ISSN 0376-7191

The Economic and Social Research Institute

QUARTERLY ECONOMIC COMMENTARY

by

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APRIL 1986

THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE
COUNCIL, 1985 - 1986

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Copies of this paper may be obtained from The Economic and Social Research Institute (Limited Company No. 18269), (Registered Office) 4 Burlington Road, Dublin 4.

Price IR£12.50 per copy or IR£40 per year

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Printed by Mount Salus Press Limited, Bishop Street, Dublin 8

CONTENTS

SUMMARY

The collapse in oil prices and the depreciation of sterling and the dollar have greatly improved the external environment for the Irish economy. As a result, inflation should fall in 1986 to an average of about 2½ per cent, and the volume of consumer spending should rise by some 4 per cent. As similar developments will take place throughout Europe, the volume of manufactured exports can be expected to recover from the setback suffered in the course of 1985. Even allowing for a substantial rise in the volume of imports, the balance of payments deficit should be reduced to under 2 per cent of GNP, and real GNP could itself rise by about 3 per cent.

In fact, real GNP is not a fully adequate measure of the benefit brought to the economy by the shift in the terms of trade. As the special article in this *Commentary* demonstrates, a truer measure of the welfare gain is shown by a construct called "real national disposable income". On this basis the gain to the economy as a whole in 1986 is likely to be of the order of 5 per cent.

Despite the improved prospects now facing the economy, it is necessary to qualify the forecast with several warnings. In the first place, simply because the condition of falling import prices is so unusual in modern Ireland, the forecast itself must be regarded as more tentative than normal. Considerable amendments in either direction may have to be made later in the year.

Secondly, the improvement in the growth rate and in national welfare forecast here are unlikely to make any great impact in 1986 on the two major problems of unemployment and the public finances. Unemployment could stabilise and the budget deficit be slightly reduced in 1986, but even if progress on these issues is faster in 1987 they will still remain major problems for the rest of the decade.

Thirdly, although the balance of economic developments in 1986 will clearly be favourable, certain sectors will face severe difficulties. For example, because of the financial constraints on the EEC, agriculture in Ireland seems likely this year to recover only a small proportion of the income lost in 1985, while some industrial firms competing directly with UK sources will face strong pressure from the depreciation of sterling.

Finally, and most important of all, the benefits accruing from lower import prices may come almost automatically in 1986, but their retention into future years is far from automatic. It would be all too easy to dissipate the opportunities now being presented by making wrong decisions over the next twelve months. Excessive caution, perhaps bred from cynicism, could allow worthwhile marketing and investment openings to pass untaken. Far more dangerous, unjustified euphoria could lead to a relaxation of discipline with regard to the public finances and pay bargaining, with the result that the boom would intensify in the short run but then peter out with no lasting advantage.

The need in the coming months is for a revival in sober confidence in the future of the economy, allied to the continuation of a disciplined approach to correcting the major economic imbalances. Given these responses, the improvement in living standards which will take place in 1986 can be translated, through increased productive investment, into rising employment in 1987 and beyond.

ESTIMATED NATIONAL ACCOUNTS 1985

A: Expenditure on Gross National Product

	1984	1985	Change in 1985				
	Provisional	Estimated	£m		%		
	£m	£m	Total	Volume	Total	Price	Volume
Private Consumer Expenditure ...	9465	10137	672	153	7	5½	1½
Public Net Current Expenditure ...	3083	3293	210	15	6¾	6¼	½
Gross Domestic Fixed Capital Formation	3415	3677	262	68	7¾	5¾	2
Exports of Goods and Services (X) ...	9742	10750	1008	576	10¼	4	6
Physical Changes in Stocks	355	65	– 290	– 260			
Final Demand	26060	27922	1862	552	7¼	5	2
less:							
Imports of Goods and Services (M) ...	9778	10318	540	245	5½	3	2½
GDP at market prices	16282	17604	1322	307	8	6	2
less:							
Net Factor Payments (F)	1609	2012	403	320	25	4	20½
GNP at market prices	14673	15592	919	– 13	6¼	6¼	0

B: Gross National Product by Origin

	1984	1985	Change in 1985	
	Provisional	Estimated		
	£m	£m	£m	%
Agriculture, Forestry, Fishing ...	1474	1334	– 140	– 9½
Non-Agricultural: Wages, etc. ...	8740	9440	700	8
Other	2600	3221	621	24
less:				
Net Factor Payments	1609	2012	403	25
National Income	11205	11983	778	7
Depreciation	1580	1786	206	13
GNP at factor cost	12785	13769	984	7¾
Taxes less subsidies	1888	1823	– 65	– 3½
GNP at market prices	14673	15592	919	6¼

C: Balance of Payments on Current Account

	1984	1985	Change in 1985
	Provisional	Estimated	
	£m	£m	£m
X—M	– 36	432	+ 468
F	– 1609	– 2012	– 403
Net Transfers	808	1050	+ 242
Balance on Current Account ...	– 837	– 530	+ 307
as % of GNP	– 5¾	– 3½	+ 2¼

FORECAST NATIONAL ACCOUNTS 1986

A: Expenditure on Gross National Product

	1985	1986	Change in 1986				
	Estimated £m	Forecast £m	£m Total	£m Volume	% Total	% Price	% Volume
Private Consumer Expenditure ...	10137	10797	660	405	6½	2½	4
Public Net Current Expenditure ...	3293	3507	214	32	6½	5½	1
Gross Domestic Fixed Capital Formation	3677	3881	204	111	5½	2½	3
Exports of Goods and Services (X) ...	10750	11213	463	579	4¼	– 1¼	5½
Physical Changes in Stocks	65	115	50	50			
Final Demand	27922	29513	1591	1177	5¾	1½	4¼
less:							
Imports of Goods and Services (M) ...	10318	10426	108	614	1	– 5	6
GDP at market prices	17604	19087	1483	563	8½	5	3¼
less:							
Net Factor Payments (F)	2012	2092	80	105	4	– 1¼	5¼
GNP at market prices	15592	16995	1403	458	9	6	3

B: Gross National Product by Origin

	1985	1986	Change in 1986	
	Estimated £m	Forecast £m	£m	%
Agriculture, Forestry, Fishing ...	1334	1374	40	3
Non-Agricultural: Wages, etc. ...	9440	10054	614	6½
Other	3221	3591	370	11½
less:				
Net Factor Payments	2012	2092	80	4
National Income	11983	12927	944	7¾
Depreciation	1786	2018	232	13
GNP at factor cost	13769	14945	1176	8½
Taxes less subsidies	1823	2050	227	12½
GNP at market prices	15592	16995	1403	9

C: Balance of Payments on Current Account

	1985	1986	Change in 1986
	Estimated £m	Forecast £m	£m
X—M	432	787	+ 355
F	– 2012	– 2092	– 80
Net Transfers	1050	1020	– 30
Balance on Current Account ...	– 530	– 285	+ 245
as % of GNP	– 3½	– 1¾	+ 1¾

COMMENTARY

The International Economy

General

Since the preparation of our previous *Commentary* in December 1985, the international background has been transformed by the collapse in oil prices. The prospect that average crude oil prices in 1986 will be about half of their average 1985 levels, in dollar terms, implies that major and rapid adjustments need to be made to all forecasts of international economic activity. In the absence, so far, of forecasts from the major international agencies which take considered account of the full extent of the fall in oil prices, the projections of world trade and output in this *Commentary* must necessarily be more tentative than usual.

Quite apart from uncertainty as to the future course of oil prices themselves, the full consequences of a lasting fall are complex, involving dangers as well as the more obvious benefits. Nevertheless, despite some doubt as to the precise magnitudes, it is quite clear that the industrialised oil-importing countries will receive a massive economic stimulus from the improvement in their terms of trade. Moreover, this stimulus should act directly on the volume of personal consumption, the growth of which is a prerequisite for any substantial economic recovery in the EEC. Provided that the world banking system can withstand the shocks that are always liable to accompany any rapid change in economic circumstances, the international background should remain more favourable to the Irish economy than at any time since the second oil-shock in 1979.

The US Economy

As a substantial producer as well as an importer of oil, the US stands to gain rather less than Europe or Japan from the fall in prices. Probably of greater importance to the US economy is the speed with which it adjusts to the heavy depreciation of the dollar over the past twelve months. Predictably, monthly trade statistics have not yet shown any appreciable positive response to the lower exchange rate. However, an improvement is expected from about the middle of the year, and, indeed, will be necessary if growth targets are to be approached, and if pressures for protectionist measures are to be resisted.

Early indications in 1986 suggest that domestic demand is losing much of its buoyancy, while the consumer boom expected in other countries as a result of falling oil prices is unlikely to occur in the US, as the fall in oil prices will be offset by a rise in other import prices due to the depreciation of the dollar. Thus an improvement in the external balance in the second half of the year could become the main factor in maintaining any growth in economic output.

On balance it remains reasonable to assume a growth rate for 1986 of between 2½ and 3 per cent, a little above the revised estimate of 2.3 per cent for growth in 1985. Inflation seems likely to run at about 4 per cent, with the rise in import prices leading to a small increase in the inflation rate compared with 1985, in spite of the fall in oil price and the continued weakness of most other commodities. Because of the normal lags in economic adjustment, employment continued to rise in 1985 despite the low level of US output growth. Any further rise in 1986 seems likely to be very small, with the consequence that the unemployment rate can be expected to increase slightly.

With doubts continuing concerning both the constitutionality and the applicability of the Gramm-Rudman balanced budget initiative, the reduction in the fiscal deficit in 1986 seems likely to be very minor, although the steep rise of recent years has probably come to an end. Weakness in the domestic economy, at least until the effects of the improving trade balance become apparent, is creating some pressure for a further reduction in interest rates. Conversely, the continuing high level of government borrowing and uncertainties over the future course of the dollar exchange rate are factors supporting the maintenance of high real interest rates. On balance, major movements in US interest rates seem unlikely in the remainder of 1986, but if there is any change it is likely to be a fall rather than a rise. Although there will undoubtedly be fluctuations in the exchange rate of the US dollar, it seems generally expected that there will be no sustained trend in 1986 towards either a further fall or a significant recovery in the international value of the currency.

The European Economy

For the past few years the level of economic activity in most European countries has been held down by restrictive fiscal and monetary policies. What growth has occurred since 1983 has in most cases been accounted for by an increasing volume of exports, accompanied by some industrial investment in exporting industries, and inducing only a small rise in the volume of personal consumption. In most countries an autonomous increase in consumption, either public or private, has been precluded by economic policy, with the result that investment in domestic, as distinct from exporting, industries has remained at a low level. Despite the urgings of many economists that a much faster growth in consumption was necessary if the recovery were to be sustained and employment increased, European governments have been unable or unwilling to relax fiscal policy in order to boost consumption.

The chief beneficial effect of the collapse of oil prices is that it will provide the stimulus to consumption hitherto lacking, without calling for any policy change from the authorities. In the process it should slightly improve the fiscal balance of most exchequers, and substantially reduce the already low level of price inflation. After a short lag, the rise in consumption can be expected to induce additional investment in domestic industry and services and in residential property.

Particularly in the continental members of the EEC it now seems probable that the growth in real GNP in 1986 will be well over 3½ per cent, compared with the rate of under 3 per cent forecast before oil prices fell, and that growth will continue strong in 1987. At such rates it is reasonable to expect a significant

rise in employment, and perhaps even some fall in unemployment levels before the end of 1986. Given the strong overall position of the EEC countries entering 1986 and the reduction in import values implicit in cheaper oil, there would appear to be no danger of the consumption growth leading to balance of payments constraints in the near future, even when allowance is made for some fall in exports. Either in line with the US if the dollar shows signs of recovery, or unilaterally if there are renewed indications of dollar weakness, European interest rates seem likely to fall further in the course of 1986. Moreover, following the EMS re-alignment, there should be a significant narrowing of the spread of nominal interest rates between the different member countries of the EMS. Even so, real interest rates appear set to remain high by historical standards, and unless the fall is greater than generally anticipated, it would be imprudent to anticipate much further stimulus to activity through a reduction of interest rates.

The UK Economy

Among the European economies, the UK is a special case in the present circumstances, both because it is a substantial oil producer and because it possesses a floating currency. With the fall in the value of sterling offsetting the drop in oil prices, the reduction in the rate of inflation will be considerably less than in the continental EEC nations, and consequently the growth in consumption volume will be somewhat slower. The major questions are whether the temporarily improved competitiveness resulting from sterling depreciation will enable exports to Europe to expand sufficiently to ensure that the UK shares in the European recovery, and whether the currency will become stable enough for interest rates to be reduced significantly from their present very high levels.

If the answers to these questions prove favourable, then the forecasts contained in the recent UK budget could be fulfilled and the economy could grow at little less than the European average. If the answers prove unfavourable, then UK growth would be well under 3 per cent in 1986, unemployment would rise further, and the fiscal balance would deteriorate significantly. In this case it remains unclear what the response of the authorities would be. At this stage the most reasonable forecast would appear to be for a growth rate of around 2¾ per cent, an inflation rate approaching 4 per cent, some decline in interest rates by the end of the year, and a modest rise in the volume of imports.

The Rest of the World

Obviously in present circumstances the most relevant division of the rest of the world is between oil producers and oil importers. It is impossible to predict the exact course of oil prices in the remainder of 1986 or beyond, but it does seem quite certain that the average export price in 1986 as a whole will be less than two-thirds of the 1985 average, with about one half being a more probable proportion. The effect on the economies of the oil exporting nations will inevitably be severe, with very real hardship likely to be caused in the poorer and more populous countries such as Nigeria and Mexico. The principal effects on the rest of the world of this loss of income by oil producers are likely to be a sharp reduction in imports, particularly of capital goods, a much reduced flow of liquid funds to the capital markets of the developed world, and an

unavoidable need to write down, or at least drastically reschedule, the international debts of the worst-hit countries. The extent of these effects are among the many imponderables raised by the present situation, but given reasonable management they should be a great deal less than the direct gain to the OECD area from cheap oil.

Oil importers, rich and poor, are beneficiaries of the price fall, and the improvement in the position of the major oil-consuming debtors may go far to offset the problems caused by the deterioration in the finances of the producing debtors. The fall in the US dollar should have somewhat eased many debt burdens in any case, although this tends to be counterbalanced by the low level of most commodity prices. If the European recovery continues strongly into 1987, some rise in such prices could be expected, but it seems unlikely to be significant during 1986.

Japan, as a major importer of energy, will clearly gain massively from the collapse in prices, but at the same time is at considerable risk from the very large depreciation of the dollar against the yen. It seems certain that Japan's exports to both the USA and OPEC countries will decline in the course of the year, although there may be compensating gains elsewhere. More vitally, the gain in the terms of trade should help to shift the pattern of demand in the Japanese economy in favour of domestic consumption, in spite of the very high savings ratio. Thus a growth rate of some 4 per cent, with negligible inflation and a continued low level of unemployment, seems the most likely outcome for 1986.

The smaller Asian trading nations basically share Japan's situation, with the restrictive factor of improved American competitiveness balancing the stimulatory factor of cheaper energy. With a greater dependence on foreign trade than Japan, the balance may prove less favourable for such countries, and there could be some retreat from the very fast growth rates established in recent years.

