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by

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SUMMARY

With the export boom continuing strongly through the summer, it now looks as though the growth in real GNP in 1987 could reach 2 per cent. Industrial output has expanded sharply, while agricultural production has recovered strongly from the setbacks of the preceding years. It seems probable that overall budget targets will be met, while the current balance of payments deficit will be almost eliminated. With the annual rate of inflation the lowest in 20 years, 1987 is proving a year of substantial improvement with regard to most aspects of the economy. The main exception of course is employment, where despite at least a stabilisation in the level of industrial jobs, the total number at work will show another serious decline.

A similar rate of economic growth is most unlikely to be recorded in 1988. The recovery element in the output of agriculture and tourism will no longer be present; the depth of the real cuts in public current and capital expenditure will depress domestic demand; and the growth of industrial export volumes will slow down under the impact of a less favourable trading environment and possible capacity constraints.

Obviously, the evolution of the world economy over the coming year is a matter of considerable concern, both because of its importance to Ireland and because of the uncertainties generated by the recent instability of stock markets. The view taken in this *Commentary* is that the US authorities probably will agree on appropriate policies to reduce the American budget deficit, and that the authorities in the major surplus countries will respond by adopting somewhat more expansionary fiscal and monetary policies. In this case 1988 should see some slowing down of economic growth, but not a major world recession. From Ireland's point of view, the less favourable trade prospects could be partly compensated by a modest reduction in international interest rates, at least outside the USA.

Despite this relatively benign international background, it is forecast that there will be no growth in the Irish economy in 1988, and that employment will continue to fall. On the other hand, inflation should remain low, at about 3 per cent, and the current balance of payments should move into surplus. There should also be substantial progress in correcting the public finances, with the exchequer borrowing requirement falling to about 8½ per cent of GNP. Even if there were a world recession, it seems possible that advances would still be made in eliminating the balance of payments deficit and reducing the borrowing requirement, but there would, of course, be a significant decline in the level of real GNP and an even faster fall in the numbers at work.

FORECAST NATIONAL ACCOUNTS 1987

A: Expenditure on Gross National Product

	1986	1987	Change in 1987				
	Provisional	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure ...	10552	10950	398	79	3¾	3	¾
Public Net Current Expenditure ...	3514	3666	152	– 70	4¼	6¼	– 2
Gross Domestic Fixed Capital Formation	3451	3497	46	18	1¼	¾	½
Exports of Goods and Services (X) ...	10335	11442	1107	1186	10¾	– ¾	11½
Physical Changes in Stocks	93	125	32	30			
Final Demand	27945	29680	1735	1243	6¼	1¾	4½
less:							
Imports of Goods and Services ...	9706	10262	556	780	5¾	– 2	8
GDP at Market Prices	18239	19418	1179	463	6½	4	2½
less:							
Net Factor Payments	2032	2154	122	138	6	– ¾	6¾
GNP at Market Prices	16207	17264	1057	325	6½	4½	2

B: Gross National Product by Origin

	1986	1987		
	Provisional	Forecast	Change in 1987	
	£m	£m	£m	%
Agriculture, Forestry, Fishing ...	1304	1474	170	13
Non-Agricultural: Wages, etc. ...	9830	10274	444	4½
Other	3357	3667	310	9¼
less:				
Net Factor Payments	2032	2154	122	6
National Income	12459	13261	802	6½
Depreciation	1789	1887	98	5½
GNP at factor cost	14248	15148	900	6¼
Taxes less subsidies	1959	2116	157	8
GNP at Market Prices	16207	17264	1057	6½

C: Balance of Payments on Current Account

	1986	1987	
	Provisional	Forecast	Change in 1987
	£m	£m	£m
X—M	628	1180	552
F	– 2032	– 2154	– 122
Net Transfers	1075	925	– 150
Balance on Current Account ...	– 329	– 49	280
as % of GNP	– 2	– ¼	1¾

FORECAST NATIONAL ACCOUNTS 1988

A: Expenditure on Gross National Product

	1987	1988	Change in 1988				
	Forecast	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure ...	10950	11280	3330	0	3	3	0
Public Net Current Expenditure ...	3666	3629	- 37	- 180	- 1	4	- 5
Gross Domestic Fixed Capital Formation	3497	3587	90	17	2½	2	½
Exports of Goods and Services (X) ...	11442	12368	926	748	8	1½	6½
Physical Changes in Stocks	125	145	20	18			
Final Demand	29680	31009	1329	600	4½	2½	2
less:							
Imports of Goods and Services ...	10262	10821	559	400	5½	1½	4
GDP at Market Prices	19418	20188	770	200	4	2¾	1
less:							
Net Factor Payments	2154	2396	242	207	11¼	1½	9½
GNP at Market Prices	17264	17792	528	- 7	3	3	0

B: Gross National Product by Origin

	1987	1988		
	Forecast	Forecast	Change in 1988	
	£m	£m	£m	%
Agriculture, Forestry, Fishing ...	1474	1481	7	½
Non-Agricultural: Wages, etc. ...	10274	10593	319	3
Other	3667	3891	224	6
less:				
Net Factor Payments	2154	2396	242	11¼
National Income	13261	13569	308	2¼
Depreciation	1887	1991	104	5½
GNP at factor cost	15148	15560	412	2¾
Taxes less subsidies	2116	2232	116	5½
GNP at market prices	17264	17792	528	3

C: Balance of Payments on Current Account

	1987	1988	
	Forecast	Forecast	Change in 1988
	£m	£m	£m
X—M	1180	1547	367
F	- 2154	- 2396	- 242
Net Transfers	925	1025	100
Balance on Current Account ...	- 49	176	225
as % of GNP	- ¼	1	1¼

COMMENTARY

The International Economy

General

The recent gyrations of the world's bourses have served as yet another reminder of the extreme volatility of financial markets under modern conditions. Whether they also signal a significant deterioration in the prospects for the world economy in 1988 is still unclear. In the past, persistent declines of over 10 per cent in the ordinary share indices on the leading stock exchanges have frequently acted as leading indicators of recessions in output and trade within the following twelve months. However, such a pattern will not necessarily be followed on this occasion.

In most cases the downturn in the valuation of corporate equity has come at the end of a period of rapid economic expansion in which fixed investment has been growing substantially and widespread inflationary pressures have been evident. In the present situation the period of economic expansion has been relatively long but also very modest, with physical investment remaining sluggish and inflation low in most major countries. This suggests that recession is by no means inevitable, provided that the authorities in the key countries follow appropriate policies.

Clearly the reduction in the market value of equities, if it persists, will exert some downward pressure on effective demand. In those countries with a significant number of private shareholders, the fall in asset valuation is likely to lower the propensity to consume, largely through reducing the ability and the willingness of a proportion of the population to absorb increases in consumer credit. At the same time the increased cost and difficulty of raising additional equity capital could inhibit many firms from undertaking new productive investment. However, these tendencies could be partly offset by the countervailing effects of lower interest rates, provided that policies are followed internationally that allow these to persist.

The salutary impact of the share-price shock is such as to make it considerably more likely that such policies will be pursued. Despite the fact that they are entering an election year, it seems probable that the US administration and legislature will take steps to restore momentum to the drive to reduce the federal budget deficit. While it is much less certain that Japan and West Germany will adopt expansionary policies, at least the moves towards tighter monetary policies, which were a contributory factor in the stock market collapse, are unlikely to be repeated.

On balance, it thus seems reasonable to make only minor downward adjustments to the international forecast set out in the July *Commentary*. World

output and trade should continue to grow modestly in 1988, with inflation remaining low but European unemployment staying high. International interest rates could ease further, implying a small but significant reduction in average real interest rates between 1987 and 1988. A controlled minor depreciation in the average value of the US dollar remains the best guess for 1988, but with the volatility of financial markets so recently underlined, the fragility of any assumptions of control and relative stability hardly needs to be stressed.

The US Economy

The principal cause of the collapse of share prices and subsequent depreciation of the dollar was a growing market perception that insufficient progress was being made in correcting the deficits in the US budget and current account balances. Under the stimulus of the large decline in the value of the dollar over the past two years, the volume of US exports has grown quite strongly. However with import volumes remaining higher than expected, the value of the current account deficit has remained stubbornly high in dollar terms, and there seems little prospect of any substantial improvement in the near future. Similarly, although 1987 has seen a considerable reduction in the federal budget deficit, the outlook for a continuation of this process in 1988 was clouded by an apparently irreconcilable difference of opinion on how further reductions in the budget deficit could best be achieved. In these circumstances, it was feared that the world's central banks could not indefinitely withstand the pressures for a renewed dollar depreciation, and that US interest rates, which had already risen significantly in the course of 1987, would continue to move upwards.

The dramatic fall in equity values in mid-October could help to resolve some of these issues. In itself it seems likely to ease domestic inflationary pressures which were beginning to emerge in the US economy, and to lead to some reduction in consumer and investment demand which should lower the volume of imports. The response of the trade balance to the renewed depreciation of the dollar is likely to be slower, but in the medium term could be a significant influence on the current account deficit. Indirectly, the shock of the equity collapse should lend considerable urgency to the process of restoring fiscal discipline. Provided the fiscal outlook is improved in the near future, the reduced federal borrowing requirement should reinforce the market effects of the switch from equities to bonds as a downward influence on interest rates. In the shorter run, the need to control pressures on the dollar could lead to a temporary increase in US interest rates from the level established following the Federal Reserve Board's injection of liquidity at the time of the share price collapse.

Even if policy responses continue to be appropriate, it seems probable that worthwhile reductions in the two major deficits in 1988 will be achieved at the cost of significantly lower growth in the US than was previously anticipated. The combined deflationary effects of a tighter fiscal stance and of lower nominal net worth will outweigh, in the USA, the expansionary impact of lower interest rates. Of course, if the policy responses are not appropriate, then both consumer and business confidence will be severely damaged and 1988

would witness, not a slowing down of growth, but a substantial fall in output and expenditure as a full scale recession begins.

At the time of writing, the more favourable of these outcomes also seems the more likely. Accordingly the forecast for real GNP growth in 1988 has been revised downwards from 2¾ per cent to 1¼ per cent, roughly half the likely growth in 1987. In keeping with this, the forecast rates of price and wage inflation have been marginally reduced, unemployment is forecast to increase slightly and the current account deficit to show a substantial improvement in 1988.

The European Economy

If the US economy exhibits a slowing down of growth, but not an actual fall in output, then the prospects for the European economy will be heavily dependent on the policy responses in the major European countries. Clearly any slowdown in US expenditure will affect European exports and also investment in export industries. Unless these trade effects, together with the domestic deflationary impact of the fall in equity values, are offset by a significant easing of fiscal and monetary policies then European growth would also be considerably slower in 1988.

On the assumption that the USA does take effective steps to correct its fiscal imbalance, the prospects for more expansionary policies in Europe appear quite good. The initial monetary responses to the share-price fall were rapid and appropriate, while the mere probability of a US slowdown should remove the inhibiting fear that inflation was due to accelerate in 1988. The fact that an easing of policy would be seen as complementary to the tightening of the US fiscal stance, rather than as an alternative to it, is politically important, and a major reason for hoping that the equity collapse will have jolted authorities on both sides of the Atlantic into adopting the policies they should already have been following.

