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by

T. J. BAKER, T. CALLAN,
S. SCOTT, D. MADDEN

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T. Baker is a Senior Research Officer, T. Callan and S. Scott are Assistant Research Officers and D. Madden is a Research Assistant of The Economic and Social Research Institute. The Commentary has been accepted for publication by the Institute, which is not responsible for either the content or the views expressed therein.

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SUMMARY

At first sight, 1983 has been another year of stagnation. There has been no growth in real GNP, and unemployment has risen by 23 per cent. In several ways, however, it has been a year of considerable progress. Both the inflation rate and the Current Budget deficit have been reduced, albeit by less than was previously hoped. More significantly, the volume of imports has remained roughly constant while exports, especially of manufactured goods, have expanded very rapidly. Thus, the Balance of Payments constraint, which was one of the main factors inhibiting development in recent years, has been greatly weakened, and the preconditions have been established for a period of export-led recovery.

How far this recovery might progress in 1984 remains uncertain. The external environment should be somewhat more encouraging than in the past two years, but there is little sign of the upsurge in international investment which would offer Ireland's best hope of a rapid economic revival. Internally, the necessity to continue policies aimed at correcting the public finances will act as a brake on the rate of expansion, while most forms of capital investment are likely to remain very weak. On the other hand, there should be a powerful stimulus from the continued growth in industrial exports, and there are good reasons to expect some improvement in consumer confidence.

The forecast for 1984, inevitably tentative at this stage, is for an increase of almost 2 per cent in real GNP, the virtual elimination of the Balance of Payments deficit, a rise in the Consumer Price Index of 8 per cent and an increase of 9 per cent in unemployment. This outcome is based on the expectation of moderate pay increases in 1984, and on the assumption that the Current Budget deficit will be reduced to about £800 million.

It is difficult to see any practical alternative to a continuation of the present fiscal strategy, but the forecast does show the danger that to pursue too rapid a reduction in the deficit could jeopardise even the modest rate of economic growth projected for 1984. Unfortunately, as the Appendix to the *Commentary* makes clear, the prospect of possible oil revenues by the end of the decade in no way lessens the current necessity to follow policies which will sharply reduce the level of public foreign borrowing.

FORECAST NATIONAL ACCOUNTS 1983

A: Expenditure on Gross National Product

	1982 £m	1983 £m	Change in 1983 £m Total	Change in 1983 £m Volume	Change in 1983 % Total	Change in 1983 % Price	Change in 1983 % Volume
Private Consumer Expenditure ...	7490	7980	490	−255	6½	10½	−3½
Public Net Current Expenditure ...	2682	2987	305	0	11½	11½	0
Gross Domestic Fixed Capital Formation	3177	3017	−160	−395	−5	8½	−12½
Exports of Goods and Services (X) ...	6373	7510	1137	559	17¾	8½	8¾
Physical Changes in Stocks	−6	91	97	100	—	—	—
Final Demand	19176	21585	1869	9	9½	9½	0
less:							
Imports of Goods and Services (M) ...	7280	7734	454	0	6¼	6	0
GDP at market prices	12436	13851	1415	9	11½	11¼	0
less:							
Net Factor Payments (F)	640	720	80	36	12½	6½	5½
GNP at market prices	11796	13131	1335	−27	11¼	11½	−¼

B: Gross National Product by Origin

	1982 £m	1983 £m	Change in 1983 £m	Change in 1983 %
Agriculture, Forestry, Fishing ...	1057	1152	95	9
Non-Agricultural: Wages etc. ...	7270	7978	708	9¾
Other	1417	1532	115	8
less:				
Net Factor Payments	640	720	80	12½
National Income	9104	9942	838	9¼
Depreciation	1140	1306	166	14½
GNP at factor cost	10244	11248	1004	9¾
Taxes less Subsidies	1552	1883	331	21
GNP at market prices	11796	13131	1335	11¼

C: Balance of Payments on Current Account

	1982 £m	1983 £m	Change in 1983 £m
X−M	−907	−224	+683
F	−640	−720	−80
Net Transfers	506	600	+94
Balance on Current Account ...	−1041	−344	+697

FORECAST NATIONAL ACCOUNTS 1984

A: Expenditure on Gross National Product

	1983 £m	1984 £m	Change in 1984 £m Total	£m Volume	% Total	% Price	% Volume
Private Consumer Expenditure ...	7980	8790	810	149	10¼	8	1¾
Public Net Current Expenditure ...	2987	3228	241	−45	8	10	−1½
Gross Domestic Fixed Capital Formation	3017	3085	68	−118	2¼	6½	−4
Exports of Goods and Services (X) ...	7510	8692	1182	732	15¾	5½	9¾
Physical Changes in Stocks	91	60	−31	−30			
Final Demand	21585	23855	2270	689	10½	7¼	3¼
less:							
Imports of Goods and Services (M) ...	7734	8584	850	402	11	5½	5¼
GDP at market prices	13851	15271	1420	287	10¼	8	2
less:							
Net Factor Payments (F)	720	795	75	35	10½	5½	4¾
GNP at market prices	13131	14476	1345	252	10¼	8	2

B: Gross National Product by Origin

	1983 £m	1984 £m	Change in 1984 £m	%
Agriculture, Forestry, Fishing ...	1152	1210	58	5
Non-Agricultural: Wages etc. ...	7978	8713	735	9¼
Other	1532	1674	142	9¼
less:				
Net Factor Payments	720	795	75	10¼
National Income	9942	10802	860	8½
Depreciation	1306	1491	185	14¼
GNP at factor cost	11248	12293	1045	9¼
Taxes less subsidies	1833	2183	300	16½
GNP at market prices	13131	14476	1345	10¼

C: Balance of Payments on Current Account

	1983 £m	1984 £m	Change in 1984 £m
X−M	−224	108	+332
F	−720	−795	−75
Net Transfers	600	660	+60
Balance on Current Account ...	−344	−27	+317

COMMENTARY

Introduction

Both in the international environment and in the performance of the Irish economy 1983 appears to have been a period of considerable improvement. Abroad, economic growth in North America, Japan and Britain has been quite substantial by recent standards. In Ireland, although there has been no expansion in total national output, there has been a dramatic change in its composition. The rapid increase in exports, particularly of manufactured goods, has not only gone much of the way to rectifying the Balance of Payments problem, but has created the pre-conditions for a period of export-led growth.

However, both the international and the Irish recoveries are still fragile, and it is not yet possible to be confident that 1984 will see a sustained improvement in either. Indeed, given the lags in data availability and uncertainties about some current developments, the forecasts for 1983 as a whole cannot be taken as definitive.

The pattern of this *Commentary* will be to trace the major economic influences through both 1983 and 1984, projecting likely developments in the second half of 1983 and 1984 as a whole in the light of data available for the early part of 1983.

The External Environment

The immediate questions to be addressed are how strong and how sustainable is the current international recovery. To date, the recovery has been confined essentially to North America, Japan and the UK, and in each of these the upturn has been less pronounced than in the recovery from the deeper recession of 1974. However, contrary to some earlier fears, growth does not appear to have petered out in these countries, and there are some tentative signs that it may be starting to spread to continental Europe.

Both in North America and the UK the recovery has been based largely on increases in consumption, residential investment and stock-building. Particularly in the US the rise in consumption has been achieved mainly through a reduction in the savings ratio in response to falling inflation. As savings were estimated to be very low in the second quarter of 1983, further growth from this source is likely to have moderated in the third quarer and to remain modest into 1984. With housing investment and stock-building also likely to decelerate, an upturn in non-residential investment is necessary if the recovery is to persist. With capacity utilisation low, profitability moderate, and real interest rates high, the prospects for a major rise in capital formation cannot be regarded as favourable, although some selective increases in investment are probable. The main hope for the recovery to gather pace in 1984 lies in its spreading to continental Europe through higher exports, re-stocking and an improvement in consumer confidence.

The pace of recovery will be influenced by the policy stance of the authorities, especially in the major trading nations. Fiscal policy is likely to remain contractionary in Europe and Japan. Most countries at present have fairly large budget deficits, and these are not expected to fall significantly in 1983 from their 1982 levels. An automatic rise in the deficits due to the low level of economic activity is being offset in nearly all OECD countries by attempts to reduce the discretionary portion of the deficit by restrictions on public spending and/or increases in tax-rates. An actual reduction in budget deficits in 1984 is expected in most major OECD countries.

The major exception to this tendency is the US where the 1983 deficit is expected to rise to between $200 bn. and $250 bn., although the high economic growth figures for the first half of the year have allayed earlier fears that the deficit was likely to exceed $250 bn. The US budget is expected to remain heavily in deficit for a number of years, and official projections show deficits of over $100 bn. at least until 1987.

Monetary policy has been fairly accommodating due to the fall in inflation, and growth of monetary aggregates in most countries has been at the upper end of the target range. Monetary growth has been particularly high in the US, partly due to the development of financial innovations and some changes in the definitions of monetary aggregates. Monetary policy in the US is not expected to be significantly tightened, with elections due in 1984 and with an apparent decline in the velocity of circulation offsetting the inflationary effects of monetary growth. Nevertheless, interest rates are expected to remain high in both nominal and real terms under the influence of the large budget deficits. Only a higher than expected rate of economic recovery would allow a substantial fall in nominal interest rates. In most other countries, interest rates are held higher than the authorities would wish because of exchange rate considerations, allied to the direct effects of high US interest rates.

Interacting with the structure of the recovery so far and the stance of official policies as influences on further growth are uncertainties concerning the evolution of exchange rates. The principal worry is the value of the dollar in relation to other currencies. While the importance of asset markets in determining short-term exchange rates under modern conditions suggests that the dollar might remain high throughout 1984 so long as US interest rates are maintained, there are at least two factors which could precipitate a substantial fall. The first is that in trading terms, the dollar appears grossly overvalued, as evidenced by the size of the current Balance of Payments deficit, even if this does give a slightly exaggerated picture due to a possible undervaluation of service exports. If purchasing power parity and resulting trade flows retain any validity as determinants of long-term exchange rate levels, then expectations of the future value of the dollar could be revised sharply downward at any time, with a consequent actual fall, unless interest rates were raised to extreme levels. The second possible factor relates to the instability inherent in the third-world international debt problem. Because so much of this debt is in dollar terms and is owed to American banks, any major sharpening of the crisis could have a substantial impact on the dollar exchange rate.

TABLE 1: Short-term International Outlook

Country	GNP/GDP % Change		Consumer Prices % Change		Monthly Earnings % Change		Unemployment Rate		Budget Deficit as % of GNP		Current Trade Balance as % of GDP/GNP	
	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984	1983	1984
United States	3	4½	4	5	5	6	10	9½	4½	4	−¾	−1
Canada	2	4½	6	5½	6¼	5¾	12½	12	6½	5½	¾	1
Japan	3	4	2	2½	4	4	2¾	3	3½	2½	1¾	1¾
West Germany	½	1¾	3	3	4¼	3¼	8½	9¼	3¾	3	½	¼
France	−½	½	9	8	9	7½	8½	9¾	3½	3¼	−1½	−½
UK	2¼	2	5¾	6½	7½	7¼	13	13¼	3¼	3	½	½
Italy	−½	2	15	12	15	13½	10	10¼	11½	12½	−¼	−½
Belgium	¼	1½	7	4	4¼	4	14¾	15	11¼	11¼	−1¼	−¼
Denmark	1	½	6½	5	9	6	10¾	11¾	9¼	8¼	−2¾	−2
Netherlands	−¼	¼	2½	2½	3¾	2½	15½	17¾	7	6½	2¼	2¾
Sweden	1⅓	2½	10½	5	10	6	3½	3½	8	8¼	−2½	−¾
Total (OECD)	2	3¼	5½	5¾	6	6	9¼	9½	4¼	4¼	−¼	−¼

Source: OECD, and Individual Country Forecasts

There appear to be relatively minor tensions between other trading currencies particularly between those within the EMS. It is, thus, not unreasonable to project little change in their relative values during 1984. The assumption that the dollar will remain unchanged is an heroic one, but seems marginally preferable to any specific alternative.

