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# QUARTERLY ECONOMIC COMMENTARY

## AUTUMN 1995

*The forecasts in this Commentary are based on data available by end November 1995.*

T.J. BAKER and DELMA DUGGAN

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## SUMMARY

The 1995 *Labour Force Survey* showed that total employment had risen by 49,000 and unemployment had fallen by 26,000 in the year to last April. This both confirms the national accounts estimate that economic growth was very strong in 1994 and indicates that rapid economic growth does tend to reduce significantly the level of unemployment.

All available indicators suggest that economic growth has remained strong in 1995. In particular, both industrial production and exports have risen spectacularly, with the addition of new capacity in the high-technology sectors being complemented by substantial output increases in a broad range of industrial sectors. Building and construction activity has continued to expand strongly, and, although retail sales have been less vigorous than expected, personal consumption has nevertheless risen considerably. Real GDP is forecast to have increased by 7¼ per cent in 1995, and, assuming a sharp rise in profit outflows, real GNP is forecast to have risen by 6½ per cent.

Against a background of continued growth in the world and European economies, the Irish economy should again grow strongly in 1996, with real GDP increasing by 6 per cent and real GNP by 5 per cent. As in 1995, the expansion in demand is expected to be balanced, with both domestic demand and exports making substantial contributions to overall growth. This balanced growth should result in considerable increases in total employment in both years, with unemployment continuing to decline towards a projected rate of 11½ per cent in 1996. Consumer price inflation is expected to remain moderate, increasing by about 2½ per cent in 1995 and 2¼ per cent in 1996.

It is apparent from successive Labour Force Surveys that in recent years the Live Register has ceased to be a reliable indicator of unemployment levels or trends, as administrative changes in entitlement rules have increased the proportion of registrants who are either engaged in part-time work or do not consider themselves to be unemployed. The more consistent labour force estimates of unemployment indicate that the current consensus economic strategy has been reasonably successful in first containing and then reducing the level of total unemployment, although additional measures will be necessary to address the problem of long-term joblessness.

The special article included in this *Commentary* examines the forecasting record of *Commentaries* over the past eleven years. This exercise indicates that there has been no significant tendency towards either optimism or pessimism in our forecasts of real GNP and other key variables. There have, inevitably, been occasional errors in predicting the timing of cyclical turning points or the scale of growth in particular years, but these do not appear to have led to any seriously misleading analysis or inappropriate advice.

## FORECAST NATIONAL ACCOUNTS 1995

### A. Expenditure on Gross National Product

	1994 <sup>1</sup>	1995	Change in 1995				
	Preliminary	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure	19,438	20,565	1,127	661	5½	2¼	3½
Public Net Current Expenditure	5,575	5,982	407	206	7¼	3½	3¼
Gross Fixed Capital Formation	5,248	5,962	714	557	13½	2¼	10½
Exports of Goods and Services (X)	25,065	28,965	3,900	3,332	15½	2	13¼
Physical Changes in Stocks	-258	30	288	250			
Final Demand	55,068	61,504	6,436	5,006	11¼	2¼	9
less:							
Imports of Goods and Services (M)	20,320	23,360	3,040	2,476	15	2½	12¼
GDP at Market Prices	34,748	38,144	3,396	2,530	9¼	2¼	7¼
less:							
Net Factor Payments (F)	4,134	4,788	654	560	15¾	2	13½
GNP at Market Prices	30,614	33,356	2,742	1,970	9	2¼	6½

### B: Gross National Product by Origin

	1994 <sup>1</sup>	1995	Change in 1995	
	Preliminary	Forecast	£m	%
	£m	£m	£m	%
Agriculture, Forestry, Fishing	2,330	2,423	93	4
Non-Agricultural: Wages, etc.	16,772	17,736	964	5¾
Other:	10,455	11,983	1,528	14½
less:				
Adjustments	1,992	1,826	-166	-8¼
Net Factor Payments	4,134	4,788	752	15¾
National Income	23,431	25,538	2,097	9
Depreciation	3,272	3,501	229	7
GNP at Factor Cost	26,703	29,029	2,326	8¾
Taxes less Subsidies	3,911	4,327	416	10½
GNP at Market Prices	30,614	33,356	2,742	9

### C: Balance of Payments on Current Account

	1994 <sup>1</sup>	1995	Change in 1995
	Preliminary	Forecast	£m
	£m	£m	£m
X - M	4,745	5,605	860
F	-4,134	-4,788	-654
Net Transfers	1,435	1,721	286
Balance on Current Account	2,046	2,538	492
as % of GNP	6¼	7½	¾

<sup>1</sup> Adjusted for Balance of Payments Revisions.

## FORECAST NATIONAL ACCOUNTS 1996

### A. Expenditure on Gross National Product

	1995	1996	Change in 1996				
	Forecast	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure	20,565	21,902	1,337	864	6½	2¼	4¼
Public Net Current Expenditure	5,982	6,341	359	150	6	3½	2¼
Gross Fixed Capital Formation	5,962	6,615	653	486	11	2½	8¼
Exports of Goods and Services (X)	28,965	33,346	3,381	2,919	11¼	1½	10
Physical Changes in Stocks	30	160	130	120			
Final Demand	61,504	67,364	5,860	4,539	9½	2	7½
less:							
Imports of Goods and Services (M)	23,360	26,206	2,846	2,278	12¼	2¼	9¼
GDP at Market Prices	38,144	41,158	3,014	2,261	8	2	6
less:							
Net Factor Payments (F)	4,788	5,441	653	575	13¼	1½	12
GNP at Market Prices	33,356	35,717	2,361	1,686	7	2	5

### B: Gross National Product by Origin

	1995	1996	Change in 1996	
	Forecast	Forecast	£m	%
	£m	£m	£m	%
Agriculture, Forestry, Fishing	2,423	2,520	97	4
Non-Agricultural: Wages, etc.	17,736	18,800	1,064	6
Other:	11,983	13,238	1,255	10½
less:				
Adjustments	1,826	1,850	24	1¼
Net Factor Payments	4,788	5,441	653	13¼
National Income	25,528	27,267	1,739	6¼
Depreciation	3,501	3,746	245	7
GNP at Factor Cost	29,029	31,013	1,984	6¼
Taxes less Subsidies	4,327	4,704	377	8¼
GNP at Market Prices	33,356	35,717	2,361	7

### C: Balance of Payments on Current Account

	1995	1996	Change in 1996
	Forecast	Forecast	£m
	£m	£m	£m
X - M	5,605	6,140	535
F	-4,788	-5,441	-653
Net Transfers	1,721	1,744	23
Balance on Current Account	2,538	2,443	-95
as % of GNP	7½	6¼	-¾

## COMMENTARY

### The International Economy

#### *General*

In the *Summer Commentary* it was argued that the slowdown in growth in several major economies during the first half of 1995 would prove temporary, and that the growth of world output would continue at a moderate pace in the remainder of 1995 and in 1996. Hopes were also expressed that recent benign currency movements would continue, with a gradual appreciation of the US dollar helping to ease tensions among the European currencies.

Later developments have confirmed the major argument that moderate growth is continuing and that there is virtually no danger of an international recession in 1996. Output has already recovered from its temporary pause in the USA, while in Europe the adjustment to stock levels which was responsible for much of the slowdown in growth appears to be nearing completion. Opinion among forecasting agencies and institutions is unanimous that moderate economic growth will continue in 1996.

The hopes concerning currency movements have so far not been fulfilled. Although the dollar has retained most of the gains it made during the summer, there has been no further appreciation. Within Europe the DM has tended to regain strength against most other currencies, and while there has been less instability in exchange rates than earlier in the year the underlying tensions clearly remain. A considerable part of the volatility of currency markets in 1995, both in Europe and in the rest of the world, can be attributed to the various political difficulties being faced by the governments of many major countries.

#### *The US Economy*

As expected, the US economy resumed its moderate growth in the third quarter of 1995, after its slack performance in the first half of the year. The recovery in domestic demand has been aided by the modest fall in the US interest rates in the early summer, which was probably more important in signalling the end of upward movements than in its direct effects.

It now seems likely that the growth in US GNP in 1995 will be about 3 per cent, followed by a growth rate of 2½ per cent in 1996. Both domestic demand and improving net exports are expected to contribute to growth over the coming year, and the rate of expansion should be sufficient to maintain the unemployment rate at its relatively low level of about 5¾ per cent. There are few signs of increasing inflationary pressure, and, despite the fairly tight labour market, pay settlements have remained moderate. A marginal increase in consumer price inflation from 3 per cent in 1995 to 3¼ per cent in 1996 is generally expected. This is unlikely to invoke a significant tightening of monetary policy, and little change in US interest rates is anticipated.



Given this rather calm outlook for the US economy, some appreciation of the US dollar could normally be expected. However, the uncertainty generated by the political deadlock between the Administration and Congress has prevented such an appreciation beyond the initial rise in August. While the dispute encompasses a broad range of ideological issues, it is somewhat ironic that the most critical disagreement concerns the budget deficit at a time when it is being steadily reduced.

#### *The European Economy*

Analysts in forecasting institutes throughout the EU are unanimous in concluding that economic growth has been positive in 1995 and will continue in 1996, both in their own countries and in the EU as a whole. In most cases the projected rate of real GDP growth is moderate, generally lying between 2 and 3 per cent. Only Finland, apart from Ireland, is predicting a rate of growth in both 1995 and 1996 of over 4 per cent. Several East European countries are also forecasting rapid growth in the two years, with both domestic demand and export volumes likely to increase substantially.

Germany remains the key to economic prospects in continental Europe. Growth has slowed perceptibly in the course of 1995, as adjustments have been made to stock levels, as the strength of the DM has inhibited exports and some forms of investment, and as tax increases have restrained the increase in personal consumption and residential investment. With the stock adjustment completed, a less restrictive fiscal policy due in 1996 and the cumulative reductions in interest rates still to show their full effects, a recovery in the growth of domestic demand is confidently expected in the closing months of 1995 and 1996.

With the annual increase in consumer prices now running at about 2 per cent, and inflation seemingly under firm control, it seems probable that there will be a further slight relaxation of German monetary policy, with interest rates being reduced by perhaps  $\frac{1}{2}$  per cent. Most continental analysts foresee interest rate stability in Germany during 1996, with an upward trend resuming only if economic growth is significantly faster than currently forecast.

Currency instability within Europe in 1995 has contributed to the slowdown in growth in most other continental EU countries. Those whose currencies have moved closely with the DM have shared with Germany the deflationary effects of an appreciating currency. Conversely, those whose currencies have depreciated against the DM have had the stimulatory effects of that depreciation offset by a rise in their interest rate differential *vis-à-vis* Germany. Especially in the case of those countries suffering from significant political problems, the rise in relative interest rates has been quite substantial.

Provided that the current acute problems in France can be overcome, there is no reason why economic tensions between European countries should intensify in 1996. For most continental EU members the likelihood of moderate growth in 1996, accompanied by a low level of price inflation, appears reasonably secure. Unemployment will certainly remain unacceptably high in most countries, but a slight amelioration appears more probable than a renewed deterioration.

### *The UK Economy*

The stagnation of domestic demand in 1995 has been more pronounced in the UK than in continental EU countries, and, unlike the US, there has been no sign of an upturn in recent months. The extent of the slowdown in the UK economy is related to the delayed effects of a large increase in interest rates during 1994 and to a tightened fiscal regime, as well as to the fact that the UK economic recovery had been in place much longer than that in continental Europe.

As a result of the slowdown in economic activity, the fall in unemployment which commenced in late 1992 has virtually petered out and the hoped-for improvement in the public finances in 1995 has so far not materialised. On the other hand the slowdown has limited the expected rise in consumer price inflation and has helped to prevent any significant increase in average earnings.

A resumption in economic growth can be expected during the next months as the negative factors influencing 1995 become weaker and as overseas markets expand more rapidly. This UK recovery could be further boosted by some reduction in interest rates and by the slight relaxation in fiscal policy signalled by the recent Budget. The quarterly growth rate of real GNP is expected to accelerate during at least the first half of 1996. Although the annual growth rate in real GNP is forecast to remain unchanged at about 2¾ per cent, this conceals the fact that much of the 1995 growth rate represented a carryover from the rapid expansion in 1994, while most of the 1996 growth will arise from expansion in the course of the year.

This faster, but still quite moderate, growth should enable employment to increase and unemployment to fall in the course of 1996. It also seems likely to engender a slight but perceptible increase in inflationary pressures, with both consumer price inflation and average earnings increasing a little faster than in 1995. For this reason, and despite political pressure, it seems probable that short-term interest rates might have to be raised again in the course of 1996, widening the differential between UK and German rates. The alternative would appear to be a renewed depreciation of sterling, and, although this cannot be ruled out, it would seriously damage the prospect of the UK government reaching its medium-term inflation targets.

### *The Rest of the World*

Inhibited by the undue strength of its currency for much of the year, by political uncertainties and by the fragility of important parts of its banking system, the Japanese economy appears to have been virtually stagnant in 1995. Some signs of recovery are beginning to appear in the closing months of the year, and the general expectation is that real GDP will grow moderately in 1996. Most of the expansion is likely to come from domestic demand, especially personal consumption, and the current account balance of payments surplus is forecast to decline further. Inflation is likely to remain extremely low, but unemployment to remain high by Japanese standards at over 3 per cent.

The other Asian economies are continuing to grow rapidly and are expected to do the same in 1996. Collectively, their rate of growth in both years may be somewhat below the exceptional increases of the early 90s. The other mature

industrial countries can be expected to follow the US in maintaining moderate growth in both 1995 and 1996. Following the Mexican financial crisis, several other Latin American economies have suffered from a flight of capital in 1995, and economic growth in the area as a whole is likely to be very low. A moderate recovery in the course of 1996 is hoped for, but is far from certain.

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

Country	GNP		Consumer Prices		Hourly Earnings		Unemployment Rate		Current Account Balance	
			Percentage Change				%		% of GNP	
	1995	1996	1995	1996	1995	1996	1995	1996	1995	1996
UK	2½	2¾	3	3¼	3¾	4½	8¼	7½	-½	-½
Germany	2¼	2½	2	2¼	3¾	4	9¼	9	-¾	-½
France	3	2½	2	2½	3	3½	11½	10%	1¼	1
Italy	3¼	2¾	5¼	4½	4¼	4¾	11¼	11	1¾	2¼
Total EC	2¾	2¾	3	3¼	3¾	4¼	10%	10%	½	¼
USA	3	2½	3	3¼	3	3¼	5%	5%	-2½	-2¼
Japan	0	1½	0	½	1	1½	3¼	3¼	2½	2¼
Total (OECD)	2¼	2½	3	3¼	3½	4	8¼	8	-¾	-¾
Ireland	6½	5	2½	2¼	2¾	3¼	12½	11½	7½	6¾

Primary producers, including the OPEC countries, have seen a slowdown in the rate of volume expansion in 1995, together with a stabilisation of many commodity prices after their rapid rise in the previous year. Production volumes could increase rather faster in 1996, but no major rise in commodity prices is foreseen.

#### *The Context for Ireland*

Although the rates of expansion of world output and trade have declined during 1995, the markets for most Irish exports, both manufactured and agricultural, appear to have remained very buoyant. An acceleration in the rates of growth of world output and trade in the course of 1996 is generally expected. With no reason to anticipate that specific Irish markets will face particular problems, the international economic environment for Irish exports should again be favourable in 1996.

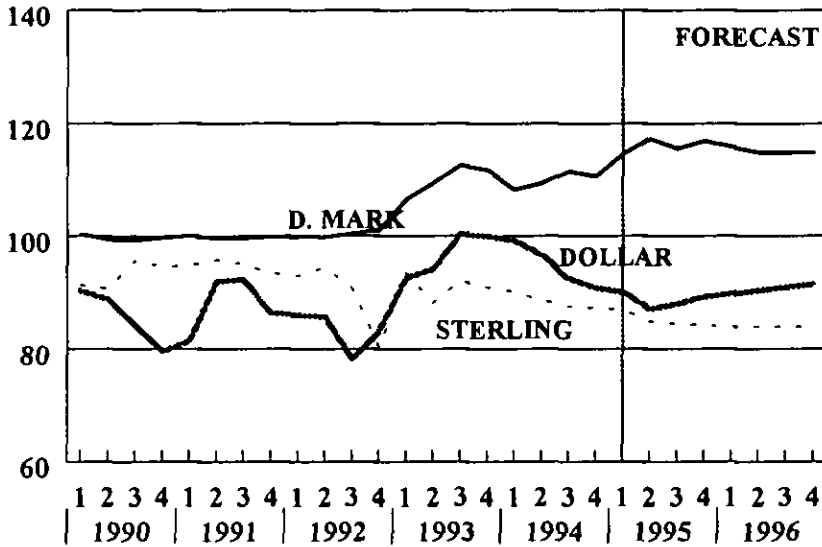
Despite the slight pause in world output growth in 1995, international productive investment has remained strong, as margins of spare capacity have continued to narrow and product development has demanded new manufacturing facilities. This fairly vigorous expansion of footloose international investment seems likely to continue in 1996.

The trend of international interest rates, both short and long term, has tended to be downwards since the early months of 1995, although currency tensions have led to temporary increases in short-term rates in several European

countries. The general expectation is that this downward trend is not yet completed, and that some further reductions are likely during the coming winter. Whether such reductions will be followed by a prolonged period of interest rate stability in 1996, or whether there will be some upward movement in the course of the year is far from clear. So far as continental European rates are concerned, and particularly the key German short-term interest rates, the most probable outcome is that they will remain stable in 1996 unless economic growth in Germany proves to be more vigorous than is currently expected.