If the authorities do indeed follow this course, then there seems little reason why a decline in the US growth rate should be reflected in Europe. Lower interest rates and fiscal stimulus would act to replace lost export demand with greater domestic demand, at the minor cost of reducing the EEC's collective current account surplus.

While clearly West Germany is the key to the European response to the changed international environment, from an Irish point of view the course of British economic policy is also of critical importance. Quite apart from remaining Ireland's largest single export market, so that the levels of UK expenditure and imports are a vital influence on the performance of many exporting firms, Dublin financial markets have not yet gone very far in the process of de-coupling from London. Thus the evolution of UK interest rates, as well as movements in the sterling exchange rate, are likely to retain a major role in the determination of Irish interest rates. Recent developments greatly increase the likelihood that average UK interest rates will be lower in 1988 than in 1987, while the relative strength of sterling suggests that the depreciation which seems likely eventually to accompany the UK's comparatively high inflation rate will be postponed well into 1988. So long as there is no tightening of fiscal policy in response to the increased difficulty in privatising state assets,

lower interest rates should permit a continued increase in consumer expenditure. The growth of the UK economy should persist through 1988, although, as already forecast, at a rather slower pace than in 1987.

The Rest of The World

Japan and the newly industrialised Asian countries probably stand to lose a greater volume of potential exports than Europe from any slowdown in US growth in 1988. They might also find it more difficult to offset falling export demand with higher domestic demand, although lower interest rates should be of some assistance. Thus a reduction in the growth of real GNP seems likely in 1988, with a significant narrowing of trade surpluses.

The likely slackening of US growth could place a downward pressure on the earnings of primary producers. The effect on prices will depend in part on the degree of organisation among the producing countries, with OPEC in particular needing to maintain strong discipline if there is not to be a renewed fall in oil prices. Stagnant volume exports and weak commodity prices are likely to intensify the problems of primary producing debtor countries in spite of lower international interest rates and a slightly weaker dollar. However, unless the USA experiences a full scale recession rather than the slowing of growth assumed here, the international debt crisis seems more likely to remain chronic throughout 1988 than to take on the acute symptoms which could accompany serious damage to the world financial system.

The Context for Ireland

As should be clear from the discussion so far, there is undoubtedly some danger that the world could be confronted with a substantial recession in the coming months. However it seems considerably more likely that policy responses will be adequate to avert this threat, and that 1988 will see merely a slowing down in the rate of growth of the world economy. It is this more benign outlook which is reflected in Table 1.

TABLE 1: Short-term International Outlook

	GNP		Consumer Prices		Hourly Earnings		Unemployment Rate		Current Account Balance	
	Percentage Change						%		% of GNP	
Country	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
U.K.	3½	2½	3¾	4¼	7½	7½	11¼	10¾	- ½	- 1¼
W. Germany	1½	2	½	1½	3½	3½	9½	9½	3¼	2¼
France	1¼	2	3¼	2¾	3¾	3¼	11¼	12	- ¼	- ¾
Italy	3	2½	4¾	5	7¾	7½	11½	11¾	½	- ¼
Total EEC	2	2	3	3¼	4½	4½	11½	11¾	1	¼
USA	2½	1¼	4	4¼	3½	4	6¾	7	- 3¼	- 2
Japan	2½	1¾	0	1¾	2½	3¼	3	3½	4	3¼
Total (OECD)	2¼	1¾	3½	3½	4	4¼	8¼	8½	- ¼	- ¼
Ireland	2	0	3	3	5¼	4¾	18¾	19¼	- ¼	1

Sources: OECD Economic Outlook June 1987, updated from individual country sources.

On this basis the growth of total world trade would be rather lower in 1988 than in 1987. However, if the forecast is correct, trade in manufactured goods within Europe would continue to grow at much the same moderate rate as in 1987, thus offering reasonably favourable trading conditions to the majority of Irish exporters. Consumer prices and industrial earnings in most European countries are expected to maintain the rates of increase established during 1987, leading to a marginally higher annual average rate of price inflation in the EEC as a whole.

Provided that EMS exchange rates remain stable, the competitiveness of Irish industry *vis-à-vis* continental Europe should show little change. With regard to the UK the situation is rather different. The rise in UK prices, and, especially, earnings, is likely to be considerably above the EEC average in 1988. If the value of sterling remains more or less unchanged against the EMS currencies, as seems likely at present, then Irish competitiveness against the UK should improve significantly. Conversely, if sterling does depreciate mildly in the course of 1988, this is likely to reflect, and to reinforce, the higher rate of inflation, and thus should not lead to any deterioration in Irish competitiveness compared with 1987.

When allowance is made for the likely reduction in the volume of imports to the USA and other non-European markets, together with slightly stronger competition from the USA, it would appear as if the overall environment for Irish exports will be more difficult than in 1987, but not dramatically so. Perhaps the greater danger to the long-term development of the Irish economy lies in the possibility that world-wide productive investment will be inhibited in 1988 by the increased cost of raising new equity capital.

Offsetting this possible deterioration in trading and investment prospects are the benefits Ireland is likely to obtain from lower interest rates. Lower international interest rates automatically reduce the burden of servicing the overseas national debt, and, provided that internal factors do not intrude, permit lower domestic interest rates.

THE DOMESTIC ECONOMY

General

Since the initial forecast for 1988 was published in the July *Commentary,* three major events have combined to alter the medium-term prospects for the Irish economy. The Programme for National Recovery clarifies the situation regarding public service pay increases in 1988, but its main effects will be felt in later years as the risk of accelerating wage inflation is considerably diminished. The 1988 Estimates of exchequer expenditure are likely to have a far more immediate impact. Pitched well below most expectations, they imply a more rapid reduction in the budget deficit than had been generally anticipated, and consequently a more deflationary impact on the economy in 1988 than had been assumed. The Estimates are thus the principal reason for the downward revision in the 1988 GNP forecasts.

The third major event is the fall in share prices throughout the world. It is too early to assess fully the likely consequences of this development, but as was

discussed in the International section it seems possible that the net effects on the Irish economy will be fairly small, provided that the policy responses in the major countries are appropriate. If they are not, and the world slides into a major recession, then obviously the impact on Ireland will be far greater than that caused by domestic policy changes and the outlook for 1988 and subsequent years would be grim. For the purpose of this *Commentary* it is assumed that such a catastrophe will be averted, and that 1988 will see merely a slowing down of world growth rather than a steep decline in output and trade.

Exports

Despite the relatively modest growth in world trade in 1987, Irish exports have been increasing very rapidly. The value of visible exports in the first nine months of the year was over 12 per cent higher than in the corresponding period of 1986. Monthly unit value indices suggest that export prices have been almost 4 per cent lower than in 1986, implying an increase of more than 15 per cent in the volume of exports during the first three quarters of 1987.

Although the most spectacular increases in export values have been in miscellaneous edible products and in data processing equipment, the growth has been fairly general, with organic chemicals being the only major export category to record a significant decline in value. Geographically, practically the whole of the increase in the value of exports has gone to the EEC countries, including the UK, with the value of exports to the rest of the world being little changed in aggregate.

TABLE 2: Exports of Goods and Services

	1986	% Change		1987	% Change		1988
	£m	Volume	Value	£m	Volume	Value	£m
Agricultural	1770	3	7	1894	0	2	1932
Manufactured	6103	12½	10	6713	7½	8½	7284
Other Industrial	1417	22	19	1686	8½	10	1855
Other	98			88			89
Total Visible	9388	12	10½	10381	6¼	7½	11160
Adjustments	- 212			- 251			- 232
Merchandise	9176	11¾	10½	10130	6½	7¾	10928
Tourism	640	9	12	720	6½	9½	789
Other Services	519	11	14	592	8	10	651
Exports of Goods and Services	10335	11½	10¾	11442	6½	8	12368

Allowing for some reductions in agricultural exports in the final months of the year due to supply constraints, and for some overstatement of the annual price declines in the monthly figures, visible exports for 1987 as a whole are forecast to increase by 12 per cent in volume and 10½ per cent in value. Tourism appears to have recovered strongly, and on the evidence of the Balance of Payments estimates for the first half of the year other service exports are also growing rapidly. Thus total exports of goods and services are forecast to increase by 11½ per cent in volume and 10¾ per cent in value, as shown in Table 2.

Such a strong rate of export growth is not expected to be repeated in 1988, even though the favourable competitive position within Europe is likely to be maintained. Despite the considerable capital investment which has been undertaken in 1987, capacity constraints can be expected to emerge in some industries following a period of very rapid expansion. The falling volume of gross agricultural output is likely to constrain agricultural exports, even with a reduced rate of intervention stockbuilding. When account is taken of the poorer international trading environment, along with these domestic considerations, a volume increase of 6¼ per cent in visible exports seems a reasonable forecast for 1988. This is marginally over half the rate of growth likely to have been achieved in 1987. Because prices are expected to rise slightly in 1988 the growth in export value is forecast at 7½ per cent, just over two-thirds of the 1987 gain.

Tourism is forecast to continue the recovery commenced in 1987, but at a somewhat slower rate, while the export services are expected to grow strongly even though no specific allowance is made for new service exports from the Custom House Dock scheme during 1988.

In total, exports of goods and services are forecast to rise by 6½ per cent in volume and 8 per cent in value in 1988. As this is the principal source of economic expansion during the year, it is crucial for the Irish economy that export growth is achieved. If external factors prove seriously more unfavourable than assumed and exports accordingly fall substantially short of this projection, all other aspects of the forecast for 1988 in this *Commentary* would need to be adjusted downwards.

Stocks

Although the decline in farm stocks, and particularly in cattle numbers, has continued in 1987, it now seems probable that the rate of fall is very much less than in 1986. The increase in intervention and related stocks in 1987 seems likely to be about half of that in 1986, while in the absence of any short-term indicators a small increase in the rate of industrial stockbuilding is assumed in 1987.

For 1988, it seems possible that the prolonged decline in farm stocks, largely a response to the introduction of superlevy quotas, will come to an end, with increases in the number of sheep and beef cows offsetting a reduced decline in dairy cows. While 1988 could finally see an end to, or even a reversal of, intervention stockbuilding, it seems more prudent to forecast merely another approximate halving of the rate of stockbuilding. A further small increase in the rate of industrial stockbuilding is assumed for 1988 as average interest rates are likely to be lower and as industrial output continues to expand albeit at a lower pace.

As Table 3 shows, the net effect of these forecasts and assumptions is that total stockbuilding will make a marginal positive contribution to forecast GNP growth in each year.

