ISSN 0376-7191

# *The Economic and Social Research Institute*

## QUARTERLY ECONOMIC COMMENTARY

by

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APRIL 1985

THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE
COUNCIL, 1984 - 1985

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# QUARTERLY ECONOMIC COMMENTARY

## APRIL, 1985

*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£10 per copy or IR£30 per year*

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Printed by Mount Salus Press Ltd., Tritonville Road, Dublin 4.

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## SUMMARY

A growth rate of about 2½ per cent in real GNP seems likely in 1985, a slight improvement on a revised estimate of 2 per cent growth in 1984. As in 1984 the principal component of growth will be manufactured exports, although a substantial contribution is likely to be made by personal consumption which is expected to increase by about 2 per cent in volume in 1985.

The level of average employment is forecast to stabilise between 1984 and 1985, which implies some increase in the course of the year. Because of the continued rise in the labour force the underlying rate of unemployment will increase. On the positive side, there should be some further improvement in the Balance of Payments, with the balance of visible trade quite strongly in surplus. The current budget deficit and government borrowing requirement should remain roughly constant as a proportion of GNP. More notably, the increase in the Consumer Price Index, generally taken as the principal measure of inflation, is cautiously forecast at 6 per cent, and could be as low as 5 per cent if circumstances become favourable. Even at 6 per cent this will be the lowest rate of price inflation since 1968.

Although the forecast for 1985 shows economic trends which are compatible with meeting the National Plan targets in 1987, the basic situation remains very disturbing. The disastrous slide of the late 1970s and early 1980s has been checked, but there is no evidence of a recovery strong enough to ease the underlying problems of the economy.

The only vigorous sector, that of manufactured exports, has such weak links with the rest of the economy that its exceptional growth has only a modest impact on the economy as a whole. In common with the experience of other EEC countries, Irish unemployment is continuing to rise from a level which is already socially corrosive. The current budget deficit and the government borrowing requirement are, with difficulty, only being held constant as a proportion of GNP. A significant improvement in the public finances relies entirely on the uncertain prospect of an eventual fall in either world interest rates or the value of the dollar, which themselves could well be accompanied by a deterioration in the international trading environment.

The principal domestic contribution put forward in the Plan towards correcting the budget imbalance is a policy of differentially low increases in public service pay. This has been partially achieved in 1985. The compromise resulting in a phased 6 per cent increase in public pay rates represented a sensible degree of short-term flexibility, but it does intensify the need to restrict yet further any public service pay rise in 1986.

A striking feature of Irish economic development in recent years has been the dramatic change in the structure of Irish industry. The burgeoning growth of new foreign owned technologically advanced establishments has coincided with the decline of many traditional industries and the virtual stagnation of others. The result has been a very rapid rise in the volume of manufacturing output, reaching 13.3 per cent in 1984, accompanied by a steady decline in manufacturing employment. In an Appendix to this *Commentary* the trends in

manufacturing industry since 1980 are examined in some detail in an attempt to isolate the impact of the growth industries and to plot the changes in output per head and wage-cost competitiveness in old and new industry.

The main finding is that a steep decline in the wage-cost competitiveness of "old" industry between 1980 and 1982 has since been reversed through a massive shake out of jobs, lower pay increases, and favourable movements in most exchange rates. Whether the far more important non-wage elements of competitiveness have also improved cannot be judged from the type of data available, but at least it no longer seems true that high Irish wage increases are responsible for industrial decline. Meanwhile, the rapidly growing modern industries have exhibited huge improvements in wage-cost competitiveness, which their export record suggests has been backed up by a strong competitive position with regard to non-wage factors.

# ESTIMATED NATIONAL ACCOUNTS 1984

## A: Expenditure on Gross National Product

| | 1983 | 1984 | Change in 1984 £m | | Change in 1984 % | | |
|---|---|---|---|---|---|---|---|
| | Prelim. £m | Estimated £m | Total | Volume | Total | Price | Volume |
| Private Consumer Expenditure ... | 8536 | 9368 | 832 | 88 | 9¾ | 8½ | 1 |
| Public Net Current Expenditure ... | 2912 | 3147 | 235 | 0 | 8 | 8 | 0 |
| Gross Domestic Fixed Capital Formation | 3299 | 3532 | 233 | - 41 | 7 | 9½ | - 1¼ |
| Exports of Goods and Services (X) ... | 7719 | 9707 | 1988 | 1158 | 25¾ | 9¼ | 15 |
| Physical Changes in Stocks .. ... | 85 | 94 | 9 | 9 | | | |
| Final Demand ... ... ... | 22551 | 25848 | 3297 | 1214 | 14½ | 8¾ | 5½ |
| less: | | | | | | | |
| Imports of Goods and Services (M) ... | 8074 | 9737 | 1663 | 693 | 20½ | 11 | 8½ |
| GDP at market prices ... ... | 14477 | 16111 | 1634 | 521 | 11¼ | 7½ | 3½ |
| less: | | | | | | | |
| Net Factor Payments (F) ... ... | 1176 | 1580 | 404 | 267 | 34¼ | 9½ | 22¾ |
| GNP at market prices ... ... | 13301 | 14531 | 1230 | 254 | 9¼ | 7 | 2 |

## B: Gross National Product by Origin

| | 1983 | 1984 | | |
|---|---|---|---|---|
| | Prelim. £m | Estimated £m | Change in 1984 £m | Change in 1984 % |
| Agriculture, Forestry, Fishing ... | 1222 | 1362 | 140 | 11½ |
| Non-Agricultural: Wages etc. ... | 7899 | 8578 | 679 | 8½ |
| Other ... ... | 2212 | 2649 | 437 | 19¾ |
| less: | | | | |
| Net Factor Payments ... ... | 1176 | 1580 | 404 | 34¼ |
| National Income ... ... ... | 10157 | 11009 | 852 | 8½ |
| Depreciation ... ... ... | 1320 | 1480 | 160 | 12 |
| GNP at factor cost ... ... | 11477 | 12489 | 1012 | 8 |
| Taxes less subsidies ... ... | 1824 | 2042 | 218 | 12 |
| GNP at market prices ... ... | 13301 | 14531 | 1230 | 9¼ |

## C: Balance of Payments on Current Account

| | 1983 | 1984 | |
|---|---|---|---|
| | Prelim. £m | Estimated £m | Change in 1984 £m |
| X—M ... ... ... | - 355 | - 30 | + 325 |
| F ... ... ... ... | - 1176 | - 1580 | - 404 |
| Net Transfers ... ... ... | 668 | 830 | + 162 |
| Balance on Current Account ... | - 863 | - 780 | + 83 |

# FORECAST NATIONAL ACCOUNTS 1985

## A: Expenditure on Gross National Product

| | 1984 | 1985 | Change in 1985 £m | | Change in 1985 % | | |
|---|---|---|---|---|---|---|---|
| | Estimated £m | Forecast £m | Total | Volume | Total | Price | Volume |
| Private Consumer Expenditure ... | 9368 | 10147 | 779 | 188 | 8¼ | 6¼ | 2 |
| Public Net Current Expenditure ... | 3147 | 3347 | 200 | 10 | 6½ | 6 | ¼ |
| Gross Domestic Fixed Capital Formation | 3532 | 3807 | 275 | 20 | 7¾ | 7¼ | ½ |
| Exports of Goods and Services (X) ... | 9707 | 11332 | 1625 | 1050 | 16¾ | 5½ | 10¾ |
| Physical Changes in Stocks ... ... | 94 | 40 | – 54 | – 50 | | | |
| Final Demand ... ... ... | 25848 | 28673 | 2825 | 1218 | 11 | 6 | 4¾ |
| less: | | | | | | | |
| Imports of Goods and Services (M) ... | 9737 | 11113 | 1376 | 701 | 14¼ | 6½ | 7¼ |
| GDP at market prices ... ... | 16111 | 17560 | 1449 | 517 | 9 | 5½ | 3¼ |
| less: | | | | | | | |
| Net Factor Payments (F) ... ... | 1580 | 1840 | 260 | 158 | 16½ | 6 | 10 |
| GNP at market prices ... ... | 14531 | 15720 | 1189 | 359 | 8¼ | 5½ | 2½ |

## B: Gross National Product by Origin

| | 1984 | 1985 | Change in 1985 | |
|---|---|---|---|---|
| | Estimated £m | Forecast £m | £m | % |
| Agriculture, Forestry, Fishing ... | 1362 | 1389 | 27 | 2 |
| Non-Agricultural: Wages etc. ... | 8578 | 9253 | 675 | 8 |
| Other ... ... | 2649 | 3003 | 354 | 13½ |
| less: | | | | |
| Net Factor Payments ... ... | 1580 | 1840 | 260 | 16½ |
| National Income ... ... ... | 11009 | 11805 | 796 | 7¼ |
| Depreciation ... ... ... | 1480 | 1658 | 178 | 12 |
| GNP at factor cost ... ... | 12489 | 13463 | 974 | 7¾ |
| Taxes less subsidies ... ... | 2042 | 2257 | 215 | 10½ |
| GNP at market prices ... ... | 14531 | 15720 | 1189 | 8¼ |

## C: Balance of Payments on Current Account

| | 1984 | 1985 | Change in 1985 |
|---|---|---|---|
| | Estimated £m | Forecast £m | £m |
| X—M ... ... ... | – 30 | 219 | 249 |
| F ... ... ... | – 1580 | – 1840 | – 260 |
| Net Transfers ... ... ... | 830 | 905 | 75 |
| Balance on Current Account ... | – 780 | – 716 | 64 |

# COMMENTARY

## The International Economy

*General*

Towards the end of 1984 there was a general consensus among commentators that the rate of growth of world trade would slow appreciably in 1985, that domestic stimuli would replace exports in maintaining the limited European recovery, that interest rates would tend downwards and that there was likely to be a modest and reasonably controlled decline in the value of the US dollar.

Events so far in 1985 have cast some doubt on this general prediction. In particular the gyrations of the foreign exchange markets, perhaps inevitable now that movements of financial funds have quite outstripped trade flows as the source of currency transactions, have yet again thrown into sharp relief the difficulty of predicting specific exchange rates. Moreover forecasts of developments within the US economy itself have become more tentative, and more influenced by the publication of each batch of the latest economic indicators.

It is still generally believed that there will be a reduction in the rate of growth of world trade, although probably by less than previously seemed likely. Much greater uncertainty now attends predictions of interest and exchange rate movements.

*The US Economy*

The performance of the American economy remains central to expectations of growth in world output and trade. In 1984 the growth in American GDP accounted directly for about half of the total GDP growth in the OECD, while US imports contributed about 3½ per cent of the total expansion of 9½ per cent in world trade.

After a perceptible check to the current boom in the third quarter of 1984, revised estimates indicate a resumption of growth in the fourth quarter, giving an annual increase in GDP of 6.8 per cent in 1984. Indications for the early months of 1985 present a somewhat confusing picture. In January and February domestic demand remained strong, but weak exports and rising imports slowed the growth in production. March saw a sudden downturn in consumer demand, leaving GNP growth for the first quarter at only 1½ per cent. It is much too early to conclude that the US boom has petered out, as this could again be a temporary interruption to growth as in the third quarter of 1984.

For the present time it is reasonable to retain the assumption that the annual increase in GNP will be about 3½ per cent in 1985. Moreover, the weak US trading performance in the first quarter and the usual lags in trade response to currency movements suggest that US imports of manufactured goods in 1985 may well be rather higher than assumed in earlier forecasts.

While it is possible that there will be sufficient revenue buoyancy in 1985 to prevent much increase in the actual current budget deficit, little progress has yet been made towards reversing the rise in the underlying structural deficit. It is unlikely that any measures that may be taken will have a significant effect before 1986 at the earliest. Unless the evidence becomes clear that the downturn in private sector demand is lasting, the large budget deficit will keep interest rates high in both nominal and real terms.

There are few signs yet of any serious build-up in inflationary pressures on pay or prices. It seems probable that the inherent imbalance of the economy will be manifested in the balance of payments deficit more than through price increases. The rise in consumer prices is forecast to remain at little over 4 per cent, but the current deficit on the balance of payments could increase from almost $100 billion in 1984 to well over $120 billion in 1985 or 3¼ per cent of GNP. Of course, if there were to be a significant fall in the dollar the rise in consumer prices would be greater than forecast, and the deterioration in the balance of payments might be less.

With the dollar exchange rate determined in the short term by movements in liquid international funds, investors' sentiment has become the key variable. While recent weeks have illustrated the potential volatility of such sentiment, the balance of probability still seems to be against a major loss of confidence during 1985. The probable outcome is that the dollar will remain much stronger than would be warranted by the trading performance of the US economy, but that it might decline somewhat further from its present level. For the rest of the world therefore the most likely, but far from certain, prospect is for a continuing economic stimulus from exports to the US, offset by international interest rates remaining extremely high in real terms.

*The European Economic Community*

There was a general convergence of economic policies and performance within the EEC in 1984. GDP growth in most member countries was fairly close to the Community average of 2¼ per cent, and there was some narrowing of the range of domestic inflation rates. Most members states succeeded in slightly reducing their current budget deficits in relation to GDP and in reducing the rate of increase in their money supply. However, this anti-inflationary convergence was achieved at the cost of a further increase in unemployment in most countries with the Community average reaching a rate of over 11 per cent.

No dramatic change is projected for European economic trends in 1985. There could be a slight acceleration in the average growth rate, due largely to a UK recovery from the effects of the coal strike. Exports to the USA should continue to be a major stimulus, although not quite as strong as in 1984, while domestic investment is expected to increase more rapidly than last year. Little expansion can be expected as a direct result of fiscal policy, as most states will continue to operate restrictive fiscal regimes. The request from the EEC Commission for a less restrictive fiscal stance in the stronger member economies seems not to have found a positive response. With little prospect of average real interest rates in 1985 being significantly below the 1984 average because of the probable trend of US rates, monetary policy is also likely to

remain restrictive. Thus the unemployment rate in the EEC as a whole could rise further and at best could remain stable at its present high level.

If exports should falter, due to a fall in the dollar, a greater than expected downturn in the American economy or the introduction of US protective measures, then even the moderate EEC growth rate predicted could be at risk. How far and how quickly European governments would react to such a situation is uncertain. German policy statements could be interpreted as implying that if the external stimulus weakened, the domestic stimuli would be strengthened. Apart from deliberate policy responses, it is reasonable to assume that a significant fall in the dollar would be a signal for a reduction in European interest rates. This could provide some countervailing relief to a loss of export growth.

So long as the dollar remains strong there seem to be no great tensions between the EMS currencies, and thus no pressure for realignment. Sterling, outside the EMS, appears to be in a paradoxical situation. As a petro-currency its value tended to decline along with the weakness of oil prices quoted in dollars, although due to the rise in the dollar itself the price of oil in sterling terms was rising. More recently sterling has recovered in line with hardening oil prices, despite a contemporaneous fall in the value of the dollar in which the oil prices are denominated. Even the ending of the miners' strike has had a double edged effect, as the undoubted benefit this will bring to the UK balance of payments has been offset by fears that the consequent fall in UK oil usage will depress the dollar spot price of oil. It seems probable that to prevent renewed depreciation of sterling, which would be unwelcome to the UK authorities because of its inflationary impact, UK interest rates will have to remain above those in most EEC countries during 1985. Although some pressure exists to bring sterling within the EMS, no such move appears imminent, and it is by no means certain that it would in practice ease the problem of the sterling exchange rate.

*The Rest of the World*

There seems little doubt that the principal beneficiary of American economic policy, not excluding America itself, is Japan. The value of Japanese exports to the US rose by 40 per cent in 1984, enabling a growth in Japanese GNP of almost 6 per cent, with unemployment at 2¾ per cent of the labour force and consumer price inflation at 2¼ per cent. The trade surplus in 1984 reached a new record of $43 billion. Much of this was invested in American assets, which was a major factor in the rise of the dollar during the year and the return on which will benefit Japan's balance of payments in future years. It is expected that 1985 will see a broad continuation of the 1984 patterns, with strong private investment, GNP growth of 5 per cent, low inflation and unemployment and another massive trade surplus.

Most other developed countries derived some benefit from US expansion in 1984, with rising exports contributing to an improved growth rate. Growth should remain firmly positive, although a little slower, in 1985. The newly developed countries of Asia outperformed even Japan and the USA itself in terms of growth in 1984, and seem likely to grow by at least 7 per cent in 1985. Despite considerable pressures, OPEC survived 1984 intact and there seems no

reason to predict its demise in 1985. While oil prices have declined in dollar terms, there has in fact been a slight rise during 1984 in oil prices in terms of most other currencies, thus maintaining the real import capacity of OPEC countries. There could be greater stability with regard both to oil prices and the dollar during 1985, leading to little real change in the relative position of the OPEC producers.

The principal sufferers in 1984 from the nature of the world economy were the developing countries, and particularly those with a heavy dollar debt burden. Although the markets for their products were slightly improved compared with the two previous years, there was no commodity boom. High interest rates and the rising dollar made the long-term debt problem more intractable, despite short-term accommodation on rescheduling payments. Some of the the larger and more developed debtor countries made some progress towards reducing inflation and balance of payments deficits but this was generally at the cost of retaining very high levels of unemployment and social inequality. Interest rates on average in 1985 seem likely to be rather lower than in 1984, but most of the benefit of this has been erased by the increase in the average value of the dollar. The international debt problem will thus continue to overhang the world financial and trading situation, with little prospect of any significant amelioration in 1985, and a persistent risk of serious economic instability resulting from large-scale defaults.

