

CENTRAL BANK OF IRELAND

Bulletin

Summer 2001

Notes

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2. Unless otherwise stated, statistics refer to the State, i.e., Ireland exclusive of Northern Ireland.
3. In some cases, owing to the rounding of figures, components do not add to the totals shown.
4. The method of seasonal adjustment used in the Bank is that of the US Bureau of the Census X-11 variant.
5. Annual rates of change are annual extrapolations of specific period-to-period percentage changes.
6. The following symbols are used:

e	estimated	n.a.	not available
p	provisional	..	no figure to be expected
r	revised	—	nil or negligible
Q	quarter	f	forecast
7. As far as possible, data available at end-March 2001 are included in the Statistical Appendix (Section 3).
8. Updates of selected Tables from the Statistical Appendix, concerning monetary and financial-market developments, are provided in *Monthly Statistics*. Data on euro and Irish-pound exchange rates, Irish Government bond yields and on the Irish equity index are provided daily on recorded telephone message (Telephone: 353 1 6716299).

Originated and Printed by:

Cahill Printers Ltd., East Wall Road, Dublin 3.

Designed by:

Keystrokes Ltd., Brunswick House, Brunswick Place, Dublin 2.

Paper: 100% Chlorine Free Product.

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Comment

The Irish Economy

After seven years of remarkably strong economic performance, signs of a slowdown are now evident in the Irish economy. The average annual increase in real Gross National Product (GNP) was a little over 8 per cent in the seven-year period, and this was associated with employment increases of the order of 5 per cent a year. Most commentators had expected economic growth to decelerate at an earlier stage with the emergence of capacity constraints, particularly in the labour market and infrastructural areas.

While strains on the economy's capacity have become increasingly evident, two further extraneous factors have served to bring about a slowdown in growth. These are softer conditions in the US economy and the fall-out from the animal health risks facing the agriculture sector. Ireland is the euro area economy most exposed to a downturn in the US. About 18 per cent of exports go to the US, and foreign direct investment from the US has been an important driving force in our economic performance. However, a number of factors serve to reduce the negative effects associated with the US downturn. Firstly, a large proportion of Ireland's exports to the US consist of chemicals and pharmaceuticals rather than information technology, the sector which is facing the most serious downturn in the US. Secondly, US foreign direct investment in Ireland in the IT sector is mainly geared towards supplying the EU market. In the early part of this year, the EU economy has maintained a relatively good growth performance in the face of the US setback and this helps to explain why, to date, employment has been largely maintained in US firms based in Ireland. At the same time, it has to be recognised that multinational companies have considerable latitude to move production to different countries in response to developments in productivity and costs.

The problem of animal health risks has also affected economic growth this year. The occurrence of foot-and-mouth disease has been limited to one outbreak close to the border with Northern Ireland. Nevertheless, the disruption to the agricultural sector, including higher feed costs as farmers are constrained in disposing of their produce, has been significant. There have also been negative effects on the tourist sector.

It is important not to overstate the impact of the US downturn and the agricultural sector problems on the Irish economy. Nonetheless, they have contributed to a softening of economic

sentiment. While consumer confidence remains strong, it has eased to some degree from its very buoyant levels in the recent past. Survey results confirm a slight weakening in the performance of indicators like retail sales and tax receipts. In a more uncertain environment, indicators of business confidence are showing a downturn. This is reflected in the projected reduction in merchandise export growth from about 20 per cent last year to just over 10 per cent projected for 2001. It is also associated with smaller increases in business investment this year.

Conditions are now less benign for the internationally traded sector of the economy. It is to be expected that inward foreign direct investment will be lower than in recent years. While export performance has benefited from the value of the euro, which is widely considered to be substantially below its equilibrium level, this is unlikely to continue into the medium-term. Accordingly, the environment for exports is likely to become more difficult going forward.

While there are signs that domestic demand growth may be easing, these are as yet quite tentative. Domestic demand growth has averaged 8½ per cent over the past four years, and was also of this order last year. The contribution of domestic demand to growth last year was almost twice that of net exports. While growth in the volume of overall GNP is likely to moderate to about 6½ per cent this year, this is still above the sustainable medium-term potential growth rate of around 5 per cent. As most estimates already envisage the economy operating well above its potential, the inference is that domestic inflationary pressures are unlikely to abate for some time.