Fixed Investment

The dichotomy forecast previously for 1987 in fixed investment appears to be coming about, with investment in building and construction falling sharply

TABLE 3: Stock Changes

	1986 £m	Change in Rate £m	1987 £m	Change in Rate £m	1988 £m
Farm Stocks	– 97	67	– 30	30	0
Irish Intervention Stocks[1]	110	– 55	55	– 30	25
Other Non-agricultural Stocks	80	20	100	20	120
Total	93	32	125	20	145

[1]Including subsidised private storage.

in volume terms while investment in plant and equipment is increasing quite rapidly. With new housebuilding, both private and, especially, public, declining substantially and only marginal gains in industrial and commercial building, total capital investment in building and construction seems likely to fall by over 6 per cent in volume in 1987. Conversely, imports of capital goods increased over 10 per cent in value in the first nine months of the year, with the volume increase thought to be slightly higher. Allowing for the fact that there was an upturn in the final quarter of 1986, so that the annual increase is likely to be less than in the first three quarters, and for the probability that the domestic supply of capital goods has not increased in line with imports, a 7 per cent rise in the volume of investment in machinery appears a reasonable forecast, as shown in Table 4.

In the light of the Estimates, it seems certain that there will be another sharp fall in building investment in 1988. A further reduction in public capital expenditure on housing is scheduled, together with severe cuts in capital spending on social infrastructure such as hospitals and schools and smaller declines in the volume of public capital spending on economic infrastructure such as roads. Lower interest rates could encourage some upturn in private investment in building, but the virtually static population total and poor job prospects are likely to severely limit any recovery in private house building, while new commercial building is likely to be restricted by the absence of real growth in private consumer expenditure in 1988. Even allowing for considerable privately financed construction work on the Custom House Dock site, it seems probable that the volume of total fixed capital formation in building and construction in 1988 will decline by about 6 per cent, roughly the same percentage as in 1987.

With industrial exports expected to remain reasonably buoyant, and with capacity constraints likely to become increasingly relevant, fixed investment in machinery and equipment is forecast to increase again in 1988, although at a slightly slower volume rate than in 1987. Because prices are likely to be somewhat higher, the growth in the value of machinery investment is forecast to be a little faster in 1988 than in 1987.

TABLE 4: Gross Fixed Capital Formation

	1986 £m	% Change Volume	% Change Value	1987 £m	% Change Volume	% Change Value	1988 £m
Building and Construction	1675	– 6¼	– 3½	1616	– 6	– 3	1568
Machinery and Equipment	1776	7	6	1881	6	7¼	2019
Total	3451	½	1¼	3497	½	2½	3587

Taking these contrary movements of building and machinery together, total fixed investment is forecast to rise by about ½ per cent in volume terms in both 1987 and 1988, while the value increase is forecast to be 1¼ per cent in 1987 and 2½ per cent in 1988.

Consumption

The retail sales index for the first six months of 1987 records a volume decline of 1.1 per cent. As in 1986 however, the non-retail elements of consumer expenditure, such as overseas holidays, are believed to have shown sufficient growth as to have offset the decline in retail trade. However, it is clear that total personal consumer expenditure will not show a substantial volume increase in 1987, and the forecast of ¾ per cent appears reasonable. When a price deflator of about 3 per cent is applied, this converts into a value increase of 3¾ per cent, a little less than the expected rise in personal disposable income.

Following the Estimates, it seems probable that employment will be significantly lower in 1988 than in 1987. With the increase in average incomes of those in work likely to be significantly less than in 1987, personal disposable income seems set to rise by only 2¾ per cent. Even allowing for a reversal of the 1987 rise in the personal savings ratio, this implies that the value of consumer expenditure will increase by no more than 3 per cent. With consumer prices likely to increase by about the same amount, stagnation in the volume of personal consumption seems probable in 1988.

Government consumption, or public authorities' net expenditure on current goods and services, is expected to fall by about 2 per cent in volume in 1987. Because the price deflator for such expenditure is so high , as a result of past public service pay increases, this volume fall is compatible with a rise of over 4 per cent in the value of such expenditure.

Due to the effective freeze on general public service pay increases in 1987, together with the rises due in 1988 under the Programme for National Recovery, the deflator for government consumption seems likely to be reduced to about 4 per cent. On the basis of the Estimates it seems probable that government consumption will decline by about 1 per cent in 1988 in value terms, implying a very severe cut of some 5 per cent in volume.

Final Demand

Due almost entirely to the surge in exports of goods and services, the volume of final demand is forecast to increase by 4½ per cent in 1987. The volume increase in domestic demand is expected to be less than ½ per cent. In current price terms, domestic demand is forecast to rise by 3½ per cent and final demand by 6¼ per cent.

The forecast composition of final demand in 1988 is even more extreme. Domestic demand, under the impact of the tight fiscal policy, is projected to decline by ¾ per cent in volume, and to rise by only 2¼ per cent in value. Exports of goods and services, although rising less rapidly than in 1987, should lift final demand to a growth of 2 per cent in volume and 4½ per cent in value. Because most of the predicted export growth will be concentrated in industrial exports, while the fall in domestic demand is accounted for by government

consumption, the 1988 composition of final demand is likely to be quite import intensive.

Imports

In the first nine months of 1987, visible imports increased by just over 5 per cent in value compared with the same period of 1986. Monthly import unit values suggest that average import prices in the period were 4¼ per cent lower than in 1986, implying an increase in the volume of imports of about 9½ per cent. For the year as a whole, the fall in import prices is likely to be less than the average for the first nine months, reaching perhaps 3 per cent. On this basis, a forecast 5¼ per cent increase in the value of visible imports in 1987 would represent a volume increase of about 8¼ per cent. The most notable feature of the composition of imports is that the fastest rise in import values is in producers' capital goods.

Allowing for a considerably greater negative adjustment for balance of payments purposes, because of a reduction in the distorting effect of cross-border retail trading, merchandise imports are forecast to increase by 4¾ per cent in value and 7¾ per cent in volume. Irish tourist expenditure abroad is believed to have risen substantially once more in 1987, while the Balance of Payments estimates for the first half of the year indicate a massive increase in imports of other services. Thus, as shown in Table 5, 1987 imports of goods and services are forecast to increase by 8 per cent in volume and 5¾ per cent in value.

TABLE 5: Imports of Goods and Services

	1986	% Change		1987	% Change		1988
	£m	Volume	Value	£m	Volume	Value	£m
Capital Goods	1192	10	9	1299	6	7	1390
Consumer Goods	2332	4	3	2402	2	4	2498
Intermediate Goods:							
Agriculture	432	– 2	– 7	402	– 5	– 5	382
Other	4648	9¾	6½	4953	5	6	5250
Other Goods	26			30			34
Total Visible	8630	8¼	5¼	9086	4	5¼	9554
Adjustments	– 14			– 62			– 74
Merchandise	8616	7¾	4¾	9024	3¾	5	9480
Tourism	497	5	8	537	2	5	563
Other Services	594	15	18	701	8	11	778
Imports of Goods and Services	9707	8	5¾	10262	4	5½	10821

Obviously, the level of imports in 1988 will depend largely on the pace of activity in the economy. Given the level and composition of final demand projected here, it seems likely that the volume of visible imports and of imports of goods and services would rise by about 4 per cent. Imports of capital goods and of inputs for industrial exports are expected to increase quite substantially, but imports of agricultural inputs should fall further, while stagnant consumer spending should limit the growth of consumer goods imports. With a modest rise in import prices seeming probable, the value of visible imports is projected to rise by 5¼ per cent and the value of imports of goods and services by 5½ per cent.

Balance of Payments

The forecasts of imports and exports already presented indicate a surplus on visible trade of £1,295 million in 1987 and a surplus on trade in goods and services of £1,180 million. These forecasts represent a very large improvement in the trade balance, amounting to £552 million in the case of trade in goods and services.

One counterpart of rapidly rising exports, especially when modern multinational firms account for most of the export growth, is a corresponding increase in profit expatriation. However, as will be shown in a forthcoming ESRI analysis of such flows, there tends to be a lag of about six months between a recorded rise in export values and the recorded outflow of profits and related income. Because of this lag, profit outflows in the calendar year of 1987 are unlikely to reflect fully the rise in export value during the year, and the outflows reported in the Balance of Payments estimates for the first half of the year were, as expected, close to 1986 levels. For the year as a whole, an increase of the order of 5 per cent seems a reasonable expectation.

With interest on the external national debt likely to increase by around 8 per cent and little change expected in the balance of other interest payments, the increase in net factor payments in 1987 is forecast at 6 per cent, to a total of £2,154 million.

If the level of net current transfers from abroad had remained unchanged, it is thus probable that the balance of payments on current account, as currently measured, would have moved into surplus in 1987. However, there will be a sharp fall in net transfers, due to the decision to delay payment of some EEC subsidies by three months this winter. Because of this, it seems likely that there will still be a small current account deficit in 1987, of the order of £50 million or ¼ per cent of GNP.

The import and export forecasts for 1988 indicate a further substantial increase in the surplus on the balance of trade. The visible trade surplus could rise to £1,600 million and the surplus on trade in goods and services to £1,550 million. However, the delayed impact of the 1987 export boom on profit outflows is likely to have a serious effect on net factor payments. Even assuming some slowdown in the rate of growth of interest payments on the external national debt, net factor payments seem likely to increase by over 11 per cent in 1988 to a total of about £2,400 million. On the assumption that Ireland will once more receive four quarters' transfers from the EEC in 1988, but that the quarterly average payment will be slightly reduced, net current transfers in 1988 could be about £1,025 million.

These projections show the total current account balance of payments moving to a substantial surplus of £176 million, or almost 1 per cent of GNP in 1988. Even if it transpires that some proportion of the unexplained residuals in the balance of payments are current rather than capital in nature, and are accordingly transferred onto the current account estimates, it still seems probable that the current account balance will be little more than 1 per cent of GNP in deficit in 1987 and will be marginally in surplus in 1988.

The more important capital elements of the residual have declined sharply in 1987, presumably indicating less speculative capital movements as the currency markets have stabilised. Provided this relative stability of European

exchange rates persists through 1988, and that Irish economic policies remain both restrictive and effective, there seems little reason to expect a recurrence of large-scale residual capital outflows in 1988.

Output

The projected increase of 2½ per cent in the volume of Gross Domestic Product in 1987 reflects a significant recovery in agricultural output and a substantial growth in industrial output, offset by virtual stagnation in the output of services. The lower GDP growth of 1 per cent forecast for 1988 rests on a continued, but slower, increase in industrial output and little or no growth in the agricultural and service sectors.

Agriculture

After two exceptionally bad years, the weather in 1987 has been rather better than the long-term average. Largely in consequence of this, agricultural output has recovered quite sharply, although the increase in production has been limited by the existence of milk quotas, the reduced size of the breeding herd and the relatively low acreage planted with crops this season. Thus despite excellent grass growth and high yields of most crops, gross agricultural output would appear to have risen by about 3½ per cent, little more than the fall suffered in 1986.

However, due to the good grazing and increased fodder production, this rise in gross output was achieved in conjunction with a significant fall in the volume of inputs. Thus the rise in gross agricultural product, the equivalent of value added in agriculture, would seem to have been in the region of 7 per cent in volume terms. With the production of the fishing industry also increasing substantially, judging by the value of fish exported in the first nine months of the year, the contribution of agriculture, forestry and fishing to the growth of GDP in 1987 is about ½ per cent.