*The Context for Ireland*

From Ireland's point of view there are both favourable and unfavourable aspects to the likely course of the world economy in 1985. World trade can be expected to expand by about 6 per cent in 1985 compared with 9½ per cent in 1984. This deceleration is less severe than had been expected earlier, and should provide a context in which Irish exports can continue to expand rapidly.

The fall in US interest rates during the winter was undoubtedly beneficial to Ireland with regard to the servicing of the external debt. However the likelihood that US rates will remain near their present levels, and that European interest rates will be kept high in consequence, suggests that there will be little scope for substantially reducing domestic interest rates as an economic stimulus.

Exchange rate movements in the early part of 1985 have not been encouraging for the Irish economy. Despite the recent reversal of initial trends, the dollar remains above, and sterling near, their average levels in 1984. The loss of US competitiveness in relation to the rest of the world, including Ireland, has been so great since 1980 that further marginal changes are of limited significance to most Irish exporters or potential industrial investors. On the other hand even minor increases in the value of the dollar can have serious effects both on the cost of imported materials and on the government interest burden. With regard to sterling the situation is reversed. There is little impact on the public debt burden, but a critical impact on the competitive position of a large number of Irish companies trading in the UK market or facing UK imports at home. As the British inflation rate is likely to remain slightly below the Irish in 1985, any renewed depreciation of sterling could have serious effects on industrial output and employment.

**TABLE 1: Short-term International Outlook**

| | GNP/GDP % Change | | Consumer Prices % Change | | Hourly Earnings % Change | | Unemployment Rate | | Budget Deficit as % of GNP/GDP | | Current Account Balance as % of GNP/GDP | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 | 1984 | 1985 |
| United States | 6¾ | 3½ | 4¼ | 4 | 4 | 4½ | 7½ | 7 | 3¼ | 3½ | −2¾ | −3¼ |
| Canada | 4½ | 3 | 4¼ | 4 | 4 | 3¾ | 11½ | 11½ | 6 | 5½ | ¼ | −¼ |
| Japan | 5½ | 5 | 2¼ | 2½ | 5½ | 5¾ | 2¾ | 2½ | 2¼ | 1 | 2¾ | 3 |
| West Germany | 2½ | 2¾ | 2½ | 2½ | 3 | 3½ | 8 | 8¼ | 1¾ | 1 | ½ | 1¼ |
| France | 1¾ | 1¾ | 7¾ | 5¾ | 8 | 6½ | 9 | 10½ | 3½ | 3 | −¼ | ½ |
| UK | 2 | 3 | 5 | 5½ | 8½ | 7¾ | 11¾ | 11¾ | 3 | 3 | −½ | 0 |
| Italy | 3 | 2¾ | 10¾ | 8¼ | 11½ | 8 | 10 | 10½ | 13½ | 13 | −¼ | −½ |
| Belgium | 1¾ | 1¾ | 6½ | 5 | 5¾ | 6 | 13¼ | 13¾ | 13½ | 11¼ | −½ | 1 |
| Denmark | 3¾ | 2¾ | 6 | 4¼ | 5 | 4 | 10¼ | 9¾ | 7¾ | 5 | −3 | −2½ |
| Netherlands | 1½ | 1¾ | 3¼ | 2½ | 1 | 1¼ | 15¾ | 15½ | 6½ | 6 | 3½ | 4¼ |
| Sweden | 3¼ | 2¼ | 7¾ | 5¾ | 8½ | 6¾ | 3¼ | 3¼ | 5 | 3½ | −¼ | −¼ |
| Total (OECD) | 4¾ | 3¼ | 5¼ | 4¾ | 5½ | 5¼ | 8¼ | 8½ | 3¾ | 3½ | −1 | −1 |
| Ireland | 2 | 2½ | 8½ | 6 | 9 | 7 | 16½ | 17¼ | 7¼* | 7¼* | 5¼ | 4½ |

*Sources:* OECD *Economic Outlook*, Dec. 1984, *Economic Outlook Forecast Release 1984-1988. Economic Surveys 1984-85 UK*, Jan. 85, *European Economy*, Nov. 1984, NIESR *National Institute Economic Review* Jan. 1985.

* Not directly comparable with OECD definitions.

With both the dollar and sterling being floating currencies, the timing and direction of movements in their exchange rates are essentially unpredictable. Complete stability in their rates is most improbable, but there are no compelling factors indicating a major change in value during 1985. As a working assumption for the purpose of forecasting it is not unreasonable to postulate that each will fluctuate around its present level for the rest of the year. With no change expected in EMS parities, it is thus assumed that the annual average of the trade weighted index of the Irish pound will remain at about its present value, implying an effective annual depreciation of less than 1 per cent.

## The Domestic Economy

*General*

It now seems probable that real GNP in 1984 grew by about 2 per cent. This is about ½ per cent below the estimate given in the December *Commentary*, with the reduction due mainly to the revision to the official import statistics which was made after the earlier *Commentary* went to press. Nevertheless the description given then of a year in which inflation moderated, the balance of payments deficit was reduced, the public finances improved marginally but unemployment continued to rise remains essentially unchaged.

With regard to 1985, the introduction of the Budget has not in itself, caused any great change to our previous forecast. Although obviously different in detail, the general balance of the Budget was not very different from that assumed. Such changes as have been made in the forecast thus result more from the availability of later information than from changed perceptions of economic policy.

*Exports*

The growth of exports was extraordinarily vigorous in 1984. While manufactured exports accounted for the greatest part of the total increase, the rate of growth of both agricultural and other industrial exports was also very rapid. With tourism recording its most successful season for many years, the value of exports of goods and services increased by over one quarter.

As Table 2 shows, 1985 should prove another good year for exports, although the rate of growth in both value and volume terms will not match that achieved in 1984. Within the context of rather lower total growth there are likely to be some significant changes in pattern.

**TABLE 2: Exports of Goods and Services**

| | 1983 | % Change | | 1984 | % Change | | 1985 |
|---|---|---|---|---|---|---|---|
| | £m | Volume | Value | £m | Volume | Value | £m |
| Agricultural | 1466 | 12½ | 17¾ | 1725 | 6½ | 8½ | 1873 |
| Manufactured | 4335 | 19 | 29¾ | 5628 | 13½ | 20½ | 6782 |
| Other Industrial | 1065 | 15 | 35¾ | 1445 | 6 | 11½ | 1612 |
| Other | 70 | 23 | 41½ | 99 | 9 | 14¼ | 113 |
| Total Visible | 6936 | 17 | 28¼ | 8897 | 11 | 16¾ | 10380 |
| Adjustments | −132 | | | −220 | | | −190 |
| Merchandise Exports | 6804 | 16½ | 27½ | 8677 | 11½ | 17½ | 10190 |
| Tourism | 524 | 5½ | 14½ | 600 | 6¼ | 12½ | 675 |
| Other Current Receipts | 391 | 1¼ | 10 | 430 | 2 | 8½ | 467 |
| Exports of Goods and Services | 7719 | 15 | 25¾ | 9707 | 10¾ | 16¾ | 11332 |

The substantial growth in agricultural exports in 1984 was largely due to increased sales of dairy produce, especially milk powder, from intervention. In 1985 the principal component of increased agricultural exports is likely to be beef, with both intervention and private stocks being substantially reduced. Because a high proportion of the sales is likely to be outside the E.E.C. recorded prices will be low, although there should be some corresponding increase in the flow of EEC transfer payments so far as the balance of payments is concerned.

Manufactured exports will again be the major source of export growth, with data processing machinery and chemicals the fastest growing constituents. Because of the predicted slackening in the rate of expansion of world trade, and possible uncertainties facing some sections of the electronics market, the volume growth of manufactured exports is likely to be somewhat less dramatic than in 1984. A slower price rise will contribute to a reduction in the rate of increase in the value of manufactured exports. However, as the Appendix to this *Commentary* describes, the labour competitiveness of Irish manufacturing industry has improved substantially in recent years. Even when the "new" industries are excluded, the more traditional sectors of manufacturing have improved their labour competitiveness since 1982 in respect of most external markets other than the U.K. This suggests that the export boom is becoming more soundly based, and offers some prospect of modest, but broadly based, advances in 1985 and subsequent years in the exports of the less glamorous but more labour intensive sectors of manufacturing.

While visible exports recorded a value increase of over 28 per cent in 1984, a proportion of the recorded agricultural exports represented intervention

stocks being sent into storage abroad. Rectification of this overstatement accounts for the large rise in the negative adjustment factor, leaving the true increase in the value of merchandise trade at 27½ per cent. In the expectation that these overseas intervention stocks will be run down in 1985, the adjustment factor has been reduced, giving a forecast increase of 17½% per cent in the value of merchandise exports.

Early indications suggest that tourism will at least repeat the progress it made last year, with the American market once more leading the volume and value rise in earnings. Lower inflation and beneficial tax changes should help to improve slightly the price competitiveness of the Irish tourist industry.

In total, exports of goods and services are forecast to rise by 10½ per cent in volume and by 16¾ per cent in value. These are marginally greater than the increases predicted in the previous *Commentary*.

*Stocks*

The December Livestock Enumeration indicated that, contrary to earlier expectations, there had been a marginal increase in the number of cattle during 1984. Sheep numbers were up 6 per cent and pig numbers down by 3 per cent. Even allowing for a greater offtake between the time of the enumeration and the end of the year in 1984 than in 1983, it seems likely that the value of physical changes in the number of livestock on farms increased slightly in 1984. A substantial fall can be expected in 1985 as the effects of the superlevy become established, and it is significant that the number of heifers in calf declined by 5 per cent between December 1983 and December 1984.

Intervention stocks continued to rise in 1984 but at a much slower rate than in 1983. The best available estimates suggest a rise of about £80 million in intervention stocks as measured for national accounts purposes, with milk powder stocks having fallen, butter stocks having risen slightly and beef stocks having risen very rapidly. Movements in intervention stocks are difficult to predict, but it is reasonable to expect that there will be only a marginal increase in the total during 1985, with a major reduction in beef stocks being offset by a modest rise in dairy stocks.

Other stocks normally comprise the material and product stocks of industry and goods in process of distribution. In 1984 the total was swollen by privately held stocks of beef which were not eligible for intervention. Basic non-agricultural stocks probably continued to decline, although much more slowly than in the two previous years. For 1985 it is assumed that the private beef stocks will be disposed of, and that non-agricultural stocks will increase modestly, held partly in check by high interest rates. Table 3 summarises estimated and forecast stock changes in 1984 and 1985.

**TABLE 3: Stock Changes**

| | 1983 £m | Change in Rate £m | 1984 £m | Change in Rate £m | 1985 £m |
|---|---|---|---|---|---|
| Livestock on Farms | —2 | +7 | 5 | —20 | —15 |
| Irish Intervention Stocks | 178 | —99 | 79 | —64 | 15 |
| Other Non-ag. Stocks | —91 | +101 | 10 | +30 | 40 |
| Total | 85 | +9 | 94 | —54 | 40 |

*Fixed Investment*

It seems clear that there was a major divergence in 1984 between investment in building and construction on the one hand and in machinery and equipment on the other. On the basis of capital goods imports the latter would appear to have risen by about 3½ per cent in volume, despite a volume fall of around 5 per cent in the former.

In itself, the public capital programme for 1985 implies a further fall of about 3 per cent in building and construction. Hopes of a mild recovery in privately financed house building have been damaged slightly by the increased VAT on building output, and more seriously by the rise in the mortgage interest rate. On the assumptions that the mortgage rate remains unchanged until the middle of the year and that the shortage of low rise funds available through the Housing Finance Agency persists, it seems probable that the volume of private house building will continue to decline. There seems no cause for an upturn in office or commercial development, although there could be some increase in industrial building for new and expanding firms. In all, a volume fall of about 2 per cent now seems a reasonable forecast for building and construction in 1985.

Investment in plant and equipment will be reduced by the completion or tailing off of major projects in the semi-state energy, transport and communications sectors. However this is likely to be offset by an increase in private sector manufacturing investment. A repetition of last year's 3½ per cent volume rise seems possible.

Table 4 outlines the forecast for investment and shows that after a volume fall of 1¼ per cent in 1984, total fixed investment could rise by a marginal ½ per cent in 1985. With a lower overall price rise, despite the VAT increase, the value of fixed investment is forecast to grow by little more than in 1984.

**TABLE 4: Gross Fixed Capital Formation**

| | 1983 | % Change | | 1984 | % Change | | 1985 |
|---|---|---|---|---|---|---|---|
| | £m | Volume | Value | £m | Volume | Value | £m |
| Building and Construction | 1849 | —5 | 2 | 1886 | —2 | 5 | 1980 |
| Machinery and Equipment | 1450 | 3¼ | 13½ | 1646 | 3½ | 11 | 1827 |
| Total | 3299 | —1¼ | 7 | 3532 | ½ | 7¾ | 3807 |

*Personal Consumption*

When allowance is made for cross-border household expenditure and for the tendency for the retail sales index to understate total personal consumption, it seems probable that the volume of consumer spending rose by about 1 per cent in 1984. As real personal disposable income fell slightly, this implies some reduction in the personal savings ratio.

In view of the income-tax changes in the Budget and expected stability in employment levels, a small rise is expected in real personal disposable income in 1985. If the savings ratio holds roughly constant this would permit personal consumption to rise by about 8¼ per cent in value and 2 per cent in volume. If the indirect tax changes in the budget have an appreciable effect in diverting cross-border purchasing back into the State, then the retail sales index could

reverse its usual behaviour and overstate the growth in consumer spending during 1985.

*Government Consumption*

Because of lack of up-to-date information on local authority spending, it is difficult to translate central government budget outturns and estimates into precise estimates of the national accounts item, "net expenditure by public authorities on current goods and services". Nevertheless it seems probable that public current expenditure in national accounts terms rose by about 8 per cent in 1984, implying little or no change in the volume of such expenditure. A current price increase of about 6½ per cent appears scheduled for 1985. With public sector pay increasing by much less than usual, the price deflator for this item will be no more than 6 per cent, leaving a marginal volume increase.

*Final Demand*

Putting together the estimates and forecasts already discussed, the value of final demand in the economy rose by just over 14½ per cent in 1984 and seems set to rise by about 11 per cent in 1985. With price inflation falling between the two years, the reduction forecast in the volume increase in final demand is much smaller, from just under 5½ per cent in 1984 to 4¾ per cent in 1985. The growth forecast for 1985 is rather less unbalanced than that in 1984, although exports continue to account for well over half the nominal growth, and 85 per cent of the real growth, in final demand.

*Imports*

Against this background of modestly growing final demand, visible imports increased by 21 per cent in value and by almost 9 per cent in volume in 1984. The timing of import increases was remarkably similar to that in 1983, with a relatively sluggish trend in the first three quarters being followed by a large increase in the final quarter. In composition, by far the greatest increase was in imports of goods for further industrial production, reflecting the boom in manufactured exports, while the volume growth of other categories of imports was very modest, mirroring the relative stagnation of the domestic economy.

In considering trends in imports of services, it should be noted that in Table 5 unrecorded cross-border trade is now treated as part of the adjustment between visible and merchandise trade, in line with CSO practice. The fall in the adjustment in 1984 thus represents a considerable increase in cross-border trade more than offsetting a continued rise in the negative adjustment items such as temporary transactions.

The forecast for 1985 set out in Table 5 indicates that intermediate goods for industry are expected to remain the principle element of import growth, while an acceleration of consumer goods imports should more than cancel out a likely fall in imports of agricultural inputs. The total figures for visible imports include allowance for some modest build up of industrial and commercial stocks in 1985.

It is assumed, although it is too early for any evidence to be adduced, that the indirect tax changes in the budget will cause a slight fall in the value of unrecorded cross-border trade, although not a reduction to even 1983 levels.

The volume of outward tourism is expected to remain relatively stagnant, while other imported services continue to increase modestly.

**TABLE 5: Imports of Goods and Services**

| | 1983 | % Change | | 1984 | % Change | | 1985 |
|---|---|---|---|---|---|---|---|
| | £m | Volume | Value | £m | Volume | Value | £m |
| Capital Goods | 936 | 3½ | 15¾ | 1,083 | 3½ | 10½ | 1,197 |
| Consumer Goods | 1,873 | 1¼ | 12 | 2,099 | 3 | 9¼ | 2,293 |
| Intermediate Goods: | | | | | | | |
| Agriculture | 379 | 5½ | 16¼ | 441 | —2 | 3 | 454 |
| Other | 4,155 | 14 | 27 | 5,272 | 12 | 19½ | 6,300 |
| Other Goods | 12 | — | — | 11 | — | — | 11 |
| Total Goods | 7,355 | 9 | 21 | 8,906 | 8 | 15¼ | 10,255 |
| Adjustments[1] | —77 | — | — | —35 | — | — | —77 |
| Merchandise Imports | 7,278 | 9½ | 22 | 8,871 | 7¾ | 14¾ | 10,178 |
| Tourism | 366 | —1 | 7½ | 393 | 1 | 7¼ | 422 |
| Other Services | 430 | 1½ | 10 | 473 | 2 | 8½ | 513 |
| Imports of Goods and Services | 8,074 | 8½ | 20½ | 9,737 | 7¼ | 14¼ | 11,113 |

[1] Including allowance for unrecorded trade.