### Figure 1: Exchange Rates

IR£ Price of Unit of Foreign Currency, Quarterly Averages, 1989=100



As always, currency movements are difficult to predict. It still seems probable that the US dollar will appreciate moderately against the DM and the yen, particularly if there is evidence that the political stalemate in the USA is easing. Within Europe, a sustained recovery by the dollar would help to ease tensions. Even more important is whether market confidence in the management of the French economy can be restored and reinforced. If it can, then some appreciation of several continental currencies against the DM can be expected, followed by a period of relative stability. Whether the Irish pound can share in such stability will depend, as usual, on the performance of sterling. So far as such underlying economic factors as relative growth and inflation rates, interest differentials and the current account balance of payments are relevant, there is no clear reason why there should be a significant change in the value of sterling. However, sterling appears to be vulnerable to unfavourable market interpretation of UK economic policy, and, with the approaching general election likely to exert an increasing influence on British policy, a further significant depreciation of sterling cannot be ruled out.

For the purpose of our forecasts we assume that there will be a moderate appreciation of the US dollar and a slight depreciation of the DM compared with most other European currencies, including sterling.

## The Domestic Economy

### *General*

Estimates of employment growth in the *Preliminary Labour Force Survey* for 1995 confirm the picture of very rapid economic growth in 1994 shown in the national accounts. Available indicators suggest that this growth continued in the first half of 1995, with no sign that Ireland suffered from the slowdown of growth which affected most other countries during that period.

With regard to prospects in 1996, the likelihood that international conditions will remain reasonably favourable has already been discussed. Domestically, it has been assumed that Irish monetary policy will continue broadly to reflect the evolution of Germany policy, probably implying a slight easing of interest rates on an annual average basis. It is assumed that fiscal policy in 1996 will be tightened slightly, in line with the commitments in the Programme for Government, and that such tightening will largely be on the side of expenditure, leaving room for modest cuts in effective rates of direct taxation.

### *Exports*

Provisional trade statistics for June 1995 show that the value of total visible exports in the first six months of the year was 20.2 per cent higher than in the same period of 1994. The largest increases were in exports of office and data processing machines and other electrical machinery, which together rose by about 40 per cent. These reflected the impact of new products and extended capacity. However the rise in exports was by no means confined to the high-technology sectors, with a broad range of products, including agricultural commodities, recording substantial value increases.

It seems most unlikely that this pace of expansion can have been maintained in the remainder of 1995. Supply constraints must have led to a slower increase in agricultural exports, while manufacturing and other industrial exports in the second half of the year will be compared with a significantly higher level of exports in 1994 than was the case in the first six months. Nevertheless, the value of visible exports for 1995 as a whole will exhibit a very strong increase, probably rising by about 16 per cent.

It is difficult to monitor the trend of average export prices in the course of the year, as the monthly unit price indices seldom provide an accurate picture of the annual deflator. Bearing this in mind, together with our past tendency to overestimate increases in export prices, we have projected an annual rise of about 2 per cent in average export prices, although the monthly figures to June suggest a sharper increase. On this basis the volume of visible exports in 1995 is forecast to rise by 13¼ per cent, as shown in Table 2.

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

	1994	% Change		1995	% Change		1996
	£m	Volume	Value	£m	Volume	Value	£m
Agricultural	2,790	2	6	2,957	0	3	3,046
Manufactured	16,180	17	19	19,254	13	14½	21,998
Other Industrial	2,603	12½	14½	2,987	7½	9	3,256
Other	1,246	0	2	1,271	0	1½	1,290
Total Visible	22,819	13½	16	26,469	10½	11½	29,590
Adjustments	-384			-370			-380
Merchandise	22,435	14	16½	26,099	10½	12	29,210
Tourism	1,497	10½	13½	1,699	9	11½	1,899
Other Services	1,133	1½	3	1,167	3½	6	1,237
Exports of Goods and Services	25,065	13½	15½	28,965	10	11½	32,346

Tourism statistics in recent years have shown that the rise in tourist earnings has not kept pace with the increase in the number of visitors. Provisional estimates for the first half of 1995 suggest that this trend is continuing, with tourist numbers up by 15½ per cent but earnings rising by only 12½ per cent. No earnings estimates are available for the crucial third quarter, but tourist numbers remained buoyant. For the year as a whole it seems reasonable to forecast an increase of about 13½ per cent in earnings from tourism. On the evidence of first-half balance of payments estimates, only a small rise in the value of other service exports can be expected.

Thus total exports of goods and services in 1995 are forecast to rise by 15½ per cent in value and 13½ per cent in volume. This represents a slight upward revision to our previous forecast, with a substantial increase in the forecast rate of growth of visible exports partly offset by a reduced forecast of earnings from tourism, and other services.

At present it seems likely that exports will remain buoyant in 1996, although the rate of growth will probably be lower than in 1995. The depreciation of sterling compared with its 1994 level does not appear to have had much impact on export values in the first half of 1995, but some lagged effect can be expected in late 1995 and in 1996, even if there is no further depreciation. Little or no increase in the volume of agricultural exports in 1996 seems possible, given the virtual exhaustion of intervention stocks. High technology exports and other manufactured exports to markets other than the UK are likely to continue their strong expansion, but the actual rate of growth will depend largely on the timing of new capacity becoming available. In total, a volume rise in visible exports of about 10 per cent in 1996 is projected.

Assuming that peace is maintained in Northern Ireland, a further substantial increase in Irish earnings from tourism seems likely. A moderate rise in other service exports is assumed for 1996, so that total exports of goods and services

are projected to increase by 11¼ per cent in value and just over 10 per cent in volume. Such increases would be close to the annual average since 1987.

### *Stocks*

No change has been made to our forecast of stock changes in 1995. Farm stocks are expected to increase slightly, at less than half their 1994 rate. Intervention stocks, measured on a national accounts basis, are forecast to fall by about £160 million, of which roughly £55 million represents the fall in stock levels and £105 million the accounting loss on sales made from intervention. Other stocks are expected to increase moderately, in line with the general expansion of the economy, although, in the absence of any short-term indicators, such forecasts must be regarded as very tentative. The total value of stock changes in 1995 is forecast at £30 million, compared with the strongly negative total of minus £258 million in 1994, and would be the first positive total since 1991.

**TABLE 3: Stock Changes**

	1994	Change in Rate	1995	Change in Rate	1996
	£m	£m	£m	£m	£m
Livestock on Farms	57	-32	25	-15	10
Irish Intervention Stocks	-451	291	-160	100	-60
Other Stocks	136	29	165	45	210
Total	-258	288	30	130	160

As shown in Table 3, total stock changes in 1996 are projected to be firmly positive. This is largely due to a much smaller negative contribution from intervention stocks, where the current low level of stocks held would appear to preclude a reduction of more than about £20 million in the level of stocks and a loss of about £40 million on sales. A further minor decline in the rate of farm stock-building and a continued increase in other stock-building are less confidently projected.

### *Investment*

It seems probable that gross fixed capital formation has risen by about 10½ per cent in 1995. In building and construction, output of dwellings has continued to increase, although not at the exceptional rate of almost 20 per cent achieved in 1994, while other sectors have grown rapidly from a relatively low base. The absence of up-to-date classified import statistics makes it difficult to monitor trends in investment in machinery and equipment. After the surprisingly small increase in such investment recorded in the 1994 national accounts, a significantly faster rise can be expected in 1995, and the general trend of imports suggests that this might have been taking place in the first half of the year.

As Table 4 indicates, a slower, but still robust, rate of increase in investment in building and construction seems likely in 1996. With interest rates likely to be stable and relatively low, residential construction should remain buoyant, but it

**TABLE 4: Gross Fixed Capital Formation**

	1994		% Change		1995		% Change		1996
	£m	Volume	Value	£m	Volume	Value	£m		
Building and Construction	3,235	11	14½	3,696	7	10	4,066		
Machinery and Equipment	2,014	10	12½	2,266	10	12½	2,549		
Total	5,248	10½	13½	5,962	8½	11	6,615		

would be unreasonable to expect a significant increase over the high level of output likely to have been achieved in 1995. Other building and construction, especially in the commercial sector, is expected to again increase, but, starting from a much higher base, the rate of expansion is unlikely to match that in 1995.

Matching the general growth of the economy, investment in machinery and equipment is projected to increase at much the same rate as in 1995, with the industrial sector likely to engender a particularly rapid rise. Thus the volume of total gross fixed capital formation is forecast to increase by 8¼ per cent in 1996, rather below the rate of growth achieved in such boom years as 1990 and, probably 1995, but well above the medium-term average as recorded in the national accounts.

#### *Consumption*

In the *Summer Commentary* we predicted that the rise in the retail sales index in the second half of 1995 would be considerably stronger than its rather erratic and generally subdued performance in the first half of the year. The index did in fact turn upwards in the third quarter, but less strongly than we had anticipated. Even with considerable further growth in the final quarter it now seems unlikely that the annual increase in the retail sales index can exceed 5.4 per cent in value and 3.2 per cent in volume, significantly below our previous forecast.

Although, as Table 5 indicates, there can be large annual variations in the relationship between the retail sales index and total personal consumption as recorded in the national accounts, it would be imprudent to anticipate a particularly large divergence in 1995. Thus our forecast of the increase in personal consumption has been revised downwards quite sharply to 5.8 per cent in value and 3.4 per cent in volume.

The course of the retail sales index within 1995 indicates that there should be a substantial carryover of growth into 1996. With personal disposable incomes continuing to rise and nominal interest rates likely to remain relatively low, consumer expenditure should rise further in the course of 1996. Increases of 4.2 per cent in volume and 6.5 per cent in value imply only a marginal fall in the personal savings rate in 1996 after an unexpected and significant rise in 1995.

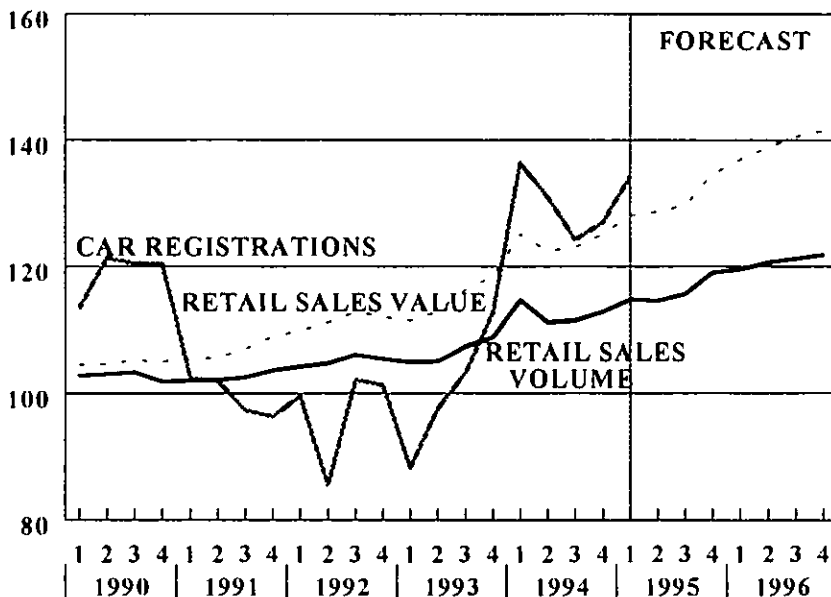
Public authorities' net expenditure on current goods and services, or government consumption, is still expected to increase by about 7¼ per cent in value and 3¾ per cent in volume in 1995. In keeping with our general assumptions regarding fiscal policy, the increase in the value of government consumption in 1996 is forecast to be considerably smaller than in most recent



**TABLE 5: Consumption Indicators**

	1991	1992	Annual Percentage Change				
			1993	1994	1995 To Date	1995 Forecast	1996 Forecast
<i>Consumption Value</i>							
NIE 1994, Personal Consumption	4.9	5.5	3.1	7.2		5.8	6.5
Retail Sales Index, Value	1.8	4.3	3.0	7.9	4.2	5.4	6.5
Divergence	3.3	1.2	0.1	-0.7		0.4	0
<i>Consumption Volume</i>							
NIE 1994, Personal Consumption	2.0	2.9	1.4	4.3		3.4	4.2
Retail Sales Index, Volume	-0.1	2.3	1.4	5.5	2.2	3.2	4.2
Divergence	2.1	0.6	0	-1.2		0.2	0
<i>Consumer Prices</i>							
NIE 1994, Personal Consumption Deflator	2.8	2.5	1.7	2.8		2.3	2.2
Retail Sales Index Deflator	1.9	2.0	1.6	2.3	1.9	2.1	2.2
Consumer Price Index	3.2	3.0	1.5	2.4	2.6	2.5	2.2

**Figure 2: Consumption**  
 Quarterly Averages Seasonally Adjusted, 1989=100



years. A value rise of about 6 per cent, implying a volume increase of 2½ per cent, is projected.

### *Final Demand*

On the basis of the expenditure forecasts just discussed, total final demand in 1995 is estimated to have risen by about 9 per cent in volume and 11¼ per cent in value. This represents a slight upward revision to our previous forecast, and, if correct, would also be slightly higher than the increase achieved in 1994. In volume terms, exports are now forecast to have risen by 13.3 per cent, and domestic demand, excluding stock changes, by 4.7 per cent. Despite the increased weighting of exports, this still represents well balanced growth compared to the period from 1990 to 1993 when domestic demand was generally weak.

Total final demand is projected to grow less rapidly in 1996, although remaining quite strong with a 7½ per cent rise in volume and 9½ per cent in value terms. Domestic demand, excluding stocks, is projected to increase by 4.6 per cent in volume and exports by 10.1 per cent. In both 1995 and 1996 the composition of final demand is likely to be fairly import intensive, with manufactured exports, personal consumption and investment in machinery and equipment accounting for a high proportion of the growth.

### *Imports*

Provisional trade statistics show that total visible imports in the six months to June 1995 were 15.1 per cent higher in value than in the corresponding period of 1994. Although the seasonally-corrected value of imports rose quite strongly in the later months of 1994, a similar upturn seems likely in 1995, so the annual increase in the value of visible imports could be close to that in the first six months. An annual value rise in visible imports of 15 per cent, implying a volume increase of about 12¼ per cent, would be compatible with the forecast of final demand in 1995.

Recent trends in tourist spending abroad are the opposite of those in tourist earnings, with total expenditure rising very much faster than the number of visitors abroad. Based on expenditure in the first half of the year and travel numbers for the third quarter, it seems probable that total tourist spending abroad in 1995 will increase by about 20 per cent, very much higher than our previous forecast. Keeping an unchanged forecast of a 10 per cent value increase in other service imports, total imports of goods and services in 1995 are forecast to rise by 15 per cent in value and 12¼ per cent in volume, as shown in Table 6.

Given the expected slowdown in the growth of final demand, particularly manufactured exports, in 1996, the rate of increase in visible imports is also likely to be lower. A volume rise of 10¼ per cent seems a reasonable projection, with moderate price increases taking the value rise to about 12½ per cent. It is difficult to predict whether the extraordinary increase in tourist spending abroad recorded in 1994 and the first half of 1995 will continue, or whether such tourism imports will revert to their previous more moderate rate of growth. For 1996, we have projected a substantial, but not exceptional, increase of 8 per cent

**TABLE 6: Imports of Goods and Services**

	1994		% Change		1995		% Change		1996
	£m	Volume	Value	£m	Volume	Value	£m		
Capital Goods	2,753	12½	15¼	3,173	12	14½	3,633		
Consumer Goods	3,855	8½	10¼	4,270	9	11¼	4,750		
Intermediate Goods:									
Agriculture	528	4	7	564	4	6½	601		
Other	8,590	16½	19½	10,265	12	14½	11,753		
Other Goods	1,497	0	2½	1,534	0	2¼	1,569		
Total Visible	17,223	12¼	15	19,806	10¼	12½	22,306		
Adjustments	-319			-310			-320		
Merchandise Imports	16,904	12½	15¼	19,496	10¼	12¼	21,986		
Tourism	1,072	17	20	1,286	8	10¼	1,418		
Other Services	2,344	7	10	2,578	6	8¼	2,802		
Imports of Goods and Services	20,320	12¼	15	23,360	9¼	12¼	26,206		

for the volume of tourist spending abroad, together with a 6 per cent increase in the volume of other service imports.

Thus total imports of goods and services are forecast to increase by 9¼ per cent in volume and 12¼ per cent in value in 1996. This would be significantly above the average for recent years, and would be in keeping with the expected level of final demand.

#### *Balance of Payments*

Unless there are unexpected developments in the second half of the year, or significant further revisions to the provisional trade statistics for the first six months, it seems probable that the visible trade surplus will increase by about 19 per cent in 1995, to over £6,660 million, roughly 20 per cent of forecast GNP. On current definitions, the deficit on service trade is also set to increase sharply, but even so the surplus on trade in goods and services is forecast to rise by 18 per cent to over £5,600 million.

The large rise in export values in 1994 was not fully reflected in the relatively modest increase in profit expatriations, possibly because a proportion of profits was re-invested in Ireland and thus omitted from the present cash-flow measure of profit movements. This factor could again influence the recorded profit outflow figures in 1995, but even so a large increase can be expected, given the scale of the rise in export values. Little change is expected in the level of interest payments on the overseas national debt, but on the evidence of the balance of payments estimates for the first half of the year there will be a large rise in other debit items. Credit flows from Irish assets overseas are continuing the rapid increase seen in 1994. For 1995 as a whole, a rise of 25 per cent is projected, leaving the forecast increase in net factor outflows at 15¼ per cent.

