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by

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SUMMARY

It is becoming increasingly clear that the Irish economy is continuing its recovery in 1988. Exports are growing at almost the same rate as in 1987, but on a broader base, a modest expansion is taking place in personal consumption and private investment, inflation and interest rates remain low, total employment appears to have stabilised and the balance of payments has moved into a large surplus. For technical reasons, the extent of economic growth in 1988 might not be fully reflected in the conventional measure of the growth rate, which is expected to be about 1½ per cent, but nonetheless 1988 remains a year of substantial economic progress.

Relative stagnation in the UK economy could hold back the rate of expansion of Irish exports in 1989, but even so the Irish economy should continue to grow steadily. The forecast growth rate in real GNP is 3 per cent. Personal consumption and private investment are projected to increase more rapidly than in 1988, while manufacturing industry and private services are again expected to contribute the bulk of output growth. Inflation is forecast to remain low at about 2½ per cent, and the balance of payments surplus should once more be proportionately larger than Japan's. Another small increase in total employment is projected, but not nearly sufficient to eliminate high emigration rates or effect a significant fall in unemployment levels.

Taking the two years together, the most important developments concern interest rates and the public finances. The fall in interest rates in 1987 and the first half of 1988 has been consolidated, and the divergence from trends in London has become accepted as normal. Increasingly the markets are relating to German trends in recognition of Ireland's status as a low inflation EMS member.

Due partly to the amnesty, but also to more persistent tax buoyancy, it appears likely that the exchequer borrowing requirement in 1988 will be in the region of £800 million or about 4¼ per cent of GNP. On reasonable assumptions concerning tax flows in 1989, taken in conjunction with the Expenditure Estimates, it appears that a borrowing requirement of £1,100 million or 5½ per cent of GNP could be achieved in 1989, even allowing for some minor relaxation of either taxes or spending in the 1989 budget.

In effect, it seems almost certain that the target of stabilising the debt/GNP ratio has now been achieved. Of course this is not a signal for the abandonment of fiscal discipline, and it would be tragic if the sacrifices of the past seven years or so were to be dissipated in a premature relaxation of fiscal policy. However, it does mean that a period in which a wider range of choices is available is opening up. Further reductions in borrowing to reduce the debt/GNP ratio to a less dangerous level remain highly desirable, but they are no longer an overriding imperative. Considerations of equity and economic effectiveness can in future be taken into account, alongside debt control, in establishing the available options in socio-economic policy.

FORECAST NATIONAL ACCOUNTS 1988

A: Expenditure on Gross National Product

	1987	1988	Change in 1988				
	Provisional	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure ...	11481	11940	459	218	4	2	2
Public Net Current Expenditure ...	3560	3565	5	– 152	¼	4½	– 4¼
Gross Domestic Fixed Capital Formation	3439	3530	91	12	2¾	2½	1¼
Exports of Goods and Services (X) ...	11784	13437	1653	1287	14	2¾	11
Physical Changes in Stocks	– 28	– 216	– 188	– 188			
Final Demand	30236	32256	2020	1177	6¾	2¾	4
less:							
Imports of Goods and Services (M) ...	10461	11437	976	713	9½	2½	6¾
GDP at Market Prices	19775	20819	1044	464	5¼	2¾	2¼
less:							
Net Factor Payments (F)	1946	2210	264	205	13½	2¾	10½
GNP at Market Prices	17829	18609	780	259	4¼	2¾	1½

B: Gross National Product by Origin

	1987	1988		
	Provisional	Forecast	Change in 1988	
	£m	£m	£m	%
Agriculture, Forestry, Fishing ...	1545	1654	109	7
Non-Agricultural: Wages, etc. ...	10481	10876	395	3¾
Other	3725	4002	277	7½
less:				
Net Factor Payments	1946	2210	264	13½
National Income	13805	14322	517	3¾
Depreciation	1916	2031	115	6
GNP at Factor Cost	15721	16353	632	4
Taxes less Subsidies	2108	2256	148	7
GNP at Market Prices	17829	18609	780	4¼

C: Balance of Payments on Current Account

	1987	1988	
	Provisional	Estimated	Change in 1988
	£m	£m	£m
X—M	1323	2000	677
F	– 1946	– 2210	– 264
Net Transfers	886	970	84
Balance on Current Account ...	263	760	497
as % of GNP	1½	4	2½

FORECAST NATIONAL ACCOUNTS 1989

A: Expenditure on Gross National Product

	1988	1989	Change in 1989				
	Forecast	Forecast	£m		%		
	£m	£m	Value	Volume	Value	Price	Volume
Private Consumer Expenditure ...	11940	12550	610	299	5	2½	2½
Public Net Current Expenditure ...	3565	3670	105	– 105	3	6	– 3
Gross Domestic Fixed Capital Formation	3530	3761	231	143	6½	2½	4
Exports of Goods and Services (X) ...	13437	14655	1218	877	9	2½	6½
Physical Changes in Stocks	– 216	– 14	202	190			
Final Demand	32256	34622	2366	1404	7¼	3	4¼
less:							
Imports of Goods and Services (M) ...	11437	12470	1033	750	9	2½	6½
GDP at Market Prices	20819	22152	1333	654	6½	3¼	3¼
less:							
Net Factor Payments (F)	2210	2356	146	89	6½	2½	4
GNP at Market Prices	18609	19796	1187	565	6½	3¼	3

B: Gross National Product by Origin

	1988	1989		
	Forecast	Forecast	Change in 1989	
	£m	£m	£m	%
Agriculture, Forestry, Fishing ...	1654	1704	50	3
Non-Agricultural: Wages, etc. ...	10876	11338	462	4¼
Other	4002	4590	588	14¾
less:				
Net Factor Payments	2210	2356	146	6½
National Income	14322	15276	954	6¾
Depreciation	2031	2153	122	6
GNP at Factor Cost	16353	17429	1076	6½
Taxes less subsidies	2256	2367	111	5
GNP at market prices	18609	19796	1187	6½

C: Balance of Payments on Current Account

	1988	1989	
	Forecast	Forecast	Change in 1989
	£m	£m	£m
X—M	2000	2185	185
F	– 2210	– 2356	– 146
Net Transfers	970	1000	30
Balance on Current Account ...	760	829	69
as % of GNP	4	4¼	¼

COMMENTARY

The International Economy

General

Earlier fears of a slowdown in world economic activity in 1988 have been replaced by fears of rising inflation. This change of outlook has been reflected in a shift in the policy stance of most major western economies. The loosening of monetary policy in the wake of the stock market crash in late 1987 has been progressively reversed during the summer of 1988 in both Europe and the USA.

Nevertheless, with the exception of special cases like the UK, interest rates are only a little above the levels preceding the equity collapse of October 1987 and show little sign of being driven substantially higher. Taken in conjunction with the considerable progress made in the past year in reducing the world's major trade imbalances, the present monetary and fiscal stances of the major economies should permit the slow expansion of output and trade to continue in 1989, without a serious increase in inflation. Whether the trade imbalances are further reduced during 1989 depends on the degree of international policy co-ordination and on the decisions taken in individual countries. In this regard, the attitude and actions of the new administration in the USA will clearly be of major importance.

The US Economy

The US economy has performed considerably better than expected in 1988. The anticipated increase in net exports has been taking place, but the slackening of domestic demand widely feared as a result of the share price fall of October 1987 has not materialised. As a result, the growth rate forecast for 1988 has been revised upwards to 3½ per cent, in spite of drought-related falls in agricultural output. Although unemployment is historically low at 5½ per cent and capacity utilisation rates are high and increasing, collectively negotiated pay rises remain very moderate, and consumer price inflation appears fairly stable at a little over 4 per cent.

However, despite this favourable out-turn for 1988, major worries persist about the future course of the US economy. Further steps will need to be taken by the new administration to reduce the Federal budget deficit, which remains unsustainably high. This adjustment is likely to restrict growth in 1989 and subsequent years. The recovery in the value of the dollar since the end of 1987 could have a lagged effect in choking off the improvement in the trade balance, although it remains possible that the dollar fell below its equilibrium point at the end of 1987. It should also be borne in mind that the current account deficit could prove more difficult to correct than the trade deficit, due to interest payments on the increasing cumulative debt.

Taking these uncertainties into account, it seems probable that growth will continue in 1989, but at a significantly lower rate than in 1988. Inflation could increase slightly and unemployment cease to fall. On the assumption of a modest depreciation of the dollar in the course of 1989, progress should be maintained in reducing the current account balance of payments deficit in parallel with a renewed reduction in the Federal budget deficit.

The European Economy

As in the US, the European economies have proved more resilient than expected in the aftermath of the equity price collapse. Domestic demand has remained strong in the major European economies, compensating for the relative weakness of net European exports which is the counterpart of the improved US trade performance. The overall growth rate in the EC in 1988 is now expected to be about 2¾ per cent, slightly higher than that achieved in 1987. It should be noted however that such a growth, although quite high by recent European standards, is well below that of the US and Japan, and is insufficient to lead to a significant reduction in the level of unemployment. On the other hand, it has proved consistent with the continuation of low rates of price inflation in the EMS countries, and falling inflation rates in the Mediterranean European countries.

Slightly slower growth rates are predicted for most of continental Europe in 1989. This is partly due to a tighter monetary stance, in which the majority of countries have followed the West German lead in raising interest rates during the summer of 1988. At the same time a stabilising of the household savings ratio, which has tended to fall in most countries in the past two years, could also contribute to a slackening of consumption growth. In total, a reduction in the EC growth rate to about 2¼ per cent in 1989 is forecast, with unemployment increasing marginally and consumer price inflation edging upwards in most countries.

The UK Economy

As described in the August *Commentary* the UK has achieved a very high, but clearly unsustainable, rate of growth in 1988. The question was posed then as to whether the chosen policy response of raising interest rates could, by itself, relieve the strong inflationary symptoms of a spiralling trade deficit and accelerating price and pay inflation. The answer to this question remains unclear, and it is still too early to predict whether and when the authorities might deploy a broader range of policy measures, or whether and when the markets might precipitate an adjustment by simultaneously forcing sterling down and interest rates up yet further.

Although the mechanisms are uncertain, the outcome is less so. Through one means or another it seems very likely that UK economic growth will be severely curtailed in 1989, perhaps with economic activity stagnating at end 1988 levels. Given the carryover of growth from 1988, this in itself would give an annual average rate of growth of GNP in 1989 of about 2 per cent. The main changes, particularly if interest rates remain the principal policy weapon, will affect personal consumption and investment, where the strong increases of 1988 will peter out in 1989. Whether this slackening off of domestic demand will be

partly compensated by increased export volumes will depend in part on the exchange rate. It is difficult to see how equilibrium can be restored to the UK economy at current sterling exchange rates. However, given the short-term inflationary effects of currency depreciation, especially in an economic regime which eschews incomes policy on ideological grounds, the UK authorities may well prove reluctant to engineer any substantial decline in the value of sterling. Even if the markets decide that sterling is overvalued, the authorities might try to prevent, or at least to limit, the extent of any depreciation through raising interest rates to crisis levels. On balance, a slight decline in the average value of sterling in 1989 seems the most likely outcome.

This would contribute to keeping inflation high, even in the face of a much slower increase in domestic demand and the probability of rising unemployment. The current account deficit will remain high, although if the adjustment to domestic demand is as great as assumed here, it should not deteriorate further. Total import volumes could continue to grow, but at a much slower rate than in 1988.

The Rest of the World

Forecasts of Japanese growth in 1988 have been revised upwards yet again, with a growth rate of over 5½ per cent now predicted. Private consumption and investment have both proved extremely buoyant, while export growth has been higher than expected. This rapid economic growth has been achieved without significant inflationary pressures emerging, and Japan has conspicuously refrained from joining the summer round of interest rate increases. Aided by a degree of trade liberalisation, the growth has been fast enough to result in a substantial fall in Japan's trade surplus in 1988, which represents a major contribution towards reducing world trade imbalances.

Most commentators predict a continuation of current trends in 1989, albeit at a slightly reduced rate. Growth is projected at over 4 per cent, with both inflation and unemployment remaining at very low levels and the external surplus being further reduced.

Like Japan, the newly industrialised countries of South East Asia have enjoyed rapid industrial growth in 1988. Not carrying the same degree of responsibility to the world economy as Japan, these countries are expected to increase their share of world exports further in 1989, thus enabling them to maintain their very fast growth rates.

Overproduction in recent months has resulted in a fall of about 30 per cent in the price of crude oil. Whether this will galvanise OPEC into re-imposing effective output quotas, and thus restoring prices to at least the levels of early 1988, remains an open question at present. A strong price recovery is a possibility, as is a further collapse to prices well under $10 dollars per barrel, but the most likely outcome is probably a continuation of prices fluctuating around their present levels or a little higher. This would leave average oil prices in 1989 significantly lower than in 1987 and 1988, and would preclude any recovery in the level of investment and imports by OPEC member countries.

The trend towards higher international interest rates and the recovery of the dollar have served to intensify the debt burden on many third world countries, while the rise in relevant commodity prices has not been sufficient to improve

their trading position significantly. Unless major new international initiatives are taken to alleviate the debt problem, which seems unlikely, economic conditions in the debtor nations will remain very difficult in 1989. From the viewpoint of the advanced countries, the third world is thus likely to present a stagnant export market, while the implicit threat to the stability of the world banking system will remain in being, although there seems no reason why it should become acute in 1989.

TABLE 1: Short-term International Outlook

	GNP		Consumer Prices		Hourly Earnings		Unemployment Rate		Current Account Balance	
	Percentage Change						%		% of GNP	
Country	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
United Kingdom	3¾	2	5½	5¾	8¾	8½	8½	8¾	– 3	– 3
West Germany	2¼	2	1¼	1½	4¼	4	8¼	8¼	3¾	3¼
France	2¼	1¾	2½	2¾	4¾	4½	10¾	11¼	– ½	– ½
Italy	3	2¾	4¾	4½	6	5½	11½	12	– ¼	– ½
Total EC	2¾	2¼	3¼	3½	5	4¾	10¾	11	¼	¼
USA	3½	2½	4½	4½	2¼	3½	5½	5½	– 3	– 2½
Japan	5¾	4¼	1¼	1¾	3¾	4	2½	2½	3	2½
Total (OECD)	3½	2¾	4	3¾	3¾	4¼	7½	7½	– ½	– ½
Ireland	1½	3	2	2½	4½	4¼	16½	16½	4	4¼

The Context For Ireland

So far as the world economy is concerned, 1989 should continue to offer a reasonably favourable environment for Irish industry. World trade is expected to grow a little more slowly than in 1988, but nevertheless manufactured imports by the advanced economies, where Ireland's major markets lie, should expand fast enough to provide ample opportunities for export growth. The dramatic reduction in EC intervention stocks of milk products, and to a lesser extent of beef, can be expected to result in a further strengthening in the pattern of agricultural exports. Perhaps even more important in a long-term context, world industrial investment should continue to grow in 1989. Provided domestic conditions are kept favourable, the chances of obtaining multinational industrial investment for Ireland could improve significantly.

If the assumption is correct that the US dollar will depreciate only modestly and in a controlled manner in 1989, then there should be no undue strain on present EMS parities, and these could continue unchanged through 1989. Even if there is a minor realignment, it seems increasingly likely that Ireland will move with the stronger currencies. At the same time, there should be little dramatic change in international interest rates, with any upward trend likely to be strictly limited in extent. Such relative stability in international currency and financial markets could enable Ireland to consolidate its new-found position as a low risk economy, and to see a further small erosion in the differential between domestic and continental interest rates.

The complication in this relatively benign international environment is the considerable uncertainty surrounding UK economic prospects. As already

explained, it appears inevitable that the growth in UK domestic demand will be severely curtailed in 1989, but it is far from clear how this curtailment will come about. If it proves that the monetary measures already adopted are sufficient to choke off excessive growth, then the principal consequence for Ireland will merely be the comparative stagnation of a major export market. Similarly, if the authorities take further action, through a tightening of fiscal policy, the introduction of selective credit controls or a modest further increase in interest rates, the effect will simply be a less buoyant market for exports to the UK. The danger in this path, of course, is that the actions could over-correct the situation, so that 1989 would see a fall in demand rather than a mere levelling-off.

A more serious outcome for Ireland would be if the markets perceive that action by the UK authorities has been insufficient to deal with the problems, and precipitate a sudden severe depreciation of sterling, probably accompanied by a further rise in UK interest rates. A large fall in sterling could undoubtedly put some strain on market perceptions of the stability of the Irish pound EMS parity. This, in turn, could lead to upward pressure on Irish domestic interest rates, in order to prevent the possible outflow of funds to other EMS countries, or to the UK itself.

In the very short run a sterling depreciation could exacerbate the effects of a lack of growth in the UK market through a simultaneous reduction in the cost-competitiveness of Irish exports *vis-a-vis* their UK competitors. However, any such loss of competitiveness would be strictly temporary and limited, as the depreciation would itself accelerate the rate of UK inflation, which is already much higher than the Irish. Moreover, the judicious use of forward covering against currency risks could minimise even the temporary effects of a fall in sterling.

However, on balance, it appears more probable that the necessary adjustments in the UK economy will be achieved without a sterling collapse, and that pressures on the Irish currency will be avoided. A minor depreciation of sterling can be accommodated without difficulty, given the relative inflation rates of the UK and the EMS countries, including Ireland.

For the purpose of this *Commentary,* therefore, it is assumed that both the US dollar and sterling will depreciate by no more than 5 per cent in the course of 1989, and that current EMS parities will hold, with only minor movements within the bands. Although international interest rates may harden a little further, the narrowing of the differentials could enable domestic Irish rates to decline slightly. Unless there is a sterling collapse, UK interest rates seem likely to remain largely irrelevant to the Irish market.

With regard to export markets, allowance must be made for a loss of buoyancy in the UK markets, but most other major markets should remain favourable. Actual performance in these markets may well be governed by supply considerations, and in this respect the upturn in world industrial investment in 1988 and 1989 provides hope of a continued recovery in Irish manufacturing investment and exports.

The Domestic Economy

General

Data becoming available since the August *Commentary* confirm the view then taken that the economy is growing quite strongly. Exports and private consumption are on an upward trend, private house building is beginning to recover and, of course, the public finances are improving rapidly. Even the long decline in employment could be at an end.