*Balance of Payments*

The export and import forecasts presented in Tables 2 and 5 imply a visible trade surplus of £125 million in 1985 following a deficit of only £9 million in 1984. At first sight these are remarkable figures for a country which has consistently run a substantial deficit in its visible trade. However, while they do represent some genuine improvement in economic performance compared with 1982 and 1983, they also overstate the extent of this improvement. Due to the change in the structure of manufacturing industry a rapidly increasing proportion of manufactured exports is accounted for by the newer, knowledge intensive, industries. This knowledge is an essential input into the production and exports of the companies concerned, and it has to be paid for. Because most of the plants involved are wholly owned subsidiaries of overseas companies the payment tends to be by way of intra-firm transfers of profits or service charges, and following standard international practice the CSO treats these as factor payments. Thus a considerable proportion of the improvement in visible trade, which itself may be distorted to some extent by the practice of transfer pricing, possesses an almost automatic counterbalance in the form of a greater net factor outflow.

When this is taken into account, together with changes in the adjustment factors, an improvement in the tourism balance, a continued increase in overseas interest due on the national debt and a slower rise in net transfers from the EEC, the total current account deficit in the balance of payments is likely to fall from about £780 million in 1984 to about £720 million in 1985. At over 5¼ per cent in 1984 and 4½ per cent in 1985, these deficits are still too high a proportion of GNP to be indefinitely sustainable.

*Industrial Output*

Sustained largely by the massive rise in manufactured exports, the volume of production in manufacturing industry increased by a remarkable 13.3 per

cent in 1984, and the volume of production in all industries by 12.4 per cent. The extent to which the increase in manufacturing output and in output-per-head in recent years is due to structural change is explored in the Appendix to the *Commentary*. In summary, well over half the 1984 increase in manufacturing production can be attributed to the "new" industries of data processing machinery, instrument engineering and chemicals, which had sustained the entire growth of manufacturing achieved between 1980 and 1983.

The pattern in 1985 is expected to remain similar. The "new" industries will continue to expand, although more slowly than in 1984, while there should be modest, if somewhat patchy expansion in the output of the older industries as domestic consumption increases and exports gradually improve. In total, manufacturing production is expected to increase by about 10 per cent, while total industry including mining, quarrying and public utilities could grow by marginally less than this.

*Employment and Unemployment*

As the discussion in the Appendix shows, there has been an exceptionally rapid increase in output per head in manufacturing industry in recent years. This has not been confined to the rapidly growing "new" industries, as even the declining industries have been shedding jobs much faster than output. The rise in output per head since 1982 has been so much higher than historical norms, either in Ireland or in other developed economies, that it is most improbable that it can continue indefinitely at that rate. However, the timing of the eventual return to more normal rates of productivity growth is difficult to predict. Indeed it has already been delayed longer than many commentators, including the authors of the *Commentary*, thought likely a year ago.

Employment in manufacturing industry thus continued to fall in 1984, despite an unprecedented rise in the volume of production. In 1985 a rather slower increase in output is projected, but if there were to be even a modest downturn in productivity growth as the labour "shake-out" nears its close, then there could be a significant increase in employment in manufacturing. Although such a development is far from certain, it appears reasonable at present to assume some increase in manufacturing employment during 1985, especially as a higher proportion of industrial growth will be accounted for by a rise in the volume of personal consumption.

Private service employment is thought to have grown in 1984 and is expected to expand further in 1985, perhaps aided by some switch-back of cross-border trade to outlets within the State. Direct public sector employment is expected to repeat a small decline in 1985.

It is too early to ascribe with any certainty the causes of the unexpectedly large increases in the Live Register during December and January. At present it remains reasonable to assume that intensifying seasonality and temporary factors accounted for a considerable proportion of the rise, although allowance for a worse than anticipated employment trend has been incorporated in the revised employment forecast in Table 6. Allowing for a slower uptake than planned in the new Social Employment Scheme, unemployment and the Live Register could remain roughly the same in April 1986 as in April 1985. This would imply an increase of some 12,000 in the average level of unemployment in 1985 compared with 1984.

## TABLE 6: Employment and Unemployment

A: Mid-April Estimates '000

| | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| Agriculture | 193 | 189 | 185 | 182 | 179 |
| Industry | 355 | 331 | 317 | 313 | 316 |
| Services | 600 | 605 | 609 | 612 | 622* |
| Total at work | 1148 | 1125 | 1111 | 1107 | 1117* |
| Unemployed | 148 | 184 | 213 | 228 | 229 |
| Labour Force | 1296 | 1309 | 1324 | 1335 | 1346* |
| Unemployment Rate % | 11.4 | 14.1 | 16.1 | 17.1 | 17.0 |
| Live Register | 148 | 188 | 214 | 228 | 229 |

B: Annual Averages '000

| | 1982 | 1983 | 1984 | 1985 |
|---|---|---|---|---|
| Agriculture | 191 | 187 | 184 | 181 |
| Industry | 346 | 325 | 315 | 313 |
| Services | 603 | 607 | 611 | 616* |
| Total at work | 1140 | 1119 | 1110 | 1110* |
| Unemployed | 161 | 195 | 217 | 229 |
| Labour Force | 1301 | 1314 | 1327 | 1339 |
| Unemployment Rate % | 12.4 | 14.8 | 16.4 | 17.0 |
| Live Register | 157 | 193 | 214 | 226 |

* Including numbers estimated to be engaged in the Social Employment Scheme (5,000 in April 1986 and 2,000 on average in 1985).

*Disposable Incomes*

Due to favourable weather conditions and a relative reduction in inputs and other expenses, agricultural incomes rose substantially in 1984. The prospects for 1985 are much less encouraging. At the time of writing, EEC price levels and quotas have not been finalised, but it seems certain that both will be restrictive. Beef and cattle prices in the early months of the year have been depressed and there seems little likelihood of a major recovery later in the year. While weather conditions are obviously unpredictable, the only realistic assumption to make in advance is that they will return to normality, implying for 1985 a reduction in arable crop yields compared with 1984. Bearing these factors in mind, along with the expectation that the volume of inputs will be further reduced, an increase of about 2 per cent in nominal income arising in agriculture, forestry and fishing appears a realistic, if tentative, prediction for 1985.

In recent months the situation concerning non-agricultural wage and salary increases has become somewhat clearer. The public service agreement conceding an annual increase in pay rates of about 4½ per cent in 1985 has removed a major area of uncertainty. Despite a few remaining disagreements, the picture in the semi-state sector is also reasonably clear following a series of Labour Court rulings. In the private sector there is a wide spread of settlements in terms both of amount and timing. Indeed the differences in timing are such that the concept of wage-rounds is rapidly losing relevance in the private sector, and a situation is approaching where pay determination is a continuous process, as it is in many other countries.

With regard to 1984, it appears that average private sector pay rates increased by just over 8½ per cent, which wage drift carried to over 9 per cent. When allowance is made for a small decline in the number of private sector employees and for the fact that the public service pay bill increased by 7.6 per cent, the total non-agricultural pay bill grew by about 8½ per cent. In 1985 the increase in private sector pay is again likely to be greater than in the public sector, although the difference is likely to be a little lower than was looked for in the National Plan. An average increase in private sector pay rates of about 8½ per cent, including a small element of retrospective pay from 1984, a wage drift of just under ½ per cent, approximate stability in the annual average number of private sector employees, and a public service pay bill marginally above the post budget estimate of £2,458 million are the detailed assumptions made for this issue of the *Commentary*.

Other income, which includes both the income from non-agricultural self employment and income from property ownership is thought to have risen by about 14 per cent in 1984. For 1985, the increase in such incomes has been forecast at 11 per cent, largely reflecting the lower inflation rate expected.

Current transfer payments are estimated to have risen by 10¼ per cent in 1984, with an apparent small reduction in personal transfers from the rest of the world offsetting a more substantial 11½ per cent increase in transfers from central government. For 1985 the increase in domestic transfers is likely to fall to about 8½ per cent, but a resumption in the recorded growth of transfers from abroad could keep the increase in total personal transfer income at about 10¼ per cent.

**TABLE 7: Personal Disposable Income**

| | 1983 | Change | | 1984 | Change | | 1985 |
|---|---|---|---|---|---|---|---|
| | £m | % | £m | £m | % | £m | £m |
| Agriculture etc. | 1,222 | 11½ | 140 | 1,362 | 2 | 27 | 1,389 |
| Non-Agricultural Wages, etc. | 7,910 | 8½ | 681 | 8,591 | 8 | 677 | 9,268 |
| Other Non-Agricultural Income | 1,722 | 14 | 241 | 1,963 | 11 | 215 | 2,178 |
| Total Income Received | 10,854 | 9¾ | 1,062 | 11,916 | 7¾ | 919 | 12,835 |
| Current Transfers | 2,628 | 10¼ | 272 | 2,900 | 10¼ | 300 | 3,200 |
| Gross Personal Income | 13,482 | 10 | 1,334 | 14,816 | 8¼ | 1,219 | 16,035 |
| Direct Personal Taxes | 2,671 | 17 | 452 | 3,123 | 8¾ | 273 | 3,396 |
| Personal Disposable Income | 10,811 | 8¼ | 882 | 11,693 | 8 | 946 | 12,639 |
| Consumption | 8,536 | 9¾ | 832 | 9,368 | 8¼ | 779 | 10,147 |
| Personal Savings | 2,275 | 2¼ | 50 | 2,325 | 7¼ | 167 | 2,492 |
| Savings Ratio | 21.0% | | | 19.9% | | | 19.7% |

As shown in Table 7, the assumptions made would lead to an increase in gross personal income of 8¼ per cent in 1985 compared with 10 per cent in 1984. Direct personal taxation increased by almost 17 per cent in 1984 leaving the increase in personal disposable income at only 8¼ per cent or slightly below the rate of consumer price inflation. The increase in direct personal taxation will be much lower in 1985 due to the changes in tax bands, thresholds and rates introduced in the Budget.

Allowing for a little additional bouyancy because the income forecast presented here is rather higher than that assumed in the budget, it seems

probable that direct personal taxes will increase by about 8¾ per cent in 1985. This would allow personal disposable income to grow by just over 8 per cent, significantly above the expected rate of consumer price inflation.

If the estimates of disposable income and personal consumption in 1984 are correct, then the personal savings ratio must have declined by just over 1 per cent, as shown in Table 7. On the assumption that this ratio will hold stable at its new level, consumption would grow at about the same rate as disposable incomes. Were there to be a further substantial fall in the savings ratio, a considerable surge in consumption could develop in the course of 1985. Although this is not predicted, the possibility should not be ruled out.

*Consumer Prices*

The consumer price index rose at an annualised quarterly rate approaching 10 per cent in the first half of 1984, but at a rate of under 4 per cent in the second half. Both rates were affected by indirect tax changes, with excise and VAT increases in the 1984 budget adding to the quarterly increases in February and May, and the experimental reduction in the excise duty on spirits contributing to the very low incrase in the quarter to November. However the underlying rate of price inflation also slackened in the course of the year, with food prices in particular moderating sharply in spite of the reduction in food subsidies.

With a relatively low increase in indirect tax charges in the 1985 budget and with most food prices likely to remain low, 1985 is almost certain to record the lowest annual increase in the consumer price index since 1968. Making prudent allowance for the lags involved in adjusting to an average value of the dollar which has been assumed to be some 6 per cent higher than its 1984 average, for consumer interest rates remaining high and for the possibility that potato prices will rebound from their 1984 slump, an increase of about 6 per cent in the annual average of the consumer price index is a reasonable prediction. This would imply an average quarterly increase of about 1½ per cent, taking the November value of the index to about 6½ per cent above its November 1984 level. It should perhaps be noted that while this seems the most likely outcome it is by no means impossible that a favourable conjunction of circumstances, including some further fall in the dollar, could reduce the rate of consumer price inflation to below 5 per cent for the year.

*Public Finances*

Official post-Budget estimates suggest that the current budget deficit in 1985 will be £1,234 million compared with £1,039 million in 1984. This would represent a marginal deterioration from 7¼ to 7¾ per cent when expressed as a proportion of GNP. Despite the poor revenue returns in the first quarter, it remains possible that for 1985 as a whole the deficit will be slightly lower than estimated, implying no increase as a proportion of GNP.

Total current expenditure seems likely on recent experience to be kept within the limits of the estimates, although compositional deviations might see pay expenditure a little above the budget estimate and some other components a little below. The lower deficit forecast here results from an expectation of slightly greater buoyancy in tax receipts, especially from direct taxes. This

arises largely from a higher forecast rate of growth in taxable incomes than was assumed in the official post-Budget calculations.

On the reasonable assumption that there will be no expenditure overrun on the public capital programme, the borrowing requirement also seems likely to be slightly lower than allowed for in the post-Budget estimates, and thus much the same proportion of GNP as in 1984, although still a higher absolute figure.

The financing of this borrowing requirement will prove a difficult exercise in balance between the conflicting aims of minimising the increase in external debt and of reducing the pressure on domestic interest rates. In spite of the disquiet engendered by the Insurance Corporation of Ireland affair, there seems a good prospect that sales of gilts to the non-bank public can absorb a higher proportion of the borrowing requirement than in 1984. With indications of a somewhat less rigid attitude to net new foreign borrowing than in 1984, it seems probable that the pressure of government borrowing on domestic sources could ease in the course of the year, permitting a modest fall in domestic rates from the level reached at the end of 1984. However it seems likely that the annual average of interest rates in 1985 will be higher than that in 1984. Given that the inflation rate will be more than 2 per cent lower during 1985, this implies a very substantial increase in real interest rates.

*General Assessment*

The description offered in the last *Commentary* that both 1984 and 1985 were showing painfully slow progress towards achieving the policy aims of stabilising unemployment and improving the public finances remains valid. It is worth repeating also that Ireland is reflecting to a large extent the problems of the wider European economy.

Both West Germany and the UK appear to have rejected, predictably, the advice of the European Commission to aim for a higher rate of economic growth in their domestic economic policy. Despite this, the prospect of EEC export growth remaining rather stronger than had previously been expected should lead to a marginally higher EEC growth rate than in 1984. However it is quite clear that in the forseeable future there can be no realistic hope of a vigorous European recovery floating Ireland out of its particular economic difficulties. Indeed it is questionable whether reaction by European governments would be prompt enought and strong enough to preserve even the limited growth rate projected were there to be a turndown in exports to the US.

Domestic economic policy must therefore continue to operate within the context of an international environment that is only moderately favourable. The very disturbing exchange rate movements of the dollar and sterling during January and February illustrate the vulnerability of Ireland's position. They have fortunately been reversed during March and April, but great uncertainty surrounds the future course of these key rates. It is indeed possible that a further substantial decline in the dollar and moderate rise in sterling could improve the outlook for containing the foreign interest problem and increasing employment in the industries serving the UK market, but it would be unwise to depend on such a favourable development during 1985, and indeed, further adverse movement cannot be ruled out.

Economic policy embodied in the 1985 Budget is in keeping with the strategy set out in the National Plan. The budget deficit is to be contained as a proportion of GNP principally through public sector pay increasing more slowly than private, while a significant reduction in the deficit will be achieved if and when international interest rates fall substantially and/or there is a sustained depreciation of the dollar. Although the actual increase in public service pay in 1985 is above the guidelines set out in the Plan, it still involves a marginal fall in real terms and, as argued in the December *Commentary,* the degree of flexibility shown in reaching agreement does not breach the underlying strategy of the Plan. It is however vital that stict control is retained over public service pay expenditure and that a climate of expectations is created for a very low increase in 1986.

The evolution of pay in the private sector has been determined largely by market forces, with a considerable spread in settlements between the stronger and weaker companies. This has almost certainly been beneficial to the economy as a whole, and there seems to be no case for striving to re-introduce centralised bargaining in the next year or so. Lower pay increases in the stronger firms would be of doubtful advantage to competitiveness, while the risk to jobs from higher pay increases among the weaker firms is all too real. Above all, a centralised national pay agreement would probably render inoperative the essential strategy of the Plan that pay rises in the public service and the weaker semi-state companies should be significantly below the private sector average. It must be stressed, however, that with or without a return to centralised bargaining, the recent divergences in pay settlements within the private sector and between the private and public sectors need to be lasting. A general expectation that they represent only a temporary aberration from a long-term norm of parity of increase would be dangerous. Serious attempts to bring pay in the weaker sectors up to the previous relativities with the stronger sectors could have disastrous consequences both for the public finances and for employment.

On the forecast presented here the outlook for employment remains bleak. Although there could be some increase in the number of jobs in the course of 1985, the annual average of numbers at work is unlikely to be higher than in 1984, while the rise in the labour force will maintain the upward trend of unemployment during the year. In keeping with the proposals of the National Plan, the introduction of the Social Employment Scheme and the continuation of other schemes for training, employment and self employment may prevent a rise in the numbers on the Live Register, but most of these measures are palliative rather than potential cures.