**TABLE 7: Balance of Payments**

	1994 £m	Change %	1995 £m	Change %	1996 £m
Visible Trade Balance	5,596	19	6,663	9½	7,284
Adjustments	-65		-60		-60
Merchandise Trade Balance	5,531	19½	6,603	9½	7,224
Service Trade Balance	-786	27	-998	8½	1,084
Trade Balance in Goods and Services	4,745	18	5,605	9½	6,140
Factor Flows:					
Profits etc.	-4,001	21	-4,841	17	-5,664
National Debt Interest	-1,081	0	-1,081	0	-1,081
Other Debit Flows	-1,013	30	-1,317	15	-1,515
Total Debit Flows	-6,095	18½	-7,239	14	-8,260
Credit Flows	1,961	25	2,451	15	2,819
Net Factor Flows	-4,134	15½	-4,788	13½	-5,441
Net Transfers	1,435	20	1,721	1½	1,744
Balance on Current Account	2,046	24	2,538	-3½	2,443

A substantial recovery in net transfers is expected, after their sharp drop in 1994. Thus the total surplus on the current account of the balance of payments is forecast, somewhat tentatively, to increase by 24 per cent to £2,538 million, as shown in Table 7.

On the basis of our export and import projections, the surpluses on visible trade and trade in goods and services are forecast to increase by just under 10 per cent in 1996. Profit outflows should again rise sharply, and total net factor flows are projected to increase by 13½ per cent in value. Assuming little change in net transfers, the current account as a whole is projected to decline by about £100 million in absolute terms, falling from 7½ to 6¾ per cent as a proportion of GNP.

#### *Gross National Product*

Using the present national accounts conventions, our forecast of the increase in expenditure on real GDP in 1995 has been revised upwards from 7 per cent to 7¼ per cent, the largest annual rise since 1990. Because we have also reduced our prediction for the increase in net factor outflows, the forecast growth in real expenditure on GNP has been revised upwards by ½ per cent to 6½ per cent. Real growth in expenditure on both GDP and GNP is projected to be a little less rapid in 1996, at 6 per cent and 5 per cent respectively.

As an indicator of economic welfare, gross national disposable income, adjusted for the terms of trade, is in many ways a more appropriate measure than GNP. With a substantial recovery expected in net transfer payments from abroad after their fall in 1994, and with only a marginal deterioration projected in the terms of trade, GNDI in 1995 is forecast to rise by about 5 per cent, the

largest increase since 1990. The projected rise in 1996 is about 4½ per cent, still well above the average achieved since 1987.

### *Agriculture*

It seems probable that the volume of gross agricultural output in 1995 will increase moderately, more than recovering its 1994 fall. Some rise in the volume of inputs is also likely, so that the increase in gross agricultural product is forecast to be small. When allowance is made for continued expansion in forestry and fishing, and for a small rise in depreciation in the sector, the gross domestic product of the broad agricultural sector in 1995 is forecast to increase by about 2½ per cent in volume terms.

Assuming fairly normal weather conditions in 1996, there is likely to be only a marginal increase in the volume of gross agricultural output. The volume of inputs could increase more rapidly, as a consequence of the drought conditions this year limiting supplies of silage. Thus virtually no change is projected for the volume of gross agricultural product in 1996. Forestry and fishing should continue to expand, so the volume of gross domestic product in the sector is projected to increase by about 1¼ per cent.

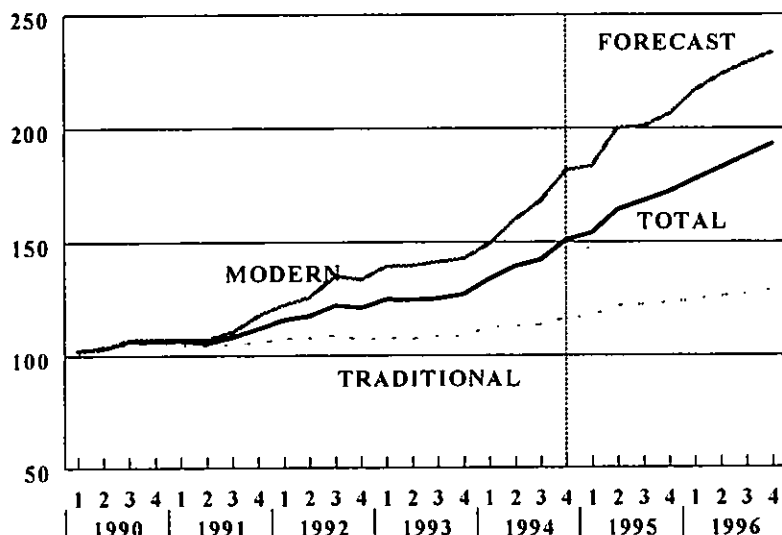
### *Industry*

The industrial production index shows extraordinary growth in 1995. For the seven months to July the volume of production in manufacturing industry was 17.7 per cent higher than in the same period of 1994, while for all industries, including the extractive sector and the utilities, the corresponding increase was 16.8 per cent. For the year as a whole, the rate of increase is likely to be slightly lower, because comparison over the last five months will be with a higher level of 1994 output. Nevertheless the annual 1995 index of production in manufacturing industry is likely to be at least 16 per cent higher than 1994, with the index for all industries rising by about 15 per cent.

With building and construction output also increasing rapidly, it is clear that there will have been a very large rise in the net output of the broad industry sector. Allowing for the probability that net output will increase a little less rapidly than the volume of production, and that the rise in sectoral depreciation will not match the growth of net output, the volume of gross domestic product in the broad industry sector is forecast to rise by 13¼ per cent in 1995.

There is expected to be a considerable carryover of growth in the industrial production index from 1995 into 1996. With new capacity due to come on stream and with demand likely to remain reasonably buoyant both in Ireland and overseas, industrial production should increase further in the course of 1996. Although the annual rate of growth may not match that in 1995, it should nevertheless remain high, with the volume of production in manufacturing industry projected to increase by 12½ per cent. Allowing for a substantial, but slightly slower, increase in the net output of building and construction, the volume of gross domestic product in the broad industry sector is projected to rise by 9¾ per cent in 1996.

**Figure 3: Manufacturing Output**  
 Quarterly Averages Seasonally Adjusted, 1989=100



### Services

When the economy in general and domestic demand in particular are growing rapidly, the output of the service sector can normally also be expected to increase substantially. As pointed out in the *Summer Commentary*, this relationship tends to be obscured in the Irish national accounts by the treatment of changes in intervention stocks as part of the output of the distribution sector. Thus a meaningful past series of total service sector output in Ireland is difficult to construct, and the derivation of a stable relationship between GDP growth and service output is virtually impossible.

With the run-down of intervention stocks, this problem should become less acute in future, although it is still likely to have some influence in 1995 and 1996. Taking this into account, together with an assumed slight slowdown in the rate of expansion of public services in 1996, it seems probable that the gross domestic product of the total service sector will increase by about 4½ per cent in volume terms in both 1995 and 1996. By far the larger part of this increase in both years will be in the private sector as it responds to the general buoyancy of the economy.

### Employment

The publication of the preliminary *Labour Force Survey* and *Annual Population and Migration Estimates* for 1995 has clarified the picture of economic growth in recent years. Apart from confirming the cyclical timing and general magnitude of the GNP estimates in *National Income and Expenditure 1994*, they also provide an insight into the nature of the growth.

The central role of manufacturing industry in the Irish growth process is illustrated by the increase of almost 16 per cent in manufacturing employment between April 1987 and April 1995 at a time when manufacturing employment was falling substantially in almost all other European countries. Over the same period, public sector employment, excluding state-sponsored employment schemes, fell by 10,000 or over 3 per cent, with most of the fall coming in the commercial semi-state sector. Even in recent years, the increase in public service employment, excluding the semi-state companies, has been considerably slower than in private non-agricultural employment. Private service employment, as expected, has shown the most rapid growth, but this must be interpreted with some care, as much, but by no means all, of the increase has been in part-time work.

Turning to the particular figures for April 1995, they show that total employment had risen by 49,000, or 4.1 per cent from the April 1994 level, which had itself been revised upwards by 6,000. The numbers engaged in employment schemes rose from 31,000 to 41,000, while the numbers in agriculture fell by 1,000. Thus non-agricultural employment, excluding schemes, rose by 40,000 or 4.0 per cent. Private sector non-agricultural employment increased by 37,500 or 5.1 per cent. It is not yet clear how the increase in non-agricultural employment in the year to April 1995 was divided between full-time and part-time jobs, but the pattern of the previous year's increase and the substantial contribution of the industrial sector suggest that a considerable proportion of the total increase was in full-time employment.

Quarterly employment statistics for industry and the public sector and the monthly index of employment in building and construction indicate that total non-agricultural employment has continued to grow substantially since April 1995. Our forecasts for GNP growth in 1995 and 1996 suggest that the increase in industrial employment is likely to continue, and to be accompanied by steadily increasing service employment. The projections set out in Table 8 are based on underlying employment trends, and include no provision for significant future changes in the numbers on employment schemes. On an annual average basis, total non-agricultural employment is forecast to increase by 3.9 per cent in 1995 and 3.1 per cent in 1996. The increase in full-time equivalent employment is likely to be slightly slower in each year.

The labour force increased by 23,000 in the year to April 1995, marginally less than in the previous twelve months. We project broadly similar annual increases in the next two years, implying a continuing modest level of net emigration and some slight further increase in female labour-force participation. On this basis, unemployment as recorded in the Labour Force Survey seems likely to decline by about 10,000 in the year to April 1996 and by 7,000 by the following year.

Much attention has been focused recently on the large and growing divergence between the Labour Force Survey measure of unemployment and the Live Register of unemployed. The Central Statistics Office has set out some of the reasons for this divergence, although they are unable to quantify the various categories. What is clear is that the Live Register includes a significant number of part-time workers who are simultaneously drawing at least partial

**TABLE 8: Employment and Unemployment**

A: Mid-April Estimates '000					
	1993	1994	1995	1996	1997
Agriculture	143	140	139	136	134
Industry	311	330	342	355	365
Services	692	712	751	773	793
Total at Work	1,146	1,182	1,231	1,264	1,292
Unemployed	230	218	192	182	175
Labour Force	1,375	1,400	1,423	1,446	1,467
Unemployment Rate % <sup>1</sup>	15.7	14.7	12.7	11.9	11.3
Live Register	295	285	276	273	270

B: Annual Averages '000					
	1993	1994	1995	1996	
Agriculture	142	139	137	135	
Industry	319	337	349	360	
Services	700	731	761	784	
Total at Work	1,161	1,207	1,247	1,279	
Unemployed	225	207	188	178	
Labour Force	1,386	1,414	1,435	1,457	
Unemployment Rate % <sup>1</sup>	15.6	14.2	12.5	11.6	
Live Register	294	282	277	272	

<sup>1</sup> Official Standardised Unemployment Rate, based on ILO definitions, as published in the monthly Live Register Statement. This cannot be derived directly from the figures in Table 8.

Projected unemployment rates, including 1995, incorporate a further expected divergence between Live Register and ILO measures of unemployment.

unemployment assistance, as well as a significant number of claimants, mainly female, who do not define themselves as being unemployed and are therefore not included in the labour force. It seems fair to claim that the divergence reflects in part the fact that in modern society the lines between working, not-working and being unemployed are becoming increasingly blurred, and that the practice of viewing the situation in terms of clear-cut dichotomies is perhaps becoming outmoded.

The standardised unemployment rate, published in the Live Register Statements and included in Table 8, is calculated for each April as the ratio of unemployment to the Labour Force, according to the ILO definitions, in the *Labour Force Survey*. However, monthly rates in the course of the ensuing year are based on changes in the level of the Live Register. In any year when there is an annual divergence between Live Register and Labour Force measures of unemployment, the monthly rates, and thus the annual average rate, are revised



when the next Labour Force Survey becomes available. The forecast unemployment rates shown in Table 8 take account of such anticipated revisions, and thus indicate the rate falling to an annual average of just over 11½ per cent in 1996, little more than 1 per cent above the likely EU average.

#### *Incomes*

The favourable movement in relative prices which contributed to a substantial rise in agricultural incomes in 1994 has been much weaker in 1995. Allowing for some further rise in net subsidies, the small increase predicted for the volume of net output in the broad agricultural sector in 1995 seems likely to result in an increase of about 4 per cent in aggregate income in the sector. A broadly similar rise is projected for 1996.

Average wages, salaries and pensions in the non-agricultural sector rose very gently in the course of 1994, so that there was a relatively small carryover into 1995. Provisional estimates show that hourly wages in manufacturing rose only marginally in the first quarter, suggesting that there is still surprising little wage drift over and above the basic pay increases due under the Programme for Competitiveness and Work. For 1995 as a whole, we have again revised downwards our forecast of average non-agricultural earnings to about 2¾ per cent. Taken in conjunction with an expected increase of almost 3 per cent in full-time equivalent employment, such a rise implies an increase of about 5¾ per cent in aggregate non-agricultural earnings. A slight acceleration, to about 3¾ per cent, seems likely in average earnings in 1996, partly because the carryover from 1995 should be a little higher than that from 1994. The projected increase in full-time equivalent employment is rather lower than in 1995, at just over 2½ per cent, so aggregate non-agricultural earnings are forecast to rise by 6 per cent in 1996.

**TABLE 9: Personal Disposable Income**

	1994		Change		1995		Change		1996
	£m	%	£m	%	£m	%	£m	%	£m
Agriculture etc.	2,330	4	93		2,423	4	97		2,520
Non-Agricultural Wages, etc.	16,772	5¾	964		17,736	6	1,064		18,800
Other Non-Agricultural Income	3,731	6	244		3,955	7	277		4,232
Total Income Received	22,833	5½	1,281		24,114	6	1,438		25,552
Current Transfers	5,484	7	384		5,868	3¾	214		6,082
Gross Personal Income	28,317	6	1,665		29,982	5½	1,652		31,634
Direct Personal Taxes	6,299	½	39		6,338	4	253		6,591
Personal Disposable Income	22,018	7½	1,626		23,644	6	1,399		25,043
Consumption	19,438	5¾	1,127		20,565	6½	1,337		21,902
Personal Savings	2,580	19¼	499		3,079	2	62		3,141
Savings Ratio			11.7				13.0		12.5

Rapid economic growth generally leads to a substantial increase in other non-agricultural income, which is comprised of income from self-employment and from interest, dividends and rent. Increases of 6 per cent in 1995 and 7 per cent in 1997 are projected. Thus total income received from economic activity is forecast to rise by 5½ per cent in 1995 and 6 per cent in 1996, as shown in Table 9.

Current transfers in 1995 have been boosted by the payment of a large proportion of the equality arrears built up over previous years. With this element greatly reduced in 1996, and assuming that most benefit and allowance rate will be raised by slightly more than the expected rate of consumer price inflation, current transfer income in 1996 is projected to increase by 3¾ per cent.

Thus gross personal income is forecast to rise by 6 per cent in 1995, much the same rate as in 1994. The increase is projected to be slightly slower in 1996, at about 5½ per cent. The impact of direct personal taxation is distorted by the impact of the tax amnesty in 1994, which artificially inflated the level of personal taxation in that year. It now appears likely that direct personal taxation in 1995 will be marginally higher than the amnesty-inclusive total for 1994. A more normal growth in taxation of 4 per cent is projected for 1996, on the assumption that there will be a moderate reduction in effective personal tax rates in the 1996 Budget.

On this basis, personal disposable income is forecast to increase by a somewhat artificial 7½ per cent in 1995 and by 6 per cent in 1996. With consumption forecast to have risen by less than 6 per cent in value in 1995, there appears to have been a surprisingly large increase in the personal savings ratio. Although a part of this increase can be explained by the impact of the amnesty in holding down the apparent savings ratio in 1994, there also seems to have been a rise of at least ½ per cent in the underlying ratio. On the assumption that this will be reversed in 1996, in a context of stable interest rates and improving confidence, there would be room for an increase of 6½ per cent in the value of personal consumption.

#### *Consumer Prices*

We have revised downwards marginally our forecast of consumer price inflation in 1995. An annual rise of 2.5 per cent in the total index seems likely, with housing costs rising by 5.8 per cent and other prices by 2.2 per cent, as shown in Table 10.

We have revised more substantially our forecast for the consumer price index in 1996. It now seems much less likely that there will be an increase in the mortgage interest rate in the middle of the year, as had previously been assumed. Indeed, there is a possibility that mortgage rates will be reduced in the early months, although this could be offset by a small increase towards the end of the year and a somewhat faster increase in other elements of the housing price index. Thus it now seems probable that the housing price index in 1996 as a whole will increase more or less in line with the total consumer price index. The forecast for non-housing prices is based on the assumption that there will be little change in European exchange rates but a slight appreciation in the US dollar. Domestically, it continues to be assumed that there will be no significant

**TABLE 10: Consumer Price Index - Recent Trend and Forecast**

	Quarterly Trend								Annual		
	1994				1995				1994	1995	1996
	Feb.	May	Aug.	Nov.	Feb.	May	Aug.	Nov.			
Index Nov. 1989 = 100											
Housing	110.6	111.4	111.8	112.2	113.0	119.3	120.8	111.5	118.0	120.6	
Other	111.2	112.2	113.1	113.2	114.1	114.9	115.3	112.5	115.0	117.5	
Total CPI	111.2	112.1	113.0	113.1	114.0	115.2	115.7	112.4	115.2	117.7	
Annual % Change											
Housing	-17.0	-3.8	1.9	1.1	2.2	7.1	8.1	-5.0	5.8	2.2	
Other	3.5	3.3	2.6	2.4	2.6	2.4	2.0	3.0	2.2	2.2	
Total CPI	1.7	2.7	2.5	2.4	2.5	2.8	2.4	2.4	2.5	2.2	
Quarterly % Change											
Housing	-0.4	0.7	0.4	0.4	0.7	5.6	1.3				
Other	0.6	0.9	0.8	0.1	0.8	0.7	0.3				
Total CPI	0.6	0.8	0.8	0.1	0.8	1.1	0.4				

change in indirect tax rates. On this basis, the annual average of the consumer price is now projected to increase by 2.2 per cent in 1996, compared with our previous forecast of 2.5 per cent.