However, for the compilers of the National Accounts, and thus for forecasters who work within a National Accounts framework, developments within 1988 are posing severe technical problems. It could thus emerge that the conventional growth rate of GNP published in the next *National Income and Expenditure* will not fully reflect the underlying extent of growth in 1988, and that the relationship between different types of income might be temporarily distorted.

The first technical problem relates to the valuation of the intervention stocks which are being heavily run down in 1988 and of the corresponding portion of agricultural exports. Conventionally, intervention stocks, and thus changes in stock levels, are valued at close to the intervention purchase price. Exports of old butter stocks, however, tend to be at very low actual prices, and these, naturally, are what appear in the trade returns. Most of the difference between the two prices is subsequently made good by payments from the EC, but such transfer payments conventionally are not included in GNP, and in any case may well not take place within the year the exports are made.

The second major technical problem could arise from the treatment of the tax amnesty, if it transpires that a significant proportion of the receipts represent delayed payments of PAYE, employee PRSI contributions and indirect taxes, which have been collected by companies in previous years but retained by them as working capital until the time of the amnesty. This would mean that the disposable income effects in the case of the direct taxes, and the price effects in the case of indirect taxes, were felt by the employee and consumer in previous years, but will not appear in the National Accounts, which rely on government revenue receipts in such matters, until 1988.

Not yet knowing how the CSO will cope with these problems, we have decided in this *Commentary* to remain close to the conventional National Accounts treatment, while adopting the minimum feasible values for intervention stock reductions and for indirect tax receipts net of subsidies. One principal consequence of this decision is that the forecast level of GNP in 1988 could understate the likely underlying level by about ½ per cent. A second major consequence is that the forecast level of "other non-agricultural incomes", which serves as a residual category in our National Accounts tables, is unduly depressed in 1988, as it bears the brunt of both the stock/export discrepancy and the abnormal rise in net indirect taxes.

As usual, the forecast for 1989 is based on the assumption of an unchanged policy stance by the government. In the August *Commentary* this was interpreted in macro terms as an intention to hold the money value of the borrowing requirement roughly constant between 1988 and 1989. Following the unexpected success of the tax amnesty, such an interpretation would now be

utterly unrealistic. The macro-interpretation of unchanged policy adopted in the *Commentary* is thus for a target budget deficit of about £840 million and Exchequer borrowing requirement of £1,100 million. Such targets appear to be compatible with the 1989 expenditure Estimates and would represent a small absolute improvement on the underlying 1988 outturn.

Exports

The value of visible exports in the first nine months of 1988 was 15.2 per cent higher than in the corresponding period of 1987. Unusually, agricultural exports grew as rapidly as industrial in this period. Some reduction compared with 1987 must be expected for agricultural exports in the last three months of the year, given that accumulated intervention stocks of milk products are greatly depleted, and that cattle supplies remain limited. Thus an annual increase of about 12 per cent in the value of agricultural exports, compared with over 15 per cent in the first nine months, appears a reasonable forecast.

Manufacturing exports, which grew by 16.1 per cent in value in the first nine months of the year, appear set on a rising trend. Thus, in spite of being compared with a strong increase in the late months of 1987, it seems likely that they will maintain an annual increase of about 15 per cent. This strong performance is not surprising in the light of the improved cost-competitiveness of Irish industry detailed in the *Appendix* to this *Commentary,* and its continuation for the next few months is signalled by the very positive tone of responses in the latest EC-backed CII-ESRI Industrial Survey. Because of the changes in export classifications in the 1988 Trade Statistics, it is difficult to track 'other industrial exports' compared with 1987. However, allocating some of the increased 'unclassified' exports from the CSO series of exports by origin to 'other industrial', it would appear that this category rose in value by about 12 per cent in the first eight months, and a similar value rise is projected for 1988 as a whole.

On this basis, the total value of visible exports in 1988 should exceed £12,200 million, an increase of 13¾ per cent over the 1987 level. On an annual basis, export prices are likely to have risen by about 3 per cent, so that the volume increase is forecast at 10¾ per cent.

One consequence of the reduction in intervention stock-building is that little or no agricultural produce has been sent into storage abroad in 1988. Thus the balance of payments adjustment between visible and merchandise exports will be significantly smaller than in 1987, and merchandise exports are forecast to rise by 11½ per cent in volume and almost 15 per cent in value.

There continues to be some uncertainty over the performance of the tourist industry in 1988. However, assuming some further progress in extending the length of the tourist season, it appears possible that the value of export tourism will increase by about 6 per cent in 1988 as a whole. Deflating this by the consumer price index implies a volume rise of about 4 per cent. Other export services are projected to rise by about 11 per cent in value and almost 9 per cent in volume.

It thus seems likely that the growth in total exports of goods and services, at 11 per cent in volume and 15 per cent in value, will almost match the exceptionally high rate achieved in 1987. This represents a considerable upward revision to forecasts made earlier in the year.

TABLE 2: Exports of Goods and Services

	1987 £m	% Change Volume	% Change Value	1988 £m	% Change Volume	% Change Value	1989 £m
Agricultural	2026	7½	12	2268	– 2	2	2313
Manufactured	6919	12½	15	7956	9	11¼	8847
Other Industrial	1684	7½	12	1886	6	8	2037
Other	95			100			105
Total Visible	10723	10¾	13¾	12210	6½	9	13302
Adjustments	– 276			– 220			– 237
Merchandise	10447	11½	14¾	11990	6½	9	13065
Tourism	719	4	6	762	5¼	8	823
Other Services	618	8¾	11	685	9¼	12	767
Exports of Goods and Services	11784	11	14	13437	6½	9	14655

At present it seems most unlikely that this rate of export growth can be repeated in 1989. Shortage of supplies, due to the direct and indirect effects of the milk quota, will restrict the volume of agricultural exports, while large intervention stocks will no longer exist to be converted into exports. The expected relative stagnation of the UK market is likely to limit the growth of manufactured exports, although increased industrial capacity should enable the strong growth of manufactured and other industrial exports to continental markets to continue. As Table 2 shows, total visible exports are projected to increase by about 6½ per cent in volume and 9 per cent in value.

Provided US tourist travel recovers from its 1988 trough, with Ireland sharing in the general recovery, Irish tourist earnings should grow more rapidly in 1989. The 8 per cent value increase shown in Table 2 could prove an unduly cautious forecast. Given a continued rise in other service exports, with some 1989 contribution from the new financial services sector, total exports of goods and services are forecast to increase at the same rate as visible exports.

Stocks

It is quite clear that 1988 has witnessed a massive reduction in intervention stocks, both in Ireland and throughout the EC. In particular the accumulated stocks of milk products have been drastically reduced. However, the valuation of this stock reduction in National Accounts terms is still subject to considerable uncertainty. The figures shown in Table 3 indicate the scale of the fall in intervention and related stocks, but could diverge significantly from the totals which will be incorporated in the National Accounts for 1988.

Although the forecast of only a small change in the level of farm stocks is likely to prove reasonably accurate, the assumption that industrial and

TABLE 3: Stock Changes

	1987 £m	Change in Rate £m	1988 £m	Change in Rate £m	1989 £m
Farm Stocks	12	12	24	12	36
Irish Intervention Stocks[1]	60	– 300	– 240	190	– 50
Other Non-agricultural Stocks	– 100	100	0	0	0
Total	– 28	– 188	– 216	202	– 14

[1]Including subsidised private storage.

distribution stocks will be unchanged in 1988, after their apparent fall in 1987, is subject to a large margin of error. Thus, while it does seem certain that total stocks will decline substantially in 1988, the forecast that this fall will be of the order of £200 million must be treated with great caution.

Given this uncertainty concerning the value of stock changes in 1988, the projected movements for 1989 must also be regarded as very tentative. Intervention and related stocks cannot fall as heavily in 1989, because such a high proportion of milk product stocks has been disposed of in 1988. Nevertheless it seems reasonable to assume that there will be some run-down of meat stocks, under the impact of tighter EC regulations and a continuing scarcity of supply. Allowing for a further small increase in the rate of on-farm stock-building as efforts to expand the beef herd continue, and repeating the technical assumption of no change in industrial and distribution stocks, the projection shown in Table 3 is for a marginal decline in total stock levels in 1989.

Investment

As explained in the August *Commentary,* lower interest rates and increasing confidence appear to be leading to some recovery in private sector building and construction during 1988. Nevertheless, the fall in publicly financed construction in 1988 will outweigh the improvement in private building. The forecast for total building and construction therefore remains for a decline of 6 per cent in volume and 3 per cent in value.

The 1987 *National Income and Expenditure* indicates that investment in plant and machinery in 1987 was significantly lower than had previously been expected on the basis of imports of capital goods. In these circumstances it has been considered prudent to reduce the forecast of such investment for 1988. However, the forecast shown in Table 4 of a 6 per cent increase in the volume of machinery and equipment investment in 1988 still represents a faster rate of expansion than in any year since 1981. Lower interest rates and increasing economic activity are expected to lead to a general upturn in equipment investment, while the CII-ESRI Investment Survey for the EC indicates that the year should see a marked acceleration in manufacturing investment, in keeping with the improvement in profit margins in most sectors of manufacturing industry. Taken in conjunction with the decline in building, this forecast suggests that the volume of total fixed capital formation should increase marginally in 1988.

Despite the trend towards an increased proportion of total investment being funded from private sources, the Public Capital Programme remains a major influence on the level of capital formation. Thus any forecast for 1989 must take account of the 1989 Public Capital Programme, together with any foreseeable amendments in the coming months. The outlook is complicated by the possibility that significantly increased funds may become available from the EC before the end of 1989. Given that the nature of such funding has not yet been finalised, let alone specific applications been submitted, it appears prudent to discount heavily the possibility that this source of funding will significantly affect public investment during 1989. This throws us back onto our general assumption of unchanged policies, which in the light of the Public Capital

TABLE 4: Gross Fixed Capital Formation

	1987	% Change		1988	% Change		1989
	£m	Volume	Value	£m	Volume	Value	£m
Building and Construction	1617	– 6	– 3	1570	½	3½	1625
Machinery and Equipment	1822	6	7½	1960	7	9	2136
Total	3439	¼	2¾	3530	4	6½	3761

Programme we now interpret as implying a fall of about 5 per cent in the value of direct publicly funded investment, suggesting a volume reduction of about 8 per cent.

While the trend of public capital expenditure is thus assumed to continue its depressing influence on total investment in 1989, private capital spending on both building and equipment seems likely to grow strongly, in response to low interest rates and the growing perception of economic recovery. On balance therefore, total investment in building and construction is forecast to rise marginally in volume terms, while the volume of gross investment in machinery and equipment is projected to increase by 7 per cent. The total forecast increase in the volume of fixed investment, at 4 per cent, is high by the standards of the '80s, but very modest if viewed in a longer historical perspective.

Consumption

After an erratic performance in the first four months of the year, the retail sales index showed a steady upward trend in the value of sales in the three months to July 1988. For January to July as a whole, the value of retail sales was 3.3 per cent higher than in the corresponding period of 1987, while for the first half of the year the annual increase in the volume of retail sales was 0.8 per cent. Buoyant car registrations suggest that the index should remain high in August. For the final four months of the year the benefit of lower income tax rates for the majority of PAYE workers will probably outweigh any negative short-run effects on consumption of the large volume of tax payments made under the tax amnesty. Thus for the year as a whole, it is reasonable to forecast that the increase in both the value and volume indices of retail sales will be slightly higher than the increase in the first half of the year.

Moreover, as is illustrated in Table 5, the retail sales index in recent years has consistently underestimated the rise in the value and volume of personal consumer expenditure as shown in *National Income and Expenditure.* Even allowing for a discrepancy in 1988 of less than half the average in the '80s to date, it thus seems likely that personal consumption will increase by about 4 per cent in value and 2 per cent in volume in 1988. Such a rate of increase is in keeping with the buoyancy of indirect tax receipts, even when allowance is made for improved collection procedures and for an "amnesty element" in the September receipts.

Because of the huge scale of the tax intake under the amnesty, most of which at this stage must be allocated to 'taxes on personal income and wealth', 1988 will record a substantial fall in personal savings, and a reduction in the personal savings ratio to an apparent 16 per cent. Assessment of the likely course of

TABLE 5: Consumption Indicators 1980-88

	Annual Percentage Change							
	1981	1982	1983	1984	1985	1986	1987	1988 1st Half
Consumption Value								
NIE 1987, Personal Consumption	21.6	7.2	10.1	9.2	7.6	7.1	3.3	
Retail Sales Index-Value	18.3	9.4	5.9	6.4	6.9	1.9	1.6	3.2
Divergence	2.3	– 2.2	4.2	2.8	0.7	5.2	1.7	
Consumption Volume								
NIE 1987, Personal Consumption	1.7	– 7.1	0.9	1.1	2.9	3.1	0.1	
Retail Sales Index-Volume	– 0.6	– 5.4	– 3.7	– 1.2	1.8	– 0.5	– 1.3	0.8
Divergence	2.3	– 1.7	4.6	2.3	1.1	3.6	1.4	
Consumer Prices								
NIE 1987, Personal Consumption Deflator	19.6	15.4	9.1	8.0	4.6	3.9	3.2	
Retail Sales Index Deflator	19.0	15.6	10.0	7.7	5.0	2.4	2.9	2.4
Consumer Price Index	20.5	17.1	10.5	8.6	5.4	3.9	3.2	1.9

consumption in 1989 entails consideration of the probable trend of the savings ratio. Given the unprecedented scale of the tax amnesty receipts, such a consideration must necessarily be tentative, especially as the detailed composition of the amnesty returns are unavailable at the time of writing.

At one extreme it is possible that individuals will attempt rapidly to recoup the reduction in the level of accrued net savings which was brought about by the need to finance the tax payments. In this case the savings ratio would be expected to rise again sharply in 1989, perhaps by the full 1½ percentage points it is believed to have fallen in 1988. Conversely, there could be no attempt to rebuild the tax-depleted savings level, and 1989 could see an actual downward trend in the savings ratio reflecting improved consumer confidence, similar to that which followed perceived stabilisation of the public finances in the UK and Denmark in the early '80s.

Until further evidence is forthcoming, the most reasonable assumption seems to be that there will be a limited recoupment of net saving, raising the saving ratio from about 16 per cent to about 16½ per cent of personal disposable income. If our income projections are correct, this would allow the value of personal consumption to increase by about 5 per cent in 1989, divided fairly evenly between volume and price rises. If this occurs it would represent a continuation of the recovery in the volume of personal consumption which has begun in 1988, although the pace of recovery would remain steady rather than spectacular.

Government consumption, or public authorities' net expenditure on current goods and services, is believed to have remained more or less static in value terms in 1988, implying a fall of about 4¼ per cent in volume. On the basis of the 1989 Expenditure Estimates, it appears that the value of government consumption will rise by about 3 per cent in 1989, reflecting the impact of a higher rate of public service pay rises on a volume of government consumption which is assumed to fall by 3 per cent.

Total consumption expenditure, taking private and public together, is thus forecast to increase in volume by only ½ per cent in 1988 and by 1¼ per cent in 1989. It is worth noting that such increases would leave the volume of total

consumption in 1989 only 1 per cent higher than the previous peak in 1986, and just over 2 per cent above the level reached in 1981.

Final Demand

On the basis of the forecasts already discussed, final demand is projected to increase in 1988 by 6 ¾ per cent in value and 4 per cent in volume. Due to the discrepancy already noted between the pricing of intervention stocks and the price of the corresponding exports, these figures probably understate the effective rise in final demand. As usual, manufactured exports account for a considerable proportion of the growth in final demand, but with agricultural exports contributing more of the growth than usual, the composition of final demand is slightly less import-intensive than in many recent years.

The projected increase in final demand in 1989 is 7¼ per cent in value and 4¼ per cent in volume. Given the valuation problem affecting the 1988 forecast, there is thus no significant difference in the rate of growth of final demand between the two years. With the low-import activities of building and government consumption contributing more to growth in 1989, and the high import component of industrial stock-building less, the overall import intensity of final demand in 1989 might be marginally lower than in 1988.

Imports

The value of visible imports in the first nine months of 1988 was 9½ per cent higher than in the corresponding period of 1987. The seasonally-corrected level of imports was significantly higher in the third quarter of the year than in the first half. However, when allowance is made for the relatively high level of imports in the final quarter of 1987, it seems unlikely that the annual increase in the value of visible imports will exceed 9½ per cent. As usual, there is some uncertainty in converting monthly import price indices into their annual equivalent, but it is probable that annual average import prices will have risen by about 2½ per cent, giving an annual increase in the volume of visible imports in the region of 7 per cent.

The value and volume increases in merchandise imports will be lower than for visible, because the positive adjustment for cross-border shopping will be lower than in 1987. Allowing for a considerable rise in Irish tourist spending abroad, and for a continued rapid expansion in other imported services, total imports of goods and services seem set to increase by about 9½ per cent in value and 6¾ per cent in volume in 1988.

Imports of both capital goods and consumer goods seem likely to repeat their substantial growth of the past two years in 1989. However, with the rate of increase of manufactured exports projected to slacken somewhat, imports of intermediate goods should rise a little more slowly than in 1988. As shown in Table 6, therefore, the increase in total visible imports is likely to be slightly lower than this year.

With no obvious factors to disturb the balance of payments adjustment in 1989, the growth in the volume and value of merchandise imports is forecast to be very similar to that in 1988. Little change is projected in the rate of increase in tourist expenditure, but a reduced rate of growth is expected in other service imports, in line with the slower expansion in manufactured

TABLE 6: Imports of Goods and Services

	1987 £m	% Change Volume	% Change Value	1988 £m	% Change Volume	% Change Value	1989 £m
Capital Goods	1339	9	11	1486	10	12	1644
Consumer Goods	2414	7	9½	2643	7	9½	2894
Intermediate Goods:							
Agriculture	413	4	7	442	3	7	473
Other	4947	6¼	8¾	5383	5¼	8	5813
Other Goods	43			68			80
Total Visible	9155	7	9½	10022	6¼	8¾	10904
Adjustments	– 18			– 82			– 94
Merchandise	9137	6¼	8¾	9940	6¼	8¾	10810
Tourism	543	5¼	7½	584	5	7¾	629
Other Services	780	14¼	17	913	10¼	13	1031
Imports of Goods and Services	10461	6¾	9½	11437	6½	9	12470

exports. Thus total imports of goods and services are forecast to increase marginally less in 1989 than in 1988.