A major contributory factor to the employment problem is the depressed condition of the construction sector, which looks likely to continue throughout 1985. This is due in large part to the state of the public finances, which precludes large-scale public funding of increased building activity. It is due also to the extremely high level of real interest rates. These are mainly dictated by international conditions, and a major improvement must await a fall in real overseas rates. However domestic interest rates are influenced to some extent by local considerations, and in particular by the level and nature of government borrowing. With the level more or less fixed for the current year, policy options

are open only on the methods of financing it. Avoidance of unnecessary upward pressure on domestic interest rates could go some way to ameliorating the plight of the construction industry as well as helping to stimulate investment generally. However, reducing domestic borrowing implies increasing foreign debt, thus exacerbating the problem in future years. The trade-off is a difficult one, and in this choice, as in most aspects of policy, a balanced approach remains essential.

In summary, 1985 offers the likelihood, but not the certainty, of a slight improvement in living standards for those at work, and of just holding the line with regard to the public finances and employment. Looking further ahead, it remains most worrying that any significant improvement in the situation depends on a favourable conjunction of external factors, allied to a continuing strong adherence to difficult domestic policies for which there is only a limited consensus. An unfavourable turn in the external environment would leave the Irish economy very exposed to renewed deterioration, with no policies readily available for facing it.

# APPENDIX

## TRENDS IN MANUFACTURING OUTPUT AND WAGE COSTS 1980-1984

*Introduction*

The publication by the Central Statistics Office of the Industrial Production Index based to 1980 provides an opportunity to examine recent trends in manufacturing industry. In particular it seems useful to track the contrasting experience of different industries and to distinguish between those containing the bulk of new firms and the more traditional sectors.

There is some difficulty in using the published data to make this distinction. The acknowledged modern industries are in electronics, largely represented by the NACE division 33 which is office and data processing machinery, in instrument engineering and in pharmaceuticals. There is no problem in isolating the first two of these industries. With regard to pharmaceuticals, however, employment and earning figures are not published for this sector alone, but are combined with those of other chemical sectors. Accordingly, it has been decided to treat the entire chemical industry as "modern", in spite of the fact that it is known to contain sectors which share the characteristics of the traditional industries. The distortion caused by this broader classification is likely to be small, given that in terms of net output the pharmaceutical sector dominates the Irish chemical industry.

The aim of the tables is to present the available data from the CSO Industrial Production Index and Industrial Employment, Earnings and Hours Worked in a simple form which highlights the contrasts between the "modern" and "old" industries. Thus all figures are expressed in the form of indices with the year 1980 = 100. Full data are not yet available for 1984 as a whole, but it is felt that developments in that year should not be ignored completely. Therefore production figures for Jan-October are presented, along with employment levels for March, June and September (preliminary) and earnings figures based on March and June. Inevitably the derived series combining two or more of these indices for 1984 are subject to a considerable degree of error. However, some of the movements in 1984 are so striking that it is worth presenting them even if they are not entirely accurate. Caution should of course be exercised in drawing conclusions from such data.*

* Two further CSO publications since this Appendix was prepared place the need for such caution in context. The latest Industrial Production Index confirms that the production trends shown here for the first 10 months are indeed representative of 1984 as a whole. On the other hand the initial results of the 1981 Census of Industrial Production, incorporating the final revised figures for 1980, indicate that some changes in weighting and in employment trends will be included in later estimates of industrial performance over the period covered. However, such revisions will not be large enough to alter the general picture drawn here.

## TABLE A1: Industrial Production Index 1980-84

Index 1980 = 100

| | NACE Code | 1980 Net Output £m | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|---|
| Chemicals[1] (incl. man-made fibres) | 25-26 | 375.4 | 114.2 | 110.4 | 129.1 | 154.2 |
| Office & Data Processing Machinery | 33 | 126.4 | 164.5 | 189.9 | 286.1 | 427.3 |
| Instrument Engineering | 37 | 82.5 | 109.7 | 114.7 | 141.5 | 164.4 |
| **Total "Modern" Industry** | | 584.3 | 124.4 | 128.2 | 164.8 | 214.7 |
| Non-Metallic Mineral Products | 24 | 222.2 | 95.2 | 87.3 | 85.8 | 89.1 |
| Other Metals and Engineering | 22,31,32 34-36 | 509.5 | 96.1 | 93.8 | 91.5 | 98.1 |
| Food | 411-423 | 618.4 | 95.0 | 101.0 | 104.4 | 108.0 |
| Drink and Tobacco | 424-429 | 200.8 | 105.0 | 102.8 | 100.6 | 101.5 |
| Textile Industry | 43 | 120.9 | 102.5 | 93.0 | 87.1 | 88.4 |
| Clothing, Footwear and Leather | 44-45 | 112.3 | 98.9 | 97.0 | 91.8 | 91.8 |
| Timber and Wooden Furniture | 46 | 73.1 | 95.7 | 90.0 | 87.6 | 84.2 |
| Paper and Printing | 47 | 179.4 | 96.4 | 87.6 | 88.0 | 86.6 |
| Miscellaneous Industries[2] | 14,48-49 | 129.7 | 93.1 | 92.7 | 97.3 | 96.8 |
| **Total "Old" Industry** | | 2166.3 | 96.8 | 95.4 | 95.2 | 97.8 |
| **Total Manufacturing** | | 2750.6 | 102.7 | 102.4 | 110.0 | 122.6 |

* Jan-Oct Seasonally Corrected.
[1] Excluding mineral oil refining, etc.
[2] Including mineral Oil refining, etc.
*Source:* CSO Industrial Production Index.

*Production*

Table A1 shows production in manufacturing industry from 1980 to 1984. Apart from regrouping industries into new and old, and therefore calculating values for metals and engineering excluding office and data processing machinery and instrument engineering, this is a straight replication of the basic CSO data. This presentation does, however, highlight the dichotomy between the "modern" and "old" industries, with the former having doubled its output between 1980 and 1984 while the latter remains a little below its 1980 level. However even in "old" industry the decline in output was checked in 1983 and a modest recovery took place in the first 10 months of 1984.

One consequence of the divergence between "modern" and "old" industry is the increasing influence of the former on the performance of the index for manufacturing industry as a whole. On the 1980 net output weights the "modern" industries, including the more traditional chemical sectors, accounted for 21 per cent of total manufacturing. The implied weight by 1984 was 37.2 per cent. It seems quite possible that when actual net output figures are available that this proportion will be reduced, as the inescapable assumption underlying such indices, that the ratio within each industry of net output to total production remains constant over time, might well prove unfounded in the case of industries which are growing very rapidly.

In the case of high technology foreign-based firms, which account for a high proportion of the output of "modern" industry, an even more fundamental caveat needs to be entered. Following established international conventions net output is defined as gross output minus material imputs. For most industries this provides a realistic measure of activity in the branch or establishment.

However high technology industries are knowledge intensive, and the key input can be, not material, but the knowledge derived from research and development carried on outside that establishment. The payment for this service, be it in the form of licence payments to an outside patent holder or of internal transfers within the firm, should logically be treated as an input and deducted in arriving at the "true" net output of an establishment. The fact that, in keeping with international definitions, it is not so treated, leads to overstating the activity of the establishment as measured by net output, and hence overweighting the industry concerned in the composition of manufacturing industry as a whole. More broadly, it exaggerates the benefit to the economy of growth in such industries, and, from a national accounts point of view, a measure which included in GDP only the value retained within the economy would be more useful than net output as currently defined.

A similar, overweighting effect might result from the pratice of transfer pricing, where firms maximise output prices and minimise input prices with regard to their Irish branches in order to maximise the profits apparently earned in Ireland with its relatively low rate of corporate taxation. There is no hard evidence on the extent of such transfer pricing, but it would be surprising if it were to be as important a factor as the omission of research service payments from the definition of inputs.

While these caveats should be borne in mind, it is not possible to make any reasonable adjustments to the figures to allow for them. In any case it is most unlikely, even if the knowledge were available to make such adjustments, that these would change the basic picture of "modern" industry thriving since 1980 while "old" industry by and large stagnated.

**TABLE A2: Numbers Engaged 1980-1984**

Index 1980 = 100

| | 1980 '000 | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|
| Chemicals[1] (incl. man-made fibres) | 12.31 | 100.7 | 98.3 | 99.1 | 99.9 |
| Office & Data Processing Machinery | 4.68 | 115.4 | 130.3 | 145.3 | 168.8 |
| Instrument Engineering | 6.31 | 104.6 | 114.1 | 118.9 | 112.5 |
| **Total "Modern" Industry** | 23.30 | 104.7 | 109.0 | 113.7 | 117.2 |
| Non-Metallic Mineral Products | 15.64 | 99.7 | 96.5 | 86.3 | 82.5 |
| Other Metals and Engineering | 55.13 | 97.4 | 94.7 | 86.7 | 82.7 |
| Food | 47.75 | 94.2 | 91.3 | 86.5 | 85.2 |
| Drink and Tobacco | 10.35 | 97.6 | 95.7 | 89.9 | 87.9 |
| Textile Industry | 16.33 | 94.3 | 82.7 | 71.6 | 71.0 |
| Clothing, Footwear and Leather | 20.41 | 94.6 | 90.6 | 81.8 | 79.9 |
| Timber and Wooden Furniture | 9.85 | 100.5 | 98.5 | 95.4 | 88.3 |
| Paper and Printing | 16.32 | 98.7 | 90.1 | 84.6 | 78.4 |
| Miscellaneous Industries[2] | 11.69 | 96.7 | 96.7 | 95.0 | 88.1 |
| **Total "Old" Industry** | 203.47 | 96.5 | 92.6 | 85.8 | 82.5 |
| **Total Manufacturing** | 226.77 | 97.3 | 94.3 | 88.6 | 86.0 |

* Av. of March, June and Sept. (provisional) 1984, not seasonally corrected.
[1] Excluding mineral oil refining, etc.
[2] Including mineral oil refining, etc.

*Source:* CSO Industrial Employment, Earnings and Hours Worked.
CSO 1980 Census of Industrial Production — Initial Summary Results for Industrial Establishments.

*Employment*

Employment trends, which are shown in Table A2, confirm this picture. While employment in "modern" industry has increased by 17 per cent, that in "old" industry has declined by 17½ per cent. Perhaps partly for the reasons just discussed, and probably chiefly because their genuine productivity is higher, the "new" industries account for a much lower proportion of employment in total manufacturing than of net output. In 1980 they employed only 10.3 per cent of the manufacturing workforce, and this proportion had grown to 15 per cent in the first three quarters of 1984.

A significant factor in the overall loss of manufacturing jobs between 1980 and 1984 is that those industries with a high ratio of employment to value added, such as timber, textiles, clothing and other metals and engineering have suffered a greater than average decline in the number engaged.

**TABLE A3: Output Per Head**

Index 1980 = 100

| | 1980 Net Output Per Head £'000 | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|
| Chemicals[1] (incl. man-made fibres) | 30.5 | 113.4 | 112.3 | 130.3 | 154.4 |
| Office & Data Processing Machinery | 27.0 | 142.5 | 145.7 | 196.9 | 253.1 |
| Instrument Engineering | 13.1 | 104.9 | 100.5 | 119.0 | 146.1 |
| **Total "Modern" Industry** | 25.1 | 118.8 | 117.6 | 144.9 | 183.2 |
| Non-Metallic Mineral Products | 14.2 | 95.5 | 90.5 | 99.4 | 108.2 |
| Other Metals and Engineering | 9.2 | 98.7 | 99.0 | 105.5 | 118.6 |
| Food | 13.0 | 100.8 | 110.6 | 120.7 | 126.8 |
| Drink and Tobacco | 19.4 | 107.6 | 107.4 | 111.9 | 115.5 |
| Textile Industry | 7.4 | 108.7 | 112.5 | 121.6 | 124.5 |
| Clothing, Footwear and Leather | 5.5 | 104.5 | 107.1 | 112.2 | 114.9 |
| Timber and Wooden Furniture | 7.4 | 95.2 | 91.4 | 91.8 | 95.4 |
| Paper and Printing | 11.0 | 97.7 | 97.2 | 104.0 | 110.5 |
| Miscellaneous Industries[2] | 11.1 | 96.3 | 95.9 | 102.4 | 109.9 |
| **Total "Old" Industry** | 10.6 | 100.3 | 103.0 | 111.0 | 118.5 |
| **Total Manufacturing** | 12.1 | 105.5 | 108.6 | 124.2 | 142.6 |

* Jan.-Oct.
[1] Excluding mineral oil refining, etc.
[2] Including mineral oil refining, etc.
*Source:* Derived from Tables A1 and A2.

*Output per Head*

Table A3 presents crude output per head indices, devised from dividing Table A2 into Table A1. No account is taken of changes in hours worked or in the compositon of the labour force. For 1984, the average of employment in March, June and September has been set against the output from January to October. This would appear legitimate as employment in the final months of a quarter can reasonably be expected to provide a suitable proxy for the unknown level of employment in the first month of the following quarter. However, given this overlap of the periods covered and the fact that the September employment levels are still preliminary, the 1984 column should be regarded as providing no more than an approximate order of magnitude.

The striking feature of Table A3 is the sheer magnitude of the increase in output per head over the period. While the extreme increase in the "new" industries and especially in Office and Data Processing machinery should perhaps be partially discounted for the reasons already discussed, the solid improvement in nearly all the old industries cannot be dismissed as a statistical freak. The unfortunate fact that this improvement has come from a loss of jobs rather than from a sustained growth in output should not obscure the progress made by manufacturing industry as a whole in improving its labour efficiency.

However, some care needs to be exercised in interpreting this improvement. To the extent that it is accounted for by the closure of firms with below average productivity an apparent increase in output per head in an industry need not reflect any improvement at all in the productivity of surviving firms. The available data do not permit an assessment of the importance of this factor. Commonsense suggests that the total improvement in output per head in each industry is an amalgam of the effects of the closure of weak companies, the analogous process of the closure of weak production units within surviving companies, and genuine productivity increases within surviving units.

Whatever the cause, each industry as a whole has increased its output per head, and by composition or through labour efficiency appears more strongly placed, or at least less vulnerable, in 1984 than in 1980. The total increase in output per head in the "old" industries in 1983, which appears to have continued in 1984, is well above any level which has been sustained for any lengthy period in the past. This suggests strongly that the last two years have seen a major "once-off" shake-out of jobs and that a revival of demand now would be likely to be accompanied by a slower growth in output per head and a concommittant increase in employment.

*Earnings*

Table A4 sets out indices for average weekly earnings since 1980. Here the treatment of 1984 presents a serious problem as data are available only for March and June. In order to cover the ten month period dealt with in the previous tables, recourse has been had to the heroic assumption that earnings in each industry grew between June and September by the 1½ per cent preliminarily ascribed by the CSO to earnings in manufacturing as a whole. While such an assumption is obviously not accurate, it is felt that it is unlikely to cause serious distortions and will serve to provide an acceptable order of magnitude.

The dominant feature of Table A4 is the relatively small degree of divergence between industries. In particular the "modern" industries have not increased their earnings significantly faster than the "old", and indeed for most of the period earnings in the "old" industries showed a greater rise over 1980 than those in the "modern". There is some evidence of a divergence in favour of the "modern" industries during 1984.

The final point of interest is that the overall rise in average earnings since 1980 has been lower than the rise in the Consumer Price Index. Only the Textile Industry matched the rise in prices between 1980 and 1983, while the tentative figures for 1984 suggest that Instrument Engineering might also have moved ahead of the price rise. Average earnings in all other industries have

increased by less than prices, giving a fall in real earnings. As the earnings figures are gross, and average direct tax rates have increased substantially over the period, it is clear that workers in manufacturing industry have suffered a substantial fall in living standards since 1980.

**TABLE A4: Average Weekly Earnings**

| | 1980 Earnings £ | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|
| Chemicals[1] (incl. man-made fibres) | 124.10 | 118.0 | 130.2 | 148.6 | 165.6 |
| Office & Data Processing Machinery | 94.70 | 102.6 | 127.4 | 147.6 | 167.2 |
| Instrument Engineering | 89.20 | 116.2 | 141.4 | 151.3 | 172.5 |
| **Total "Modern" Industry[3]** | 108.74 | 114.0 | 130.3 | 146.2 | 164.1 |
| Non-Metallic Mineral Products | 108.17 | 118.3 | 132.5 | 145.9 | 167.2 |
| Other Metals and Engineering[3] | 98.96 | 113.8 | 124.4 | 138.4 | 151.5 |
| Food | 100.11 | 116.9 | 136.0 | 152.9 | 167.2 |
| Drink and Tobacco | 132.98 | 117.2 | 131.5 | 149.5 | 166.1 |
| Textile Industry | 76.88 | 119.0 | 136.9 | 157.2 | 169.3 |
| Clothing, Footwear and Leather | 63.05 | 117.6 | 128.9 | 143.0 | 154.8 |
| Timber and Wooden Furniture | 73.67 | 123.0 | 135.1 | 146.7 | 160.3 |
| Paper and Printing | 119.04 | 118.5 | 127.9 | 141.8 | 155.0 |
| Miscellaneous Industries[2,3] | 96.17 | 118.9 | 135.1 | 146.5 | 156.9 |
| **Total "Old" Industry[3]** | 94.76 | 116.9 | 131.6 | 146.6 | 161.1 |
| **Total Manufacturing** | 96.20 | 116.7 | 131.7 | 147.1 | 162.5 |
| Consumer Price Index | 100 | 120.5 | 141.1 | 155.8 | 168.3 |

* Average of March, June and June plus 1.5 per cent.