TABLE 1: Short-term International Outlook

	GNP % Change		Consumer Prices % Change		Hourly Earnings % Change		Unemployment Rate %		Budget Deficit as % of GNP		Current Account Balance as % of GNP	
Country	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986	1985	1986
United States	2½	2¾	3½	4	3½	3½	7¼	7½	4	3¾	−3¼	−3¼
Canada	4¼	3	3¾	4¼	4	3¾	10½	10	6½	5½	0	−¼
Japan	4½	4	2	¾	4½	4¼	2½	2½	1¾	1	3¾	4
West Germany	2½	4	2	½	4	3½	8¾	8	1¼	1	2	2½
France	1¼	3	6	3½	6	4¼	10½	10½	3½	3	0	½
UK	3½	2¾	4¾	3¾	8	6½	11¾	11¾	3½	3½	1	½
Italy	2¼	3¼	9	5¾	9¼	7½	10¼	10¼	13½	13	−2	−1¼
Belgium	1½	3	4¾	2¾	4½	3¾	13¼	13¼	10	9½	−¼	½
Denmark	2½	3½	4¾	2	4¼	3¾	9	8¾	2½	¾	−3¾	−3
Netherlands	2	2½	2¼	¾	2¼	2½	14½	14	5¼	6¼	5	4¾
Sweden	2¼	1	7¼	4½	5¾	5¼	2¾	3	2½	2	−1½	−½
Total (OECD)	2¾	3½	4½	3¼	5	4¼	8¼	8¼	3¾	3½	−¾	−½
Ireland	0	3	5½	2½	7½	6	17¼	17¼	8¼*	7*	−3½	−1¾

*Not directly comparable.

As should be clear from the discussion so far, the present circumstances are sufficiently novel to preclude any degree of certainty regarding developments in the world economy. Among the uncertainties, however, it does appear safe to assume that the international context as it affects Ireland is now more favourable than seemed possible even three months ago. The volume of world trade could expand by some 5 per cent in 1986, compared with about 3½ per cent in 1985 and previously forecast for 1986. Moreover, growth should be fastest in those markets and products most directly affecting Ireland, namely manufactured imports to and within Europe.

While there can be little doubt that the continental European market will be substantially more buoyant than previously assumed, considerable concern attaches to the important UK market. Apart from the degree of growth in the market itself, uncertainty surrounds the effect on real competitiveness of the depreciation of sterling vis-a-vis the Irish pound. Provided that Irish costs are held strictly in check, with fuel savings passed on rapidly to the industrial sector, it seems likely that any loss of competitiveness should be temporary, with higher UK inflation gradually eroding the currency gain. However, in the short-run, some Irish firms exporting to the UK, or indeed competing at home against UK imports, could face difficulties if sterling remains at its current level or depreciates further. How far such difficulties can be overcome depends on several factors, the most important being the strength of the non-price competitive qualities of the Irish producers, and these are hard to assess in advance.

Another area of concern regarding the external environment is in relation to the agricultural sector. While the EEC farm package for 1986 has yet to be agreed, the financial constraints on the Community are such that a restrictive approach both to agricultural prices and to the volume of intervention purchases must be assumed. Conversely the desire to reduce the level of intervention stocks might induce a higher volume of disposals, even though the depreciation of the dollar has increased the unit cost to the Community of many such disposals.

On the positive side, the movements in exchange rates over the past twelve months have meant that there will be an unequivocal gain in the cost of servicing the overseas national debt, and they could also limit the growth of profit repatriation in Irish pound terms. The fall in international interest rates since early 1985 has also contributed to a lessening of the debt burden, and there is a possibility that such interest rates will decline further in the remainder of 1986.

It is by no means clear how the changes in the world trading outlook will affect the flow of international investment. On the one hand the prospects of growth in the European market should encourage manufacturing investment within the EEC area. On the other hand, the decline in the value of the dollar will have made such investment more expensive for companies based in the US, while the requirement to divert direct Japanese exports from the US to other markets such as Europe may restrict Japanese investment in overseas productive facilities. On balance it seems safer to assume that any positive effects on the flow of overseas investment into Ireland will take place in 1987 rather than 1986. The prospects for this occurring would be greatly increased if the level of real interest rates, both internationally and within Ireland, were to decline significantly over the coming months.

Given the unavoidable uncertainties in interpreting current economic trends, the precise assumptions made concerning exchange and interest rates, and indeed future oil prices, are of less importance than whether a correct assessment is made of the consequences of broad general movements. For the record, the basic assumptions of this forecast are for an average Brent crude-oil price for 1986 of $15 per barrel, for average Irish pound exchange rates of $1.30 and £ sterling 0.90, with no further change in EMS parities, and for US interest rates to decline by about 1 per cent from their end-March level by the end of the year, with European interest rates falling rather more sharply. Minor divergences from these assumptions would fall within the general margins of error of the forecast, but obviously any major change of direction in these underlying variables would necessitate a future revision of the forecast.

THE DOMESTIC ECONOMY

General

Just as the novelty of the oil price collapse has made prediction of international economic trends uncertain, so does the unfamiliar prospect of falling prices present problems in forecasting developments in the domestic economy. Previous periods when import prices fell sharply are too remote in time to be of much assistance in assessing how the present Irish economy might respond. In particular, the time-lags involved before lower import prices work through to consumer prices and indeed the extent to which they ever will become apparent to the consumer, are matters involving considerable guesswork. Certainly one cannot assume that the lags will be similar to those with which price increases have been transmitted in the recent past, as there could be a significant degree of asymmetry between the mechanisms of rising and falling prices.

Thus while the annual rate of inflation will undoubtedly decline to its lowest level for a generation, with consumer prices actually falling in the second half of the year, the precise course of the consumer price index cannot be predicted with confidence. Similarly the response of consumers to a sharp rise in disposable income after a prolonged recession must inevitably remain a matter of some uncertainty. Nevertheless although this warning of the fragility of any forecast made at present must be stressed, it remains true that the improvement in the terms of trade resulting both from the oil price fall, and from the movements in exchange rates, does offer the Irish economy its most favourable prospects for many years. It is the extent, rather than the direction, of the improvement in living standards which is in doubt.

Exports

After reaching an all-time peak in the first quarter of 1985, exports of goods declined on a seasonally corrected basis for the remainder of the year. Thus a recovery from fourth quarter 1985 levels is required during 1986 if either the value or volume of exports is to equal the 1985 total. In fact, a stronger recovery

is expected, not merely making good the ground lost during 1985, but resulting in an annual increase in the volume of visible exports roughly equivalent to that obtained in 1985.

The predicted upturn in world trade, and particularly in European manufactured imports, is the principal reason for this relatively favourable forecast. At the same time the check in the growth of the electronics market, which was a major factor in the disappointing 1985 export performance, would appear to be ending, and computer exports were reasonably buoyant in the first three months of 1986. Manufactured exports to the UK may be adversely affected by the weakness of sterling, although by the end of the year the lower Irish inflation rate may have eroded much of the UK gain in competitiveness, provided pay rates in the relevant Irish companies fully reflect the lower rise in prices. Overall, the 6 per cent increase in the volume of manufactured exports shown in Table 2 seems a reasonable projection, although the fact that most of the growth is forecast to occur in the second half of the year means that trade statistics for the next few months will be showing an apparently slower rate of improvement. It is difficult to project the likely course of manufactured export prices in the present circumstances. The 1 per cent decline shown in Table 2 is accordingly somewhat arbitrary, and implies an expectation that at least some exporters will absorb lower materials and fuel costs in the form of wider margins. Other firms of course will have no option but to reduce export prices, particularly to the US and UK, even where this means lowering profit margins substantially.

TABLE 2: Exports of Goods and Services

	1984	% Change		1985	% Change		1986
	£m	Volume	Value	£m	Volume	Value	£m
Agricultural	1725	5	3¼	1781	5	2	1817
Manufactured	5623	6	11¾	6280	6	5	6594
Other Industrial	1446	3	7½	1556	4	2	1587
Other	103			126			136
Total Visible	8898	5¼	9½	9743	5½	4	10134
Adjustments	—212			—200			—184
Merchandise Exports	8686	5½	9¾	9543	5¾	4¼	9950
Tourism	591	12¼	18½	700	0	2½	718
Other Current Receipts	465	3½	9	507	5	7½	5405
Exports of Goods and Services	9742	6	10¼	10750	5½	4¼	11213

It is assumed that the volume growth in "other industrial" exports will be rather faster than in 1985, largely because there should be fewer production cutbacks in the metal ore components of this category. However, prices are expected to remain substantially below the 1985 average in Irish pound terms, so that the value increase for the year could be very modest.

Until the EEC farm package for 1986 has been finalised it is difficult to predict the likely level of agricultural exports. As a considerable proportion of such exports are out of intervention stocks, and a smaller proportion represents sales into intervention but held abroad, the final arrangements for intervention purchases and disposals are obviously of key sigificance in determining the level of agricultural exports in any particular period. For the present, it seems reas-

onable to project a similar increase in the volume of agricultural exports to that achieved in 1985. This implies a further reduction in the rate of stock-building, but by no means a cessation of buying into intervention or assisted storage. A further fall in average prices, rather sharper than in 1985, is expected, resulting in only a 2 per cent rise in the value of agricultural exports. It should, however, be stressed that this forecast could be subject to substantial revision in either direction once EEC policy becomes clarified.

After its dramatic growth in 1985, tourism can be expected to suffer some reaction in 1986. Due both to the decline in the dollar and to security fears, US visitors to Europe are likely to be considerably fewer than last year. Even allowing for some success in increasing the Irish share of such traffic, a decline in the number of US visitors to Ireland can be anticipated in 1986. On the other hand, higher real incomes in Europe should result in increased numbers of continental tourists, especially if lower fuel costs result in any reduction in fares. The UK market remains uncertain, with improved real incomes, and a possibly more favourable perception of the Republic of Ireland following the Anglo-Irish Agreement, tending to conflict with the higher cost of Irish compared with domestic holidays as a result of sterling's depreciation. In total, an unchanged volume of tourism exports is projected, implying a value rise of about 2½ per cent.

Allowing for a continuation of the upward trend in other service exports, total exports of goods and services are forecast to rise by 5½ per cent in volume terms, marginally less than in 1985. However, because a price fall seems probable, the increase in the value of exports of goods and services is projected at only 4¼ per cent, less than half of the 1985 rate.

Stocks

The latest estimates suggest that the decline in farm stocks in 1985 was rather greater than had previously been expected. The further reduction in farm stocks now forecast for 1986 is relatively modest.

Intervention stocks, including subsidised private storage, increased by about £120 million in 1985, which represents a sharp fall in the rate of stock-building compared with 1984. As discussed in connection with agricultural exports, the level of intervention stock-building in 1986 will depend to a considerable extent on EEC decisions yet to be finalised. On current information, a further decline in the rate of stock-building seems likely, leaving the increase in intervention stocks, largely in the form of subsidised private storage, at around £65 million in 1986.

TABLE 3: Stock Changes

	1984 £m	Change in Rate £m	1985 £m	Change in Rate £m	1986 £m
Livestock on Farms	34	—69	—35	+25	—10
Irish Intervention Stocks[1]	193	—73	120	—55	65
Other Non-ag. Stocks	128	—148	—20	+80	60
Total	355	—290	65	+50	115

[1]Including subsidised private storage.

Until the annual CSO survey of industrial stock levels is released, there are no reliable indicators of trends in stocks of materials, finished goods and work in progress. The trend of imports in 1985 compared with consumption and export levels, together with the slowdown in the growth of manufacturing industry, suggests that there may well have been a modest fall in the level of industrial stocks in 1985, following a very large increase in 1984. It is assumed that this period of stock adjustment has come to an end, and that 1986 will see a substantial increase in industrial stocks, in line with the expected recovery in manufacturing output and with the increased volume of final demand.

Fixed Investment

A small rise is thought to have taken place in the volume of fixed capital formation in 1985, with a substantial fall in the volume of building and construction being more than offset by a large rise in the volume of investment in machinery and equipment. The increase in the volume of machinery and equipment investment is expected to continue in 1986, although perhaps at a slower rate than last year due to the completion of major semi-state capital projects in 1985.

TABLE 4: Gross Fixed Capital Formation

	1984	% Change		1985	% Change		1986
	£m	Volume	Value	£m	Volume	Value	£m
Building and Construction	1652	—4½	2	1685	0	4	1751
Machinery and Equipment	1763	8	13	1992	5½	7	2130
Total	3415	2	7¾	3677	3	5½	3881

The prospects for building and construction are more problematical. In the December 1985 *Commentary* it was forecast that there would be a minor upturn in building activity during 1986. However, interest rates have remained at a high level for longer than was then assumed. Given an inevitable lag between interest rates falling and this being reflected in actual building activity, it now appears prudent to forecast some fall in the volume of new building and construction in 1986, in spite of the expected rise in real disposable incomes and the reduced rate of increase in building costs. On the other hand, a considerable increase can be expected in the renovation and extension of existing dwellings, as a result of the grants now available. On balance, no change is forecast in the total volume of building and construction in 1986. A substantial recovery in building activity is likely to take place in 1987.

Consumption

After three consecutive years of decline, the volume of personal consumption rose in 1985 by about 1¾ per cent. Although not a large increase in itself, the 1985 experience is significant both in reversing the downward trend, and in laying a positive base for a larger rise in 1986.

Nominal incomes are expected to grow by about 6¼ per cent in 1986. Higher direct taxes, if the deposit interest retention tax is taken into account, seem likely to reduce the increase in personal disposable income to under 6 per

cent, compared with just over 7 per cent in 1985. However, the nature of the tax changes, with a reduction in PAYE income tax partly offsetting the introduction of the tax on deposit interest, suggests that the personal savings ratio, rather than consumption, will be primarily affected by the increase in the total tax burden. Thus an increase of about 6½ per cent in the value of consumer spending in 1986 appears a reasonable forecast. If the annual rate of consumer inflation falls, as expected, to 2½ per cent, this would enable the volume of personal consumption to rise by some 4 per cent, a rate of increase more reminiscent of the '70s than the '80s.

If public expenditure on goods and services is marginally below the budgeted level, due to some small savings on purchases of goods, then the value of public consumption would rise by some 6½ per cent. Because its main component, directly and indirectly, is pay, the price deflator for public consumption will show little response in 1986 to the general decline in the inflation rate. Assuming that pay settlements are finally in line with the government offer, a deflator of about 5½ cent seems likely, leaving an increase in the volume of public expenditure on current goods and services of about 1 per cent.

Final Demand

If these forecasts of the major categories of expenditure are correct, then final demand in 1986 will grow by 5¾ per cent in value and 4¼ per cent volume. Compared with 1985, this would represent a sharply reduced increase in the value of final demand, but almost a doubling in its volume rise. The change in the pattern of final demand is even more dramatic. In 1985, as in the two previous years, exports of goods and services accounted for the entire rise in the volume of final demand. In 1986 exports are projected to account for less than half of the volume increase, and for less than 30 per cent of the value rise, in total final demand. This return to a more balanced pattern of growth, made possible by the fall in import prices, could be as significant as the increase in the rate of growth in improving employment prospects, providing that not too high a proportion of it is absorbed by rising imports.