On the assumption of normal weather conditions in 1988, it is probable that gross agricultural output will decline, possibly by as much as 3 per cent. Milk production will need to be severely reduced in the first quarter of 1988 if superlevy payments are to be avoided, and the requirements of the next levy period will prevent this shortfall compared with 1987 from being recouped later in the year. Cattle production is likely to be a little lower than in 1987, due to falling cow numbers in recent years, while the assumption of normal weather implies slightly reduced yields for most crops.

The lower output itself, allied to a good carry over of fodder from 1987, suggests that there will be a further substantial fall in the volume of farm inputs. Thus the volume of gross agricultural product is likely to show a much smaller decline, probably less than 1 per cent. Allowing for some increase in the output of fish, the contribution of the agricultural sector as a whole to GDP growth in 1988 seems likely to be marginally positive.

Industry

The index of industrial production shows that the value of manufacturing output in the first seven months of 1987 was 8¼ per cent higher than in the same period of 1986, with the annual increase being particularly high in the

summer months. For 1987 as a whole, an increase of at least 8 per cent in manufacturing output seems likely, largely reflecting the boom in industrial exports. With the extractive industries and utilities exhibiting a somewhat lower rate of growth, the increase in the volume of production of all industries in 1987 is forecast at 7 per cent.

Offsetting this expansion in industrial production has been a heavy decline in the volume of output of the building industry. When allowance is made for the consumer element of building output, which was relatively buoyant in 1987 because of grants for house repairs and maintenance, the fall in total building output is believed to be of the order of 5 per cent. Taken in conjunction with the increase in industrial production, this implies that the contribution to GDP growth of the industrial sector as a whole will be over 1½ per cent.

The reduced rate of growth in industrial exports forecast for 1988, together with stagnation in domestic consumption, results in the projection of a considerably lower increase in industrial production in 1988, probably in the region of 4½ per cent for all industry. With the consumer element of building due to be seriously affected by the ending of domestic maintenance grants, total building output seems likely to decline by almost 8 per cent in 1988. Thus the contribution of the industrial sector to GDP growth in 1988 is forecast at a little over ¾ per cent.

Services

As in the case of investment expenditure, the output of the services sector has shown a marked dichotomy in 1987. Led by the recovery in tourism and the expansion in export services, the output of the private service sector would appear to have grown significantly compared with 1986. The output of public services, on the other hand, has declined under the impact of expenditure cuts. In the absence of any reliable short-term indicators for total service output, it seems reasonable to forecast that the annual rise in 1987 will be about 1 per cent, contributing almost ½ per cent to total GDP growth.

It is certain that the volume of public service output will fall sharply in 1988 as the cuts indicated in the Estimates are implemented. Large segments of the private service sector will show little change in output, in view of the forecast stagnation in consumer spending. However the export services, including tourism, are forecast to grow quite strongly, although at a somewhat slower rate than in 1987. In total it seems likely that total service output will increase only marginally, if at all, in 1988 and thus make very little contribution to the growth of GDP.

Employment

On the basis of the trends in production, employment in manufacturing industry can be expected to show a modest increase in the course of 1987. Indeed, the provisional estimate of manufacturing employment in March 1987 indicates a marginal increase in the seasonally corrected level compared with December 1986. Given the relatively flat level of manufacturing employment throughout 1986, a quite small rise in the course of 1987 would result in the annual average being slightly higher than in the preceding year, for the first time since 1980. With the other industrial sectors rather less buoyant, an

unchanged annual level of employment in 'all industries' seems likely.

Building employment, which fell sharply in 1986, has continued to decline in 1987. Thus average employment in the industrial sector, including building, seems likely to fall by some 4,000 in 1987.

Service employment has already been seriously affected by the cuts in public expenditure. Although detailed statistics are lacking, it seems almost certain that the falls in public employment in 1987 have been sufficient to more than offset any buoyancy in private service sectors such as tourism. An annual average reduction of 3,000 in total service employment in 1987 appears a reasonable forecast.

Allowing for a continuation of the secular decline in the numbers engaged in agriculture, a fall of 12,000, or rather more than 1 per cent, is projected for the total at work in 1987. This is much the same magnitude as the fall estimated to have taken place in the previous year.

The growth forecast in industrial production in 1988 should be sufficient to induce a further small rise in manufacturing employment, offset once more by a fall in building employment. The cuts in public service employment are expected to be even sharper than in 1987, on the basis of the Estimates, while only a modest offsetting increase in private service employment seems likely, given the projected stagnation of the economy. In total, another fall of over 1 per cent in the number at work is forecast for 1988.

Changes in the size of the labour force have become almost impossible to predict on a short-term basis, given the apparent volatility in the rate of net emigration. With the rate of decline in the total at work appearing reasonably steady, it seems probable that significant changes in the seasonally-corrected

TABLE 6: Employment and Unemployment

A: Mid-April Estimates '000

	1985	1986	1987	1988	1989
Agriculture	171	168	163	159	155
Industry	306	301	294	291	290
Services	602	606	603	596	593
Total at Work	1079	1075	1060	1046	1038
Unemployed	226	227	245	250	254
Labour Force	1305	1302	1305	1296	1292
Unemployment Rate %	17.3	17.4	18.8	19.3	19.7
Live Register	228	232	250	253	257

B: Annual Averages '000

	1985	1986	1987	1988
Agriculture	170	166	161	157
Industry	304	298	294	291
Services	604	604	601	594
Total at work	1078	1068	1056	1042
Unemployed	226	232	244	252
Labour Force	1304	1300	1300	1294
Unemployment Rate %	17.3	17.8	18.8	19.5
Live Register	231	236	248	255

level of the Live Register mainly reflect variations in the net migration flows. On this basis it would appear that there was a temporary reduction in net emigration in the winter of 1986/87, leading to a small increase in the total labour force between April 1986 and April 1987. On the assumption that net emigration has since resumed its previous rate of almost 30,000 per year, the average labour force in 1987 seems likely to be approximately the same as in 1986, with a decline of about 6,000 projected for the 1988 annual average.

As shown in Table 6, the employment forecasts and labour force assumptions indicate that the average rate of unemployment, on a labour force basis, has risen by 1 per cent to 18.8 per cent in 1987 and will rise by over ½ per cent to 19.5 per cent in 1988. Such rates are compatible with Live Register averages of 248,000 in 1987 and 255,000 in 1988. Of course, if the emigration assumption for 1988 proves incorrect, then the actual average number on the Live Register could diverge substantially from this projection, even if the employment forecasts are completely accurate.

Incomes

The substantial recovery in the volume of gross agricultural product in 1987 has been accompanied by favourable price movements, with output prices increasing significantly while input prices continued to fall. As a result, income arising in the agricultural sector is forecast to rise by about 13 per cent in 1987. Such an increase would still leave agricultural incomes, in nominal terms, short of the 1984 peak, although they would be well above the 1985 level.

Although average weekly earnings in manufacturing industry were 6.2 per cent higher than a year previously according to provisional figures for March 1987, it seems likely that the annual average increase for 1987 as a whole will be lower than this, perhaps about 5½ per cent. Other private sector wages almost certainly rose more slowly than in manufacturing, so that the overall increase in private sector average earnings, including the commercial semi-state companies, is likely to be about 5 per cent.

Because of a high carryover from 1986 and the effect of special pay agreements for certain groups, average earnings in the public service will rise by approximately 6½ per cent in 1987. Thus aggregate wages, salaries and pensions, allowing for a fall of almost 1 per cent in the number of employees, are forecast to increase by about 4½ per cent in 1987.

Personal income from self employment and from interest, dividends and rent is projected to rise by about 5¼ per cent in 1987, while total current transfers to the personal sector are expected to increase by some 4¼ per cent. Thus gross personal income is forecast to rise by 5¼ per cent in 1987, an upward revision on earlier forecasts due to the additional buoyancy in agricultural incomes.

With direct personal taxation, including PRSI contributions, set to increase by 9½ per cent, personal disposable income is forecast to grow by 4 per cent in 1987. The sluggishness of the retail sales index in the first half of the year suggests that personal consumption is likely to rise by a slightly lower percentage, implying a small rise in the personal savings ratio. Given the composition of the rise in incomes, with farm income rising by much more than the average and the higher spending categories of wages and transfer incomes by less, this appears to be an unsurprising outcome.

TABLE 7: Personal Disposable Income

	1986	Change		1987	Change		1988
	£m	%	£m	£m	%	£m	£m
Agriculture etc.	1310	13	170	1480	½	7	1487
Non-Agricultural Wages, etc.	9845	4½	445	10290	3	320	10610
Other Non-Agricultural Income	1983	5¼	104	2087	4	83	2170
Total Income Received	13138	5½	719	13857	3	410	14267
Current Transfers	3404	4¼	144	3548	2¾	94	3642
Gross Personal Income	16542	5¼	863	17405	3	504	17909
Direct Personal Taxes	3651	9½	349	4000	3½	140	4140
Personal Disposable Income	12891	4	514	13405	2¾	364	13769
Consumption	10552	3¾	398	10950	3	330	11280
Personal Savings	2339	5	116	2455	1½	34	2489
Savings Ratio	18.1			18.3			18.1

Turning to 1988, Table 7 shows only a marginal rise in agricultural income, as the volume of gross agricultural product is likely to decline slightly while the favourable movement in relative output and input prices is likely to be much reduced. Average private sector earnings are forecast to increase by about 4 per cent, on the basis of agreements already reached and on the assumption that some later agreements might be influenced by the terms of the Programme for National Recovery. Even in the public service, average earnings are likely to rise by over 4 per cent, when account is taken of the later phases of special increases. With another fall of about 1 per cent likely in the number of non-agricultural employees, total wages and salaries thus are forecast to rise by just over 3 per cent in 1988. In view of the projected decline in average domestic interest rates and the general lack of growth in the economy, other non-agricultural incomes are forecast to rise by only 4 per cent in 1988, giving an increase in total income received of about 3 per cent.

The level of current transfers is largely dependent on budget decisions yet to be made. The assumption made here is that although benefit rates will be indexed in line with commitments made in the Programme for National Recovery, there will be several cost-saving adjustments to eligibility and payment rules. Thus total transfer payments are forecast to increase by slightly less than the rate of inflation, despite the projected rise in unemployment.

It is also assumed that PAYE income tax will effectively be indexed in 1988, but that the average rate of some other direct taxes, including PRSI contributions, will be slightly increased. On this basis, direct personal taxation could rise by about 3½ per cent, converting an increase of 3 per cent in gross personal income into a growth of just over 2¾ per cent in the value of personal disposable income. With the pattern of income increases likely to be less conducive to saving than in 1987, it is projected that the personal savings ratio will fall back to roughly its 1986 level. This would allow the value of personal consumer expenditure to increase by approximately 3 per cent, roughly in line with the rate of inflation.

Consumer Prices

The rise of ½ per cent in the consumer price index between May and August was a little higher than expected, and left the August index 3.2 per cent

above its August 1986 level. It remains likely that there will be only a small further rise between August and November, perhaps of the order of ¼ per cent. Such an outcome would result in a November increase of just over, and an annual average increase of just under, 3.2 per cent. This would be compatible with a consumer expenditure deflator, in National Accounts terms, of just under 3 per cent.