[1] Excluding mineral oil refining, etc.

[2] Including mineral oil refining, etc.

[3] Employment levels have been used as weights in deriving each year's index from the sum of component industries. This weighting procedure, together with the large absolute difference in earnings between the component industries, accounts for the apparent inconsistencies in the table.

*Unit Wage Costs*

Table A5 illustrates trends in unit wage costs since 1980. Specifically it shows the trends in average weekly gross earnings divided by average output per head. Even when allowance has been made for possible aberrations in the data, the pattern shown in Table A5 remains very striking. The difference between a decline of 10 per cent in the unit wage cost of "modern" industry and an increase of 36 per cent in those of "old" industry is far too great to be explained away by reference to doubts about the accuracy of the figures. There is clearly a major distinction between the experience of the two types of industry.

What is less clear is the direction of causation. Have the modern industries grown so much faster because of their more favourable unit wage costs, or are the lower wage costs merely a result of faster growth due to market demand factors? Possibly the causation works in both directions, with the "modern" industries enjoying a virtuous spiral of higher demand, lower costs, yet higher demand and yet lower costs, while the "old" industries have been caught in the opposite spiral of decline. Detailed study at the micro level of industry or firm would be necessary to resolve these questions.

It does seem probable that the very steep rise in unit wage costs in "old" industries between 1980 and 1982 was a contributing factor in their decline, both during these years and subsequently. If this is so, then it can be interpreted

## TABLE A5: Unit Wage Costs

Index 1980 = 100

| | 1980 | 1981 | 1982 | 1983 | 1984* | A |
|---|---|---|---|---|---|---|
| Chemicals[1] (incl. man-made fibres) | 100 | 104.1 | 115.9 | 114.0 | 107.3 | 90.3 |
| Office & Data Processing Machinery | 100 | 72.0 | 87.4 | 74.9 | 66.1 | 55.6 |
| Instrument Engineering | 100 | 110.8 | 140.7 | 127.1 | 118.0 | 99.4 |
| **Total "Modern" Industry** | 100 | 96.0 | 110.8 | 100.9 | 89.6 | 75.4 |
| Non-Metallic Mineral Products | 100 | 123.9 | 146.4 | 146.8 | 154.5 | 130.1 |
| Other Metals and Engineering | 100 | 115.3 | 125.6 | 131.2 | 127.7 | 107.6 |
| Food | 100 | 116.0 | 123.0 | 126.7 | 131.9 | 111.0 |
| Drink and Tobacco | 100 | 108.9 | 122.4 | 133.6 | 143.8 | 121.1 |
| Textile Industry | 100 | 109.5 | 121.7 | 129.3 | 135.9 | 114.5 |
| Clothing, Footwear and Leather | 100 | 112.6 | 120.3 | 127.4 | 134.8 | 113.5 |
| Timber and Wooden Furniture | 100 | 129.2 | 147.8 | 159.8 | 168.1 | 141.5 |
| Paper and Printing | 100 | 121.3 | 131.6 | 136.4 | 140.2 | 118.1 |
| Miscellaneous Industries[2] | 100 | 123.5 | 140.8 | 143.1 | 142.8 | 120.3 |
| **Total "Old" Industry** | 100 | 116.6 | 127.7 | 132.1 | 136.0 | 114.5 |
| **Total Manufacturing** | 100 | 110.6 | 121.3 | 118.5 | 113.9 | 95.9 |

*Jan-Oct Estimated.
Col. A is 1984 column deflated by the change in the trade weighted exchange rate index since 1980.
[1] Excluding mineral oil refining, etc.
[2] Including mineral oil refining, etc.
*Source:* Derived from Tables A3 and A4.
Central Bank of Ireland, *Quarterly Bulletin*, Table B7.

as a hopeful sign that the rate of increase in unit wage costs has slowed perceptibly in 1983 and 1984. A second encouraging feature is that much of the very large increase in costs as expressed in Irish pounds has been offset by the depreciation of the exchange rate over the period. The final column of Table A5 deflates the unit cost indices for 1984 by the change in the trade weighted value of the pound since 1980. It can be seen that in foreign currency terms the increase in wage costs have been relatively modest. For "old" industry as a whole and for several of its constituent industry groups the wage cost index for the period has risen at an annual rate of under 4 per cent, a rate which has at least been matched in several competitor countries.

*Exchange Rate Adjustments*

Of course the trade weighted index of the value of the Irish pound is an abstraction, which does not necessarily reflect the value of the pound in relation to the individual countries in which or from which particular firms face their competition. In Table A6 the unit wage cost indices are expressed in terms, not only of the trade weighted index and the European Currency Unit, but also of the pound sterling, the deutschmark and the dollar. It would be tedious to present such results for every industry group, so the exercise has been confined to "modern" and "old" industries as a whole, and to total manufacturing industry.

It is instructive to note that the unit wage costs in "modern" industry have declined substantially in terms of each of the currencies selected. In the extreme case of the US dollar Irish unit wage costs in 1984 were less than half their 1980 level.

Even "old" industry has enjoyed a decline in unit wage costs in dollar terms, but expressed in the other currencies shown it has suffered a substantial increase. It is notable, however, that most of this increase took place in 1981

and 1982. Since then costs have declined in terms of the DM, remained roughly stable in terms of the trade weighted index and the ECU and risen quite modestly in terms of sterling.

**TABLE A6: Unit Wage Costs Adjusted for Currency Changes**

Index 1980 = 100

| | 1980 | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|
| **Total "Modern" Industry** | | | | | |
| IR£ | 100 | 96.0 | 110.8 | 100.9 | 89.6 |
| Trade weighted index | 100 | 87.9 | 100.8 | 88.8 | 75.4 |
| ECU | 100 | 93.9 | 108.6 | 95.6 | 83.1 |
| £ Sterling | 100 | 86.7 | 101.6 | 93.6 | 81.5 |
| DM | 100 | 93.5 | 102.2 | 85.8 | 73.8 |
| $ US | 100 | 75.2 | 76.4 | 61.0 | 48.2 |
| **Total "Old" Industry** | | | | | |
| IR£ | 100 | 116.6 | 127.7 | 132.1 | 136.0 |
| Trade weighted index | 100 | 106.7 | 116.2 | 116.2 | 114.5 |
| ECU | 100 | 114.0 | 125.2 | 125.2 | 126.2 |
| £ Sterling | 100 | 105.3 | 117.1 | 122.5 | 123.7 |
| DM | 100 | 113.6 | 117.9 | 112.3 | 112.0 |
| $ US | 100 | 91.4 | 88.1 | 79.9 | 73.2 |
| **Total Manufacturing** | | | | | |
| IR£ | 100 | 110.6 | 121.3 | 118.5 | 113.9 |
| Trade weighted index | 100 | 101.2 | 110.4 | 104.3 | 95.9 |
| ECU | 100 | 108.2 | 118.9 | 112.3 | 105.7 |
| £ Sterling | 100 | 99.9 | 111.2 | 109.9 | 103.7 |
| DM | 100 | 107.8 | 111.9 | 100.8 | 93.8 |
| $ US | 100 | 86.7 | 83.6 | 71.7 | 61.3 |

* Jan-Oct estimated.

*Sources:* Table A5.
Central Bank of Ireland, *Quarterly Bulletin,* Table B7.

*Competitiveness*

How far these movements in Irish unit wage costs as expressed in other currencies have improved or weakened Irish wage cost competitiveness depends on movements in other countries' wage costs over the same period. These are not available in exactly the same form as the indices presented here, and neither is the split between "old" and "modern" industry possible for other countries. Nevertheless it is interesting to compare unit labour costs for manufacturing industry as a whole in other countries with the Irish figures presented in Table A6.

**TABLE A7: Unit Labour Costs Abroad**

Manufacturing unit labour costs in local currency 1980 = 100

| | 1980 | 1981 | 1982 | 1983 | 1984* |
|---|---|---|---|---|---|
| **EEC average[1]** | 100 | 108.0 | 116.0 | 120.6 | 123.1 |
| **UK** | 100 | 109.8 | 116.3 | 118.6 | 120.6 |
| **W. Germany** | 100 | 105.3 | 108.8 | 108.2 | 108.2 |
| **USA** | 100 | 106.1 | 113.3 | 112.8 | 112.8 |

* First Half.
[1] Arithmetic average of member states, excluding Luxembourg and Greece.

*Source:* OECD *Economic Outlook* Dec. 1984
Table 51 rebased to 1980 = 100.

Table A7 shows unit labour costs for the EEC, UK, W. Germany and USA as calculated by, or derived from, the OECD. Comparison with Table A6 shows that for total manufacturing industry, the Irish competitive position would appear to have improved substantially since 1980 in each of these markets. The extent of the improvement is far too great to have been influenced significantly by minor differences in definition between the two series.

It has however, been greatly influenced by the changing composition of Irish industry. The more mature industrial economies have been much less affected in their overall manufacturing output by the growth of the new industries, even where in fact they do possess absolutely large and fast growing modern sectors. In many ways therefore the more meaningful comparisons are between unit labour costs in total manufacturing industry in the other countries and unit wage costs in "old" Irish industry, expressed in their currencies.

On this basis there has been a large gain since 1980 in labour cost competitiveness *vis-à-vis* the USA. In relation to Europe there would appear to have been a slight deterioration between 1980 and 1984, although the extent of this is well within the margins of error inherent in comparing unrelated series. So far as minor changes in relationship can be interpreted as meaningful, there would appear to have been a slight improvement in competitiveness *vis-à-vis* the EEC as a whole and W. Germany in particular since 1982.

*Conclusion*

Caution needs to be exercised in drawing conclusions from an analysis of a short period of industrial history. This is particularly so when rather crude assumptions have been necessary to bring the data as far up to date as possible and when doubts exist concerning the aptness of internationally accepted definitions of net output in the newer industries.

Whatever the uncertainty concerning the exact level of the indices, there can however be no doubting the fact that "modern" industry has made phenomenal progress in the past four years in terms of output, labour productivity, and reduced labour costs. Provided that the world market for such products remains buoyant, there would appear to be no domestic reasons why "modern" industry should not continue to grow rapidly and thus provide an increasing proportion of industrial output and employment.

Perhaps more interesting is the experience of "old" industry. Under the impact of international and domestic recession its output fell significantly between 1980 and 1982. There is evidence that this decline was hastened by the rise in unit labour costs, for which exchange rate movements fully compensated only in relation to the USA. Output stabilised in 1983 and appears to have risen slightly in 1984. With employment continuing to fall sharply in these years, output per head has improved substantially, and unit wage costs in terms of most currencies other than the £ sterling have tended to fall. Given cost increases in other countries, the wage-cost competitive situation of "old" industry has improved compared with 1980 in relation to the US and has almost held level in Europe. Since 1982 there has been a perceptible improvement in wage-cost competitiveness in relation to continental Europe, and a marginal decline relative to UK. Movements in the sterling exchange rate since the period covered may have exacerbated this decline, but in general

it remains true to say that traditional Irish manufacturing has improved its international wage-cost competitiveness since 1982.

It cannot be stressed too strongly that wage-cost competitiveness is only a part, and often a minor part, of the total competitiveness of a firm or industry. Indeed where the improvement in output per head is the result of investment in labour saving machinery the saving in labour cost may be directly offset by an increase in capital costs with no overall benefit to the company concerned. Even where there has been a genuine reduction in total unit costs, such other factors as quality and reliability are likely to remain the key determinants of competitive success. Nevertheless while low relative wage-costs may seldom be the principal factor in the success of an enterprise excessive wage costs can guarantee its failure. There can be little doubt that falling wage-cost competitiveness contributed to the decline in some industries in the years leading to 1982, and that conversely the improvement in the last two years has helped to check that decline.

This has been achieved at a heavy cost in terms both of job losses and of declining living standards for those remaining at work. The vital questions for the immediate future are whether the market environment at home and abroad will be sufficiently expansive and the management response sufficiently imaginative, to convert the recent improvement in wage-cost competitiveness into a process of sustained growth in output. Productivity gains seem likely to slacken, with the twin implications that any substantial rise in output could be accompanied by an increase in employment, and that the competitiveness necessary for such a rise can only be maintained through the medium of pay moderation.

# THE VALUE OF COST BENEFIT ANALYSIS OF ROAD PROJECTS

Nicholas Mansergh*

*Introduction*

The Government announced in the National Plan, and is now implementing, a major increase in road expenditure. One reason why this has happened is because cost benefit studies have suggested that such an increase could be justified in economic terms. The argument that cost benefit studies in some sense "justify" additional road investment has been accepted rather uncritically in recent years, and in view of its practical consequences requires closer examination. In discussing this argument I shall refer to Sean D. Barrett and David Mooney's recent cost benefit analysis of the Naas bypass, as a good recent example of such studies.

There are two basic grounds for concern at the use of cost benefit analysis to support increases in road expenditure now. First, the type of justification for road investment which cost benefit analysis is able to provide is a rather specialised one. The fact that a project shows a high rate of return on a cost benefit study does not mean that our debt problems are unlikely to be made more acute by carrying out the project, or that the effect on permanent employment will necessarily be favourable, or that many other forms of public expenditure might not perform as well or better on both counts. It is doubtful whether an expansion of road investment represents an appropriate use of the very limited funds which can be assembled for expanding publicly funded activities, and we are only going to find out whether it is or not if we can develop techniques which will indicate what the likely effects of particular types of public expenditure on employment and the public finances are going to be.

Secondly, there are obvious dangers in major increases of expenditure in areas where the main policy issues are unresolved. Ireland has no coherent transport policy, and even if one considers roads policy in isolation from other transport questions, there are still important unresolved issues. In particular, no clear choice has been made between developing a high cost, high quality road system which will generate substantial additional traffic, and increase dependence on private transport, and a more limited and balanced policy of using road investment as one of a number of instruments to reduce acute traffic and environmental problems. While actual application of cost benefit analysis to alternative means of resolving existing traffic problems would tend to favour the latter, more modest approach, merely using the fact that some road projects have been found to have favourable rates of return when analysed to support a higher general level of road spending is likely to cause a shift in the opposite direction, towards a more ambitious policy.

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The remainder of my paper is divided into two sections, dealing with the two main issues outlined above. The first section thus seeks to define more closely the relation between the benefits identified in a cost benefit study and employment and the government finances, while the second deals with the effects of an increase in road expenditure, justified by reference to cost benefit methods, on roads and transport policy.

## I. THE BROADER ECONOMIC STATUS OF ROAD USER BENEFITS

One surprising effect of Ireland's continued debt and unemployment problem has been increased interest in cost benefit analysis. It is surprising because the benefits measured in cost benefit analysis are basically increases in consumer welfare, and the relationship between such increases and the consequences of the projects analysed for employment and public indebtedness is very tenuous.

The point is of some pratical significance. The Government's economic plan *Building on Reality,* which provides for a 52 per cent increase in road investment over the plan period, quotes as a reason for this the view of the National Planning Board that "a much higher level of investment in road improvements than is at present being undertaken could be justified using public sector investment appraisal techniques" (*Building on Reality,* p.58). The National Planning Board see foreign borrowing as an appropriate way of funding this increase (*Proposals for Plan,* p.101).

It is not easy to reconcile this view with the Board's statements that "public sector foreign borrowing should be undertaken only to finance investment which generates a return which covers the cost of this debt service" by a substantial margin,. (p.44) because if this is not done, "cumulative debt servicing problems will occur and the public debt will grow exponentially" (p.35). There is no evidence that the return on road investment to the Government generates anything like a sufficient return to cover the cost of debt service. Presumably their real view is that benefits to the community, not the Government, should exceed interest on the capital cost of the project, but this leaves us with a logical gap: unless benefits to the community can be converted into income for the Government, we have no assurance that such projects will not contribute to the exponential growth in public debt which the Board deplores.

The gap could theoretically be closed by charging tolls and the Board favours this (p.101). However, it seems unlikely that toll roads will finance more than a small proportion of road spending, because:

(1) Most road schemes are not suitable for toll collection.

(2) The yield on roads which are suitable for toll collection may be low, and require supplementing. For instance it was estimated that annual income from a toll on the Naas Bypass would be c. £750,000[1], or around 4 per cent of capital cost (*The Irish Times,* 20.9.83).

[1] This illustrates the wide gap between the financial return of road projects, based on toll revenues, as compared with the estimated cost benefit return (21 per cent in this case). The difference arises because it is never possible for a producer to charge each consumer the maximum he or she, individually, is prepared to pay and consumers are therefore always left in possession of substantial "consumers surplus". For this reason, cost benefit calculations typically show much higher rates of return than commercial assessments of the same project (Glassborow, 1960).

(3) If there was going to be a major shift in roads policy towards toll roads, the proposed increase in public expenditure on roads appears unnecessary, as the Government envisages that the toll roads will be built by private enterprise.

It is also possible to argue that road investment increases welfare more than it increases debt payments, and that it is theoretically possible to increase taxation (preferably of the upper income groups who put the highest value on time savings and will therefore presumably enjoy much of the benefits) while still leaving the community, as a whole, better off. However, most Government activities increase welfare, and whether the cost of the activities exceeds the benefits, or vice versa, recovering the benefits through taxation remains difficult. For practical purposes, both the tax authorities and the public will equate the tax base with cash income, and exclude benefits in kind from Government activities.