Balance of Payments

On the forecasts presented for exports and imports, the balance of visible trade is expected to approach £2,200 million in 1988. Allowing for the greater adjustment of exports than imports for balance of payments purposes, and for a move into deficit in the trade in services, the balance of trade in current goods and services is forecast at £2,000. It is inevitable that profit expatriation and associated outflows will increase sharply in 1988. On the basis of the most recent ESRI estimating equation, the increase could amount to some 23 per cent, or almost £300 million. However, as Table 7 illustrates, this large rise in profit outflows could be offset by a very low increase in external national debt interest, and by a moderate increase in gross factor inflows. Thus the forecast rise in net factor outflows in 1988 is 13½ per cent, or around £260 million.

TABLE 7: Balance of Payments

	1987 £m	Change %	1988 £m	Change %	1989 £m
Trade in Goods and Services	1323	n.a.	2000	n.a.	2185
Factor Flows:					
Profits etc.	– 1275	23	– 1568	15	– 1803
National Debt Interest	– 804	2	– 820	– 5	– 780
Other Debit	– 639	–	– 639	0	– 639
Total Debit Flows	– 2717	11½	– 3027	6½	– 3222
Credit Flows	771	6	817	6	866
Net Factor Flows	– 1946	13½	– 2210	6½	– 2356
Net Transfers	886	n.a.	970	n.a.	1000
Balance on Current Account	263	n.a.	760	n.a.	829

It appears likely that the EC transfers which are the counterpart of the disposal of intervention stocks will be spread over a considerable period, and thus be only partially paid in 1988. Taking this into account, total net transfers

in 1988 are forecast to rise by well under £100 million from the relatively low level of 1987. When the three elements, trade in goods and services, net factor flows and net transfers are taken together, it becomes apparent that a large increase in the current account balance of payments surplus can be expected in 1988. The forecast total of £760 million represents 4 per cent of GNP, which in relative terms is higher than the surplus of either West Germany or Japan.

The projected increases in the balance of visible trade and the balance of trade in goods and services, at under £200 million each, are significantly lower in 1989 than in 1988. However, the predicted rise in net factor outflows is also much lower, at approximately half the percentage increase shown for 1988. This is partly because of an anticipated slowing in the growth of profit expatriation, although at 15 per cent this remains quite high. More significantly, it is due to an actual reduction in the level of national debt interest, as the benefits of reducing the amount of external debt outstanding start to become apparent.

Making no allowance for the effects of any major new structural programmes in 1989, total net transfers are projected to edge upwards to about £1,000 million. On this basis, the total current account surplus in 1989 would increase slightly to about £830 million, or 4¼ per cent of GNP. While such large surpluses in two successive years indicate that in the medium term the balance of payments is no longer a constraint on economic growth, they are at the same time a measure of the degree of underutilisation of the Irish economy.

Output

In National Accounts terms the volume of expenditure on GDP is forecast to increase by 2¼ per cent in 1988 and 3¼ per cent in 1989. As stated in the introduction to the domestic section of this *Commentary,* National Accounts estimates for 1988 must be treated with some caution because of the possible distorting effects of intervention stock disposals and of erratic tax flows. In a general sense, the rate of growth of GDP projected for the two years is very similar, at somewhat under 3 per cent. This is rather slower than the growth achieved in 1987, which was just over 4 per cent.

In 1987, substantial output contributions were made to the growth of GDP by industry, private services, and agriculture, which was then recovering from two years of very adverse weather. In 1988 and 1989 the entire growth of GDP is expected to come from industry and private services, with agriculture virtually static in output terms and public services exerting a negative influence.

Agriculture

Although agricultural incomes are expected to rise considerably in 1988, this will reflect price movements rather than an increase in the volume of output. Despite good weather conditions in the first half of the year, gross agricultural output is likely to show some decline, due largely to the impact of the milk quota. Relatively high fodder production might restrict the volume of inputs, so that any decline in the volume of gross agricultural product is likely to be quite small. When allowance is made for fishing and forestry, the net output of the agricultural sector as a whole will probably remain constant, or fall only marginally.

Assuming, without defining, normal weather conditions in 1989, another year of slight decline in the volume of gross agricultural product seems likely. Quota restrictions will continue to limit milk output, while the hoped for expansion in cattle output will be only in its early stages. However, the addition of fishing and forestry might lead to approximate stability in the net output of the wider agricultural sector.

Industry

The volume of production index shows that in the first seven months of 1988 the output of manufacturing industry was 13½ per cent higher than in the same period of 1987. It also suggests that after two months of indifferent performance in March and April, manufacturing production has resumed its strong upward trend. This is in accord with recent results of the CII-ESRI Business Survey, which show strong order books and exceptionally buoyant expectations for home and export sales and future production. On present evidence, it is reasonable to predict that the growth in manufacturing production in 1988 will be similar to the 11½ per cent achieved in 1987. Moreover, both the Survey and the industrial production index suggest that manufacturing growth will be more broadly based in 1988, with most industry groups showing a significant rise in output, and only clothing and footwear suffering an appreciable decline.

This pattern of expansion is compatible with the moderate recovery forecast in personal consumption in 1988, and also with an increase in exports by the more traditional sectors of manufacturing industry, which is indicated by the trade statistics so far this year. This improvement in traditional industries' exports and output is not surprising given the favourable trend in comparative unit labour costs in 1987 and 1988 outlined in the *Appendix* to this *Commentary.*

Provided that relative costs remain low in 1989, which seems probable, exports and output of traditional industries should expand further. However, the rate of growth will be limited by the expected stagnation of the important UK market, and by a scarcity of raw materials for sections of the food industry. Output of the modern sectors of industry tends to be governed more by available capacity than by demand conditions or short-term relative costs. Investment undertaken in the recent past or planned for the coming months should be sufficient to permit a further substantial increase in the output of the modern industries in 1989.

In total, therefore, manufacturing production is projected to rise by about 9 per cent in 1989, the slight slowdown reflecting mainly the less favourable conditions expected on the UK market. Taking into account the large fall in the output of the building industry in 1988, and its forecast stabilisation in 1989, the contribution of the industrial sector as a whole to GDP growth is likely to approach 2½ per cent in both years.

Services

It is not clear how far service employment levels as shown in the Labour Force Estimates can be taken as reflecting output trends in the service sector. Particularly if the growth in numbers employed marks a movement towards a greater proportion of part-time working, the employment estimates might lead one to overstate the rate of output growth.

Even allowing for this possibility, it is clear that the output of private services must be increasing in 1988 at a rate which is sufficient to outweigh the decline in the output of public services. An increase of just over 1 per cent in total service output seems likely in 1988, contributing at least ½ per cent to real GDP growth.

Public service output will again be reduced in 1989 on the basis of the Expenditure Estimates, but private service output should continue to expand. On balance another increase of more than 1 per cent in the volume of service output appears a reasonable projection, implying a further contribution of over ½ per cent to GDP.

Employment

The latest Labour Force Estimates indicate that total employment rose by 6,000 in the year to April 1988, compared with a fall of 8,000 estimated in the August *Commentary*. The principal differences concern employment in industry, where the divergences between the trends shown in the CSO quarterly series on industrial and building employment and the annual Survey results appear to be widening, and in services. Here the reduction in the number of full-time permanent public service jobs as a result of budgetary cutbacks is not fully reflected in the Labour Force Estimates for the relevant categories of employment, perhaps because the growing number of temporary jobs created by government employment schemes come into the same categories. The strength of the trend towards part-time working in the service sector as a whole also remains unknown.

On an annual average basis, it now appears that the total at work increased slightly in 1987 after remaining approximately constant in 1986. Whether this increase in employment held any significance for aggregate incomes in 1987 depends largely on how far it represents a switch from full-time to lower paid part-time or temporary jobs. This will not be apparent until the revised *National Income and Expenditure* estimates for 1987 are published next year.

Because of the higher trend shown in the Labour Force Estimates, it now seems likely that there will be a small rise in the annual average total at work in 1988, with employment in industry holding constant and service employment continuing to rise. However, as in the case of 1987, it is not clear that this upward revision to the employment forecast will have any significant impact on the level of aggregate incomes.

The annual average of full-time public service employment is likely to decline again in 1989, given present budgetary strategy. However a small increase in industrial employment and a continued growth in private services are expected to result in a modest increase in total employment in 1989, as shown in Table 8.

The gap between unemployment on a labour force basis and the numbers on the Live Register widened very significantly in the two years between April 1986 and April 1988. This suggests that, contrary to earlier expectations, any impact of the job-search scheme in reducing the comparative number on the Live Register was outweighed by the growing tendency of women to register in their own right. It is significant that the number of males on the Live Register was virtually identical in April 1986 and April 1988, while the number of females increased by 9,400.

TABLE 8: Employment and Unemployment

A: Mid-April Estimates '000

	1986	1987	1988	1989	1990
Agriculture	168	164	162	159	156
Industry	306	300	299	301	305
Services	606	616	626	630	636
Total at Work	1081	1080	1086	1090	1097
Unemployed	227	232	216	216	216
Labour Force	1308	1312	1302	1306	1313
Unemployment Rate %	17.4	17.7	16.6	16.5	16.5
Live Register	232	250	241	242	242

B: Annual Averages '000

	1986	1987	1988	1989
Agriculture	166	163	160	157
Industry	304	300	300	303
Services	610	622	628	632
Total at work	1080	1085	1088	1092
Unemployed	223	223	216	216
Labour Force	1310	1308	1304	1308
Unemployment Rate %	17.6	17.0	16.6	16.5
Live Register	236	247	242	242

In the absence of short-term indicators of migration flows and of up-to-date reliable short-term indicators of total employment trends, we maintain our technical assumption that both the Live Register and labour force unemployment will remain at approximately their present seasonally adjusted levels throughout 1989. With employment tending to rise, this assumption implies a small reduction in the rate of emigration and a modest increase in the size of the labour force.

Incomes

With movements in relative prices exceptionally favourable in 1988, agricultural incomes are forecast to grow by about 7 per cent in spite of the stagnation in the volume of agricultural output. Although neither decisions on farm prices for 1989 nor the state of the market is yet known, it seems improbable that relative price changes will be as beneficial as in 1988. Accordingly, agricultural incomes are tentatively projected to increase by 3 per cent in 1989.

With the terms of the Programme for National Recovery appearing to hold in the majority of private sector pay settlements, and assuming some trend towards part-time employment in the private service sector, it seems likely that aggregate private sector earnings will increase by a little under 4 per cent in 1988. The public service pay bill is budgeted to rise by about 3¼ per cent, with a fall in numbers offsetting part of an expected rise of about 4½ per cent in average pay. Thus total non-agricultural wages, salaries and pensions are forecast to increase by about 3¾ per cent in 1988, unchanged from the forecast in the August *Commentary*.

The carryover increase in private sector average earnings into 1989 seems likely to be significantly lower than the carryover into 1988. Assuming that the Programme for National Recovery guidelines continue to hold, and that the expected increase in private sector employment will include a substantial proportion of part-time jobs, the increase in aggregate private sector earnings in 1989 could be a little over 3½ per cent. Average public sector earnings are likely to rise by over 6 per cent, due to the phasing of special pay awards, but there will be some further reduction in the number of public service employees. In total, therefore, an increase of about 4¼ per cent in aggregate non-agricultural earnings is projected for 1989, as shown in Table 9.

TABLE 9: Personal Disposable Income

	1987	Change		1988	Change		1989
	£m	%	£m	£m	%	£m	£m
Agriculture etc.	1551	7	109	1660	3	50	1710
Non-Agricultural Wages, etc.	10497	3¾	396	10893	4¼	463	11356
Other Non-Agricultural Income	2320	2	47	2367	2½	59	2426
Total Income Received	14368	3¾	522	14920	3¾	572	15492
Current Transfers	3580	3¼	116	3696	3	114	3810
Gross Personal Income	17948	3¾	668	18616	3¾	686	19302
Direct Personal Taxes	3949	11¼	446	4395	-3	-131	4264
Personal Disposable Income	13999	1½	222	14221	5¾	817	15038
Consumption	11481	4	459	11940	5	610	12550
Personal Savings	2518	-9½	-237	2281	9	207	2488
Savings Ratio	18.0			16.0			16.5

Due to the decline in interest rates, income from interest, dividends and rent seems likely to rise only marginally in 1988. Incomes of independent traders, excluding agriculture, are projected to rise roughly in line with non-agricultural earnings. Thus 'other non-agricultural income', as shown in Table 9, is forecast to grow by only 2 per cent in 1988. On an annual average basis, the reduction in interest rates will be smaller in 1989 than in 1988. However, the running down of personal savings to finance tax payments under the amnesty could have a depressing effect on income from interest, dividends and rent in 1989. Allowing for another moderate increase in income from non-agricultural self employment, total 'other income' is projected to increase by 2½ per cent in 1989.

Current transfer payments are forecast to rise by 3¼ per cent in 1988 and 3 per cent in 1989, the relatively low increase reflecting the low rate of inflation and the assumed stability in the Live Register. Gross personal income is thus forecast to grow by about 3¾ per cent in each year.

Direct personal taxes will be recorded as showing a massive rise in 1988, due to the effect of the tax amnesty. At the time of writing, no breakdown is available of the amnesty receipts, but it appears inevitable that a high proportion will be classified as direct personal taxes. Even if the allocation made in Table 9, which shows total direct personal taxes as increasing by over 11 per cent, proves incorrect it will not significantly affect the result, which is

to depress the rise in personal disposable income in 1988 to about 1½ per cent, or well below the rate of price inflation.

However, because of the nature of the transactions involved, it is felt that this treatment, while unavoidable in a National Accounts framework, greatly exaggerates the effect of the tax amnesty on what might be termed available disposable income. It appears overwhelmingly likely that the principal adjustment to accommodate this apparent fall in real personal disposable income will be in the level of personal savings, and thus in the savings ratio. The impact on the level of consumption in 1988 is expected to be very slight.

Because of the large amnesty element in tax receipts in 1988, there is likely to be a significant decline in direct personal tax payments in 1989. If this decline is about 3 per cent, which appears to be a reasonable projection, then personal disposable income could be expected to increase by about 5¾ per cent in 1989. As discussed earlier, it is prudent to assume that there will be some attempt to rebuild personal savings in 1989. On the admittedly arbitrary assumption that the personal savings ratio recovers by about half a percentage point in 1989, a rise of about 5 per cent in the value of personal consumption could be accommodated.

Consumer Prices

With the August level of the consumer price index marginally lower than predicted in the August *Commentary* and with international oil prices trending lower during the autumn, it now appears likely that the annual average increase in the consumer price index will be approximately 2 per cent. This implies a November to November rise in the index of just under 2½ per cent.

Given the slower than expected rise in prices in the second half of 1988, it is reasonable to revise downward the forecast of price inflation in 1989. An annual average level of about 2½ per cent is now projected for the consumer price index, although an increase of almost 3 per cent is still predicted for the 12 months to November 1989.

Public Finances

Obviously, consideration of the public finances in 1988 is dominated by the surge in revenue, due mainly to the extraordinary success of the tax amnesty, but also, to some extent, by greater than expected tax buoyancy through the year to date. With current expenditure running below budget due to lower than anticipated unemployment, and savings on interest payments and EC contributions, it now appears that the current budget deficit for 1988 will be in the region of £500 million or only 2¾ per cent of GNP. If, as in most recent years, borrowing for capital purposes is also a little below the target level, then the exchequer borrowing requirement seems likely to be about £800 million, or 4¼ per cent of GNP.

Before attempting to project revenue and expenditure flows for 1989, it is necessary to attempt to distinguish the continuing from the non-repeatable elements of the 1988 revenue inflow. Unfortunately, insufficient data are available to complete this exercise with any high degree of confidence. However, even in the early months of the year, well before the amnesty deadline became imminent, trends of both direct and indirect taxes appeared

remarkably buoyant. Even if some part of this buoyancy reflected more efficient tax collection rather than higher incomes and expenditure, it is still legitimate to treat it as a continuing income flow, for there is no reason to anticipate a deterioration in collection methods in the foreseeable future.

On the basis of first half trends, it appears reasonable to predicate an underlying flow of tax revenue in 1988 of over £6,800 million, almost £200 million above the budget target. This would imply that the 'once-off' element of the tax amnesty in 1988 is of the order of £450 million.

Just as the exact size of the continuing 1988 tax flow is difficult to establish at present, so is the precise relationship between income and expenditure growth and tax receipts in 1989. Tax flows in the final two months of 1988 will need to be monitored carefully to obtain some indication of the post-amnesty rate of tax buoyancy. Until this can be done, the most reasonable *a priori* assumption that can be made is that most individuals and companies that have brought their tax affairs up-to-date will endeavour to keep them in order, and that the fear of penalties which largely prompted the response to the amnesty will continue to influence the flow of tax payments.

If this expectation is correct, then underlying tax buoyancy in 1989 should be at least as great as in 1988. On the normal assumption of indexation of income tax thresholds and bands and of specific indirect tax rates, the income and expenditure forecasts in the *Commentary* suggest that total tax revenue at constant buoyancy could reach about £7,150 million, almost 5 per cent above the underlying 1988 total. Allowing for some fall in non-tax revenue, due mainly to reduced receipts from the Central Bank, total current revenue in 1989 could, on these assumptions, approach £7,450 million.

Making some upward adjustment to the published Estimates to allow for probable additional pay increases for some groups of public service employees and for normal social welfare increases, and assuming only a marginal rise in central fund expenditure, total current exchequer expenditure in 1989 seems likely to be just under £8,200 million.

The resultant current budget deficit would thus be of the order of £750 million. The reduction in the Public Capital Programme seems likely to reduce borrowing for capital purposes by about £70 million, implying a possible exchequer borrowing requirement in 1989 of between £950 and £1,000 million.