In 1988, the upward trend in import prices, although quite slow, will contrast with the falling import prices experienced in the past two years. Offsetting this, however, will be the absence of food subsidy removal, which raised the index at the beginning of 1987, and a lack of upward pressure from retail interest rates, as occurred in the first half of 1987. On the assumption, to be discussed later, that there will be much less than a full indexation of specific indirect tax rates, it seems likely that the average quarterly increase in the consumer price index will be close to ¾ per cent. Such a rate of increase would lead to prices in November 1988 being about 3.2 per cent higher than in November 1987 and the annual average of the index in 1988 rising by about 2.9 per cent.

Public Finances

On the evidence of revenue and expenditure returns for the first three quarters, it seems probable that the overall budget target for 1987 will be met, with both revenue and current expenditure being slightly below the budgeted levels. With capital expenditure unlikely to exceed budget, the borrowing requirement seems likely to be as estimated, so long as the temporary need to finance EEC subsidies which have been delayed until next year is not included in the calculations. In National Accounts terms, and taking into account the net current expenditure of local authorities and similar bodies, it appears likely that public authorities' net dissaving will decline from about 9 per cent of GNP in 1986 to 8.3 per cent in 1987, or to 7.5 per cent if the temporary financing of EEC subsidies is disregarded.

Even with the publication of the Estimates, the shape of the 1988 public finances is still far from clear. This is not only because of the inevitable uncertainty as to what revenue provisions will be made in the 1988 Budget. It is also because of a lack of clarity concerning the total cost and method of financing of the projected reduction in public service employment.

In private sector corporate accounting, it is common practice for the redundancy and related costs of any rationalisation programme to be separated from revenue and expenditure flows, and shown as an extraordinary item. No such mechanism appears to be available within the conventions of government accounting, or for that matter, in a National Accounts framework. Thus, part of the cost of reducing public employment seems to be included in the Estimates in the form of additional pension provisions, but no allowance has been made for redundancy payments or other severance costs. It may well be genuinely unknown at this stage just how great such costs may be, as the composition of total job losses, between natural wastage, early retirement, voluntary redundancy of permanent staff and the non-recompensed disengagement of temporary staff, will only emerge over time.

It seems very probable that some of the unofficial estimates of the cost in

1988 of the redundancy package on offer to permanent public service employees are too high. A reasonable guess, and it can be no more than a guess at present, is that the total direct cost of redundancy and early retirement in 1988 will be some £40 million or so, over and above the pension provisions already included in the Estimates. Assuming this to be correct, adjusting pay levels for the general increase included in the National Programme, and assuming that the cost of indexing social welfare benefits and allowances will be balanced by a tightening of some eligibility rules, raising PRSI contribution ceilings and other changes to be announced in the Budget, total net current supply service expenditure in 1988 could amount to £5,900 million, a decrease of 1¼ per cent on the likely 1987 outturn.

Central fund expenditure will mainly be determined by the level of interest payments on the national debt. Given the projected trends in interest and exchange rates, together with a reduced level of new borrowing, national debt interest could be expected to rise by about 6 per cent in 1988, with the increase in total central fund expenditure perhaps marginally higher. On this basis, current exchequer spending in 1988 would total about £8,500 million, an increase of just over 1 per cent on 1987.

With inflation low, the economy stagnant, and a political imperative not to raise most major tax rates, it would be idle to anticipate rapid revenue growth in 1988. Conversely, given the requirement to reduce the budget deficit and the borrowing requirement, it would be unrealistic to expect any lowering of effective tax rates. In the circumstances, it is reasonable to predict an increase of about 4 per cent in direct tax revenue. Within this total increase, there is likely to be some shift in composition away from PAYE income tax and DIRT receipts towards taxation on the income of the self employed and on corporate profits.

Although the political commitment not to raise tax rates is less strong with relation to indirect taxes then to PAYE income tax, economic realities and the looming possibility of the completed market under the Single European Act provide compelling arguments against raising VAT rates or most rates of Excise duty. Assuming therefore no change in VAT and only a marginal increase in a few specific excise duties, indirect tax revenue seems likely to rise by about 3¼ per cent, little faster than the forecast increase of 3 per cent in the value of personal consumption.

Net trading and investment income appears due to fall substantially, with the ending of the levy on Telecom Eireann, little prospect of any significant recovery in receipts from An Bord Gais, and a reduction in interest received on advances. Even allowing for the possibility of a special payment from Central Bank resources, a fall of some 6 per cent in the value of non-tax revenue seems likely.

These projections would leave total current revenue at £7,380 million, thus implying a current budget deficit in 1988 of £1,120 million, or some 6¼ per cent of GNP. In National Accounts terms, net dissaving of the public authorities could amount to about £1,150 million or 6½ per cent of GNP. The Estimates indicate a sharp reduction in government capital expenditure, especially in the area of social infrastructure where the lack of population growth makes feasible the cuts in capital spending which are necessary on

financial grounds. In total, a fall of £250 million or 15 per cent is scheduled for the Public Capital Programme. An even greater reduction, of £280 million or over 40 per cent, is projected in exchequer borrowing for capital purposes.

Thus, on present indications, an exchequer borrowing requirement in 1988 in the neighbourhood of £1,500 million, or roughly 8½ per cent of GNP appears probable. This is significantly lower than the assumption made in the July *Commentary*. Moreover, it should be remembered that this total includes a significant element of short-term severance costs that would be treated as an exceptional item in corporate accounting. If these projections are realised it will represent a major move towards the stated target of stabilising the National Debt as a proportion of GNP. Nevertheless, even allowing for the carryover effects into later years of the expenditure cuts implemented in 1987 and 1988, additional cuts will still be needed in future years before the target is reached.

Interest Rates

The evolution of Irish interest rates in 1987 and their possible movements in 1988 were discussed in considerable detail in the July *Commentary*. The main conclusion was that the dramatic fall in domestic interest rates seen between February and July would not be reversed, and that there was a possibility that there could be a slight further decline in the course of 1988. Specifically, it was argued that there was a reasonable chance of Irish interest rates gradually moving below UK rates as it became apparent that the Irish exchange rate within the EMS was secure and that Ireland possessed a significantly lower rate of inflation than the UK.

These conclusions would appear to remain valid, especially as the danger of European interest rates rising significantly has receded in the wake of the equity shakeout. Despite their immediate reduction in response to the Wall Street share price collapse, American interest rates could well edge up again in the short-run in an attempt to control the depreciation of the dollar or to stabilise it at a new level. However, it now seems most unlikely that European rates in general, and German and British rates in particular, will follow any upward move in US rates.

In the longer run, provided effective action is taken in the US to ameliorate the budget and external imbalances, which is the underlying assumption of this *Commentary,* then US rates seem likely to hold their present levels or even to decline, while average interest rates in other markets should be lower in 1988 than in 1987. Obviously a downward drift in overseas interest rates would reinforce the likely decline in Irish rates, although it should be stressed that the decline in 1988 is unlikely to be dramatic.

A Possible Recession

This *Commentary* has been based on the reasonable assumption that appropriate economic policies will be followed in the major countries over the coming months. However, the possibility must be considered that the authorities in the USA and elsewhere will fail to make the necessary decisions in the wake of the equity shock. If that were to happen, then the world economy could enter a pronounced recession in 1988, with output, trade and fixed investment all declining in volume.

Such a development would obviously leave the Irish economy very exposed, and the forecast stagnation in real GNP would be replaced with a substantial fall. The growth in the volume of exports would be considerably slower than forecast here, and would no longer be large enough to compensate for the policy-induced reduction in domestic demand. Industrial fixed investment would, at the same time, become insufficient to outweigh the fall in the volume of the public capital programme, so that the decline in domestic demand would itself be sharper than forecast. In consequence, the fall in employment would be steeper than projected, and the average earnings of those remaining employed in the private sector would probably rise more slowly.

Paradoxically falling GNP might remain accompanied by improvements in the currrent account balance of payments and in the current budget deficit of the same order of magnitude as forecast. One, almost inevitable, consequence of a major world recession would be a substantial fall in world interest rates. The effect of this on net factor outflows, allied to the import-intensive nature of the sectors most likely to be damaged by a recession, could offset most, if not all, of the likely reduction in export growth. Similarly, a reduction in the cost of servicing the existing National Debt could compensate for a considerable short-fall in revenue due to the recession, especially as much of the decline in projected output would be concentrated in relatively low-tax sectors of the economy. Only if the international recession significantly reduced the prospects for emigration, so that the decline in employment was reflected in a large rise in the numbers seeking unemployment benefit or assistance, would the budgetary balance be drastically affected. If there were to be a large rise in unemployment, together with a fall in private sector real incomes, then there would be a strong case for re-negotiating some aspects of the public service pay agreement.

The implication of this 'worst-case' analysis is that the authorities in Ireland should be slow and cautious in making any policy response to a developing world recession, if such were to emerge. Although the temptation to take some counter cyclical measures to offset rising unemployment and falling real incomes would be strong, to yield to it could be dangerous. The mere existence of the recession would itself be evidence that the authorities in other countries had not taken appropriate counter cyclical action themselves. Recent history has demonstrated that for policy in one country, especially a small one with an open economy, to get seriously out of line with those of its larger neighbours is to store up serious difficulties for the future.

General Assessment

It has been accepted for a long time that the correction of the public finances could not be achieved without severe limitation on the size of the public service pay bill. It is apparent from the Programme for National Recovery that the government and trade unions together have now made the decision that this necessary limitation should be obtained through a reduction in the numbers employed, rather than through stringency with regard to pay levels. The agreed general pay increases of approximately 2½ per cent a year may appear very moderate in the context of a three year agreement during which price inflation seems likely to average about 3 per cent. However, account must also

be taken of scale-drift, along with the decision to adhere to the phasing of existing special agreements for such groups as teachers and principal officers, and the opportunity for other groups to seek comparable special increases from 1989. When these are included it is clear that average earnings for those remaining at work in the public service will increase by at least 4½ per cent in each of the years covered by the Programme, although there will be considerable divergence around this average.

Nevertheless, the Programme does possess the advantage of placing a ceiling on possible public pay increases for three years and of making relative industrial peace in the sector likely for the same period.

Moreover, it is clear from the Estimates that the government is prepared to impose cuts in numbers sufficient to contain the rise in the total pay bill, even including short-term severence costs, to a rate well below the likely increase in revenue. This is the central and inescapable condition for achieving a lasting reduction in the current budget deficit.

In its overall budget strategy, the government is taking a risk that in attempting to reduce the borrowing requirement rapidly it could push the Irish economy into a yet deeper recession. This undoubtedly is preferable to taking the opposite risk of taking so gradual an approach that no progress is perceived and a lack of confidence in economic management is reflected in rising domestic interest rates and a reluctance to invest in Ireland.