Imports

Figures available since the previous *Commentary* indicate that the reduction in the rate of increase in the value of imports in 1985 owed slightly more to lower prices and rather less to a slowing of volume than originally thought. Nevertheless, there was comparative stagnation in the volume of imports of goods for further production by industry, which grew by about 1 per cent over the 1984 level.

The fall in import prices, commenced in the second half of 1985 with the depreciation of the dollar, has intensified in 1986 with a further decline in the dollar, a significant depreciation in sterling, and, of course, the collapse in oil prices. Even allowing for considerable lags, and assuming that some proportion of the exchange rate gains will be taken by overseas producers in the form of higher margins rather than reflected fully in Irish import prices, it seems certain that average merchandise import prices, in terms of Irish pounds, will be at least 5 per cent lower in 1986 than in 1985. The 5½ per cent fall shown in Table 5 is thus a fairly conservative estimate.

TABLE 5: Imports of Goods and Services

	1984	% Change		1985	% Change		1986
	£m	Volume	Value	£m	Volume	Value	£m
Capital Goods	1,084	8	13	1,225	5	6	1,298
Consumer Goods	2,098	5	9	2,285	6	2	2,331
Intermediate Goods:							
Agriculture	425	3	5	446	3	—2	437
Other	5,295	1	2¾	5,447	6½	—1	5,393
Other Goods	11			34			34
Total Visible	8,913	3	6	9,437	6	½	9,493
Adjustments[1]	—29			—70			—75
Merchandise Imports	8,884	2¾	5½	9,367	6	½	9,418
Tourism	379	—2½	3	390	5	7½	419
Other Services	515	3½	9	561	5	5	589
Imports of Goods and Services	9,778	2½	5½	10,318	6	1	10,426

[1]The adjustment factor allows for a substantial reduction in the estimated value of unrecorded trade in 1985.

The response of import volumes both to the higher rate of growth in the Irish economy and to the improvement in their own price competitiveness, cannot be predicted with any great degree of precision. The projections set out in Table 5 show approximate orders of magnitude based on the expected pattern of final demand in 1986, including a recovery in stock-building, and on the assumption of a fairly low import price elasticity.

As can be seen from the Table, the principal implication of the forecast is that while the volume of imports of goods and services could increase by some 6 per cent, well over twice the 1985 increase, the value of imports of goods and services is expected to rise by only a minuscule 1 per cent. This ability to import a greater quantity of goods and services for virtually the same outlay as last year is, of course, one of the main benefits of the improvement in the terms of trade.

Balance of Payments

Much of the initial comment on the effect of lower import prices has suggested that an immediate result will be a massive improvement in the balance of payments on current account. If import volumes grow as discussed above, the improvement in the balance of payments, in fact, seems likely to be substantial rather than dramatic. Whereas 1985 saw the deficit reduced by some £300 million, the reduction in 1986 seems more likely to be in the region of £250 million. This would leave the 1986 deficit at about £285 million, or 1¾ per cent of GNP, which would represent the lowest proportional deficit since 1975.

As in 1985, the balance of trade in goods and services seems set to show a considerable gain, and could move in 1986 to a surplus of almost £800 million. This improvement over 1985 would reflect the change in the terms of trade, as in volume terms the balance of trade in goods and services is expected to be less favourable.

Net factor payments abroad exceeded £2,000 million for the first time in 1985, after increasing by about 25 per cent. The rise in 1986 is likely to be very much smaller. Because of currency changes, the Irish pound value of interest

payments on the overseas national debt will actually decline. The course of profit expatriation is much harder to forecast. After rising very rapidly through 1984 and the first half of 1985, profit payments are thought to have declined slightly in the third and fourth quarters. Whether this was only a temporary interruption to the strong upward trend, or whether it marks a transition to a period of relatively moderate increases, must remain a matter of some conjecture. The determinants of profit and related flows are not fully understood, and it is thus unclear whether the slowdown in payments in the second half of 1985 was due to the check in export growth, whether it was a reaction to an exceptionally heavy first half flow when companies were "cash-heavy" due to a run down of stocks, or whether it reflected the depreciation of the dollar affecting the Irish pound value of predetermined dollar flows. Taking the view that this last possibility was at least a contributing factor, and believing that profit growth in the relevant companies will in any case be slower than in the mid-1983 to mid-1985 period, it seems reasonable to assume that the growth in profit expatriation and related flows in 1986 will slow down to approximately 10 per cent in terms of Irish pounds. Allowing for steady expansion in both the credit and debit side of other factor flows, mainly connected with the banking system, the total net factor outflow at current prices in 1986 is forecast at £2,092 million, an increase of only 4 per cent over 1985.

A major element in the reduction of the balance of payments deficit in 1985 was a rise of almost 30 per cent in net transfer payments to Ireland, mainly in the form of increased EEC subsidies and grants. This year is expected to see some reaction from this exceptional growth, and a modest decline of £30 million, to £1,020 million, is forecast.

Output

Gross output was stagnant in 1985, with heavy falls in agriculture, building and the extractive industries offsetting modest rises in manufacturing, utilities and private services. The real growth of about 3 per cent forecast for expenditure on GNP in 1986 should be matched on the supply side by some recovery in agriculture and the extractive industries, and by a faster growth of manufacturing and private service output.

Agriculture

The severe setback to agricultural output in 1985 was due partly to weather conditions disrupting crop production, and partly to unfavourable trading conditions as the EEC attempted to contain total CAP expenditure. On the assumption of a return to more normal weather patterns in 1986, there should be a substantial recovery in crop yields. However, the financial constraints on CAP outlays have intensified, and the price and intervention package, when it is finally agreed, is likely to be even more restrictive than last year. There could be some offsetting benefit from lower input prices, but even so the total recovery in agricultural output seems likely to be very modest. Informed predictions suggest a growth of only 1 per cent in the volume of gross agricultural output, and 3½ per cent in the value of gross agricultural product. Forestry and fishing could show a small increase in both value and volume but not

sufficient to change the picture of sluggish growth in the agricultural sector as a whole.

Industry

Manufacturing industry recorded a disappointing performance in 1985, with gross output increasing by only 2.7 per cent, about a fifth of the 1984 growth rate. On a seasonally adjusted basis, output fell sharply from the peak reached in the winter of 1984/85, although there was some recovery in the final quarter. The main contrast with other recent years was the near stagnation of output in the "modern" industries of pharmaceuticals, office and data processing equipment and instrument engineering, reflecting the check in exports of these categories.

The expected improvement in manufactured exports in 1986 should lead to a resumption of growth in production, especially in the "modern" industries. At the same time the faster rise in the volume of personal consumption should stimulate output in the more traditional industries, so long as costs are held reasonably in line with those of overseas competitors. Despite the likely pressure on some firms from the depreciation of sterling, it thus seems reasonable to expect a substantial recovery in manufacturing output in the course of 1986. However, because of the declining trend through most of 1985, the annual average rise in manufacturing output will seem quite moderate, perhaps of the order of 5 per cent. A larger annual increase should be seen in 1987.

Turf production fell drastically in 1985 as a result of unfavourable weather, while other extractive enterprises were restricted by the lack of demand from the building industry and by falling world metal prices. Total output of mining, quarrying and turf fell by 23 per cent. Due mainly to a return to more normal levels of turf production, an increase of some 15 per cent in the gross output of the extractive industries seems a reasonable projection for 1986. With gas output unlikely to repeat its rapid growth of 1984 and 1985, the total increase in production by the utilities in 1986 is expected to be about 6 per cent.

As already discussed, the anticipated upturn in building and construction, which should become substantial within the next eighteen months, may come too late to significantly affect the out-turn this year. Thus no growth in this sector is forecast for 1986, although even this implies an improvement from the heavy falls in output suffered in the last three years.

Services

The volume of public services seems likely to expand only marginally in 1986, as it did in 1985. The reduction in inflation will have only a minor impact on the price of government services, which is mainly determined by pay levels, and it is assumed that any price savings which might occur will result in a lower value of services rather than a higher volume.

Private service output has tended to grow throughout the recession, and it seems fair to predict that the acceleration in the volume of private consumption will lead to a faster rate of expansion in the volume of most private service output in 1986. In particular, the distributive and personal services should benefit, and the upward trend in financial services can be expected to continue. The

faster growth in such domestically-oriented services should be sufficient to offset the relative stagnation in the volume of tourism, so that the total output of the service sector will rise slightly faster in 1986 than in 1985.

Employment

The steady deceleration in the rate of growth of unemployment continued in 1985 and the first quarter of 1986. The annual increases in the live register between the first quarters of successive years read; 1982/83, 41,500; 1983/84, 26,900; 1984/85, 17,600; and 1985/86, 6,500. What is less clear are the relative contributions to this trend of an improving employment performance, special schemes of part-time employment or training, and emigration.

The fact that the increase in the Live Register over the past twelve months is well below the potential increase in the labour force thus cannot be taken as evidence that employment levels have actually risen. Nevertheless it does seem certain that the recessionary period of steeply falling total employment has come to an end, and that something approaching stability in employment levels has been achieved since the middle of 1985.

With regard to the remainder of 1986, some upturn in total employment appears probable on the basis of the forecasts in this *Commentary.* Both manufacturing industry and private services should show modest employment gains during 1986, in some cases stimulated further by the budget changes in VAT rates, although agricultural employment is likely to continue its secular decline and building employment at best may remain static. In annual average terms, as shown in Table 6, total employment in 1986 could be between ½ and 1 per cent higher than in 1985. If building activity recovers sharply, as expected, in

TABLE 6: Employment and Unemployment

A: Mid-April Estimates '000

	1983	1984	1985	1986	1987
Agriculture	189	182	179	176	173
Industry	331	320	309	302	309
Services	605	608	613	622	631
Total at work	1125	1110	1101	1100	1113
Unemployed	184	204	220	230	229
Labour Force	1309	1314	1321	1330	1342
Unemployment Rate %	14.1	15.5	16.8	17.3	17.1
Live Register	188	214	228	234	233

B: Annual Averages '000

	1983	1984	1985	1986
Agriculture	186	181	177	175
Industry	328	316	305	305
Services	606	610	617	626
Total at work	1120	1107	1099	1106
Unemployed	191	211	228	230
Labour Force	1311	1318	1327	1336
Unemployment Rate %	14.6	16.0	17.2	17.2
Live Register	193	214	231	233

1987, that year could see a more substantial rise in employment. In the meantime the Live Register can be expected to remain within the range of 230-235,000, seasonally corrected, which it has occupied since the summer of 1985.

Incomes

On the basis of the production forecasts discussed earlier, incomes in agriculture, forestry and fishing are projected to increase by about 3 per cent in 1986. This of course implies no significant recovery in real terms from the substantial fall suffered in 1985.

Agreements reached in 1985 and the early months of 1986 ensure that the level of real wages in the private non-agricultural sectors will increase considerably in 1986. It is assumed that settlements later in 1986 will be at a markedly lower nominal level than over the past twelve months, reflecting both the lower level of consumer price inflation which will by then be apparent and the competitive pressures affecting many companies in the exposed trading sector. Given that this necessary moderation occurs, average private sector pay rates in 1986 could be some 5¾ per cent higher than in 1985. Drift and a small increase in numbers would then take the increase in average private sector earnings to about 6½ per cent, compared with 8¼ per cent in 1985.

With regard to public service pay, it is assumed that budget estimates will prove reasonably accurate, giving an annual increase in the pay-bill of 6¾ per cent. This in turn implies that the current government offer will remain open, and that it will ultimately be accepted, at least in respect of those of its provisions which affect pay during 1986. On these assumptions, total non-agricultural wages, salaries and pensions would increase by about 6½ per cent in 1986, as shown in Table 7.

TABLE 7: Personal Disposable Income

	1984	Change		1985	Change		1986
	£m	%	£m	£m	%	£m	£m
Agriculture, etc.	1,474	—9½	—140	1,334	3	40	1,374
Non-Agricultural Wages, etc.	8,753	8	701	9,454	6½	615	10,069
Other Non-Agricultural Income	1,760	10½	185	1,945	10½	204	2,149
Total Income Received	11,987	6¼	746	12,733	6¾	859	13,592
Current Transfers	2,883	10	288	3,171	5	164	3,335
Gross Personal Income	14,870	7	1,034	15,904	6¼	1,023	16,927
Direct Personal Taxes	3,123	6¼	198	3,321	8	269	3,590
Personal Disposable Income	11,747	7	836	12,583	6	754	13,337
Consumption	9,465	7	672	10,137	6½	660	10,797
Personal Savings	2,282	7	164	2,446	3¾	94	2,540
Savings Ratio	19.4%			19.4%			19.0%

In both 1984 and 1985 income from non-agricultural self-employment was boosted by the tendency of several industries to hive off as agencies activities previously undertaken by employees. While this trend could continue in 1986, it seems unlikely to make a major contribution to growth in self-employed income. The principal reasons for predicting a substantial increase in such

incomes in 1986 are the expectation of faster growth in real personal consumption, and the suspicion that delays in passing on cost reductions could widen margins along the distributive chain. Despite falling interest rates, income from interest, dividends and rent seems likely to increase by a similar amount as in 1985. A considerable proportion of total interest is derived from fixed interest stock, while corporate dividends are tending to rise significantly.

Total transfer payments will not increase as rapidly as in 1985. With regard to state transfers, the growth in the numbers drawing unemployment benefit or assistance should be very slight, while the increase in benefit and assistance rates in 1986, although it will prove substantial in real terms, is much lower in nominal terms than in 1985. At the same time, it seems probable that the rise in transfer income from overseas will be considerably lower than in 1985, leaving the total increase in transfer payments at little over 5 per cent.

Thus gross personal income appears likely to grow by just under 6½ per cent in 1986, compared with about 7 per cent in 1985. Direct taxes on this income, on the basis of the Finance Bill, are expected to total almost £3,600 million, an increase of 8 per cent on 1985. However, this increase masks a major compositional change, with the expected rise in PAYE tax being slightly lower than the growth in incomes and the increase in direct taxes being accounted for by the introduction of the deposit interest retention tax. It is always difficult to predict the impact of a new tax, but it seems very probable that a main effect of the retention tax will be to slow down the rate at which interest accrues in deposits, thus restricting the growth of savings rather than expenditure.

If this interpretation is correct, then some fall in the personal saving ratio can be expected, allowing personal consumption to grow in nominal terms by about 6½ per cent, even though the predicted increase in personal disposal income is under 6 per cent.

Consumer Prices

The containment of inflation is always a central aim of economic policy and high in the priorities of the general public. Thus predictions of movements in the consumer price index are invariably a major focus of interest in any general economic forecast. On this occasion the focus is even sharper than usual, because it is largely through the channel of consumer prices that the extent of the economic upturn expected in 1986 and 1987 will be determined. Income levels, although of course not unalterably fixed, are to a considerable extent already decided so far as 1986 is concerned. Consumer expenditure in nominal terms is likely to be closely related to this expected income level, but how far this translates into real, or volume, growth depends on the course of prices.

As measured by the consumer price index, inflation has fallen steadily from 20.4 per cent in 1984 to 5.4 per cent in 1985. Within 1985, the quarterly rate of increase in the index declined from 1.9 per cent in the first quarter to 0.2 per cent in the fourth, this last figure clearly reflecting the fall in import prices resulting from the depreciation of the dollar. Partly due to budget changes, the consumer price index rose unexpectedly fast between November 1985 and February 1986, with a quarterly increase of 1.5 per cent leaving the total rise in the year to February at 4.6 per cent.