To summarise the assumptions concerning international developments, GNP in OECD countries is projected to rise modestly in 1983 and a little more rapidly in 1984. The 1984 increase is expected to be more broadly based, with continental Europe following the lead of North America and Japan, but the recovery is unlikely to be sufficiently vigorous to induce much increase in investment or to reduce unemployment from its present high levels. World trade is projected to rise by about four per cent in 1984 compared with less than two per cent in 1983, while the general level of price inflation is expected to remain at between 5 and 6 per cent, with average earnings about one per cent higher. Despite uncertainties surrounding the dollar, it is assumed that there will be no major re-alignment of exchange rates. Projections for individual countries are shown in Table 1.

Implications for Ireland

Apart from any demonstration effects or impact on subjective moods, there are three major direct ways in which international developments affect the Irish economy. These are the effects on prices, exports and fixed investment.

On the assumptions made above concerning international prices and exchange rates the external pressure on Irish price levels will be marginally lower in 1984 than in 1983. This is due to the exchange rate assumptions, where the depreciation of the Irish pound between March and July 1983 is held to be followed by a period of approximate stability until the end of 1984. Although this would, in fact, leave the decline in the effective exchange rate index roughly equal at 3.3 per cent for each of the years as a whole, it is felt that this annualised approach is likely to be misleading. The 1983 average is influenced by the temporary appreciation in the first quarter, when sterling dipped sharply and before the EMS re-alignment. In practice, this

appreciation was reversed before it had fully worked through into prices, and if this is allowed for, the effective price impact of exchange rate movement in 1983 has been greater, and in 1984 should be correspondingly less, than the crude annual average figures would indicate. Of course, if the dollar were to fall significantly in value during the period, that would reduce still further the external inflationary pressure on Irish prices.

With regard to exports, the projected upturn in world trade, and especially the improved growth rate in Europe, should enhance the prospects for a wide range of Irish exports. However, it must be borne in mind, that to a large extent the level of Irish exports, both agricultural and manufactured, are supply determined, reflecting the levels of agricultural output and of investment in new factories, respectively. Thus, the relationship of total exports with world trade levels, although positive, is by no means simple and direct.

Perhaps the most important linkage with overseas economic conditions lies through the effect on investment. This can act both on direct overseas investment in new factories or extensions, and indirectly on domestic investment via the level of interest rates. On neither count are the prospects for 1984 particularly encouraging. As already outlined the world economic recovery is unlikely to involve a major upsurge in investment, as capacity utilisation in most industries remains low, while competition for what investment is available is likely to be fierce as unemployment levels are high in most countries. Meanwhile, under the influence of US policies, world interest rates are likely to remain high in both nominal and real terms.

In all, the external environment has improved in 1983 compared with 1982 and is set to improve further in 1984. However, the considerable progress in Ireland's external performance in 1983 has owed more to internal developments than to the change in the international climate. Similarly, external conditions in 1984 cannot be expected in themselves to pull Ireland to a better economic position, but they should provide a context in which the appropriate domestic actions result in some degree of advancement.

The Domestic Economy — Exports

The most striking feature of 1983 has been the rate of growth of exports. In the first nine months of the year, total merchandise exports have risen by 19 per cent in value and about 11 per cent in volume. Manufactured exports have increased by over 21 per cent in value, with the rate of growth increasing as the year has progressed.

By far the greatest influence on this rise in manufactured exports has been the coming into operation of new capacity in the fast growing electronics sector, but a major recovery in chemical exports, and smaller but useful improvements in a wide variety of other sectors have also contributed. It is impossible to distinguish between the effects of a more buoyant trading environment and the improvements in Irish competitiveness, especially *vis-à-vis* the US, resulting from currency movements more than offsetting differential cost increases.

For the remainder of 1983 it seems reasonable to forecast that the buoyancy in manufactured exports will continue, as no change in the factors underlying the mid-year growth is envisaged, but it would be imprudent to expect much

further rise from the very high seasonally-corrected levels achieved during the summer.

In 1984, further growth is envisaged, both in respose to the favourable competitiveness assumptions and from the introduction of additional capacity. Allowing for the carryover from the growth in 1983, and a somewhat lower rate of increase in the course of 1984 itself, a further volume rise in manufactured exports of about 10½ per cent, and 17½ per cent in value, would appear feasible.

Other industrial exports have risen very sharply in the first nine months of 1983, largely because of the resumption of petroleum exports following the re-opening of Whitegate. In 1984 a large rise in other industrial exports is expected, due to the opening of the Alcan plant which should generate well over £100 million of exports.

With a value increase of 9 per cent, agricultural exports have performed reasonably well in the period from January to September 1983, although less dramatically than industrial products. A major difficulty in forecasting agricultural exports, even in the short run, is the volatility of the balance between exports and placement into intervention stocks. Although output of beef and milk products might be predicted accurately, the level of exports might bear little relationship to output. At one extreme, a high proportion of current output might go straight into intervention, leaving exports very low, while, at the other, exports of all current production might be further boosted by sales from existing intervention stocks.

Intervention stocks grew from £178 million at the beginning of 1983 to just over £300 million at the end of August. It is assumed in this forecast that there will be a slight net outflow from stocks in the remainder of the year, leading to an annual increase of £116 million, the same as in 1982. On this assumption, agricultural exports would continue to be fairly buoyant until the end of 1983. Turning to 1984, it seems reasonable to suppose that on a Community basis fairly vigorous efforts will be made to prevent any further rise in intervention stock levels, through disposals as well as by attempting to reduce inflows. Thus, Irish agricultural exports could rise substantially faster than agricultural output, which itself seems likely to be restricted by EEC decisions. The actual assumption made, however, is that the net level of Irish intervention stock will remain unchanged in 1984, leaving export volumes to be determined basically by production levels.

Tourism exports in 1983 seem to have remained roughly constant in volume terms. Tourist numbers are estimated to have fallen by about 2 per cent, but this may have been offset by a rather higher volume of spending per head. For 1984 the World and European recovery could lead to a volume increase, especially if the assumptions of reduced inflation and roughly constant exchange rates hold good. Other possible favourable factors could be the lifting or easing of the French restrictions on travel expenditure, the lagged effect of good weather in 1983, and the generally lower level of violence in Northern Ireland, if that continues.

An improved international trading climate could lead to a small volume increase in exports of other services, again perhaps helped by a favourable pattern of exchange rates.

TABLE 2: Exports of Goods and Services

	1982	% Change		1983	% Change		1984
	£m	Volume	Value	£m	Volume	Value	£m
Agricultural	1327	4	9	1446	4	7½	1555
Manufactured	3485	11½	22¼	4261	10½	17½	5005
Other Industrial	810	14	21¾	986	20½	24½	1226
Other	68	0	10	75	2	8	81
Total	5690	9¾	19	6768	10½	16¼	7867
Adjustments	−99	0	19	−118	0	16¼	−137
Merchandise Exports	5591	9½	19	6650	10½	16	7730
Tourism	470	0	10¼	517	3	11½	578
Other Current Receipts	312	0	10¼	343	3	11½	384
Exports of Goods and Services	6373	8¾	17¾	7510	9¾	15¾	8692

Table 2 summarises the forecast of exports, showing that in 1983 total exports of goods and services are expected to rise by 8¾ per cent in volume and 17¾ per cent in value, while in 1984 the forecast increases are almost 10 per cent and 16 per cent respectively.

Investment

While exports have been the outstanding growth area in 1983, investment has been the opposite, showing a marked intensification of the decline begun in 1982. While severe reductions in the Public Capital Programme are obviously a prime factor in the fall, private capital formation has also been very weak in most sectors. All indicators point to a large decline in the value, as well as the volume, of capital expenditure, although some controversy exists concerning the extent of the fall in building and construction. A volume fall of about 12 to 13 per cent in both building and construction and machinery and equipment seems a likely outcome for the year.

Prospects for 1984 are highly dependent on the decisions taken in relation to the Public Capital Programme. At this stage the most plausible assumption is that this will show a small further decline in real terms. Because the fall during 1983 has been so sharp, a small improvement during 1984 from the end-1983 level would imply a decline in the annual average for 1984 compared with 1983.

Among the categories of private investment, no recovery seems likely in farm building or in the commercial sector which is still burdened with excess capacity in the face of weak demand. Little change is expected in the volume of industrial investment, where a weak domestic sector is likely to offset a small rise in overseas direct investment. In this regard, the concentration on high-technology projects might enable direct investment in Ireland to perform rather better than general manufacturing investment on a World basis, where overcapacity in existing plants is likely to hold back the level of new capital formation.

With regard to housing, the assumption concerning the Public Capital Programme is consistent with no change in the volume of Local Authority house building. Private housebuilding fell sharply in the first half of 1983. There are signs of some recovery in the second half, with both the inflow of funds to building societies and their approvals of new house loans running at a high level. However, sustained recovery would appear to depend more on an

improvement in consumer confidence than on an increase in the availability of finance, although both house prices and the level of interest rates will be important factors. Provided that there is no rise in interest rates, a gradual improvement in private housebuilding during 1984 would be consistent with forecast changes in the rest of the economy, and in the initial stages of a recovery a rapid increase in house prices seems unlikely. Even a reasonable recovery in private house building from its end-1983 levels could, however, leave the annual total for 1984 a little below that for 1983 in volume terms.

TABLE 3: Gross Fixed Capital Formation

	1982	% Change		1983	% Change		1984
	£m	Volume	Value	£m	Volume	Value	£m
Building and Construction	1724	—12½	—4½	1647	—4½	2¼	1684
Machinery and Equipment	1453	—12½	—6	1370	—3½	2¼	1401
Total	3177	—12½	—5	3017	—4	2¼	3085

Table 3 summarises the forecasts for fixed capital formation, showing overall a lower rate of decline in 1984 than in 1983, and implying a very slight upturn from end-1983 levels.

Stocks

Changes in stock levels are among the most difficult components of Final Demand to forecast. They are subject to large and volatile movements, with an absence of short-run current indicators with which to monitor movements. Even agricultural stock changes cannot be derived with confidence from enumerations, slaughterings and the recorded net movements of live animals, because unrecorded flows of smuggled animals can fluctuate significantly. Thus, for this important element of the National Accounts undue reliance must be placed on assumptions made with a lack of firm evidence.

With this proviso in mind, the forecasts for stock changes in 1983 and 1984 are set out in Table 4.

TABLE 4: Stock Changes

	1982	Change in	1983	Change in	1984
	£m	Rate £m	£m	Rate £m	£m
Livestock on Farms	+13	+37	+50	—30	+20
Irish Intervention Stock	+116	0	+116	—116	0
Other Non-ag. Stocks	—135	+60	—75	+115	+40
Total	—6	+97	+91	—31	+60

The June 1983 Livestock Enumeration shows an increase of 1.2 per cent in cattle numbers, with a slightly higher rise in the breeding stock. This suggests a small rise in cattle stocks for 1983 as a whole. Sheep stocks appear to be rising more rapidly, with a 5 per cent increase in the June Enumeration. For 1984 it is assumed that a less favourable EEC package will restrict the growth in livestock numbers, although the stage of the cycle could ensure that there will still be a very small increase.

Intervention stocks of beef and milk products held in Ireland increased by £130 million between January and August 1983. Movements out of intervention tend to be unpredictable, and so it is assumed that for 1983 as a whole the increase in stocks will be the same as in 1982, implying a small net outflow in the last four months of the year. For 1984 the arbitrary assumption is made that the volume of intervention stocks will remain at its end-1983 level, which of course would represent a cessation of stock building.

The low volume of imports in relation to industrial output and retail sales, seems to indicate that non-agricultural stocks have continued to decline in 1983, although at a slower rate than in 1982. With a modest recovery in consumer expenditure forecast, together with a continuation of vigorous growth in manufactured exports, it is reasonable to assume that some restocking will take place in 1984. The continuation of high real interest rates, however, will provide an incentive to keep the growth in stocks at a fairly low level.

Current Public Spending

The out-turn of net public expenditure on current goods and services in 1983 seems likely to be fairly close to that assumed in previous *Commentaries* and to revised Budget forecasts. This means no change in the 1982 volume of spending, with a value increase of about 11½ per cent. Obviously, the level of public current spending in 1984 will depend largely on the government Estimates which are yet to be finalised. In view of the government's known policy stance, the most reasonable assumption to make is that there will be a significant reduction in real expenditure on goods and services in 1984, perhaps by about 1½ per cent. This would involve some fall in the number employed in the public service, as limits on replacement in the civil service are reinforced by a more restrictive approach to recruitment elsewhere in the wider public service. At the same time a strict approach to the non-pay element of public current spending could be expected.