There is thus an important practical distinction between benefits to road users and income for the Government. In the language of cost benefit analysis, there may be considerable difficulty in converting the potential Pareto improvement identified by a cost benefit study into an actual Pareto improvement, so that the gainers — the users of the roads — actually compensate the main loser, the Government. In the absence of a straightforward increase in taxation to pay for additional road expenditure the recovery of the funds invested (other than through tolls and taxes arising from the construction work itself) depends on the benefits enjoyed by the community leading indirectly to increased employment, a widening of the tax base, and increased income for the Government. Unfortunately, the links between increased community benefits and increased employment and tax revenue are very unreliable. To illustrate this point, a discussion of the development and function of cost benefit analysis is necessary.

*The Development of Cost Benefit Analysis*

Cost benefit analysis of road investments has developed because the conventional method of assessing an investment — by seeing whether the prices one is able to charge after the investment has been made provide an adequate return on the capital invested or not — is not applicable, as road users are not charged specifically for the use of new or improved sections of road. In the absence of tolls, one is left with the problem of assessing the value of benefits in kind — time savings, fuel savings, reductions in accidents and so on — for which no cash price has been paid. This difficulty was of practical as well as theoretical significance for those seeking to justify road investment, and in Britain after the Second World War, the first attempts were made (by the British Roads Federation) to put a monetary value on the benefits of road construction (Brunner, 1948; Brunner and Drake, 1952). These were followed in 1960 by the much more sophisticated M1 Study (Beesley and Reynolds, 1960) which effectively established the technique in its modern form.

*Benefits in Kind*

However, the ability to value benefits in kind irrespective of whether a price has actually been paid for them or not is a source of weakness as well as

strength. Some of the benefits are going to be in the form of non-working time; a large number of people will have a few minutes more (non-motoring) leisure time at their disposal. The benefit to these people may be real, but because it is a direct benefit in kind it does not result in the further purchases and in the further creation of employment and tax revenues which would have arisen in the case of a cash payment. In other words, this particular type of benefit is irrelevant to employment and government income.

In the Naas Bypass Study, as in most such studies, benefits in the form of non-working time are a minority of total benefits (around one-quarter in the Naas Study). Almost two-thirds of the benefits identified in the Naas Study are in the form of working time. However, even in relation to working time, the gap between the benefit in kind conferred and any further economic effect remains, though in a reduced form. Theoretically, working time savings will benefit the business concerned. The authors of the Naas Study cite two American studies carried out in the early 1960s showing that hauliers were able to "attain the full benefits from highway improvements by economising on fleet and labour costs", and note that in those parts of the labour force most likely to travel by road on business "monopolistic power is limited".

A British study in the late 1970s suggested that small time savings are difficult to use, because peoples' days are usually organised into a number of activities, and substantial time savings may be necessary if an additional activity is to be fitted in (Heggie, 1979). As a result, cost benefit studies may grossly overstate the economic value of time savings to businesses. Small time savings may be particularly relevant in a country of short distances such as Ireland. It is difficult to accept that there is not significant "leakage", with a substantial proportion of working time savings making life easier for the driver but having no further economic significance.

*Employment and Financial Implications*

The working time savings which do result in labour savings to an employer will enable him to increase his profit margins and/or his sales. Increased employment arising from either of these causes may or may not be sufficient to offset the effects of reducing the labour content of each unit of production. The effect on the public finances is similarly unpredictable, as transfers of income from the highly taxed household sector to the lightly taxed corporate sector would reduce tax revenues. Some of the potential for employment creation would only become actual after further public funding had been provided in the form of IDA grants. There is no reason to suppose that the net effect in terms of employment or for the Exchequer is necessarily going to be related to the value of the original benefits estimated in the cost benefit analysis, or that they are going to be positive at all.

The Naas Bypass Study is a particularly good example of the drawbacks of cost benefit analysis because the proportion of benefits which are not in the form of time savings is unusually low (9% of total). In effect, the bypass is presented as a publicly funded labour saving project, which must be questionable in a period when there is every prospect of high unemployment continuing for an extended period. As there is no necessary relationship between the benefits identified by the Study, and the increase in employment

and Exchequer income arising from the project (if any), we are no wiser as to the effect of such projects on the main economic variables as a result of the analysis. However, given the likelihood of extensive "leakage" of benefits, only a limited proportion of the benefits identified in the analysis are going to have further economic effects. We do not know whether these effects are positive or negative, and if they are positive, what leverage the "effective" benefits exert on employment and income. In so far as there is an increase in income, the Government should be able to recover a limited proportion of it through taxation. For the Government to derive enough income in this way to offset interest payments on the capital invested, the "effective" benefits would have to exert a fairly remarkable degree of leverage on household income.

This is not to say that road investment does not improve the prospects for foreign investment, but merely that it is not known whether the improvement is sufficient to offset any negative effects road investment may have on employment by a worthwhile margin. The cost effectiveness of road investment also needs to be questioned: by 1987, the capital allocation for roads will be over 40 per cent of that for industry, and it is particularly difficult to believe that employment gains will be anything like in proportion. Nor is it clear what sort of road improvement is required to achieve such benefits, assuming they are available. Are we to aim for a road system as good as those foreign executives use at home, or at a system which provides them with a more modest, but more predictable service (NESC, 1981) or should we be satisfied if the road system does not become more of a constraint to industrial expansion than it is at present (ESRI, 1984)? Many of the road schemes actually being planned or built would make most sense in the context of the first objective, which is also the most ambitious and expensive, and for which the largest effect on employment would be needed by way of justification.

*Tendency to Overstate User Benefits*

Allowance should also be made for the tendency for cost benefit analysis to overstate user benefits in the first place, and the effect this may have on the recoverability of capital invested. For purely methodological reasons it is easier to value the direct effects of a project than indirect ones. The direct effects on users are normally exclusively beneficial, the indirect effects frequently adverse, and the consequence of being able to value the former but not the latter is to introduce a bias which will normally be in favour of the project considered. Like most similar studies, the Naas Bypass Study values construction and maintenance costs and user benefits only. It considers, but does not value, some environmental effects of the project, this being the issue with which British critics of cost benefit analysis are most concerned. Other indirect effects which are likely to have more direct relevance to the public finances are:

(1) the effects on unit costs (Thompson, 1974) of the parallel Dublin Cork rail line, and indirectly on the CIE deficit,
(2) the effect of additional traffic generated by provision of the motorway on traffic conditions in Dublin, offsetting user benefits on the road itself,
(3) the likely stimulus to "one off" commuter housing around and to the west of Naas and its impact on servicing costs for local authorities and other statutory undertakers (Suffren, 1977).

To be fair, the generation of additional traffic is also likely to produce additional government revenue by increasing the consumption of motor products, though at the cost of raising imports, particularly imports of oil.

*Implications for Economic Policy*

Road investment is not a particularly suitable means of providing additional employment in present circumstances because the extent to which funds can be recovered by the Exchequer has not been established, and the effects on public debt are unknown and uncontrolled.

The current willingness to invest in roads may owe something to a reluctance to reduce capital expenditure too drastically because of the effects this might have on unemployment. If this is a major motive, it would be better if it were evaluated more explicitly. The difficulty with infrastructural investment as a means of combating unemployment is that if the bulk of the funds spent cannot be recovered, then they will have to be provided afresh each year merely to maintain the same level of employment. The same objection applies to the special employment schemes which have also developed rapidly in the last few years.

In present circumstances there are clear advantages in forms of public expenditure which generate income directly through sales or charges as well as indirectly through taxation, and this applies particularly to the construction sector, where there is very high unemployment but where conventional public investment programmes on the scale required would be very difficult to finance (cf. ESRI, 1984).

It is possible to devise forms of public expenditure where the funds spent can be largely or wholly recovered, and can be seen to be recovered without necessarily being profitable in the conventional sense. In the commercial area, if a public sector organisation requires public support which is less than the net tax income generated through its expenditure and any savings in social welfare arising from its operation, then it is providing employment at no net cost to the Exchequer. It is merely not making a contribution to the Exchequer, which is acceptable providing the practice can be confined to specific areas of the economy where there is no serious prospect of profitability, such as public transport and rehabilitation of older housing. It should be possible to calculate the tax income generated by the expenditure of a commercial operation, using input-output techniques, and such calculations could be used as a means of controlling public funding of such projects.

It is unfortunate that unwise investments in public enterprises have had the effect of reducing interest in public commercial activity, as a more rational result might be a reduction in the national enthusiasm for investment. Concentration on labour intensive commercial activities not involving significant investment, possibly organised at a local level, would allow the effects of employment creating projects to be more closely controlled. I have suggested some possible activities elsewhere (Mansergh, 1984). Some of these activities like the rehabilitation of inner city buildings for resale would have some of the advantages of public investment programmes (tackling long-term problems, reducing a drain on resources), while at the same time opening up the possibility of funding over a number of years being used cumulatively in order to build up the numbers of employed.

The Naas bypass is the Republic's first motorway and gives us access for the first time to the highest level of road quality and design speeds currently available. One effect of providing roads of this quality is that the volume of traffic will increase, relative to what it would have been if a more modest, lower speed road had been built, and also, of course, relative to the situation if no new road had been built. It has been estimated that the average motorway opens with one third more traffic than can be accounted for by diversion from other roads (Drake, 1969) and thereafter may gain traffic more than twice as fast as the conventional road system (Tanner, 1968)[2].

*Approach to Generated Traffic*

One unfortunate feature of discussion of roads investment in Ireland to date is that is has tended to blur the distinction between two different forms of support for road improvements, based on different attitudes to this issue of traffic "generated" by the road improvement itself. On the one hand it can be argued that one should seek the highest reasonable level of quality, because time benefits in particular increase as speeds increase, and that the generation of additional traffic should be regarded either as a further benefit (a convention exists by which benefits to such traffic are valued at one half the value of comparable non-generated traffic) or at any rate as a neutral side effect. On the other hand, one can argue that the primary function of road improvements is to eliminate existing congestion, accident and environmental problems, and that it is an error to do so through the provision of very high quality roads because this will create additional traffic which will spill over onto the road network adjoining the motorway and create new problems there, as well as make the process of eliminating existing problems unduly slow and expensive. I shall use the term "expansionist" to describe the first approach (because of the tendency toward mutually reinforcing expansion of traffic and the road system) and "equilibrium" to describe the second (because it seeks a better balance between road capacity and traffic volumes).

Up till the late 1960s, most advanced countries followed an expansionist policy. Resistance to urban motorway proposals then produced a rather schizophrenic approach, as transport ministries adopted a more equilibrium oriented or "balanced" policy in relation to urban roads, but not inter-urban ones. This included a more favourable attitude to public transport, but progress in this direction has fallen off in recent years, partly because of political changes and partly because the financial support given for public transport costs and capital projects was not a substitute for the necessary structural changes in the transport market. The shift in favour of a more balanced approach was usually accompanied by changes in organisation, so as to bring responsibility for road construction and for other forms of transport together in one organisation (Starkie, 1976). The rather gradual moves towards

[2] As road use is affected by other factors apart from traffic generation, the extent to which this process is apparent will vary. Generation effects are likely to be least obvious in situations where economic circumstances are depressing the underlying rate of growth of traffic. Traffic generation will nevertheless take place, relative to what would otherwise have occurred, unless demand is completely inelastic and there is thus no response to reductions in the generalised cost of road use.

a Transportation Authority in Dublin are a belated and localised Irish version of this process.

*Tendency for COBA to Support High Cost Strategies in Practice*

In theory cost benefit analysis can be used to adjudicate between these two approaches, and would be expected to favour the equilibrium oriented approach in the majority of cases, because:

(a) where the existing road system is acutely unsatisfactory and road improvements at modest cost are physically practicable, the savings in time and travel costs are likely to be large in relation to the cost of the improvement, giving a high rate of return. It is difficult to achieve an equivalent rate of return on the further expenditure necessary to provide a higher quality road improvement. Where the existing road system is only mildly unsatisfactory, this may not be so, but in these circumstances the returns from any levels of road improvement will be less;

(b) raising the quality of a road improvement can easily have a disproportionate effect on cost, because the task of designing a road which avoids expensive property or natural obstacles becomes much more difficult as one increases the minimum radius of the curves and the width of the corridor required.[3]

However, adjudicating between high and low cost approaches is only one of the uses which can be made of cost benefit analysis in the transport area. The other main use, as we have seen, is to provide a more general justification for increase in road expenditure, on the argument that representative schemes have been justified by cost benefit studies. In practice, this second application of cost benefit studies appears to have much more influence on events.

In turn, an increase in road expenditure will create the conditions in which an expansionist strategy can be applied, the possible preferences of those who have carried out some of the studies for a more modest approach notwithstanding. The principal reason for this is that the point of the analysis is generally perceived as being to determine whether the project's rate of return exceeds some minimum test rate. Given the organisational and professional pressures to seek the most expensive scheme standing a reasonable chance of funding, the natural consequence of this would be for most schemes put forward to have rates of return only slightly above the test rate. The reason this does not happen at present is because most Irish road improvements are put forward without a supporting cost benefit study, but a more informal process, by which the most expensive scheme likely to be sanctioned is put forward, can readily be envisaged. The effect of asserting, with the National Planning Board and *Building on Reality,* that "a much higher level of investment in road improvement . . . . could be justified using public investment appraisal techniques" and increasing the allocation for roads as a result, will presumably be to extend this process.

[3] This view is consistent with the finding that the rate of return falls as the level of service is increased (Barrett, 1975/76).

Transport policy should take account of the particular circumstances of particular countries, including the presence or absence of a domestic motor industry and other macroeconomic circumstances (cf. Rothschild, 1974). It is not helpful to compare our road investment rate with that of other countries without knowing how far those countries have benefitted from their investments, and if they have, how far the conditions which allowed them to do so exist in Ireland now. At the simplest level, an expansionist policy is more expensive, takes longer to eliminate current problems and is more likely to generate new ones. The countries which have pursued the expansionist course with most enthusiasm in the past have had large domestic automobile and related industries and have been very conscious of the effects transport policy decisions might have on them (Buchanan, 1958). They have also been influenced by macroeconomic considerations (Rose, 1979), which, as suggested earlier, are probably irrelevant to our own current problems.

In particular, the growth in transport spending in the United States and Britain in the 1950s which resulted in their respective freeway/motorway building programmes was largely motivated, at least as regards timing, by the need to increase civilian expenditure to offset the decline in military spending after the end of the Korean war. The most advanced countries have traditionally found it possible, and on some arguments, necessary, to embark on massive public expenditure projects, both civilian and military. Ambitious expenditures of this sort are normally an effect of the country's prosperity, and it is doubtful whether smaller and poorer countries are wise in seeking to imitate them. When the United States and Britain were beginning their motorway programmes they were not faced by acute debt problems and, as imports of motor products into those countries was low then, they could be confident that the boost to the transport related industries would be almost entirely domestic. The gradual development of a motorway programme in Ireland at present is reminiscent of what the British were doing in the late 1950s (the Preston bypass, followed by the first phase of the M1) but without the favourable surrounding circumstances.

We will not, however, know for some time whether the Naas bypass was, with hindsight, the first piece of an incremental motorway programme or not. As motorways are a potentially emotive issue, there are good reasons for not presenting it in that light. The motorway content of a roads programme is only a moderate guide to how expansionist it is.

Despite the more favourable surrounding circumstances, public dissatisfaction with the results of expansionist policies — primarily for environmental reasons — has been a striking feature of transport planning in wealthier countries, and this has not been confined to urban road proposals. The advantages of being a late developer are unnecessarily limited if one does not take advantage of the opportunity to learn from the experience of others. An expansionist roads policy is also likely to make it more difficult and expensive to maintain any given level of public transport, because it usually diminishes the quality advantage of public transport or increases its quality disadvantages, and thus reduces demand, service frequencies and support for overhead costs such as track maintenance. This process is going to make life

more difficult for the 61 per cent of the Irish population over 10 who do not currently hold any driving licence.[4] (Hillman 1973).

Because of the absence of a domestic motor industry, Ireland has a stronger interest in an equilibrium oriented roads policy than most of her neighbours, and it is unfortunate that she is pursuing this policy, and the corresponding transport policies, in a half hearted way even in urban areas, where the arguments for this approach are widely accepted. Ireland may also have an interest in applying a more equilibrium oriented approach to inter-urban roads, even though this approach is not generally followed internationally.

If any such shift is to occur, politicians, administrators and economists are going to have to concern themselves as much with the type of road being built as with the absolute amount of money being spent. The quality of roads must thus become a policy issue, and not simply an engineering one. In some cases this is going to require willingness to experiment. For instance, the standard design of motorways is a package with two main elements: segregation of motor traffic from opposing flows and from other road users, which results in fewer accidents and relatively constant speeds leading to fuel savings, and high design speeds, which save time but partly offset the accident and fuel savings achieved through segregation. An equilibrium oriented inter-urban road policy would be interested in developing a lower cost lower speed design which nevertheless retained a significant degree of traffic segregation. At present the necessary design work has not been done because the countries and the professional groups who have had most influence on road design have not been very interested in equilibrium oriented policies for inter-urban roads.

An equilibrium oriented roads policy would also set a much higher value on predictability in travel times, rather than on reducing average journey times as much as possible. In urban areas, the techniques to achieve this exist, and basically involve controlling the flow of traffic onto the sensitive parts of the road network: these techniques have not been applied much in Ireland.