For the remainder of 1986 the unusual but undoubted likelihood is for an

actual fall in the level of the index, with its November value being almost 1 per cent below February, and less than 1 per cent above the November 1985 level. Such an outcome of course depends on the underlying assumptions of this *Commentary* holding true. These are that crude oil prices will average $15 per barrel or less for the remainder of the year, that neither sterling nor the dollar will appreciate significantly beyond their present values, and that domestic interest rates will fall substantially from their first quarter levels.

While it is clear that consumer prices should fall, so long as these assumptions are valid, the timing between now and the end of the year is less certain. In particular there could be a slight rise in the index between February and May. Upward pressure will be exerted by the increase in the standard rate of VAT, by the reduction in food subsidies and, probably, by the rise in mortgage interest rates for existing borrowers which came into effect too late to be included in the February index. These rises should be largely, but perhaps not entirely, offset by reduced petrol and fuel prices, and by falls in the prices of some imported consumer products. From May onwards the pressures should be largely downward, with interest rates falling steeply and the effects of lower import prices increasingly working through to the retail level.

The main imponderables are the speed and the extent with which lower import prices resulting from the strength of the Irish pound are passed on. Quite lengthy lags can be expected, because many transactions are normally covered by forward exchange dealings, which delay the impact of any movement in exchange rates. In other cases there are institutional delays in adjusting domestic prices to import price levels, with changes made only at predetermined intervals. Finally some traders may need to be convinced that any change in currency values is more than ephemeral before altering domestic price levels. The passing of the EMS realignment without any weakening of the Irish pound should at least put an end to this final type of lag. With regard to the others, the time scale is unknown, but it seems likely that they would not persist beyond six months. Thus some passing on of lower import prices can be expected by mid-May, and a great deal more by August.

With regard to the extent to which price falls will eventually be passed on, it is even more difficult to reach an informed opinion. Undoubtedly many dealers in imported goods and domestic producers using imported materials and fuels will attempt to widen their margins. How far they can do so will depend largely on the strength of competition in the particular sectors in which they operate. On balance, and taking into account that some domestic costs will still be tending to rise, it seems reasonable to assume that eventually most but not all, cost savings resulting from lower import prices will filter through to the consumer price level.

On this basis the most likely course for the consumer price index to follow in 1986 is for there to be a very small rise between February and May, a fall of perhaps 1 per cent between May and August and a further slight fall between August and November. This could leave the increase in the annual average of the index at about 2½ per cent, with its November value, as already stated, less than 1 per cent above that of November 1985.

According to the budget, as amended by the Finance Bill, the current budget deficit should be in the region of £1,250 million. This would represent only a marginal improvement of £34 million in nominal terms from the 1985 out-turn, but a reduction of almost 1 per cent to below 7½ per cent when expressed as a proportion of GNP.

The first quarter exchequer returns appear quite compatible with meeting this budgetary target, but several uncertainties remain concerning the final outcome for the year. Some of these are related to the change in the external environment, while others are inherent in the budgetary situation itself.

On the revenue side, the principal uncertainty concerns the yield to be obtained from new taxes, particularly the deposit interest retention tax. There seems no particular reason to doubt the official estimates, except for the notorious difficulty in calculating the probable return from a new form of taxation. Actual yields could therefore be significantly above, or below, the estimated level. With regard to more established taxes, VAT receipts could well prove lower than estimated. Athough the value of total spending should be close to the level assumed in making the budget estimates at the turn of the year, the fact that import values will be well below the assumed amount could adversely affect the timing of VAT revenue, due to a reduction in the expected receipts from VAT at point of entry. However, even if there is some shortfall in VAT, it should be made good by higher than estimated returns from excise duties in the second half of the year, due to the higher volume of consumer expenditure which now seems likely. There seems no reason to expect any great divergence from estimate in receipts from income tax and other direct taxes.

Thus, despite some alteration in composition, total tax revenue could well be quite close to budgeted levels for the year. Among non-tax revenues, a shortfall in the contribution of An Bord Gais seems likely, on the assumption that gas prices will need to be reduced to remain competitive with other fuels. There could be offsetting increases in other sources of non-tax revenue, but on balance it would appear prudent to expect that total revenue will be slightly below target.

On the expenditure side of the government accounts, the uncertainties are perhaps greater. The most significant is the fact that agreement on public service pay has not been finalised. This issue will be discussed further in the concluding section of this *Commentary*. For the purpose of constructing a forecast it is assumed that public service pay in 1986 will be in line with the current offer, and consequently that expenditure on pay will be close to the estimated level.

The second uncertainty concerning expenditure is the impact of lower inflation on the non-pay elements of supply service spending. There can be no doubt that some savings will be made on purchases of materials and services, including those involving energy consumption. Where doubt does arise is whether these specific savings will be reflected in a reduction in total budgeted expenditure, or whether individual departments will tend to utilise them to ease their budgetary constraints by transfering the amounts saved to increase other forms of spending. The assumption made here is that there will be a considerable degree of "budget-fudging", but that nevertheless there will remain

a small saving on the total supply service estimate for purchase of goods and services.

The third uncertainty is with regard to the level of unemployment, and thus to the value of social welfare expenditure. The budget was framed in the light of the freak unemployment figures attributed to December 1985. The essentially level trend in the Live Register since mid-1985 was resumed in the first quarter of 1986. Together with improved employment prospects in the latter part of the year, this suggests that the unemployment projections on which the budget was based were unduly pessimistic. Consequently social welfare spending would be rather lower than budgeted, even on the fairly cautious employment forecasts made in this *Commentary,* while if employment were to rise more rapidly than assumed here the saving in outlay could be substantial.

The final uncertainty, and potentially the largest, concerns the level of interest on the National Debt. This is liable to be affected by a variety of factors, including the precise mix between domestic and overseas borrowing, the timing of new debt, the movements in exchange rates, the extent and timing of changes in international interest rates, and the course of domestic interest rates. With such a plethora of influences, many of them potentially volatile, it is impossible to be dogmatic about the size of the final debt servicing outlay for the year. However, since the budget was framed exchange rates have moved favourably from the point of view of reducing debt charges, and there seems no good reason to expect a deterioration in the remainder of the year. International interest rates have edged downwards, and are more likely to decline than to increase in the rest of the year. Domestic interest rates in the first quarter were well above the level assumed in the budget calculations, but the amount of new domestic borrowing during this period of high interest rates was kept in check. If interest rates fall as far and as fast as expected for the remainder of 1986, the annual average of domestic interest rates could be lower than assumed in the budget, with consequent savings on the cost of servicing both new domestic borrowing and short-term debt. On balance, therefore, and on condition that the underlying assumptions of this *Commentary* are correct, there could be a considerable saving compared with budget estimates in servicing the National Debt in 1986.

Putting together these various strands of reasoning, it seems likely that the shortfall in expenditure in 1986 will be rather larger than the possible shortfall in revenue. There will be no sudden transformation in the state of the public finances, but it does appear reasonable to predict a minor improvement. A current budget deficit of about £1,200 million or 7 per cent of GNP seems a possible outcome, although this is subject to a considerable margin of error.

General Assessment

At first sight, the rise of 3 per cent forecast for real GNP might appear mildly disappointing in view of the circumstances favouring the Irish economy in 1986. However, real GNP, like most National Accounts constructs, is a specific and somewhat arbitrary measure of economic progress. Although it is frequently used as if it were an indicator of economic welfare, it is not really

designed for this purpose, and at times it can prove misleading. As the special article in this issue of the *Commentary* suggests, gross national disposable income (GNDI) is a far more appropriate measure of general living standards.

As well as the physical level of output and the volume of trade and factor flows which form the basis of real GNP, GNDI also takes account of net transfer payments and of changes in the terms of trade. Transfer payments are excluded from GNP because they are not made in return for any output of goods or services. However, they are clearly available as a form of income and are thus directly relevant to living standards. Similarly, changes in the terms of trade, the relationship between import and export prices, can have a very significant effect on the actual purchasing power of a given level of national income. A fall in relative import prices such as is occuring in 1986, improves living standards whether it results in an increase in output or simply in a greater volume of imports.

The trends in real GNP and GNDI from 1970 to 1984 are shown in the article. It is noteworthy that despite a small increase in real GNP, GNDI in 1984 was still below the level it had reached in 1979. On the basis of this *Commentary's* estimate for 1985 and forecast for 1986, GNDI in both years will have risen substantially faster than real GNP. For 1985 the increase in GNDI is estimated at 1½ per cent, compared with zero growth rate in GNP. The difference is accounted for mainly by the sharp rise in net transfer payments. The forecast increase in GNDI in 1986 is 5 per cent, compared with 3 per cent GNP growth, with the difference due entirely to the terms of trade improvement.

Whatever the measure used, it is clear that the radical change in the external environment brought about by the collapse in oil prices and by currency adjustments offers both dangers and opportunities to the Irish economy. In the short run, lower inflation should permit faster economic growth through the medium of a consumer boom. If this is to prove more than a short-lived respite from the underlying malaise of the economy, careful management by the authorities and responsible reactions by interest groups will both be necessary.

A sober analysis of the present situation should acknowledge that although the OPEC oil cartel appears to have collapsed, it remains possible, if improbable, that it could be reconstituted at some time in the future. If it were, oil prices could recover sharply, reversing most of the gains made by energy-importing nations such as Ireland in 1986. Because of this danger, maximum advantage should be taken of the initial years of low oil prices to rectify the basic imbalances of the economy, so that it will be in a sounder condition to withstand the possibility of a new oil price shock. The key imbalances to be corrected are, obviously, the current budget deficit and, less obviously, the shortage of domestic productive investment. Neither can be expected to right itself automatically merely because of a growth in consumption occasioned by a strong improvement in the terms of trade. However, conditions are now such that sensible decisions on the part of the authorities, the unions and management could result in positive movement towards the goals of reducing unemployment and improving the public finances. After several years when the outcome of strong fiscal measures and severe restraint by the unions was merely to slow down the speed with which the situation was deteriorating, the prospect of a real improvement is refreshing.

The primary responsibility in achieving more rapid progress in 1987 towards reducing the budget deficit obviously lies with the government. Higher real incomes and lower interest rates should combine to produce a significant recovery in building activity by the end of 1986 or early in 1987. Together with good conditions in consumer industries and continued growth in manufactured exports, this holds out a real possibility that employment will rise substantially in 1987. At the same time the final unwinding of the effect of low rates of growth in import values should boost VAT receipts. Thus there seems to be a reasonable prospect that both direct and indirect taxes will be relatively buoyant in 1987. The siren voices urging that the first priority in any situation of tax buoyancy should be to reduce tax levels should be resisted. Obviously there may be a case for adjusting the mix of taxes to achieve particular aims. Overall, however, the need to reduce the nation's vulnerability by maintaining revenue far outweighs any possible economic benefit to be obtained from cutting taxes. Indeed, with the economy likely to be in a phase of fairly vigorous expansion as a result of external factors, the addition of an extra stimulus from net tax-cuts could well prove harmful, leading to overheating in some sectors of the economy and a resumption of inflationary pressures.

Similarly, the pressing need to contain the growth in public service expenditure is not removed by the prospect of faster economic growth. Although 1986 is seeing an easing of the burden of debt service, and this trend might or might not continue in 1987, and although 1987 could see a check to the increase in the cost of financing unemployment, total expenditure in 1987 will still be far higher than any conceivable level of revenue, and vigilance will still be required over all discretionary forms of spending. In particular, the public service pay-bill must still be kept under control, implying continued constraints on numbers employed, and, crucially, no weakening of resolve over pay-rates.

Of course, the pay package currently on offer by the government was put forward before the likelihood of dramatically falling inflation became apparent. In real terms, therefore, it is turning out a great deal more generous than intended. Indeed, in strictly economic terms a strong argument could be made for withdrawing the offer from those unions which have not yet accepted it, and substituting a new offer in line with the original intention in real terms. Practically speaking, such a course of action does not appear realistic, but the size of the general real pay increase involved does justify a very strict approach to special pay awards, both existing and forthcoming, and to the next general increase at the end of 1987.

While the government's role in containing the public service pay bill is straight-forward, if potentially difficult, the role of the unions involved is more complex. The temptation to use the improving economic climate as an argument in favour of higher immediate awards, general or special, is obviously strong. Attempts to rectify apparent anomalies which might have arisen during the years of severe restraint are also understandable. However, on a long-term view, members of the public service, and thus their unions, have an overriding interest in seeing the public finances restored to a tolerable basis, so that controlled expansion of desirable services can eventually take the place of *ad hoc* cut-backs, planned increases in numbers employed can replace the general recruitment bar, and public pay levels can once more, without too much

argument, begin to keep pace with the private sector. To the extent that union leaders can persuade their members that this long-term benefit outweighs possible temporary advantage in striving to restore past relativities which themselves might well have been ephemeral, or in elevating to matters of principle dubious interpretations of existing bargaining procedures, they will be serving those members' best interests, as well as those of the general taxpayer.

In the private sector, the process of pay bargaining in both 1986 and 1987 is likely to be tightly constrained by economic realities. Increased output might improve profitability in many firms, but margins are likely to be kept tight in most competing industries by the movement in exchange rates. The cost reductions being enjoyed by Irish manufacturers are being shared by most of their overseas competitors. As has become common in recent years, there is likely to be a considerable spread in private sector pay settlements. In most cases there will presumably be room for a modest rise in real pay levels. However, an effort in perception may be necessary to realise that a pay offer of say, 3½ per cent in the second half of 1986 will be larger in real terms than an offer of 22 per cent in 1981.

As sales rise and interest rates fall in the course of 1986, management of domestic Irish industry will have a genuine responsibility to explore the advantages of capacity-expanding investment. If such investment comes about, the once-off boost to the volume of consumer spending in 1986 should be converted into sustainable long-term growth in output, and there would be a genuine chance for employment to rise substantially from 1987 onwards. Market conditions for investment will be favourable in 1986, present fiscal incentives appear reasonable, but steady entrepreneurial nerve will also need to be applied. If this opening is missed, it will become increasingly difficult to sustain the belief that the private sector is capable of generating the employment the country requires.

This almost summarises the response needed from the country as a whole to the opportunities provided by changed external circumstances. If the modest upturn in 1986 is to be the start of a lasting recovery it must not be dissipated in euphoria leading to unrealistic pay settlements or a relaxation of fiscal discipline. Neither must it be eroded by undue cynicism leading to a failure to invest or otherwise adapt to improved prospects. The quality most needed, in government, in consumers and in investors, is confidence, based on a sober assessment of possibilities. With this, individual living standards should rise appreciably, and more progress could be made over the next two years in meeting the country's problems than seemed remotely possible six months ago.

REAL GROSS NATIONAL DISPOSABLE INCOME ADJUSTED FOR TERMS OF TRADE 1970-1984

— AN ASSESSMENT OF TECHNICAL ISSUES

Aidan Punch*

Introduction

The rate of economic growth has come to be regarded by many as one of the key indicators of economic performance[1] compiled by national statistical offices throughout the world. The published figures are very often construed as representing the success or failure of the economic policies being pursued by governments and in some of the larger economies their publication is frequently greeted with reverberations on domestic money markets and foreign exchange markets. And yet despite the significance attached to these numbers their appropriateness for policymaking is being subjected to searching scrutiny, even in countries such as the United States, with well-developed statistical systems:

> there is no shortage of government generated numbers that measure everything from leading economic indicators to retail sales. The problem is that more and more of the figures convey less and less about what is actually happening in the real world. How fast is the economy growing, for example? Nobody can say for sure (*International Business Week,* 13 May, 1985).

