPARED

WITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	Higher Higher Higher
78	22	—	
50	20	30	
80	15	5	Higher

FOR FIRMS WHOSE FINANCIAL YEAR

ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	Lower
—	38	62	
35	65	—	Higher

Table 5.11

INDUSTRY GROUP — OTHER MANUFACTURING

IN 2ND QUARTER 1968COMPARED WITH 2ND QUARTER 1967

1. Value of Total Production was
2. Value of Home Sales was
3. Value of Exports was
4. Wage Paid Labour Force was

WEIGHTED REPLIES (%)			APPARENT TREND
Higher	Same	Lower	
84	—	16	Higher
100	—	—	Higher
43	13	44	Same
14	16	70	Lower

AT END JUNE 1968

5. Stocks of Finished Products are considered to be
6. Stocks of Materials are considered to be

Excessive	Adequate	Insufficient	
—	86	14	
—	86	14	Adequate
			Adequate

DURING 2ND QUARTER 1968

7. Could more be produced with present resources

	Yes	47	No
	No	53	

- 7a. Where firms replied No, the causes responsible were

Insufficient Capacity	100	Insuff- icient Capacity
" Skilled Labour	—	
" Unskilled Labour	—	
" Raw Material Supply	—	
" Cash and/or Credit	—	
Any Other Reason	—	

IN 3RD QUARTER 1968 COMPAREDWITH 3RD QUARTER 1967

8. Value of Home Sales will be
9. Value of Exports will be
10. Wage Paid Labour Force will be

Higher	Same	Lower	
84	—	16	
75	12	13	Higher
29	16	55	Higher
			Lower

FOR FIRMS WHOSE FINANCIAL YEAR
ENDED DURING 2ND QUARTER 1968

11. Capital investment in past year compared with previous year was
12. Capital investment in coming year compared with last year will be

Higher	Same	Lower	
—	100	—	
100	—	—	Same
			Higher

SECTION 6

SEASONALLY CORRECTED QUARTERLY SERIES

Introductory Notes

Since 1965 The Economic and Social Research Institute has undertaken the seasonal correction of certain important economic series, and made the results available to those on a restricted circulation list. Henceforth it is intended to publish these seasonally corrected series as an integral part of "The Quarterly Economic Commentary", and they will be found in the following three tables.

Table 6.1 sets out the actual data to the latest date available. The selected series have been taken from the Central Statistics Office' "Economic Series" and "Quarterly Industrial Inquiry", published in the Irish Statistical Bulletin, and from the Central Bank of Ireland's "Quarterly Bulletin", with the latest figures in each case being available in the form of stencilled supplements. Two of the series are derived from other series in the table, Series 3 from Series 2 and 7 and Series 20 from Series 19 and 12.

Table 6.2 shows the seasonally corrected figures for the 23 out of the 34 series in Table 6.1 which analysis of variance has shown to be subject to significant seasonal fluctuations. The method used for their derivation is set out in "Seasonality in Irish Economic Statistics" by C.E.V. Leser (E.R.I. Paper No.26). The correction factors for the current year are derived from the data for the preceding five year period. Thus the factors by which the 1968 original data must be divided (the result being multiplied by either 400 or 100) to arrive at the seasonally corrected series are based on the period 1963-1967, and are as follows:

Series No.	Quarter			
	I	II	III	IV
1	97.1	100.8	97.3	104.8
2	95.8	102.5	98.9	102.8
5	118.9	87.7	80.2	113.2
6	113.2	90.9	98.6	97.3
7	99.1	99.7	100.7	100.5
8	127.1	92.8	76.5	103.6
9	117.9	100.4	85.0	96.7
13	101.7	101.5	97.6	99.2
19	98.6	100.8	100.4	100.2
21	91.3	99.6	102.7	106.4
22	111.8	120.4	100.3	67.5
23	134.1	89.3	91.8	84.8
24	111.6	95.6	92.4	100.4
25	101.5	103.9	93.8	100.8
26	97.0	94.6	106.6	101.8
30	99.1	98.4	99.9	102.6
31	101.6	102.8	94.2	101.4
34	101.8	98.7	98.7	100.8

A further 5 series, Nos. 3, 20, 27, 28 and 29 are indirectly corrected through their relationship to other seasonally corrected or seasonality free series. No regular seasonal pattern is observed in the remaining series, Nos. 4, 19, 11, 12, 14, 15, 16, 17, 18, 32 and 33, and consequently no correction is necessary.

The figures in Table 6.2 make it possible to interpret and compare changes between consecutive quarters, where otherwise comparisons would have to be confined to the corresponding quarter of the previous year or average of years. Whilst it is possible that in isolated cases, where the seasonal pattern is changing, the correction can in itself impart some instability to the trend, in general the corrected series can be used with a fair degree of confidence in drawing inferences as to short-term trends.

Table 6.3 shows all the corrected series, and three of the more important seasonality-free series, converted to the form of index numbers with 1961 = 100, and covering a longer period than the other two tables. The purpose is to facilitate comparison between trends in the different series. To the same end, the information given in Table 6.3 is shown in chart form in the following pages (Section 7). As a

common scale is kept throughout the Section, it can readily be seen how far the trends of different series have diverged from each other over the past few years.

A few points regarding specific series need to be borne in mind to avoid possibly misleading conclusions being drawn. Due to changes in definition in recent years, both of the series (Nos. 8 and 9) dealing with Unemployment need to be treated with great caution. The apparent trend reflects these changes, and should not be interpreted as indicating genuine movements in the level of unemployment.

Due to the bank dispute of 1966, only average figures for the period from April to October of that year are available for Series 23, 24 and 31. These averages have been distributed between the quarters of 1966 according to the average monthly pattern observed in the period 1962–1965 and in 1967. The resulting figures are shown in the tables and used in calculating the seasonal correction factors for 1968. Naturally the figures for the period affected by the dispute must therefore be treated with some reserve, but it is felt that the seasonal corrections based in part on these figures are reliable.

Also due to the same dispute, no figures at all are available during the period for Series 30 and 34. Figures for the period were calculated by intrapolation according to the normal seasonal pattern from the known values on either side of the stoppage. Whilst it is felt justifiable to use these figures for subsequent seasonal correction, it is felt that they are not sufficiently reliable to show separately in the tables.

The U.K. seamen's strike of 1966 distorted the normal pattern of trade. While the actual figures are shown in the tables, their inclusion in calculation of subsequent seasonal correction factors could be misleading. Accordingly an alternative set of figures was calculated for Series 25 and 26 by distributing the aggregate figures for the last three quarters of 1966 according to the normal quarterly pattern, with the results for imports being further modified to take account of divergences from normal in the seasonal pattern of industrial production and retail sales in the course of 1966. These alternative figures have been used in calculating the seasonal correction factors for 1968, and are also shown as points joined by dotted lines on the appropriate charts.