As Ireland is now a region of the euro area monetary zone, arbitrage and market discipline should ensure that inflation differentials will not persist indefinitely. Relative price changes and a tendency for price levels to converge may give rise to inflation differentials for some time, however, and these factors have been present here for the past two years. It is arguable, indeed, that consumer prices may understate recent Irish inflation. The increasing problem of congestion would appear to have worsened the quality of many services in particular, and the prices of some publicly provided services have been held down. These factors are in the nature of hidden or repressed inflation. General measures of inflation such as the deflator of GDP/GNP have risen more rapidly than the narrower measure of consumer inflation. Property prices, both residential and commercial, have also recorded very substantial rates of increase for some time; while demand factors have been an important reason for this, the low interest rate regime in the EMU and problems relating to the supply of serviced land have also contributed to the large increase in property prices.

The priority for economic policy now is to facilitate a modest slowdown to a more sustainable growth rate which is estimated to be about 5 per cent in the medium-term. Monetary policy conditions are too easy from the perspective of the Irish economy at this time: real interest rates are very low and even negative on some measures and the trade-weighted exchange rate for the Irish economy is also well down – about 10 per cent relative to January 1999, when the euro was adopted. By any standard, therefore, monetary policy is overly expansionary for Irish economic conditions.

This means that other mechanisms must be used as far as possible to facilitate a growth slowdown. Fiscal policy is one such instrument, although it has to be recognised that it is not very flexible, being determined essentially by the once-a-year budgetary process. Nonetheless, the fact that domestic demand has recently been especially strong would suggest that fiscal policy can make a useful contribution to promoting stability at this juncture. Fiscal policy operates in this regard through the so-called automatic stabilisers – i.e. fluctuations in cyclically-sensitive tax flows and government spending – as well as through discretionary changes in taxes and spending. In the present economic climate there is a need for caution in relation to discretionary tax and spending changes. If fiscal policy does not play such a role, then market forces must fulfil this function by default. In essence, what is involved here is a real exchange rate appreciation or a loss of competitiveness. With the nominal exchange rate fixed, this mechanism would operate through a higher inflation rate here compared to the rest of the euro area. This has already happened to some degree with Ireland's inflation rate being substantially higher than the euro zone average since the advent of the single currency.

Continuing to rely solely on such an adjustment mechanism would be unwise for a number of reasons. Firstly, domestic demand rather than net exports has been the strongest demand component for the past few years. It is inefficient, therefore, to rely on a mechanism that operates to cut back net export growth in order to slow domestic demand. Secondly, relying entirely on market forces might be costly in the sense that there could be significant overshooting of inflation and wages as part of this process. The very substantial wage increases that are being mooted in the more sheltered parts of the economy at present would suggest that the risk of overshooting is real. A substantial increase in prices and wages driven by high expectations could ultimately leave the traded sector of the economy labouring under a heavy burden. In this context, it is also relevant to point to the probability that the exchange rate of the euro is, at present, significantly below its medium-term equilibrium value. These arguments point to the need to have a balanced policy approach to ensuring that growth eases to its medium-term sustainable rate.

Euro Area Economy

Having recorded its highest rate of economic growth in a decade in 2000, the pace of expansion in the euro area has moderated since the beginning of the year. This primarily reflects the impact of the deterioration in the external environment, in particular, in the US. The evidence suggests that the external slowdown has mainly affected industry. Business confidence indicators have weakened and the rate of growth of industrial production has slowed. The moderation in the pace of activity has not been evenly distributed across the euro area and has tended to be greater in countries with a higher proportion of capital goods exports and stronger trade linkages with the US and Asia.

In contrast to the slowdown in industrial confidence and activity, however, households still appear to remain relatively positive about the outlook for growth. Supported by rising disposable income, reflecting both continued employment growth and direct tax reductions, the fall in consumer confidence has been less marked since the beginning of the year and the overall level of confidence among consumers remains fairly high. With financial assets comprising a relatively small part of household portfolios, euro area consumers have been less affected by swings in share prices. Consumer spending should underpin the expansion of the euro area economy in 2001. On balance, therefore, while the change in the external environment implies that the euro area will expand by less than was expected some months ago, available forecasts still suggest that growth in 2001 will remain broadly in line with estimates of trend potential growth.