Because of the timing of the phases of the current public sector pay agreement, the carryover into 1984 will be quite high. Allowing also for a small general pay increase in June 1984, some phases of special pay increases for particular groups, and the element of pay drift inherent in incremental scales, average public sector pay is likely to be around 10½ per cent higher in 1984 than in 1983. The price of other goods and services purchased is likely to rise by less than this, so the overall price deflator for current public spending could be almost 10 per cent. Thus, the value rise in current public expenditure in 1984 is assumed to be about 8 per cent.

Incomes

The items already discussed have been treated as if they were largely autonomous. Before the forecast of the expenditure side of the National Accounts can be completed by considering the largely endogenous items of consumer spending and imports, it is necessary to examine incomes and taxation.

With regard to 1983 it now seems probable that the average rise in private sector non-agricultural pay rates will be about 10 per cent, with the rise in public sector pay, because of the delay in the final phase of the previous

agreement, being over 12 per cent compared with 1982. Average earnings figures seem likely to move in line with pay rates, but the rise in aggregate earned income will be lower because of a fall in total employment of about 1½ per cent.

The nature of the current pay round implies an inclusive carryover into 1984 of about 6½ per cent for the public service and perhaps 4 per cent for the private sector, although this average figure conceals fairly wide variations between different groups. The key assumption concerns the size and timing of agreements under the next pay round. With the labour market still very depressed and with price inflation likely to be well within single figures, settlements can be expected once more to be moderate. Assuming that phased increases predominate again, it seems reasonable to predict that in the private sector first phase increases will be of the order of 5 per cent, which would be significantly lower than the corresponding phase of the 1983 round. This could lead to an average increase of about 8½ per cent in basic pay rates, and perhaps 9½ per cent in earnings. In the public sector a lower rate of increase of 3 per cent from June is assumed. On its own this would take the annual average public sector pay increase to just over 8 per cent, and if allowances are made for some special payments and an element of salary scale drift, the actual increase in average public sector pay could well be in the region of 10½ per cent.

With public sector employment assumed to fall by nearly 2 per cent but private sector employment to more or less hold on its 1983 level, total wages and salaries would be about 9 per cent higher in 1984 than in 1983.

It is assumed that in 1983 the earnings of the self-employed have just about matched inflation with a 10 per cent increase. With some degree of economic recovery forecast, a small real increase is expected in 1984, meaning a value rise of perhaps 11 per cent. Dividends, interest and rents are unlikely to show much growth in 1983 and only a modest improvement is assumed for 1984, although, because of its composition, this item is liable to show fairly volatile movements.

With a recovery of output prices during the summer, agricultural incomes have been revised to show an increase of 9 per cent in 1983. A considerable proportion of this is accounted for by a rise in the volume of milk produced, partly offset by rises in the volume and price of inputs. The course of agricultural incomes in 1984 depends to a large extent on the decisions taken concerning the Common Agricultural Policy of the EEC. At this stage, it is obviously impossible to make precise predictions of what these decisions will be. For the purpose of this *Commentary*, it is assumed that the proposed super-levy based on 1981 levels of output will not be applied in that form to Ireland, but that the mix of prices and other measures will be less favourable than in recent years. An increase of only 5 per cent in agricultural incomes is assumed, with very low increases in both the volume of output and prices being compensated by a reduced rate of growth in inputs.

Incomes in the form of transfer payments are likely to rise steeply in 1983. This is largely due to the continued rise in unemployment, reinforced by the secular increase in the number of pensioners and improvements in benefit rates. Transfers from abroad are assumed to rise by at least the rate of inflation, perhaps helped by the decline of the Irish pound in relation to the

dollar. With unemployment likely to grow less rapidly in 1984, together with a possibly less generous increase in benefit and assistance rates and an assumption of no change in the value of the Irish pound, the rise in transfer income is likely to be lower than in 1983.

Table 5 sets out the forecast rise in personal gross incomes for 1983 and 1984. Although the nominal increase is smaller in 1984, the expected reduction in price inflation means that in real terms there should be a slight increase in 1984 compared with virtual stagnation in 1983.

TABLE 5: Personal Income

	1982	Change		1983	Change		1984
	£m	%	£m	£m	%	£m	£m
Agriculture etc.	1,057	9	95	1,152	5	58	1,210
Non-Agricultural Wages and Salaries	7,270	9¾	708	7,978	9¼	735	8,713
Other Non-Agricultural Income	1,367	8	109	1,476	9¼	135	1,611
Total Income Received	9,694	9½	912	10,606	8	928	11,534
Current Transfers	2,211	14½	320	2,531	11½	290	2,821
Gross Personal Income	11,905	10¾	1,232	13,137	9¼	1,218	14,355

Government Finances

Before any estimate of consumption can be made from the personal incomes discussed above, it is necessary to calculate how much of that income will be removed by direct taxation, and thus, how much will remain as disposable income available for consumer spending. While considering the likely course of direct taxation, it is convenient to broaden the discussion to the government finances as a whole.

Revenue and expenditure figures for the first 9 months of 1983 suggest that, in total, state finances are running reasonably close to the revised official forecasts for the year. The composition of revenue receipts is rather puzzling, with income tax rather lower and VAT rather higher than would be expected from the underlying increases in incomes and the level of economic activity. It is possible that these differences reflect changes in the timing of receipts, and if so, the fourth quarter should show a return to more normal patterns. In the case of income tax, fourth quarter receipts should certainly improve due to the payment of the first phase of the Public Sector Pay Agreement, which was postponed in September because of the delay in ratifying the Agreement.

Taking this into account, it now seems likely that the current budget deficit will be close to £950 million for the year. With public capital expenditure appearing to run rather below budget, the revised exchequer borrowing requirement for 1983 of £1,750 million should be at least adequate. The total of debt outstanding will rise considerably more than this however, largely because the depreciation of the currency has had the effect of increasing the value in Irish pounds of existing debt denominated in foreign currency.

While many effects of the 1983 Budget will still be operating in 1984, it is decisions still to be taken concerning that year's expenditure and tax rates which will largely determine the performance of the public finances in 1984. At this stage, all the outside commentator can do is to make crude basic assumptions which are compatible with what is known of Government policy.

The assumptions made in this *Commentary* are that policy will aim to reduce the current budget deficit by about 15 per cent, to a level of about £800 million, and that the principal method adopted will be through cuts in real expenditure rather than increased tax rates. More specifically it is assumed that there will be a reduction of nearly 2 per cent in the numbers employed in the public service and that the general increase in public service pay will be 3 per cent from June 1984. Allowing for incremental drift and special pay awards, these assumptions would lead to an increase in pay expenditure of just over 8½ per cent in 1984. A mid-year adjustment of about 7½ per cent in Social Welfare Benefits, to keep pace with the Consumer Price Index at that date could lead to an increase of 14 per cent in state Social Welfare expenditure, after taking into account the increase in the number of recipients but also some shift from benefit to assistance rates. With a cut in even the nominal value of subsidies and a small rise in the value, but a fall in the volume, of other expenditure, total Supply Services are assumed to rise by nearly 8 per cent.

Economies are not practical in Central Fund Services, as these are concerned mainly with servicing the National Debt, which itself is increasing. An increase of almost 12 per cent is thus assumed for the value of Central Fund Services, leaving the increase in total Current Expenditure at 8¾ per cent.

On the revenue side, it is assumed that there will be no increase in rates of indirect tax, apart from raising specific duties in line with inflation. For direct taxation, substantial, but not complete, indexation of income-tax thresholds and bands is assumed, with no change in direct tax rates, or in the rates of PRSI contributions. When the carryover from tax changes during 1983 is taken into account, together with this *Commentary's* forecasts of incomes and expenditure in 1984, these assumptions suggest a rise in tax revenue of over 13 per cent and in total revenue of 12¾ per cent. The current budget deficit, as is the basic assumption, would be in the neighbourhood of £800 million. This would be a reduction of about £150 million or 15 per cent of the 1983 deficit in nominal terms, and a fall from 7 per cent to 5½ per cent of Gross National Product.

With regard to capital expenditure, it is assumed that the Public Capital Programme will be reduced by about 3 per cent in real terms, but increased by 3 per cent in nominal terms. With provision made for a small increase in other public capital expenditure, and for increases of about 10 per cent in non-exchequer and internal sources of funds, the total borrowing requirement for capital purposes would be about £720 million. Added to the Current Deficit, this would give a total Borrowing Requirement of £1,520 million compared with the official estimate of £1,750 million for 1983.

With an anticipated fall in the personal savings ratio in 1984, it might prove difficult to increase on the 1983 target of £950 million for borrowing from domestic sources. If this is so, then overseas borrowing for 1984 would need to be about £570 million, compared with the revised official target of £800 million in 1983.

Personal Consumption

From the assumptions made concerning government revenue, it is possible to derive the levels of personal direct taxation likely in 1983 and consistent with

the forecast for 1984. By subtracting this tax from the income figures shown in Table 5 a measure of personal disposable income for each year is obtained. This is shown in Table 6.

TABLE 6: Consumption and Savings

	1982	Change		1983	Change		1984
	£m	%	£m	£m	%	£m	£m
Gross Personal Income	11,905	10¼	1,232	13,137	9¼	1,218	14,355
Direct Personal Taxes	2,280	20	453	2,733	12	331	3,064
Personal Disposable Income	9,625	8	779	10,404	8½	887	11,291
Consumption	7,490	6½	490	7,980	10¼	810	8,790
Personal Savings	2,135	13½	289	2,424	3¼	77	2,501
Savings Ratio	22.2%			23.3%			22.2%

It can be seen that in value terms the increase in disposable income forecast for 1984 is only marginally higher than that for 1983. When likely price changes are taken into account, however, the differences are more pronounced. For 1983 real disposable income seems set to fall by about 2½ per cent, while for 1984 an increase of ½ per cent is forecast.

If consumption were always a fixed proportion of disposable income, then one would expect a fall of 2½ per cent in the volume of consumption in 1983 and a ½ per cent rise in 1984. However, the proportions people spend and save out of their disposable incomes vary considerably from year to year, and the savings ratio grew steeply between 1981 and 1982. From the evidence of the first six months retail sales figures, when the volume was almost 5 per cent lower than in the first half of 1982, the savings ratio has been rising further during 1983. Even allowing for some upturn in spending in the second half of 1983, it seems probable that the volume of consumption will be down by about 3½ per cent for the year as a whole. Given the expectation that consumer prices will increase by about 10½ per cent, this would leave the value of consumption rising by about 6½ per cent. On these figures the savings ratio would rise from 22.2 per cent in 1982 to 23.3 per cent in 1983.

Although it is always difficult to predict turning points in such variables, there are several grounds for expecting some decline in 1984 from the very high savings ratio of 1983. Lower inflation is widely held to encourage lower savings; the demonstration effect of rising consumption in other countries should influence consumer confidence in Ireland; the replacement cycle for many consumer durables, including cars, has already been stretched longer than usual; and the expected composition of income in 1984, with farm incomes rising relatively slowly, is likely to be less conducive to savings. While none of these factors can guarantee that a higher proportion of disposable income will be spent, it does seem reasonable to predicate a reduction in the savings ratio at least to the historically high 1982 level of 22.2 per cent.

Provided this modest improvement in consumer confidence takes place, then the rise in the value of consumption in 1984 could be about 10 per cent, with a volume increase of 1¾ per cent. Although seemingly modest in amount, this would represent the first annual rise in the volume of consumption since 1981.

Final Demand

Final Demand in 1983 is forecast to increase by 9½ per cent in value, but to show no change in volume. The only components to rise in volume are exports and stocks, while the very sharp fall in the volume of investment is principally responsible for the overall stagnation.

The projections for 1984 made so far suggest an increase in Final Demand of 10½ per cent in value and 3¼ per cent in volume. The entire volume increase can be attributed to exports, with the smaller rise in consumption just failing to match the fall in the volume of other types of expenditure.

Imports of Goods and Services

Given both the level and composition of Final Demand in the two years, the volume of imports could be expected to remain roughly constant in 1983 and to grow modestly in 1984.