TABLE 6.1 SELECTED

No.	Series	Unit	1966		
			I	II	III
	PRODUCTION				
1	Manuf. Industry: Production Volume	1953=100	165.2	170.0	174.9
2	Tr. Goods Industries: Production Volume	1953=100	168.4	178.9	186.7
3	Tr. Goods Industries: Prod. per Worker	1953=100	138.9	147.4	149.6
4	New Houses Built	No.	2,228	2,560	2,135
5	Electricity Output	Mill.Kw.h.	1,068.8	812.4	753.8
	MANPOWER				
6	Sales of Insurance Stamps	'000	7,633	5,884	6,806
7	No. in Tr. Goods Industries	'000	182.6	182.8	187.9
8	Benefit Claims Current	'000	37.8	29.7	23.4
9	Live Register as Prop. of Insured	%	6.9	6.3	5.2
10	Net Passengers Outward — Sea and Air (Moving Annual Total)	'000	29.4	36.7	30.8
	PRICES				
11	Wholesale	1953=100	133.0	135.7	134.3
12	Consumer	1953=100	144.9	147.6	150.0
13	Agricultural	1953=100	117.2	119.1	112.6
14	Import (Unit Value)	1953=100	114.1	115.1	113.6
15	Export (Unit Value)	1953=100	111.7	114.8	113.7
16	Terms of Trade	1953=100	97.9	99.8	100.1
17	Stocks and Shares — Ordinary	1953=100	306.2	303.9	294.2
	WAGES, EARNINGS				
18	Agricultural Minimum Wages	shs.	160.8	164.2	173.5
19	Tr. Goods Inds: av. Weekly Money Earnings	1953=100	193.9	206.2	215.9
20	av. Weekly Real Earnings	1953=100	133.8	139.7	143.9
	CONSUMPTION				
21	Retail Sales	1961=100	120	130	142
22	New Cars Registered	No.	12,410	9,840	11,165
	GOVERNMENT				
23	Revenue Receipts (weekly av.)	£'000	6,295	4,379 (a)	4,681 (a)
24	Exchequer Expenditure (weekly av.)	£'000	6,027	5,130 (a)	5,020 (a)
	EXTERNAL TRADE				
25	Import Value	£ Mill.	90.42	85.65	97.00
26	Export Value	£ Mill.	57.34	50.87	66.09
27	Import Excess Value	£ Mill.	33.08	34.63	31.28
28	Import Volume	1953=100	171.1	160.5	184.2
29	Export Volume	1953=100	179.1	154.8	201.4
	BANKING, FINANCE				
30	Money Supply (Unadjusted)	£ Mill.	318.2	(b)	(b)
31	Bank debits - non govt. (daily av.)	£ Mill.	17.98	17.22 (a)	16.49 (a)
32	Bills, Loans, Advances (within state)	£ Mill.	320.2	(b)	(b)
33	Investments (within state)	£ Mill.	32.3	(b)	(b)
34	External Assets - Bank system & Dep. Funds	£ Mill.	232.8	(b)	(b)

Notes a. Average figures April–October 1966 allocated according to normal seasonal pattern.

b. Figures unavailable due to bank dispute.

QUARTERLY ECONOMIC SERIES

	1967				1968			
IV	I	II	III	IV	I	II	III	IV
188.5 194.2 155.7 2,520 1,124.9	178.6 185.1 150.9 3,015 1,164.4	190.9 205.3 165.4 2,817 933.4	182.4 194.3 154.9 2,640 846.7	202.4 208.9 166.2 3,063 1,216.4	194.6 201.4 163.5 2,897 1,265.4	2,777 1,017.9		
6,707 187.8 33.2 6.0 26.3	7,511 184.2 40.2 7.7 13.5	← 13,323 → 186.7 29.1 6.5 10.2	188.6 24.8 6.0 20.5	6,567 189.0 32.5 6.6 49.1	7,598 185.5 40.5 7.7 38.2	34.6 6.8		
134.0 150.4 114.2 114.3 110.8 96.9 275.9	136.3 150.6 118.8 113.4 114.3 100.8 272.2	138.4 153.2 118.9 113.2 114.2 100.9 284.6	137.0 153.3 114.9 112.6 112.6 99.9 300.4	139.0 154.3 124.1 113.0 114.4 101.3 320.9	143.6 157.5 132.2 120.5 121.0 100.5 357.6	160.0 131.1 410.6		
180.5 219.8 146.1	180.5 217.6 144.5	180.5 222.1 145.0	180.5 224.0 146.1	180.5 231.6 150.1	180.5 230.2 146.2	195.75		
147 5,949	127 10,369	138 12,476	144 9,281	153 7,346	135 13,240	151 14,983		
4,709 (a) 6,353 (a)	7,159 6,394	5,349 5,714	5,407 6,306	5,025 6,670	7,544 7,247	5,691 6,716		
99.81 68.86 30.96 188.2 217.0	100.31 64.37 35.94 190.8 196.7	98.47 67.27 31.20 187.6 205.6	92.91 76.38 16.53 177.9 236.9	98.92 75.43 23.49 188.8 230.5	115.30 74.53 40.77 206.5 214.9	124.1 80.1 44.0		
351.0 19.26 (a) 339.3 51.8 244.4	339.4 20.21 339.5 49.6 254.4	339.5 22.36 335.1 49.0 262.0	357.5 20.22 346.4 48.3 275.6	372.9 22.19 363.6 47.5 291.2	373.1 21.90 379.0 49.2 284.3	370.3 22.36 394.0 49.2 250.1		

TABLE 6.2. SELECTED QUARTERLY

No.	Series	Unit	1966		
			I	II	III
5	Electricity output	Mill.Kw.h.	3,545	3,731	3,741
6	Sales of insurance stamps	'000	26,424	25,751	27,922
22	New cars registered	No.	46,048	31,816	46,715
25	Value of imports	£ Mill.	358.5	328.8	415.9
27	Value of exports	£ Mill.	236.7	218.6	247.1
29	Import excess	£ Mill.	121.8	110.2	168.8
7	Employment. Tr. Goods Inds.	'000	184.1	183.0	187.0
8	Benefit claims current	'000	29.3	31.8	30.7
9	Live register prop. of insured	%	5.8	6.3	6.2
23	Weekly revenue receipts	£'000	4,598	5,028(a)	5,150(a)
24	Weekly exchequer expenditure	£'000	5,278	5,278(a)	5,510(a)
30	Money supply	£ Mill.	320.4	(b)	(b)
31	Daily bank debits — non-govt.	£ Mill.	17.7	17.0(a)	17.2(a)
34	External assets	£ Mill.	229.8	(b)	(b)
1	Prod. Volume — manuf. inds.	1953=100	170.1	168.7	179.8
2	Prod. Volume — tr. goods inds.	"	175.6	172.7	190.5
3	Production per worker	"	143.7	142.1	153.4
13	Agricultural prices	"	115.2	118.0	114.9
19	Money Earnings — tr. goods inds.	"	195.9	204.8	216.3
20	Real Earnings — tr. goods inds.	"	135.2	138.7	144.2
28	Volume of imports	"	169.6	154.0	200.3
29	Volume of exports	"	184.8	166.3	193.6
21	Retail Sales	1961=100	130.4	130.4	139.8

See Notes to Table 6.1

S E R I E S C O R R E C T E D F O R S E A S O N A L I T Y

	1967				1968			
IV	I	II	III	IV	I	II	III	IV
Equivalent Annual Aggregates								
4,000	3,878	4,282	4,223	4,325	4,257	4,643		
27,917	26,080	28,242	28,242	27,334	26,848			
34,587	34,592	41,866	37,087	42,709	47,370	49,777		
393.0	397.7	378.0	398.3	389.5	454.4	477.3		
267.4	265.7	289.0	285.5	292.9	307.3	338.7		
125.5	132.0	89.0	112.8	96.6	147.1	138.6		
Average Value During Quarter								
187.1	185.7	187.3	187.3	188.2	187.2			
32.7	31.1	31.1	32.8	32.0	31.8	37.3		
6.3	6.5	6.4	7.1	6.9	6.5	6.8		
5,533(a)	5,229	6,141	5,948	5,905	5,625	6,373		
6,516(a)	5,599	5,879	6,922	6,841	6,494	7,025		
342.0	341.8	343.3	360.7	363.1	376.4	376.3		
19.1(a)	19.9	22.1	21.1	21.9	21.6	21.8		
240.0	251.1	266.0	280.7	285.5	279.3	253.4		
Index Numbers 1953 = 100								
179.8	183.9	189.4	187.5	193.1	200.4			
189.5	193.6	200.1	196.7	202.8	210.2			
152.6	157.0	160.9	158.1	162.2	169.1			
114.9	117.3	117.4	117.0	125.1	129.9	129.2		
218.7	221.1	220.3	222.7	231.1	233.5			
145.4	146.8	143.8	145.3	149.8	148.3			
185.2	189.1	180.0	190.7	185.8	203.4			
210.7	203.0	220.8	221.4	223.8	221.5			
Index Numbers 1961 = 100								
138.7	139.3	138.1	140.9	143.6	147.9	151.3		