It is against this international backdrop that we come to consider in this article some of the technical issues underpinning the compilation of the growth rate data for Ireland. Because of the large share of Gross Domestic Product (GDP) accounted for by imports and exports and given the increase in recent years in net factor incomes paid abroad and net current transfers received from abroad the focus of this present article will be on constant price Gross National Product (GNP) and Gross National Disposable Income (GNDI) rather than GDP. Consideration will also be given to adjusting the trade flows for terms of trade effects.

The main contention of the paper is that GNDI is a better overall measure of economic well-being than GNP. To take an example: a switch in cattle

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The author takes sole responsibility, however, for the views expressed in the paper.

[1] See Nordhaus and Tobin (1972) however, for a criticism of GNP as an economy-wide measure of economic well-being and Okun (1971) for a defence of the conventional measure.

exports from one annual period to the next away from Libya to the EEC, assuming it could be accommodated, would be reflected in an increase in GNP. However, because the exports to Libya in the earlier period were augmented by EEC transfers it is unlikely that GNDI would change at all. The picture that emerges if we use GNDI rather than GNP will provide us with a truer impression of the change in the nation's command over resources. An examination of the technical problems involved in compiling real GNDI adjusted for terms of trade is particularly opportune at the moment given the emphasis accorded to this measure in the recent "Economic Background to the Budget" (p. 5).

The paper begins with a brief synopsis of the most common methods used by national accountants to compile real GDP. The objective of these methods is to factor value changes over time into separate price and quantity components. In the following section we chart the increasing influence exerted by both net factor incomes and net current transfers from the rest of the world on the Irish national accounts. We then continue with a description of the terms of trade adjustment and explore the various suggestions put forward in the literature as to how to calculate it.

The results obtained using six different methods of calculating the terms of trade are then analysed and in the ensuing section the question of how to deflate net factor income and net current transfers from abroad is examined. A preference is expressed for a single indicator to deflate both these flows and also to calculate the terms of trade adjustment. Using this deflator a series of real GNDI adjusted for terms of trade is compiled for the period 1970-1984. Various growth rate measures such as GDP, GNP and GNDI are compared over this period and movements in the Balance of Payments are explained by reference to the evolution of real domestic expenditure and real GNDI.

Compiling real GDP[2]

The literal interpretation of accounts at constant prices is a detailed revaluation of the relevant transactions carried out in the current period at the prices obtaining in some base period. This conversion to constant prices can also be achieved by deflating the current value of some flow of goods and services by a price index for an equivalent or related flow. The choice of the appropriate price index may not always be obvious with the result that deflation may give rise to a certain amount of arbitrariness in the constant price accounts.

One of the distinctive features shared by all of the components of the expenditure estimate of GDP (i.e., GDP(E)) is the fact that they each refer to well-defined "bundles" of goods and services, in theory uniquely deflatable to constant prices. For instance, Personal Expenditure at constant prices evolves as a mixture of re-pricing current quantities at base year prices and deflation of current values using detailed price indices. The first method is used for food, soft drinks, alcoholic beverages, tobacco and fuel products while the second method is used for the remaining items of personal expenditure.

On the income/output side of the accounts, a residual category such as value

[2]See Broderick (1968) for a detailed account of the problems encountered in measuring the growth rate.

added, obtained as the difference between gross output and intermediate inputs, can be associated with particular commodities and thus deflated to constant prices. For instance, the Gross Agricultural Product at constant market prices emerges as the difference between constant price gross agricultural output and inputs of materials and services, i.e., the method of double-deflation. By contrast, a single indicator (volume of output) is used to extrapolate the base-year GDP for Industry[3]. Therefore, we see that the constant price version of the output-based estimate of GDP (i.e., GDP(O)) can be derived through association with commodities. In the following section, we depart from the goods and services account to consider flows which may not be uniquely associated with commodities. The flows in question are net factor incomes from abroad and net current transfers from abroad.

Net Factor Income and Net Current Transfers from Abroad

We begin with an elaboration of the expenditure-based estimate of GDP. Denoting current price estimates with capital letters and the corresponding constant price estimates with lower case letters, we have

$$\text{GDP(E)} = C + I + G + X - M$$

$$\text{and Real GDP(E)} = C/P_c + I/P_i + G/P_g + X/P_x - M/P_m$$

$$= c + \imath + g + x - m$$

where C is personal expenditure on consumers' goods and services
I is gross domestic physical capital formation
G is net expenditure by public authorities on current goods and services
X is exports of goods and services
M is imports of goods and services and the Ps represent the appropriate price deflators for the various flows.

While GDP in current prices measures the values added from productive activity located in Ireland, (or the corresponding final expenditure on that output) it does not reveal how much of this income will accrue to Irish factors of production. Of more concern in a small open economy, such as Ireland, will be the value added retained in the country. By subtracting outflows of factor incomes and adding inflows in respect of income earned by Irish factors abroad we arrive at the GNP. By further adding net current transfers[4] from abroad we derive GNDI. Diagram 1 following illustrates the relationship between GDP (E) and GNDI in current values for the period 1970 to 1984. While net current transfers from abroad (R_C) have been positive over the period in question, net factor income (F) has changed from being positive pre-1976 to negative from 1976 onwards and the sum of both flows [R_C + F] has turned negative from 1981. So the ratio GNDI/GDP has fallen below unity since 1981, caused mainly by growing outflows of factor incomes during this period — the major contributors being outflows of profits, dividends and royalties and

[3]Hill (1971) analyses the conditions under which it may be better to use a single indicator (normally output) rather than double-deflation.

[4]Net current transfers refer to receipts less payments to the rest of the world which are not in exchange for a specified amount of goods and services.

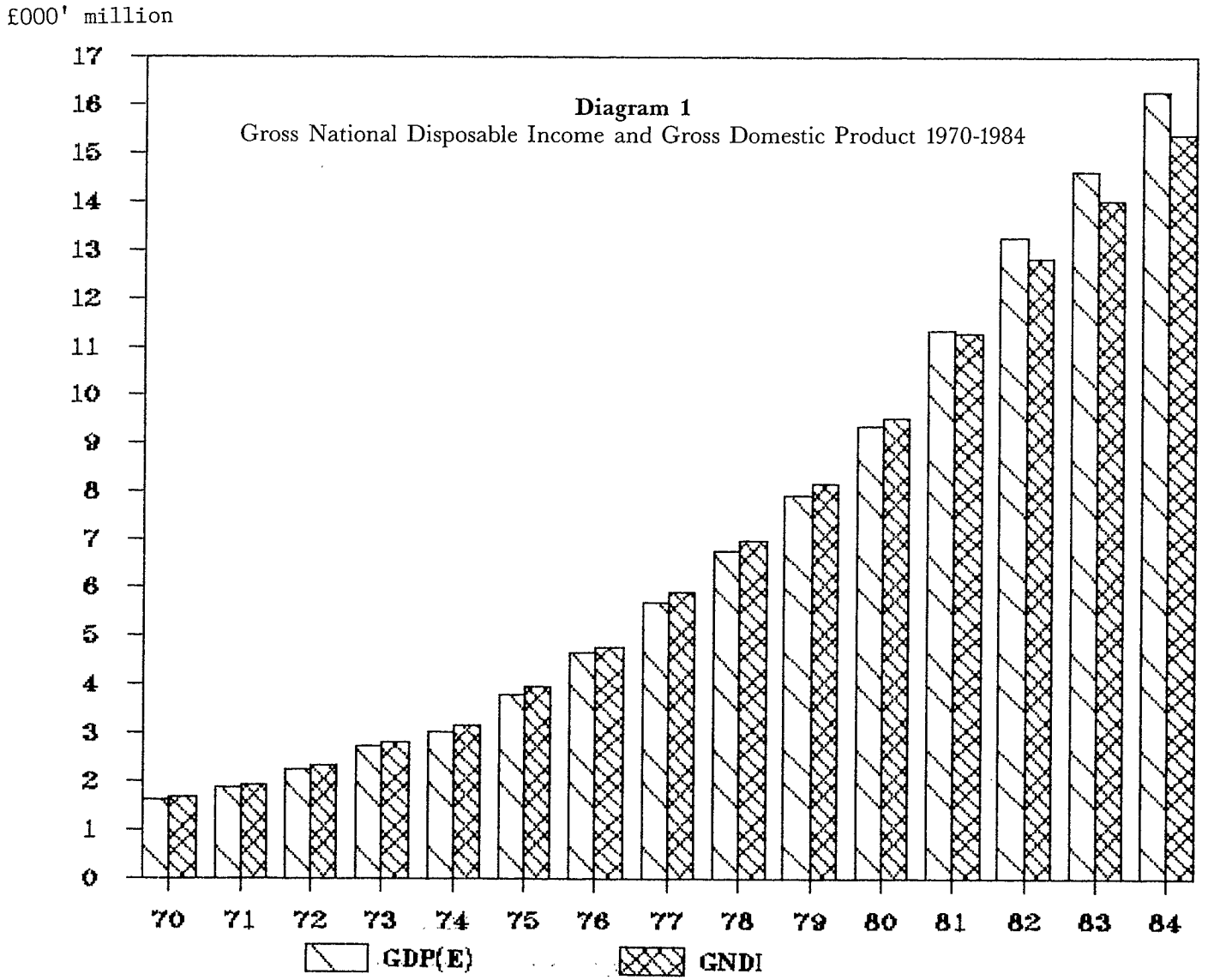
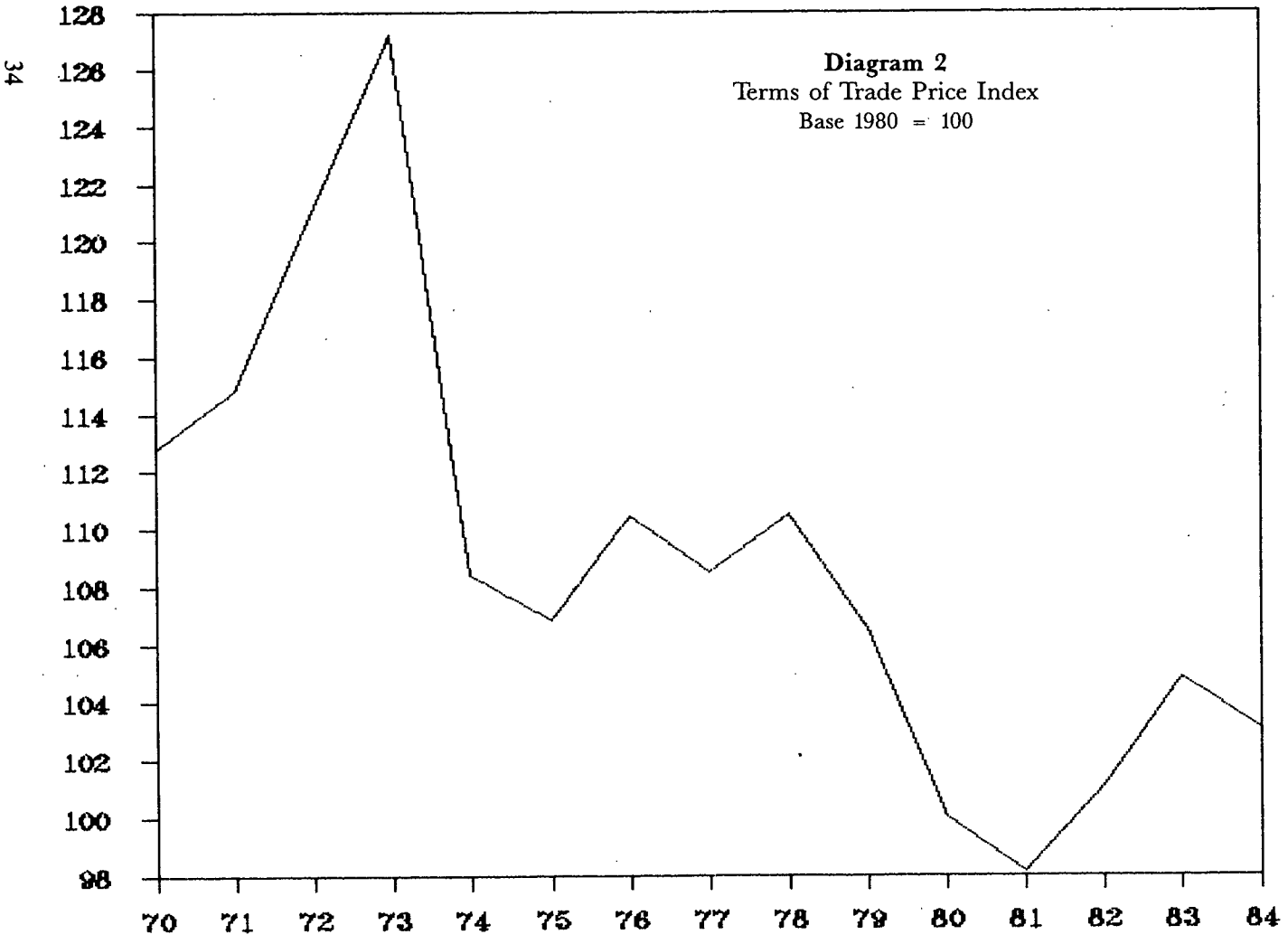


Diagram 1
Gross National Disposable Income and Gross Domestic Product 1970-1984

Diagram 2
Terms of Trade Price Index
Base 1980 = 100



interest on Government foreign borrowing. Setting out our equation for GNDI in terms of its component parts we have

$$Y_d = C + I + G + X - M + F + R_c \quad (1)$$

The first three terms on aggregation make up Gross Domestic Expenditure (E) while the sum of the last four components we denote by N. This term is closely related to the net balance on current account of the Balance of International Payments (CA), the precise form of the relationship being

$$CA = N + R_k \quad (2)$$

where R_k represents capital transfers from abroad[5].

We can, therefore, re-write Equation (1) as follows:

$$Y_d = E + CA - R_k = E + N \quad (3)$$

where N is the balance on current account less capital transfers from abroad. As regards expressing the flows in constant prices we immediately see that real income (GNDI) at constant prices will differ from real product (GDP) because of the influence exercised by the presence of F and R_c.

Terms of Trade

A further effect, not captured in Equation (1) will be the gains or losses to the Irish economy because of differential import and export price movements. This, we call a terms of trade effect defined in index form as TOT = P_x/P_m[6]. Diagram 2 shows the evolution of TOT over the period 1970-1984. If P_m rises faster than P_x as it did between 1973 and 1974, then a greater volume of domestic output is required in order to purchase the same volume of imports, while if P_x rises faster than P_m it is possible to acquire a greater volume of imports with a given output.