*Public Finances*

As has been pointed out frequently in previous *Commentaries* the authorities have considerable latitude in determining the exact out-turn of the budget deficit and Exchequer borrowing requirement in any year, by influencing the timing of some types of expenditure or receipts between December and the following January. So far as 1995 is concerned, the choice would appear to lie between declaring a budget deficit and EBR slightly below the adjusted Budget targets and allowing the figures to show a substantial improvement of, perhaps, £200 million compared with the target levels.

Trends to date suggest that tax revenue could be almost £100 million above target, with substantial increases in income tax and VAT outweighing lower than expected receipts from corporation tax. Due mainly to the decline in interest rates, central fund expenditure could also be about £100 million better than target, if it is decided to include the full savings in the 1995 figures. With no evidence that total supply service spending is running significantly above the targeted levels, the out-turn for net expenditure, and also for the current budget deficit, could well depend on the timing of some current receipts from the EU. Receipts from asset sales have been rather higher than anticipated, and annual borrowing for capital purposes could probably be lower than planned, subject to decisions on the timing of capital transfers.

The precise fiscal out-turn chosen for 1995 can obviously also affect the likely fiscal results for 1996. However, abstracting from timing decisions, it seems probable that 1996 will see a significant reduction in the underlying current budget deficit, and a small reduction in the EBR.

Tax revenue should remain buoyant, even allowing for moderate reductions in effective rates of direct taxation. Corporation tax receipts can be expected to recover strongly from their near stagnation in 1995, while increased employment and a large increase in the value of personal consumption should ensure a moderate rise in personal direct taxation and a substantial increase in indirect tax receipts. An increase of about 6¾ per cent in total tax revenue in 1996 seems quite attainable, compared with an amnesty-excluded increase of about 6½ per cent in 1995.

With interest rates likely to remain relatively low for most of the year, the increase in central fund expenditure should be quite modest. Keeping gross current supply service expenditure in line with Programme for Government commitments will be difficult, because of the momentum of ongoing spending programmes and because of inherited obligations from past contingencies which will have to be met in 1996. In spite of the difficulties it seems likely that gross spending will be kept close to the self imposed limits. Allowing for some reduction in effective PRSI contribution rates, which count as negative expenditure, but also for some transfer of EU receipts from 1995 into 1996, the most likely out-turn for total net current expenditure is a value increase of about 5¼ per cent.

If our projections of revenue and expenditure are correct, they would result in an actual, although not necessarily a budgeted, virtual elimination of the current budget deficit in 1996. This would be a broadly appropriate outcome in the third successive year of rapid economic growth, as well as a necessary step in preparing the public finances for the gradual phasing out of EU transfers after 1999. On the assumption that there will be no appreciable asset sales, borrowing for capital purposes could increase significantly in 1996, suggesting a realised EBR of, perhaps, £600 million or about 1¾ per cent of GNP.

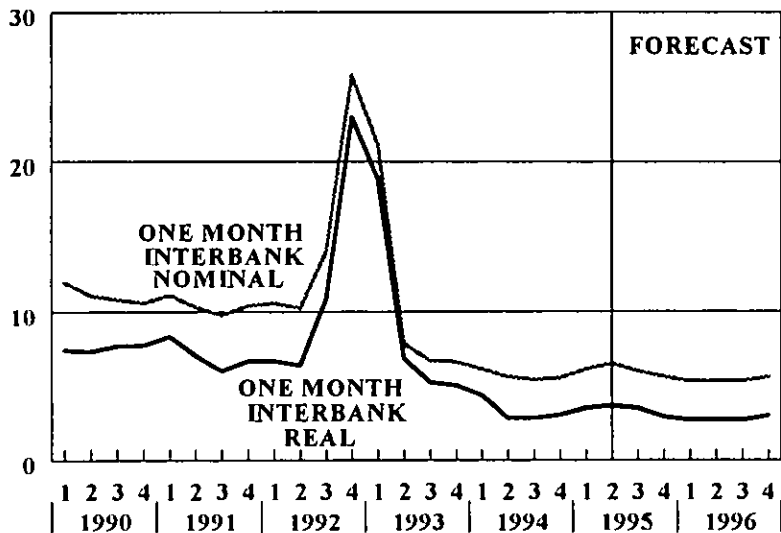
#### *Interest Rates*

Since the publication of the Summer Commentary, Irish short-term interest rates have been slightly lower than we had anticipated at just over 5½ per cent. Moreover, there is now a widespread expectation that there could be a further reduction in German rates.

Unless the course of sterling forces a unilateral increase on the Irish authorities, it is probable that Irish short-term rates will continue to move roughly in tandem with those in Germany. Thus the most likely development is that there will be a small reduction in the Irish one-month interbank rates, and in associated retail and mortgage rates during the winter, followed by a period of approximate stability. The subsequent rise, which had been forecast to take place in the middle of 1996 now seems more likely to be delayed until at least the closing months of the year.

Long-term interest rates have declined significantly in the course of 1995. Some further reduction is possible, but the forecasts in this *Commentary* have

**Figure 4: Interest Rates**  
 Per Cent Per Annum, Quarterly Averages



been based on the assumption that there will be little further change before the end of 1996.

*General Assessment*

This *Commentary* includes an assessment of the general accuracy of our forecasts over the past eleven years. This exercise is salutary in showing not only how error-prone is the process of economic forecasting, but also how indeterminate are many of the official estimates made after the event. The scale of revisions to national accounts aggregates, such as real GNP, and, even more, to some of their components between succeeding annual editions of *National Income and Expenditure* is quite daunting. When the persistent divergence between expenditure and output measures of real GNP is also taken into account, it is quite clear that there is never a unique and absolute measure of the exact rate of growth in any particular year.

This is not to suggest that the estimates presented in *National Income and Expenditure 1994* are seriously misleading, but rather to caution that undue weight should not be attached to the apparent precision of the figures and that attention should be focused more on the general picture as to whether a particular year exhibited slow, moderate or rapid growth. This warning is particularly apposite at present, as major methodological changes in the national accounts are due to be made over the next few years, and, applied retrospectively, these are liable to alter the detail of the picture painted of the growth of the economy during the period covered by this *Commentary*.

Reclassifying royalties and related payments as service imports rather than profit outflows will reduce the level of GDP, although leaving GNP and current account balance of payments estimates unchanged. Moving from a cash flow to an accruals basis in measuring profit flows could lead to a once-off increase in net factor payments, and a reduction in the level of GNP. A third major change is expected to involve a substantial upward revision to estimates of imputed rent, with the effect of raising both GDP and GNP.

The net impact of these and other methodological changes on future estimates of growth from 1992 to 1996 is impossible to predict, especially as they will be combined with routine revisions to the data. It is, however, extremely unlikely that they will change the picture of relatively low, but positive, growth from 1991 to 1993, followed by rapid growth from 1994 to 1996.

Given the unavoidable uncertainty concerning the precise meaning and exact magnitude of growth in real GNP, or any other national accounts construct, it is always reassuring to have national accounts' trends confirmed by more concrete data. Such confirmation of trends in recent years has undoubtedly been provided by the *Labour Force Survey* for April 1995.

After rising steeply in the year to April 1990, when by national accounts measures the economy was growing rapidly, total employment, adjusted for the rising proportion of part-time working, was roughly static from April 1990 to April 1993, when the economy was estimated to have been growing slowly. In the year to April 1994, and more dramatically in the year to April 1995, total employment rose very sharply. Even when allowance is made for increases in the numbers on employment schemes, and for a modest continuation in the trend towards part-time work, the underlying rise in employment was substantial. This is powerful evidence that the economy was in fact growing rapidly in 1994, as shown by the national accounts estimates. Indications from sectoral series and from revenue receipts are that employment has continued to increase since April 1995, reinforcing the forecast that 1995 has been another year of rapid GNP growth.

Turning from the timing of the economic cycle to the magnitude of economic growth, the employment figures still provide reasonable support for the national accounts growth estimates since 1990. Adjusted for employment schemes and for actual or assumed part-time working, and converted from an April to an annual average basis, the employment estimates, taken in conjunction with estimates of GDP at factor cost, suggest a reasonably consistent annual rate of increase in economy-wide labour productivity of rather over 2 per cent. Both historically and internationally such a rate of increase cannot be regarded as implausibly high, especially in an economy still undergoing significant structural change.

Apart from broadly confirming the national accounts estimates of growth in recent years, the 1995 *Labour Force Survey* has major implications for the debate on unemployment. The disparity between the labour force estimates of unemployment and the Live Register of unemployment has been growing fairly steadily since 1986, but the jump in the difference from 66,000 in April 1994 to 84,000 in April 1995 has focused belated attention on this phenomenon.

The *Labour Force Survey* is based on a very large sample, and its simple definition of self-reported unemployment has remained unchanged since 1975. Moreover, its unemployment estimates fit into a comprehensive pattern of population estimates, embracing figures for employment, the Labour Force, other population categories, births, deaths and migration flows. It must therefore be regarded as the best available measure of unemployment. In contrast, the Live Register is an administrative measure of those registering to claim benefit or assistance, or to maintain future entitlements, under a frequently changing set of rules and interpretations.

What is clear is that, due to changing entitlement rules, the Live Register has ceased to be an accurate measure of those who are unemployed according to the traditional definition of being totally out of work and seeking employment. It now includes substantial, but indeterminate, numbers of those who are at work on a part-time basis, and of those who report themselves as not belonging to the Labour Force because of such factors as disability, premature retirement or commitment to home duties. To some extent this reflects a genuine blurring of the once clear-cut distinctions between being in or out of the labour force or being in or out of work. To some extent also, however, it results from a degree of inappropriate nomenclature, in that unemployment assistance, in particular, has become a broader form of social assistance than its name implies.

It has thus become apparent, as it should have done some years ago, that discussion of trends in unemployment should be based on the Labour Force Survey figures. These include alternative series, one based on self-assessment of principal economic status, the other on the internationally standardised ILO criteria which relate to activity in the week preceding the Survey. These two series move closely together.

On either the self-classified or the ILO basis, movements in unemployment can be related directly to changes in employment, net migration and labour force participation. Periods of rapid economic growth, such as 1990 and 1994 are reflected both in an increase in employment and in a substantial fall in unemployment. The fatalism engendered by reliance on the Live Register figures, that even sustained economic growth would have little effect on the level of unemployment, can be seen to be misplaced. Of course, migration flows and changed participation rates can complicate the relationship between employment and unemployment, but, by and large, employment growth that is sustained above the level of the natural increase in the labour force is likely to result in a reduction of unemployment.

Even on the ILO figures, adjusted for an assumed reduction in the 1996 *Labour Force Survey*, the unemployment rate is likely to have averaged about 12½ per cent in 1995 and is forecast to average just over 11½ per cent in 1996. This still represents a massive waste of economic resources and creates intolerable social stress. On any measure, unemployment remains Ireland's crucial socio-economic problem and its reduction must be the focal point of economic strategy. However, while certain to be persistent, the problem no longer appears totally intractable.

If economic growth can be sustained at 5 per cent per year or higher for another three years, the unemployment rate could be brought below 10 per cent and probably also below the EU average. Such growth would help to address the most difficult problem within a problem, that of long-term unemployment, by significantly reducing the number of new entrants to this group. There is evidence that this has already started happening, as the numbers unemployed for between 1 and 2 years fell quite sharply in the twelve months to April 1995. However, economic growth alone is unlikely to choke off entirely the flow of new long-term unemployed, let alone reduce the numbers already in the group. Targeted measures in the fields of education, training and placement are necessary to make a substantial impact on long-term unemployment, but steadily rising total employment is needed to provide the conditions in which such measures might prove more successful.

As has been argued frequently in previous *Commentaries*, the broad consensus economic strategy followed in recent years has been instrumental in Ireland consistently outperforming its EU partners in terms of both economic growth and job creation. Hard evidence that unemployment is declining significantly, such as was provided by the 1995 *Labour Force Survey*, should encourage the continuation of that strategy.

While Ireland will inevitably remain vulnerable to external shocks, the general prospects at present are for a continuation of moderate growth in the world and European economies in 1996 and beyond. In such an environment the present Irish strategy should ensure rapid, non-inflationary growth in 1996 and probably for some years further. This, in turn should permit a sustained rise in employment and a significant reduction in the unemployment rate. Some re-ordering of priorities within the consensus framework, to place greater stress on relieving long-term unemployment, would appear desirable, but not at the cost of impairing fiscal progress or damaging Ireland's international competitiveness.



## AN ASSESSMENT OF QEC FORECASTS 1984-94

by Terry Baker and Delma Duggan

### 1. Introduction

All regular economic forecasters should carry out periodic assessments of the accuracy of their forecasts. These are not normally for publication, but rather to assure themselves that there are no systematic biases in their work and to identify avoidable weaknesses in their forecasting approach.

In an ideal world, published assessments of the forecasting record over a suitable period should be undertaken by a disinterested third party, preferably including a comparative study of forecasts from different sources. In the real world, third parties have proved uninterested rather than disinterested, leaving the individual forecaster to decide whether to publish his or her own assessments.

There are obvious dangers that such self-assessment either will be, or will be perceived to be, unduly partial, with data selected to show the record in the best possible light, and errors which cannot be concealed glossed over with special pleading. These dangers can largely be overcome by selecting data according to a logical pattern, based on their importance to the forecast rather than on the favourability of their results, and by maintaining as objective an approach as possible to the analysis of the record. It must be remembered also that past forecasts are a matter of public record and can thus be checked quite easily.

Self assessment does have some advantages, in that the author is generally better placed than an observer to explain why past errors occurred, and to weigh the implications of these in terms of past conclusions and future forecasting techniques.

We attempted to bear these considerations in mind when we published a detailed assessment of our forecasting record for the years from 1984 to 1990 in the Spring 1991 issue of the *Quarterly Economic Commentary*. Now appears to be an appropriate time to update this exercise. The Irish economy is again near a cyclical peak, as it was in 1984 and 1990, the publication of *National Income and Expenditure 1994* has resolved some of the reservations we had about using NIE 1993 as a standard of comparison, and forthcoming changes in national accounts methodology could render comparisons of past forecasts with future editions of NIE unduly complicated.

Comparing economic forecasts with the actual out-turn is a less simple exercise than it might appear. This is for two main reasons. The first is the question of selectivity, already referred to. For each year there are generally forecasts in eight separate QECs, each carrying predictions for well over 100 items. It is obviously not feasible to analyse, let alone present, comparisons for over 800 observations for each year! The solution adopted, as in 1991, is to restrict the analysis to the initial QEC forecast for each year, generally made in the preceding summer, and the final QEC estimate made in the spring following the end of the year. Analysis is similarly restricted to the main expenditure

components of GNP, together with the two main income components and a few key employment and price variables.

The other major difficulty is that there is seldom a unique measure of what the actual out-turn was. NIE estimates for each year tend to be significantly revised in succeeding years, with no guarantee than even the final estimates represent a true picture of reality, which of course is inherently unobservable. Our method of dealing with NIE revisions is analogous to our treatment of the range of QEC forecasts, in that we present the preliminary and the latest NIE estimates, with the greater concentration on the latter, as it is reasonable to assume that successive revisions generally improve the quality of the estimates.

Guided by the findings of the 1991 assessment, the format of this presentation is as follows.

The first issue to be addressed is that of possible bias in the forecasts of macro-economic aggregates and specific major components, on the grounds that a persistent tendency towards either optimism or pessimism would constitute a serious fault in the forecasting record.

The second point to be considered is the issue of predicting the economic cycle, in terms of the timing and the amplitude of fluctuations in the growth rate. The past record of short-term economic forecasting, in this and other countries, suggests that it would be unreasonable to expect a high degree of accuracy in this regard, but that an appropriate criterion would be whether the forecasts outperform alternative methods of prediction which eschew the application of judgement.

As in the earlier study, GNP forecasts for each individual year will be discussed in some detail to illustrate the manner in which unfolding events influence both forecasts and the outcome. Finally we shall investigate whether inaccurate forecasts have led to our giving any advice which, with the benefit of hindsight, was seriously misleading, and draw general conclusions from the current exercise.

## *2. Bias*

Although the 1991 study found that our real GNP forecasts from 1984 to 1990 had no persistent bias, the ESRI in general and the QEC in particular have continued to be regarded in some quarters as optimistic forecasters. The eleven years from 1984 to 1994 inclusive, comprising the greater part of two economic cycles provide a suitable period to re-examine whether there has been consistent bias in QEC forecasts.

The following set of tables show the annual average percentage changes over the period in QEC forecasts and official NIE estimates of major national accounts aggregates and other key economic variables. Each table shows the annual average percentage increase for the whole period and for the two sub-periods 1984 to 1989 and 1990 to 1994, each representing a cycle virtually from peak to peak. In most cases the increases are shown for the initial QEC forecasts, the final QEC estimates, the preliminary NIE estimates and the latest NIE estimates, which is NIE 1994 for recent years.