TABLE 6.3. SEASONALLY CORRECTED

No.	Series	1 9 6 3				1 9 6 4				I
		I	II	III	IV	I	II	III	IV	
	<u>PRODUCTION</u>									
1	Manuf. Ind. Prod. Vol.	107.4	108.4	112.3	115.4	117.2	120.7	120.3	121.1	123.8
2	Tr. Goods Inds.Prod. Vol.	108.0	108.4	114.9	117.4	118.9	119.8	121.8	123.0	121.9
3	Tr. Goods Inds. Prod. per Head	103.9	104.0	107.8	109.7	109.7	110.1	111.6	113.3	112.3
5	Electricity Output	122.1	120.1	120.0	121.3	125.6	132.2	130.3	136.9	143.8
	<u>MANPOWER</u>									
6	Sales of Insurance Stamps	107.8	101.9	99.6	103.6	106.0	109.7	104.5	108.0	100.6
7	No. in Tr. Goods Inds.	104.0	104.3	106.8	107.7	108.5	108.9	109.2	108.7	108.7
8	Benefit Claims	113.5	108.2	103.3	105.7	102.2	103.0	106.9	103.2	101.4
9	Live Register / Insured	110.4	106.2	103.5	101.7	98.1	100.0	100.2	105.2	96.3
	<u>PRICES</u>									
11	Wholesale (not corrected)	103.9	104.4	104.4	104.7	107.6	110.9	111.6	112.1	113.9
12	Consumer (not corrected)	106.2	105.9	105.8	109.1	109.6	113.9	115.4	116.6	117.9
13	Agricultural	100.3	101.1	103.7	103.7	106.2	111.5	116.7	117.8	118.6
	<u>EARNINGS</u>									
19	Tr. Goods Inds. Money Earnings	111.1	113.5	115.5	115.7	124.1	129.9	129.5	128.5	129.3
20	Real Earnings	104.5	107.2	109.1	106.0	113.1	113.9	113.8	110.1	109.7
	<u>CONSUMPTION</u>									
21	Retail Sales	108.8	112.5	114.4	117.6	117.9	122.5	127.2	127.4	129.7
22	New Cars Registered	119.3	126.4	136.9	140.9	127.6	147.5	151.6	156.3	166.6
	<u>GOVERNMENT</u>									
23	Revenue Receipts	115.5	122.3	117.9	119.7	133.3	145.3	144.9	150.7	153.6
24	Exchequer Expenditure	115.2	122.3	123.8	128.2	132.2	142.5	157.3	152.5	164.7
	<u>EXTERNAL TRADE</u>									
25	Import Value	101.8	119.5	116.3	132.1	131.2	135.1	134.8	132.1	140.3
26	Export Value	97.9	113.6	110.9	111.0	126.6	127.4	121.2	119.1	112.9
27	Import Excess	110.4	132.6	128.1	178.9	141.3	152.0	164.9	160.9	201.4
28	Import Volume	103.1	120.8	116.6	131.9	130.2	133.6	132.9	129.8	137.4
29	Export Volume	97.1	111.8	108.7	108.2	120.6	116.3	110.3	109.7	102.6
	<u>BANKING, FINANCE</u>									
30	Money Supply	112.0	115.8	121.4	121.6	130.2	130.5	136.3	137.6	136.8
31	Bank Debits - Non-Govt.	114.8	120.9	123.9	127.0	140.2	135.2	137.2	144.3	143.3
32	Bills, Loans, Advances (not corrected)	114.8	117.1	123.5	125.0	128.3	134.1	139.4	143.9	145.9
34	External Assets	106.9	106.3	109.4	107.7	108.6	108.7	112.5	110.3	106.9

See Notes to Table 6.1

S E R I E S I N D E X N U M B E R S 1 9 6 1 = 1 0 0

1 9 6 5			1 9 6 6				1 9 6 7				1 9 6 8			
II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
126.6	125.4	127.0	125.1	124.0	132.2	132.3	135.2	139.3	137.9	142.0	147.4			
122.7	126.7	129.8	127.1	124.9	137.8	137.1	140.1	144.8	142.3	146.7	152.1			
112.7	115.8	119.1	116.1	114.8	123.9	123.3	126.7	129.7	127.5	130.9	132.1			
142.9	147.5	154.1	149.9	158.2	158.2	169.1	163.9	181.0	178.9	182.9	180.0	196.3		
110.1	101.2	110.7	104.5	101.8	110.5	110.4	103.2	111.7	111.7	109.7	109.0			
109.1	109.6	109.1	109.6	108.9	111.4	111.4	110.8	111.7	111.7	112.3	111.5			
100.5	105.9	116.5	111.9	121.7	117.3	125.0	118.8	118.8	125.3	122.3	121.7	142.5		
95.9	97.9	103.4	101.9	110.4	107.9	110.1	113.5	112.9	122.7	121.0	114.5	119.2		
115.7	114.7	114.4	115.9	118.3	117.1	116.8	118.8	120.7	119.4	121.2	125.2			
119.9	120.4	120.4	120.4	122.7	124.7	125.0	125.2	127.3	127.4	128.3	130.9	133.0		
118.6	116.6	115.7	115.2	118.0	114.9	114.9	117.3	117.4	117.0	125.1	129.9	129.2		
130.7	132.9	134.2	134.6	140.8	148.7	150.3	151.9	151.4	153.1	158.8	160.4			
108.8	110.3	111.5	111.7	114.6	119.2	120.2	121.3	118.8	120.1	123.8	122.6			
131.8	133.8	131.8	130.4	130.4	139.8	138.7	139.3	138.1	140.9	143.6	147.9	151.3		
158.6	155.9	110.2	161.2	111.4	163.6	121.1	121.1	146.6	129.8	149.5	165.9	174.3		
170.9	155.6	165.8	164.6	180.0(a)	184.4(a)	198.1(a)	187.2	219.9	212.9	211.4	201.4	228.2		
165.3	164.3	172.6	169.7	169.7(a)	177.3(a)	209.5(a)	180.1	189.1	222.6	220.0	208.9	225.9		
147.7	147.2	135.8	137.3	125.9	159.3	150.5	152.4	144.8	152.6	147.2	174.1	182.9		
115.2	133.5	132.5	131.4	121.4	137.2	148.5	147.6	160.5	158.6	162.7	170.6	188.1		
220.1	177.8	142.8	150.3	135.9	208.3	154.9	162.9	109.8	139.2	119.2	181.7	171.2		
143.3	143.0	131.9	133.3	121.1	157.5	145.6	148.7	141.5	149.9	146.1	159.9			
104.1	113.9	121.2	120.7	108.6	126.5	137.6	132.6	144.2	144.6	146.2	144.7			
141.0	142.9	142.6	145.7	(b)	(b)	155.5	155.4	156.1	163.9	165.1	171.1	171.1		
181.9	179.9	176.8	179.9	172.7(a)	174.8(a)	194.1(a)	202.3	224.6	214.5	222.6	219.0	221.5		
155.3	156.5	156.5	156.7	(b)	(b)	166.1	166.2	164.0	169.6	178.0	185.5	192.9		
100.5	100.2	103.0	107.4	(b)	(b)	112.1	117.3	124.2	131.1	133.4	130.5	118.3		

SECTION 7.