*Conclusion*

The practical effect of cost benefit studies has been to give the impression that the economic and transport benefits of current road investments are greater and more certain than they really are. The excessive trust placed in this technique at present focuses attention on the relatively peripheral questions it is capable of answering, to the detriment of more vital issues. If we are to make judgements on the value of particular types of road investment at present, we will need to know more about its effects on specific issues of importance. To get specific answers, we will need to ask specific questions.

This is not to say that cost benefit analysis is not a useful way of exploring a number of issues of interest, providing these issues are clearly defined. It is reasonable to use cost benefit as a justification for road investment, providing that it is made clear that the justification is essentially in terms of consumer

[4] Mayer Hillman argued that older children and adults without driving licences will wish to be able to make trips without necessarily being accompanied by a car driver, and that the correct measure of access to the use of a car was not the proportion of households owning a car, but the the proportion of individuals capable of independent travel who are able to drive a car and have one available. DOE returns show total licences (including provisional licences) in 1984 were 1.11 million, as compared with an estimated population over 10 of 2.86 million.

welfare, and that the broader economic effects of road investment are not fully understood. Policy makers, having been informed of the relationship between benefits to road users and the cost of providing these benefits, will be in a reasonable position to decide what priority they will give to the welfare of road users, relative to other calls on resources. They should, however, also have access to information on the other effects of road investment.

Cost benefit analysis can also be of value as a means of comparing different solutions to the same traffic or environmental problem. If used in this way, its value will depend principally on the quality and range of alternatives considered, and how realistically these are costed. The range of alternatives can be improved if one uses a team based approach with different members of the team having different approaches or design philosophies, and if they are asked to provide additional schemes specifically to meet gaps in the cost range.

The usefulness of estimates of benefits can be increased by carrying out sensitivity tests, and some of these were carried out in the Naas Study. Additional sensitivity tests which might cast light on the issue of traffic generation might include:

(i) ignoring all time benefits arising from travel at speeds in excess of the official speed limit.

(ii) ignoring all time benefits arising from travel in excess of, say, 45 mph on rural roads and 20 mph on urban roads.

One could derive from test (ii) a crude measure of how far roads could be regarded as "expansionist". The greater the reduction in benefits resulting from the application of such tests, the more the value of the road lies in permitting relatively high speeds rather than eliminating low ones, and the more it is reasonable to characterise it as "expansionist". Such tests will affect the rankings of the alternatives, and may help illustrate the point that an apparently fairly basic inter-urban road can be just as expansionist as a motorway.

A more modest, equilibrium based policy may mean that some schemes, which make sense primarily on expansionist assumptions, are not necessary, and that other schemes can be carried out more economically. This may permit more rapid resolution of outstanding problems. Alternatively some of the funds available could be used for non-transport purposes, or to fund low cost experimental transport works and services, such as community car pools, (Fishman and Wabe, 1969), local collective taxi services in areas not served by bus, cycleways and bus priorities. The first two could be developed as self funding employment projects in the sense described earlier. The real case for road building at present is that some solution to the more acute existing and prospective traffic and traffic related problems will have to be found at some time and that as the opportunity cost of labour is very low at present there is something to be said for doing it now. But this argument applies equally to measures which tend to diminish demand for road capacity as well as to road construction, and does not apply to road schemes which generate substantial additional traffic and approach the problems involved in an unnecessarily expensive manner.

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# THE VALUE OF COST BENEFIT ANALYSIS OF ROAD PROJECTS — A COMMENT

Sean D. Barrett*

In accepting the invitation by the editors of the *Quarterly Economic Commentary* to comment on Mr. Mansergh's paper it is hoped to show that his fears about cost benefit analysis and its use are unjustified.

His paper proposes two important changes in cost benefit analysis. These are the treatment of labour costs as benefits and taxes as a resource rather than as a transfer payment. Labour is treated as a cost in cost benefit analysis because the supply price of labour is positve. Workers require a positive sum in exchange for their labour.

Cost benefit analysis measures the benefits and costs *to society as a whole* from projects. The level of a project's benefits over its costs is the critical factor in evaluating the project. The division of the benefits between those accruing in tax revenues and elsewhere in the economy distributes the net benefits of the project. It neither increases nor reduces the level of net benefits from the project. Transfer payments, such as taxes, are therefore excluded from cost benefit analysis.

The proposed changes add two categories of benefit, labour costs and tax revenues, and delete one cost, labour. These changes would raise the rate of return on projects now rejected. They are thus inconsistent with the paper's recommendation that "a more rational result might be a reduction in the national enthusiasm for investment".

The paper claims, without supporting evidence, that there is "a tendency for COBA to support high cost strategies" and "a tendency to overstate user benefits".

Cost benefit analysis compares the costs *and* benefits of competing projects. The analysis of projects with wide differences in costs requires that high cost projects generate a return adequate to cover their incremental costs over low cost projects. Cost benefit analysis compares without bias what the paper describes as "expansionist" and "equilibrium oriented" investments. His fears that cost benefit analysis discriminates in favour of the former are without foundation although they are frequently expressed. No evidence is offered to support the assertion that cost benefit analysis leads to high cost strategies. He correctly states that this was not found by Barrett (1975/76).

*The Results of the Naas Study*

Mr. Mansergh raises the issues of generated traffic, work-time savings, and

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the impact on public transport. His paper suggests two extra sensitivity tests.

It was our judgement that the Naas bypass would not generate traffic and that its use could be predicted from traffic volumes on the old route through Naas town. The traffic volumes on the bypass confirm that there has been no generated traffic at Naas. This has been announced at three seminars of the Institution of Engineers of Ireland (1984a, 1984b, 1985). It is surprising that the paper should criticise the Naas study on the basis of a problem widely known not to exist.

On work time savings the paper cites "a British study in the late 1970s [which] suggested that small time savings are difficult to use, because people's' days are usually organised into a number of activities, and substantial time savings may be necessary, if an additional activity is to be fitted in (Heggie, 1979)". This article does not contain a study but the assertion that "the long distance haulier, travelling for six hours on a inter-urban route may be quite unable to make use of a half-hour saving, since his units of account may consist of indivisible journeys occurring in 4, 5 or 6 hour blocks" (Heggie, 1979). Irish hauliers are flexible in their operations. Between 1980 and 1982 their average mileage per vehicle increased from 32,548 to 39,198 per year. In a competitive economy, hauliers acting in the way described by Heggie would lose business as would industrial and commercial concerns using such hauliers.

The Naas Bypass Study shows that some 750,000 public transport users will benefit from the bypass in the base year on bus journeys.

Nine sensitivity tests were used in the Naas study. Mr. Mansergh proposes two additional tests to "cast light on the issue of traffic generation". The tests exclude time savings above the legal speed limit and time savings from speeds in excess of 45 mph on rural roads and 20 mph on urban roads. Illegal benefits were not included in the Naas study. The second test ignores the valuation placed on time savings by the beneficiaries, which cost benefit analysis seeks to measure. Neither test refers to generated traffic.

*Recent Developments in Transport Economics*

The paper's criticisms of the Naas study rely exclusively on British references which pre-date the Leitch Report (1977). The eleven references cited are on average eighteen years old and include two which are twenty-seven years old.

The Leitch Report was commissioned by the British government to examine all aspects of inter-urban road investment including the criticisms cited in the paper. According to Leitch "COBA, provided it is kept within the overall framework suggested, we believe to be basically sound." The Naas study incorporates the findings of the Leitch Report. The absence of a reference to Leitch in the paper is surprising since it deals with the pre-1977 objections to COBA and established the evaluation framework used today.

Reference to more recent literature would also have avoided the incorrect diagnosis of schizophrenia among economists who accept the results of the Naas study but question the benefit-cost ratios of urban motorways. The analysis differs in each case.

COBA is not suitable for the evaluation of large urban road schemes because of "the intricacy of urban road networks and traffic movements, the tendency for the increased supply of urban roads to generate new demand which affects

the level of congestion, and hence costs, for existing users; the competition from alternative forms of transport, especially acute urban environmental problems and a more sensitive interaction with land use" (Gwilliam and Mackie, 1975). These are more complex factors than those analysed in the Naas study and we lack shadow prices for many of them. Leitch found that "the techniques of assessment for urban schemes have not been standardised to the same extent as for inter-urban schemes. There is thus no single procedure that we have been able to review". The difficulties of achieving a comprehensive evaluation of urban road investment, and regulation as an alternative to investment, are examined in Barrett (1982) and Barrett and Walsh (1983).

The call in the paper for more public funding for "community car pools, local collective taxi services in areas not served by bus, cycleways and bus priorities" also neglects recent developments in transport economics. The proposed schemes for subsidy are already in operation and in some cases have not required public funding. There is no evidence that there would be an acceptable return on further public funds in these areas.

Car passengers and car pools accounted in 1982 for 11.6 per cent of all journeys to work, exceeding the bus (10.8 per cent) and train (1.5 per cent) (Feeney and Hynes, 1984). Shared taxi services in Belfast and Derry carry an estimated 23 million passengers a year (Barrett and McLoughlin, 1984). The Dublin Transportation Task Force already operates an evaluation scheme for buslanes and cycleways (Chidgey, 1985). Busways to Tallaght and Dundrum have been sanctioned (Department of the Environment, 1985).

*The Policy Implications of the Naas Study*

The paper interprets the policy implications of the Naas study to support an inter-urban motorway construction programme. It states that, while this programme might not be an explicit part of current government programmes for roads it is likely to occur because of bureaucratic and professional pressures. Cost benefit analysis, in Mr. Mansergh's opinion, would facilitate such an expanded motorway programmme.

These propositions are not consistent with the findings of the Naas study, stated public policy on roads, and the nature of cost benefit analysis. The Naas study concluded that "the positive rate of return on the Naas bypass suggests that similar projects might be examined for other congested towns on the national primary network such as Newbridge, Athlone, Ballinasloe, Roscrea, Nenagh, and Arklow, including studies of less expensive inner relief roads such as that at Portlaoise . . . . in the difficult circumstances of the Irish public finances it is important that the appraisal should not exclude low cost solutions such as inner relief roads" (Barrett and Mooney, 1984).

Only two motorways are scheduled for commencement before the end of 1987 according to the Policy and Planning Framework for Roads (Department of the Environment, January 1985). These schemes are the Newbridge bypass and the Dublin Western Ring Road. The paper does not discuss either project although they represent what is for him the public section of an undesirable policy. In assessing criticisms of road investment policy it is important to refer to the January 1985 statement of that policy. Fifty-two of the fifty-four schemes proposed are non-motorway schemes. The standard road proposed for the 302

kilometres of national routes to be improved is a 7.3 metre carriageway with a three metre paved shoulder on either side. This is not referred to in the paper.

As an insider in local government Mr. Mansergh has an advantage over the authors of the Naas study when he speculates that unpublished motorway building plans currently exist. In the absence of examples the economic aspects of such projects are impossible to assess. However, there is no reason to suppose that, on going public, the plans would meet the criteria of cost benefit analysis. Systematic traffic counting programmes operate for each link of the national primary route network. The results are published by An Foras Forbartha. It would thus become immediately obvious if a level of expenditure on any link were proposed not appropriate to its traffic volumes.

Cost benefit analysis examines projects from the point of view of society as a whole rather than from the perspective of particular lobbyists in society. It does not of course eliminate the activities of groups such as the roads lobby which is described in some detail in the paper. Cost benefit analysis makes explicit the assumptions underlying public expenditure proposals and increases the information available to decision makers when they are subject to what the paper calls "organisational and professional pressures to seek the most expensive scheme standing a reasonable chance of funding". To reject cost benefit analysis, as the paper proposes, would weaken the position of the decision maker *vis-à-vis* the lobbyists whom Mr. Mansergh opposes.

Road investment in Ireland has been one of the most advanced sectors in the use of public expenditure evaluation techniques. The coverage of the analysis has improved steadily since the early studies of the Naas dual carriageway (O'Keefe, 1962) to the recent study of the Newry-Dundalk route (An Foras Forbartha-Transport and Road Research Laboratory, June 1984). There is a systematic programme of traffic counts, infrastructure inventory and recording of accident data.

The 1985 Public Capital Programme states that "some progress — but not enough — has been made during the year in having departments and agencies generally apply the Department of Finance guidelines and the Department is pressing forward on this point with them". The Programme praised "notable developments" in two areas of public expenditure appraisal, roads and industrial grants. This is an assessment of the value of cost benefit analysis of road investment in Ireland with more supporting evidence than the case put in the paper.

To recapitulate, Mr. Mansergh's treatment of labour costs and tax revenue is incorrect. He mistakenly believes that cost benefit analysis has a bias in favour of large projects. He neglects recent developments in transport economics and the results of the operation of the Naas bypass. It has not caused generated traffic and has not neglected public transport users.

The findings of the Naas study did not favour an interurban motorway programme nor is this government policy. A national interurban motorway programme would not satisfy the criteria of cost benefit analysis without a large increase in real incomes, to which the value of time savings is linked, and a large increase in traffic volumes. In the meantime discussions of public policy should involve the latest knowledge of theory and fact and refer to actual rather than imaginary policies.

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*Editors' Note*

In thanking both authors for their contributions, we believe that this debate has raised several important questions which need to be examined further. Among the more important of these unresolved issues are the definition of the correct shadow-price for labour in an economy with heavy unemployment, the establishment of mechanisms to ensure the capture of an adequate proportion of the social benefit of a project as a cash flow to service the debt incurred, the achievement of a satisfactory balance between expenditure in different fields of social infrastructure, and the avoidance of any risk that cost benefit analysis could be mis-used to justify inappropriate "gold-plated" projects. These are all matters of real practical relevance to the quality of public decision-making.

# 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 |
| 1978 | 93.9 | 94.0 | 9815 | 1751.7 | 216.9 | 228.1 | 98.3 | 98.5 |
| 1979 | 100.9 | 101.2 | 10853 | 2067.8 | 226.7 | 238.3 | 101.0 | 101.5 |
| 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 | | | | |
| Quarterly Averages or Totals | | | | | | | | |
| 1981 I | 98.2 | 96.6 | 2885 | 410.2 | 221.1 | 232.4 | 100.8 | 99.0 |
| II | 108.8 | 107.2 | 2546 | 516.6 | 219.9 | 232.1 | 112.3 | 110.0 |
| III | 99.5 | 100.7 | 2408 | 488.8 | 221.1 | 233.1 | 102.1 | 103.0 |
| IV | 104.4 | 101.8 | 2928 | 396.9 | 220.7 | 231.4 | 107.4 | 105.2 |
| 1982 I | 101.6 | 99.2 | 2954 | 335.2 | 217.2 | 228.1 | 106.0 | 103.9 |
| II | 108.5 | 108.2 | 2514 | 436.2 | 214.7 | 226.8 | 114.7 | 114.0 |
| III | 95.8 | 97.6 | 2425 | 405.9 | 213.5 | 224.2 | 101.8 | 104.0 |
| IV | 103.7 | 101.7 | 2899 | 308.8 | 209.7 | 219.6 | 112.2 | 110.7 |
| 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 | 194.6 | 204.4 | 135.0 | 136.0 |
| IV | 132.6 | 128.5 | 3054 | 310.6 | | | | |
| Quarterly Averages or Totals Seasonally Corrected | | | | | | | | |
| 1981 I | 99.8 | 99.4 | 2603 | 477.9 | 222.2 | 234.0 | 101.9 | 101.5 |
| II | 102.5 | 101.0 | 2699 | 465.4 | 220.6 | 232.0 | 105.4 | 104.0 |
| III | 104.5 | 103.6 | 2715 | 447.8 | 220.4 | 232.2 | 107.6 | 106.7 |
| IV | 104.0 | 102.2 | 2745 | 415.3 | 219.5 | 230.8 | 107.5 | 105.8 |
| 1982 I | 102.4 | 101.2 | 2678 | 380.8 | 218.4 | 229.7 | 106.4 | 105.3 |
| II | 102.3 | 102.1 | 2663 | 397.4 | 215.6 | 226.8 | 107.7 | 107.6 |
| III | 101.1 | 100.7 | 2730 | 372.8 | 212.6 | 223.1 | 108.0 | 107.9 |
| IV | 103.3 | 102.1 | 2715 | 327.2 | 208.6 | 219.1 | 112.6 | 111.3 |
| 1983 I | 108.7 | 107.8 | 2719 | 343.4 | 204.1 | 214.5 | 120.9 | 120.2 |
| II | 106.6 | 104.7 | 2808 | 333.4 | 201.6 | 212.0 | 120.0 | 118.0 |
| III | 110.0 | 109.1 | 2774 | 343.5 | 200.5 | 210.9 | 124.6 | 123.7 |
| IV | 115.0 | 113.4 | 2747 | 366.0 | 197.7 | 207.8 | 132.0 | 130.5 |
| 1984 I | 118.0 | 116.5 | 2850 | 309.8 | 196.8 | 206.7 | 136.1 | 134.7 |
| II | 125.3 | 125.2 | 2833 | 331.1 | 195.9 | 206.3 | 145.2 | 145.1 |
| III | 123.0 | 120.5 | 2877 | 322.6 | 193.6 | 203.2 | 144.2 | 141.8 |
| IV | 131.9 | 128.9 | 2868 | 326.8 | | | | |