(a) *Current Price Aggregates*

Table 1: *Current Price Aggregates*

	<i>Annual Average Percentage Increase</i>								
	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94
	<i>Current Price GNP</i>			<i>Current Price GDP</i>			<i>Current Price Net Factor Flow</i>		
QEC Initial	7.0	7.4	7.1	7.4	7.4	7.4	10.2	7.3	8.9
QEC Final	7.4	6.9	7.1	8.1	6.8	7.5	17.7	6.8	11.5
NIE Prelim.	7.1	7.0	7.0	8.0	6.2	7.2	17.0	0.8	9.3
NIE Latest	7.7	6.7	7.2	8.7	6.4	7.7	18.2	5.0	12.0

Table 1 sets out the results for current price GNP, GDP and net factor flows. There is virtually no difference between the initial and final QEC average GNP growth over the entire period, and both fall within the range of NIE estimates. In both sub-periods the QEC final estimate falls within the NIE range. The initial QEC forecasts were marginally low in the first period and high in the second, especially when compared with the latest NIE estimates.

The current price GDP forecasts for the entire period were also within the range of NIE estimates. Here, however, there was significant underprediction in the first sub-period and over-prediction in the second, when the QEC initial forecast is compared with the latest NIE estimate.

Major discrepancies occur in the final section of the table, where average increases in net factor flows are compared. In the first sub-period, the initial forecasts were much too low, mainly because the predictions for 1984 and 1985 were made before the "black-hole" revisions to official balance of payments estimates were available. In the second sub-period the initial QEC forecasts were too high, partly in reaction to the underprediction revealed in the earlier exercise, but mainly due to a failure to foresee the substantial falls in factor outflows in 1990 and 1991 after some years of rapid increase. Final QEC estimates were close to the out-turn in the first sub-period, when most of the data were available by the time of publication. With the timing of official balance of payments estimates much slower in the second period, the accuracy of the final QEC estimates inevitably suffered. Over the full eleven year period, however, the evidence does not suggest a significant persistent bias in the forecasts.

A noteworthy feature is the scale of the revisions in the official estimates, especially in the second sub-period. With such a divergence between preliminary and latest NIE estimates, it is difficult to define what outcome the QEC is attempting to predict, and unreasonable to expect a high degree of accuracy in relation to any subsequent measure.

(b) Constant Price Aggregates

Table 2: Constant Price Aggregates

	Annual Average Percentage Increase								
	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94
	Constant Price GNP			Constant Price GDP			Constant Price Net Factor Flow		
QEC Initial	2.1	3.9	2.9	2.5	4.0	3.2	6.4	5.2	5.9
QEC Final	2.2	4.0	3.0	3.1	4.4	3.7	12.2	7.3	9.9
NIE Prelim. Exp.	2.0	5.5	3.6	3.3	5.0	4.1	14.2	2.6	8.9
NIE Latest Exp.	2.6	4.6	3.5	3.8	4.7	4.2	14.6	6.3	10.8
NIE Latest Output	2.2	3.8	2.9	3.4	4.0	3.7			

The accuracy or otherwise of forecasts tends to be judged mainly on the basis of the increase in constant price GNP, frequently referred to as simply "the growth rate". In fact, this is an over-simplification, as there are two official estimates of constant price GNP, one based on deflating expenditure on GNP and the other based on deflating output. Because the QEC forecasts only deflate the expenditure items, the obvious comparison is with the constant price expenditure estimates in the national accounts. The latest output estimates are also included in the table, largely to show the extent of the divergence in cumulative growth between the two methods.

There is little difference between the average growth in QEC initial forecasts and final estimates, indicating that upward and downward revisions in the course of individual years roughly cancel out. Compared with the latest NIE expenditure estimates, the QEC forecasts have been slightly too pessimistic over the entire period and in both sub-periods. This change with regard to the 1991 findings regarding the 1984/89 period reflects official revisions since 1991 to growth rates in that sub-period.

The fact that QEC current price forecasts were unbiased, while constant price forecasts show a slight downward bias, is almost entirely due to a tendency to apply too high an average export price deflator, especially during the second sub-period. It is interesting, if perhaps accidental, that the average increase in the QEC forecasts is very close to that in the official output measure of real GNP, in both sub-periods and over the entire eleven years. More crucially, the QEC forecasts did predict the substantial increase in the average rate of growth in the second sub-period compared with the first.

The QEC forecasts of average real GDP growth similarly were closer to the output measure than to the expenditure, which they tended to underpredict. Constant price net factor flows were underpredicted in the final sub-period and overpredicted in the second. The overprediction in recent years was much less marked in constant prices than in current prices, because of the excessive export

price deflators already referred to, which, of course, are also applied to net factor flows.

(c) *Domestic and External Demand*

Table 3: *Domestic and External Demand*

	<i>Annual Average Percentage Increase</i>								
	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94
	<i>Constant Price Domestic Demand</i>			<i>Constant Price Exports</i>			<i>Constant Price Imports</i>		
QEC Initial	1.3	3.8	2.4	7.5	8.0	7.7	5.7	7.4	6.5
QEC Final	1.3	2.4	1.8	9.4	8.4	8.9	5.9	5.3	5.6
NIE Prelim.	1.1	2.0	1.5	9.7	10.0	9.9	5.2	6.0	5.6
NIE Latest	2.0	2.3	2.1	9.9	10.1	10.0	7.3	6.3	6.8

Domestic demand is defined here as excluding stock changes, both to facilitate comparison in terms of percentage growth and also because large-scale stock movements in Ireland are generally associated with fluctuations in agricultural exports rather than changes in domestic demand. It can be seen that, for reasons to be discussed later, the average initial QEC forecasts of growth in domestic demand were much too high in the later sub-period, and rather excessive over the whole period. Final QEC estimates were much closer to reality, although the scale of NIE revisions makes the interpretation of the actual outcome somewhat problematical.

Initial QEC forecasts of constant price exports of goods and services were significantly too low in both sub-periods. Final QEC estimates were slightly too low in the first sub-period, due mainly to overestimating the export price deflator. This factor was still present in the second sub-period, but the main reason for the decline in the accuracy of the final QEC estimates was, of course, the absence of up-to-date trade statistics when the final estimates for 1993 and 1994 were made.

The average QEC initial forecasts for constant price imports were reasonably accurate over the entire period, lying between the preliminary and latest NIE estimates. Actual import growth was underpredicted in the first sub-period but significantly over-predicted in the second. This is not surprising in view of the simultaneous overprediction of domestic demand, as import forecasts are based on the expected growth of final demand. Final QEC estimates were too low in both sub-periods, especially in comparison with revised NIE estimates. This is due more to official revisions of import values than to the use of a slightly excessive import price deflator.

(d) Domestic Demand Components

Table 4: Domestic Demand Components

	Annual Average Percentage Increase								
	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94
	Constant Price Consumption			Constant Price Govern.			Constant Price Investment		
QEC Initial	1.8	3.6	2.6	-1.1	0.6	-0.3	2.3	7.3	4.5
QEC Final	2.0	2.7	2.3	-1.4	2.2	0.3	1.6	1.8	1.7
NIE Prelim.	1.9	2.0	2.0	-1.4	2.4	0.3	0.8	1.7	1.2
NIE Latest	3.9	2.3	3.2	-1.2	3.1	0.8	-0.1	1.5	0.6
Retail Sales Volume	0.9	2.4	1.6						

NIE estimates of personal consumption must be treated with some caution, because the item is, at least partially, derived as a residual in balancing the national accounts. In particular, the doubling of the average growth in constant price consumption in the late '80s between the preliminary and latest NIE appears suspect, as it could result from revisions to consumption levels being phased in over too short a period. In the first sub-period at least, the preliminary NIE estimate probably provides a truer yardstick of comparison for the QEC forecasts than the latest revisions.

On this basis the initial QEC forecasts were reasonably unbiased in the first sub-period, but significantly overoptimistic in the second, primarily through failing to predict the relative stagnation of consumption in 1990 and 1991. Final QEC estimates were also slightly too high in the later sub-period. In this respect the changing relationship between the retail sales index and the NIE consumption index is interesting. In the first sub-period, constant price consumption, even on the preliminary estimates, grew more than twice as fast as the volume of retail sales. In the second sub-period the growth in real consumption has been slower than that in the retail sales volume index, the main short-term indicator of consumption trends.

The initial QEC forecasts of current government spending predicted the fall in volume reasonably accurately in the first sub-period. However they seriously underpredicted the reversal of trends in the second sub-period. This was partly due to assuming too low an increase in average current price spending, and partly to applying too high a price deflator in some years. Even the QEC final estimates, made after Budget-time data was available, tended to underestimate slightly the growth in the volume of public authorities' expenditure.

By far the most serious and consistent bias in the QEC initial forecasts of national accounts components relates to the volume of gross fixed capital formation, which was greatly overpredicted in both sub-periods. In only three

years out of the eleven were our initial forecasts below the out-turn, while in many of the remaining eight years they were much too high, predicting substantial growth rather than an actual decline. For some individual years there are particular reasons for this discrepancy, such as failing to foresee cyclical downturns or significant increases in interest rates. However, underlying the general bias, especially during the second sub-period, is the tendency to apply to the forecasts a mental model of the economy in which sustained economic growth, which was correctly predicted, depends on rising investment, which, according to NIE estimates, did not take place.

(e) *Current Price Components*

Table 5: *Current Price Components*

	<i>Annual Average Percentage Increase</i>								
	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94	1984/9	1990/4	1984/94
	<i>Current Price Stock Change (£m)</i>			<i>Current Price Wages etc.</i>			<i>Current Price Other Income</i>		
QEC Initial	83.5	121.0	100.5	6.3	6.4	6.4	10.3	11.0	10.6
QEC Final	44.8	122.2	80.0	6.1	6.6	6.3	15.1	10.7	13.1
NIE Prelim	102.7	121.8	111.4	5.7	6.5	6.1	15.8	8.1	12.3
NIE Latest	127.0	152.8	138.7	6.8	6.7	6.8	16.1	8.2	12.5

For technical reasons the QEC forecasts of stock changes cannot be compared with NIE estimates in volume or constant price terms. However, because of the importance and volatility of stock changes in the national accounts, some comparison appears necessary and it is therefore presented at current prices. Somewhat to our surprise, there is relatively little bias, particularly between the initial forecasts and the preliminary NIE estimates, although in some individual years there were major discrepancies. In the second sub-period, the average QEC forecasts and estimates were very close to the preliminary NIE estimates, and even in the individual years the final QEC estimates were not seriously misleading.

Turning from the expenditure to the income side of the national accounts, both the QEC and NIE only provide current price estimates. The average increase in both QEC initial forecasts and final estimates of aggregate wages, salaries and pensions lie within the range of NIE estimates for the period as a whole, and very close to the NIE estimates for both sub-periods. Even with regard to individual years, the QEC forecasts have generally proved reasonably accurate, although it must be conceded that this is one of the least volatile elements of the national accounts.

Other non-agricultural incomes, defined as trading profits of companies, other trading profits (including income from self-employment) and rent of dwellings, all adjusted for stock appreciation and for financial services, has been

much more volatile. The QEC initial forecasts were substantially too low in the first sub-period and significantly too high in the second. Final QEC estimates were reasonably close to the outcome in the first sub-period but too high in the second. The main reason for the recent overestimates in this item has been the failure to anticipate a steep rise in the adjustment elements, which are strongly negative, since 1991.

(f) *Other Indicators*

Table 6: *Employment Indicators*

	<i>Annual Average Percentage Increase</i>								
	<i>1984/9</i>	<i>1990/4</i>	<i>1984/94</i>	<i>1984/9</i>	<i>1990/4</i>	<i>1984/94</i>	<i>1984/9</i>	<i>1990/4</i>	<i>1984/94</i>
	<i>Total Employment (April)</i>			<i>Labour Force Unemployment (April)</i>			<i>Live Register (Annual Average)</i>		
QEC Initial	-0.2	0.8	0.3	3.4	2.8	3.1	2.6	0.2	1.5
Actual	-0.6	1.7	0.5	1.9	2.2	2.0	3.3	4.3	3.7

Although national accounts components and aggregates provide the framework within which the QEC forecasts are constructed and presented, the forecasts also contain predictions of variables which are outside this framework. The most important of these concern employment, unemployment and the consumer price index.

Because no official estimates are published of annual average employment totals, comparison has to be limited to the estimates based on the Labour Force Survey in April each year. The QEC forecasts presented here are those for the following April made in the preceding Summer issue of the QEC, when the full national accounts forecast for that year are first presented. There is no point in presenting the final QEC estimate, as by that time the preliminary labour force estimates are already available.

It can be seen that the average QEC forecasts of total employment were slightly optimistic in the first sub-period and pessimistic in the second sub-period and over the period as a whole. However, the degree of bias is relatively small, and the forecasts did predict the change in trend between the two sub-periods.

Forecasts of unemployment, as recorded in the Labour Force Survey, are too pessimistic in both sub-periods. Conversely forecasts of the Live Register are much too optimistic, especially in the second sub-period. This dichotomy arose from a failure to take sufficient account of the growing divergence between the Labour Force and Live Register measures of unemployment, which increased from 5,000 in April 1983 to 66,000 in April 1994. By virtually ignoring the autonomous element in the Live Register increase, we both under-predicted the growth in the numbers on the Register and imparted a downward bias to our employment forecasts.

As with the employment and unemployment indicators, there is no point in comparing the final QEC estimates with the actual increase in the consumer



price index, as the actual result is known by the time the final QEC estimate is made. The QEC initial forecasts tend to be slightly too high in both sub-periods, although not to an extent that was significantly misleading. In general, the reduction in the inflation rate from its high level in the early eighties to its fairly stable low level since 1987 was accurately predicted.

Table 7: *Consumer Price Index*

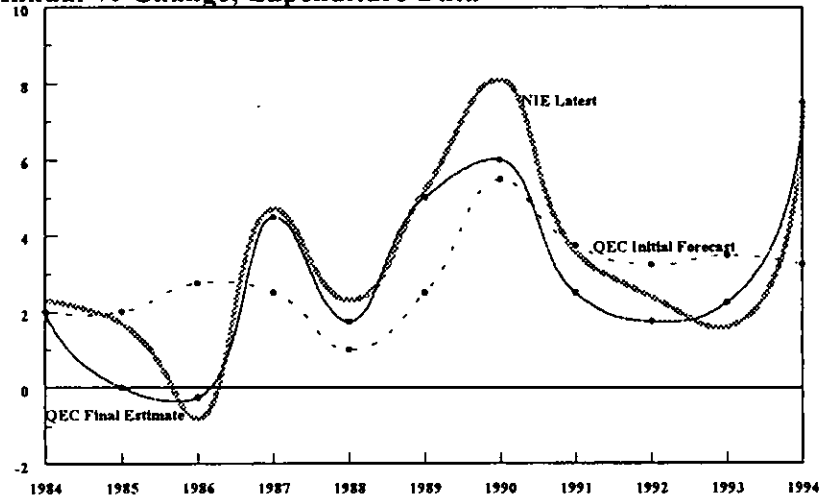
	<i>Annual Average Percentage Increase</i>		
	<i>1984/9</i>	<i>1990/94</i>	<i>1984/94</i>
	<i>Consumer Price Index</i>		
QEC Initial	4.7	3.1	4.0
Actual	4.5	2.7	3.7

### 3. *Cyclical Timing and Amplitude*

In the 1991 assessment of QEC forecasts, we found that the final QEC estimates tracked the course of the economic cycle, as defined by NIE estimates, with a high degree of accuracy. By contrast, the initial QEC forecasts showed insufficient amplitude in their variation, and tended to miss important cyclical turning points. To simplify the consideration of timing in the present exercise, attention is focused on the growth of real expenditure on GNP. The cyclical movements of categories of expenditure by and large follow a similar pattern and there is little to be gained by presenting the course of each.

Figure 1 thus sets out the QEC initial forecasts and final estimates from 1984 to 1994, compared with the latest NIE estimates from NIE 1994 and its

**FIGURE 1: Real GNP 1984-94**  
Annual % Change, Expenditure Data



predecessors. Although the chart is largely self explanatory, it does require some interpretation.

In the first place, the latest NIE estimates diverge quite significantly from earlier estimates, especially in 1985 and the period from 1991 to 1993. This has had the effect of weakening the fit between the QEC final estimates and the NIE results in the earlier sub-period, from 1984 to 1989. Conversely, it has greatly improved the fit over the second sub-period, from 1990 to 1994. Overall, it remains fair to claim that the final QEC estimates, which generally appear several months before the preliminary NIE estimates, have provided a reasonably accurate picture of the growth-path of the Irish economy.

Turning to the more interesting issue of the predictive ability of the QEC initial forecasts, there would appear to have been a slight improvement with regard to timing between the first and second sub-periods. In the earlier period the initial forecasts failed to predict the deterioration in 1986 or the subsequent recovery in 1987, although the downturn in 1988 was predicted and the direction, but not the scale, of the upturn in 1989 was also foreseen. In the second sub-period, the initial forecast of GNP growth of 5½ per cent in 1990, the highest since 1978, was quite bold, and must be regarded as successful even though it fell short of the exceptional final outcome. The downturn in 1991 was accurately predicted, and the forecast of a continuation of moderate growth in 1992 and 1993 was by no means misleading, with the predicted rate of growth in both years falling between the initial and latest NIE estimates. The apparent failure to predict the sharp up-turn in 1994 is discussed in detail later.

The data underlying Figure 1 can be subjected to more formal analysis, in an attempt to discover the comparative predictive accuracy of the QEC forecasts. The most familiar test is to calculate the standard error of forecast according to the formula  $E = \sqrt{\frac{1}{N} \sum_t (x_t - \hat{x}_t)^2}$  where E is the standard error of forecast,  $x_t$  is the actual result for year t, and  $\hat{x}_t$  is the forecast for that year. For the purpose of this exercise, it has to be assumed that the latest NIE estimates measure the actual result  $x_t$  for the growth in real GNP in each year.