CHARTS OF ECONOMIC SERIES,

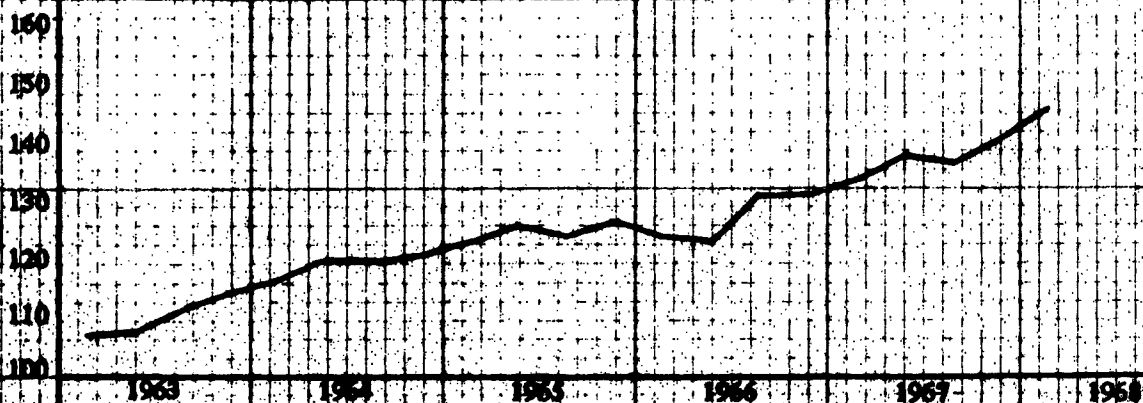
SEASONALLY CORRECTED

SERIES 1

MANUFACTURING INDUSTRY

PRODUCTION VOLUME

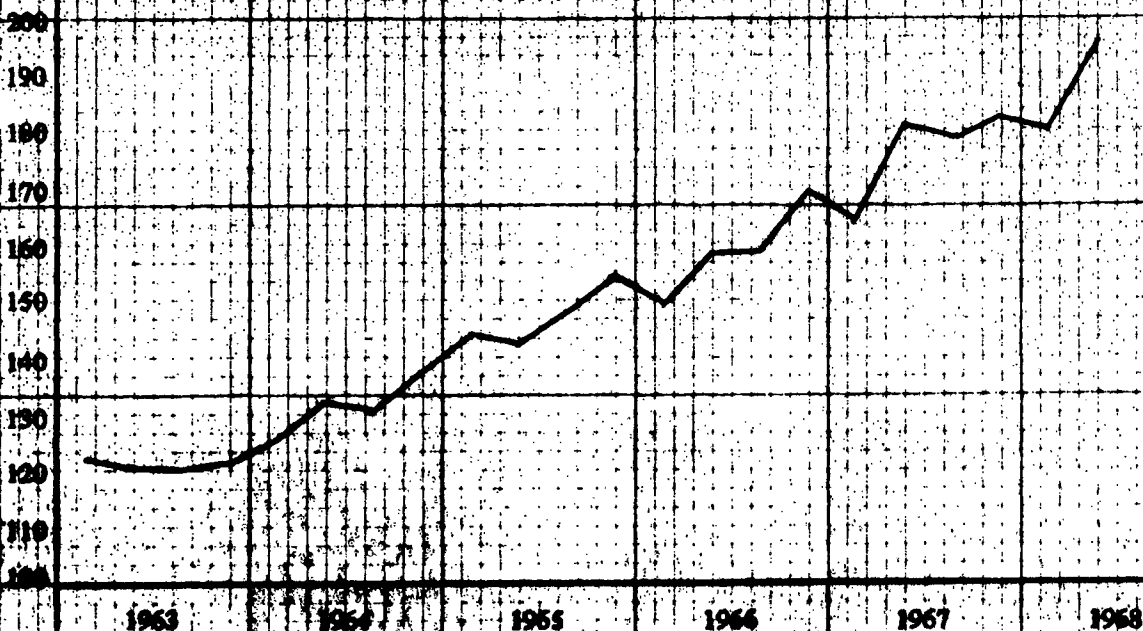
1961 = 100



SERIES 2

ELECTRICITY OUTPUT

1961 = 100



PRODUCTION

SERIES 2

TRANSPORTABLE GOODS INDUSTRIES
PRODUCTION VOLUME

1961 = 100

160
150
140
130
120
110
100

1963

1964

1965

1966

1967

1968

SERIES 3

TRANSPORTABLE GOODS INDUSTRIES
PRODUCTION PER WORKER

1961 = 100

140
130
120
110
100

1963

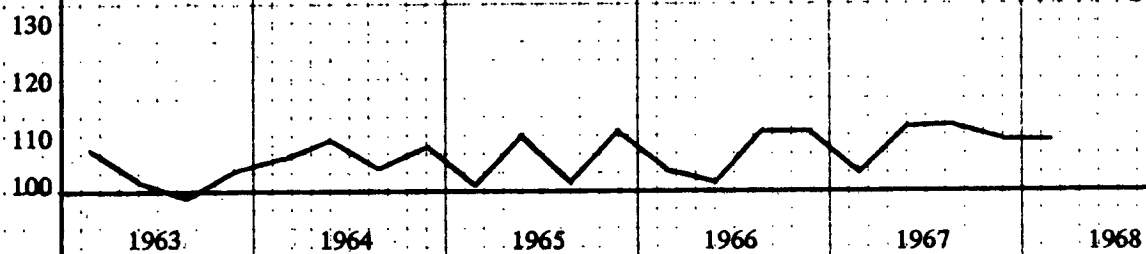
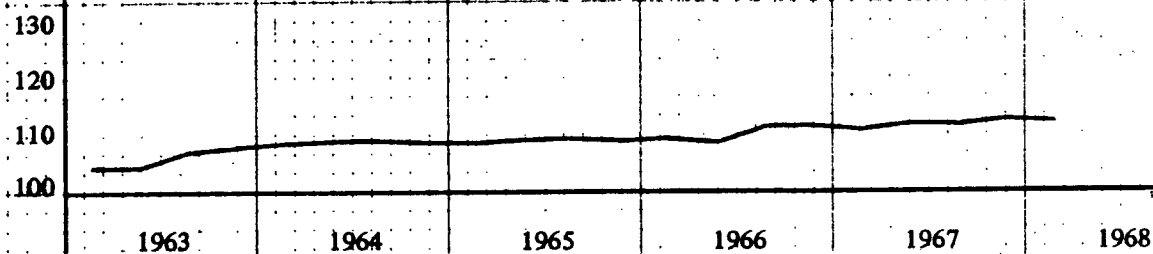
1964