If the forecasts contained in this *Commentary* are correct, there will be neither growth nor a significant decline in real GNP in 1988. In macro-economic terms, a year of economic stagnation would appear to be a reasonable price to pay for a substantial change in the structure of the economy, which should leave it much better placed to resume sustainable expansion in future years. While the public finances will by no means have been fully corrected by the end of 1988, sufficient progress should have been made for the completion of the task to seem feasible. While the distribution of the sacrifices to be made in 1988 is a matter for legitimate disagreement, the aggregate level of retrenchment would seem at present to be of the appropriate order of magnitude.

The danger of a world recession, resulting in a significant decline in Irish GNP and an accelerating fall in employment, cannot be entirely discounted. However in the more probable event of a mere slowdown in world economic growth, 1988 should see considerable progress towards correcting the chronic imbalance in the public finances at the cost of a year of stagnation and a further substantial fall in total employment. Provided that at the same time the foundations of future growth are strengthened, through improvements in economic organisation, better quality control of export products and services, and selected investment in both economic infrastructure and productive capacity, 1988 could come to be seen as the year in which the conditions for long-term recovery were created.

MAKING ECONOMIC TIME-SERIES AVAILABLE TO USERS OF MICRO-COMPUTERS IN IRELAND

by
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1. Introduction

The major raw material used by economists who engage in applied research or analysis is the vast range of economic time-series which are published by many different bodies in all developed countries. The very range of sources and definitions gives rise to many problems before any consideration is given to matters of economic theory. "Datagrubbing" has traditionally taken a major part of the time devoted to any individual research project. With many economists engaging in overlapping areas of research and analysis there has been considerable duplication of effort in the past in developing suitable sets of data. Even if the producers of the raw material, economic time-series, do not see it as their duty to produce consistent data in suitable machine readable formats (can be read by a computer directly without retyping) covering a reasonable span of years, there is clearly an advantage to economists in co-operating in this onerous task.

This article examines the range of economic time-series which are available in computer databases or databanks in Ireland and considers how best these data can be made available to users of micro-computers. Section 2 of the paper sets out the background to the development of these databases and Section 3 describes their current scope and contents. Section 4 discusses the future development of databases. Section 5 examines some technical considerations on how best to access these data and Section 6 presents proposals as to how these data, currently only available on one mainframe computer, could best be made available to users of micro-computers in Ireland.

2. Background

The single biggest impetus to the creation of computer databases in Ireland came from the growing demands of macro-economic modellers for data in the late 1970s. The Central Bank and the Department of Finance led the way and by 1980 they had developed a very substantial database of annual time-series for Ireland. Because of the economies of scale in such work the task of developing and maintaining the database was undertaken on a co-operative basis by these two institutions. In the more recent past the ESRI has taken over from the Central Bank in helping to maintain this database, generally referred to as the Department of Finance/ESRI Databank. Partly to facilitate this work

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the Central Bank, the Department of Finance and the ESRI agreed in the mid-1970s to share a common computer and common software. The notation and structure of the databank itself grew with the needs of the modellers using the data.

Because this database developed at a time when communications between computers were relatively underdeveloped, it was necessary to centralise it in one computer centre (the Civil Service Computer Centre, CCS) which could provide simultaneous interactive (instantaneous) access to all the users. In the late 1970s, this database was made available to all users of the CCS computer. This included the bulk of economists and analysts working in the State sector: the ESRI, the Department of Agriculture, the Department of the Environment and the Central Bank. However, this body of data was not readily accessible to researchers elsewhere, in particular those in the Universities and the private sector. The Central Bank, from the mid-1970s, has produced a folder of Irish economic statistics which contains quarterly and monthly data on a seasonally adjusted basis. The Department of Finance has produced a number of issues of a printed version of a subset of the data available in its databank (see Hurley and McQuaid,1986; and FitzGerald, Keegan, McQuaid, and Murphy, 1983). However, this was of limited use to researchers and other analysts whose primary requirement was for data in a machine readable format. The Department of Finance and the ESRI have attempted to overcome this problem by making available, on an *ad hoc* basis, tapes of part of the database to researchers in the universities. However, problems of compatability between different computers and computer programmes made this difficult. It also proved expensive because the access procedure was handled on a once-off basis with each request being separately processed.

The Department of Finance database itself has expanded steadily, with the ESRI and the Central Bank contributing additional data to it. The impetus for the development of this database has come from the research needs of these organisations. The latest version has undergone a major overhaul in the ESRI to meet the needs of the Medium Term Model.

A further milestone occurred just over a year ago when the Irish CSO made available on the CCS computer a database, named EOLAS, containing some of their most frequently used published data. This new database is being constantly expanded by the CSO. Access to this new database was given to all users of the CCS computer on a pilot basis. More recently, the CSO have made available a sample diskette containing key series from this database and some of these data are even available on one Dublin computer bulletin board (a computer which can be contacted by other suitably equipped computers using the dial-up telephone system). Together the Department of Finance/ESRI databank and the CSO databank (EOLAS) cover the bulk of the data for Ireland which are used regularly in economic research and analysis.

The interest of those engaged in economic research in Ireland is not confined to data on the Irish economy. Those involved in forecasting obviously have a need for current data on developments in the outside world. Those working in many other areas have a need for time-series data for other countries as an input into work on the Irish economy or as an essential

ingredient of work on other economies. Work on the provision of such databases for other countries has proceeded much further than in Ireland. However, these databases, such as those maintained by the OECD (Organisation for Economic Cooperation and Development), the EUROSTAT (Statistical Office of the European Communities), and the UK CSO, are still not very accessible to Irish economists and, possibly more important, direct access may be very expensive. With this need in mind the Department of Finance first mounted five years ago a substantial body of the data produced by the OECD. The range of data was further expanded last year when the organisation of this database was revised (Costigan, FitzGerald, McQuaid and Redmond, 1986). It currently contains approximately 40,000 series which are available interactively and a further 100,000 which are available on tape. These data cover the bulk of the OECD's statistical publications.

3. Description of Databases Available

The databases currently available fall into three separate categories:

(i) Data for Ireland maintained in the CSO Databank.
(ii) Data for Ireland maintained in the Department of Finance/ESRI Databank.
(iii) Data available from the OECD. Many of these series are made available on the CCS computer and additional data are available on tape.

These three databases are considered in turn.

(i) *The CSO Databank (EOLAS)* for Ireland at present contains approximately 90 data files, which in turn contain about 8,000 time-series and 3,500 cross-sectional variables. It covers the main areas of statistics published by the CSO. The areas that are at least partially covered at the moment are:

— Census of Population
— Labour Force Survey
— Labour Costs Survey
— Household Budget Survey
— Unemployment
— Quarterly Industrial Employment, Earnings and Hours Worked
— Monthly Industrial Production and Turnover
— Census of Industrial Production
— Quarterly Consumer Prices
— Monthly Wholesale Prices
— Monthly Agricultural Prices
— Monthly Retail Sales
— Building and Construction
— Monthly Trade, Transport and Tourism
— National Accounts
— Balance of Payments
— Quarterly Births, Marriages and Deaths
— Life Expectancy Tables
— Census of Agriculture
— Agricultural Data

This database is fully documented and the documentation is accessible while using the computer (on-line). It is updated on a regular basis; the majority of the short-term series are updated within 1 hour of release. The CSO will shortly market a set of 8 diskettes (floppy disks) containing a fairly comprehensive range of time-series for a number of these subject areas.

In using these data, experience suggests that the CSO has maintained its normal high standard of accuracy in transferring the data from its internal files to the computer database. However, these data suffer from all the problems which affect the CSO data published in more traditional format. There are discontinuities in some of the series. Most of these are documented in a computer file. Certain key series cover relatively short periods and in certain key areas there has been little attempt to link them to provide continuous time series over a reasonable span of years. For example, the National Accounts data begin in 1970 though data are available in different printed formats going back to 1947. Similarly the monthly trade data begin in 1972 and revisions which have been made to the annual totals have not been included in the monthly figures. As a result the monthly series do not sum to the correct annual figures. There are also discontinuities in these trade data due to problems with changes in classification. All of these problems are not related to the way EOLAS is maintained. They are carried through from the traditional format CSO publications.

These caveats should not detract from the major development which the CSO Databank represents. As time passes the problem of the short time horizon of many series will be reduced by the addition of new data. The availability of the databank will facilitate the CSO in its own work. However, unless the CSO has the resources and is willing to devote them to providing linked series in certain key areas, these data will continue to pose problems for users. While making the job of users easier, the ready access to data in machine readable form will not eliminate the need to examine these data carefully before using them.

(ii) The Department of Finance/ESRI Databank for Ireland grew out of the needs of macro-economic modellers. The range of data available reflects this interest. They are almost all annual time-series and are presented in a National Accounts framework. The complete contents of National Income and Expenditure Tables A.1 to A.22 and A.27 are available. These data have in all cases been carried back to at least 1960, and in many cases to 1958 or 1953. Where discontinuities exist they have been adjusted to produce consistent series by linking relevant sets of data. In the case of the disaggregated data on consumption, the data are maintained on both the old basis and the new basis used in the most recent publication. This ensures availability of consistent data. With the CSO's co-operation, this approach will be adopted in the case of any further changes in definition.

The databank also includes all the data for Ireland published, with a long lag, in the EEC National Accounts together with some additional data, especially for investment, which are published in UN and OECD National Accounts publications. (For example a breakdown of investment by the sector of the economy undertaking it.) These data are supplied to the relevant bodies by the CSO but not, as yet, published elsewhere in Ireland. They generally

become available in this database a number of months after the publication of National Income and Expenditure, a year to two years before they become available elsewhere. However, users should be aware that some of the more detailed disaggregations are considered by the CSO to be of a lesser reliability than the more aggregated data. The CSO has in fact reduced the level of disaggregation in the sectoral analyses of GDP pending development of more reliable sources.

In addition to the National Accounts data, there is a range of series covering certain categories of public expenditure, tax revenue and the national debt. All these series are designed to be consistent with the National Accounts and are not easily related to the data published in the Government's Estimates. The rates of indirect taxes and direct taxes are covered in very considerable detail. Other series which have been needed for economic research in the Department of Finance and the ESRI include a limited range of Labour Force data, obtained from the CSO, and some monetary data supplied by the Central Bank. However, the monetary data are particularly weak as a result of problems obtaining consistent data for long periods due to major definitional changes in the early 1980s.

Only a very limited range of data on a subannual basis is maintained in this databank. The range of cross-section data is also very restricted. The database includes the 1975 Input-Output Table for Ireland as published by the CSO, together with additional transformations undertaken by Murphy (1984) with the help of the CSO. Some income distribution data drawn from the Revenue Commissioners' Accounts are also included for isolated years.

Because of the very limited resources available, the data have not undergone as rigorous a checking process as have the CSO data. As a result the user should check the data before use and report any errors to those responsible. Experience indicates that the series derived directly from the National Accounts are extremely reliable. A range of different cross-checking procedures have been built into the generation process which ensures that the data conform exactly to the data published by the CSO. Errors occur most frequently in series which have been constructed from a range of sources. To facilitate users the procedure employed to generate the database is stored in the database and is available to all users.