Table 8 sets out the standard error of forecast over the two sub-periods and the total period for various actual or hypothetical forecasts of real GNP growth. The predictors included in the analysis are the NIE Preliminary estimates, the QEC final estimates and initial forecasts, the *post-facto* trends for the entire period and for the two-sub-periods separately, the trend projected from the latest five year NIE estimates available at the time the QEC initial forecasts were made, and a smoothed exponential forecast based on data available at the time of the QEC initial forecast.

In interpreting the table, it should be noted that the lower the standard error the more accurate the forecast, and that the method adopted, by squaring the annual errors, imposes a severe penalty for any year when, due to considerations of either timing or amplitude, the forecast diverges substantially from the actual result.

The first two rows of the table indicate that over the entire period, the QEC final estimates have proved as accurate a predictor of the latest NIE estimates of real GNP growth as have the preliminary NIE estimates.

Table 8: Standard Errors of Forecast - Constant Price GNP Growth

		cf. NIE Latest Expenditure Estimate		
		1984-89	1990-94	1984-94
1	NIE Preliminary	0.83	1.67 <sup>1</sup>	1.04 <sup>1</sup>
2	QEC Final Estimate	0.78	1.14	0.96
3	QEC Initial Forecast	2.10	2.38	2.23
4	Single Actual Trend	2.20	2.87	2.53
5	Divided Actual Trend	1.95	2.64	2.29
6	Projected 5-year Trend <sup>2</sup>	3.08	3.55	3.3
7	Projected Exponential Smoothing <sup>3</sup>	4.04	3.93	3.99

Notes: <sup>1</sup>Excluding 1994, when, by definition, NIE preliminary and latest are identical.

<sup>2</sup>Average growth rate in latest 5 years NIE estimates which were available during the preceding summer.

<sup>3</sup> $\hat{x}_t = x_{t-1} + \frac{1}{2}(x_{t-1} - x_{t-2})$ , where  $x$  = GNP growth rate, and  $t$ , etc., represent the relevant years.

Inevitably, the QEC initial forecast is less accurate. Nevertheless it performs significantly better than the application of a single observed trend line for the entire period. Even when the observed trend is split between the two sub periods, the QEC initial forecast outperforms it marginally over the entire period and significantly in the second sub-period.

Of course, the actual trend-line is unavailable at the time initial forecasts are made, and to that extent it does not provide a fair basis of comparison. However, its inclusion in the table is justified as a strict *post-facto* check on the utility of short-term annual forecasts, and as a reassurance to medium-term forecasters that, if they can accurately predict the average growth-rate over a period, the annual discrepancies are likely to be not much greater than those involved in ad hoc short-term forecasting.

The final two rows of Table 8 provide a fairer test of the efficacy of the QEC initial forecasts, as they are based on alternative projections using the information available at the time the forecast was made. The first represents a naive projection of the observed average growth rate over the preceding five years, while the second is based on the rate of growth in the latest two years. Both of these mechanical applications of past rates of growth produce standard errors of forecast substantially above those of the QEC initial forecast.

It seems reasonable to conclude that the judgement represented in the QEC initial forecasts yield slightly better results than the application of trend lines which can only be fitted with hindsight, and substantially better results than simple projections of past trends. It is also interesting to note that in absolute terms the quality of QEC forecasts and estimates has deteriorated in the second sub-period compared with the first, but that in comparative terms the QEC has improved its performance in the second sub-period. The explanation for the deterioration in most predictions for the second sub-period lies partly in the

greater variability in the annual growth rates, and partly in the reduced availability of up-to-date information on trade-flows.

#### *4. Individual Years*

The course of our real GNP forecasts, from the initial forecast to the final estimate, for each year from 1984 to 1989 was discussed in the 1991 assessment. We do not intend to repeat this exercise here for the earlier years, as the only change has been that the range of "actual" results has widened with subsequent NIE revisions. However, the approach is instructive in understanding the influence of contemporary events on the evolution of forecasts, and will therefore be adopted for the years since 1990. As in the earlier exercise, both current and constant price GNP forecasts will be considered.

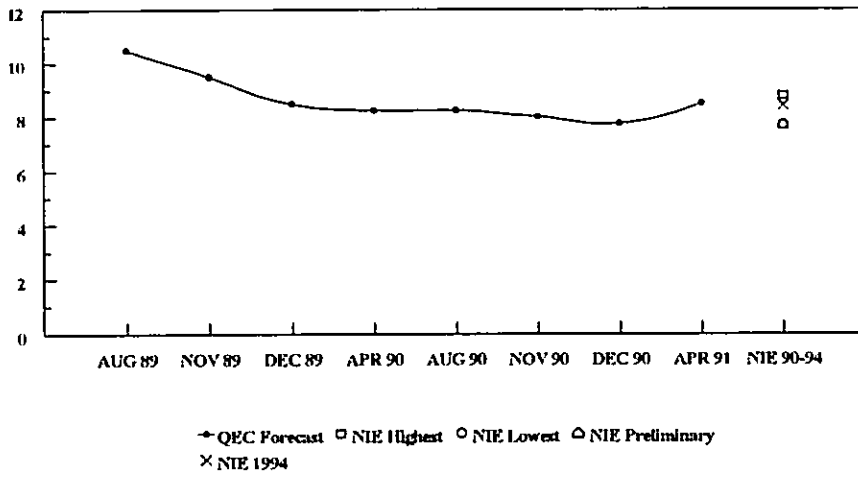
##### *(a) 1990*

As can be seen from a comparison of the (a) and (b) sections of Figure 2, the initial forecasts made in the summer of 1989 were slightly too high in current prices and too low in constant prices, implying too great an implied price deflator. During the remainder of 1989, both current and constant price forecasts fell, the former to within the correct range of outcomes and the latter further below the eventual result. In the case of the volume forecasts, the reduction in the main categories of expenditure, namely personal consumption, fixed investment and exports was broadly correct, but we failed to foresee the compensating rise in government consumption (after several years of decline) and stockbuilding, and the reduced rate of growth in imports and factor flows.

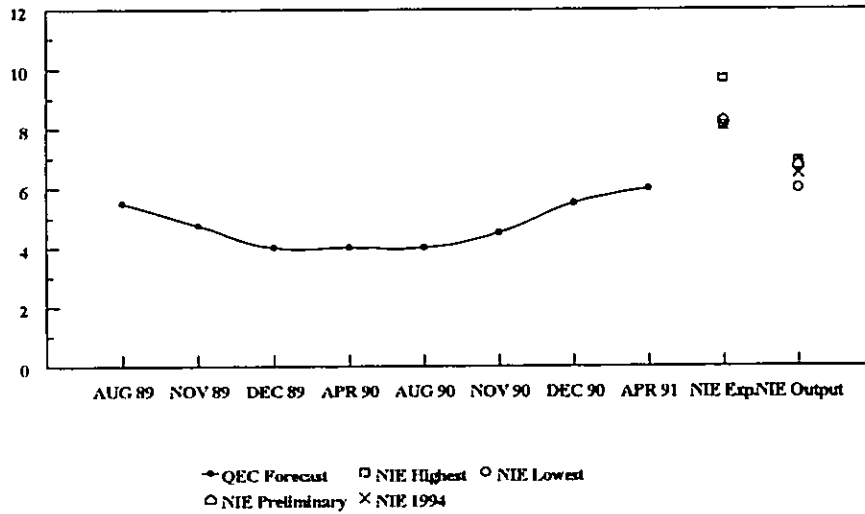
Through the first half of 1990 itself there was little change in the forecasts, as early indicators, especially in current prices, appeared to confirm the predicted trend. It was not until the second half of 1990 that it became apparent that export prices were much lower than anticipated, and that the gap between value and volume growth would be much narrower than we had supposed. Thereafter, while the current price forecast remained more or less correct, the constant price forecast moved steadily towards the correct outcome, although it never quite reached the actual range of estimates. At the same time considerable amendments were made to the forecast composition of GNP, the most important being a major shift from exports to stockbuilding as the dramatic impact of mad-cow disease became clear. Nevertheless, the final estimates of real expenditure components remained significantly at variance with official estimates. Personal consumption was overestimated, due to over-reliance on the retail sales volume index, government consumption was understated, largely through the application of an unduly high price deflator, and fixed investment was underestimated because much of the actual increase occurred in non-dwelling building and construction, for which, at that time, there were virtually no current indicators.

# FIGURE 2: GNP FORECASTS, 1990

## (A) Current Price, Annual % Change



## (B) Constant Price, Annual % Change



*(b) 1991*

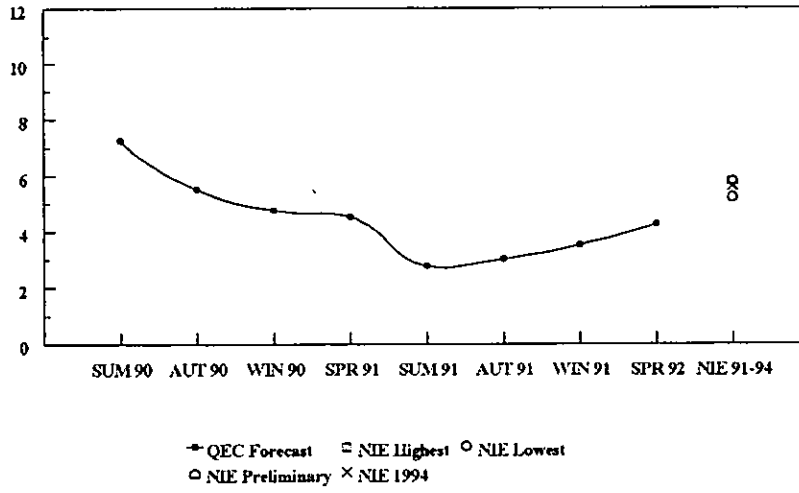
The initial forecast for 1991 was made in the summer of 1990. Although in retrospect it is obvious that the recession in the USA and UK was already established by then, this was far from clear at the time. Most international agencies were still predicting a slowdown in growth rather than an actual fall in output. Moreover the initial forecast was drawn up immediately before the Iraqi invasion of Kuwait led to the threat of a Gulf War, and a dramatic increase in oil prices. Thus the initial forecast of a reduced, but still substantial, growth in the value and volume of GNP in 1991 was not unreasonable in the circumstances.

As the extent of the recession in the major English-speaking economies became apparent, and as the situation in the Gulf developed, both the current and constant price forecasts were reduced. Throughout 1991 itself, the value and volume forecasts were fairly stable, although considerably below the actual range of outcomes. However, it is important to note that at all times the volume forecasts remained firmly positive, in contrast to those of some other analysts who were predicting stagnation or recession in the Irish economy. Finally in the Spring 1992 issue of the QEC a small upward revision in our estimates placed the volume increase within the range of NIE output estimates, although still below any of the NIE expenditure estimates. The final QEC value estimate remained below the range of NIE estimates.

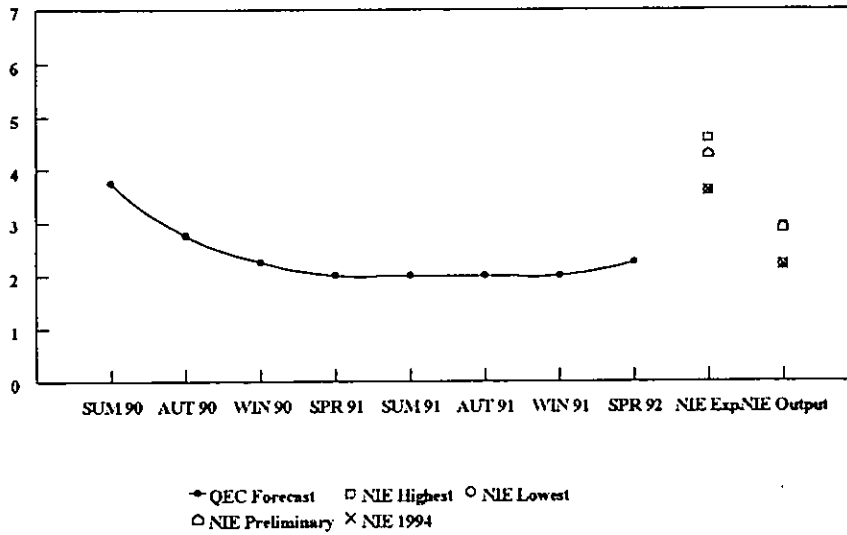
The main reason for the discrepancy between our later forecasts of the volume of GNP and the official NIE estimates was a failure to predict a large fall in the volume of net factor flows. Throughout the period the QEC forecasts of real GDP growth remained within, or slightly above, the eventual range of outcomes. Gradual changes to predictions for most components of GDP brought them into reasonable line with the NIE estimates by the time of the QEC final estimate.

### FIGURE 3: GNP FORECASTS, 1991

#### (A) Current Price, Annual % Change



#### (B) Constant Price, Annual % Change



(c) 1992

Uncertainties concerning the state of the international economy led to some fluctuation in the first few forecasts of GNP growth in 1992. Early optimism concerning a relatively speedy recovery from the US and UK recessions faded, leading to downward revisions in the Autumn and Winter QECs. However, growing evidence of an upturn in domestic demand and strong export figures for the early months of the year encouraged upward revisions to our forecasts in the Spring and Summer issues.

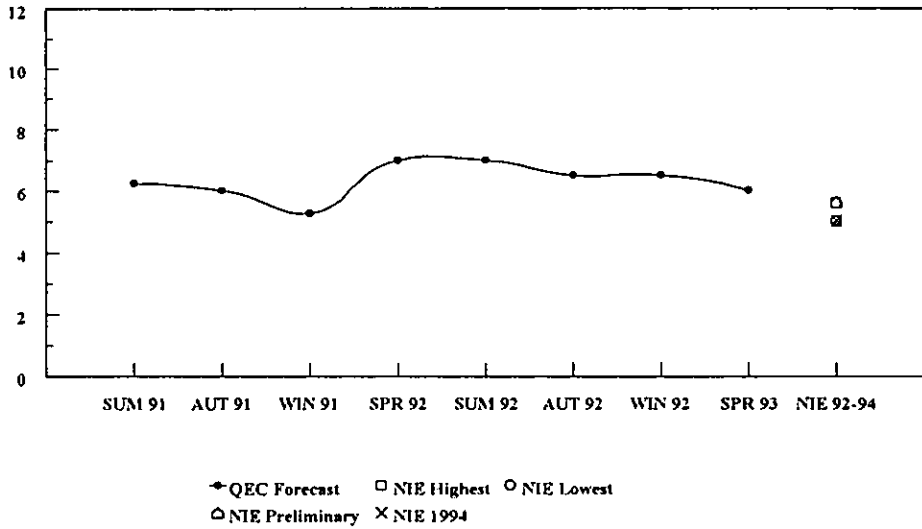
Then came the currency crisis in September. Although several previous *Commentaries* had warned of the dangers of a sterling devaluation before the end of 1992, Britain's decision to leave the ERM rather than to devalue within it had not been foreseen. The severe loss of short-term competitiveness and, more vitally, the escalation of interest rates obviously damaged the confidence on which the recovery in domestic demand earlier in the year had been based.

Accordingly the predicted rate of GNP growth for 1992 was reduced in the Autumn QEC, and again in the final estimate in the following Spring issue. Strangely, through all these amendments, the forecasts of volume GNP growth remained within the range of outcomes, until the final estimate which was rather too low.

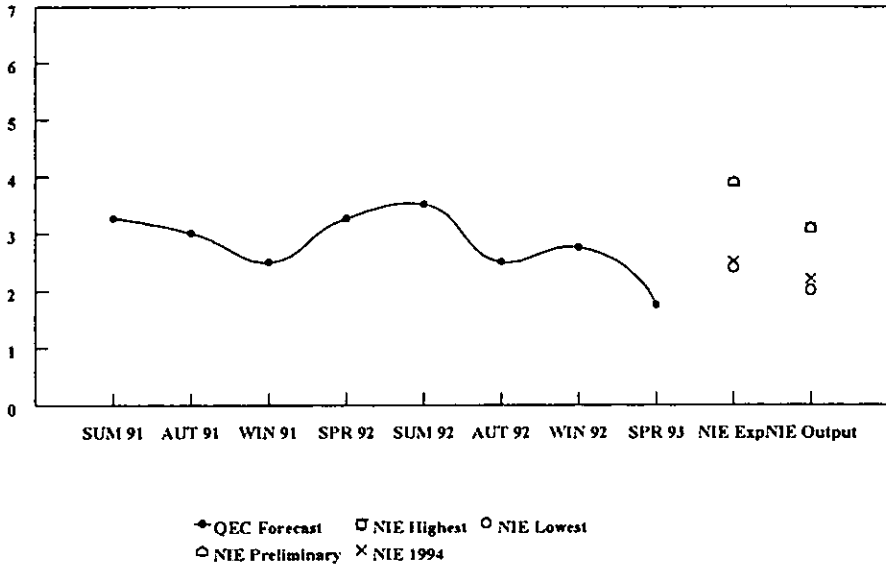
The main reason for this final estimate being too low was an overestimate of the export price deflator, which meant that from accurate export value figures the extent of the volume growth of exports was underestimated. This same failure to predict the degree of decline in average export prices is one of the main reasons why the value forecasts of GNP growth remained too high almost throughout the period.