Turning to prices, recent months have seen considerable volatility in the rate of HICP inflation. Having fallen by one-half of a percentage point around the turn of the year, inflation has risen sharply in the past few months. The recent rise in inflation largely reflects developments with regard to energy and unprocessed food prices. The energy component has been affected by fluctuations in oil prices and the exchange rate of the euro, while the rise in unprocessed food prices reflects the impact of animal disease outbreaks. While both of these influences are likely to prove temporary, the year-on-year rate of HICP inflation seems set to remain high for some months to come. It seems unlikely that HICP inflation will fall below 2 per cent this year.

Significantly, however, the medium-term outlook for inflation is relatively favourable. Indicators of underlying inflation, such as intermediate goods prices and unit labour costs point to subdued price pressures. In addition, the moderation in the rate of economic growth in the euro area will tend to dampen inflationary pressures. The increased flexibility of labour markets and the perceived credibility of the ECB's commitment to price

stability is also likely to act to contain inflation expectations and wage growth.

The evidence from the money supply data also points in this direction. M3 money supply growth has been on a gradual downward trend for the past year, reflecting the increases in ECB interest rates between November 1999 and October 2000. Moreover, there is now evidence that the monetary growth figures have been distorted upwards by non-euro area residents' holdings of money market fund shares/units and of money market paper and short-term debt securities. In short, the slowdown in M3 over the last few months was more pronounced than previously thought.

Taking the evidence from both pillars of its monetary strategy into account, at its meeting on 10 May 2001, the Governing Council of the ECB decided to reduce interest rates by one-quarter of a percentage point. This decision is to be seen as an adjustment of the level of interest rates to somewhat lower inflationary pressures over the medium term.

The Domestic Economy — Real and Financial Developments¹

Overview

The volume of GNP is estimated to have grown by $9\frac{3}{4}$ per cent last year. This expansion in output was driven by a combination of strong domestic demand and an impressive external trade performance. In contrast, a marked deceleration in growth is expected this year, largely reflecting two specific developments that will impact on the Irish economy. The first is the slowdown in the US economy, which is already having a significant effect on the high technology sectors. The second is the impact of animal health problems, which has affected activity in the agricultural and tourism sectors. The effect will be to curtail real GNP growth to about $6\frac{1}{2}$ per cent. This represents a noticeable deceleration but the projected rate of growth remains high by international standards and is still above the economy's medium-run sustainable growth rate.

The international environment may improve somewhat next year but, even assuming a short-lived slowdown in the US economy, world trade growth is unlikely to recover to the levels experienced last year. Given slower employment growth domestically and less favourable competitiveness developments, overall GNP growth is unlikely to rebound to previous levels. Indeed, some further slight deceleration may be in prospect, although growth is still set to remain strong relative to the economy's potential.

The external environment is much weaker than last year. The slowdown in the US economy is likely to have a significant impact on world trade volumes with the growth in the imports of Ireland's main trading partners set to fall back noticeably. Given Ireland's strong links with the US and the relative importance of the high-technology sectors in the economy, the impact on net exports will probably be somewhat greater than that suggested by the projected deceleration in world trade. Apart from the multinational sector, some smaller indigenous firms in the software sector have experienced significant declines in demand for their services. The exports of the agriculture sector have also been affected by foot-and-mouth disease and the related restrictions have had a knock-on effect on tourism. Import growth will slow this year due to the deceleration in exports and slightly weaker domestic demand growth; nevertheless, the overall contribution of net exports to growth is likely to be

¹ The forecasts contained in this bulletin are based on the Central Bank of Ireland's contribution to the Eurosystem's macroeconomic projections (see Box A).

significantly reduced. A better external environment and an absence of animal health problems may allow some recovery in the contribution of net exports next year.