In fact, the volume of merchandise imports in the first half of 1983 fell by over 2½ per cent compared with the same period of 1982, although on a seasonally adjusted basis they were well above the very low level of the second half of 1982. As would be expected from the pattern of Final Demand, the principal falls were in capital goods and consumer goods, each of which was over two per cent down even in value terms. Imports of goods for further production increased in value, but would appear to have been roughly constant in volume compared with the first half of 1982; implying a continuation of industrial de-stocking.

With capital goods imports likely to remain very weak, but with some upturn in the annual rate of increase of both consumption goods and goods for further production, it seems reasonable to forecast that the volume of merchandise imports for 1983 as a whole will be just above the 1982 level. Monthly import price figures for the first half of the year show a rise of only 2 per cent. However, the monthly series is not always a good guide to annual rates of import price increases, and with the impact of the depreciation of the pound mainly being felt in the second half of the year, an average price increase for merchandise imports of about 5½ per cent seems a fair expectation for 1983. In line with depressed consumer spending, it is anticipated that the volume of tourism and of other imported services will decline in 1983. In total, no change is forecast in the volume of Imports of Goods and Services.

In keeping with the pattern of Final Demand in 1984, it is forecast that the volume of capital goods imports will continue to decline, but that there will be a substantial increase in the volume of imports for further industrial production. This includes an allowance for the raw materials needed for the Alcan factory. With a rise in the volume of consumer goods imports slightly above the expected increase in the volume of consumption, and broadly similar rises in the volume of service imports, the total volume of Imports of Goods and Services in 1984 is projected to rise by over 5 per cent. On the assumption that price rises will be of the same order of magnitude as in 1983, this would give an increase in the value of Imports of Goods and Services of about 11 per cent, marginally above the projected increase in the value of Final Demand. Table 7 sets out the forecast imports for 1983 and 1984.

TABLE 7: Imports of Goods and Services

	1982	% Change		1983	% Change		1984
	£m	Volume	Value	£m	Volume	Value	£m
Capital Goods	943	−7½	−2	924	−4	1	933
Consumer Goods	1,786	−3	2½	1,831	2½	7¾	1,975
Intermediate Goods							
Agriculture	327	8	13½	372	0	5¼	391
Other	3,742	4	9¾	4,108	9½	15¼	4,736
Other	13	−35	−30	9	0	5½	10
Total Goods	6,812	½	6¼	7,244	5½	11	8,045
Adjustments	−126	5½	11	−140	5	10	−154
Merchandise Imports	6,686	½	6¼	7,104	5½	11	7,891
Tourism	380	−4½	5½	400	2	10	440
Other Services	214	−2½	7½	230	2	10	253
Imports of Goods and Services	7,280	0	5½	7,734	5¼	11	8,584

Gross National Product

The forecasts presented so far for the individual categories of expenditure indicate that the Gross Domestic Product in 1983 could grow by about 11½ per cent in value, with virtually no change in volume. However, the inexorable rise in Net Factor Flows, caused by the increase in interest payments due abroad, will result, if this forecast is correct, in Gross National Product falling by about ¼ per cent in real terms. Sectorally, this would reflect a substantial rise in manufacturing production, aided by a small rise in the volume of agricultural output, being offset by a very large fall in the volume of building and construction and a small decline in the volume of the distribution services.

For 1984, an increase in the volume of Gross National Product of almost 2 per cent is projected. Again, this would represent considerable growth in manufacturing output but on this occasion accompanied by a small rise in the output of most private services, virtual stagnation in agricultural output, a much more modest fall in building and construction and a significant reduction in the volume of public services.

Balance of Payments

The forecasts for exports and imports in 1983 show a large improvement in the underlying balance. A trade deficit, including services, of £907 million in 1982, should be reduced to one of £224 million in 1983. Adverse factor payments, mostly interest on outstanding debt, partly offset by favourable transfers from the EEC and emigrants' remittances, are likely to raise the total deficit on current account to £344 million in 1983, compared with £1,041 in 1982.

While such a large improvement is not expected in 1984, it is nevertheless projected that the balance on goods and services will move into surplus, and that the total Balance of Payments on Current Account will show only a very small deficit of £27 million.

Employment and Unemployment

Although much attention is always focussed on forecasts of Gross National Product, it really is little more than a useful abstraction, which imposes the necessary discipline of a coherent framework upon the forecaster. In many

ways the most valuable part of a forecast is its prediction of more concrete entities such as employment, unemployment and prices.

Total employment fell very sharply in 1982 and has continued to decline, though at a slower rate, during 1983. By mid-April 1983 employment was 25 thousand, or more than 2 per cent, lower than a year previously. Apart from a continuation of the long-term decline in the agricultural labour force, the fall was concentrated in the industrial sectors and particularly in building and construction. Up-to-date figures on employment in most sectors of the economy are not available. Manufacturing employment fell sharply in the first quarter of 1983 and quite substantially in the second quarter. These figures are difficult to reconcile with the continuing rise in the volume of manufacturing production and with the industrial analysis of the Live Register, which shows unemployment in manufacturing ceasing to rise after April. Building employment is likely to have continued its decline, at least until the summer, while the previous growth in service employment has probably slowed down or stopped.

Looking to 1984, employment in building and construction could remain at near its end-1983 level, seasonally adjusted, while small increases could take place both in manufacturing industry and private services. On the other hand it has been assumed that there will be a fall of almost 2 per cent in public service employment. Table 8 summarises expectations regarding employment in April 1984, while on an annual average basis a decline in total employment of about 1½ per cent in 1983, and a marginal reduction in 1984 would be consistent with the forecasts.

Table 8: Employment and Unemployment ('000 mid-April)

	1982	1983	1984
Agriculture	196	191	186
Industry	352	325	319
Services	598	604	608
Total at Work	1,146	1,120	1,113
Unemployed	137	180	204
Labour Force	1,283	1,300	1,317
Unemployment Rate	10.7%	13.8%	15.4%
Live Register	148	188	210

Note:
It should be borne in mind that the unemployment totals given in the above Table do not include persons seeking work for the first time, as there is no reliable basis for compiling such estimates annually. The most recent such figures are those available from the 1981 Census which indicate that the number of persons seeking their first regular employment in April of that year was almost 20,000.

Another aspect of increasing importance in the context of the youth labour force is the number of persons on special employment and training schemes. Current estimates indicate that, at any one time, the number of young persons on such schemes is now in the region of 15,000. Such persons have not hitherto been separately identified in Censuses or Labour Force Surveys but it is understood that most of them have been classified as at work, except those in full-time training who have been classified as unemployed. The majority of persons involved in special schemes are school leavers, but they also cover some young unemployed persons who were previously in employment. It is likely, therefore, that the unemployment figures given in the above total may tend to understate the deterioration in the labour market in so far as they do not reflect the increasing numbers engaged on these schemes.

As Table 8 illustrates, the size of the labour force is constantly increasing, so that unemployment rises much faster than employment declines. Although the definition of unemployment used in the Table is that used in the Labour Force

Survey and is not co-terminous with the Live Register, movements in the Live Register do tend to reflect changes in Labour Force unemployment fairly accurately. Live Register figures for the first 9 months of 1983 confirm the picture of unemployment shown in Table 8. Seasonally corrected, the Live Register has risen by 22,000 or 12½ per cent between the end of December 1982 and the end of September 1983. However, the rate of increase has been moderating, with a rise of nearly 11,000 in the first quarter being followed by increases of between 5,000 and 6,000 in each of the second and third quarters. This implies that the rate of increase in unemployment since the end of March has mainly reflected the increase in the size of the labour force, and that the fall in actual employment has been reduced to a rate of about 5,000 per year.

The improvement in the economy necessary to stabilise the employment level is thus quite minor, and the upturn predicted for 1984 should achieve this. However, unchanged employment would still leave unemployment rising by the rate of increase of the labour force, namely some 17,000 per year. Allowing for the carryover from 1983, this could leave the average level of the Live Register in 1984 at over 210,000, or 9 per cent higher than the 1983 average.

Prices

Both the General Wholesale Price Index and the Output Price Index of Manufacturing Industry show the underlying rate of inflation declining quite sharply in the first half of 1983, to an annual increase of around 6 per cent in mid-year. However, both these indices exclude VAT and other indirect taxes, which have a marked effect on consumer prices. The Consumer Price Index for mid-August 1983 was 10 per cent higher than a year earlier, after showing the highest quarterly rise since the second quarter of 1982. Because of special factors affecting the August figure, and the relatively low growth in wholesale prices, it seems reasonable to expect a much lower rise between August and November, leaving the November index just over 10 per cent higher than in the previous year. If this is confirmed, it would produce an average level of the Consumer Price Index in 1983 10½ per cent above that of 1982.

Given the assumptions of no significant increases in indirect tax rates, increases in average earnings of about 9½ per cent, and no major changes in exchange rates, it could be expected that the average Consumer Price Index in 1984 would be about 8 per cent higher than in 1983, with the level in November 1984 about 7½ per cent higher than in November 1983.

General Synthesis

Entering 1983, the Irish economy was faced with four major problems. These were an unsustainable level of public foreign borrowing, largely because of an excessively high Current Budget deficit, high and rising unemployment, a large Balance of Payments deficit, and a rate of consumer price inflation still in double figures. In the course of the year, it appears that very considerable progress has been made towards eliminating the Balance of Payments deficit, and that some, but rather disappointing, advances have been made in reducing the Current Budget deficit and the rate of consumer price inflation. Unemployment, however, has continued to increase although at a somewhat slower rate.

The projections for 1984 suggest the virtual disappearnce of the Balance of Payments deficit, a significant reduction in the Current Budget deficit, a single figure rise in the Consumer Price Index and a further slowdown in the growth of unemployment. Even with an increase in real Gross National Product forecast after two years of decline, there seems no prospect of an actual reduction in the number out of work.

This prospect of a rather mixed and modest improvement in the economy is based on foundations that are far from sturdy. Fiscal policy and weak investment will continue to exert a downward influence on economic activity. This should be offset by strong export growth, but for expansion to take place there also needs to be a greater willingness by consumers to spend their incomes and some rebuilding of industrial and commercial stocks. While both these seem likely, neither is certain, and both are related to the intangible issue of economic confidence. Equally, if confidence were to improve more rapidly than expected, and especially if it extended to encouraging new capital investment, the recovery could become substantially more rapid than has been projected in this *Commentary*.

Policy Implications

So far as fiscal policy is concerned, the forecast for 1984 has been based on the explicit assumption that the aim will be for a Current Budget deficit of about £800 million, and that this will be achieved largely through cuts in the volume of public expenditure. In working through the projections it has become clear how delicate the balance is between the fiscal and the economic aims of official policy. The need to reduce the level of public overseas borrowing remains imperative, as the drain on national resources of servicing the foreign debt will continue to get worse so long as that borrowing persists. Thus, any attempt to stimulate the economy by increasing, or even tolerating the present size of, the budget deficit would simply intensify the problems to be faced in 1985 and 1986. Conversely, to try to reduce the deficit by much more than has been assumed here would run the risk of choking off the not very robust recovery forecast.

With regard to other policy instruments, it has been assumed that monetary policy will be fairly neutral, permitting such increase in credit as would be compatible with preventing a widening of the interest differential between Ireland and the rest of the world. Again, if policy takes a direction significantly different from that assumed it could affect the pace of recovery. Within the general assumption, it would seem reasonable that credit guidelines might be made rather more accommodating to the personal borrower. Since the easing of the Balance of Payments constraint there is no immediate cause to restrain consumption, and indeed a reasonable growth in consumer spending appears a necessary component in a broader economic upturn.

The projections made concerning incomes reflect a view of the likely response to labour market conditions, and do not embody the assumption of an active official incomes policy. It can be argued convincingly that neither the major improvement in Ireland's trade balance in 1983 nor the significant slowing down of the rise in unemployment could have been achieved without the moderation of pay increases in the exposed sector of the economy achieved in 1982 and 1983. Given the exchange rate assumptions, together with likely

pay increases overseas, Ireland's short-term competitiveness should not be significantly eroded in 1984 if pay increases are in line with the projection of a 5 per cent first phase in the coming pay round. Of course, even lower increases would tend to improve competitiveness and reduce the inflation rate.