**FIGURE 4: GNP FORECASTS, 1992**  
**(A) Current Price, Annual % Change**



**(B) Constant Price, Annual % Change**



(d) 1993

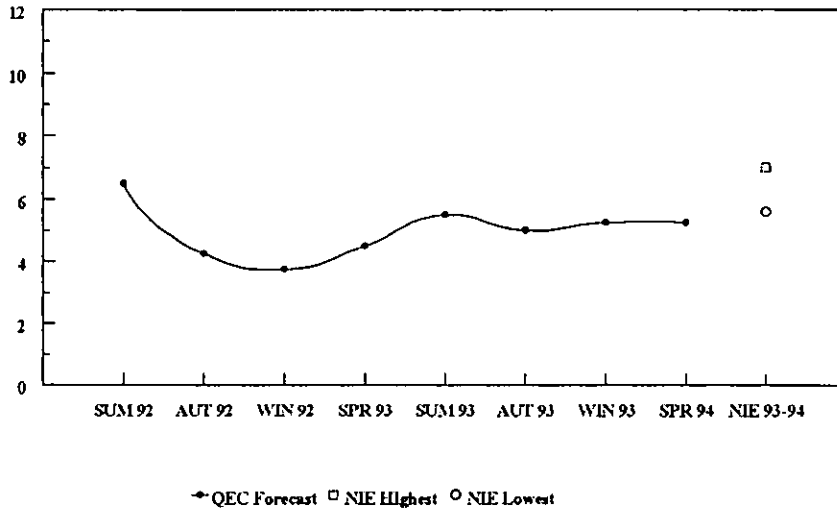
The initial forecasts for 1993 were made immediately before the currency crisis. It seemed reasonable at the time to project a continuation of the moderate increases in personal consumption and fixed investment which were becoming established in the first half of 1992. A slight slowdown in the rate of growth of exports was predicted as a consequence of the assumed devaluation of sterling within the ERM.

Once the currency crisis had broken, it was obvious that uncertainty, coupled with very high interest rates, would adversely affect the trend of consumption and fixed investment. Exports were also likely to be impeded by the sheer scale of sterling depreciation and the cost of working capital to some Irish exporters. Throughout the autumn and early winter it remained unclear when and how the currency crisis would be resolved, and even after the devaluation of the Irish pound at the end of January, it was not immediately apparent what course Irish interest rates would follow in the remainder of the year. Thus it is not surprising that forecasts were reduced sharply in the Autumn and Winter *Commentaries*. As in the Gulf War period of 1991, it is noteworthy that the QEC forecasts remained positive throughout the currency crisis, even if they did dip below the eventual outcome.

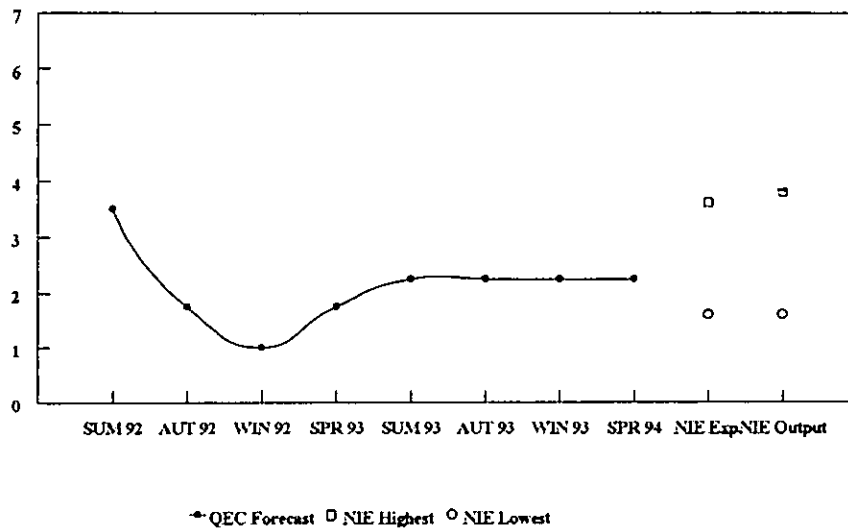
Even when it became clear that the interest rate penalty for devaluation was much less than had been feared, and when sterling appreciation fully restored Ireland's competitive position, the speed of recovery was difficult to predict. It was impossible to monitor fully the progress of the Irish economy in the remainder of 1993, because of the lateness of trade statistics and their lack of comparability with previous years due to the change of methodology imposed by the implementation of the Single European Market. In the circumstances it is remarkable that the QEC forecasts from the Summer 1993 issue onwards remained both steady and relatively close to the NIE 1994 estimates of growth in 1993.

# FIGURE 5: GNP FORECASTS, 1993

## (A) Current Price, Annual % Change



## (B) Constant Price, Annual % Change



(e) 1994

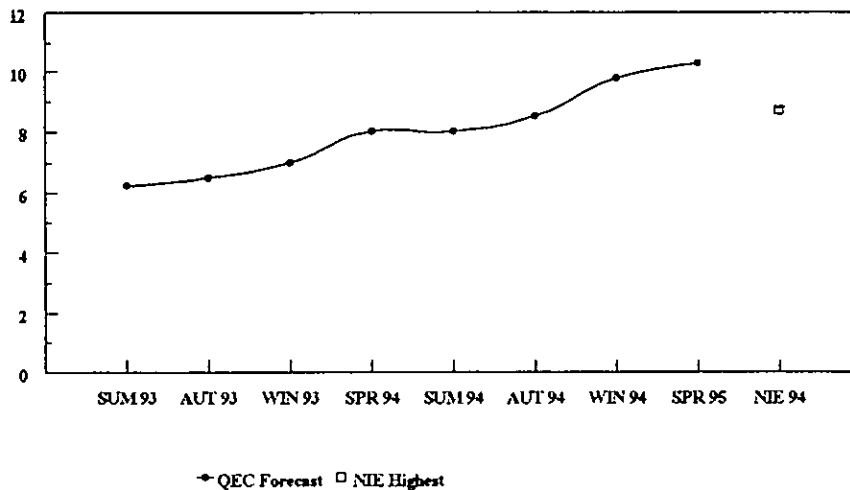
The initial QEC forecast for 1994 was, with hindsight, the poorest in the entire series since 1989, with the volume growth prediction over 4 per cent below the preliminary NIE estimate of expenditure growth. In mitigation, it can be pointed out that, when the forecast was made in the summer of 1993, most European analysts were predicting continued recession, the Irish recovery from the currency crisis was only beginning, and no trade statistics were available to show the strong export performance which was already taking place. Moreover, the forecast did show an increase of 1 per cent over the growth rate then predicted for 1993, and the text of the *Commentary* did make it clear that the forecast was a cautious one and might well be exceeded. Our caution was conditioned by the finding in our *Spring 1991 Assessment* that we had tended to underestimate the time-lags in responses to economic stimuli. Thus, while predicting that an economic recovery was due, moderate in Europe but strong in Ireland, we considered it most likely that the highest rate of growth would occur in 1995 rather than in 1994.

From the Winter QEC onwards we revised our forecasts upwards fairly regularly as evidence accumulated that a major upswing had occurred earlier than had been expected. The delays in obtaining trade and balance of payments data were a contributory factor to our continuing to underpredict export growth and overpredict net factor outflows throughout 1994, while our tendency to overestimate the export price deflator led to the continuation of an undue gap between the value and volume forecasts.

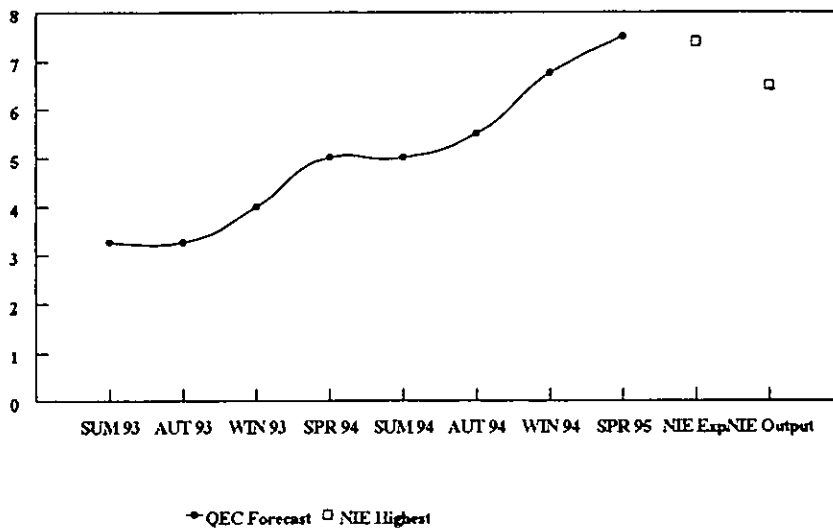
The final upward revisions made in the early months of 1995 took our value forecasts above the level of the preliminary NIE estimates and our volume forecasts close to the preliminary outcome. Of course, there is no way of knowing yet how future revisions to the NIE estimates will alter the picture of the economy in 1994. Our suspicion is that NIE estimates of the growth in domestic demand might be revised upwards, bringing them closer to the final QEC estimate, but that estimates of net exports, adjusted for factor flows, might be revised downwards, leaving little change in the estimated growth of real GNP.

# FIGURE 6: GNP FORECASTS, 1994

## (A) Current Price, Annual % Change



## (B) Constant Price, Annual % Change



## 5. *Qualitative Implications*

Apart from presenting numerical forecasts, the QEC has an important role in providing qualitative assessments of the state of the economy and in drawing implications for policy from such assessments. It is obviously not feasible to present a detailed review of the conclusions of each *Commentary* since 1984, or even 1990. However it is possible to consider the major recurring themes in the QEC over the period and also to highlight any specific instances in which, with the benefit of hindsight, the advice given might have been counterproductive.

In the *Spring 1991 Assessment* we found that we could stand fully over the advice we had offered during the eighties. This initially stressed the absolute need to reduce the Exchequer Borrowing Requirement, and later advocated a consensus approach to economic policy within which reducing the debt ratio would remain a major, but no longer an overriding, aim, along with pay moderation, currency stability and social justice. A further recurring theme was the desirability of sectional groups taking a long-term view of their members' interests. From the perspective of an extra five years, this still appears to have been an appropriate corpus of advice, and, coincidentally or not, much of it has been adopted.

Turning to the nineties, the dominant theme of the *Commentaries* has been that the Irish economy has been consistently outperforming its EU partners in terms of GNP growth, employment trends, price stability, the current account balance of payments and restrained public borrowing. This has been interpreted as indicating that the broad consensus economic strategy has been successful, and that the policy debate should be concerned with the balance of priorities and relatively minor modifications within the framework of this strategy, and not with any radical change of direction. In this context of strategic continuity, support has been offered for the formalisation of the consensus approach through the renewal of national agreements, but only on the condition that their pay provisions remained sufficiently moderate to maintain Irish competitiveness. Particular stress has been laid on the need to reform the public service pay arbitration system, and, since this reform has been achieved, to ensure that indirect methods to achieve excessive increases in public service pay or conditions do not become established.

While welcoming the explicit trade-off between pay moderation and gradual reductions in effective income tax rates, we have retained doubts about more radical tax reform as a panacea, and have been sceptical concerning the willingness of the electorate to accept alternative taxes as the price of reducing income tax rates.

In general, the thrust of these analyses of domestic policy issues still seems to have been valid, and to have been borne out by the development of the economy. There are, however, two issues on which our analysis appears at times to have been deficient, and which could have led to inappropriate advice.

With regard to the currency, in common with other analysts, we failed to foresee the effective break-up of the ERM, and prior to the summer of 1992 tended to take the stability of exchange rates for granted. Although we warned of a possible devaluation of sterling, we assumed that this would take place in

an orderly manner and would have no lasting consequences beyond a temporary improvement in UK competitiveness. Even after sterling and the lira were removed from the ERM, we tended to underestimate the speed with which UK interest rates would be reduced, the strength of the speculative forces against the remainder of the ERM, and the degree of market linkage between sterling and the Irish pound. In retrospect the suggestion in the Autumn 1992 QEC that a strong internal adjustment package could have enabled parity to be maintained with the DM within a narrow band ERM was not realistic. This attempt to seek an alternative to devaluation was coloured by the fact that, along with many others, we overestimated the likely impact of devaluation on inflation and interest rates in the particular circumstances of 1993.

Since the broadening of the ERM bands in the summer of 1993, our assessment has been that allowing both the currency and interest rates to vary should prevent excessive changes in either, and enable the trade weighted value of the Irish pound to remain reasonably stable. So far, this prescription has remained valid, although, as we have frequently warned, sterling weakness could pose the awkward question as to whether Ireland should maintain its current parity within the ERM if this requires both higher interest rates and a further loss of competitiveness *vis-à-vis* the UK. Meanwhile, we would certainly still stand over our repeated advice that individual companies should protect themselves as far as possible against currency fluctuations, particularly with regard to sterling.

The other major area where, with hindsight, our analysis appears questionable is that of unemployment. Our preoccupation with the need for sustained net job creation to tackle the twin social evils of unemployment and involuntary emigration requires no justification. Nor does our repeated assertion that balanced economic growth would result in a substantial rise in employment. However, our reports on progress in this direction have tended to be unduly pessimistic in tone, because of an undue reliance on the Live Register as a short term measure of unemployment trends. A failure to recognise and highlight the large and growing divergence between the Live Register and the consistent *Labour Force Survey* measure of unemployment could have contributed to a national perception that the present economic strategy was incapable of delivering a substantial reduction in total unemployment.

On balance, however, and despite these two cases of deficient analysis, most of the discussion in the QEC over the past eleven years seems able to withstand the scrutiny of hindsight. In particular, errors of forecasting, with regard either to the composition of growth or to its timing, do not appear to have precipitated serious misdiagnosis of economic problems or dangerously inappropriate prescriptions.

## 6. Conclusions

- (a) Judged against the range of subsequent official estimates, the QEC forecasts and estimates since 1984 show little or no consistent bias in relation to the key economic variables of GNP, employment and consumer prices. If anything, there was a slight tendency towards the pessimistic, especially in the second sub-period from 1990 to 1994.

- (b) The QEC initial forecasts correctly predicted the strong improvement in the trend of these major variables between the 1984/89 and the 1990/94 sub-periods.
- (c) At a less aggregate level, the initial QEC forecasts tended to over-predict the growth in domestic demand, especially fixed investment, and under-predict the growth in net exports.
- (d) The degree of revision in NIE estimates for many components of GNP, are themselves rather disturbing, and complicate the task of assessing the accuracy of forecasts.
- (e) The most glaring bias in the QEC forecasts related to the Live Register. This apparent optimism arose entirely from a failure to predict the massive divergence between the Live Register and labour force measures of unemployment. Influenced by contemporary Live Register trends, QEC forecasts of labour force unemployment tended to be too pessimistic.
- (f) The accuracy of final QEC estimates in tracking the cyclical path of economic growth deteriorated compared with the result found in the 1991 assessment. This can be attributed partly to late NIE revisions for the 1984/89 sub-period and mainly to the absence of up-to-date trade and balance of payments statistics for part of the 1990/94 sub-period.
- (g) The temporal fit between the initial QEC forecasts and the latest NIE estimates was rather better in the second sub-period than the first, despite the occurrence of such unforeseen external shocks as the Gulf War and the effective collapse of the ERM. Even the failure to incorporate the strong recovery in 1994 in the initial forecast for that year was mitigated by suggestions in the accompanying text that the rapid growth then expected for 1995 could in fact come in 1994.
- (h) Statistical tests demonstrate that the standard error of forecast of the QEC initial forecasts was considerably lower than that of alternative naive projections, and slightly better than that obtained by fitting *post-facto* trend lines to the period.
- (i) The accurate early prediction of cyclical turning points remains an endemic problem. One major difficulty in this regard is that the international agencies and sister institutes in other countries, on which we rely for forecasts of the international economic environment, themselves have a very indifferent record in predicting the timing and amplitude of international economic cycles.
- (j) Even with the benefit of hindsight we would be prepared to re-iterate most of the qualitative analysis and policy recommendations made during the period under review. The two issues on which we would now at least change our emphasis, namely the currency crisis in late 1992 and the intractability of the unemployment problem, appear to be more than counterbalanced by the consistent support given to a balanced, consensual, economic strategy which has been a fundamental factor in Ireland's relatively good economic performance since the late '80s.



- (k) We believe that this exercise has shown that, despite some continuing weaknesses, the QEC has presented reasonably accurate and consistent forecasts over the past eleven years, and has offered generally sound analysis and advice over the same period. However, aspects of such an exercise are always salutary, and we shall continue to stress the considerable degree of uncertainty which inevitably is attached to any economic forecast.