Domestic demand seems set to be the main force behind output growth in the economy this year. The main contributor will be the growth in private consumption expenditure. This reflects further significant increases in household disposable income despite a slowdown in employment growth. This is due to larger increases in average earnings this year and the impact of further direct tax reductions. There may, however, be some recovery in the savings rate, following a noticeable decline last year, but this is not expected to restrain expenditure growth significantly. Investment is set to register further growth albeit at a reduced pace. Construction activity is already showing signs of a deceleration, reflecting capacity constraints in the sector. The outlook for machinery and equipment investment is also weaker due to the deterioration in the prospects for export growth. The overall outlook, therefore, is for a continuation of relatively strong domestic demand growth but with a deceleration from last year. There may be some further slight slowing of domestic demand growth next year mainly reflecting weaker employment growth.

The overall slowdown is likely to be accompanied by a deceleration in employment growth. The results of the Quarterly National Household Survey (QNHS) suggest that employment expanded by about 4.7 per cent last year. The prospects for this year are for this figure to decline to about 3½ per cent with some further slowing next year. Given the deceleration in labour supply growth, however, this is unlikely to result in an easing of labour market shortages. The data available from the monthly Standardised Unemployment Rate suggest that unemployment may no longer be declining and may stabilise at about the 3¾ per cent level. In this environment, wage inflation is unlikely to ease significantly, maintaining upward pressure on prices in the non-traded sector. (Developments and prospects in relation to prices, costs and competitiveness are discussed in the next chapter).

Box A: Eurosystem Macroeconomic Projection Exercises and National Projections

1. The Governing Council of the ECB decided last year to publish Eurosystem staff macroeconomic projections on a biannual basis in June and December. The first set were published in the December 2000 ECB Monthly Bulletin. These projections are prepared by the staff of the Eurosystem – the staff of both the ECB and the National Central Banks (NCBs) of member states – as an input into the deliberations of the Governing Council as part of its broadly-based assessment of the risks to price stability. The latter is often referred to as the ‘second pillar’ of the ECB’s monetary policy strategy. The ‘first pillar’ focuses on developments in monetary growth in relation to a reference rate established by the Governing Council¹.

2. The recently published ECB Monthly Bulletin for June 2001 contains the results of the most recent Eurosystem staff macroeconomic projection exercise. These euro area projections are reproduced in this bulletin and are discussed in the chapter dealing with the euro area. A guide describing the way in which the projections are produced has been placed on the ECB's website (www.ecb.int). The technical methods involve a combination of conventional econometric models and expert knowledge, which are used to produce a set of forecasts conditional on certain assumptions²
3. The production of these projections involves individual country assessments produced by both NCB's and the ECB which make full use of the detailed knowledge and experience of country experts. The projections take account of the rich, but somewhat diverse, set of national data sources and the details of individual countries' institutional structures. The procedures of the projection exercises are designed to integrate such country assessments within an overall euro area framework, ensuring, for example, that individual country trade flows are made consistent with each other. The final projections represent the consensus of Eurosystem staff opinion through a technical peer review procedure. The approach adopted seeks to put the expertise of country experts to maximum use in terms of individual country developments but still retains a clear focus on the euro area. The forecasts contained in this bulletin represent the Central Bank of Ireland's contribution to the Eurosystem's most recent macroeconomic projection exercise³.
4. These forecasts differ in some respects from those previously published by the Bank, although the main assumption on which they are based remains the same – an unchanged stance of monetary policy. The assumptions for developments outside the euro area are, however, those of the Eurosystem as a whole. They are not drawn directly from sources such as the OECD, IMF, EU Commission etc., although clearly the forecasts of such organisations are considered by the Eurosystem when making its assumptions concerning the external environment. The technical assumptions made as regards short-term interest rates and exchange rates are that they remain unchanged over the projection horizon. These assumptions are set at the beginning of the projection exercise and are reviewed during it. The cut-off date for revisions to the assumptions in the present exercise was 17 May 2001. Additional assumptions made include a decline in world oil prices in line with the path implied by futures markets. In US dollar terms, they are assumed to fall by roughly 6½ per cent on average in 2001 and to decline by slightly more in 2002.
5. The timing of the Eurosystem projections and its interaction with the existing Bank publication schedule means, however, that a gap exists between the time at which the figures were finalised as part of the Eurosystem exercise in mid-May and the preparation of the current bulletin. As a result, references may occasionally be made to data which, though available at the time of writing, were not incorporated into the outlook as they only became available after 17 May 2001. The fact that the forecasts are based on specific assumptions that were fixed at a particular point in time should also be borne in mind. Repeating the exercise for Ireland with different assumptions would produce different results, for example, a weaker or stronger exchange rate would, all other things being equal, produce a forecast of higher or lower inflation and would impact on the outlook for competitiveness, exports and output.