The problem is how to capture this feature in the accounts at constant prices. This problem, which is not new, has been the subject of much inquiry by writers in this field for over thirty years. The prime objective of most of these writers has been to maintain a fully balanced set of accounts at constant prices. By extending the set of accounts elaborated by Geary (1961) to include net current transfers from abroad and net factor income from abroad we get

Domestic Product Account	$Y = C + I + G + X - M$
Disposable Income Account	$Y_d = Y + F + R_c$
External Account	$X - M + F + R_c = N$
Consumer Account	$C + G + S = Y_d$, where S = Savings
Capital Account	$I + N = S$

We assume that the flows are gross, i.e., include depreciation. This set of accounts is a classic double entry system with each item appearing on both sides of the equality sign. It can be simplified further to approximate the system outlined by Broderick (1967) as follows:—

[5]The inclusion of capital transfers from abroad in the balance on current account represents current international practice in balance of payments statistics (see CSO 1984a).

[6]TOT may differ from the officially published terms of trade index which relates to merchandise trade only. The above, being based on the implied deflators for X and M, also takes account of non-merchandise flows.

$$C + I + G + X - M = Y \quad (4)$$
$$Y + F + R_C = C + G + S \quad (5)$$
$$S = I + N \quad (6)$$
$$N = X - M + F + R_C \quad (7)$$

Now the four equations specified resolve into a set of three independent equations, i.e., Equations (4), (5) and (7) will determine Equation (6). Assuming for the moment that F and R_C are uniquely deflatable to constant prices, then as all of the components on the left hand side of Equation (4) are uniquely deflatable, we have determined the deflated value of S uniquely. A problem may arise with Equation (7), however, while N may be positive in current prices, its deflated value as defined by the sum of the separately deflated items in (7) may, in fact, be negative. This undesirable outcome is analogous to deriving negative value added in constant prices using double-deflation. The agreed solution to maintaining a balanced set of accounts in constant prices is to add a "trading gain" term T to the real domestic product, where

$$T = \frac{X - M}{P} - (x - m) \quad (8)$$

P being a specially selected price deflator. We immediately see that

$$x - m + T = \frac{X - M}{P}$$

will always take on the same sign as (X – M).

Our constant price set of accounts then materialises as

$$c + i + g + x - m = y \quad (9)$$
$$y + f + r_C + T = c + g + s \quad (10)$$
$$s = i + n \quad (11)$$
$$n = x - m + T + f + r_C \quad (12)$$

Therefore, real gross national disposable income will be greater than or less than real product to the extent that

$$f + r_C + T \gtrless 0$$

While there is agreement throughout on the single fundamental formula for T, the terms of trade effect, shown in Equation (8), there is no universal agreement on the choice of a suitable price deflator, P, nor on how to deflate F and R_C. In the next section we will examine the various suggestions put forward for P in the literature and in a later section we will explore the deflation of F and R_C.

Choice of a Suitable Deflator

Bowley (1944) (p. vi) credits J. L. Nicholson as being the originator of the idea that the deflator for (X – M) should be the import price index (P_m). In Nicholson (1960), the writer sets out the advantages to be gained from using such a deflator.

> The method recommended here can be said to have the merits of: (i) applying consistent treatment to a surplus or deficit in the balance of payments and to a change in the terms of trade; (ii) satisfying the condition of symmetry in the case of two countries trading only with each other; (iii) being fool-proof against the paradoxical results obtainable by other methods, noticed by Dr. A. L. Gaathon; (iv) being simple and easy for the "man-in-the-street" to understand; and (v) above all making sense as economics. The same cannot be said of any of the other methods which have been proposed.

The "paradoxical results" mentioned by Nicholson concerned an objection raised by Gaathon to the method suggested by Burge and Geary (1957) for the deflator of (X – M), that two countries on amalgamation should have a trading gain with the rest of the world equal to the sum of the individual trading gains. The method suggested by Burge and Geary envisaged deflation by P_x where $X > M$ or P_m where $M > X$ and the incorporation of the derived "external trading gain" into the accounts as shown in Equations (9) - (12) above. The rationale for this approach was that any excess was part of the flow in question and should, therefore, be deflated by the corresponding deflator. This was intended to meet Stone's (1956) objection that

> it is impossible to find a unique set of deflated values of the non-commodity transactions in the accounting system such that the accounts continue to balance in real terms.

Geary (1961) subsequently suggested $P = \frac{1}{2}(P_x + P_m)$ as a deflator that would meet the Gaathon objection. In the same article, he defined some desirable properties which the formula for the trading gain should possess:

> it may be well at this stage to set down certain algebraic conditions which seem desirable in the formula for the trading gain:
>
> (1) The trading gain should be nil when import and export price indexes are equal.
> (2) In a two-country case (or one country and the rest of the world) the sum of the trading gains should be nil.
> (3) The Gaathon point: two countries on amalgamation should have a trading gain with the rest of the world equal to the sum of the trading gains of each country.
> (4) The surplus of exports over imports, if positive, should be regarded as part of exports or, if negative, part of imports.

The Burge-Geary suggestion satisfied (1), (2) and (4) but not (3). The revised Geary suggestion satisfied (1), (2) and (3) but not (4) while Geary (1961) suggested that the Nicholson system satisfied (1) and (3) but not (2) and (4). However, Nicholson (1960) had argued:

> it is wrong to assume, as is sometimes done, that the adjustments to income (or the adjustments to product) in the two country case should be equal and opposite. The desire for articulation should not lose touch with economics. The gain (or loss) from changes in the

terms of trade in the *product* of the one country is necessarily equal to the loss (or gain) in the *income* of the other country (this writer's emphasis).

Stuvel (1959) used the implied deflator for net domestic product at market prices to deflate each of the elements in the accounts

$$\text{i.e., } P_s = \frac{C + I + G + X - M - D}{c + i + g + x - m - d}$$

where D is depreciation. His choice of P_s came about from his desire to obtain an index of wide coverage free from duplication (hence net rather than gross) while the market price valuation as distinct from factor cost is preferred as "it is the price concept that underlies all economic transactions".

Courbis (1969) and Kurabayashi (1971) have independently suggested a measure of P which embraces both imports and exports. Courbis (p. 46) suggests

$$P_n = a\,P_x + (1-a)\,P_m \quad \text{where } a = \frac{x}{x + m}$$

while Kurabayashi (p. 290) suggests a harmonic mean

$$P_n = \frac{1}{b\,\frac{1}{P_x} + (1-b)\,\frac{1}{P_m}} \quad \text{where } b = \frac{X}{X + M}$$

In both cases we get

$$P_n = \frac{X + M}{x + m}$$

The Geary method suggested earlier is the particular case of Courbis where $a = 1 - a = \frac{1}{2}$. Courbis claims a purchasing power connotation for P_n, i.e., "an index linked to the 'value' of the national currency on the international market". Gutmann (1981) finds the Courbis/Kurabayashi formula "conceptually more interesting" than the others, a view not shared by Hibbert (1975): "It seems difficult, to say the least, to give the results of this method a clear economic interpretation".

Finally, Scott (1981) represents a challenge to what he terms the "national income establishment". He begins by considering a closed economy in which there is perfect competition and no government or taxes. Investment, he argues, can be considered as either so much consumption sacrificed or as the net present value of so much consumption gained. The appropriate price deflator for all of domestic expenditure is, therefore, the price index of consumption goods, a proposal which circumvents the seemingly intractable problem of allowing for quality changes in capital goods.

Extending his system to include X, M, F and R_c means choosing an indicator for net foreign investment ($CA - R_k$) which he treats in precisely the same way as domestic investment. Hence deflation by a price index for consumption is recommended for all of the constituent flows of GNDI. Scott

TABLE 1: Terms of Trade using Different Price Deflators

Method	Price Deflator: P	Terms of Trade Effect $T = \frac{X-M}{P} - (x-m)$
Nicholson	$P = P_m$	$X(\frac{1}{P_m} - \frac{1}{P_x})$
Burge, Geary	$P = P_m$ for $M>X$ $P = P_x$ for $X>M$	$X(\frac{1}{P_m} - \frac{1}{P_x})$ $M(\frac{1}{P_m} - \frac{1}{P_x})$
Geary	$P = \frac{1}{2}(Px + Pm)$	$x(\frac{Px-Pm}{Px+Pm}) + m(\frac{Px-Pm}{Px+Pm})$
Stuvel	$P = \frac{C+I+G+X-M-D}{c+i+g+x-m-d}$	$x(\frac{Px}{P} - 1) + m(1-\frac{Pm}{P})$
Courbis/Kurabayashi	$P = \frac{X+M}{x+m}$	$\frac{M}{X-M} x(\frac{Px}{Pm} -1) - \frac{X}{X+M} m(\frac{Pm}{Px} - 1)$
Scott	P = CPI	$x(\frac{Px}{P} -1) + m(1-\frac{Pm}{P})$

vehemently rejects the use of P_m as used in the Nicholson case. The rationale that investment abroad earns foreign currency which is then used to purchase extra imports, misses the point he claims. It is his contention that investment, either domestic or foreign is not made to get either exportables or importables tomorrow but to get future consumption. Therefore, he sees the Consumer Price Index (CPI) filling the role of the deflator to be used.

It seems useful at this stage, before progressing to a discussion on the application of the formulae, to set out in tabular form the various proposals for P along with the derived values for T.

Calculation of Terms of Trade Effect for Ireland, 1970-1984 using Different Price Deflators

Previous authors have examined the results of applying different deflators to (X–M) to determine the terms of trade effect for Ireland. Geary and Pratschke (1968) computed a trading gain T' for each pair of consecutive years between 1958 and 1964 using three different deflators — those of Nicholson (P_m), Geary $(\frac{P_x + P_m}{2})$ and a third value, P = 1, which according to the authors implied that "net external investment N in any year is money and the formula might be regarded as representing Fabricant's position in an extreme form".[7]

[7] "Fabricant's position" is not clear from Geary and Pratschke (1968). The authors merely state that "S. Fabricant would use some capital price deflator" for N (see Equation (7) earlier).

TABLE 2: Imports, Exports and Expenditure-based Gross Domestic Product at Current Prices and Constant (1980) Prices, 1970-1984
£ million

Category	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Imports															
current	728.5	803.9	893.1	1,211.0	1,708.4	1,849.0	2,522.2	3,336.8	4,043.4	5,235.1	5,899.9	7,117.2	7,414.5	8,164	9,778
constant (1980)	3,143.7	3,290.2	3,456.5	4,114.5	4,020.4	3,610.2	4,139.9	4,689.1	5,425.6	6,177.7	5,899.9	6,000.8	5,813.7	6,085	6,664
Exports															
current	598.9	669.1	773.2	1,026.4	1,271.7	1,619.0	2,152.4	2,817.0	3,373.8	3,936.3	4,638.6	5,503.6	6,433.3	7,752	9,742
constant (1980)	2,291.2	2,385.1	2,471.0	2,740.7	2,760.1	2,958.3	3,198.4	3,647.2	4,096.5	4,361.5	4,638.6	4,729.3	4,991.1	5,513	6,442
Gross Domestic Product (Expenditure)															
current	1,620.2	1,855.5	2,254.7	2,729.0	3,021.4	3,792.0	4,653.2	5,703.4	6,756.8	7,916.9	9,360.7	11,347.5	13,261.8	14,636	16,282
constant (1980)	6,022.0	6,248.0	6,703.5	7,033.9	7,320.7	7,491.4	7,595.9	8,219.6	8,810.3	9,081.1	9,360.7	9,600.9	9,678.5	9,674	10,100

Sources: CSO, 1985; CSO 1984b and author's own estimates.

The results showed a remarkable degree of similarity which led the authors to conclude:

> There is no significant difference between the figures in the three columns over a testing period in which every kind of aberration in relative prices and in the net external deficit is encountered.

Geoghegan (1968) examined the slightly longer period 1958-1965 and compiled trading gains based on the formulations of Courbis/Kurabayashi, Geary, Stuvel and Nicholson. His conclusion was broadly similar to Geary/Pratschke's, i.e., a close degree of agreement between the results of the various methods apart from Stuvel post-1961 — a result he attributed to differential GNP and trade price movements.

The period 1970 to 1984 has been chosen for the current exercise for a number of reasons. First, it includes two interesting sub-periods, 1973/74 and 1979/80, in which for an oil importing country such as Ireland, changes in relative external prices have been very pronounced (see Diagram 2 earlier). Second, CSO (1984b) provides a welcome extended time-series of national accounts data for the period 1970-1982 which has subsequently been updated to 1984 (see CSO, 1985). The re-basing of the Irish national accounts to 1980 prices and the linking of the former 1975 price data at 1978 means that a definitive series to base 1980, while maintaining existing growth rates for 1970-1978, is readily deriveable. Table 2 provides such a series distinguishing Imports, Exports, and GDP(E), both at current and at constant (1980) prices, for the period 1970 to 1984. The data in this table, together with the CPI provides us with the necessary elements for computing the terms of trade effect T for each of the six formulations summarised above. As we have seen earlier, the terms of trade effect has been established as follows:

$$T = \frac{(X - M)}{P} - (x - m)$$

where the price deflator P will vary according to the different formulations suggested. Table 3 sets out the results of calculating T for Ireland based on 1980 constant price details for the period 1970-1984. The formulations taken for P are those of Nicholson, Burge/Geary, Geary, Stuvel, Courbis/Kurabayashi and Scott. The Stuvel deflator is the implied price index of gross domestic product at market prices, rather than net domestic product at market prices because depreciation at constant prices is not directly estimated in the Irish national accounts.

The most immediate result of Table 3 is the equivalence of the Nicholson and Burge/Geary estimates for the period under consideration because of the persistent import excess. The similarity of the results of the Geary and Courbis/Kurabayashi formulations is also evident, both being weighted averages of the imports and exports deflators with the Geary method using equal weights. There is also a close degree of agreement between the Stuvel and Scott variants due to the closeness of the measures on which they depend, i.e., the GDP deflator and the CPI. Overall, there is a marked degree of uniformity of trend from series to series, all versions recording the sharp declines in 1973/74 and 1979/81.

TABLE 3: Terms of Trade Effect at Constant (1980) Prices 1970-1984 £ million

Year	Nicholson	Burge/ Geary	Geary	Stuvel	Courbis/ Kurabayashi	Scott
1970	293.2	293.2	326.9	370.8	321.9	386.3
1971	353.4	353.4	391.4	451.2	385.7	460.2
1972	521.5	521.5	565.8	629.0	559.0	621.1
1973	746.6	746.6	821.8	898.0	808.2	896.4
1974	232.6	232.6	274.2	202.2	266.7	240.0
1975	202.8	202.8	217.7	197.5	216.3	207.9
1976	334.5	334.5	364.7	337.8	361.0	336.3
1977	311.4	311.4	341.4	292.8	337.7	292.9
1978	430.6	430.6	475.5	456.0	469.5	432.7
1979	283.5	283.5	331.8	326.4	323.7	281.0
1980	0.0	0.0	0.0	0.0	0.0	0.0
1981	- 89.0	- 89.0	- 101.9	- 93.7	- 100.4	- 68.7
1982	53.2	53.2	57.3	106.5	57.0	127.2
1983	264.9	264.9	272.1	299.7	271.8	307.6
1984	197.5	197.5	197.8	199.7	197.8	200.7

Computing pair-wise Pearson correlation coefficients for GNP adjusted for terms of trade using the different elaborations reinforces the visual impression of series that are very closely related, most of the coefficients being very close to one. These coefficients are shown in the following table, only the upper diagonal comparisons being retained because of symmetry.