On public sector pay on the other hand, it is certainly arguable that the 3 per cent first phase assumed in the forecast is excessive. In spite of the pay pause in the current round, public sector wages and salaries rose by more than private sector in 1983. Even for 1984, the projected annual rise in public sector average earnings is higher than that in the private sector. Given the imperative need to reduce the Current Budget deficit, and the high proportion of pay costs in public spending, the case for public sector pay to rise by less than the private sector is very strong, as this would be the most desirable way of reducing the deficit. If it proved possible, either within the context of a general incomes policy, or by bargaining within the public sector itself, to delay the increase in pay due in June 1984, then the general economic prospects would be improved significantly. Either the deficit could be reduced rather more rapidly than projected, the cutbacks in real spending on useful services could be slightly less severe, or some tax rates could be reduced.

APPENDIX

THE OIL FIND — SOME IMPLICATIONS

by T. J. Baker

Introduction

Although the excitement of high summer has largely abated, it is still worthwhile to examine the implications of a commercial oil discovery in Irish waters. Until further tests are concluded in 1984, it will remain unclear whether this season's encouraging drilling results off the Waterford coast really signify a breakthrough in the search for Irish oil reserves. At present, there is still the possibility that this will prove to be yet another sub-commercial find. More probably, a single oilfield of moderate size has been discovered which can and will be developed over the next few years, with oil flowing in full commercial quantitites by perhaps 1988. The remote but exciting possibility raised by the results is that major reserves will now be discovered in deeper strata than have been explored in previous drilling programmes.

Obviously, the impact on the economy and the policy issues which will need to be faced, will be very different for each of these possible cases. However, given the time scale of development, it should be known with some certainty which set of conditions apply before any major effects become reality. At this stage all that can usefully be done is to point out the approximate orders of magnitude in each of the cases for such key economic variables as employment, the Balance of Payments and the public finances, and to examine in a general way some of the more important choices that might confront the public authorities.

Early Effects

Regardless of the eventual outcome of further tests on the Gulf find, the initial results have been sufficiently encouraging to stimulate additional exploration in the Celtic Sea. While it is too late for significant changes in 1983 drilling plans, 1984 should see a substantial expansion in activity. This could bring modest benefits in the form of exploration licence fees to the state and payment for services in some south coast locations.

Effects from 1985 onwards would depend to a considerable extent on results in 1984. If the present find were to prove non-commercial, exploration would, nevertheless, continue in future years, although without new discovery it would gradually taper off. If the find is confirmed as commercial, then continuing exploration would be accompanied by the further expenditure required to place the existing field into production. Although most of this development spending would inevitably be on imported goods and services it would include a certain domestic element for such services as accommodation and transport.

Between exploration and development, a few thousand jobs might be provided in the years from 1985 to 1988. The number would be heavily influenced by decisions on how and where to transport and process the oil. Presumably the main long-term options, in ascending order of domestic employment content, would be:

(a) To load oil into ships direct from the production rig,. for transport to existing refineries in the UK or the Continent.
(b) To build a pipeline across the Celtic Sea to existing UK refineries.
(c) To pipe or ship the oil to existing storage facitilies at Whitegate, for transhipment to overseas refineries. If this choice involved closing Whitegate as a refinery, it could reduce long-term employment.
(d) To pipe or ship the oil to a new terminal in Ireland for transhipment to refineries abroad.
(e) To pipe or ship the oil to Whitegate for refining in its present plant.
(f) To pipe or ship the oil to Whitegate for refining in an extended and modernised plant.
(g) To pipe or ship the oil to a new refinery somewhere on the south coast.

Far more information is needed before any decisions could be taken, even in principle, on which of these options to adopt, although it seems rather unlikely that a single field would justify (f) or (g) at a time of world over-capacity in refining.

If the re-vitalised exploration programme were to result in the discovery of further commercial fields, then the economic effects, even before production, could be very considerable. Not only would the direct employment effects tend to be multiplied by the number of fields, but there could well be a threshold effect whereby it would become worthwhile to establish various oil services in Ireland.

Even more important, the magnitude of potential revenue flows could make it possible to modify macro-economic policy in anticipation, thus leading to increases in non-oil employment. As will be seen, such anticipation of revenue would be extremely reckless in the case of a single field.

One effect which should be noted, whether a single field or multiple fields are in question, is that the Balance of Payments deficit will tend to rise during the period of development. As the inevitable increase in imports will tend to be automatically matched by a private capital inflow, this temporary deterioration in the external current balance can safely be ignored. Indeed, it might be wise to isolate the oil development imports in the Balance of Payments Statement so that the underlying Balance can more easily be monitored.

Potential Benefits from a Single Field

If the present discovery is proved commercial, yet remains an isolated occurrence, then the flow of benefits to be derived from it will depend largely on the size of recoverable reserves in the field, on the rate of exploitation and on the tax and other financial arrangements between the state and the operating company. By their nature, none of these is yet established and they are unlikely to be decided next year.

Thus, any estimates made now must rest on assumptions which may eventually prove quite mistaken, but treated with due care they can provide

some guidance on the possible orders of magnitude which might be involved. Although caution might suggest basing calculations on the smallest size of commercially viable oil-field, it is in fact, more illuminating to make the assumption that the field will turn out to be of medium size compared with those in the North Sea.

Accordingly, a field of 300 million barrels of recoverable oil is assumed, with the further simplistic assumption that it would be exploited at an even rate of 15 million barrels per year for twenty years commencing in 1988. Any early sales of oil, while the well is being established are assumed to be used by the operator to defray part of the development costs. No state revenue is assumed from this pre-production output, so that its principal macro-economic effect would be to lessen the temporary adverse impact on the Balance of Payments during the period of development.

With regard to the tax-take, some commentators have assumed that the total take will comprise the already agreed scale of royalties, ranging from 8 per cent to 16 per cent according to the scale of production, plus the standard 45 per cent corporation tax on the operating surplus of the enterprise. According to the size of the field and the level of prices and costs, this could give a total tax-take of between 40 per cent and 50 per cent of the sales income. Even allowing for the alleged need to encourage the initial producer and to stimulate further exploration, such a rate of tax on a non-renewable national asset seems unrealistically low. Norway, UK and USA obtain much higher government returns, amounting to over 70 per cent of sales income on a typical oil-field and to over 80 per cent on some established low-cost fields. For a new, but conveniently situated, field a mix of taxes which resulted in a total tax-take of 65 per cent of sales income would not seem unduly onerous. The agreed royalties, plus a total tax of 80 per cent on the operating surplus, after allowing for normal capital costs, could give such a result, which at least for illustrative purposes appears a reasonable assumption.

Finally, assumptions need to be made concerning the price at which the oil would be sold, and the operating and capital costs involved in its production. The simplest solution is to base calculations on present day values, with the implied assumption that oil prices, costs, and the general price index will move roughly in line between 1983 and 1989. On this basis, a price of $30 per barrel, which is the approximate market value of North Sea oil, and total costs of $6 per barrel, which is an arbitrary figure but in line with some North Sea costs, have been selected. It is further assumed that one-fifth of total costs will be domestic and four-fifths foreign, with all of the operator's profit going abroad.

If these assumptions are put together, the breakdown of revenue would be as follows

Possible Annual Returns from Single Oilfield

	Per Barrel		Per 15m Barrels	
	$	%	$m	£m (at £1 = $1.20)
Value of output	30	100	450	375
Operating and capital costs	6	20	90	75
Total tax take	19.5	65	293	244
Profit to operator	4.5	15	67	56
Contribution to Balance of Payments	20.7	69	311	259

It must be stressed that these figures are purely illustrative, being based on assumptions for which as yet there can be no justifying evidence. However, they do provide an idea of the approximate orders of magnitude which could be involved if the present find proves commercial but no further discoveries are made.

It is apparent from the table that from somewhere around 1990 there could be a very useful tax flow of almost £250 million per year (at 1983 values). To put this in perspective, it is little more than the expected 1983 yield from all Corporation Tax, or from Income Tax on the Self-Employed. As such, it would be equivalent to a little under 5 per cent of total tax revenue in 1983, or about one-quarter of the expected current budget deficit.

It was assumed in the table that the state would not avail of its right to purchase a share of up to 50 per cent in the operation. If the option were to be exercised, its principal effect would be to slow the rate of tax receipts, as part of the revenue would be devoted to acquiring the state share. Thereafter, state income would be boosted each year by up to half of the operator's surplus. Whether it is worth taking a major share depends to a large extent on how much of the economic rent generated by the oil-field can be captured directly through taxation, as well as on the purchase price. For any given price, the lower the tax rate the greater the incentive to purchase a share of the operation.

In the illustration used, the contribution to the Balance of Payments would be quite substantial at over £250 million, which compares with an expected current deficit of about £350 million in 1983, but with a peak deficit in 1981 of nearly £1,400 million.

Not even a rough estimate can be made of direct employment generated by oil production as it could range from almost zero if the oil were to be piped directly abroad, to perhaps 4,000 if domestic refining were allied to continuing exploration and a high Irish participation rate on the production rig and in ancillary services. What is clear is that the direct employment effect is likely to be a relatively minor benefit compared with the revenue and balance of payments effects.

Policy Implications of a Single Field

The modest dimensions of the potential benefits of a single oil-field in relation to underlying economic problems have two main policy corollaries. The first is that even when they become available they will not call for any radical rethinking of economic management. The Balance of Payments effect should not be strong enough to have any significant impact on the Irish exchange rate within the EMS, while the revenue flows can take their place among the mix of taxes enabling little more than a marginal relaxation of some other tax rates. Questions of how the money ought to be spent would hardly arise.

The second and more urgent corollary is that the scale of future revenue flows is far too small to justify any modification of economic policy in anticipation of their arrival. The current rate of official external borrowing is about £800 million per annum. It can easily be seen that to allow this scale of borrowing to continue unabated for three years would, at current interest rates, absorb the entire anticipated revenue in servicing the new debt incurred

during that period. Thus, for the short and medium term the oil find does nothing to alleviate the necessity to reduce external borrowing.

Economic Effects of Multiple Oil Discoveries

Were further exploration to result in a series of major oil finds in Irish waters, the economic effects could be very far-reaching. Whereas it has been seen that a single field would do little more than to make the implementation of existing economic policies rather easier, multiple oil discoveries would demand a complete re-appraisal of policies.

Potential revenue and Balance of Payments effects running into billions of pounds would, indeed, provide great opportunities by relieving some of the existing economic constraints, but at the same time they would create new problems. While it would be pointless to examine these problems in great detail now, when there may still be no commercial oil at all, a brief look at their general nature might be of interest.

The long-term problem most often discussed in relation to major natural resource exploitation is the requirement for a structural shift in the economy. It is argued that to accommodate the new development, production of tradeable goods will fall and output of non-tradeables will tend to increase. As the bulk of tradeable goods are manufactures, a decline in existing manufacturing industry is postulated — the so-called "Dutch Disease".

This structural shift occurs thorugh a combination of a rising exchange rate and changes in factor prices. Both the direct Balance of Payments effect of the new resource, in this case, oil, and the improvement in the relative attraction of the country as a repository for financial investment will tend to force up the exchange rate against non-oil currencies. This would obviously reduce the competitiveness of existing industry. At the same time, the needs of the oil industry itself, and of those domestic services whose demand has been stimulated by the oil income, to acquire additional resources will tend to bid up the price of the factors of production, especially labour, thus further weaking the competitive position in manufacturing.

While there is fairly widespread agreement among economists on this theoretical analysis, there is much less accord concerning the empirical evidence on the strength of the tendency. Particularly, in the case of the UK in the past five years, there is no concensus on the extent to which North Sea oil has been responsible for either the rise in the value of sterling or the decline in manufacturing industry. What is clear is that the oil effect has been reinforced by broader economic policy decisions which on their own would also have tended to raise the exchange rate and squeeze industry. How far each of these factors can be held responsible for the outcome seems to be as much a field for political interpretation as for disinterested analysis. What certainly has not been tested in UK practice is whether countervailing policies could have either limited the decline in manufacturing or eased the transition to a more service-based economy. Norway, on the other hand, offers some evidence that appropriate policies can limit the disruption caused by large-scale oil production.

Even on the theoretical level there is some doubt as to the relevance of the analysis to Irish conditions. The finding that there is a need for structural

shifts, as distinct from a mere likelihood that they will come about, rests on the assumption that the starting equilibrium is one of full employment, so that resources have to be shifted from one use to another. If the new oil sector and an expanded domestic service sector can simply absorb previously unused resources then the *requirement* for any existing sector to decline would be avoided. The problem then would become one of so managing the exchange rate and factor price problems that an *unnecessary* reduction in the traded goods sector is prevented.