¹ A discussion of the role of projections in the monetary policy strategy of the ECB is contained in *The two pillars of the ECB's monetary policy strategy* ECB Monthly Bulletin November 2000 and in the ECB's Annual Report 2000.

² The conditional nature of these forecasts is worth emphasising. The staff economic projections will not in general be the best unconditional prediction of the future, particularly over longer horizons, since, for example, monetary policy will always act to maintain price stability. In order to emphasise their conditional nature, the term 'projection' is used.

³ This will apply to future Summer and Winter Central Bank Bulletins as these coincide with Eurosystem exercises but the Spring and Autumn Bulletins will continue to contain national forecasts made by the Bank on the same basis as previously.

Table 1. Expenditure on Gross National Product 1999, 2000^e and 2001^f

	1999	% change in		2000 ^e	% change in		2001 ^f
	€ million	Volume	Price	€ million	Volume	Price	€ million
Personal Consumption Expenditure	44,115	9¼	6½	51,346	7¾	4¾	58,035
Public Net Current Expenditure	11,114	4	6	12,258	5¼	9¼	14,095
Gross Domestic Fixed Capital Formation	20,538	11	9¼	24,891	8¼	8	29,117
of which:							
• Building and construction	12,755	9	13	15,708	7¾	12	18,957
• Machinery and equipment	7,783	14	3½	9,183	9	1½	10,160
Value of physical changes in stocks	-72			20			420
Statistical Discrepancy	-52			-52			-52
Gross Domestic Expenditure	75,643	8¼	8	88,463	7¼	7	101,615
Exports of goods and services	76,764	18½	5¾	96,172	9	1¾	106,554
Final Demand	152,407	13½	6¾	184,635	8¼	4¼	208,169
Imports of goods and services	-64,729	18	8¾	-82,917	10¼	2	-93,266
Gross Domestic Product	87,678	10¼	5¼	101,718	6½	6	114,903
Net factor income from rest of the world	-12,677			-15,171			-16,341
Gross National Product	75,001	9¾	5¼	86,547	6½	6¾	98,562

Domestic Demand

Personal Consumer Spending

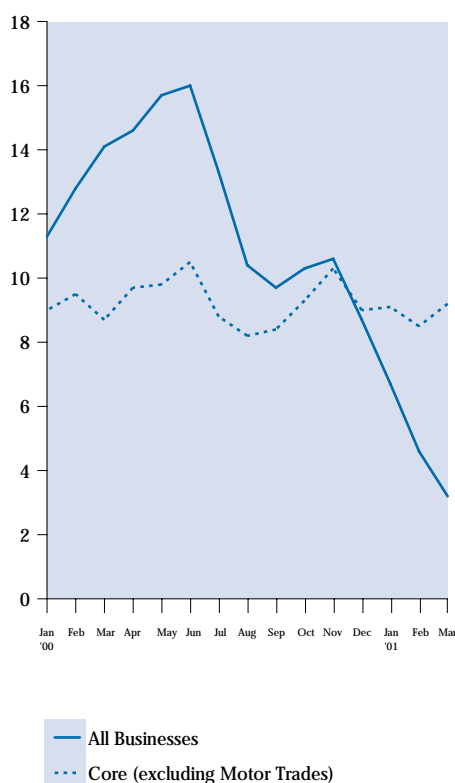
Consumer spending by households was exceptionally strong last year. Income growth was boosted by a combination of employment gains, rising average earnings and reduced rates of direct taxation. In addition to income growth, there was an impulse to spending from a decline in the savings rate – the proportion of incomes that households save rather than spend. This was encouraged by a number of developments including the low level of real interest rates. The introduction of the National Car Test may also have prompted households to renew their stock of motor cars earlier than would otherwise have been the case. Overall, the volume of consumption probably increased by about 9¼ per cent last year.