1965

1966

1967

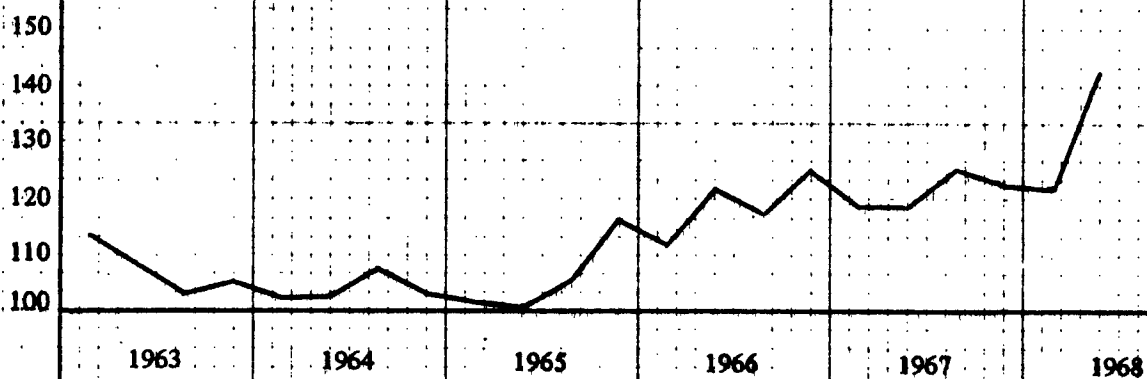
1968

SERIES 6SALES OF INSURANCE STAMPS1961 = 100SERIES 7NUMBERS EMPLOYED, TRANSPORTABLE GOODS INDUSTRIES1961 = 100

MANPOWER

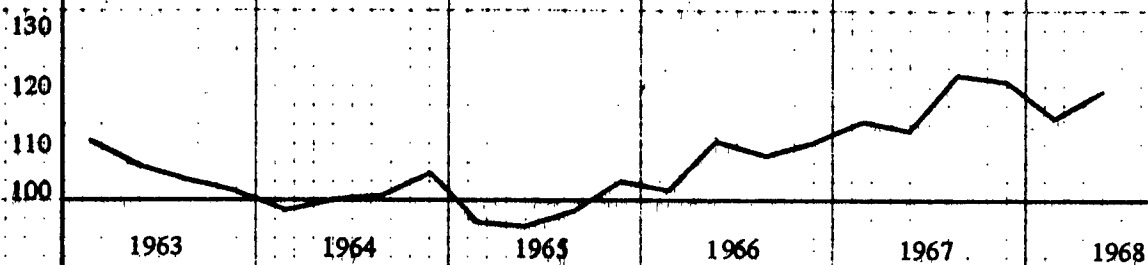
SERIES 8
BENEFIT CLAIMS CURRENT

1961 = 100



SERIES 9
LIVE REGISTER AS PROPORTION OF INSURED

1961 = 100

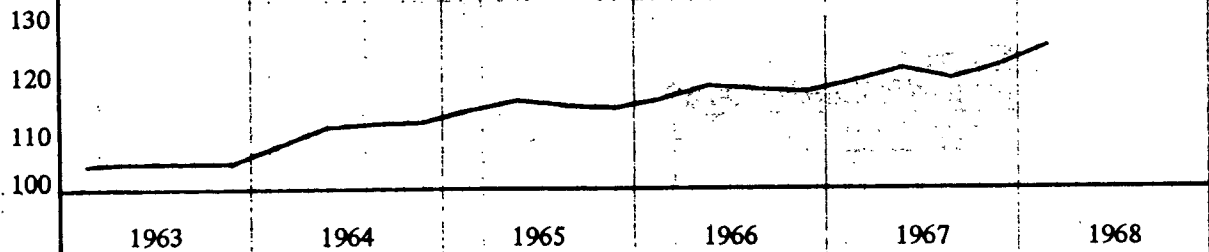


PRICES AND EARNINGS

SERIES 11

WHOLESALE PRICE INDEX