The broad outlines of a policy mix to achieve this result are fairly easy to state, although, of course, they might prove difficult to implement in practice.

A considerable part of the revenue would be used domestically to upgrade the infrastructure, industry and the social services. In a country like Ireland with a high propensity to import, the resulting expansion of incomes in the domestic service sector would lead to a rise in imports sufficient to offset a substantial proportion of the oil exports. The use of part of the oil revenue to establish a reverse capital flow, counterbalancing rather than reinforcing the improved current balance, would also help to keep the exchange rate from rising. The obvious first step in this direction would be the retirement over a relatively short period of the existing public external debt. When this process was completed it would be desirable to maintain the outward capital flow either through direct public investment overseas, or by actively encouraging private investment abroad. Apart from mitigating the short term exchange rate problems, such a policy would possess the advantage of ensuring a continuing income flow from abroad after the oil was exhausted. The fact that the Irish pound is not a major trading currency and that Ireland lacks a full range of international financial institutions should be of assistance in discouraging an unwanted capital inflow in the wake of major oil developments. However, it might also prove necessary to adopt a relatively low interest rate policy to further deter inward short-term capital movements.

While such a mix of policies might well suffice to hold the nominal exchange rate, there would remain the danger that the real exchange rate would nevertheless rise as a result of rapid inflation. Especially if monetary policy had to be fairly liberal in order to keep interest rates low for exchange rate purposes, then both fiscal and income policies would have to be strong if inflation were to be avoided. Here, too, the "export" of capital would be helpful, but in addition caution would be needed with regard to both the type and the speed of internal public investment. The criterion for such investment should be that it would yield a sound social or economic return, although not necessarily a direct financial return to the state.

Projects should not be assessed in terms of their immediate job-creating potential. Indeed, any attempt to eliminate unemployment as quickly as possible would almost certainly cause overheating of the economy, with rapid price and cost rises and an adverse long-term effect on industrial employment. A more gradual approach, in which manufacturing itself was planned to contribute to increased employment would be much more effective. Ironically, in the Irish situation the initial stages of major oil development could be made to enhance rather than damage industrial competitiveness if part of the public revenue were devoted to reducing those taxes which raise production costs, and if higher turnover lowered unit costs in the major public utilities. At a later

stage, money invested in improved infrastructure and industrial marketing or research facilities could also tend to improve competitiveness.

Although such cost reducing measures could offset probable pay increases in manufacturing industry while unemployment remained high, pressures for increased money wages would be likely to intensify as unemployment fell. An incomes policy strong enough to contain such pressures would seem to be beyond the power of unilateral government action. The best hope would be to establish in advance a consensus among the social partners for medium term income moderation together with a planned rise in employment and improvements in social services. The great advantage of large oil revenues would be that the employment side of such an accord would carry credibility, unlike the situation in recent recessionary years. However, the achievement of the necessary agreement on priorities and the pace of development would not be easy, and would depend on all parties retaining both a sense of realism and a long-term perspective. The justification for speculating about the problems of plenty before the presence of any commercial oil at all has been confirmed lies in this need to inculcate responsible attitudes, just in case major reserves are discovered.

EXPORT TOURISM INPUT-OUTPUT MULTIPLIERS FOR IRELAND — A REPLY

Noel T. Palmer*

In the course of an article on "Export Tourism Input-Output Multipliers for Ireland" in the ESRI *Quarterly Economic Commentary* of May 1982 Desmond A. G. Norton derived some estimates in respect of tourism activity and drew comparisions between his estimates and those of others including Byrne and Palmer. The following comments are set out in order to indicate sources of these differences.

There is little point in referring to "the" multiplier in empirical studies of the tourism sector because of the need to incorporate many assumptions in such a study, with each of these assumptions having a bearing on the magnitude of the multiplier. It is the effects of different assumptions which have given rise to the major difference which Norton perceives between his work and that of others. In a study which I undertook with John Byrne we distinguished a range of multipliers based on assumptions, *inter alia,* as to (a) government expenditure on goods and services being exogenous or endogenous and (b) the effects of marginal changes in tourist numbers. We also distinguished differences in multipliers pertaining to tourism spending by out-of-state and within-the-state tourists. We were particularly interested in the economic effects of tourism spending by both out-of-state and within the state tourists.

The major difference between Norton's estimate of the multiplier and that of others arises due to differences in the treatment of tax revenues. *If tax revenue is treated as being recycled Norton's calculations would provide a multiplier of 2.0 in respect of tourism expenditure within the state.* Such a procedure, of course, poses the question of the legitimacy of treating tax revenue in this manner. In the derivation of theoretical multipliers tax revenue is treated as a leakage. However, in conducting studies in applied economics it is necessary to set economic analysis in the context of the prevailing economic circumstances. During the past decade the government has consistently run current budget deficits and government borrowing has constituted an increasing percentage of GNP. There has been an increasing (and unsustainable) level of exchequer borrowing which is externally financed and outstanding foreign debt constituted an increasing proportion of our reserves. In the year in which Norton has chosen to set his work, i.e., 1976, the current budget deficit was 4.4 per cent of GNP, exchequer borrowing was 11.1 per cent of GNP and 64.0 per cent of exchequer borrowing was externally financed. If one perceives the government, when imposing taxation in order to finance its expenditure, as seeing beyond the impact effect of its action then the point is further emphasised. Norton apparently considers that studies in applied economics should ignore the prevailing economic climate and consequently treats tax

*The author is Lecturer in Economics at University College, Dublin.

revenue as being withheld and not influencing decisions of government expenditure. In pursuing this approach he ignores the essence of the Fiscal Drag concept. In a footnote Norton states:

> This (the non-recycling of tax revenue) is the standard kind of assumption made in macro-economic analysis. We admit that in a longer-term context the assumption may be invalid — to the extent that government expenditure is determined by the revenue available.

However, he does not attempt to render his comment operational by commenting on the calendar period which the long-run entails and thus he sets the fiscal year in question in a timeless zone unaffected by past or present tax revenues.

As an alternative approach a cost/benefit analysis might be undertaken in respect of government's *net* allocation of funds to the sector. In such an approach the tax revenues accruing from the government action could be set against the initiating government injection of funds. The *net* cost of the government's financial intervention could then be compared with any increase in economic activity (multiplier effect) with tax revenue not being recycled. Also this method distinguishes between tax payments and other forms of leakage, e.g., imports.

The question of the recycling of tax revenue is not the only point of issue. Norton's use of average rather than marginal factors distorts his multiplier analysis because of the heavy weighting attributed to electricity and transport in the input/output analysis of tourism. It is particularly important to distinguish between marginal and average factors in the electricity and transport sectors because of the large fixed cost elements in these sectors. These points which are of relevance in the calculation in multipliers and on which Henry (1980) urged caution, are discussed below in the context of capital/labour ratios.

Capital/Labour Ratios

Norton asserts that the tourism sector is more capital intensive than is the economy as a whole. In support of this assertion he quotes Gross Capital Stock/Employment for the economy as a whole in 1976 as £10,651. He contrasts this with his estimate of £11,263 in respect of the Gross Capital Stock/Employment for spending within the state by foreign tourists plus carrier receipts. Norton derives this latter figure from his own estimated raw data as follows:— *tourism spending in Ireland*: Gross Capital Stock £242.18m: Employment (man-years) 23,171 — giving an estimated capital stock per man-year of £10,450 (which is below the average for the economy as a whole). *Thus on Norton's own figures tourism spending within the state is more labour intensive than average.* Norton's corresponding estimates for capital intensity in respect of carriers' revenue from export tourism are:— Gross Capital Stock £48.56m: Employment 2,643 man-years and an estimated capital stock per man-year of £18,370. He then combines these estimates in order to estimate the capital intensity of export tourism spending as £11,263 — *the estimated capital intensity in respect of carriers' receipts from export tourism providing an upward bias to the overall figure.* However, I would question the basis of these calculations as follows.

When estimating the gross capital stock requirement in respect of tourism expenditure in Ireland, Norton employs a heavy weighting in respect of "electricity and towngas". Electricity is the most capital intensive sector of the economy with a capital stock per man-year which is 2.2 times greater than the next most capital intensive sector.[1] In Norton's calculation, the weighting in respect of the electricity capital stock for tourism is 3 per cent. He shows an electricity capital stock requirement of £6.51 million out of a gross capital stock of £242.18 million *in the first round* of the multiplier process. I consider that he overestimates the electricity Gross Capital Stock requirement of the tourism sector so that this weighting in respect of such a capital intensive industry gives an upward bias to Norton's estimate of a Gross Capital Stock requirement of £242.18m in respect of export tourism. In 1976, which is the year in which Norton has set his analysis, the ESB peak load was 1478MW and this demand was experienced on February 4th. During the period 2nd May '76 to end of Aug. '76, the ESB peak load was 1190MW and even this demand was experienced at 12.30 hours which is not a time of peak demand by the tourist industry. The inordinate importance of the foregoing may be illustrated by considering that if the electricity capital stock requirement were removed, then based on this fact alone, Norton's estimate of the capital intensiveness of tourism spending within the economy would be reduced from £10,452 to £10,170. Also, since the tourist season coincides with a relative valley period in the context of the overall annual demand for electricity the ESB has flexibility in their choice of generation fuels; this flexibility would confer a cost advantage to the ESB so that the use of average cost and average import content for electricity generation in respect of tourism activity is questionable.

The extent to which one can meaningfully consider capital stock in respect of export tourism, while ignoring domestic holidaymakers, as Norton does, is questionable also. If one were to include the appropriate figures in respect of domestic tourism Norton's calculation in respect of the capital intensiveness of the tourism sector would be reduced due to these people creating no demand for access transport capital. In 1976, all domestic trips including personal amounted to £64.9m with £57.0m being attributed to domestic tourism.

In Norton's input/output analysis of carrier receipts from export tourism, 78 per cent of the entire capital stock employed pertains to the transport sector. There is a large fixed cost element in access transport and during the year in question access transport was not subject to capacity constraints. In this circumstance it is not meaningful to consider marginal changes in tourist numbers as placing cost incurring pressure on the capital capacity of the stock of access transport. In addition Norton ignores the earnings of £26.5m by Irish carriers in respect of import tourism,[2] these earnings cannot be treated as if attributable to a separate capital stock. How can these earnings be excluded in calculating the capital intensiveness of the tourism/transport sector? A subsidiary point is the extent to which it may be necessary to maintain access transport for reasons other than tourism.

In respect of carriers receipts, 80 per cent of Norton's first round leakage of £10.48m is due to transport costs which must be assessed in the light of the

[1]See Henry (1980).

[2]*Irish Statistical Bulletin* – June 1978 – p. 97.

above comments regarding the effect of marginal changes in tourist numbers on total transport costs. By failing to distinguish between marginal and average factors in this high fixed cost sector Norton projects marginal increases in tourist numbers as requiring not only additional transport capital stock but pro rata increases in fuel costs etc.

It may seem that the various figures in respect of capital intensiveness are merely a ranking, so that questions raised above regarding average versus marginal factors would cancel out in a comparative study, since they are common to all sectors of the economy. This approach would not be acceptable for the following reasons: —

(i) In respect of carrier receipts, Norton applies a weighting of 78 per cent, which is greater than the weighting of 3 per cent which applies to transport in the economy as a whole. Because of the dominance of transport with its large fixed cost element in carrier receipts, the question whether marginal increases in tourist numbers could be catered for without increasing the supply of transport is of crucial importance.

(ii) The nature of the timing of demand of the tourist sector for electricity services, which creates no demand for the highly capital intensive electricity-generating capital stock, but rather improves the load factor of plant already in existence to cater for peak periods of demand.

(iii) As an indication of the order of magnitude of these factors it may be noted that in Norton's calculation 31 per cent of the import leakage in respect of tourism expenditure pertains to transport and electricity.

In addition to bearing on estimates of the capital intensiveness of the sector, the above factors influence also estimates of the magnitude of the multiplier.