The outlook for this year is for further strong consumption growth but with some deceleration. Disposable incomes are again expected to grow significantly, although the contribution from employment increases is likely to be less than last year. On the other hand, average earnings are set to rise more rapidly and direct tax rates have been further reduced so that the overall growth in disposable incomes may be broadly similar. The fall in the savings rate observed last year is, however, unlikely to be repeated. Interest rates seem set to be higher in real terms due to lower inflation, on the assumption of unchanged nominal rates. Sentiment also seems to have peaked on the basis of the EU survey of consumers, reflecting increased uncertainty over the prospects for the future. As a result, an element of precautionary saving may emerge. Furthermore, the large stock of new cars presently on the road will tend to depress car sales as cars are a typical consumer durable. The introduction of the government special savings schemes may also have an impact although some savings may simply be diverted from existing holdings.

Chart 1

Index of Volume of Retail Sales

Year-On-Year % - 3 Month
Moving Average (SA)



Some of the evidence available for the year to date suggests that a more moderate pace of consumption spending may indeed be emerging. Retail sales grew by only 3.1 per cent year-on-year in the first quarter, although much of this weakness was due to car sales with underlying retail sales showing continuing strength. There are some indications, however, from tax receipts and other sources that spending growth may have continued to moderate. Domestic spending by both residents and tourists is likely to have been affected by the restrictions associated with foot-and-mouth disease, although the impact of this may be easing somewhat. Overall, the volume of personal consumption is expected to grow by about $7\frac{3}{4}$ per cent this year with perhaps a further modest deceleration in prospect for next year.

Government Consumption

Government consumption is likely to grow significantly in value terms this year reflecting the increases in expenditure announced in the Budget. In common with recent years, however, much of the increase will be accounted for by higher prices and wages. As a result, the volume of consumption will probably only increase by about $5\frac{1}{4}$ per cent, up slightly from about 4 per cent last year. The prospects are for a similar pattern to emerge next year.

Investment

National accounts data for the first three quarters of 2000 confirm that investment expenditure grew strongly throughout last year. It is estimated that, for the year as a whole, building and construction investment increased by around 9 per cent while machinery and equipment investment increased at a faster rate of around 14 per cent. Evidence of a moderate slowdown in construction investment at the end of last year reflects supply constraints including labour shortages and planning delays. This trend will continue this year as the rate of investment growth in building and construction continues to fall.

Within the construction sector, the slowdown in housing output is likely to be particularly significant. Although a record number of housing units were completed last year, almost 50,000, this constituted a deceleration in the rate of increase of house completions to around 7 per cent, down from almost 10 per cent in 1999. Already there has been a sharp decline in housing starts. Homebond registrations began to fall significantly around the middle of last year. In the first four months of this year there was a decrease of 17 per cent in the number of registrations compared with the same period in 2000. This decline was particularly severe in Dublin where registrations fell by over 26 per cent.

Employment in the construction sector continues to grow strongly but with some evidence of a deceleration. Figures released in the Quarterly National Household Survey show that employment in construction increased by 20,200 between the first quarter of 2000 and the first quarter of 2001. This constitutes a year-on-year increase of over 12½ per cent. However, almost 80 per cent of this increase was concentrated in the first six months between the second and third quarters. Although this might partly reflect seasonal considerations, it suggests a slowing down in the construction sector in the second half of last year. An increase of 5 per cent in employment in private firms with five or more employees is recorded in the Index of Employment in Construction in the twelve months between December 1999 and December 2000. Overall, therefore, there is clear evidence of a slowdown in construction sector growth in the current year. Accordingly, it is forecast that the volume of investment in building and construction will increase by around 7¾ per cent in 2001. A further slight slowdown is likely next year though future prospects will depend in part upon the ability of the construction industry to recruit the additional workers required to increase housing output and fulfil the provisions of the *National Development Plan*.