Both the deficit and the borrowing requirement are well below the assumed levels on which the general forecasts in this *Commentary* are based. However the extremely tentative nature of the revenue projections for 1989 must be stressed. If, however, developments in the closing months of 1988 confirm the plausibility of these projections then the clear implication is that there would be room to relax the deficit while still remaining within the reasonable target of an exchequer borrowing requirement of £1,100 million or 5½ per cent of GNP. Alternative methods of achieving a modest relaxation, if it proves that conditions in fact permit it, will be discussed in the general assessment at the end of this *Commentary*.

Interest Rates

The size and the persistence of the differential between Irish and UK interest rates encourages belief that the divorce between London and Dublin markets

has now become absolute, and that the summer of 1988 has not represented a mere trial separation. In these circumstances, further moves towards a liaison with German markets can be expected, and it is noteworthy that such a development is now being discussed by financial, as distinct from economic, commentators who in early 1988 still believed in the indissolubility of the marriage with London.

Since the August *Commentary* wholesale interest rates on the money markets have shown little change, but gilt yields, as predicted, have declined substantially. Assuming currency stability and no major movement in international, particularly German, interest rates, the trend in Irish rates in 1989 should continue gently downwards. However, in the case of wholesale interest rates, this downward trend is likely to be postponed in the remainder of 1988, both by the normal seasonal decline in trade-related liquidity flows and by the impact on liquidity of funding the recent tax amnesty payments. Obviously, the authorities will recycle sufficient of the increased government balances to prevent a shortage of liquidity from forcing wholesale rates up appreciably, but it seems unlikely that they will encourage a fall in rates until the level of Central Bank support is once more being significantly reduced.

Thus it seems probable that the next small decline in wholesale rates, and possibly also in retail interest rates such as overdrafts and mortgages, will take place in the spring of 1989. Average rates in 1989 will, of course, be lower than the 1988 average. Given the strength of the government's funding position, a further modest fall in gilt yields could take place more rapidly, and again, the average level in 1989 seems certain to be well below the 1988 average.

General Assessment

In both the April and August *Commentaries* we argued that hard-and-fast decisions on macro-economic policy for 1989 should be delayed until as late as possible in 1988, because the speed of the improvement in the underlying economy and in revenue flows was so difficult to judge. This advice appears to have been justified both by continuing evidence that economic growth is faster than anticipated and by the totally unexpected scale of the amnesty tax receipts. Indeed, even now it is difficult to predict with confidence what the early indicators will reveal about the strength of consumer spending and continuing tax flows in the fourth quarter of 1988 in the wake of the tax amnesty. Final decisions on the fiscal stance appropriate for 1989 thus still need to wait upon assessment of these indicators.

However, despite these uncertainties, it does appear certain that economic recovery is well under way. Employment trends are somewhat better than quarterly series had indicated, although doubts remain concerning the quality of the jobs involved. Exports continue to expand, and under the influence of lower interest rates both personal consumption and private investment appear to be growing. Inflation remains very low by historical standards and the balance of payments has moved into substantial surplus.

Provided that the inevitable adjustment of the UK economy to its balance of payments deficit takes place reasonably smoothly, these favourable trends can be expected to persist in 1989, although the pace of export expansion is likely to slacken. Even without making allowance for any significant impact

from the expanded EC structural fund during 1989, total investment is likely to grow to its fastest rate since 1981. Personal consumption should continue to increase in volume terms, although the rate of growth is difficult to predict with confidence until some post-amnesty indicators become available. Price inflation might well edge upwards during 1989, although it seems unlikely to reach more than 3 per cent by the end of the year. Nominal interest rates will almost certainly remain low throughout 1989, and are quite likely to decline a little further. The current account balance of payments surplus will remain large, and probably increase a little, while the parity of the Irish pound within the EMS appears secure unless there is an unexpectedly large and sudden sterling collapse. Even if there were such a collapse, a temporary increase in Irish interest rates seems far more likely than any unilateral change in the Irish pound's EMS parity.

With regard to the public finances, which have quite properly been the principal focus of attention for the past seven years or so, it looks increasingly likely that the primary target of stabilising the debt/GNP ratio has now been achieved. Certainly so far as 1988 is concerned, the amnesty receipts have ensured that net exchequer borrowing will be significantly less than the increase in nominal GNP. The actual end-year debt/GNP ratio might be distorted by the size of government deposits with the Central Bank, but net of these deposits and possible valuation changes, the ratio will undoubtedly have fallen. The situation with regard to 1989 is less clearcut, but if our forecasts in this *Commentary,* which we regard as cautious, prove correct, then the exchequer borrowing requirement will once again be smaller than the rise in nominal GNP, implying a further improvement in the debt/GNP ratio net of any valuation changes.

If it proves true that the debt/GNP ratio has not only been stabilised but is actually falling, it does not, of course, mean that fiscal discipline can now be abandoned and that stringency in expenditure can give way to renewed profligacy. What it does mean, as was pointed out in our April *Commentary,* is that the period of single-minded concentration on reducing the borrowing requirement is coming to an end. It is being replaced, a year earlier than anticipated, by a more complex situation in which limited choices can be made, and in which economic strategy can seek to balance several desirable but conflicting aims.

These choices must begin to be faced in the 1989 budget. The first decision to be made is whether the achievement of approximate stability in the debt/GNP ratio is sufficient in itself, or whether the new aim should be a significant reduction in the ratio. There are very strong arguments in favour of attempting to reduce the ratio. Its very size, well above what is normal for an advanced country, leaves Ireland extremely vulnerable to any unfavourable developments, such as a sustained rise in international interest rates. Apart from this long-term precautionary motive for reducing the debt/GNP ratio, there is a compelling shorter-term motive, in that the financial markets may require evidence of a continuing determination to reduce borrowing levels if the differential between Irish and continental interest rates is to be narrowed further.

However, while the desirability of a reduction in the debt/GNP ratio is clear,

this is different in kind from the imperative in recent years to stabilise the ratio. The aim must now take its place among a number of other desiderata, and the pace at which the ratio is reduced becomes a matter of political choice. For the purpose of this *Commentary* we have assumed that a target exchequer borrowing requirement of about £1,100 in 1989 would represent adequate progress in the short run, with further minor cuts in borrowing as a proportion of GNP to follow without undue difficulty in the following years. The government, of course, may have different priorities, and might prefer the safety of aiming for a greater cut in borrowing in 1989.

The disadvantage of planning to reduce borrowing too rapidly in 1989 is that such a fiscal stance would tend to limit the rate of economic growth, and delay unnecessarily the recovery in employment levels. The balance to be sought between debt reduction and permitting the maximum non-inflationary rate of growth is a delicate one, and, as already emphasised, any final decision cannot yet be made.

If it eventually is decided that the present Expenditure Estimates and projected revenue flows are likely to result in an unnecessarily rapid reduction in the borrowing requirement in 1989, the next set of choices concerns the nature of any relaxation. Essentially such choices are political, but it is quite reasonable for the economic commentator to note that alternative options will lead to different results from the point of view of equity and economic effectiveness.

There has long been a case for fundamental reform of the Irish tax system, with the aim of redistributing the direct tax burden from wages and salaries towards property, corporate profits and income from self employment. Serious moves towards restructuring the system have been inhibited during the period of crisis management by the inherent risks to revenue flow of major changes in the tax codes. The emergence of possible leeway in the 1989 budget could provide the opportunity to accept some of these risks, and to take more significant steps than hitherto towards a major reform of the tax system. If, in the event, it turns out that the risks were overestimated, or if general tax buoyancy in the course of 1989 turns out to be greater than anticipated, then the windfall could properly be applied to a speedier reduction of the debt burden.

If it is decided to adopt a shorter-term outlook, and to delay major structural changes until the state of the public finances is more secure, then the discussion must turn to relatively minor forms of possible relaxation. It should be utterly clear that what is under consideration is not the stimulation of the economy, such as took place in the late '70s on the back of increased borrowing. Rather it is the marginal easing of some of the constraints on economic growth which have necessarily been imposed in recent years. In this context it would appear that permitting, rather than encouraging, a slightly faster increase in personal consumer spending could have beneficial consequences for employment. Obviously a proportion of increased consumption would leak out directly into higher imports, but with Irish industrial competitiveness relatively strong, the domestic share of higher consumption could be considerable. Apart from the direct employment effects, improved consumption levels could also provide a moderate stimulus to domestic investment.

The desirability, on employment grounds, of permitting a slightly faster increase in personal consumption in 1989 provides a useful framework for examining some of the possible forms a minor fiscal relaxation might take.

Of the possible measures under common discussion, the reduction of marginal rates of direct taxation, and particularly of the higher rate of income tax, is probably the most speculative in its effects. It clearly would not contribute directly to a more equitable distribution of income, while its proponents have yet to demonstrate convincingly that in present Irish circumstances it would result in a significant supply-side contribution to economic growth. Conversely there are reasons to fear that its lack of perceived equity might make it more difficult to maintain pay moderation and that its effects on income distribution could tend to exert an upward influence on the savings ratio, thus restricting the growth of personal consumption.

The consequences of raising tax thresholds and rate bands, while maintaining marginal tax rates, would seem preferable on equity grounds and more likely to lead to a proportionate rise in consumer spending. Many individuals would, in practice, be moved onto lower marginal tax rates. Moreover, by reducing average tax rates over a wide range of incomes, such a move might be more relevant than a reduction in marginal rates to the problem of tax-induced emigration, if indeed this is yet a serious issue within the context of total migration patterns.

Given the imminence of the Single European Act, a convincing case could be made for using any leeway existing in the 1989 budget to commence the reduction of excise duties which will become necessary by 1992. This would possess the advantage of limiting the increase in the consumer price index in 1989 as well as easing the adjustment problems in future years. Its perceived effect on equity could be negative, but obviously no more so than when the adjustments must ultimately be made.

As an alternative or complement to reductions in rates of taxation, the expenditure estimates could be raised in selected areas. Provided any increase was on the volume, rather than the price, of useful public services, this could have a beneficial effect both on employment and on equity. The consumption effects of such expenditure could well be greater than those of a similar amount of tax reduction. The principal danger of such a course is that it could induce an unfavourable reaction from capital markets and thus put at risk the projected decline in interest rates. For this reason, any relaxation on spending levels should be very cautious. The outlook on capital expenditure, however, could change significantly if early agreement is reached with regard to EC structural funds. If useful infrastructure investment can be financed largely from EC sources, a considerable increase in public capital expenditure could be accommodated without any adverse effect on market perceptions, or indeed on the borrowing requirement, as additional current revenue would flow from increased employment in the construction sector.

Probably the least desirable form of relaxation, from the viewpoint of either equity or effectiveness, would be to weaken the stance on public service pay trends. Already, under the terms of the current Public Service Pay Agreement, average public service pay is likely to increase substantially in 1989 under the impact of the phasing of special pay awards. Given the prospect of low price

inflation for the foreseeable future, the existing phasing of such awards places a strain on budgetary arithmetic. An increase in the number of special awards, or an acceleration in their phasing, could rapidly erode any leeway available in expenditure levels. If the public service unions cannot be persuaded that their attachment to strict traditional relativities has become anachronistic in the modern world, then the implementation of awards, frequently amounting to several years' normal pay increases, should be spread over a suitably lengthy period.

Public service pay has been singled out for special attention, both because it affects exchequer expenditure and because the public service unions appear to have adapted less readily than their private sector counterparts to the changed economic circumstances of recent years. However, it is timely to draw attention to the fact that the relatively favourable forecast for 1989 depends on the assumption that pay increases in the private sector will remain moderate. While this assumption appears valid for 1989, the continuation of growth in subsequent years and the prospect of a substantial increase in employment could be jeopardised if a pay explosion follows the end of the Programme for National Recovery. The *Appendix* to this *Commentary* outlines the recent improvement in industrial labour cost competitiveness. If the benefits of this are to be enjoyed, continued pay moderation is necessary, perhaps complemented in later years by some reduction in direct tax rates. A lasting regime of low rises in nominal pay will not only enhance employment prospects, but also result in a faster rise in real wages than would a return to the inflationary cycles of the late '70s.

APPENDIX

INDUSTRIAL OUTPUT AND WAGE COSTS 1980-87

by
T.J. Baker

Introduction

In an Appendix to the April 1985 *Commentary,* an attempt was made to divide Irish industry into modern and traditional sectors, and to trace the trends of output, wages and unit wage costs in each for the early years of the 1980s. The exercise appeared to justify the sectoral division made, and provided useful insights into the industrial developments of the time. The division then established has since been used extensively in analyses of industrial performance.

The recent retrospective revisions by the CSO of the index of industrial production and of series for industrial employment and earnings provide a suitable opportunity to update and improve the earlier Appendix, and to examine developments since 1984. In this present study the rapid expansion of cola concentrate production in recent years has made it necessary to add 'other foods' to the classification of modern industry. Compared with the earlier study, weighting procedures have been improved and are now as close to those used by the CSO as is feasible from the available published data.

As explained in the original Appendix, the split into modern and traditional sectors of industry on the basis of the published NACE industry groupings is inevitably crude and somewhat arbitrary.

There are undoubtedly some establishments within the modern industries which possess the characteristics of traditional industry, and some establishments within the traditional industries which should ideally be treated as modern. However, as will be seen from the tables, on such criteria as output growth, employment trends and movements in unit wage costs, the division chosen does appear to possess considerable validity, and there is no NACE industry group which is clearly mis-classified.

Industrial Production

Table A1 shows the volume of industrial production, to base 1980, for industry groups and for total modern, traditional and manufacturing industry. The most striking feature of the table is that in the seven years covered, modern industry has almost tripled its output. Apart from 'office and data processing machinery', production of which has increased sevenfold, the other modern industries have each approximately doubled in output over the period. The growth of modern industry has not been steady, as periods of very rapid expansion, such as 1983, '84 and '87, have been interspersed with years of relatively slow increases. However, in no year has the production of total

TABLE A1: Industrial Production 1980-87

Index 1980 = 100

INDUSTRY GROUP	NACE CODE	1984 Net Output £m	1981	1982	1983	1984	1985	1986	1987
Pharmaceuticals	257	617.5	115.4	110.3	143.2	153.1	184.3	180.8	194.8
ODP Machinery	33	590.9	174.5	190.6	277.3	416.8	425.6	517.3	710.6
Electrical Engineering	34	502.2	111.0	123.3	146.9	185.4	191.7	207.5	251.7
Instrument Engineering	37	235.2	121.9	128.3	154.1	172.1	174.4	176.1	197.2
'Other Foods'	411,414,415, 417,418,423	327.8	107.6	113.1	124.9	133.8	147.1	163.1	212.9
Total 'Modern'		2273.6	122.7	127.7	161.0	195.1	211.5	223.7	280.3
Non Metallic Minerals	24	333.3	100.8	87.8	88.8	92.3	99.0	87.4	90.3
Rest of Chemicals	251,255,256, 258-60	289.0	114.1	109.3	110.9	132.6	133.4	138.0	152.2
Rest of Metals and Eng.	22,31,32, 35,36	511.9	96.3	90.4	89.7	89.2	87.8	83.0	84.3
Rest of Food	412,413,416, 419,420-22	698.1	97.3	100.5	104.0	108.3	112.4	114.9	112.5
Drink and Tobacco	424-429	336.0	100.9	101.2	96.7	98.1	103.9	102.2	101.4
Textiles	43	159.8	106.9	101.3	92.3	95.7	93.0	90.7	90.5
Clothing, Footwear, Leather	44,45	147.6	98.9	101.1	97.9	92.9	87.4	86.4	81.9
Timber, Wood, Furniture	46	92.3	97.5	91.9	87.3	86.7	86.4	92.8	93.3
Paper and Printing	47	256.8	99.6	90.6	88.8	93.5	92.3	91.7	96.4
Misc. Industries	14,48,49	206.7	100.8	101.0	112.3	109.0	108.8	113.9	120.6
Total 'Traditional'		3031.5	100.2	96.9	97.0	100.0	101.5	100.2	101.8
Total Manufacturing		5305.1	106.0	104.8	113.7	125.0	130.6	134.4	149.8

Source: CSO Industrial Production Index, latest revisions. Constructed Industry Groupings weighted by Net Output
1980-1984 Annual Linked Fisher, 1984-87 Laspeyre on 1984 base
The unavoidable use of Laspeyre index from 1985 onwards may slightly exaggerate the rates of growth shown in that period, especially for 'modern' industry and total manufacturing.

modern industry actually declined, and even among the constitutent individual industries years of falling output are very rare.

In contrast the output of total traditional industry has not changed significantly over the entire period. A small decline in 1982 was followed by a modest recovery in 1984, and approximate stability until 1987. There is a considerable degree of variation among the constituent industry groups, with output of 'rest of chemicals' increasing by half over the period, while production of 'clothing, footwear and leather' has declined by almost 20 per cent.

What is apparent from the table is that, with the possible exception of 'rest of chemicals', there is a clearcut distinction between the experience of industries in the modern and traditional sectors of manufacturing over the period concerned. It also confirms that this divergence is so great that any analysis which treats manufacturing industry as a single entity is liable to prove misleading.

Numbers Engaged

The essential difference between the modern and traditional sectors is further illustrated in Table A2, which traces employment trends since 1980. The numbers engaged in modern industry have increased by more than a fifth while employment in traditional industry has fallen by over a quarter. Over the period the proportion of the manufacturing workforce employed in modern industry has grown from 15 per cent to 22½ per cent.