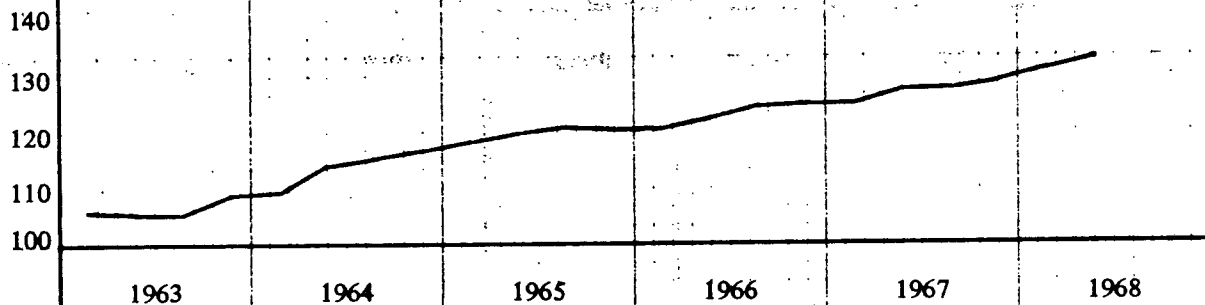
1961 = 100



SERIES 12

CONSUMER PRICE INDEX

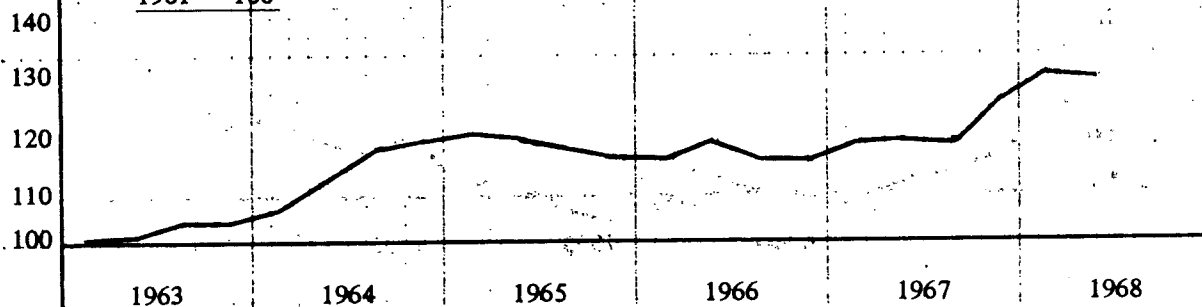
1961 = 100



SERIES 13

AGRICULTURAL PRICE INDEX

1961 = 100

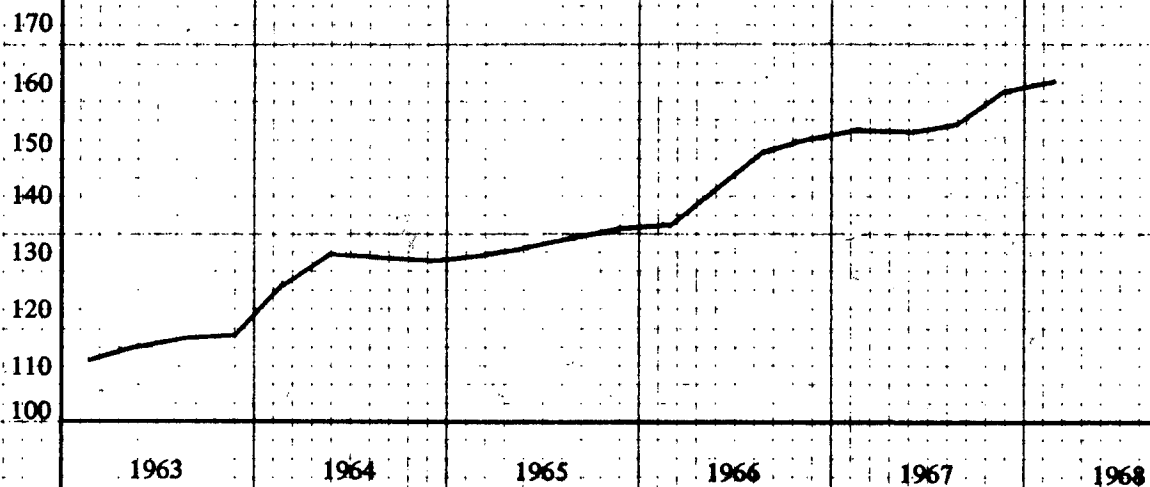


PRICES AND EARNINGS

SERIES 19

MONEY EARNINGS, TRANSPORTABLE GOODS INDUSTRIES

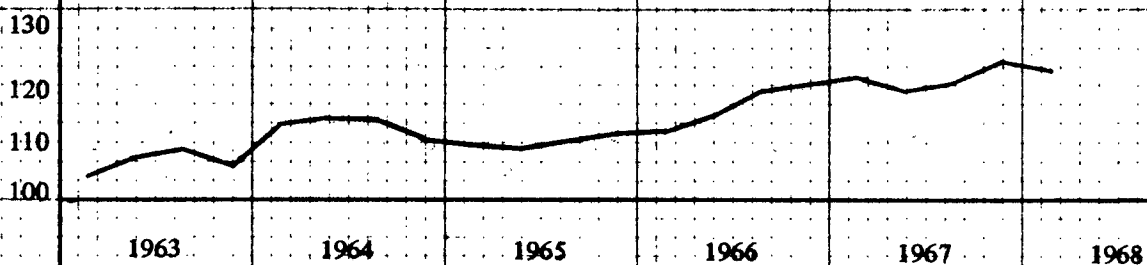
1961 = 100



SERIES 20

REAL EARNINGS, TRANSPORTABLE GOODS INDUSTRIES

1961 = 100