Machinery and equipment investment continued to grow strongly in 2000, driven by foreign direct investment and strong export growth. Capital imports were up over 21 per cent in 2000 while figures for January 2001 show an increase of over 18 per cent on the same month of the previous year. It is estimated that total investment in machinery and equipment increased by around 14 per cent last year. However, there are already some signs that the rate of increase is beginning to decelerate. Capital acquisitions of machinery and equipment in industry increased by around 3¾ per cent in 2000. This aggregate figure masks a considerable difference between the beginning and end of the year. In the first six months of 2000 there was a year-on-year increase of capital asset acquisitions of over 14 per cent. However, in the second half of the year there was a decrease of around 4 per cent compared with the second half of 1999. It is forecast, therefore that growth in the volume of investment in machinery and equipment will also moderate this year. This is likely to reflect increased uncertainty about the future prospects of both the US economy and the global information technology sectors. Investment in machinery and equipment is expected to increase by around 9 per cent in volume terms. Overall, total fixed investment is expected to increase by around 8¼ per cent this year with some slight further deceleration in prospect for next year.

Stock Changes

Stock building probably made a small positive contribution to growth last year, although no data are available at the time of

writing on the position at the end of the year. The prospects for this year are particularly uncertain. The slowdown in export growth may involve some temporary accumulation of inventories, but the stock control practices of the exporting sector will probably avoid anything more than a short-term accumulation. The picture is more complex for the agricultural sector where production cannot be adjusted to accommodate short-term developments. The restrictions associated with the control of foot-and-mouth disease have caused a build up of stocks on farms but many of these restrictions are currently being eased. The overall demand for output remains strong in European markets generally and this should facilitate exports leading to a reduction in stocks over time. On the other hand, the possibility of further outbreaks remains as do difficulties in relation to BSE and third country markets. Overall, stock building is projected to make a positive contribution to growth this year at this point, but it is possible that the eventual outcome will see stronger exports and less stock building in the agricultural sector than currently envisaged.

Merchandise Trade and the Balance of Payments

Merchandise Trade

Exports grew at a particularly strong pace last year. Export market growth was robust with world trade volumes expanding at a high rate reflecting strong growth in both the US and European economies. Inward investment in the economy also remained significant and the economy's competitive position was cushioned from the effects of higher wage inflation by a combination of productivity growth and the depreciation of the euro. The high-technology sectors once again contributed the most to this impressive export performance. Overall merchandise export volumes grew by close to 20 per cent last year with much of this increase being in trade with regions outside the euro area.

The prospects for this year are for a significant slowdown in export growth. The international environment is much less favourable reflecting the downturn in the US economy and slower growth in other regions including the euro area itself. The high-technology sectors in the US economy have been at the centre of the slowdown in activity and the effects of this are already evident in Ireland. Some important inward investment projects have been postponed and there has been some impact on employment albeit limited to date. Two factors may help to cushion the impact of the US slowdown on Ireland – the fact that much of production is intended for European markets, which remain reasonably strong, and the ongoing weakness of the euro, which is bolstering competitiveness in the short-term. On the other hand, there is always a risk that the euro could appreciate given that it is currently considered to be below its long-run equilibrium value. At the time of writing, the euro has actually