TABLE A2: Numbers Engaged 1980-87

Index 1980 = 100

INDUSTRY GROUP	NACE CODE	1984 '000	1981	1982	1983	1984	1985	1986	1987
Pharmaceuticals	257	4.125	110.0	123.7	131.4	136.4	144.1	155.9	161.9
ODP Machinery	33	6.400	113.2	128.1	134.7	151.7	145.1	147.5	149.3
Electrical Engineering	34	16.850	108.4	115.1	112.4	114.3	115.8	119.2	121.6
Instrument Engineering	37	6.750	101.6	107.8	112.5	107.5	106.8	107.1	107.5
'Other Foods'	411,414,415, 417,418,423	5.275	95.8	97.9	92.4	91.6	91.6	95.0	99.2
Total 'Modern'		39.400	105.7	112.7	113.3	115.5	115.9	119.3	121.9
Non Metallic Minerals	24	12.675	99.0	93.8	84.1	81.8	79.9	77.0	73.2
Rest of Chemicals	251,255,256,258-60	7.950	98.4	89.1	84.5	85.3	82.1	81.2	79.6
Rest of Metals and Eng.	22,31,32,35,36	31.950	95.8	91.0	83.2	77.3	70.8	69.4	67.6
Rest of Food	412,413,416,419,420-22	35.850	95.3	92.2	88.4	85.3	80.0	78.2	76.9
Drink and Tobacco	424-429	8.457	100.7	94.4	86.9	82.0	76.4	74.7	71.8
Textiles	43	11.525	92.3	81.4	70.2	68.1	64.7	64.2	61.8
Clothing, Footwear, Leather	44,45	16.575	94.7	90.1	82.3	79.8	74.1	72.2	69.1
Timber, Wood, Furniture	46	8.400	101.3	99.0	92.1	86.6	81.6	79.0	75.0
Paper and Printing	47	13.225	97.7	90.6	85.3	81.4	80.2	80.7	79.3
Misc. Industries	14,48,49	10.175	98.3	97.2	95.0	85.6	85.6	87.3	87.6
Total 'Traditional'		156.800	96.5	91.4	84.8	80.8	76.4	75.1	73.1
Total Manufacturing		196.150	97.9	94.6	88.9	86.0	82.3	81.7	80.4

Source: CSO Industrial Employment, latest revisions
Constructed Industry Groupings aggregate employment is known.
No weighting procedures necessary.

Within modern industry, employment in 'other foods' in 1987 was still just below its 1980 level, but inspection reveals that this is explained by a decline in the years to 1984, when 'other foods' was still dominated by its traditional elements, followed by growth in the later years as the modern elements became more important. Employment growth in the other modern industries, while not steady, has tended to be persistent, with any setbacks being quickly reversed.

Among the traditional industries the decline in employment has been consistent, with only 'miscellaneous industries' falling by less than 20 per cent. It is worth noting that 'rest of chemicals' has behaved fairly typically of traditional industries with regard to employment, which is the main reason for classifying it as traditional rather than modern.

Because employment in the traditional is so much greater than in the modern sector of industry, the rise in numbers engaged in modern industry has proved quite incapable of compensating for the broadly similar proportionate fall in traditional industry employment. Thus total manufacturing employment declined by almost exactly 20 per cent between 1980 and 1987.

Table A2, of course, is based on the CSO Quarterly Series on Industrial Employment, and not on the rather more buoyant Labour Force Estimates of manufacturing employment. This is unavoidable, as only the quarterly series permits the calculation of annual averages. It is also preferable, as the figures are collected on an establishment basis, and are thus directly comparable with the series covering production and wages. It is probable that most of the additional industrial workers revealed by the Labour Force Survey are employed in very small enterprises whose output is not included in the index of industrial production.

Output per Head

Table A3 is derived from the two previous tables, and shows trends in output per person engaged. The most obvious feature is that there has been a steady and substantial increase in output per head in both modern and traditional industry, and in each constituent industry of both groups. The only significant exception is 'clothing, footwear and leather', where output per head has remained virtually unchanged since 1983 after a strong rise in the previous three years.

Not surprisingly, output per person has tended to grow faster in the modern industries, even if one discounts the extraordinary, near-fivefold, increase in 'office and data processing machinery'. Because of faster productivity growth in modern industry, the increase in output per head for total manufacturing does tend to exaggerate the productivity gains of the industries which employ the bulk of the industrial workforce.

The other interesting feature of Table A3 is the first column which shows the level of net output per head in 1984. Modern industry, as expected, has a considerably higher net output per person than traditional industry, with 'pharmaceuticals' and 'office and data processing machinery' having particularly high levels. Two traditional industries, 'rest of chemicals' and 'drink and tobacco' have higher output per head than two of the modern industries, but they nevertheless fall well short of the average of modern industry as a whole. Net output per head in 'clothing footwear and leather' is notably low, this being the only industry with a 1984 level of below £10,000.

TABLE A3: Output Per Head 1980-87 Index 1980 = 100

INDUSTRY GROUP	NACE CODE	1984 Net Output per head £'000	1981	1982	1983	1984	1985	1986	1987
Pharmaceuticals	257	149.7	104.0	89.2	109.0	112.2	127.9	116.0	120.3
ODP Machinery	33	92.3	154.2	148.8	205.9	274.8	293.3	350.7	476.0
Electrical Engineering	34	29.8	102.4	107.1	130.7	162.2	165.5	174.1	207.0
Instrument Engineering	37	34.8	120.0	119.0	137.0	160.1	163.3	164.4	183.4
'Other Foods'	411,414,415, 417,418,423	62.1	112.3	115.5	135.2	146.1	160.6	171.7	214.6
Total 'Modern'		57.7	116.1	113.3	142.1	168.9	182.5	187.5	229.9
Non Metallic Minerals	24	26.3	101.8	93.6	105.6	112.8	123.9	113.5	123.4
Rest of Chemicals	251,255,256,258-60	36.4	116.0	122.7	131.2	155.5	162.5	170.0	191.2
Rest of Metals and Eng.	22,31,32,35,36	16.0	100.5	99.3	107.8	115.4	124.0	119.6	124.7
Rest of Food	412,413,416,419,420-22	19.5	102.1	109.0	117.6	127.0	140.5	146.9	146.3
Drink and Tobacco	424-429	39.6	100.2	107.2	111.3	119.6	136.0	136.8	141.2
Textiles	43	13.9	115.8	124.4	131.5	140.5	143.7	141.3	146.4
Clothing, Footwear, Leather	44,45	8.9	104.4	112.1	119.0	116.4	117.9	119.7	118.5
Timber, Wood, Furniture	46	11.0	96.2	92.8	94.8	100.1	105.9	117.5	124.4
Paper and Printing	47	19.4	101.9	100.0	104.1	114.9	115.1	113.6	121.6
Misc. Industries	14,48,49	20.3	102.5	103.9	118.2	127.3	127.1	130.5	137.7
Total 'Traditional'		19.3	103.8	106.0	114.4	123.8	132.9	133.4	139.3
Total Manufacturing		27.0	108.3	110.8	127.9	145.3	158.7	164.5	186.3

Table 1 Rows divided by Table 2 Rows

Average Weekly Earnings

The surprising aspect of Table A4 is that average earnings tend to be higher in the traditional industries than in the modern. Due to weighting problems, the constructed 1984 earnings levels for total modern and traditional industry must be regarded as somewhat crude, but there is no ambiguity about a traditional industry, 'drink and tobacco', having the highest level of average earnings, or about three others, 'non-metallic minerals', 'rest of chemicals' and 'paper and printing' being well above the average for all manufacturing. Conversely, average weekly earnings in 'electrical engineering', a modern industry, are well below the average for all manufacturing. The simple unweighted mean of average wages in the industries in the modern sector, is almost identical with the mean of the traditional industries.

It is clear that there is only a weak correlation between net output per person, shown in Table A3, and average weekly earnings by industry, as shown here. There is, of course, an inverse correlation, not directly relevant to this study, between the proportion of females in an industry's workforce and the level of average weekly earnings.

The trends shown in earnings from 1980 to 1987 are probably rather more reliable than the constructed levels of 1984 earnings. The striking feature here is the relatively low dispersion around the average rate of growth. Even since the abandonment of national pay rounds, there has not been a great divergence

TABLE A4: Average Weekly Earnings 1980-87 Index 1980 = 100

INDUSTRY GROUP	NACE CODE	1984 Weekly Earnings £	1981	1982	1983	1984	1985	1986	1987
Pharmaceuticals	257	210.0	117.2	139.9	151.5	170.8	195.6	208.7	222.4
ODP Machinery	33	161.1	102.6	127.4	147.6	170.1	195.5	216.0	223.3
Electrical Engineering	34	135.9	116.1	126.0	143.8	160.5	172.4	191.8	199.9
Instrument Engineering	37	156.2	116.2	141.4	151.3	175.2	181.4	198.1	212.1
'Other Foods'	411,414,415, 417,418,423	155.0	119.0	136.9	154.0	172.5	186.5	198.1	206.7
Total 'Modern'		156.7	114.6	132.2	148.3	167.9	183.8	201.2	210.9
Non Metallic Minerals	24	181.5	118.3	132.5	145.9	167.8	186.6	203.2	218.6
Rest of Chemicals	251,255,256,258-60	205.4	116.9	127.1	149.1	167.6	183.1	192.0	208.8
Rest of Metals and Eng.	22,31,32,35,36	161.6	112.3	126.2	140.7	158.7	179.5	189.9	199.6
Rest of Food	412,413,416,419,420-22	167.0	116.6	135.9	152.8	168.1	170.0	180.5	182.5
Drink and Tobacco	424-429	229.4	117.2	131.5	149.5	172.5	185.5	204.1	223.8
Textiles	43	134.5	119.0	136.9	156.2	174.9	181.5	194.6	205.4
Clothing, Footwear, Leather	44,45	99.0	117.6	128.9	143.0	157.0	165.9	171.2	178.8
Timber, Wood, Furniture	46	118.4	123.0	135.1	146.6	160.7	169.9	186.9	197.9
Paper and Printing	47	188.7	118.5	127.9	141.8	158.5	167.2	183.4	195.8
Misc. Industries	14,48,49	151.5	118.6	134.7	145.9	157.6	177.1	191.1	200.4
Total 'Traditional'		167.9	116.9	131.3	146.9	164.1	176.1	188.6	198.5
Total Manufacturing		158.8	116.7	131.7	147.1	165.1	178.2	191.5	201.3

Source: CSO Industrial Earnings.
Constructed Industry Groupings weighted by CIP 'wages and salaries'
1980-84 Annual linked Laspeyre. 1984-87 Laspeyre on 1984 base
CSO warns that series from 1985 are not directly comparable with previous years.
The annual weights used here give slightly divergent results from the more complex September-based weights used by CSO

of pay increases between the expanding and contracting industries. If allowance is made for price inflation over the period, there has however been a considerable divergence in real earnings, with two industries even failing to match the 90 per cent rise in the consumer price index between 1980 and 1987, while the industries with the fastest earnings growth have recorded an increase of about 17 per cent in average real wages.

Unit Wage Costs

Table A5 records trends in unit wage costs, derived from the two preceding tables by dividing indices of average earnings by indices of output per person.

It can be seen immediately that unit wage costs in modern industry were significantly lower in 1987 than in 1980, while unit wage costs in traditional industry rose by over 40 per cent in the same period. Each group contains one outlier. In modern industry, unit wage costs in pharmaceuticals rose by 85 per cent, the highest for any individual industry, modern or traditional. Among the traditional industries, 'rest of chemicals' shows an atypically low increase of 9 per cent, more akin to values among the modern group of industries. The fact that both outliers are part of the broader chemical industry group gives rise to the suspicion that there may have been some undetected change in the classification of output or employment between 'pharmaceuticals' and other chemicals during the period covered.

Apart from chemicals, the traditional industries exhibit a considerable degree of uniformity in their increase in unit wage costs, and all are well above the usually quoted figure of 8 per cent relating to total manufacturing. There

TABLE A5: Unit Wage Costs 1980-87 Index 1980 = 100

INDUSTRY GROUP	NACE CODE	1981	1982	1983	1984	1985	1986	1987	1987 Adjusted for Tr.W. currency change
Pharmaceuticals	257	112.7	156.8	139.0	152.2	152.9	179.9	184.9	165.3
ODP Machinery	33	66.5	85.6	71.7	61.9	66.7	61.6	46.9	41.9
Electrical Engineering	34	113.4	117.6	110.0	99.0	104.2	110.2	96.6	86.3
Instrument Engineering	37	96.8	118.8	110.4	109.4	111.1	120.5	115.6	103.3
'Other Foods'	411,414,415, 417,418,423	106.0	118.5	113.9	118.1	116.1	115.4	96.3	86.1
Total 'Modern'		98.7	116.7	104.4	99.4	100.7	107.3	91.7	82.0
Non Metallic Minerals	24	116.2	141.6	138.2	148.8	150.6	179.0	177.1	158.3
Rest of Chemicals	251,255,256,258-60	100.8	103.6	113.6	107.8	112.7	112.9	109.2	97.6
Rest of Metals and Eng.	22,31,32,35,36	111.7	127.1	130.5	137.5	144.8	158.8	160.1	143.1
Rest of Food	412,413,416,419,420-22	114.2	124.7	129.9	132.4	121.0	122.9	124.7	111.5
Drink and Tobacco	424-429	117.0	122.7	134.3	144.2	136.4	149.2	158.5	141.7
Textiles	43	102.8	110.0	118.8	124.5	126.3	137.7	140.3	125.4
Clothing, Footwear, Leather	44,45	112.6	115.0	120.2	134.9	140.7	143.0	150.9	134.9
Timber, Wood, Furniture	46	127.9	145.6	154.6	160.5	160.4	159.1	159.1	142.2
Paper and Printing	47	116.3	127.9	136.2	137.9	145.3	161.4	161.0	143.9
Misc. Industries	14,48,49	115.7	129.6	123.4	123.8	139.3	146.4	145.5	130.0
Total 'Traditional'		112.6	123.9	128.4	132.6	132.5	141.4	142.5	127.6
Total Manufacturing		107.8	118.9	115.0	113.6	112.3	116.4	108.1	96.6

Table A4 rows divided by Table A3 rows.

is a much wider divergence among the modern industries, with unit wage costs in 'office and data processing machinery', due to its massive productivity gains, falling to below half their 1980 level.

The final column of Table A5 adjusts the 1987 unit wage costs, on an individual industry basis, for changes in the trade-weighted value of the Irish pound since 1980. Obviously, to the extent that increases in wage costs are offset by a depreciation of the currency, the effects on international competitiveness are diminished. The noteworthy feature of the column is that the marginal fall in the currency adjusted unit wage costs of total manufacturing conceals an appreciable increase in the unit wage costs of most individual industries, offset by large falls in a few industries, most dramatically 'office and data processing machinery'.

Unit Wage Costs Adjusted for Currency Changes

While the final column of the previous table adjusted 1987 unit wage costs for changes in the trade-weighted index, this is a somewhat restricted measure of currency movements. Table A6 accordingly traces the development of unit wage costs in terms of a number of specific currencies. Because it would be unduly cumbersome to adjust the indices for every separate industry, the exercise has been limited to modern and traditional industries as a whole.

TABLE A6: Unit Wage Costs Adjusted for Currency Changes 1980-87

Index 1980 = 100

Currency	1981	1982	1983	1984	1985	1986	1987	Projected 1988
Total 'Modern' Industry £IR	98.7	116.7	104.4	99.4	100.7	107.3	91.7	86.2
Trade Weighted Index	90.3	106.2	91.9	83.6	84.9	96.6	82.0	75.7
ECU	96.5	114.4	98.7	92.6	95.2	99.0	79.9	75.1
£ Sterling	89.1	107.0	96.9	91.2	93.6	110.7	94.0	83.6
DM	96.2	107.7	88.8	82.1	84.0	83.6	65.6	61.7
F.Franc	99.3	125.3	113.8	108.3	110.2	114.7	94.4	90.2
$ US	77.4	80.5	63.2	52.4	52.1	69.9	66.2	63.2
Total 'Traditional' Industry £IR	112.4	123.9	128.4	132.6	132.5	141.4	142.5	138.2
Trade-Weighted Index	102.9	112.7	113.0	111.5	111.7	127.3	127.4	121.6
ECU	109.9	121.4	121.4	123.5	125.2	130.5	124.2	120.5
£ Sterling	101.5	113.6	119.1	121.7	123.1	145.9	146.1	134.1
DM	109.5	114.3	109.2	109.5	110.5	110.1	101.9	99.2
F.Franc	113.1	133.0	140.0	144.5	145.0	151.2	146.6	144.7
$ US	88.1	85.4	77.7	69.9	68.5	92.1	102.9	101.6
Total Manufacturing Industry £IR	107.8	118.8	115.0	113.6	112.3	116.4	108.1	103.8
Trade-Weighted Index	98.7	108.1	101.2	95.6	94.7	104.8	96.6	91.3
ECU	105.4	116.4	108.8	105.8	106.1	107.4	94.2	90.5
£ Sterling	97.3	108.9	106.7	104.3	104.3	120.1	110.9	100.7
DM	105.0	109.6	97.8	93.8	93.6	90.6	77.3	74.5
F.Franc	108.5	127.6	125.4	123.8	122.9	124.5	111.2	108.7
$ US	84.5	81.9	69.6	59.9	58.1	75.8	78.0	76.3

Source: Table A5 and Central Bank.

£IR cost indices from Table A5 multiplied by indices of annual average currency values to base 1980 = 100

Projections for 1988 are illustrative, rather than detailed forecasts. The assumptions used are: Irish unit wage costs falling by 6% in 'modern' industry, 3% in 'traditional' industry, and 4% in total manufacturing; all currencies maintain approximate September 1988 values until the end of the year.

It can be seen from Table A6 that modern industry has tended throughout the period to reduce its unit wage costs expressed in terms of other currencies. By 1987 unit wage costs were substantially below their 1980 level in terms of every currency or index examined.

The experience of traditional industry is more interesting. The rise in the Irish pound unit wage cost between 1980 and 1987 has been partially offset by currency depreciation in terms of the trade weighted index, the ECU, Deutschemark, and US dollar, but not in terms of Sterling and the French franc. Particularly dramatic was the increase in the Sterling value of unit wage costs in 1986 following the rapid depreciation of Sterling. The path of costs expressed in US dollars is also interesting, falling steadily until 1985 as the dollar rose, and then climbing even more steeply as the dollar depreciated.

Although complete data are available only until the first quarter of 1988, it is interesting to speculate on the likely movements in the foreign currency valuation of unit wage costs for 1988 as a whole. Accordingly a projected 1988 column has been included in Table A6. Given that manufacturing output appears still to be growing strongly, that employment in manufacturing is likely to be fairly static, and that industrial earnings are rising only moderately, it is reasonable to project that unit wage costs will fall significantly in Irish pound terms. Applying exchange rates based on the first nine months of the year, wage costs in most foreign currency terms also appear likely to fall. Of particular interest is the sharp decline in the Sterling value of Irish costs, following the appreciation of Sterling in early 1988. This movement naturally affects the trade-weighted and ECU valuations of the costs also.