| Unemployment | Prices | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
| Live Register Av. Monthly | Consumer Price Index | Agricultural Price Index | Import Unit Value | Export Unit Value | Terms of Trade | Price of Stocks + Shares | |
| 000's | Nov. 1975 = 100 | 1975 = 100 | 1975 = 100 | 1975 = 100 | 1975 = 100 | 1975 = 100 | |
| 99.2 | 139.9 | 174.0 | 146.2 | 151.6 | 103.7 | 201.5 | 1978 |
| 89.6 | 158.5 | 184.2 | 165.9 | 165.0 | 99.5 | 215.6 | 1979 |
| 101.5 | 187.3 | 179.3 | 195.6 | 179.5 | 91.8 | 212.0 | 1980 |
| 127.9 | 225.6 | 213.1 | 232.4 | 208.4 | 89.7 | 219.9 | 1981 |
| 148.2 | 264.2 | 232.2 | 249.4 | 231.5 | 92.8 | 179.9 | 1982 |
| 192.7 | 291.8 | 246.8 | 261.1 | 251.9 | 96.5 | 223.7 | 1983 |
| 214.2 | 316.9 | 252.5 | | | | 296.1 | 1984 |
| Quarterly Averages or Totals | | | | | | | |
| 125.8 | 209.9 | 202.9 | 221.4 | 192.0 | 86.7 | 218.9 | 1981 I |
| 124.3 | 218.1 | 213.2 | 231.3 | 204.8 | 88.5 | 235.3 | II |
| 126.8 | 230.4 | 213.9 | 236.8 | 211.5 | 89.3 | 223.1 | III |
| 134.5 | 243.8 | 220.0 | 236.6 | 216.2 | 91.4 | 202.7 | IV |
| 146.8 | 249.5 | 237.0 | 243.5 | 222.2 | 91.3 | 192.3 | 1982 I |
| 149.0 | 263.9 | 235.3 | 248.4 | 231.1 | 93.0 | 174.6 | II |
| 159.0 | 269.5 | 230.2 | 254.0 | 235.0 | 92.5 | 175.5 | III |
| 171.6 | 273.8 | 229.6 | 255.6 | 238.3 | 93.2 | 178.3 | IV |
| 188.3 | 280.6 | 241.9 | 247.0 | 237.3 | 96.1 | 172.0 | 1983 I |
| 188.1 | 288.3 | 245.9 | 254.5 | 247.7 | 97.3 | 206.1 | II |
| 193.0 | 296.5 | 250.0 | 268.8 | 257.0 | 96.7 | 249.7 | III |
| 201.3 | 302.0 | 249.7 | 275.3 | 263.3 | 95.6 | 267.2 | IV |
| 215.2 | 309.1 | 263.9 | 281.5 | 266.0 | 94.5 | 309.6 | 1984 I |
| 210.8 | 316.2 | 268.1 | 283.7 | 269.8 | 95.1 | 314.9 | II |
| 212.6 | 320.1 | 247.0 | 294.3 | 276.6 | 94.0 | 280.7 | III |
| 218.1 | 322.3 | 246.9 | | | | 279.1 | IV |
| Quarterly Averages or Totals Seasonally Corrected | | | | | | | |
| 121.7 | 210.5 | 198.8 | No Seasonal Pattern | No Seasonal Pattern | No Seasonal Pattern | No. Seasonal Pattern | 1981 I |
| 125.5 | 217.3 | 207.4 | | | | | II |
| 129.5 | 229.9 | 216.9 | | | | | III |
| 134.7 | 244.5 | 227.5 | | | | | IV |
| 141.5 | 250.1 | 231.9 | | | | | 1982 I |
| 150.5 | 263.1 | 229.7 | | | | | II |
| 162.1 | 269.1 | 233.4 | | | | | III |
| 172.4 | 274.3 | 237.1 | | | | | IV |
| 182.7 | 281.4 | 236.6 | | | | | 1983 I |
| 189.8 | 287.4 | 240.4 | | | | | II |
| 196.2 | 296.1 | 256.0 | | | | | III |
| 202.2 | 302.5 | 255.4 | | | | | IV |
| 209.4 | 310.0 | 258.2 | | | | | 1984 I |
| 212.4 | 315.3 | 262.4 | | | | | II |
| 215.8 | 319.6 | 250.7 | | | | | III |
| 219.0 | 322.7 | 252.5 | | | | | IV |

| | Money Earnings Weekly Averages | | Real Earnings | | Consumption Indicators | | |
|---|---|---|---|---|---|---|---|
| | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| | Manufacturing | Transportable Goods | Manufacturing | Transportable Goods | New Cars Registered | Retail Sales Value | Retail Sales Volume |
| | 1973 = 100 | 1973 = 100 | 1977 = 100 | 1977 = 100 | Total | 1980 = 100 | 1980 = 100 |
| 1978 | 236.2 | 235.7 | 106.4 | 106.3 | 105582 | 75.0 | 97.4 |
| 1979 | 271.3 | 271.1 | 107.9 | 107.9 | 95938 | 87.1 | 100.7 |
| 1980 | 321.2 | 321.0 | 108.1 | 108.1 | 91032 | 100.0 | 100.0 |
| 1981 | 373.8 | 372.6 | 104.4 | 104.2 | 104645 | 118.3 | 99.4 |
| 1982 | 419.1 | 419.8 | 100.0 | 100.2 | 72603 | 129.4 | 94.0 |
| 1983 | 468.3 | 469.2 | 101.1 | 101.4 | 61094 | 137.4 | 90.1 |
| 1984 | | | | | | 145.2 | 89.2 |
| Quarterly Averages or Totals | | | | | | | |
| 1981 I | 346.2 | 344.6 | 103.9 | 103.6 | 35696 | 110.3 | 99.7 |
| II | 373.3 | 371.4 | 107.9 | 107.4 | 29306 | 114.0 | 98.3 |
| III | 383.8 | 385.2 | 104.9 | 105.5 | 32351 | 123.6 | 101.7 |
| IV | 391.7 | 389.2 | 101.2 | 100.7 | 7292 | 124.5 | 97.7 |
| 1982 I | 393.3 | 390.6 | 99.3 | 98.7 | 28114 | 124.4 | 95.3 |
| II | 417.6 | 423.0 | 99.7 | 101.1 | 21223 | 125.8 | 92.1 |
| III | 424.0 | 423.6 | 99.1 | 99.1 | 14012 | 128.3 | 91.6 |
| IV | 441.3 | 441.9 | 101.6 | 101.8 | 9981 | 137.4 | 96.1 |
| 1983 I | 440.6 | 440.8 | 98.9 | 99.1 | 29851 | 135.5 | 92.0 |
| II | 458.4 | 463.1 | 100.2 | 101.3 | 12255 | 130.2 | 86.1 |
| III | 476.3 | 475.9 | 101.2 | 101.2 | 12110 | 135.4 | 87.6 |
| IV | 497.9 | 497.1 | 103.9 | 103.8 | 6878 | 148.5 | 94.8 |
| 1984 I | 502.3 | 503.0 | 102.4 | 102.6 | 19263 | 139.8 | 87.9 |
| II | 518.5 | 523.8 | 103.3 | 104.5 | 18239 | 143.9 | 88.6 |
| III | | | | | 11666 | 143.5 | 87.3 |
| IV | | | | | 6463 | 155.8 | 93.7 |
| Quarterly Averages or Totals Seasonally Corrected | | | | | | | |
| 1981 I | 351.6 | 351.4 | 104.8 | 104.8 | 24606 | 110.6 | 99.3 |
| II | 370.8 | 367.2 | 107.6 | 106.5 | 26125 | 116.1 | 100.9 |
| III | 383.4 | 388.2 | 105.3 | 105.6 | 35435 | 125.4 | 103.4 |
| IV | 388.1 | 388.1 | 100.1 | 100.2 | 15409 | 120.2 | 93.6 |
| 1982 I | 400.0 | 398.5 | 100.3 | 99.9 | 18983 | 124.8 | 95.5 |
| II | 414.9 | 417.8 | 99.5 | 100.3 | 18744 | 128.1 | 94.4 |
| III | 424.0 | 422.0 | 99.4 | 99.2 | 15875 | 130.4 | 93.3 |
| IV | 437.2 | 440.1 | 100.5 | 101.3 | 18741 | 132.3 | 91.9 |
| 1983 I | 448.1 | 449.9 | 99.9 | 100.4 | 19728 | 135.9 | 92.2 |
| II | 455.5 | 457.2 | 99.8 | 100.3 | 11167 | 132.8 | 88.3 |
| III | 475.6 | 474.5 | 101.5 | 101.4 | 13774 | 137.8 | 89.2 |
| IV | 493.4 | 494.7 | 102.7 | 103.2 | 14612 | 142.7 | 90.5 |
| 1984 I | 510.8 | 513.6 | 103.4 | 104.0 | 12559 | 140.1 | 88.2 |
| II | 515.5 | 516.9 | 103.1 | 103.5 | 16426 | 146.9 | 90.9 |
| III | | | | | 13399 | 146.1 | 89.0 |
| IV | | | | | | 149.4 | 89.4 |

| 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 | |
| 2023 | 2421 | 398 | 4248.8 | 902.6 | 3475.2 | 1251.9 | 1978 |
| 2384 | 2905 | 521 | 5044.3 | 1005.9 | 4350.5 | 974.7 | 1979 |
| 3155 | 3708 | 553 | 5939.3 | 1132.6 | 5050.7 | 1346.0 | 1980 |
| 3973 | 4796 | 823 | 6972.7 | 1277.4 | 6053.6 | 1473.1 | 1981 |
| 4908 | 5896 | 988 | 7876.0 | 1564.7 | 6677.4 | 1594.0 | 1982 |
| 5711 | 6671 | 960 | 8667.2 | 1775.7 | 7570.9 | 2014.8 | 1983 |
| 5952 | 6991 | 1039 | | | | 2101.2 | 1984 |
| Quarterly Totals | | | | Monthly Totals | | | |
| 871 | 1076 | 205 | 6147.6 | 1124.1 | 5381.7 | 1322.7 | 1981 I |
| 936 | 1188 | 252 | 6369.8 | 1201.5 | 5511.6 | 1191.7 | II |
| 970 | 1245 | 275 | 6679.9 | 1217.8 | 5785.0 | 1071.8 | III |
| 1196 | 1287 | 91 | 6972.7 | 1277.4 | 6053.6 | 1473.1 | IV |
| 1044 | 1437 | 393 | 7098.2 | 1334.1 | 6366.8 | 1406.0 | 1982 I |
| 1176 | 1474 | 298 | 7141.8 | 1369.9 | 6347.9 | 1464.6 | II |
| 1184 | 1457 | 267 | 7498.7 | 1510.7 | 6458.1 | 1521.0 | III |
| 1505 | 1534 | 29 | 7876.0 | 1564.7 | 6677.4 | 1594.0 | IV |
| 1220 | 1646 | 426 | 8008.2 | 1499.9 | 7046.5 | 1235.1 | 1983 I |
| 1405 | 1654 | 249 | 8109.2 | 1638.4 | 7057.4 | 1343.2 | II |
| 1440 | 1560 | 120 | 8204.9 | 1749.7 | 7430.1 | 1914.4 | III |
| 1646 | 1811 | 165 | 8667.2 | 1775.7 | 7570.9 | 2014.8 | IV |
| 1290 | 1719 | 429 | 8757.3 | 1831.2 | 7704.6 | 2117.7 | 1984 I |
| 1516 | 1684 | 169 | 8897.4 | 2142.4 | 7885.5 | 1952.0 | II |
| 1457 | 1715 | 258 | | | | 1875.0 | III |
| 1688 | 1873 | 185 | | | | 2101.2 | IV |
| Quarterly Totals (S.C.) | | | | Monthly Totals (S.C.) | | | |
| 905 | 1067 | 162 | 6087.5 | No | 5241.3 | 1291.8 | 1981 I |
| 954 | 1175 | 222 | 6404.1 | Seasonal | 5483.8 | 1268.9 | II |
| 1016 | 1293 | 277 | 6679.3 | Pattern | 5729.4 | 1076.7 | III |
| 1074 | 1266 | 191 | 6814.0 | | 6016.9 | 1352.6 | IV |
| 1108 | 1419 | 313 | 7037.9 | | 6194.7 | 1375.1 | 1982 I |
| 1191 | 1461 | 272 | 7184.3 | | 6317.5 | 1554.7 | II |
| 1237 | 1509 | 273 | 7513.7 | | 6403.4 | 1528.6 | III |
| 1274 | 1509 | 165 | 7683.8 | | 6625.6 | 1463.7 | IV |
| 1313 | 1619 | 307 | 7949.2 | | 6851.6 | 1208.5 | 1983 I |
| 1417 | 1645 | 228 | 8172.1 | | 7027.2 | 1424.4 | II |
| 1502 | 1624 | 122 | 8212.0 | | 7368.8 | 1920.2 | III |
| 1462 | 1779 | 317 | 8457.1 | | 7501.5 | 2084.7 | IV |
| 1401 | 1688 | 287 | 8689.5 | | 7469.8 | 2119.6 | 1984 I |
| 1526 | 1678 | 152 | 8960.0 | | 7855.9 | 2039.7 | II |
| 1517 | 1787 | 270 | | | | | III |
| 1498 | 1838 | 340 | | | | | 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£ |
| 1978 | | 3713.1 | 2963.2 | 749.9 | 148.8 | 134.8 | 77.57 | 1.0000 |
| 1979 | | 4817.5 | 3501.1 | 1316.4 | 170.3 | 146.5 | 77.08 | 0.9646 |
| 1980 | | 5419.6 | 4130.9 | 1288.7 | 162.6 | 158.9 | 74.01 | 0.8862 |
| 1981 | | 6578.4 | 4777.6 | 1800.8 | 166.0 | 158.3 | 67.75 | 0.8002 |
| 1982 | | 6812.3 | 5687.9 | 1124.4 | 160.3 | 169.8 | 67.35 | 0.8125 |
| 1983 | | 7355.0 | 6936.0 | 419.0 | 165.3 | 190.2 | 65.13 | 0.8222 |
| 1984 | | 890.3 | 8896.8 | 9.6 | | | 62.26 | 0.8134 |
| | | Monthly Averages | | | | | | |
| 1981 | I | 511.7 | 339.6 | 172.1 | 162.7 | 144.1 | 67.24 | 0.7686 |
| | II | 557.2 | 405.5 | 151.7 | 169.6 | 162.0 | 66.57 | 0.7730 |
| | III | 572.6 | 419.4 | 153.2 | 170.4 | 161.8 | 67.85 | 0.8177 |
| | IV | 549.4 | 450.7 | 98.7 | 163.4 | 170.3 | 69.32 | 0.8407 |
| 1982 | I | 597.7 | 411.2 | 126.4 | 172.8 | 153.3 | 67.71 | 0.8126 |
| | II | 589.5 | 503.7 | 85.8 | 167.1 | 180.7 | 67.72 | 0.8171 |
| | III | 532.5 | 475.0 | 57.5 | 147.6 | 173.2 | 66.88 | 0.8022 |
| | IV | 550.8 | 506.5 | 44.3 | 151.7 | 176.3 | 67.10 | 0.8185 |
| 1983 | I | 585.8 | 471.5 | 114.3 | 167.1 | 164.8 | 69.46 | 0.8943 |
| | II | 592.1 | 575.8 | 16.4 | 163.8 | 192.6 | 65.14 | 0.8171 |
| | III | 602.4 | 606.8 | —4.4 | 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 | 744.6 | 653.9 | 90.7 | 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 | 62.04 | 0.8352 |
| | IV | 799.4 | 819.1 | —19.7 | | | 62.04 | 0.8352 |
| | | Monthly Averages. Seasonally Corrected. | | | | | | |
| 1981 | I | 504.1 | 361.0 | 143.1 | 158.7 | 154.8 | No Seasonal Pattern | No Seasonal Pattern |
| | II | 537.6 | 406.9 | 130.7 | 164.0 | 160.4 | | |
| | III | 597.7 | 414.2 | 183.5 | 179.1 | 160.5 | | |
| | IV | 555.4 | 434.0 | 121.4 | 164.0 | 162.6 | | |
| 1982 | I | 586.8 | 436.4 | 143.9 | 169.7 | 163.4 | | |
| | II | 573.3 | 500.5 | 72.8 | 163.7 | 181.3 | | |
| | III | 547.4 | 468.8 | 78.6 | 152.0 | 165.4 | | |
| | IV | 567.1 | 488.2 | 79.9 | 154.5 | 167.9 | | |
| 1983 | I | 570.6 | 507.7 | 62.9 | 163.6 | 176.2 | | |
| | II | 577.3 | 565.9 | 11.4 | 160.9 | 191.1 | | |
| | III | 620.6 | 601.3 | 19.3 | 162.5 | 194.3 | | |
| | IV | 690.2 | 641.3 | 48.9 | 175.5 | 200.6 | | |
| 1984 | I | 722.6 | 711.6 | 11.0 | 180.4 | 218.8 | | |
| | II | 8699.8 | 741.6 | —41.8 | 174.0 | 229.6 | | |
| | III | 9725.9 | 711.3 | +14.6 | 174.6 | 213.9 | | |
| | IV | 7831.7 | 794.4 | +37.3 | | | | |

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