TABLE 4: Pearson Correlation Coefficients for GNP* Adjusted for Terms of Trade under Different Assumptions for P: 1970-1984

	Nicholson	Burge/ Geary	Geary	Stuvel	Courbis/ Kurabayashi	Scott
Nicholson	1	1	0.99969	0.99840	0.99979	0.99888
Burge/Geary		1	0.99969	0.99840	0.99979	0.99888
Geary			1	0.99876	0.99999	0.99878
Stuvel				1	0.99873	0.99970
Courbis/ Kurabayashi					1	0.99883
Scott						1

*Average measure

Given the closeness of the results, over a period which embraced major shifts in the relative prices of imports and exports, it would appear that in practical terms it makes little difference which of the formulations is chosen for our price deflator.

Kurabayashi (1985) in the context of a progress report on the review of the System of National Accounts, describes recent attempts at international level to reach agreement on the choice of deflator for compiling terms of trade effects. In particular, with regard to the outcome of the March 1983 meeting of the Working Party on National Accounts, held under the aegis of the Statistical Office of the European Communities, he felt that:—

> No consensus was reached on a standard method for measuring the terms of trade, although there was general agreement on the importance of that subject.

A subsequent meeting in May 1984, at the OECD, dealt with the analytical interpretation of various terms of trade measures, with the Secretariat favouring the Nicholson method of deflating exports by import price indices. However, detailed guidelines on the estimation procedures are still to be worked out.

This is a question which Hibbert (1975) has already addressed. His paper marked the inauguration of a series of gross national disposable income at constant market prices for the United Kingdom. The Nicholson method, which in Hibbert's opinion "appears to be capable of a clear economic interpretation", underpins his calculation. The economic interpretation is such that we observe the difference between "the volume of imports at base year which could be purchased with the proceeds of the current year's export volume in the base year and in the current year". This involves adopting a convention that an external deficit is really an import volume financed out of past savings or current borrowings while a surplus is an import volume forgone.

Deflation of F and R_c

Hence we may logically extend this to cover net factor incomes from abroad and net current transfers from abroad. The fact that it is the "net" figure in both of these flows rather than the gross outflows and inflows making up the "net" contribution, which occupies our attention, is based on our unwillingness to deal with a positive net figure becoming negative on deflation (or vice versa). In other words, separate deflation of the gross flows could lead to unbalanced accounts at constant prices because of the relative price effects of the deflators.

In progressing from GDP to GNP at constant prices in the Irish national accounts the net factor income from abroad is separately deflated. The present method of deflation is such that when net factor income from abroad is positive, then it is deflated by the implied price index for imports of goods and non-factor services, when negative it is deflated by the implied price index for exports of goods and non-factor services. The rationale for this approach is that positive net factor income can be used to finance imports while negative net factor income must be met with increased exports. The transition to GNP allowing for changes in the terms of trade is made using the Nicholson solution, whereby (X – M) is deflated by P_m[8]

At present, gross national disposable income at constant prices is not distinguished in the Irish national accounts. In order to estimate this item we would have to extend the real GNP, adjusted for terms of trade, to include deflated net current transfers from abroad. Extending the present method of deflating net factor income from abroad, while entirely logical, would not be straightforward to implement. In the period under consideration, 1970-1984, net factor income from abroad was positive up to 1975, but increasingly negative since. So, P_m was used for deflating net factor income from abroad in the earlier period, P_x in the later period. As net current transfers from abroad were positive throughout, then we should logically deflate this flow by P_m in order to get real gross national disposable income (adjusted for terms

[8]The results are shown in index number form in CSO (1985) — Table 8.

TABLE 5: Progression from Gross Domestic Product to Gross National Disposable Income at Current and Constant (1980) Prices 1970-1984

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Current Prices															
Gross Domestic Product	1,620.2	1,855.5	2,254.7	2,729.0	3,021.4	3,792.0	4,653.2	5,703.4	6,756.8	7,916.9	9,360.7	11,347.5	13,261.8	14,636	16,282
Net factor income from abroad	28.3	26.6	29.6	12.5	19.2	4.3	– 36.0	– 108.4	– 228.2	– 283.0	– 358.1	– 504.6	– 927.7	– 1,184	– 1,609
Gross National Product	1,648.5	1,882.1	2,284.3	2,741.5	3,040.6	3,796.3	4,617.2	5,595.0	6,528.6	7,633.9	9,002.6	10,842.9	12,334.1	13,452	14,673
Net current transfers from abroad	36.0	37.2	41.9	78.8	123.0	168.0	158.9	319.4	438.4	522.9	518.4	443.4	494.2	579	721
Gross National Disposable Income	1,684.5	1,919.3	2,326.2	2,820.3	3,163.6	3,964.3	4,776.1	5,914.4	6,976.0	8,156.8	9,521.0	11,286.3	12,828.3	14,031	15,394
Constant (1980) Prices															
Gross Domestic Product*	6,141.7	6,425.7	6,832.4	7,196.4	7,443,3	7,533.3	7,710.2	8,254.1	8,864.2	9,161.7	9,360.6	9,552.5	9,609.1	9,617	10,100
Net factor income from abroad	122.1	108.9	114.6	42.5	45.2	8.4	– 59.1	152.3	– 306.2	– 334.0	– 358.1	– 425.4	– 727.4	– 883	– 1,097
Gross National Product**	6,263.8	6,534.5	6,947.0	7,238.8	7,488.8	7,541.7	7,651.1	8,101.7	8,557.9	8,827.7	9,002.5	9,127.1	8,881.7	8,734	9,003
Terms of Trade Adjustment	293.2	353.4	521.5	746.6	232.6	202.8	334.5	311.4	430.6	283.5	—	– 89.0	53.2	265	198
Gross National Product adjusted for terms of trade	6,557.0	6,887.9	7,468.4	7,985.4	7,721.4	7,744.5	7,985.6	8,413.2	8,988.5	9,111.2	9,002.5	9,038.1	8,934.9	8,999	9,201
Net current transfers from abroad	155.4	152.3	162.2	267.7	289.5	328.0	260.8	448.8	588.3	617.1	518.4	373.8	387.5	432	491
Gross National Disposable Income	6,712.4	7,040.2	7,630.6	8,253.2	8,010.9	8,072.5	8,246.4	8,862.0	9,576.8	9,728.3	9,520.9	9,411.9	9,322.4	9,431	9,692

*Average of expenditure and output apart from 1984 which is expenditure only.

**Differs from officially published series because of different method of deflating net factor income from abroad.

of trade). But should we not consider the sum of net factor income from abroad and net current transfers from abroad as the relevant flow for deflation? After all, it is the sum of these components which forms the link between output and income. If we accept this latter situation, then as the sum of the two flows is positive from 1975-1980 and negative thereafter, we should deflate it by P_m in the earlier period and P_x in the later period. The solution, therefore, would depend on whether we wish to deflate net factor income and net current transfers from abroad separately or when combined[9].

Each of the methods of deriving terms of trade adjustments mentioned above can be extended to the non-commodity components F and R_c. In the last section, we saw that there was a very close degree of agreement between the results obtained for the terms of trade using these different methods for the 1970-84 period. While each of the methods possessed certain advantages as regards economic interpretation, certain shortcomings were also identified by the various authors. Whatever method one selects will entail some conventional treatment of surplus income unspent or expenditure in excess of income. The convention in the Nicholson case elaborated in Hibbert (1975), holds a certain attractiveness for Ireland on account of the openness of the economy. We recall our formulation of the rest of the world account:

$$N = X - M + F + R_c$$

The Nicholson convention is such that when N is positive then it represents an import volume forgone while if it is negative it represents an import volume purchased from current borrowings (or past savings). Adoption of the Nicholson method for Ireland would imply a unified approach to deflating the components of N which is unambiguous. The fact that it is in line with international recommendations, though not an argument in itself, is none the less a highly desirable administrative advantage. This writer, therefore, favours the Nicholson[10] method of estimating real gross national disposable income. The Nicholson method, we recall, means deflating (X – M), F and R_c by P_m regardless of the direction of the flows.

Real Gross National Disposable Income for Ireland

The results obtained by applying the Nicholson solution to Irish data for the period 1970 to 1984 are shown in Table 5. The progression from GDP through GNP to GNDI is shown in both current and constant prices, the constant price GDP being the average of the output and expenditure measures. One immediate side-effect of the proposed solution would be the amendment of the GNP at constant price details from 1976 onwards, because of the suggested method of deflating net factor income from abroad. The differences are shown in Table 6.

[9] A case could be made for deflating certain EEC transfers (inflows) by the corresponding export commodity indices and deflating the net remainder by our selected deflator. This is not pursued further here, however.

[10] Imports are valued c.i.f. (i.e., at factor cost) in the method used in this article. Hibbert (1975) suggests market prices as the appropriate basis for measuring changes in real income reserving factor cost for measuring the additional resources required to maintain a given level of domestic expenditure and external current balance.

TABLE 6: GNP Growth Rates* using Different Methods to Deflate net Factor Income from Abroad

	1975/ '76	1976/ '77	1977/ '78	1978/ '79	1979/ '80	1980/ '81	1981/ '82	1982/ '83	1983/ '84
Officially published series	1.5	5.9	5.7	3.0	1.7	1.3	– 2.5	– 1.3	2.3
Nicholson Method	1.5	5.9	5.6	3.2	2.0	1.4	– 2.7	– 1.7	3.1

*Average of expenditure and output measures — 1984 expenditure only

An examination of the data in Table 5 provides us with an insight into developments over the period under consideration, i.e., 1970-1984. It seems useful from an analytical point of view to sub-divide this period into three separate sub-periods: 1970-1973 — immediately preceding the first major oil shock; 1973-1979 — following on from the first to the second oil shock and 1979-1984 — the aftermath of the second shock. Table 7 shows the average annual growth rates of various constant price economic aggregates for these three sub-periods and the period as a whole.

TABLE 7: Average Annual Growth Rates (%)

	1970-73	1973-79	1979-84	1970-84
Gross Domestic Product (GDP)	5.4	4.1	2.0	3.6
Gross National Product (GNP)	4.9	3.4	0.4	2.6
GNP adjusted for terms of trade (GNP_{TOT})	6.8	2.2	0.2	2.4
Gross National Disposable Income (GNDI)	7.1	2.8	– 0.1	2.7
Gross Domestic Expenditure (GDE)	7.0	4.3	– 1.1	2.9

The increase over time in the "wedge" between GDP and GNP is immediately apparent from this table as is the unfavourable terms of trade effect in the latter two sub-periods. The diminution in real current transfers from abroad since 1979 is responsible for converting a slight growth in GNP_{TOT} into a fall in real income during 1979-84. The most striking contrast, however, in this sub-period is the 2 per cent growth in GDP translating into a 0.1 per cent fall in GNDI, the major portion of the difference being explained away in increasing real factor outflows, i.e., profit repatriation and interest on government foreign borrowing. Diagram 3 charts this contrast between output and income for all years during 1970-84. The marked deterioriation in the terms of trade is evident from this diagram in the comparisons for 1973/74 and 1979/80.

Returning to Table 7, it is also of interest to examine the evolution of real GDE when compared with real GNDI. The expansionary fiscal policy of 1977-1979 is reflected in the GDE growth for 1973-79 while the more contractionary policies since 1981 are captured by the 1.1 per cent average annual decline in the latest sub-period. From the accounting system developed earlier in the article we saw the relationship between income, expenditure and the balance of payments. When expenditure growth exceeds income growth, the discrepancy is reflected in a worsening of the balance of payments. Table 8 portrays this annual growth in real GNDI and real GDE and the resultant balance of payments situation.

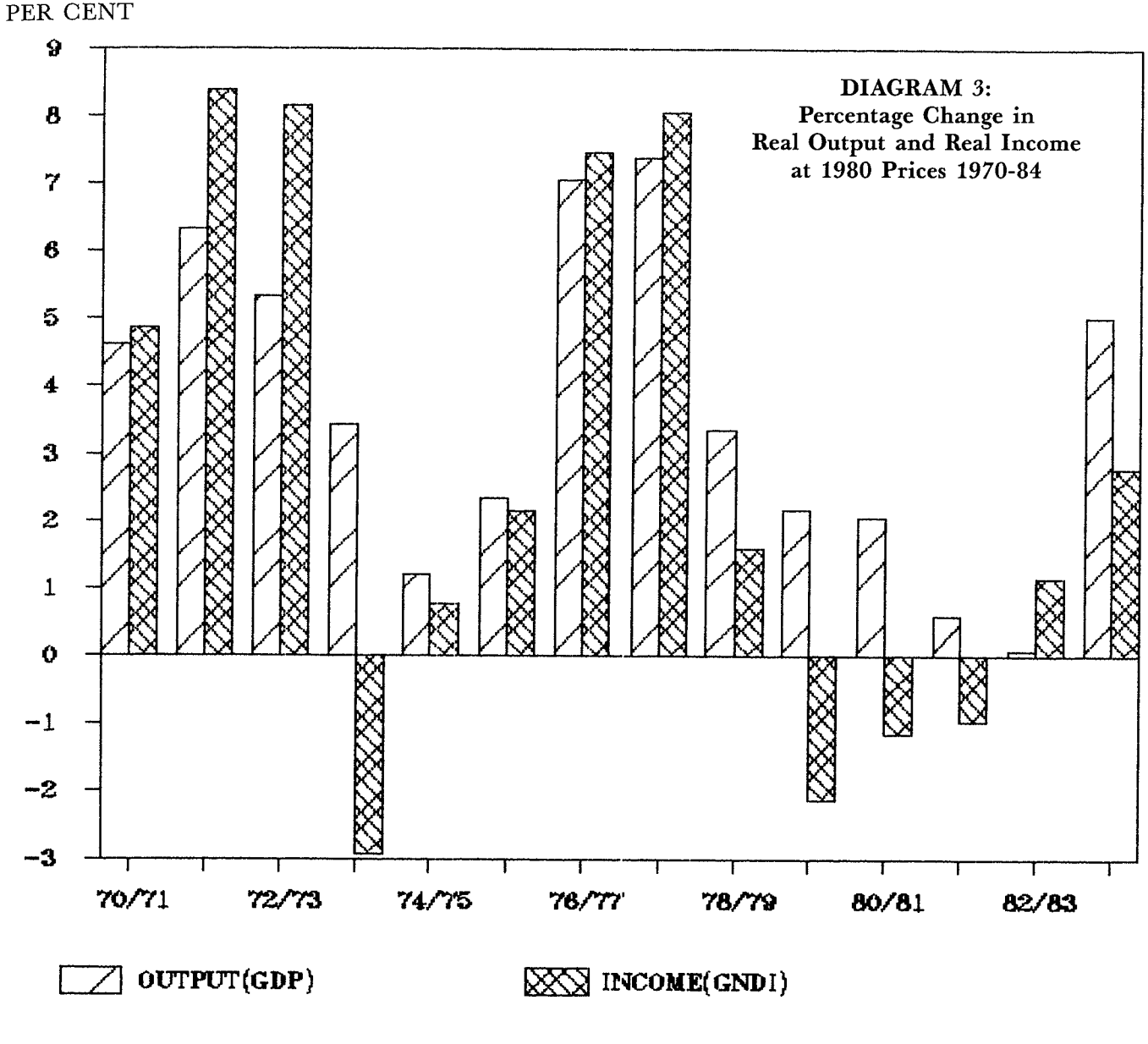

PER CENT
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
DIAGRAM 3:
Percentage Change in
Real Output and Real Income
at 1980 Prices 1970-84
70/71
72/73
74/75
76/77
78/79
80/81
82/83
OUTPUT(GDP)
INCOME(GNDI)

TABLE 8: Gross Domestic Expenditure and Gross National Disposable Income at Constant (1980) Prices and Balance of Payments on Current Account

Year	Gross Domestic Expenditure at constant (1980) prices		Gross National Disposable Income at constant (1980) prices		Net Balance on Current Account (Balance of International Payments)	BoP as a % of GNDI (current)
	£m	Percentage change on previous period	£m	Percentage change on previous period	£m (all debits)	
						%
1970	6,924.0		6,712.4		65.3	3.9
1971	7,204.5	4.1	7,040.2	4.9	71.0	3.7
1972	7,727.6	7.3	7,630.6	8.4	48.4	2.1
1973	8,479.9	9.7	8,253.2	8.2	93.3	3.3
1974	8,574.1	1.1	8,010.9	- 2.9	294.5	9.3
1975	8,105.2	- 5.5	8,072.5	0.8	55.9	1.4
1976	8,580.5	5.9	8,246.4	2.2	238.1	5.0
1977	9,269.7	8.0	8,862.0	7.5	299.5	5.1
1978	10,139.4	9.4	9,576.8	8.1	444.2	6.4
1979	10,897.3	7.5	9,728.3	1.6	1,025.9	12.6
1980	10,622.0	- 2.5	9,520.9	- 2.1	1,037.9	10.9
1981	10,872.4	2.4	9,411.9	- 1.1	1,594.7	14.1
1982	10,501.1	- 3.4	9,322.4	- 1.0	1,315.7	10.3
1983	10,246.0	- 2.4	9,431.0	1.2	925.2	6.6
1984	10,322.0	0.7	9,692.0	2.8	837.0	5.4

Sources: CSO 1985 and author's own estimates.