Partners' Wage Costs

Looking at trends in Irish unit wage costs expressed in foreign currencies is not particularly meaningful in itself, as the divergence between the different currencies largely reflects the differing rates of inflation between countries. It is necessary therefore to consider these varying inflation rates, as reflected in the unit wage costs of the countries concerned. These are shown in Table A7.

For convenience, this table is taken from Economic Review and Outlook 1988, and the degree of comparability with the Irish tables presented in this

TABLE A7: Unit Wage Costs in Partners' Manufacturing Industry 1980-87

Index 1980 = 100

Country	1981	1982	1983	1984	1985	1986	1987	Projected 1988
Main Trading Partners, Own Currency	107	114	115	116	119	122	123	124
Main Trading Partners ECU	116	125	129	133	138	133	130	131
UK Own Currency	109	115	116	118	122	128	130	132
West Germany Own Currency	103	106	104	105	105	109	112	112
France Own Currency	114	126	135	141	145	149	150	151
US Own Currency	106	110	107	107	107	107	105	106

Source: *Economic Review and Outlook* 1988.
Main Trading Partners; UK, US, West Germany, France, Italy, Japan, Netherlands, Belgium, Denmark.
Own illustrative projections for 1988.
Most indices are based on hourly earnings, but movements are unlikely to diverge significantly from movements in weekly earnings per unit of output.

Appendix is not known. However, the broad trends in the different countries or groups of countries give an adequate indication of relative cost movements, and the much higher own-currency rates of cost inflation in France and the UK than in West Germany and the US are certainly of the right order of magnitude.

Data to decompose these unit wage cost trends in manufacturing industry into separate series for modern and traditional industry are not available. As all the countries included are mature industrial states, it is probable that their manufacturing industry is dominated by traditional industry, and that the relative impact of the modern sector is much lower than in the case of Ireland.

Relative Wage Costs

Because of this mature industrial structure, it seems reasonable to compare trends in total manufacturing wage costs in the trading partners with trends in the traditional sector of Irish industry. This is done in table A8, where the foreign currency indices of the traditional sector unit wage costs from Table A6 are divided by the appropriate foreign cost indices from Table A7.

TABLE A8: Relative Wages Costs, Traditional Industry 1980-87

Index 1980 = 100

Vis-a-Vis	1981	1982	1983	1984	1985	1986	1987	Projected 1988
Trading Partners, Own Currencies	96	99	98	96	94	104	104	98
Trading Partners, ECU	95	97	94	93	91	98	96	92
UK	93	99	103	103	101	114	112	102
West Germany	106	108	105	104	105	101	91	89
France	99	106	104	103	100	102	98	96
US	83	78	73	65	64	86	98	96

Source: Derived from Tables A6 and A7

Irish 'Traditional' Industry currency adjusted unit wage cost indices, divided by partners' manufacturing industry unit wage cost indices.

To the extent that partners' manufacturing contains 'modern' industries the results are biased against Irish competitiveness. However, given the relative size of the 'modern' sector, this comparison seems more valid than comparing Irish total manufacturing with partners' manufacturing. The lower the figure, the more labour-cost competitive the Irish 'traditional' sector.

The most obvious feature of Table A8 is how close most of the series remain to parity, with few observations deviating more than 10 per cent from the base of 100. This indicates that, on the whole, exchange rate movements in the period have tended to match the divergences in rates of cost inflation in manufacturing industry. The major exception concerns the US, where the rise in the dollar up to 1985 clearly undermined the relative cost competitiveness of US industry. Even here however there appears to have been a rapid return towards parity by 1987. A second exception, which although less dramatic in the table could well have had a greater impact on Irish traditional industry, is the loss of Irish competitiveness *vis-a-vis* the UK in 1986 and 1987. Here again, if the projection for 1988 is at all accurate, approximate parity is likely to be restored this year. Indeed the only large divergence from parity projected to persist in 1988 is the relative gain in Irish cost competitiveness against West Germany, where the favourable shift obtained by the devaluation of August 1986 has not yet begun to be eroded.

Conclusion

Table A9 summarises the average trends in modern, traditional and total manufacturing industry from 1980 to 1987. The clear divergence between modern and traditional industry with respect to production, employment and unit wage costs is immediately apparent. Although we believe that this exercise has been useful, considerable care is needed in interpreting the results and drawing conclusions. In particular, any temptation to use these tables, in isolation, to either explain recent industrial history or to predict developments in the future should be resisted.

TABLE A9: Summary Trends 1980-87

Annual Average Percentage Change

	Modern Industry	Traditional Industry	Total Manufacturing
Industrial Production	15.9	0.3	5.9
Numbers Engaged	2.9	-4.2	-3.1
Output per Head	12.6	4.8	9.3
Average Earnings	11.2	10.3	10.5
Unit Wage Costs	-1.2	5.2	1.1
Unit Wage Costs Trade Weighted Index	-2.8	3.5	-0.5
Relative Wage Costs Trade-Weighted Index	n.a.	0.5	n.a.

In the first place some of the values calculated for constructed industry groupings are subject to a margin of error. While the error in the primary tables might be small, by the time they are cumulated in the derived tables they could be quite significant. Therefore only substantial differences between rows, or from year to year within rows, should be regarded as meaningful.

In the second place, the convenient choice of 1980 as the base year for all series might impart undue significance to relationships within that year, which themselves may have been transient and atypical of values in surrounding years. For instance, because of the rapid appreciation of sterling following Ireland's accession to the EMS, Irish wage-cost competitiveness *vis-a-vis* the UK was almost certainly abnormally favourable in 1980, and an equilibrium value for the sterling index of relative unit wage costs might be well over 100.

Thirdly, unit wage costs are heavily influenced by output per head, and this is a complex and heterogeneous concept. On an industry-wide basis, an improvement in recorded output per head can result from production rising more rapidly than employment due to capital investment, better management or improved working practices, from a shake-out of unproductive labour in existing establishments, from the closure of the less efficient firms or plants in the industry, or from differential growth rates between the labour intensive and capital intensive sections of the industry. A reduction in unit labour costs due to higher output per head might thus reflect improved efficiency and competitiveness throughout the industry, but it might also reflect merely the demise of the least effective firms without any clear implications with regard to the competitiveness of the survivors. Alternatively, it might reflect changes in the composition of the industry, again without obvious competitiveness implications.

Finally, and most important of all, unit wage costs, even within the individual firm, are only one element in total competitiveness. Non-wage labour costs such as payroll taxes, social insurance contributions and private insurance premiums should also be taken into account. So also should other production costs such as the price and reliability of energy, other utilities, transport, local taxes and interest rates. Unfortunately reliable comparative time series are not available for all these other important costs. Even if they were, however, a study of costs would still give a one-sided picture of total competitiveness, which frequently depends on the relative quality of such aspects as design, quality control, delivery dates, after sales services and marketing.

All these caveats are important, and should never be overlooked when analysing industrial performance, predicting future output levels or, indeed, formulating industrial policy. Nevertheless, one cannot dismiss recorded trends in comparative unit wage costs as meaningless, or discount completely their influence on total competitiveness and thus on industrial performance.

Sizeable shifts in comparative unit wage costs usually indicate some genuine changes in competitiveness and imply, at the least, some movement in relative profitability. In turn, this can be an important influence on, although not the sole determinant of, short-term export and import performance and longer-term investment decisions.

Viewed in this light, the deterioration in Irish relative unit wage costs in traditional industry *vis-a-vis* the other EMS countries in 1981 and 1982 was almost certainly a contributory factor, along with the general international recession, both in the poor export trend in 1982 and in the subsequent decline in industrial investment. Similarly the major increase in Irish wage costs compared with the UK in 1986 must have contributed to the comparative stagnation of industrial output and exports in that year.

If it is true, that large changes in recorded relative unit wage costs have a genuine, if limited, impact on the trends of trade and investment, then the findings of this exercise are quite positive with regard to the immediate future. As the final columns of Table A8 showed, movements against both the UK and the EMS countries have been significantly favourable in 1987 and 1988. While the table refers only to traditional industry, parallel but greater improvements were made in the relative position of modern industry. With utility costs and interest rates also moving in Ireland's favour in 1988, the conditions appear suitable for continued export growth and increased investment in manufacturing industry. Provided that industrial wage increases remain moderate, the relative improvement *vis-a-vis* West Germany in particular should become consolidated, and an eventual depreciation of Sterling will merely reflect the much faster rise in unit wage costs in the UK.

EXCHANGE RATES AND COMPETITIVENESS

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Abstract: In this paper the effects of Irish exchange rate policy on competitiveness is considered. The paper looks at the entire period since the breakdown of the Bretton-Woods fixed exchange rate regime in 1970. It argues that the impact of losses in competitiveness on Irish industry may have been overstated and that other factors may have played a significant part in the decline of traditional manufacturing industry since 1980. This has considerable implications for exchange rate policy.

1. Introduction

Employment in manufacturing industry in 1987 was 35,000 below its 1980 peak according to the results of the Labour Force Surveys (CSO). It has been suggested by some authors that this is the result of a steady decline in competitiveness since the establishment of the European Monetary System (EMS) in 1979. (See for example Bacon (1986) and Walsh (1988) on this point). This loss in competitiveness is attributed to increases in labour costs relative to other EMS member states which have not been offset by movements in the exchange rate of the Irish pound. A devaluation has been suggested as a possible means of improving competitivess and boosting output and employment in industry. The present paper questions such arguments. It argues that the decline in manufacturing employment reflects a number of factors besides changes in labour cost competitiveness and that a devaluation would not, therefore, be as effective as is sometimes suggested.

The paper is concerned only with the impact of relative labour costs and the exchange rate on competitiveness. This ignores a variety of other factors which affect industry's overall competitive position. However, labour costs and the exchange rate are the two aspects of competitiveness that have received most attention in previous Irish studies. The current paper argues that studies which have concentrated purely on the period since EMS entry may have overstated the extent of losses in competitiveness. This is because the Irish pound entered the EMS at a rate "that was relatively favourable from the viewpoint of competitiveness" (Van Ypersele (1985) p. 89).

The paper also argues that the decline in manufacturing employment may have been due to a variety of factors other than competitiveness. External shocks due to higher energy prices, technical change and increased competition from Newly Industralising Countries (NICs) required some form of structural adjustment within smaller European economies such as Ireland. In Ireland's case this was compounded by increased competition arising from EC entry in 1973. It is argued that the fall in employment resulting from these shocks may have been mistakenly attributed to losses in competitiveness.

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There is reason to believe that the restrictive fiscal stance of the Irish authorities during the 1980s also played a part in the decline in manufacturing employment both through its impact on domestic demand and on the supply side of the economy. The sharp increase in taxation during this period appears likely to have been a factor in any loss in competitiveness that did occur. For these reasons it is argued that calls for a devaluation are mistaken.

The balance of the paper is set out as follows. In Section 2 the issue of competitiveness is considered briefly from a theoretical standpoint. This is followed by an examination of the empirical evidence in Section 3. Section 4 then considers the impact of exchange rate policy on the economy and on the manufacturing sector in particular. Other factors which affected manufacturing employment are also considered at this stage. The implications of this analysis for exchange rate policy are considered in Section 5. The main findings are then summarised in the concluding Section of the paper.

2. The Nature of Competitiveness

Most manufacturing firms along with many operating in the services sector must compete with overseas suppliers on both home and export markets. An increase in domestic production costs relative to those abroad tends to damage employment prospects in Ireland. If firms are price takers then increased costs will reduce profit margins and may force Irish firms out of particular markets. Where firms can pass on cost increases in higher prices they are likely to lose market share to foreign competitors. In either case output and employment are reduced and in the longer term the firm's ability to invest in new plant and equipment is seriously eroded. (A more detailed discussion may be found in the *Report of the Committee on Costs and Competitiveness* (1981)).

Bacon and Walsh (op. cit.) have both pointed to a significant loss in labour cost competitivenss relative to other EMS countries since the establishment of the system. They have identified this as a major factor in the contraction of employment in Irish manufacturing industry. This loss in competitiveness is attributed to a failure to adjust the exchange rate within the EMS to compensate for increases in relative labour costs.

In looking at competitiveness we are concerned with movements in real exchange rate relative to our main trading partners, i.e., the nominal exchange rate adjusted for differences in labour cost inflation. The real exchange rate Rx, is therefore defined as:

$$e.(Pd/Pf) \qquad (1)$$

where Pd and Pf are domestic and foreign price indices and e is the nominal exchange rate expressed in units of foreign currency per Irish pound. An appreciation of the real exchange rate implies a loss of competitiveness.

Admittedly competitiveness depends on a variety of factors besides labour costs. These include the cost of inputs such as electricity along with factors such as marketing and product quality. However, labour costs have been identified as "the most useful available indicator for international comparisons", *Report of the Committee on Costs and Competitiveness* (op. cit.) p. 13.

3. Empirical Evidence

In the immediate aftermath of the breakdown of the Bretton-Woods fixed exchange rate regime in the early 1970s the Irish authorities opted to maintain the long standing fixed exchange link with sterling. For most of the 1970s sterling was a relatively weak currency so that maintenance of the sterling link involved a significant depreciation in the exchange rate relative to most European currencies. This policy was reversed following the establishment of the EMS in 1979. The Irish decision to join the EMS in spite of the UK decision not to participate represented a major shift in Irish exchange rate policy. Joining the EMS involved considerable risk, as at the time of entry, member countries accounted for less than 30 per cent of Ireland's external trade. As pointed out in a previous paper (Massey (1987)) the dangers inherent in such a strategy appear to have been recognised at the time.

Since the establishment of the EMS the Irish pound has been one of the stronger currencies within the system. Between 1978 and the middle of 1986 the Irish pound appreciated against all member currencies except the DM and the Dutch Guilder. (See Table 1.) This resulted from the Irish authorities' policy of going through the middle at most realignments, i.e., neither revaluing nor devaluing. The exception to this was the March 1983 realignment when the Irish pound was devalued. This occured in response to a decline in sterling which raised fears of a loss in competitiveness relative to our major trading partner. Similar fears are believed to have been behind the decision to devalue the Irish pound unilaterally by 8 per cent in August 1986 although this was officially denied. (See Dowling (1986).)

TABLE 1: Irish Pound Exchange Rate (End Period)

	DM	Dutch Guilder	French Franc	Belgian Franc	Danish Krone	Italian Lira
			(Units Per Irish Pound)			
December 1978	3.72	4.02	8.51	58.82	10.38	1689.95
July 1986	2.99	3.37	9.66	61.63	11.20	2055.24
December 1987	2.65	2.98	8.98	55.48	10.21	1956.15
August 1988	2.68	3.02	9.11	56.17	10.29	1988.50

Source: Central Bank Bulletins, end August figures taken from Reuters.

The rate of growth in average hourly manufacturing earnings was used to estimate the real exchange rate. (This calculation ignores the effects of increases in productivity which are considered at a later stage). Figures 1-3 illustrate trends in the real exchange rate relative to sterling, the EMS and all Ireland's major trading partners. The latter includes the US, Canada, Austria, Sweden and Japan in addition to the UK and EMS members. Together these countries account for roughly 85 per cent of Ireland's foreign trade. The year 1970 was chosen as the start date as if coincided with the breakdown of the "Bretton-Woods" fixed exchange rate regime.

The real exchange rate with respect to the EMS bloc and all major trading partners is a weighted average, with each country given a weight corresponding

to its share in Irish external trade for the year in question. This is not an entirely satisfactory approach as it fails to take account of the fact that in export markets Irish firms compete with imports from other countries as well as with local firms. Nevertheless it provides some insight into trends in competitiveness over time. (See O'Leary (1981) for a detailed discussion on constructing indices of competitiveness for Irish industry). Data on hourly earnings in manufacturing for each of the countries concerned were obtained from International Financial Statistics (IMF) while data on nominal exchange rates were obtained from Central Bank bulletins.