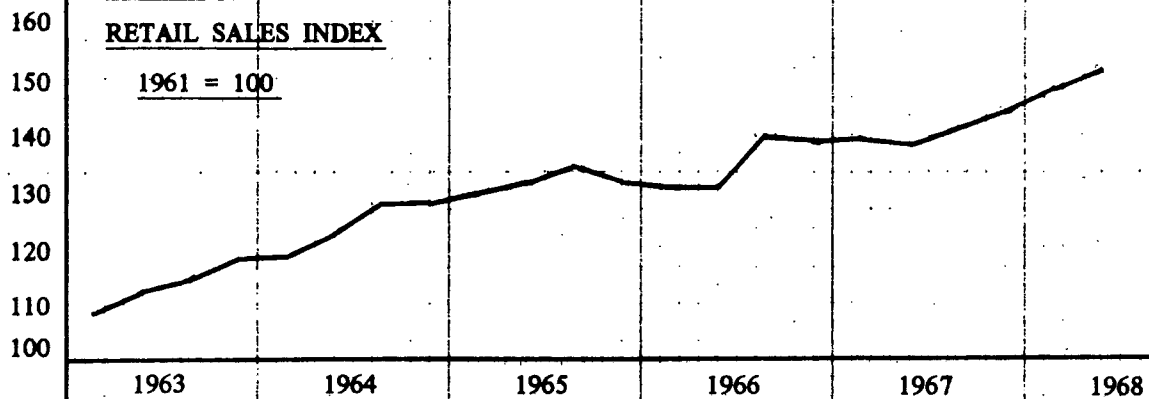


CONSUMPTION AND GOVERNMENT

SERIES 21

RETAIL SALES INDEX

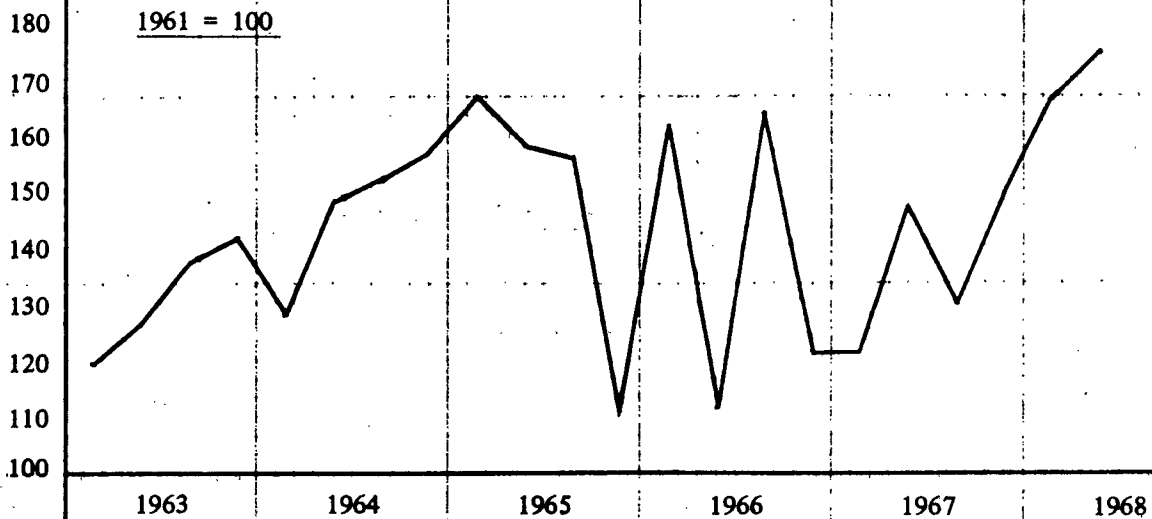
1961 = 100



SERIES 22

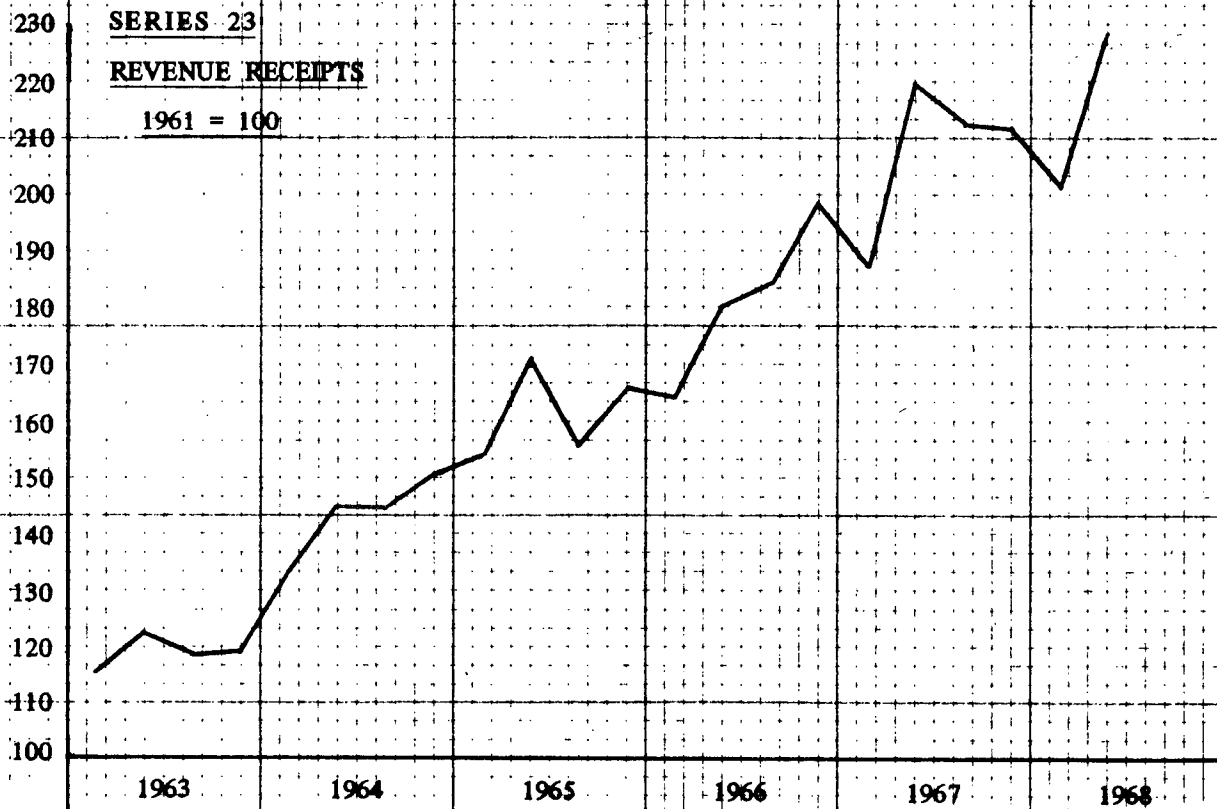
NEW CARS REGISTERED

1961 = 100

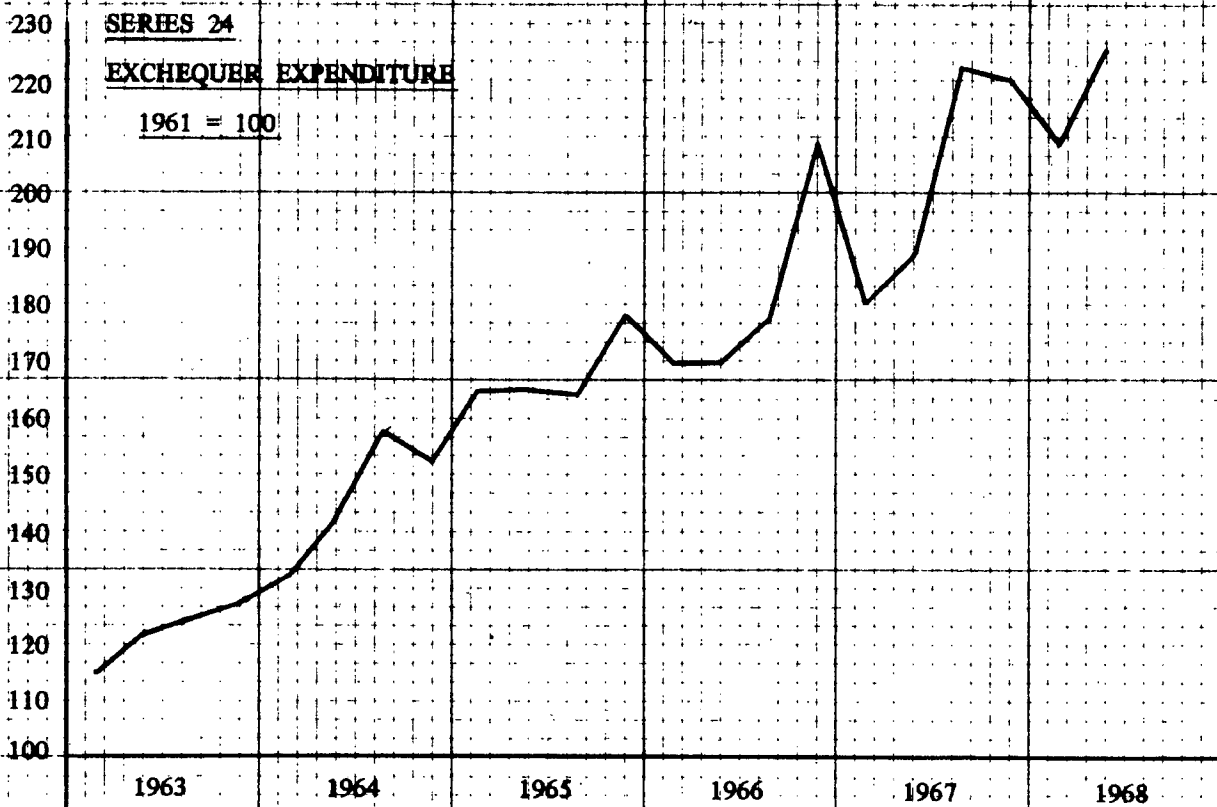


CONSUMPTION AND GOVERNMENT

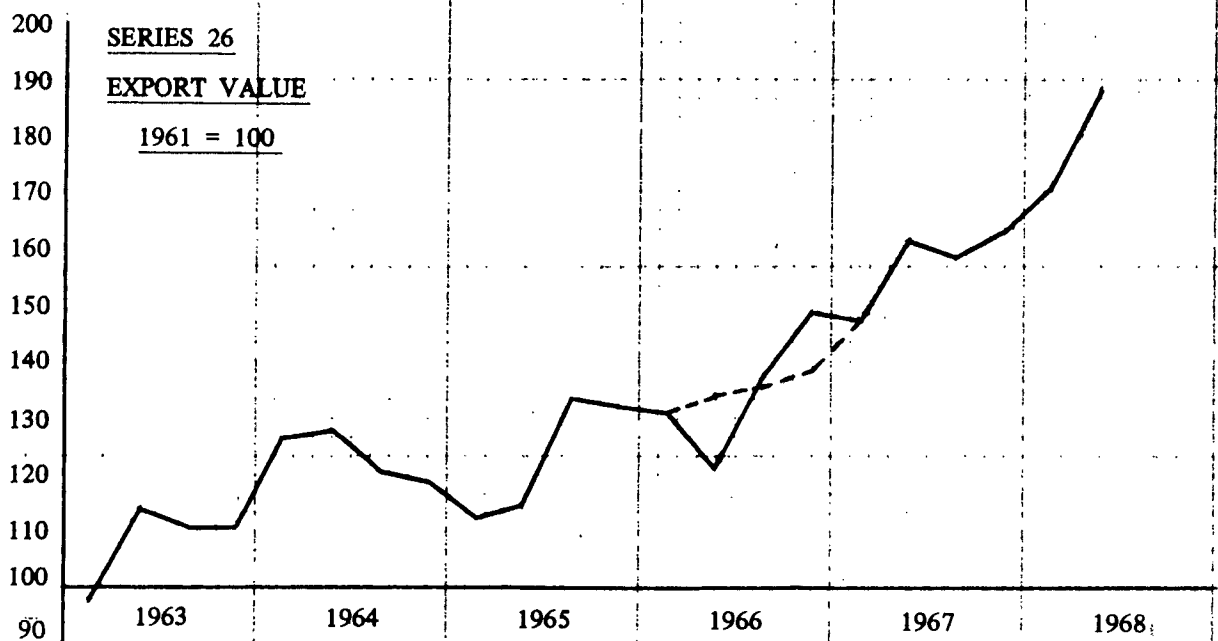
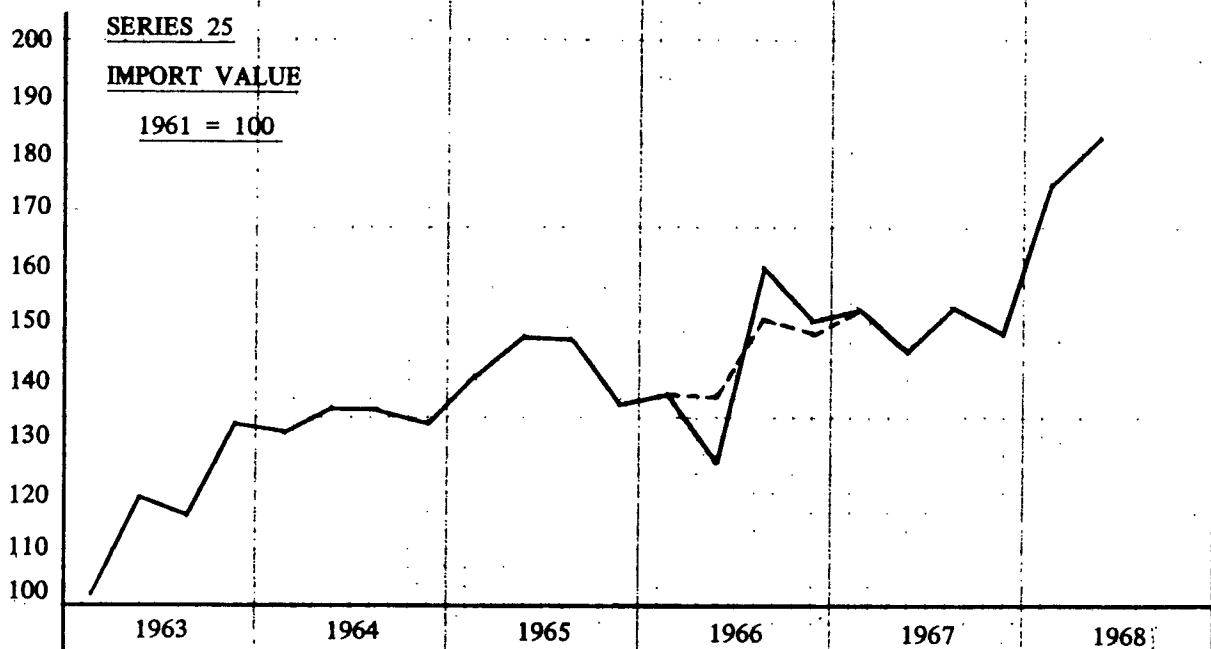
SERIES 23
REVENUE RECEIPTS
1961 = 100