*STATISTICAL APPENDIX*

	Output Indicators					Employment		
	1	2	3	4	5	6	7	8
	Total Manufacturing	Modern Manufacturing	Traditional Manufacturing	Electricity Output	Houses Completed	Total Manufacturing	Modern Manufacturing	Traditional Manufacturing
	1985=100	1985=100	1985=100	G.W.H.	Total Number	'000s	'000s	'000s
1987	113.6	132.7	101.4	12866	18450	182.4	41.1	141.2
1988	127.6	161.9	105.8	13068	15654	182.9	43.2	139.7
1989	142.5	188.9	112.3	13640	18068	187.0	45.4	141.7
1990	149.2	197.9	117.6	14325	19539	191.9	48.4	143.5
1991	153.9	208.6	118.0	14990	19652	193.9	50.7	143.4
1992	169.6	243.6	121.0	15682	22464	194.0	52.1	141.9
1993	178.8	265.7	121.3	16161	21391	194.0	54.5	139.6
1994	201.6	309.9	127.7	16844	26863	199.3	58.2	141.1

Quarterly Averages or Totals

1992 I	167.6	245.9	113.2	4187	4372	192.5	51.4	141.3
II	173.4	245.6	122.5	3644	5920	193.4	51.3	141.9
III	161.0	227.5	113.9	3602	6284	195.4	52.2	143.2
IV	176.8	248.9	122.2	4249	5888	194.5	53.4	141.0
1993 I	182.0	280.2	113.7	4239	4004	191.3	53.5	137.8
II	184.1	272.6	122.2	3810	5051	193.0	53.2	139.9
III	164.4	237.6	113.5	3726	5764	195.7	55.1	140.9
IV	185.2	266.1	123.5	4386	6572	195.9	56.2	139.8
1994 I	195.2	299.8	118.8	4484	4692	194.6	55.9	138.4
II	206.1	312.2	128.6	4016	5889	197.7	56.9	141.0
III	186.2	282.5	118.9	3874	7799	200.7	58.6	142.1
IV	219.5	337.7	132.1	4470	8483	204.2	61.2	143.0
1995 I	225.0	368.7	124.1	4674	6295	205.2	62.0	142.7
II	242.4	390.6	138.6	4151	7156	209.1	63.5	145.5
III								

Quarterly Averages or Totals (Seasonally Corrected)

1992 I	164.8	229.8	117.5	3884	No Seasonal Pattern	194.6	52.0	142.9
II	167.4	236.3	118.1	3864		194.2	51.8	141.9
III	174.2	253.8	119.2	3934		193.7	51.9	141.9
IV	172.6	250.6	117.3	3997		193.3	52.6	140.7
1993 I	178.2	261.5	117.8	3935		193.4	54.1	139.5
II	177.7	262.3	117.7	4033		193.8	53.7	139.8
III	178.3	265.2	118.7	4067		194.0	54.9	139.6
IV	181.2	268.1	118.7	4131		194.7	55.4	139.5
1994 I	190.8	279.7	123.0	4166		196.8	56.4	140.1
II	198.8	300.1	123.8	4244		198.3	57.4	140.8
III	202.6	315.6	124.3	4228		199.1	58.4	140.8
IV	214.7	340.3	127.2	4211		203.0	60.3	142.7
1995 I	219.7	343.9	128.4	4347		207.1	62.5	144.5
II	233.8	375.2	133.4	4380		209.7	64.0	145.2
III								
IV								

Output Per Head			Money Earnings	Real Earnings	Unemployment			
9	10	11	12	13	14	15	16	
Total Manufacturing	Modern Manufacturing	Traditional Manufacturing	Manufacturing	Manufacturing	Live Register Male	Live Register Female	Live Register Total	
1985=100	1985=100	1985=100	1989=100 Av. Weekly	1989=100 Av. Weekly	'000s Av. Monthly	'000s Av. Monthly	'000s Av. Monthly	
127.2	106.0	91.8	97.6	176.2	71.1	247.3	247.3	1987
147.6	111.7	96.1	100.0	169.7	71.7	241.4	241.4	1988
164.0	116.9	100.0	100.0	160.0	71.6	231.6	231.6	1989
160.9	121.0	103.9	100.5	152.1	72.6	224.7	224.7	1990
162.1	121.5	108.4	101.7	170.5	83.5	253.9	253.9	1991
184.2	125.8	112.8	102.6	187.2	96.0	283.1	283.1	1992
192.0	128.1	118.8	106.6	193.8	100.5	294.3	294.3	1993
209.8	133.5	122.3	107.2	184.4	98.0	282.4	282.4	1994

Quarterly Averages

188.4	118.1	109.6	100.6	186.7	91.4	278.1	278.1	1992 I
188.5	127.4	112.5	102.5	183.9	93.1	277.0	277.0	II
171.6	117.3	113.2	102.5	188.5	101.8	290.2	290.2	III
183.6	127.9	115.7	104.6	189.5	97.6	287.2	287.2	IV
206.2	121.7	115.5	104.0	197.9	101.7	299.6	299.6	1993 I
201.8	128.9	117.1	105.7	193.7	98.9	292.6	292.6	II
169.8	118.8	119.7	106.9	192.9	102.1	294.9	294.9	III
186.5	130.3	123.0	109.6	190.5	99.5	290.0	290.0	IV
211.2	126.6	121.0	107.1	194.1	99.6	293.7	293.7	1994 I
216.0	134.5	122.1	107.2	183.7	96.3	280.0	280.0	II
189.8	123.4	121.3	105.7	181.6	99.5	281.1	281.1	III
217.3	136.3	124.9	108.7	178.2	96.7	274.9	274.9	IV
234.2	128.3	123.4	106.6	181.8	97.8	279.6	279.6	1995 I
242.2	140.5			176.9	96.8	273.7	273.7	II
				177.7	101.5	279.2		III
								IV

Quarterly Averages (Seasonally Corrected)

157.8	174.4	121.3	110.7	101.5	181.9	91.0	272.9	1992 I
161.5	179.1	122.7	112.4	102.4	185.5	94.4	279.9	II
168.3	192.7	123.7	113.4	102.8	189.6	99.2	288.8	III
167.6	187.9	123.3	114.6	103.4	191.7	99.3	291.0	IV
172.0	191.0	124.6	116.5	104.9	193.2	101.3	294.5	1993 I
171.8	191.7	124.1	117.0	105.6	195.2	100.2	295.4	II
171.6	190.4	125.3	120.1	107.3	193.9	99.5	293.4	III
174.6	191.0	125.9	121.7	108.3	192.7	101.1	293.8	IV
181.2	195.8	129.5	122.0	108.0	189.5	99.1	288.6	1994 I
187.6	205.0	129.5	121.9	107.1	185.1	97.8	282.9	II
189.6	212.8	130.1	121.8	106.2	182.6	96.9	279.5	III
198.7	222.6	131.8	123.5	107.4	180.4	98.3	278.7	IV
198.0	217.3	131.1	124.4	107.4	177.1	97.4	274.5	1995 I
208.5	229.6	135.3			178.3	98.3	276.6	II
					178.7	98.9	277.6	III
								IV

	Prices							
	17	18	19	20	21	22	23	24
	Consumer Price Index	Output Price Index Manufacturing	General Wholesale Price Index	Agricultural Output Price Index	Import Unit Value	Export Unit Value	Terms of Trade	Price of Stocks + Shares (ISEQ)
	Nov. 1989 = 100	1985 = 100	1985 = 100	1985 = 100	1990 = 100	1990 = 100	1990 = 100	Jan 1988 = 1000
1987	92.6	100.4	98.4	97.2	92.8	96.6	104.2	1326.2
1988	94.6	104.5	102.4	107.4	98.9	103.6	104.8	1294.6
1989	98.5	109.5	108.1	112.8	105.3	110.5	104.9	1633.6
1990	101.7	107.8	105.1	100.0	100.0	100.0	100.0	1562.2
1991	105.0	108.7	106.4	96.4	102.3	99.3	97.0	1382.4
1992	108.3	110.5	107.3	97.8	100.2	96.6	96.4	1311.1
1993	109.8	115.6	112.4	104.2	105.4	103.9	98.6	1576.0
1994	112.4	116.9		105.8	108.1	103.8	96.0	1853.4

Quarterly Averages

1992 I	107.3	110.2	107.8	98.8	102.1	99.3	97.2	1426.9
II	108.1	111.3	108.3	100.8	101.4	102.2	100.7	1389.8
III	108.7	110.6	107.2	97.9	99.1	97.5	98.4	1263.1
IV	108.9	109.8	106.0	95.9	96.6	93.8	97.1	1164.5
1993 I	109.3	112.9	109.9	100.2	103.1	97.9	95.0	1313.5
II	109.1	115.2	111.9	106.3	104.4	100.7	96.5	1532.2
III	110.2	117.2	114.0	105.1	106.2	101.6	95.6	1685.6
IV	110.5	116.9	113.9	104.2	106.6	102.0	95.7	1772.6
1994 I	111.2	117.0	113.5	108.5	108.2	103.4	95.6	1966.3
II	112.1	117.1	113.9	111.2	109.6	105.5	96.2	1806.3
III	113.0	116.6	113.2	104.6	109.0	106.6	97.8	1817.7
IV	113.1	116.8	113.4	103.1	109.2	103.6	94.9	1823.1
1995 I	114.0	118.3	115.4	107.8	112.8	106.1	94.1	1863.6
II	115.2	119.5		110.5	114.6	108.7	94.8	1893.2
III	115.7	120.2						2055.7
IV								

1992 I	107.0	110.5	108.0	98.3	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern
II	108.2	110.8	108.0	98.2				
III	108.5	110.3	107.0	98.8				
IV	109.0	110.3	106.4	98.2				
1993 I	109.4	113.1	110.2	99.7				
II	109.1	114.8	111.5	103.4				
III	110.0	116.9	113.8	105.9				
IV	110.6	117.5	114.4	106.7				
1994 I	111.3	117.1	113.7	108.1				
II	112.1	116.6	113.4	108.1				
III	112.8	116.3	113.0	105.5				
IV	113.2	117.3	113.9	105.7				
1995 I	114.1	118.5	115.6	107.5				
II	115.2	119.1		107.4				
III	115.5	119.9						
IV								

Consumption Indicators			Government			Interest Rates		
25	26	27	28	29	30	31	32	
Cars Registered (New + S/H)	Retail Sales Value	Retail Sales Volume	Current Revenue	Current Expenditure	Current Deficit	1 month inter Bank Rate	Long term Gilt Rate	
Total	1990=100	1990=100	£m	£m	£m	Per cent per annum	Per cent per annum	
59231	NA	NA	7151	8331	1180	10.8	11.3	1987
68126	NA	NA	7690	8006	317	7.8	9.5	1988
88452	NA	NA	7756	8019	263	9.6	8.9	1989
105849	100.0	100.0	8269	8421	152	11.1	10.1	1990
89589	101.8	99.9	8776	9076	300	10.4	9.3	1991
85492	106.2	102.2	9360	9806	446	15.2	9.1	1992
87352	109.4	103.6	10140	10519	379	10.6	7.8	1993
116636	118.0	109.3	11203	11188	-15	5.7	8.2	1994

Quarterly Averages or Totals

28411	99.0	95.8	2055	2538	483	10.6	8.7	1992 I
23950	104.7	100.7	2299	2374	75	10.2	8.8	II
21112	107.5	103.1	2473	2307	-166	14.0	9.3	III
12019	112.5	108.3	2533	2587	54	25.8	9.6	IV
25583	100.7	96.9	2170	2763	593	21.1	9.0	1993 I
27135	106.0	100.8	2363	2408	45	7.8	8.1	II
21329	110.7	104.3	2842	2622	-220	6.7	7.4	III
13305	118.7	111.3	2764	2725	-39	6.6	6.6	IV
39741	113.1	105.8	2709	2962	253	6.1	6.9	1994 I
36317	115.0	106.5	3041	2651	-390	5.6	8.4	II
25637	117.2	108.2	2642	2646	4	5.4	8.7	III
14941	125.3	115.4	2811	2929	118	5.5	8.7	IV
39283	116.0	106.3	2537	2771	234	6.1	8.7	1995 I
37934	121.0	110.0	3156	2956	-200	6.5	8.4	II
			2914	2827	-87	6.0	8.3	III
								IV

Quarterly Averages or Totals (Seasonally Corrected)

22137	104.4	101.1	2259	2364	105	No Seasonal Pattern	No Seasonal Pattern	1992 I
19050	105.6	101.6	2332	2427	95			II
22806	107.2	102.9	2438	2467	29			III
22675	106.4	102.3	2337	2550	213			IV
19788	105.8	101.8	2384	2569	185			1993 I
21675	107.2	101.9	2362	2476	114			II
23063	110.5	104.2	2823	2803	-20			III
25216	112.5	105.5	2566	2678	111			IV
30598	118.9	111.1	2971	2755	-216			1994 I
29068	116.3	107.8	3006	2734	-272			II
27737	116.9	108.1	2643	2824	181			III
28424	118.9	109.4	2619	2876	257			IV
30166	121.6	111.2	2776	2574	-202			1995 I
30390	122.2	111.0	3106	3058	-48			II
	123.1		2930	3011	80			III
								IV

	Monetary Developments				Exchange Rates			
	33	34	35	36	37	38	39	40
	Money Supply M3	Licensed Banks Domestic Credit		External Reserves	Effective Index	Sterling	Dollar	Deutschmark
		Gov.	Non-Gov					
	£m End Period	£m End Period	£m End Period	£m End Period	Dec. 1971 = 100	Per IR£	Per IR£	Per IR£
1987	9799.5	2754.9	9494.5	2821.4	66.16	0.9091	1.4884	2.6715
1988	10421.0	2636.4	10853.4	3161.0	65.09	0.8568	1.5258	2.6742
1989	10945.0	2417.7	12538.3	2521.0	64.42	0.8671	1.4192	2.6647
1990	12540.7	2506.0	13855.9	2891.7	68.32	0.9304	1.6588	2.6728
1991	13024.6	2502.2	13553.2	3256.0	67.34	0.9133	1.6162	2.6708
1992	14203.3	2946.7	14410.7	2112.8	69.48	0.9695	1.7061	2.6561
1993	17510.9	2829.5	14910.5	4277.9	66.01	0.9771	1.4680	2.4240
1994	19211.3	3285.7	16655.2	4041.3	66.16	0.9776	1.4982	2.4262

End-Period Totals					Quarterly Averages			
1992 I	12555.4	2399.4	13614.2	3495.8	67.97	0.9303	1.6479	2.6663
II	12960.9	2449.1	13685.4	3223.6	67.63	0.9156	1.6555	2.6691
III	12998.8	2792.2	14010.9	2130.2	69.81	0.9538	1.8160	2.6528
IV	14203.3	2946.7	14410.7	2112.8	72.50	1.0783	1.7048	2.6363
1993 I	15741.2	2463.4	14509.0	3571.0	68.91	1.0361	1.5320	2.5018
II	16177.9	2601.0	14643.3	4255.9	66.41	0.9818	1.5073	2.4386
III	17095.2	2683.0	14574.9	4315.6	63.99	0.9390	1.4129	2.3674
IV	17510.9	2829.5	14910.5	4277.9	64.73	0.9516	1.4197	2.3881
1994 I	17312.8	2723.7	15249.3	4422.2	65.51	0.9606	1.4299	2.4636
II	17553.2	2901.6	15759.5	4477.1	65.93	0.9762	1.4685	2.4382
III	18470.8	3230.6	16067.8	4391.8	66.39	0.9879	1.5325	2.3916
IV	19211.3	3285.7	16655.2	4041.3	66.81	0.9858	1.5620	2.4112
1995 I	18896.8	3031.4	17454.4	4030.5	66.58	0.9943	1.5734	2.3263
II	19252.3	2939.9	18383.8	4546.9	67.05	1.0193	1.6270	2.2717
III	20420.6	3279.6	19036.5		67.42	1.0243	1.6115	2.3067
IV								

End-Period Totals (S.C.)					Quarterly Averages (S.C.)			
1992 I	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern
II								
III								
IV								
1993 I								
II								
III								
IV								
1994 I								
II								
III								
IV								
1995 I								
II								
III								
IV								

Visible Trade Indicators					Balance of Payments		
41	42	43	44	45	46	47	
Imports (Value)	Exports (Value)	Trade Surplus (Value)	Imports (Volume)	Exports (Volume)	Net Factor Flows	Current Account	
£m	£m	£m	1990= 100	1990= 100	£m	£m	
9155.2	10727.5	1568.3	79.1	77.4	-2113	-60	1987
10214.8	12304.8	2090.1	82.8	82.9	-2663	62	1988
12284.3	14597.0	2312.8	93.6	92.2	-3233	-348	1989
12468.8	14336.7	1867.9	100.0	100.0	-3131	37	1990
12850.8	15018.9	2168.1	100.8	105.6	-2864	924	1991
13194.8	16743.8	3549.1	105.6	121.1	-3299	1448	1992
14884.7	19829.7	4945.0	113.0	133.4	-4014	2139	1993
17223.0	22819.3	5596.3	127.4	153.6	-4135	2046	1994

Av. Monthly Totals

Quarterly Averages or Totals

1107.8	1356.2	248.4	104.5	114.5	-816	332	1992 I
1108.3	1463.0	354.7	105.1	120.0	-825	352	II
1060.2	1348.2	288.0	103.0	116.0	-850	442	III
1122.0	1414.0	292.0	111.8	126.4	-808	322	IV
1213.7	1524.2	310.5	112.8	130.5	-912	455	1993 I
1168.9	1631.5	462.6	107.5	136.0	-1018	635	II
1241.9	1605.6	363.8	112.2	132.5	-1008	439	III
1337.2	1848.6	511.4	120.3	151.9	-1076	610	IV
1419.4	1773.8	354.4	125.9	143.8	-1051	180	1994 I
1410.0	1869.8	459.8	123.4	148.6	-1148	288	II
1332.9	1850.7	517.8	117.4	145.5	-910	760	III
1563.0	2113.7	550.7	137.3	171.1	-1026	818	IV
1637.5	2116.3	478.8	139.2	167.2	-1203	397	1995 I
1621.4	2263.0	641.6	135.6	174.6	-1166	928	II
							III
							IV

Av. Monthly Totals (S.C.)

Quarterly Averages or Totals (S.C.)

1077.9	1362.5	284.5	101.7	115.0	No Seasonal Pattern	No Seasonal Pattern	1992 I
1100.6	1422.1	321.5	104.6	117.5			II
1103.8	1390.9	287.1	107.5	120.0			III
1107.1	1389.0	281.9	109.4	123.0			IV
1192.5	1537.5	345.0	111.2	131.4			1993 I
1160.3	1588.6	428.3	107.4	133.5			II
1291.1	1665.7	374.6	116.7	138.3			III
1322.4	1816.1	493.8	117.8	147.1			IV
1394.4	1793.0	398.6	123.9	145.6			1994 I
1400.5	1821.1	420.5	123.5	146.2			II
1385.6	1919.4	533.8	122.2	151.3			III
1563.6	2061.7	498.2	135.6	164.8			IV
1593.5	2155.0	561.6	135.9	170.2			1995 I
1611.2	2204.9	593.7	135.9	171.8			II
							III
							IV



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