IRISH POUND REAL EXCHANGE RATES

Figure 1 versus sterling

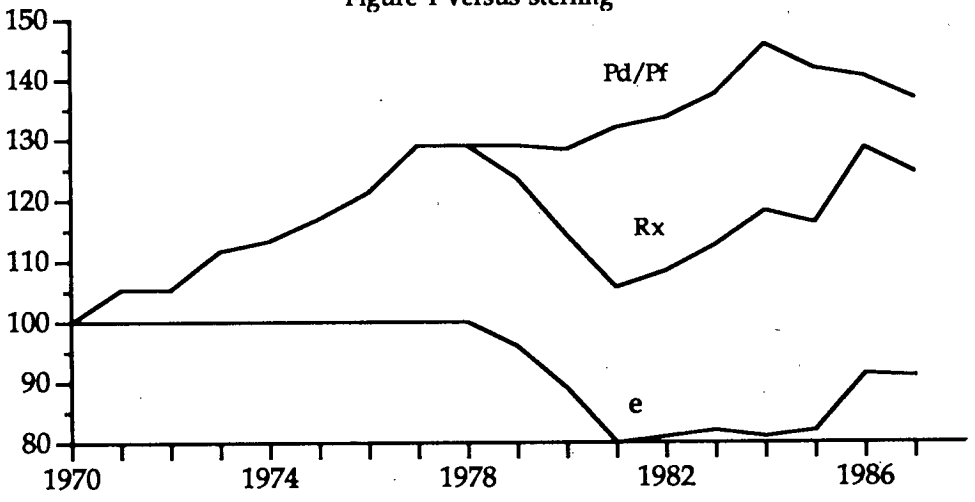


Figure 2 versus EMS currencies

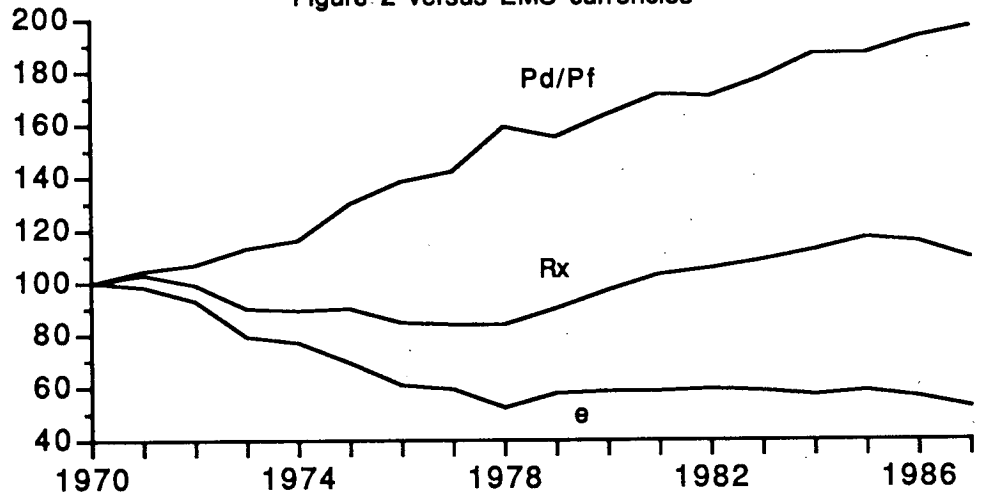
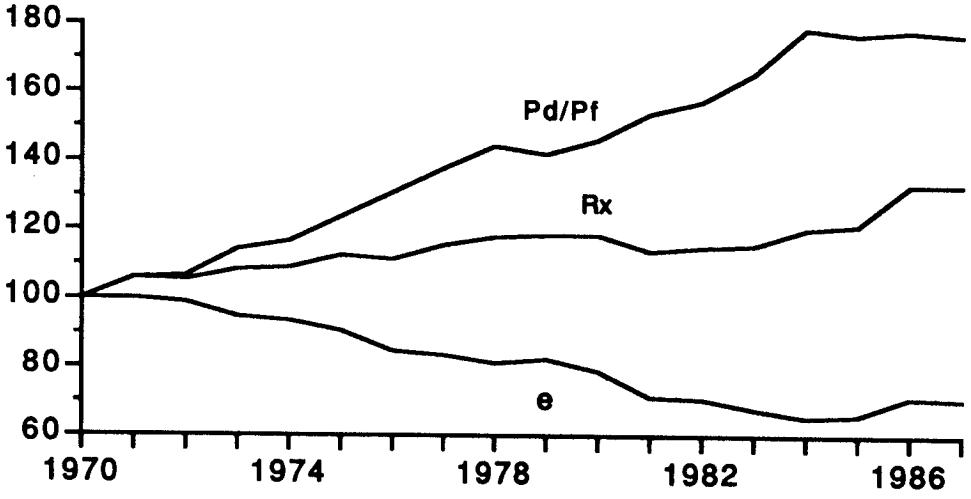


Figure 3 versus all main trading partners



The real exchange rate is broken down into its component parts in order to assess to what extent a change in the real exchange rate was due to a nominal exchange rate change or to changes in relative wage inflation rates.

In all cases we find that wage inflation in Ireland exceeded that in our main trading partners for most of the period since 1970. During the 1970s the fixed exchange rate link with sterling resulted in a sizeable appreciation of the real exchange rate relative to that currency. This sustained real appreciation relative to our main trading partner appears surprising, but may reflect relative gains in productivity. Much of the appreciation in the real exchange rate was reversed following the establishment of the EMS due to the strength of sterling over the 1979-81 period. Since 1981 there has been a renewed appreciation of the real exchange rate. This was due to wage inflation in Ireland exceeding that in the UK up to 1984 while the nominal exchange rate remained fairly stable. Since 1984 the Irish pound has appreciated against sterling but this has been partially offset by lower wage inflation in Ireland which may in turn reflect the fall in manufacturing employment. The real exchange rate in 1987 was still below its pre-EMS level suggesting no loss in competitiveness relative to the UK since EMS entry, but that short-term gains in competitiveness during the initial years of the EMS were quickly reversed.

In the case of EMS currencies we find that prior to the establishment of the system, relative wage increases were more than offset by a decline in the nominal exchange rate so that the real exchange rate also declined over this period. Since EMS entry the nominal exchange rate relative to member currencies has remained relatively stable leading to an appreciation of the real exchange rate. In this case, therefore, the evidence suggests that gains in competitiveness during the period prior to EMS entry have been wiped out since the establishment of the system.

The picture for the overall real exchange rate shows most of the increase in relative wage costs being offset by declines in the nominal exchange rate so that

the real exchange rate increased quite slowly up to 1985. There was a significant real appreciation during 1986/7 reflecting the sudden weakening of the dollar and of sterling which followed soon after. The results are now summarised in Table 2 below.

TABLE 2: Irish Pound Real Exchange Rate (Average Manufacturing Earnings)

	Sterling	EMS	Dollar	All Major Trading Partners
		Annual % Change		
1970-78	+3.2	−2.1	+7.1	+2.1
1978-87	−0.4	+2.9	+3.2	+1.3
1970-87	+1.3	+0.5	+5.0	+1.7

(Based on period average exchange rates)
Source: IMF and Central Bank bulletins

Since the end of 1987, sterling has appreciated relative to the EMS group of currencies including the Irish pound. At the same time average industrial earnings have risen significantly faster in the UK than in Ireland. As a result Irish industry experienced a significant improvement in competitiveness relative to the UK during the course of 1988.

The results in Table 2 take no account of relative productivity changes. One way to allow for this would be to estimate the real exchange rate on the basis of unit labour cost inflation. Much of the recorded growth in productivity in Irish industry since 1980 has been due to a relatively small number of foreign firms operating in a limited number of industrial sectors. Consequently the data do not provide an accurate indication of trends in traditional sectors. This can be overcome by excluding those industrial sectors referred to hereafter as the "modern" sectors from the calculations. These sectors are listed in Table 3 below.

TABLE 3: Foreign Firms Output Share (1985)

	NACE Code	Gross Output %	Net Output %
Office & Data Processing Machinery	33	99.2	99.4
Pharmaceuticals	257	96.5	97.9
Instrument Engineering	37	97.0	98.0
Electrical Engineering	34	89.9	91.5
Miscellaneous Foods	411,414,415, 417,418,423	76.3	88.5
Total Manufacturing	—	57.4	68.2

Source: Census of Industrial Production (1985)

A detailed discussion of the rationale for extracting the first 3 of these sectors in order to gain a better insight into underlying trends in traditional

manufacturing was included in a previous edition of the *Quarterly Economic Commentary* (ESRI (1985)). It has been decided to add electrical enginering and miscellaneous foods to the "modern" group in the light of recent output gains in these sectors coupled with the fact that like the other members of the group they appear to be dominated by overseas firms.

The second difficulty arises because of the fact that changes in productivity "are in part endogenous responses to changes in hourly earnings" (*Report of the Committee on Costs and Competitiveness* (op. cit.) p. 43). Productivity improvements may be due to inefficient firms going out of business and reductions in employment in other firms. Nevertheless, whilst bearing these caveats in mind, estimates of the real exchange rate based on unit labour cost inflation have been calculated as an indicator of trends in competitiveness adjusted for productivity gains.

In the case of Ireland, increases in unit labour costs for the 1980-87 period were calculated excluding the "modern" sectors. This provides an index of competitiveness which is a more accurate reflection of the experience of firms in traditional manufacturing sectors. Unit labour costs were defined as:

$$(W.N)/Q \qquad (2)$$

where W is average earnings plus employers' social insurance contributions and N and Q are employment and output. (Data on employment and earnings were obtained from the CSO Quarterly Enquiry on Industrial Employment while figures on output were obtained from the Industrial Production Index.) Unit labour cost figures for Ireland prior to 1980 and for other countries for the entire period were obtained from International Financial Statistics and relate to all manufacturing sectors. The rapid productivity growth of the "modern" sectors in Ireland has been concentrated in the period since 1980 so there was little need to separate these sectors out prior to that date. (The absence of data for output and employment for some of the "modern" sectors prior to 1980 meant that it was not possible to calculate a unit labout costs series for earlier years anyway.) The results of these calculations are summarised in Table 4 below.

TABLE 4: Irish Pound Real Exchange Rate (Unit Labour Costs)

	Sterling	EMS	Dollar	All Major Trading Partners
		Annual % Change		
1970-78	−1.4	−3.4	+4.2	−1.3
1978-87	−0.5	+0.9	+0.4	+0.7
1970-87	−0.9	−0.6	+2.2	−0.2

Based on unit labour costs and period average exchange rates.
Source: As for Table 2.

These results do not support the view that traditional Irish industry has experienced a significant loss in competitiveness since joining the EMS. There has been some real appreciation relative to other member countries but this has

been extremely modest. Overall the real exchange rate has remained remarkably stable since the establishment of the system. The results for the period prior to the EMS confirm a significant gain in competitiveness relative to the other members during that period. They also support the view that the apparent loss in competitiveness relative to the UK during the 1970s was more than offset by increases in productivity. Even allowing for the limitations in these calculations it would appear that losses in competitiveness as a result of EMS membership have not been as great as sometimes claimed.

One obvious question that arises with respect to both sets of results concerns the choice of base year. This is especially true given that the results seem to cast doubt on the reliability of the base year chosen in other studies. The results were re-estimated using 1965 and an average of the real exchange rate over the 1965-70 period as bases. (Some of the results using the latter base are given in Table 5.) These calculations yielded broadly similar results although they suggest that the real exchange rate depreciation with respect to EMS currencies began with the 1967 devaluation of sterling and the Irish pound.

TABLE 5: Irish Pound Real Exchange Rate (Average 1965-70 = 100) (Average Manufacturing Earnings)

	Sterling	EMS	Dollar	All Major Trading Partners
		Annual % Change		
1965-78	+2.5	−1.5	+4.9	+1.7
1978-87	−0.4	+2.8	+3.2	+1.3
1965-87	+1.4	+0.2	+3.3	+1.5

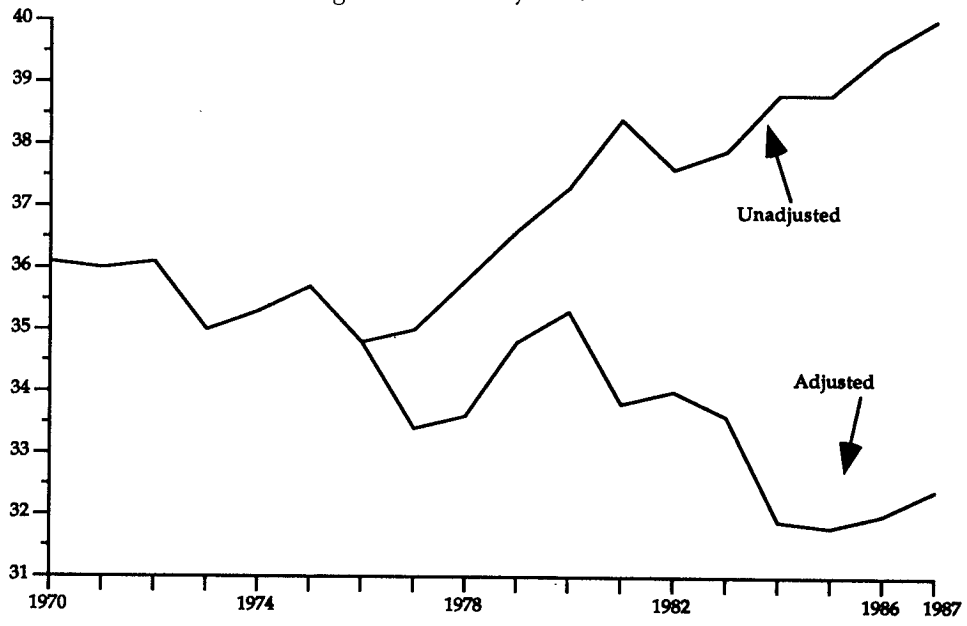
Source: As for Table 2.

4. Impact of Exchange Rate Policy

The combined results using wage inflation data, both adjusted and unadjusted for productivity gains, to calculate the real exchange rate, indicate that traditional industry experienced some loss in competitiveness relative to EMS countries since 1978. The data suggest that these losses represented, in part, a reversal of short-term gains recorded during the years leading up to the establishment of the EMS. However, Bacon (op. cit.) has pointed to "high unemployment coupled with large outflows of both labour and capital from the Irish economy during the 1980s as clear indications of an economy that was uncompetitive in some fundamental sense."

The main effect of real exchange rate changes as already pointed out will be felt in the exposed or tradable sector. A real appreciation will lead to a decline in the tradable sector as export markets are lost and imports capture a growing share of the domestic market. In line with the approach adopted by Soderstrom (1985), trends in the tradable sector's share of GDP are considered in Figure 4. Industry is used as an indicator of the tradable sector. Admittedly this has some drawbacks as it includes some non-traded sectors such as construction and excludes traded services.

Figure 4 Industry as % GDP



Source: CSO, *National Income and Expenditure,* Tables 3 and 30a.

The results appear to discount the idea that exchange rate movements have led to a decline in the tradable sector as industry's share of GDP has risen since the early 1980s. However, "transfer pricing" by multinational firms is believed to distort the figures. In order to correct for this, profit repatriations were excluded from the industrial output and overall GDP figures and the ratio re-calculated. (As profit repatriations were relatively low prior to 1977 the ratio has only been re-calculated for the years since then.) This gives a sightly different picture. On this basis industry's share of GDP has declined since EMS entry with a particularly sharp fall in 1984. This is not conclusive evidence of uncompetitiveness since the service sector has increased its share of output in many developed economies.

Soderstrom (op. cit.) has pointed out that the tradable sector in Small Open Economies (SOEs) has been subject to a variety of external shocks during the past 15 years. Higher oil prices, rapid technological change, increased competition from NICs all involved a squeeze on traditional manufacturing sectors requiring some structural adjustment within the tradable sector from traditional to modern tradable sectors. In Ireland's case EC membership reinforced the need for such a structural adjustment as it led to the removal of protection of many traditional manufacturing sectors.

In order to assess the performance of the modern and traditional tradable sectors, trends in manufacturing employment are analysed in Table 6. Manufacturing employment is broken down into modern and traditional sectors. The same definition is used for the modern sector as in Table 3.

TABLE 6: Trends in Manufacturing Employment

	1973	1979	1983	1987
		('000)		
Traditional Manufacturing	184.4	195.9	164.5	141.3
Modern Manufacturing	23.2	32.0	38.5	42.4
Total Manufacturing	207.6	228.0	202.9	183.7

Figures relate to September each year.
Source: CSO; Census of Industrial Production for 1973, 1979 and 1983, *Quarterly Inquiry on Industrial Employment for 1987.*

The decline in manufacturing employment since 1979 is evident from the table. However, the figures show that the fall in employment has occurred in traditional sectors. Employment in these sectors increased up to 1979 in spite of a combination of adverse external factors during this period. Employment in the modern manufacturing sector has continued to increase since 1979. This pattern is more in keeping with Soderstrom's explanation of structural adjustment in the economy rather than one of real exchange rate appreciations squeezing the entire tradable sector.

Soderstrom (op. cit.) has argued that declines in traditional manufacturing sectors due to structural changes may be mistakenly attributed to an appreciation of the real exchange rate. He also suggested that declines in such sectors could pose political difficulties. In such circumstances the authorities may be tempted to "save" all employment in traditional industries by means of a real exchange rate depreciation in excess of the original cost disturbance. This "exchange rate protection" impedes the reallocation of resources within the tradable sector. As Goodhart (1987) put it in the case of the UK:

> I believe that one can raise something of a counter argument, that the bad effects of misalignment and de-industralisation have been somewhat overstated. This would run in terms of asserting that there has been a predilection, in the United Kingdom, at least, for the authorities to support declining industries too much and too long, and a hope that, when the misalignment does end, there will be new technologies and new industries emerging which in any case would have required a shift of factors of production if growth and efficiency were to be maximised (p. 22).

The period up to 1979 in Ireland was marked by a steady depreciation of the real exchange rate relative to EMS countries. This was due to a large nominal exchange rate depreciation arising as a result of the link with sterling. Maintenance of the sterling llink may have shielded traditional industries from the effects of increased competition from Europe and NICs in both home and export markets.

The UK is the main export market for traditional manufacturing industries. Irish firms exporting to the UK must compete with imports from other countries (including EMS members) as well as with UK firms. Prior to EMS entry, both Irish and UK producers experienced a significant gain in competitiveness relative to their competitors in EMS countries. This has since been reversed and it is worth noting that EMS countries (excluding Ireland)

have increased their share of UK imports from 36.6 per cent in 1978 to 44.9 per cent in 1987 while overall import penetration of the UK market was rising (UK CSO).

Horne (1981) has argued that the decision to devalue in line with sterling in 1967 marks the beginnings of a "defensive" exchange rate strategy by the Irish authorities. EMS entry therefore represented an abandonment of such a strategy. The change in exchange rate target occurred at the same time as the second "oil-price shock" required some further structural adjustments. The decline in traditional sectors since 1979 ought therefore to be attributed, at least in part, to the structural adjustments necessitated by changes in the external environment rather than to the exchange rate policy pursued.

There were also domestic factors at work contributing to the fall in employment. Domestic demand contracted sharply during the early 1980s due to the restrictive fiscal stance adopted by the Irish authorities. This undoubtedly had an effect on industries producing for the home market. The Department of Industry and Commerce (1986) reported that "about one third of the loss of ouput by domestic manufacturers in 1980-85 was due to a fall in domestic demand".

In addition fiscal policy may have contributed to any loss in competitiveness that occurred. It is widely believed that a growing "tax-wedge" pushed up both earnings and labour costs during the early 1980s. (See Bradley (1988)). Thus fiscal policy was a factor in any loss of competitiveness that occurred since EMS entry. Fiscal policy also affected competitiveness in other ways as high levels of Government borrowing were reflected in high interest rates although this is beyond the scope of the current paper.

Dornbusch (1987) pointed out how a sustained overvaluation of the exchange rate could cause industry to locate outside the home country. In Ireland's case the depreciation in the real exchange rate especially *vis-a-vis* EMS countries during the 1970s may have attracted firms relocating in this fashion and played a part in attracting overseas industry to Ireland. The real exchange rate appreciation since EMS membership may have reduced Ireland's attractiveness as a location for investment by overseas firms in recent years at the same time as traditional sources of overseas investment were drying up. Consequently the expansion of the modern sector may have been adversely affected at the same time as the protection afforded to traditional sectors by exchange rate policy was being eliminated.