SERIES 24
EXCHEQUER EXPENDITURE
1961 = 100

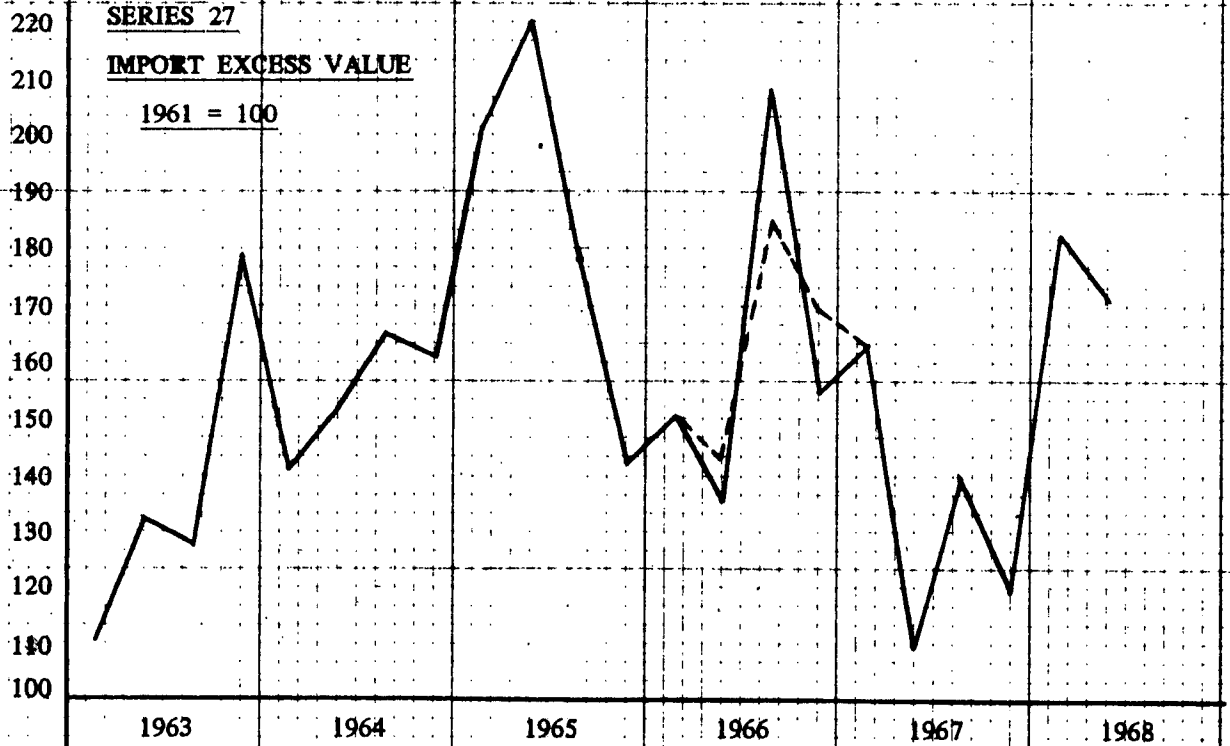


EXTERNAL TRADE

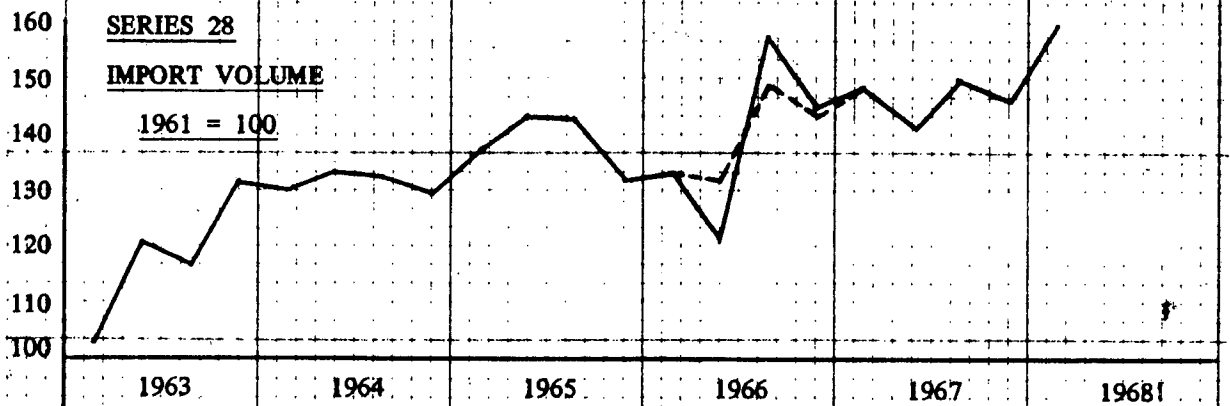


EXTERNAL TRADE

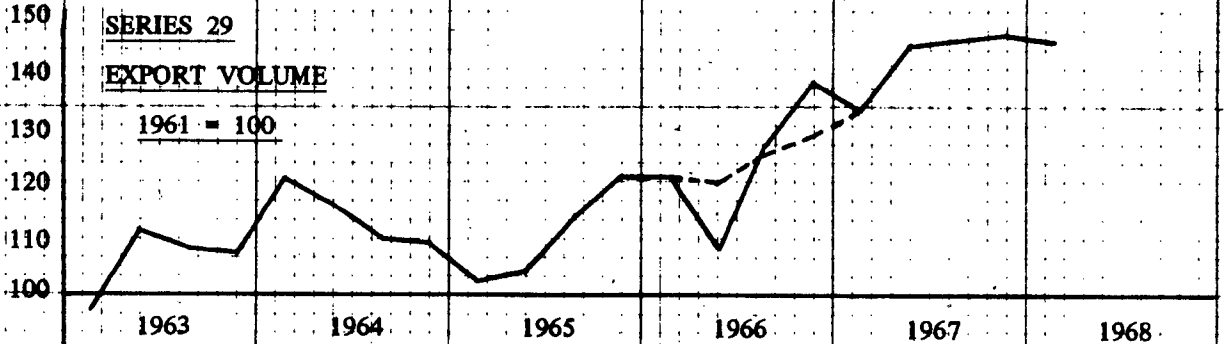
SERIES 27
IMPORT EXCESS VALUE
1961 = 100



SERIES 28
IMPORT VOLUME
1961 = 100



SERIES 29
EXPORT VOLUME
1961 = 100

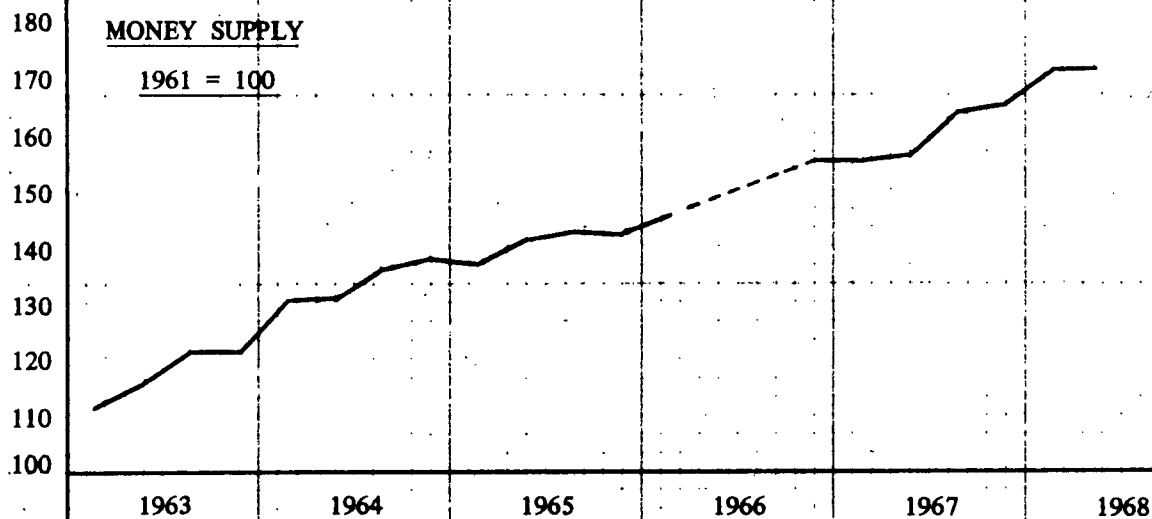


BANKING, FINANCE

SERIES 30

MONEY SUPPLY

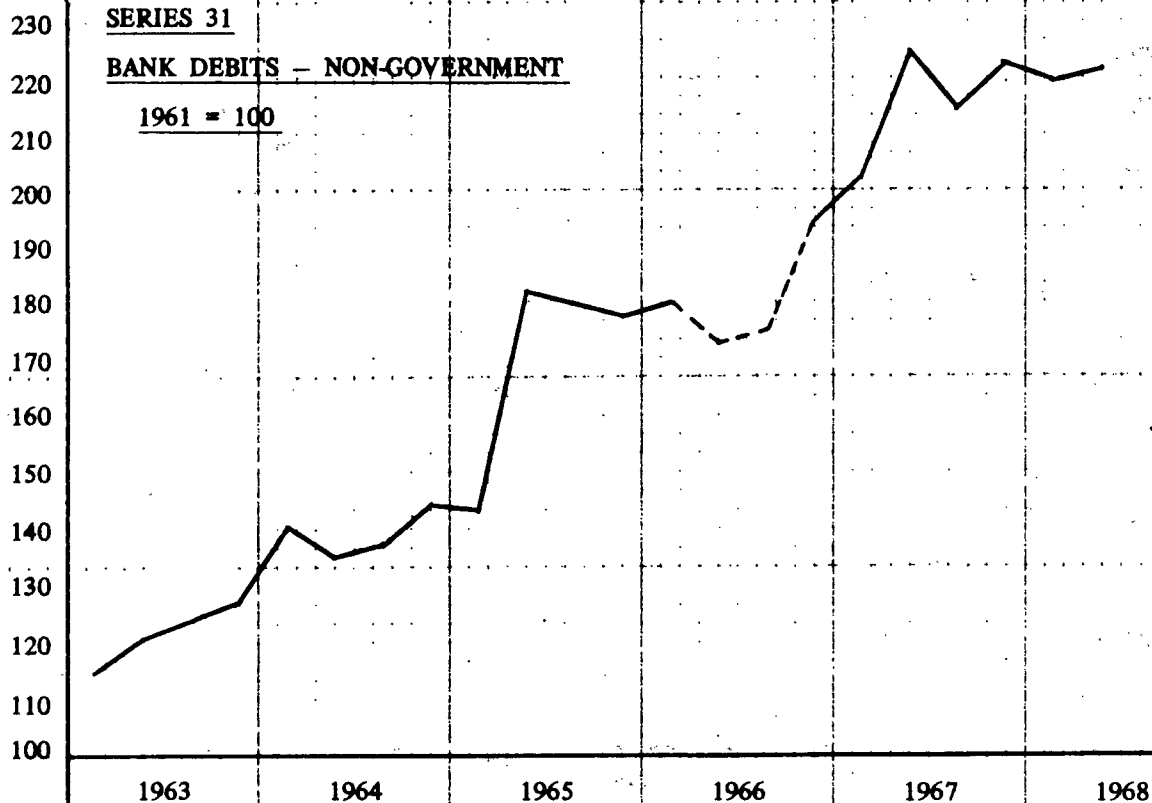
1961 = 100



SERIES 31

BANK DEBITS - NON-GOVERNMENT

1961 = 100



BANKING, FINANCE