The approach taken by those maintaining this large database is rather different from that of the CSO. The first priority is to maintain consistent series over a long period. In many cases this may involve merely rebasing series. However, the frequent minor changes in definition adopted by the CSO have necessitated much additional work. In all cases the CSO has provided extensive help in linking these series. In particular the National Accounts section of the CSO has provided much additional material to help in this exercise. However, this does not mean that the CSO would necessarily approve of the approach taken in each particular case.

This databank is continuously developing in line with the needs of researchers in the Department and the ESRI. By the end of the year a further body of data, compiled by M. Ross of the ESRI, on the total costs of public employment will be included in it. These series will begin in 1947/48 and will run up to 1985. It will also have benchmark figures for 1926/27 and 1938/39. As

a result, it will make available consistent and accurate time-series extending in many cases for 40 years. These data will cover wages, salaries, pensions, and other labour costs of Central Government and Local Authorities. Separate series will be available for each Department.

(iii) The Database of OECD data maintained by the Department of Finance is the single largest economic database in the country. The vast bulk of the data published by the OECD in traditional format is supplied to the Department of Finance on tape. These data normally arrive in the Department substantially before the date of publication of the document in book form. In the case of the more frequently used publications their complete contents are made available interactively in the database. In total these amount to over 40,000 annual, semi-annual, quarterly, and monthly series. They are updated regularly by the OECD. As the vast range of data is quite intimidating to first time users the best approach is to consult the traditional format publications to familiarise oneself with what is available. The range of data currently available interactively in CCS is as follows:

OECD Economic Outlook: Most of the data in this publication, together with historical series and forecasts up to one year ahead for a wide range of variables are available. Many of these data are not actually published in the Outlook. They include National Accounts aggregates for each OECD member country and groups of members, together with data on trade, employment, exchange rates, and interest rates.

OECD Main Economic Indicators: This publication covers a wide range of short-term indicators for member states. The data are predominantly monthly in periodicity. They include data on business surveys and cyclical indicators not published in the traditional format.

OECD Indicators of Industrial Activity: These data include indices of industrial output,output prices,and orders, broken down by detailed sector for each member state.

OECD Labour Force Data: The contents of the annual and quarterly publications covering population, labour force, employment, and unemployment.

OECD Capital Stock Series: A limited range of series is available for 12 countries, excluding Ireland.

The contents of the OECD National Accounts Volumes and Monthly Trade Series are available on tape. Because of the vast range of data on these tapes and the number of tapes involved, they have not been extensively used to date.

Full details of all of these sets of data are given in the appendices of the ESRI Technical Paper *Database Access Using TROLL on the CCS Computer* by Costigan, FitzGerald, McQuaid and Redmond, 1986.

4. Future Development of Databases

The range of data in computer databases available to economists using the CCS computer has expanded rapidly in recent years. However, there are a number of areas where economists would like to see further developments.The most obvious gap is the absence of a significant body of monetary data. The Central Bank collects a considerable volume of such data which it publishes in its monthly and quarterly publications. However, there is no sign of its making these data available to any outside user in a machine readable format.

In addition these data suffer from serious problems due to changes in definitions in the early 1980s. When the Central Bank eventually comes to make this database available it is to be hoped that it will make an effort to provide linked series going back before 1980. The Central Bank also currently receives the IMF Financial Statistics on tape each month. Until now, problems with software have prevented wider access to these very useful data.

The Department of the Environment is currently developing a sophisticated database of series on the building sector using TROLL on the CCS computer. If at some stage in the future it wished to make some of these data available to the wider public, the technical problems would clearly be the same as for the other databases discussed above.

Finally, the Department of Energy has a major EEC contract to develop a database of energy data. However, to date, this project has proceeded rather slowly. Its final form has not been decided. Whatever form it eventually takes, it is important that it takes into account the needs of potential users elsewhere in the public sector and in the wider academic community.

The CSO obviously has a key role in the provision of computer databases for economic analysts. Until recently it was rather slow to develop its own database and it has limited experience of the needs of users. Its approach has, so far, not been very satisfactory from the point of view of researchers due to the relatively low weight placed by the CSO in the past on the provision of consistent series over long time periods in certain key areas (e.g. the National Accounts). For other analysts who use shorter data series this may not pose too serious a problem. Its position and role may preclude the CSO from eventually superseding the work of the Department of Finance and the ESRI in developing and maintaining such a database of series for use in macro-economic research. However, the advances which it has made in the recent past, in spite of constrained resources, are very much to be welcomed, and it must be encouraged to play a central role in setting standards for the development of databases by other public bodies.

5. Technical Access Problems for Users of Micro-Computers

This section considers the format in which the data may be distributed to users who do not have access to the CCS computer. (The method of accessing these different databases on the CCS computer is dealt with in detail in the Technical Paper referred to above.)

At present it is relatively easy to transfer either a limited subset or all of the data in the database maintained by the Department of Finance and the ESRI to other users who use the TROLL computer package. However, the only other computer centre where TROLL is currently available is UCC. As an alternative, the TROLL computer package has been altered to facilitate the transfer of data to other programmes on an IBM mainframe (See Costigan *et al.* 1986). However, this procedure requires each user to have access to an industry standard tape drive and, even with such access, there may be problems in reading the data on non-IBM machines. The format in which the data are copied to tape will generally require further processing depending on the package into which they are to be read. This places substantial extra burdens on potential users.

These methods of sharing data with a wider public are being rendered increasingly obsolete with the development of micro-computers. The bulk of econometrics packages currently in use in Ireland will run on such micros and even such large mainframe packages as TROLL can be run on specially modified micros. In the longer term, the development of communications will allow direct transfer of such data over telephone lines using such facilities as EIRPAC. At present the problems in arranging such communications between widely differing types of computers are rather complex. Until such facilities are in widespread use there is a need to make the data from the different databases available on floppy disks which can be read by the family of IBM-compatible micro-computers. However, even given this latter constraint, there is a wide range of different formats which could be used. While there are some signs that a range of standard formats for data transfer between different programmes is developing in the area of spreadsheets, these may not be suitable for all potential users.

In the end the standard adopted by the CSO will probably set the pace for Irish users. The set of diskettes which, as indicated above, the CSO intends to market in the near future will be written in DIF format which is suitable for many spreadsheets. However, many of the other analysis packages used by economists cannot read data written in such a form directly. However, the CSO has invited comments from potential users on this matter and, depending on the reaction, it may be prepared to change or add to the range of formats in the future. The approach adopted by the OECD is to supply a special programme on the diskette which will translate the data into a range of different formats. In the longer term this may be the best solution to the problem for Irish suppliers of data.

While this issue may seem rather technical to many readers, if a suitable range of formats is not decided on now it will cause serious problems for all potential users. Much time could be spent translating data into a range of different formats. Most users of econometrics software do not enjoy delving into hexadecimal code and writing programmes to transform data!

6. Dissemination of the Databases to a Wider Audience

The CSO's decision to market its data in diskette form must be viewed with great interest. This service will, hopefully, expand over time and will be of major benefit to all those who currently use CSO data in a printed form.

The other two databases described above are currently maintained by the Department of Finance and the ESRI. The ESRI is currently considering how best to make available a subset of these data on floppy disk to outside users. With this in mind a questionnaire is included with the *Quarterly Economic Commentary* which potential users are invited to fill in. The scope and range of services to be provided will be determined by the potential demand. Obviously such a service will have to at least cover its costs through user charges. If there is sufficient potential demand it is likely that the service could come in two forms: either a wide range of data from the databases with limited additional analysis, or else a tailor-made package covering a user's specific interests with some additional analysis (e.g. seasonal adjustment, moving averages, etc.). The frequency of revision of the data would be determined by the user's needs.

With the advent of the CSO's diskette service and the potential development of the Department of Finance/ESRI Database the range of services available to Irish economic analysts will be considerably increased. It is to be hoped that other public bodies will follow suit and that retyping of data by a large number of users will become a thing of the past.

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STATISTICAL APPENDIX

		Output Indicators			Employment		Output per Head	
	1	2	3	4	5	6	7	8
	Manufacturing	Transportable Goods	Electricity Output	Cement Sales	Manufacturing	Transportable Goods	Manufacturing	Transportable Goods
	1980 = 100	1980 = 100	G.W.H.	000 Metric Tons	000's	000's	1980 = 100	1980 = 100
1981	102.7	101.6	10767	1812.5	222.5	234.2	105.0	103.7
1982	104.6	103.6	10792	1486.1	215.1	225.8	110.6	109.6
1983	112.6	111.1	11039	1382.4	202.4	212.5	126.5	125.0
1984	126.7	125.1	11424	1298.4	196.2	205.8	146.8	145.3
1985	130.1	126.8	11919	1233.2	188.9	197.6	156.6	153.3
1986	133.8	130.4	12466	1147.9	186.8	194.9	163.0	160.0
1987								
Quarterly Averages or Totals								
1984 I	120.2	117.1	3136	271.5	197.3	206.6	138.5	135.5
II	133.8	133.9	2672	366.3	196.6	207.4	154.7	154.3
III	117.9	118.5	2562	350.0	196.7	206.2	136.3	137.3
IV	135.1	130.9	3054	310.6	194.0	202.7	158.4	154.4
1985 I	132.2	128.1	3259	241.3	189.2	197.9	158.9	154.7
II	137.8	134.4	2818	350.4	188.3	198.0	166.4	162.3
III	119.4	117.1	2705	333.1	189.6	198.0	143.2	141.4
IV	141.7	127.8	3137	308.3	188.3	196.4	171.1	155.5
1986 I	132.5	127.6	3356	205.0	185.7	193.5	162.2	157.5
II	139.2	135.7	2996	319.1	186.6	195.7	169.5	165.7
III	124.7	123.0	2814	330.6	188.3	196.1	150.6	150.0
IV	138.8	135.2	3300	293.2	186.7	194.2	169.1	166.3
1987 I	136.6	131.3	3466	218.5	185.0	192.3	167.8	163.1
II	156.7	153.3	3015	323.8				
III				321.3				
IV								
Quarterly Averages or Totals Seasonally Corrected								
1984 I	120.1	118.3	2856	340.2	198.7	208.5	137.4	135.7
II	126.6	126.5	2811	328.7	197.4	207.2	145.8	145.9
III	126.2	124.5	2857	318.0	195.4	204.8	146.9	145.3
IV	133.8	130.4	2902	311.5	193.2	202.4	157.4	154.0
1985 I	132.0	129.4	2964	308.2	190.6	199.8	157.5	154.8
II	130.7	127.4	2959	314.3	189.0	197.8	157.3	153.9
III	128.1	123.5	3014	301.5	188.2	196.6	154.7	150.1
IV	130.2	127.0	2991	307.1	187.5	196.1	158.0	155.0
1986 I	132.3	129.0	3049	264.5	187.1	195.4	160.8	157.7
II	132.0	128.7	3141	285.9	187.3	195.4	160.2	157.3
III	133.8	129.7	3135	298.5	186.9	194.7	162.8	159.1
IV	137.5	134.3	3151	291.2	186.0	194.0	168.1	165.4
1987 I	135.7	131.9	3147	284.7	186.5	194.2	165.5	162.2
II	148.7	145.4	3160	289.7				
III				289.7				
IV								