5. Implications for Policy

Evidence of a real exchange rate appreciation since 1979 has been advanced as an explanation of the decline in manufacturing employment. The optimal policy response to such a situation would be to restore the real exchange rate to its equilibrium level. Consequently evidence of losses in competitiveness have been advanced on occasion in support of calls for a devaluation of the Irish pound.

The evidence presented here is that focusing solely on the period since EMS entry may overstate the extent of losses in competitiveness experienced by Irish industry. It is also suggested that the decline of traditional manufacturing sectors reflects a variety of other factors. These include structural adjustments

necessitated by external shocks which may have been either postponed by a depreciation of the real exchange rate during the 1970s or simply have taken time to impact on employment. The fact that industries such as clothing and textiles which experienced falls in employment in Ireland were also declining in other European countries tends to support the structural adjustment argument. Such structural adjustments may have been mistakenly attributed to losses in competitiveness. In addition, a restrictive fiscal stance embodying a sharp increase in taxation also appears to have played a role in the fall in employment in traditional manufacturing sectors.

"The exchange rate mechanism should facilitate adjustment to external shocks by giving appropriate price signals to domestic agents" (Spencer (1986) p. 138). Prior to EMS membership Irish exchange rate policy appears to have failed in this respect and actually hindered such adjustment. It would appear that any devaluation of the Irish pound would not be justified but would instead represent a return to a "defensive exchange rate strategy". This would still be true even if sterling were to depreciate significantly from its present level.

Despite the evidence presented thus far the fact remains that manufacturing employment has fallen sharply over the past 7 years and there is little sign of anything other than a modest recovery. At the same time output in the modern manufacturing sectors appears to be booming even if the value figures are artificially boosted by "transfer pricing". (See O'Leary (1984) for a detailed discussion of the distortionary effects of "transfer pricing" on recorded output growth.) Even in traditional sectors the shake-out has taken place mainly on the employment side while productivity has grown substantially. Such developments may indicate an economy where labour has suffered a loss in competitiveness relative to capital rather than one which has suffered a significant loss in competitiveness relative to overseas rivals. Such a view is supported by a number of considerations. The sharp rise in income and payroll taxes during the early 1980s resulted in a situation in which according to the OECD (1987 p. 48) "no other OECD country had a tax system as biased against the use of labour as the Irish". Consequently it may be more appropriate to focus attention on improving this aspect of competitiveness rather than the exchange rate.

6. Conclusion

Losses in competitiveness arising from increases in relative labour costs and adherence to a hard currency policy have been advanced by some commentators as a major factor in the decline in manufacturing employment in Ireland during the 1980s. The present paper examined trends in labour cost competitiveness over the entire period since 1970. The evidence revealed some loss of competitiveness relative to EMS currencies since the establishment of the system but this represented a reversal of gains during the period before its establishment. When allowance was made for gains in productivity the loss of competitiveness proved to be relatively modest.

The paper argued that the role of losses in competitiveness in explaining manufacturing job losses since 1980 may have been overstated. It identified a number of other factors which had adverse effects on manufacturing employment. These included higher energy prices, technology changes and

increased competition from NICs and the EC. It is suggested that the decline in the real exchange rate relative to EMS currencies prior to 1979 may have hindered the adjustment process by shielding traditional industries from the full effects of these shocks. In addition, it was argued that domestic fiscal policy has had an adverse effect on employment in traditional industries since EMS entry. This raises serious questions about the effectiveness of a devaluation as a means of boosting industry's performance.

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STATISTICAL APPENDIX

	Output Indicators				Employment		Output per Head	
	1	2	3	4	5	6	7	8
	Manufacturing	Transportable Goods	Electricity Output	Cement Sales	Manufacturing	Transportable Goods	Manufacturing	Transportable Goods
	1980 = 100	1980 = 100	G.W.H.	000 Metric Tons	000's	000's	1980 = 100	1980 = 100
1981	106.0	105.1	10767	1812.5	222.5	234.2	108.3	107.2
1982	104.9	103.8	10792	1486.1	215.1	225.8	110.9	109.9
1983	113.7	112.4	11039	1382.5	202.2	212.3	127.9	126.5
1984	125.0	124.0	11424	1298.4	195.6	205.1	145.3	144.3
1985	130.6	127.2	11919	1233.1	187.1	195.8	158.7	155.3
1986	134.4	131.1	12466	1147.9	185.8	193.9	164.5	161.6
1987	149.8	145.8	12866	1142.2	182.8	190.5	186.3	182.9
Quarterly Averages or Totals								
1985 I	132.9	128.9	3259	241.3	187.6	196.3	161.1	156.9
II	138.5	134.9	2818	350.4	186.3	196.0	169.1	164.5
III	119.3	117.0	2705	333.1	187.3	195.6	144.8	143.0
IV	132.2	128.3	3137	308.3	187.2	195.1	160.6	157.2
1986 I	132.8	128.3	3356	205.0	184.8	192.7	163.4	159.1
II	140.2	136.9	2996	319.1	185.6	194.7	171.8	168.0
III	124.6	123.0	2814	330.6	187.3	195.1	151.2	150.7
IV	140.1	136.4	3300	293.2	185.6	193.0	171.7	168.9
1987 I	138.0	133.0	3466	218.5	183.2	190.3	171.3	167.0
II	159.2	155.6	3015	323.8	183.6	192.3	197.2	193.4
III	141.1	140.1	2956	321.3	183.7	191.7	174.7	174.7
IV	160.9	154.5	3429	278.6	180.8	187.8	202.4	196.6
1988 I	164.4	157.5	3516	206.0	179.0	185.9	208.8	202.5
II	172.4	168.5	3043	343.1	178.9	186.8	219.1	215.5
III				336.2				
IV								
Quarterly Averages or Totals Seasonally Corrected								
1985 I	133.3	130.9	2959	306.8	189.0	198.1	160.4	157.9
II	130.7	126.5	2973	313.6	187.0	195.7	158.9	154.5
III	128.7	124.3	3005	298.6	186.0	194.4	157.3	152.8
IV	130.1	127.0	2990	305.7	186.5	194.9	159.4	155.7
1986 I	133.5	130.6	3044	274.0	186.2	194.5	163.0	160.5
II	132.1	128.0	3161	286.2	186.2	194.3	161.3	157.4
III	134.8	131.2	3120	295.0	186.0	193.9	164.8	161.7
IV	137.9	135.0	3151	289.9	184.9	192.8	169.6	167.3
1987 I	138.1	134.9	3143	292.5	184.6	192.1	170.1	167.8
II	149.8	145.2	3184	287.2	184.2	191.9	184.9	180.8
III	152.8	150.2	3276	288.2	182.4	190.5	190.5	188.4
IV	158.0	152.5	3274	278.2	180.2	187.6	199.9	194.8
1988 I	164.7	160.0	3204	276.3	180.4	187.6	206.5	202.6
II	162.3	157.1	3201	303.6	179.4	186.4	206.0	202.8
III				299.1				
IV								

Unemployment	Prices						
9	10	11	12	13	14	15	
Live Register Av. Monthly	Consumer Price Index	Agricultural Price Index	Import Unit Value	Export Unit Value	Terms of Trade	Price of Stocks + Shares	
000's	Nov. 1982 = 100	1985 = 100	1975 = 100	1975 = 100	1975 = 100	1975 = 100	
127.9	82.4	86.8	232.4	208.4	89.7	220.0	1981
156.6	96.5	94.0	249.4	231.5	92.8	180.1	1982
192.7	106.6	99.9	261.1	251.9	96.5	223.8	1983
214.2	115.8	102.8	286.5	273.0	95.3	296.1	1984
230.6	122.0	100.0	293.2	280.6	95.7	316.8	1985
236.4	126.7	99.7	260.5	260.0	99.8	489.8	1986
247.3	130.7	103.8	260.3	260.0	99.9	707.4	1987
Quarterly Averages or Totals							
232.8	119.9	103.6	297.3	280.3	94.3	284.7	1985 I
226.5	121.5	102.5	300.6	288.0	95.8	289.4	II
231.8	123.3	98.3	298.0	289.9	97.3	333.3	III
231.2	123.5	99.0	289.7	282.7	97.6	359.8	IV
238.7	125.4	103.7	279.0	270.0	96.8	426.8	1986 I
231.7	126.9	101.8	266.0	268.4	100.8	508.5	II
235.1	127.1	97.3	266.7	267.5	100.3	509.5	III
240.0	127.4	99.4	267.5	265.0	99.1	514.6	IV
252.1	129.7	105.5	257.1	256.0	99.6	632.4	1987 I
247.9	130.5	104.8	259.2	258.1	99.6	706.2	II
246.3	131.2	103.6	261.3	260.5	99.7	799.8	III
243.0	131.3	103.1	261.9	259.4	99.0	691.3	IV
250.0	132.2	110.2	263.5	268.8	102.0	597.6	1988 I
238.4	132.9	114.3	267.0	268.9	100.7	674.1	II
240.3	134.0					761.8	III
							IV
Quarterly Averages or Totals Seasonally Corrected							
226.4	119.9	101.0	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	No Seasonal Pattern	1985 I
228.7	121.1	100.4					II
234.2	123.1	100.7					III
233.1	124.1	101.2					IV
232.3	125.3	101.1					1986 I
233.9	126.5	99.8					II
237.4	126.9	99.6					III
242.0	128.1	101.6					IV
245.6	129.6	102.8					1987 I
250.1	130.1	102.7					II
248.6	131.0	106.1					III
245.0	132.0	105.5					IV
243.7	132.1	107.3					1988 I
240.4	132.5	112.1					II
242.4	133.8						III
							IV

	Money Earnings Weekly Averages		Real Earnings		Consumption Indicators		
	16	17	18	19	20	21	22
	Manufacturing	Transportable Goods	Manufacturing	Transportable Goods	New Cars Registered	Retail Sales Value	Retail Sales Volume
	1982 = 100	1982 = 100	1982 = 100	1982 = 100	Total	1980 = 100	1980 = 100
1981	88.6	88.2	103.8	103.3	104645	118.3	99.4
1982	100.0	100.0	100.0	100.0	73330	129.4	94.0
1983	111.7	111.8	101.1	101.2	61094	137.4	90.7
1984	125.3	125.4	104.5	104.5	55893	145.8	89.4
1985	135.3	135.1	107.0	106.8	59592	155.9	91.0
1986	145.4	145.7	110.7	110.9	58760	158.8	90.5
1987	152.9	152.3	112.9	112.5	54341	161.3	89.2
Quarterly Averages or Totals							
1985 I	129.8	129.4	104.5	104.2	19914	147.5	87.5
II	135.1	136.0	107.3	108.0	19200	153.4	89.9
III	136.3	135.7	106.6	106.2	13287	155.3	90.2
IV	140.2	139.3	109.5	108.8	7191	165.8	95.6
1986 I	140.1	139.5	107.8	107.3	19177	155.5	89.0
II	144.3	145.6	109.7	110.7	18202	154.7	88.3
III	147.0	147.7	111.6	112.1	14093	157.3	89.9
IV	150.3	149.9	113.8	113.5	7288	166.4	94.1
1987 I	149.1	148.6	110.9	110.5	17376	155.5	86.8
II	153.8	153.3	113.7	113.3	17619	158.6	88.0
III	152.6	152.2	112.2	111.9	12539	159.0	87.8
IV	156 0	155.2	114.6	114.1	6807	172.3	94.4
1988 I	156.5	155.8	114.2	113.7	20070	161.5	88.0
II	159.4		115.7		18874	162.5	88.0
III							
IV							
Quarterly Averages or Totals Seasonally Corrected							
1985 I	131.4	131.4	105.6	105.6	14368	150.2	89.1
II	134.7	134.7	107.3	107.2	15550	155.8	91.4
III	136.4	136.0	106.9	106.6	14963	157.2	91.2
IV	138.8	138.4	107.9	107.6	14475	158.6	91.3
1986 I	141.8	141.5	109.2	108.9	14143	158.6	90.7
II	143.7	144.3	109.6	110.0	14497	156.9	89.8
III	147.2	147.8	111.9	112.5	15643	159.3	90.9
IV	148.9	149.0	112.2	112.2	14796	159.0	89.8
1987 I	150.9	150.8	112.4	112.2	13024	159.2	88.9
II	153.1	151.8	113.5	112.5	13862	161.1	89.5
III	152.8	152.4	112.5	112.3	13847	161.1	88.8
IV	154.5	154.3	113.0	112.7	13862	162.7	89.1
1988 I	158.2	158.1	115.6	115.4	15119	165.5	90.3
II	158.7		115.5		14834	164.9	89.5
III							
IV							

Government			Monetary Developments				
23	24	25	26	27	28	29	
Current Revenue	Current Expenditure	Current Deficit	Money Supply M3	Licensed Banks Domestic Credit		External Reserves	
				Government	Non-Gov.		
£m	£m	£m	£m End Period	£m End Period	£m End Period	£m End Period	
3973	4796	823	n.a.	1277.4	n.a.	1473.1	1981
4908	5896	988	7291.9	1564.7	6655.1	1594.0	1982
5711	6671	960	7697.4	1775.6	7493.8	2014.8	1983
5952	6991	1039	8473.9	2247.9	8127.6	2101.2	1984
6331	7615	1284	8924.8	2514.1	8441.1	2271.9	1985
6709	8104	1395	8836.9	2725.7	9065.5	2205.3	1986
7152	8332	1180	9799.5	2754.9	9494.5	2821.4	1987
Quarterly Totals				Monthly Totals			
1325	1981	656	8438.9	2166.3	8151.0	2632.5	1985 I
1635	1792	157	8545.0	2319.1	8291.7	3124.8	II
1562	1838	276	8693.8	2421.6	8206.8	3009.6	III
1809	2004	195	8924.8	2514.1	8441.1	2271.9	IV
1416	2057	641	8567.5	2510.1	8730.6	2232.8	1986 I
1736	2051	315	8449.5	2354.6	8596.7	2296.5	II
1591	1845	254	8677.0	2277.8	8744.7	2116.4	III
1967	2152	185	8836.9	2725.7	9065.5	2205.3	IV
1476	2171	695	8838.5	2619.0	9201.8	2295.7	1987 I
1894	2115	221	9216.3	2556.7	9195.1	2477.8	II
1701	1904	203	9549.1	2614.4	9078.1	2810.9	III
2080	2141	61	9799.5	2754.9	9494.5	2821.4	IV
1628	2132	504	9775.0	3011.0	9458.2	3075.1	1988 I
1812	1959	147	9967.9	2827.1	9714.0	3511.8	II
1846	1933	87					III
							IV
Quarterly Totals (S.C.)				Monthly Totals (S.C.)			
1514	1918	403	No	No	No	No	1985 I
1586	1783	197	Seasonal	Seasonal	Seasonal	Seasonal	II
1620	1959	339	Pattern	Pattern	Pattern	Pattern	III
1596	1956	360					IV
1634	1989	356					1986 I
1672	2039	367					II
1653	1978	324					III
1735	2095	360					IV
1710	2099	389					1987 I
1817	2102	285					II
1773	2046	273					III
1833	2082	249					IV
1880	2041	161					1988 I
1727	1959	232					II
1940	2086	146					III
							IV

	Visible Trade Indicators					Exchange Rates	
	30	31	32	33	34	35	36
	Imports (Value)	Exports (Value)	Trade Surplus (Value)	Imports (Volume)	Exports (Volume)	Effective Index	Sterling
	£m	£m	£m	1975 = 100	1975 = 100	Dec. 1971 = 100	Per IR£
1981	6578.4	4777.6	– 1800.8	166.0	158.3	67.75	0.8002
1982	6816.2	5691.4	– 1124.7	160.3	169.8	67.35	0.8125
1983	7366.8	6943.8	– 422.9	165.3	190.2	65.13	0.8222
1984	8912.2	8897.5	– 14.6	182.6	225.2	62.26	0.8134
1985	9428.2	9743.0	314.8	188.7	239.9	62.41	0.8234
1986	8621.3	9374.3	753.0	194.4	249.5	66.65	0.9147
1987	9155.2	10723.5	1568.3	206.4	284.9	66.15	0.9089
Monthly Averages							
1985 I	819.9	800.4	– 19.6	194.4	236.6	61.93	0.8586
II	807.2	856.1	48.9	189.3	246.2	61.45	0.8074
III	740.9	795.3	54.4	175.0	227.5	62.17	0.7963
IV	775.4	796.0	20.6	188.6	233.3	64.15	0.8330
1986 I	732.4	762.6	30.2	185.0	234.6	66.65	0.8978
II	723.1	786.4	63.4	191.4	243.1	67.33	0.8976
III	666.9	753.4	86.5	176.1	233.6	66.40	0.9144
IV	754.2	827.0	72.8	198.6	258.8	66.22	0.9497
1987 I	738.9	773.6	34.8	202.4	250.6	66.77	0.9422
II	763.0	927.4	164.4	207.3	298.1	66.01	0.9024
III	731.5	882.7	151.1	197.2	280.9	65.56	0.8997
IV	819.5	992.0	172.5	220.3	317.0	66.31	0.8919
1988 I	802.7	915.3	112.5	214.4	282.1	66.31	0.8853
II	812.2	1024.1	212.0	214.2	315.7	65.26	0.8512
III	828.6	1033.6	205.0			64.25	0.8487
IV							
Monthly Averages. Seasonally Corrected.							
1985 I	794.8	836.1	41.3	187.4	244.6	No Seasonal Pattern	No Seasonal Pattern
II	797.5	817.7	20.2	186.3	235.1		
III	779.8	810.2	30.4	186.2	232.6		
IV	768.4	782.3	13.9	186.3	231.3		
1986 I	711.4	800.8	89.4	179.1	243.3		
II	721.1	754.8	33.7	188.7	233.0		
III	705.9	763.4	57.5	186.4	237.6		
IV	735.5	810.8	75.3	196.8	256.0		
1987 I	716.1	812.4	96.3	195.2	260.8		
II	762.1	887.7	125.6	204.7	284.1		
III	780.3	903.4	123.1	210.2	289.8		
IV	798.8	970.4	171.6	216.3	315.1		
1988 I	765.0	943.2	178.2	203.7	286.1		
II	811.7	983.5	171.8	212.8	302.3		
III	883.5	1070.3	186.8				
IV							

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