We specifically stated that the employment attributable to the sector had been derived using the methodology adopted by the working group of the National Tourist Office of the EEC in their report on *The Economic Significance of Tourism within the European Community* (British Tourist Authority, 1975)[3]. Utilising this methodology the initial injection of tourism spending is increased by the appropriate multiplier and the resultant figure is expressed as a percentage of GNP. This percentage figure is then considered to be the proportion of total employment which is attributable to tourism activity. The magnitude of the multiplier employed has (obviously) a crucial bearing on the level of employment which is estimated using this methodology. Also, the method assumes a constant relationship between output and employment and consequently imparts a downward bias in respect of labour intensive industries.

To sum up, in referring to his estimates Norton continually refers to them as upper bound estimates, however, it should be noted that he derived and applied these estimates on the assumptions that (i) tax revenue is not recycled, and (ii) marginal factors are the same as average even in capital intensive industries (viz: transport and electricity) which are given a heavy weighting in respect of tourism activity and (iii) Norton treats export tourism as being independent of and separate from domestic tourism. He then ignores this latter activity.

[3]Byrne and Palmer (1981) p. 88.

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EXPORT TOURISM: REJOINDER TO PALMER

Desmond A. G. Norton*

There appear to be three central points in Noel Palmer's comments. These pertain to:

I: The treatment of the government sector — should it be regarded as exogenous (as in Norton, 1982) or endogenous?

II: An assumtion of the input-output model used by me, namely, its failure to distinguish between average and marginal values of parameters.

III: The relative capital intensity of export tourism.

Point One

(i) Contrary to what might be inferred from Palmer, Byrne and Palmer (1981) — henceforth referred to as BP — did *not* distinguish between a range of multipliers based on any stated assumptions in regard to the exogeneity or endogeneity of government expenditure on goods and services. Their multipliers — on page 90 of their study — are all drawn from page 67 of Deane's (1980) report on tourism policy and suffer from the same deficiencies as those in Deane, mentioned on pages 34 and 35 of my study.

(ii) Palmer provides no basis for his assertion that "if tax revenue is treated as being recycled" (i.e., if government were endogenous) "Norton's calculations would provide a multiplier of 2.0 in respect of tourism expenditure within the state". Any calculated multiplier for a model with government expenditure on goods and services taken as endogneous would depend on the assumptions made (but unstated by Palmer) in regard to the *structure* of marginal changes in such expenditure.

(iii) In my own study (pages 35 and 36), in order to make sense of BP's comparison of export tourism multipliers with fiscal multipliers, I inferred that BP's within-the-state export tourism multiplier of 1.8 pertained to a model in which government expenditure on goods and services are exogenous. Palmer now tells us that it pertained to a mdoel in which government expenditure was endogenous. It follows that there is no government expenditure multiplier in BP's model; the effects of increased government expenditure are embodied in the export tourism multiplier. From this, it further follows that BP's comparison of high export tourism multipliers with relatively low government expenditure multipliers is misleading. If Palmer wishes to compare export tourism multipliers with fiscal multipliers he must make government expenditure on goods and services exogenous.

Point Two

One of the main objectives of the study under criticism by Palmer was to obtain safe *upper bound* estimates of export tourism multipliers. Palmer

*The author is Lecturer in Economics at University College, Dublin.

correctly criticises the input-output model used by me because it fails to distinguish between average and marginal values of parameters. In fact, I raised the same point on page 37 of my study. However, I also added that this shortcoming of the input-output model used could generate *overestimates* of national income multipliers pertaining to various kinds of exogenous demand: it would seem plausible to argue that in Ireland the marginal propensities to save and to import both exceed the average propensities. However, an implication from Palmer is that the input-output model used leads to underestimates of export tourism multipliers. For the reasons just indicated (and also because of my assumption of a low marginal propensity to save on page 44 of my study), I am confident that this is not the case, and that my multiplier of 1.03 for total export tourism is indeed a safe upper bound estimate.

Point Three

Under the heading of capital/labour ratios, Palmer claims that my procedures lead to overestimation of the relative capital intensity of export tourism. He also questions the accuracy of various data used by me as the basis for my estimates.

(i) My estimated of £10,651 for the economy-wide capital/employment ratio was derived directly from Table 1 in Henry (1980). My estimate of the capital/employment ratio for total export tourism was £11,263; however, I pointed out on page 49 of my study that this was an understatement because of identifiable rounding errors.

The figure of £11,263 reflects an estimated capital/employment ratio of £10,450 for export tourism spending in Ireland and an estimated capital/employment ratio of £18,370 for export tourism carrier receipts. Consider the estimate of £10,450 for within-the-state export tourism. Rounding errors occurred in measuring the gross capital stocks induced by within-the-state export tourism in the various sectors: the estimated figures for the gross outputs of each sector (referred to in the top line of page 43 of my study), in units of £ million, were multiplied by the capital coefficients in Henry's Table 2[1]. The resulting products were set to two decimal places only, thereby losing the third and fourth decimals of units measured in £ million. It appears that in consequence, the sum of the capital stocks across all sectors, entailed by within-the-state export tourism, was understated. A further rounding error to the same effect was made in dividing the summed capital stock figure (fairly small in absolute terms, but in units of £ million) by the total employment figure (large in absolute terms and in standard units). In fact, as Palmer must be aware, Henry (page 24), on the basis of calculations more precise than mine, estimated that the capital/employment ratio for within-the-state export tourism was "about £11,000". The extent to which the rounding errors led to understatments in my calculation of capital intensity can be seen by comparing my figure of £10,450 with Henry's £11,000.

I admit that I was sloppy in tolerating significant rounding errors. But correcting for them only increases the estimated capital intensity of export tourism. Thus, instead of my procedure biasing upwards the overall capital

[1]Note that the entry .1546 in this table is a misprint; it should read 2.1546, the figure used by me.

intensity of export tourism, as asserted by Palmer, it does the contrary, yielding an understatement.

(ii) Palmer asserts that in my calculations of capital intensity the weighting in respect of the electricity capital stock for tourism was 3 per cent, and that this figure is too high, thereby generating "an upward bias" implied by my figure of £242.18 million for the capital stock requirement of the within-the-state export tourism sector. Actually, the weighting for electricity *plus towngas* in my calculations was just less than 2.7 per cent of the capital stock requirement of the within-the-state export tourism sector. Thus, the weighting of electricity alone would have been lower than the latter figure.

(iii) Palmer's statement that "if one were to include the appropriate figures in respect of domestic tourism Norton's calculation in respect of the capital intensiveness of the tourism sector would be reduced" is entirely unsubstantiated. Whether or not domestic tourism has a lower capital intensity than within-the-state export tourism depends on the spending patterns of the two categories of tourist. In any case, domestic tourism was beyond my terms of reference.

(iv) Towards the end of his comments Palmer notes that in my study "in respect of carrier receipts, transport has a weighting of 78 per cent, which is greater than the weighting of 3 per cent which applies to transport in the economy as a whole". The implication seems to be that those weightings are inconsistent. However, that is not the case.

The figures of 78 per cent was derived as follows: as is clear from page 47 of my study, the gross capital stock entailed by export tourism carrier receipts was £48.56 million. This reflects the direct and indirect effects of the £35.47 million of final demand for carrier services. Of the £48.56 million in capital, the work-sheets which I made available to Palmer indicated that £37.94 million pertained to the transport sector itself; the difference between the latter two figures reflects the *indirect* capital stock requirements in sectors other than transport, prior to the calculation of induced Keynesian multiplier effects. There is nothing surprising about the figure of 37.94/48.56 = .78 cited by Palmer. Each of the above figures pertains to the first round effects of export tourism expenditure on carriers.

From Henry's Table 1, we find that the total gross outputs from all sectors of the economy summed to £9,236 million in 1976, while the gross output of the transport sector came to £271.17 million. Thus, the weighting of transport in the gross output of the economy as a whole was 271.17/9,236 = .029, or approximately .03. The figures .78 and .03 are in no way inconsistent, as seems to be implied by Palmer.

Other Issues

(i) BP accept Deane's preferred multiplier estimates to evaluate the economic importance of *total* export tourism — not of marginal changes in export tourism as might be inferred from Palmer's comments. (Compare paragraphs 2.32, 2.33 and 2.38 of Deane with page 88 of BP.)

(ii) At the beginning of his comments, Palmer states that the BP multipliers were based on *assumptions in regard to the effects* of marginal changes in tourist numbers. That is wholly meaningless, for the whole purpose of calculating multipliers is to *assess the effects* of changes in tourist numbers.

(iii) I cannot determine where in their study BP distinguished, as claimed by Palmer, between "differences in multipliers pertaining to tourism spending by out-of-state and within-the-state tourists". Furthermore, to the extent that tourism expenditure in Ireland by Irish residents is an *endogenous* consumption variable (being a function of income) rather than an exogenous variable, its multiplier is not definable.

(iv) Just before turning to the question of capital intensity, Palmer suggests that the multiplier effect of tourism (social benefits) as compared to the net Exchequer cost of promoting tourism (social costs) might form the basis of a cost-benefit analysis of tourism. By social cost in public project appraisal economists mean social opportunity cost. Thus, if benefit/cost ratios were sensibly to form the criteria for promotion of tourism, benefit/cost ratios would also have to be estimated for *all* potentially relevant public sector projects other than tourism.

(v) Palmer criticises me for ignoring the earnings of Irish carriers in respect of import tourism. I paid no explicit attention to such earnings simply because they were beyond my terms of reference.

(vi) Palmer's claim, towards the end of his comments, that tourism has "no" (sic) input of scarce capital in electricity generation is irrelevant to the question of comparing the capital intensity of toursism to that of other sectors: If, due to excess capacity, and taking into account both direct and indirect effects, tourism had no input of scarce capital in electricity generation, then neither would any other sector have had such an input.

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STATISTICAL APPENDIX

		Output Indicators				Employment		Output per Head	
		1	2	3	4	5	6	7	8
		Manufacturing	Transportable Goods	Electricity Output	Cement Sales	Manufacturing	Transportable Goods	Manufacturing	Transportable Goods
		1973 = 100	1973 = 100	G.W.H.	000 Metric Tons	000's	000's	1973 = 100	1973 = 100
1977		115.9	115.4	9127	1516.5	202.8	213.8	118.1	117.0
1978		125.6	125.1	9815	1751.7	206.8	218.0	125.6	124.4
1979		133.3	132.9	10853	2067.8	215.1	227.0	128.2	126.9
1980		131.9	131.6	10733	1814.9	213.1	225.3	127.9	126.7
1981		135.7	134.1	10767	1812.5	206.0	218.1	136.2	133.3
1982		134.6	133.6	10792	1486.1	198.9	210.3	139.9	137.7
		Quarterly Averages or Totals							
1980	I	131.8	130.3	3022	424.8	215.9	227.5	126.2	124.2
	II	141.4	142.2	2502	495.0	214.3	227.4	136.5	135.5
	III	123.5	124.3	2538	476.9	212.1	224.1	120.4	120.1
	IV	128.6	127.4	2851	418.2	210.2	221.9	126.4	124.5
1981	I	128.1	126.5	2885	410.2	206.6	218.4	128.2	125.6
	II	143.3	141.4	2546	516.6	205.4	218.1	144.3	140.6
	III	130.4	131.1	2408	488.8	206.1	218.7	130.8	129.9
	IV	136.1	133.0	2928	396.9	205.7	217.0	136.8	132.9
1982	I	131.1	128.4	2954	335.2	202.4	213.9	133.9	130.2
	II	143.9	143.3	2514	436.2	199.9	212.5	148.8	146.2
	III	127.4	128.7	2425	405.9	198.4	209.7	132.8	133.1
	IV	136.1	133.9	2899	308.8	194.7	205.1	144.5	141.5
1983	I	139.1	136.7	2990	298.1	188.0	198.5	152.9	149.3
	II	148.7	146.2	2650	367.1				
	III				371.5				
	IV								
		Quarterly Averages or Totals Seasonally Corrected							
1980	I	136.4	136.2	2718	494.1	216.8	229.0	130.1	128.9
	II	132.7	133.5	2655	445.4	214.7	226.7	127.8	127.6
	III	129.1	127.6	2670	434.5	211.9	224.2	126.0	123.4
	IV	127.5	127.3	2674	457.8	200.1	221.4	126.1	124.7
1981	I	132.0	131.6	2606	482.5	207.5	219.8	132.1	129.8
	II	134.2	132.4	2708	461.2	205.8	217.4	135.1	132.0
	III	136.2	134.5	2729	444.5	205.9	218.5	136.7	133.4
	IV	135.5	133.3	2737	408.8	204.6	216.5	137.0	133.4
1982	I	134.5	133.1	2676	398.2	203.3	215.3	136.8	134.0
	II	134.8	134.2	2674	394.9	200.3	211.9	139.1	137.3
	III	133.4	132.4	2737	368.2	198.2	209.5	139.2	137.1
	IV	135.3	134.0	2704	340.6	193.7	204.5	144.4	142.1
1983	I	142.8	141.9	2720	316.4	188.8	199.9	156.4	153.8
	II	139.1	136.8	2816	336.6				
	III				344.1				
	IV								