Both real domestic expenditure and real GNDI moved in close harmony during 1970-1973 giving rise to only minor changes in the balance of payments (BoP). The sharp deterioration in the terms of trade between 1973 and 1974 which was not matched by a commensurate decline in real expenditure was reflected in a worsening of the BoP deficit on current account. 1975 saw a reversal of this trend, the fall in real expenditure being caused mainly by a decline in agricultural stock levels. The growth in real expenditure again exceeded real GNDI growth in 1976 with the expected result in the BoP.

In the years 1977 to 1981, the annual percentage changes in real domestic expenditure easily exceeded those in real incomes, apart from 1979-80, the fall in real domestic expenditure being mainly due, as in 1975, to a decrease in agricultural stocks in 1980. As a consequence of these diverging growth rates there was a sharp deterioration in the balance of payments on current account. This was particularly pronounced in 1978/79 and 1980/81. Since 1981, there has been a reversal in this trend with real expenditure changes falling short of changes in real national disposable incomes, the result of which has seen a steady improvement in the balance of payments on current account.

Conclusions

The paper examined the technical aspects of compiling a series of gross national disposable income at constant prices adjusted for terms of trade. A review of the literature on terms of trade suggested six possible candidates for consideration. It was found that all six measures provided very similar results

over the testing period 1970-1984. A preference was expressed for the Nicholson method of deflating net exports (X – M) by the implied deflator for imports P_m, because of its clear economic interpretation. A unified approach to deflating net factor income (F) and net current transfers from abroad (R_c) was suggested. This entailed also deflating these flows by P_m.

In the final section, the results obtained for real gross national disposable income for Ireland during 1970-1984 were examined. It was found that in the latest sub-period 1979-1984 the major part of the discrepancy between output and income growth was attributable to a rise in real net factor income paid abroad. The lesson from the income/expenditure comparisons over the 1970-84 period was also clear from the derived data, i.e., raising real expenditure when there is insufficient real income growth can only come about through a worsening of the balance of payments.

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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
	1980 = 100	1980 = 100	G.W.H.	000 Metric Tons	000's	000's	1980 = 100	1980 = 100
1980	100.0	100.0	10733	1814.9	227.2	238.8	100.0	100.0
1981	102.7	101.6	10767	1812.5	220.7	232.3	105.5	104.5
1982	102.4	101.7	10792	1486.1	213.8	224.7	108.6	108.2
1983	110.0	108.6	11039	1382.4	201.0	211.3	124.2	122.8
1984	124.6	122.9	11424	1298.4	194.6	204.4	145.3	143.7
1985	128.0	124.7	11919	1233.2				
1986								
Quarterly Averages or Totals								
1983 I	107.9	105.7	2990	298.1	203.0	212.9	120.7	118.6
II	113.1	110.9	2650	367.1	200.7	211.9	120.7	118.6
III	103.9	105.4	2470	371.5	201.4	212.0	117.0	118.0
IV	115.3	112.7	2929	345.7	198.8	208.3	131.6	129.0
1984 I	117.4	114.6	3136	271.5	195.7	205.2	136.0	133.6
II	132.6	132.4	2672	366.3	195.1	206.1	154.0	153.0
III	116.1	116.4	2562	350.0	195.2	204.4	135.0	136.0
IV	132.6	128.5	3054	310.6	192.2	201.1	156.5	152.7
1985 I	129.3	125.4	3259	241.3	187.5	196.3	156.5	152.7
II	136.0	132.6	2818	350.4	187.2	197.2	165.0	160.7
III	117.7	115.5	2705	333.1	187.3	195.8	142.7	141.0
IV	129.5	125.8	3137	308.3				
1986 I				205.0				
II								
III								
IV								
Quarterly Averages or Totals Seasonally Corrected								
1983 I	109.1	108.2	2711	356.3	204.1	214.5	121.3	120.6
II	106.5	104.5	2804	330.1	201.6	212.0	119.9	117.8
III	110.2	109.4	2766	343.2	200.5	210.9	124.8	124.0
IV	115.0	112.8	2765	358.8	197.7	207.8	132.0	130.0
1984 I	118.3	117.1	2844	325.6	196.8	206.7	136.4	135.4
II	125.0	128.4	2827	328.0	195.9	206.3	144.8	148.8
III	123.3	120.7	2866	322.6	194.2	203.8	144.2	141.5
IV	131.4	128.3	2891	316.8	191.5	201.0	155.8	152.5
1985 I	130.7	128.4	2951	292.9	188.6	197.7	157.3	155.2
II	128.5	125.5	2980	313.3	188.0	197.4	155.2	152.0
III	125.0	119.7	3025	304.3	186.3	194.6	152.3	147.1
IV	128.4	125.5	2974	310.9				
1986 I				256.1				
II								
III								
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. 1982 = 100	1980 = 100	1975 = 100	1975 = 100	1975 = 100	1975 = 100	
101.5	68.4	100.0	195.6	179.5	91.8	212.0	1980
127.9	82.4	117.7	232.4	208.4	89.7	219.9	1981
148.2	96.5	128.2	249.4	231.5	92.8	179.9	1982
192.7	106.6	135.4	261.1	251.9	96.5	223.7	1983
214.2	115.8	139.4	286.5	271.2	94.7	296.1	1984
230.6	122.0	135.6				316.8	1985
							1986
Quarterly Averages or Totals							
188.3	102.5	132.0	247.0	237.3	96.1	172.0	1983 I
188.1	105.3	133.7	254.5	247.7	97.3	206.1	II
193.0	108.3	138.8	268.8	257.0	96.7	249.7	III
201.3	110.3	138.5	275.3	263.3	95.6	267.2	IV
215.2	112.9	146.6	281.5	266.0	94.5	309.6	1984 I
210.8	115.5	150.0	283.7	269.8	95.1	314.9	II
212.6	116.9	135.6	294.3	276.6	94.0	280.7	III
218.1	117.7	134.4	297.9	283.3	95.1	279.1	IV
232.8	119.9	140.7	297.3	280.3	94.3	284.7	1985 I
226.5	121.5	140.2	300.6	288.0	95.8	289.4	II
231.8	123.3	133.1	298.0	290.0	97.3	333.3	III
231.2	123.5	134.3	289.7	282.7	97.6	359.8	IV
238.7	125.4					426.8	1986 I
							II
							III
							IV
Quarterly Averages or Totals Seasonally Corrected							
182.7	102.7	129.2	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	1983 I
189.8	105.0	131.1					II
196.2	108.3	140.9					III
202.2	110.7	142.1					IV
209.4	113.0	143.8					1984 I
212.4	115.2	146.1					II
215.8	116.6	138.0					III
219.0	118.2	138.2					IV
226.9	119.9	138.1					1985 I
228.3	121.2	136.5					II
235.2	123.0	135.6					III
232.3	124.1	138.1					IV
232.2	125.4						1986 I
							II
							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	1982 = 100	1982 = 100	Total	1980 = 100	1980 = 100
1980	321.2	321.0	111.9	111.7	91032	100.0	100.0
1981	373.8	372.6	108.2	107.6	104645	118.3	99.4
1982	419.1	419.8	103.6	103.6	72603	129.4	94.0
1983	468.3	469.2	104.9	104.8	61094	137.4	90.1
1984	523.8	525.1	107.9	107.9	55893	145.2	89.2
1985							
1986							
Quarterly Averages or Totals							
1983 I	440.6	440.8	102.6	102.3	29851	135.5	92.0
II	458.4	463.1	103.9	104.7	12255	130.2	86.1
III	476.3	475.9	105.0	104.6	12110	135.4	87.6
IV	497.9	497.1	107.7	107.3	6878	148.5	94.8
1984 I	502.3	503.0	106.2	106.1	19263	139.8	87.9
II	518.5	523.8	107.1	108.0	18443	143.9	88.6
III	528.2	528.1	107.9	107.5	11708	143.5	87.3
IV	546.0	545.6	110.7	110.4	6479	155.8	93.7
1985 I	541.8	542.0	107.8	107.6	19914	147.6	87.5
II	561.8	565.4	110.3	110.8	19200	153.2	89.8
III	570.0		110.3		13287	155.2	90.1
IV					7152	167.6	96.6
1986 I							
II							
III							
IV							
Quarterly Averages or Totals Seasonally Corrected							
1983 I	447.0	449.0	103.5	103.6	20234	136.7	92.7
II	456.6	457.8	104.0	104.1	10743	132.6	88.0
III	476.5	476.3	105.4	105.3	13737	137.7	89.2
IV	492.4	493.4	106.1	105.8	14848	142.1	90.4
1984 I	509.3	512.1	107.3	107.5	12953	141.3	88.8
II	517.4	518.0	107.3	107.3	15752	146.5	90.4
III	527.9	528.6	108.2	108.2	13540	146.2	89.0
IV	540.2	541.7	109.0	108.9	13313	148.6	89.2
1985 I	549.0	551.4	109.0	109.0	13451	149.4	88.4
II	560.9	559.5	110.5	110.1	16298	156.0	91.6
III	569.5		110.6		15487	158.2	92.0
IV					14182	159.6	91.8
1986 I							
II							
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		External Reserves	
				Government	Non-Gov.		
£m	£m	£m	£m End Period	£m End Period	£m End Period	£m End Period	
3155	3708	553	n.a.	1132.6	n.a.	1346.0	1980
3973	4796	823	n.a.	1277.4	n.a.	1473.1	1981
4908	5896	988	7291.9	1564.7	6655.1	1594.0	1982
5711	6671	960	7697.4	1775.7	7493.8	2014.8	1983
5952	6991	1039	8473.9	2247.9	8127.6	2101.2	1984
6331	7615	1284				2271.9	1985
							1986
Quarterly Totals				Monthly Totals			
1220	1646	426	7229.1	1499.9	6888.3	1235.1	1983 I
1405	1654	249	7345.5	1638.4	6904.8	1343.2	II
1440	1560	120	7439.7	1749.7	7302.1	1914.4	III
1646	1811	165	7697.4	1775.7	7493.8	2014.8	IV
1290	1719	429	7697.4	1831.2	7512.5	2117.7	1984 I
1516	1684	169	7934.1	2142.4	7724.4	1952.0	II
1457	1715	258	8161.8	2223.0	7938.4	1875.0	III
1688	1873	185	8473.9	2247.9	8127.6	2101.1	IV
1325	1981	656	8438.9	2166.3	8151.0	2632.5	1985 I
1635	1792	157	8545.0	2319.1	8291.7	3124.8	II
1562	1838	277	8639.8	2421.6	8206.8	3009.6	III
1809	2004	195				2271.9	IV
1416	2056	640					1986 I
							II
							III
							IV
Quarterly Totals (S.C.)				Monthly Totals (S.C.)			
1338	1603	265	No	No	No	1208.5	1983 I
1400	1654	253	Seasonal	Seasonal	Seasonal	1424.4	II
1420	1620	128	Pattern	Pattern	Pattern	1920.2	III
1458	1769	338				2084.7	IV
1444	1663	219				2119.6	1984 I
1500	1694	194				2039.7	II
1501	1785	284					III
1493	1852	359					IV
1501	1910	409					1985 I
1611	1807	196					II
1604	1920	316					III
1600	1975	374					IV
1611	1982	370					1986 I
							II
							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£
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
1983	7355.0	6936.0	419.0	165.3	190.2	65.13	0.8222
1984	8913.5	8897.7	15.8	182.6	226.7	62.26	0.8134
1985	9435.8	9742.2	- 306.4			62.41	0.8234
1986							
Monthly Averages							
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	157.8	195.6	63.28	0.7894
IV	673.2	658.9	14.3	172.7	207.6	62.74	0.7896
1984 I	744.5	654.4	90.1	186.3	203.8	62.58	0.7951
II	715.0	769.9	—54.9	177.4	236.5	62.56	0.8097
III	710.5	722.7	—12.2	170.0	216.6	61.86	0.8143
IV	801.1	818.9	—17.8	189.3	239.7	62.04	0.8352
1985 I	820.4	800.3	20.3	194.4	236.6	61.95	0.8590
II	808.2	855.8	- 47.6	189.2	246.2	61.44	0.8075
III	740.7	795.3	- 54.6	175.0	227.5	62.15	0.7959
IV	775.9	795,9	- 20.0	188.6	233.3	64.11	0.8324
1986 I							
II							
III							
IV							
Monthly Averages. Seasonally Corrected.							
1983 I	570.6	507.7	62.9	163.6	176.2	No Seasonal Pattern	No Seasonal Pattern
II	577.3	565.9	11.4	160.9	191.1		
III	620.6	601.3	19.3	162.5	194.3		
IV	690.2	641.3	48.9	175.5	200.6		
1984 I	722.7	711.6	11.1	180.4	218.8		
II	699.8	741.6	—41.8	174.0	229.6		
III	725.9	711.3	14.6	174.6	213.9		
IV	833.7	800.8	32.9	196.9	233.5		
1985 I	792.4	862.1	—69.7	185.6	249.6		
II	795.6	817.8	—22.2	185.5	239.2		
III	774.5	792.4	—17.9	183.8	227.4		
IV	796.4	770.5	25.9	194.2	227.1		
1986 I							
II							
III							
IV							

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