Unemployment	Prices						
9	10	11	12	13	14	15	
Live Register Av. Monthly	Consumer Price Index	Agricultural Price Index	Import Unit Value	Export Unit Value	Terms of Trade	Price of Stocks + Shares	
000's	Nov. 1982 = 100	1980 = 100	1975 = 100	1975 = 100	1975 = 100	1975 = 100	
127.9	82.4	117.7	232.4	208.4	89.7	219.9	1981
148.2	96.5	127.5	249.4	231.5	92.8	179.9	1982
192.7	106.6	135.4	261.1	251.9	96.5	223.7	1983
214.2	115.8	139.4	286.5	273.0	95.3	296.1	1984
230.6	122.0	135.6	293.2	280.6	95.7	316.8	1985
236.4	126.7	135.2	260.5	260.0	99.8	489.8	1986
							1987
Quarterly Averages or Totals							
215.2	112.9	146.6	281.5	266.0	94.5	309.6	1984 I
210.8	115.5	150.0	283.7	269.8	95.1	314.9	II
212.6	116.9	135.6	294.3	276.6	94.0	280.7	III
218.1	117.7	134.4	297.9	283.3	95.1	279.1	IV
232.8	119.9	140.7	297.3	280.3	94.3	284.7	1985 I
226.5	121.5	140.2	300.6	288.0	95.8	289.4	II
231.8	123.3	133.1	298.0	289.9	97.3	333.3	III
231.2	123.5	134.3	289.7	282.7	97.6	359.8	IV
238.7	125.4	140.8	279.0	270.0	96.8	426.8	1986 I
231.8	126.9	139.1	266.0	268.4	100.9	508.5	II
235.1	127.1	131.4	266.7	267.5	100.3	509.5	III
240.0	127.4	134.5	267.5	265.0	99.1	514.6	IV
252.1	129.7	143.0	257.1	256.0	99.6	632.4	1987 I
247.9	130.5	143.3	259.2	258.1	99.6	706.2	II
246.4	131.2					799.8	III
							IV
Quarterly Averages or Totals Seasonally Corrected							
209.0	113.0	143.8	No	No	No	No	1984 I
212.9	115.2	146.1	Seasonal	Seasonal	Seasonal	Seasonal	II
215.1	116.7	138.0	Pattern	Pattern	Pattern	Pattern	III
219.7	118.2	138.2					IV
226.5	120.0	137.4					1985 I
228.7	121.2	136.3					II
234.2	123.1	136.7					III
233.0	124.1	137.8					IV
232.3	125.3	137.5					1986 I
234.0	126.6	135.2					II
237.5	126.8	135.1					III
241.9	128.1	138.1					IV
245.7	129.6	139.6					1987 I
250.2	130.2	139.3					II
248.6	130.9						III
							IV

	Money Earnings Weekly Averages		Real Earnings		Consumption Indicators		
	16	17	18	19	20	21	22
	Manufacturing	Transportable Goods	Manufacturing	Transportable Goods	New Cars Registered	Retail Sales Value	Retail Sales Volume
	1973 = 100	1973 = 100	1982 = 100	1982 = 100	Total	1980 = 100	1980 = 100
1981	373.8	372.6	108.2	107.8	104645	118.3	99.4
1982	419.1	419.8	103.6	103.6	72603	129.4	94.0
1983	468.3	469.2	104.8	104.9	61094	137.0	90.5
1984	523.8	525.1	107.9	108.0	55893	145.8	89.4
1985	563.0	563.5	110.1	110.0	59592	155.9	91.0
1986	601.7	611.4	113.3	114.9	58760	158.8	90.5
1987							
Quarterly Averages or Totals							
1984 I	502.3	503.0	106.1	106.1	19263	139.8	87.9
II	518.5	523.8	107.1	108.0	18443	143.9	88.6
III	528.2	528.1	107.8	107.6	11708	143.5	87.4
IV	546.0	545.6	110.7	110.4	6479	155.8	93.7
1985 I	541.8	542.0	107.8	107.7	19914	147.6	87.5
II	561.6	565.4	110.3	110.9	19200	153.2	89.8
III	566.8	566.3	109.7	109.2	13287	155.2	90.1
IV	581.6	580.3	112.4	111.9	7191	167.6	96.6
1986 I	578.5	585.4	110.0	111.2	19177	155.2	89.0
II	596.9	611.2	112.2	114.7	18202	154.5	88.3
III	608.1	619.8	114.2	116.1	14093	157.3	89.9
IV	623.3	629.2	116.7	117.7	7288	166.4	94.1
1987 I	621.4		114.3		17355	155.6	86.9
II					17263	159.1	88.3
III							
IV							
Quarterly Averages or Totals Seasonally Corrected							
1984 I	509.1	510.9	107.5	107.7	13538	141.6	89.0
II	517.0	518.5	107.1	107.2	15314	146.4	90.5
III	528.2	529.0	108.0	108.0	13401	145.4	88.5
IV	540.5	542.2	109.1	109.3	12909	147.9	88.9
1985 I	548.4	549.4	109.0	109.1	14299	149.8	88.8
II	560.6	560.2	110.4	110.1	15540	155.6	91.4
III	566.9	567.6	109.9	109.8	15146	157.5	91.4
IV	575.6	576.6	110.6	110.6	14407	158.9	91.5
1986 I	585.2	592.9	111.4	112.7	14034	156.8	90.4
II	596.2	602.1	112.4	113.3	14472	156.8	89.8
III	608.1	621.1	114.4	116.6	15967	159.6	91.1
IV	616.9	625.3	114.7	116.2	14686	159.3	90.0
1987 I	628.6		115.7		12834	158.4	88.5
II					13537	161.3	89.6
III							
IV							

Government			Monetary Developments				
23	24	25	26	27	28	29	
Current Revenue	Current Expenditure	Current Deficit	Money Supply M3	Licensed Banks Domestic Credit		External Reserves	
				Government	Non-Gov.		
£m	£m	£m	£m End Period	£m End Period	£m End Period	£m End Period	
3973	4796	823	n.a.	1277.4	n.a.	1473.1	1981
4908	5896	988	7291.9	1564.7	6655.1	1594.0	1982
5711	6671	960	7697.4	1775.6	7493.8	2014.8	1983
5952	6991	1039	8473.9	2247.9	8127.6	2101.2	1984
6331	7615	1284	8924.8	2514.1	8441.1	2271.9	1985
6709	8104	1395	8836.9	2725.7	9065.5	2205.3	1986
							1987
Quarterly Totals				Monthly Totals			
1290	1719	429	7697.4	1831.2	7512.5	2117.7	1984 I
1516	1684	169	7934.1	2142.4	7724.4	1952.0	II
1457	1714	257	8161.6	2223.0	7938.4	1875.0	III
1689	1873	184	8473.9	2247.9	8127.6	2101.1	IV
1325	1981	656	8438.9	2166.3	8151.0	2632.5	1985 I
1635	1792	157	8545.0	2319.1	8291.7	3124.8	II
1562	1837	276	8639.4	2421.6	8206.8	3009.6	III
1809	2004	195	8924.8	2514.1	8441.1	2271.9	IV
1416	2057	641	8567.5	2510.1	8730.6	2232.8	1986 I
1736	2051	315	8449.5	2354.6	8596.7	2296.5	II
1591	1845	254	8677.0	2277.8	8744.7	2116.4	III
1967	2152	185	8836.9	2725.7	9065.5	2205.3	IV
1476	2171	695	8838.5	2619.0	9201.8	2295.7	1987 I
1894	2115	221	9216.3	2556.7	9195.1	2477.8	II
1701	1904	203				2810.9	III
							IV
Quarterly Totals (S.C.)				Monthly Totals (S.C.)			
1448	1670	222	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	1984 I
1486	1680	194					II
1510	1813	303					III
1495	1833	338					IV
1512	1920	408					1985 I
1585	1786	201					II
1620	1960	340					III
1602	1950	348					IV
1628	1990	362					1986 I
1669	2044	375					II
1653	1975	322					III
1743	2077	334					IV
1703	2099	396					1987 I
1814	2108	294					II
1771	2042	271					III
							IV

	Visible Trade Indicators					Exchange Rates	
	30	31	32	33	34	35	36
	Imports (Value)	Exports (Value)	Trade Surplus (Value)	Imports (Volume)	Exports (Volume)	Effective Index	Sterling
	£m	£m	£m	1975 = 100	1975 = 100	Dec. 1971 = 100	Per IR£
1981	6578.4	4777.6	– 1800.8	166.0	158.3	67.75	0.8002
1982	6816.2	5691.4	– 1124.7	160.3	169.8	67.35	0.8125
1983	7366.8	6943.8	– 422.0	165.3	190.2	65.13	0.8222
1984	8912.2	8897.5	– 14.6	182.6	225.2	62.26	0.8134
1985	9428.2	9743.0	314.8	188.7	239.9	62.41	0.8234
1986	8629.7	9388.2	758.5	194.4	249.5	66.65	0.9147
1987							
Monthly Averages							
1984 I	744.5	654.4	– 90.1	186.3	203.8	62.58	0.7951
II	714.9	769.8	54.9	177.4	236.5	62.56	0.8097
III	710.5	722.7	12.2	170.0	216.6	61.86	0.8143
IV	801.3	819.0	17.7	189.3	239.7	62.04	0.8352
1985 I	820.0	800.4	- 19.6	194.4	236.6	61.95	0.8590
II	807.2	856.1	48.6	189.3	246.2	61.44	0.8075
III	740.9	795.3	54.4	175.0	227.5	62.15	0.7959
IV	775.4	796.0	20.9	188.6	233.3	64.11	0.8324
1986 I	732.4	762.5	29.7	185.0	234.6	66.60	0.8966
II	722.9	786.5	63.3	191.4	243.1	67.34	0.8976
III	666.9	753.3	86.4	176.1	233.6	66.44	0.9148
IV	754.2	827.0	71.8	198.6	258.8	66.22	0.9497
1987 I	738.8	773.6	34.6	202.4	250.6	66.76	0.9420
II	762.9	927.4	164.5	207.3	298.1	66.02	0.9024
III	731.7	882.3	150.7			65.56	0.8997
IV							
Monthly Averages. Seasonally Corrected.							
1984 I	709.6	684.3	– 25.3	176.8	211.1	No Seasonal Pattern	No Seasonal Pattern
II	705.5	733.1	27.6	174.4	225.5		
III	759.2	733.5	– 25.7	183.5	220.5		
IV	795.6	812.1	16.5	187.7	239.2		
1985 I	794.8	836.1	—41.3	187.4	244.6		
II	797.5	817.7	20.2	186.3	235.1		
III	779.8	810.2	30.4	186.2	232.6		
IV	768.4	782.3	13.9	186.3	231.3		
1986 I	711.4	800.7	89.3	179.1	243.3		
II	715.2	754.8	39.6	188.7	233.0		
III	700.1	763.2	63.1	186.4	237.6		
IV	748.1	810.8	62.7	196.8	256.0		
1987 I	716.9	813.2	96.3	195.2	260.8		
II	756.6	887.2	130.6	204.7	284.8		
III	771.6	891.5	119.9				
IV							

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