Unemployment	Prices						
9	10	11	12	13	14	15	
Live Register Av. Monthly	Consumer Price Index	Agricultural Price Index	Import Unit Value	Export Unit Value	Terms of Trade	Price of Stocks + Shares	
000's	Nov. 1975 = 100	1975 = 100	1975 = 100	1975 = 100	1975 = 100	1975 = 100	
106.4	130.0	153.9	139.3	142.3	102.1	133.1	1977
99.2	139.9	174.0	146.2	151.6	103.7	201.5	1978
89.6	158.5	184.2	165.9	165.0	99.5	215.6	1979
101.5	187.3	179.3	195.6	179.5	91.8	212.0	1980
127.9	225.6	213.1	232.4	208.4	89.7	219.9	1981
148.2	264.2	232.3	249.4	231.5	92.8	179.9	1982
			Quarterly Averages or Totals				
92.0	173.5	180.4	183.6	174.9	95.3	206.4	1980 I
94.0	186.3	186.3	192.6	181.0	94.0	206.1	II
103.9	191.8	176.2	194.8	183.4	94.1	211.3	III
116.0	197.7	179.0	205.3	185.9	90.6	224.2	IV
125.8	209.9	202.9	221.4	192.0	86.7	218.9	1981 I
124.3	218.1	213.2	231.3	204.8	88.5	235.3	II
126.8	230.4	213.9	236.8	211.5	89.3	223.1	III
134.5	243.8	220.0	236.6	216.2	91.4	202.7	IV
146.8	249.5	237.0	243.5	222.2	91.3	192.3	1982 I
149.0	263.9	235.3	248.4	231.1	93.0	174.6	II
159.0	269.5	230.3	254.0	235.0	92.5	175.5	III
171.6	273.8	229.7	255.6	238.3	93.2	178.3	IV
188.3	280.6	242.0	247.0	237.3	96.1	172.0	1983 I
188.1	288.3	246.0	254.5	247.7	97.3	206.1	1983 II
193.0	296.5					249.7	III
							IV
			Quarterly Averages or Totals Seasonally Corrected				
87.5	174.0	177.4	No	No	No	No	1980 I
95.1	185.6	179.0	Seasonal	Seasonal	Seasonal	Seasonal	II
106.8	191.3	179.2	Pattern	Pattern	Pattern	Pattern	III
116.6	198.2	186.9					IV
121.7	210.8	198.7					1981 I
125.5	217.2	205.3					II
129.5	229.7	218.0					III
134.7	244.4	229.4					IV
142.2	250.6	231.7					1982 I
150.9	262.9	226.8					II
161.5	268.6	234.9					III
171.8	274.4	239.6					IV
183.7	282.0	236.5					1983 I
190.0	287.3	237.3					II
195.6	295.5						III
							IV

		Money Earnings Weekly Averages		Real Earnings			Consumption Indicators	
		16	17	18	19	20	21	22
		Manufacturing	Transportable Goods	Manufacturing	Transportable Goods	New Cars Registered	Retail Sales Value	Retail Sales Volume
		1973 = 100	1973 = 100	1977 = 100	1977 = 100	Total	1975 = 100	1975 = 100
1977		206.3	206.1	100.0	100.0	82310	143.0	106.9
1978		236.2	235.7	106.4	106.3	105582	170.4	116.4
1979		271.3	271.1	107.9	107.9	95938	197.9	120.3
1980		321.2	321.0	108.1	108.1	91032	226.5	119.3
1981		373.8	372.6	104.4	104.2	104645	268.8	118.8
1982		417.9	418.4	99.6	99.8	72603	293.4	112.1
		Quarterly Averages or Totals						
1980	I	302.3	301.5	109.8	109.5	34241	203.3	115.4
	II	318.3	318.6	107.7	107.7	23589	224.0	119.1
	III	318.8	318.2	104.7	104.5	20517	223.9	115.6
	IV	345.2	345.6	110.0	110.3	12592	254.7	127.3
1981	I	346.2	344.6	103.9	103.6	35696	238.8	113.3
	II	373.3	371.4	107.9	107.4	29306	264.1	119.8
	III	383.8	385.2	104.9	105.5	32351	278.8	120.7
	IV	391.7	389.2	101.2	100.7	7292	293.5	121.2
1982	I	393.3	390.6	99.3	98.7	28114	269.5	108.4
	II	417.6	423.0	99.7	101.1	21223	291.3	112.1
	III	424.0	423.6	99.1	99.1	14012	289.2	108.6
	IV	436.7	436.3	100.5	100.5	9981	323.6	119.2
1983	I					29262	295.6	105.5
	II					11822		
	III							
	IV							
		Quarterly Averages or Totals Seasonally Corrected						
1980	I	307.1	307.5	111.0	111.1	25027	218.0	122.2
	II	315.5	314.8	107.1	106.6	21166	221.9	118.6
	III	319.3	317.4	104.9	104.5	21570	225.2	116.0
	IV	342.3	343.8	109.3	109.9	25128	242.2	120.5
1981	I	351.7	351.6	104.8	105.0	24790	253.9	120.1
	II	370.1	367.0	107.4	106.4	26598	261.8	119.3
	III	384.4	384.2	105.1	105.4	34184	278.0	120.1
	IV	388.4	387.2	100.7	100.5	15255	279.1	114.7
1982	I	399.7	398.7	100.1	99.9	19242	286.4	114.8
	II	413.5	417.3	99.3	100.2	19314	288.1	111.4
	III	425.3	423.4	99.3	99.0	15074	291.9	109.5
	IV	432.6	433.3	100.0	100.3	18407	308.0	112.8
1983	I					19746	312.4	111.1
	II					11107		
	III							
	IV							

	Government		Monetary Developments				
23	24	25	26	27	28	29	
Current Revenue	Current Expenditure	Current Deficit	Money Supply M3	Licensed Banks Domestic Credit Government	Non-Gov.	External Reserves	
£m	£m	£m	£m End Period	£m End Period	£m End Period	£m End Period	
1757	1966	209	3257.3	836.0	2639.5	1200.7	1977
2023	2421	398	4117.2	902.6	3475.2	1251.9	1978
2384	2905	521	4986.3	1005.9	4350.5	974.7	1979
3155	3708	553	5828.6	1132.6	5050.7	1346.0	1980
3973	4796	823	6972.7	1277.4	6053.6	1473.1	1981
4908	5896	988	7876.0	1564.7	6677.4	1594.0	1982
Quarterly Totals			Monthly Totals				
751	777	26	5003.1	875.8	4607.8	960.7	1980 I
783	1013	230	5103.7	952.5	4585.8	979.7	II
726	870	144	5447.8	1123.1	4773.0	1164.4	III
895	1047	152	5828.6	1132.6	5050.7	1346.0	IV
871	1076	205	6147.6	1124.1	5381.7	1322.7	1981 I
936	1188	252	6369.8	1201.5	5511.6	1191.7	II
970	1245	275	6679.8	1217.8	5785.0	1071.8	III
1196	1287	91	6972.7	1277.4	6053.6	1473.1	IV
1044	1437	393	7098.2	1334.1	6366.8	1406.0	1982 I
1176	1474	298	7141.8	1369.9	6347.9	1464.6	II
1184	1457	267	7498.7	1510.7	6458.1	1521.0	III
1505	1534	29	7876.0	1564.7	6677.4	1594.0	IV
1220	1646	426	8006.4	1510.3	7058.5	1235.1	1983 I
1405	1654	249	8106.3	1638.4	7055.1	1343.2	II
1440	1560	120				1914.4	III
							IV
Quarterly Totals (S.C.)			Monthly Totals (S.C.)				
709	742	39	5034.6	No	4494.9	834.8	1980 I
816	1020	204	5198.1	Seasonal	4548.0	1050.3	II
782	916	144	5504.6	Pattern	4730.6	1169.4	III
881	1054	173	5799.9		5031.4	1235.2	IV
791	996	204	6084.1		5248.9	1291.8	1981 I
984	1214	230	6406.5		5478.8	1268.9	II
1032	1313	281	6691.2		5144.3	1076.7	III
1186	1296	110	6820.9		6022.8	1352.6	IV
965	1340	383	7032.3		6207.1	1375.1	1982 I
1215	1492	277	7183.4		6318.7	1554.7	II
1281	1509	229	7518.9		6420.7	1528.6	III
1402	1530	128	7702.5		6637.3	1463.7	IV
1198	1599	401	7935.8		6880.7	1208.5	1983 I
1424	1631	207	8155.1		7024.2	1424.4	II
1571	1611	40					III
							IV

		Visible Trade Indicators					Exchange Rates	
		30	31	32	33	34	35	36
		Imports (Value)	Exports (Value)	Import Excess (Value)	Imports (Volume)	Exports (Volume)	Effective Index	Sterling
		£m	£m	£m	1975 = 100	1975 = 100	Dec. 1971 = 100	Per IR£
1977		3090.9	2518.2	572.7	129.9	122.2	77.01	1.0000
1978		3713.1	2963.2	749.9	148.8	134.8	77.57	1.0000
1979		4817.5	3501.1	1316.4	170.3	146.5	77.08	0.9646
1980		5419.6	4130.9	1288.7	162.6	158.9	74.01	0.8862
1981		6578.4	4777.6	1800.8	166.0	158.3	67.75	0.8002
1982		6812.3	5687.9	1124.4	160.3	169.8	67.35	0.8125
		Monthly Averages						
1980	I	476.6	319.6	157.0	182.8	150.5	75.85	0.9276
	II	440.0	334.4	105.6	160.9	153.2	74.71	0.9026
	III	433.2	356.6	76.6	156.6	161.3	74.65	0.8905
	IV	458.1	363.1	95.0	157.2	162.0	70.75	0.8231
1981	I	511.7	339.6	172.1	162.7	144.1	67.24	0.7686
	II	557.2	405.5	151.7	169.6	162.0	66.57	0.7730
	III	572.6	419.4	153.2	170.4	161.8	67.85	0.8177
	IV	549.4	450.7	98.7	163.4	170.3	69.32	0.8407
1982	I	597.7	411.2	126.4	172.8	153.3	67.71	0.8126
	II	589.5	503.7	85.8	167.1	180.7	67.72	0.8171
	III	532.5	475.0	57.5	147.6	173.2	66.88	0.8022
	IV	550.8	506.5	44.3	151.7	176.3	67.10	0.8185
1983	I	585.8	471.5	114.3	167.1	164.8	69.46	0.8943
	II	592.1	575.8	16.4	163.8	192.6	65.14	0.8171
	III	602.4	606.8	4.4			63.28	0.7894
	IV							
		Monthly Averages. Seasonally Corrected.						
1980	I	466.5	346.0	120.5	178.7	165.2	No Seasonal Pattern	No Seasonal Pattern
	II	423.8	334.8	89.0	154.8	155.6		
	III	453.3	349.0	104.3	165.2	158.0		
	IV	464.4	349.2	115.2	158.8	152.2		
1981	I	504.1	361.0	143.1	158.7	154.8		
	II	537.6	406.9	130.7	164.0	160.4		
	III	597.7	414.2	183.5	179.1	160.5		
	IV	555.4	434.0	121.4	164.0	162.6		
1982	I	586.8	436.4	143.9	169.7	163.4		
	II	573.3	500.5	72.8	163.7	181.3		
	III	547.4	468.8	78.6	152.0	165.4		
	IV	567.1	488.2	79.9	154.5	167.9		
1983	I	570.6	507.7	62.9	163.6	176.2		
	II	577.3	565.9	11.4	160.9	191.1		
	III	620.6	601.3	19.3				
	IV							

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