Chart 2

Volume of External Trade

Three Month Moving Average
(Seasonally Adjusted) %
Year-On-Year

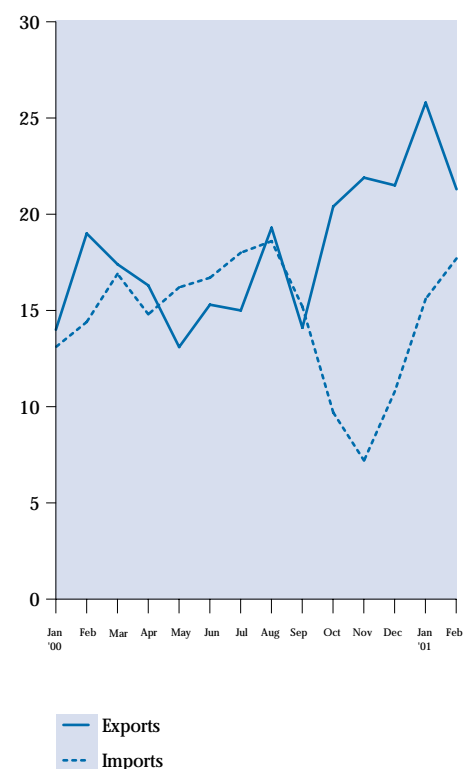


Table 2. Merchandise Trade 1999, 2000 and 2001^f

	1999	% change in		2000 ^e	% change in		2001 ^f
	€ million	Volume	Price	€ million	Volume	Price	€ million
Merchandise exports (adjusted)	62,953	20	5½	79,748	10¼	1¼	88,931
Merchandise imports (adjusted)	-40,221	16¾	10½	-51,944	12	½	-58,527
Trade balance (adjusted) (% of GNP)	22,732 (30¼)			27,804 (32¼)			30,404 (30¾)

declined further, however, below the level assumed for the present forecast.

The prospects for agricultural exports also remain uncertain with developments in the first part of the year being very unfavourable. This situation is likely to improve, however, on the assumption that the restrictions related to foot-and-mouth disease continue to be lifted. Indeed, the reduction of supply in the UK and elsewhere in the European market suggest that opportunities for exports exist so long as the country avoids another outbreak of the disease. The situation as regards BSE and third country markets may also be improving.

Overall, taking into account the assumptions on external demand and exchange rates used in the Eurosystem projection exercise and projections for the euro area itself, a significant reduction in merchandise export growth to about 10¼ per cent would seem to be in prospect. This represents a significant deceleration but it would still be a significant growth given the deterioration in the external environment. A modest recovery in export growth may occur next year, on the assumption that the US slowdown is not more protracted than currently expected and that competitiveness developments are not unfavourable. The risks to the latter include both higher than expected wage inflation and an appreciation of the euro. Even on quite favourable assumptions, any recovery in export growth is likely to be modest, however, with world trade volumes unlikely to return to the growth rates of last year and with lagged effects from lower investment this year.

Imports also grew strongly last year reflecting robust domestic demand and increasing input requirements by the exporting sectors. The growth in import volumes is expected to moderate this year mainly reflecting the more modest growth in export volumes as well as some slowing in domestic demand growth. The deceleration in imports is, however, expected to be less marked than that of exports due to the continuing relative strength of domestic demand, reducing the contribution of net exports to growth. There was a significant terms-of-trade loss last year reflecting developments such as the oil price increase which

are not likely to be repeated this year. Taking into account the projected volume and price changes, the outlook is for a rise in the merchandise trade balance in nominal terms to €30.4 billion from €27.8 billion last year. This would represent a decline as a proportion of GNP, however, to 30³/₄ per cent this year from 32¹/₄ per cent in 2000. As regards next year, there may be a slightly larger increase in the trade balance in nominal terms, reflecting a modest recovery in export growth, but this is unlikely to prevent a further decline in the trade balance as a proportion of GNP due to the continuing strength of imports.

Services, Factor Incomes and International Transfers

The other main elements of the current account balance are likely to show deteriorating balances. Net factor income outflows grew significantly last year reflecting a strong performance by the foreign-owned sector. These outflows are likely to increase further this year but at a more modest pace reflecting the projected slowdown in export growth. Service imports are likely to show a similar pattern with the strong growth last year easing back somewhat reflecting reduced imports by the exporting sectors. Services exports will also be affected by the impact of foot-and-mouth disease on tourism earnings as well as reduced growth in the export of information technology services. Overall, therefore, the services balance is likely to register a further significant deterioration. The transfer balance may only decline marginally this year but only because of increased transfers related to the difficulties in the agricultural sector. The increased nominal trade balance is likely to be more than offset by the overall deterioration in the remaining items so that the current account deficit seems set to increase from €877 million last year (1 per cent of GNP) to €2,100 million this year (2¹/₄ per cent of GNP). The outlook for next year is for this deficit to widen further with slightly stronger export growth being insufficient to offset the continuing strength of imports, net factor income outflows and weaker transfers.

Capital and Financial Account

There was a surplus on the capital account of some €1,207 million in 2000, comprising mainly EU structural receipts. The financial account showed a surplus of €6.4 billion for the year 2000, compared with a marginal surplus of €153 million in the previous year. The financial account, however, showed a small deficit of €186 million in the fourth quarter of 2000, following large surpluses in the three previous quarters. This reflects the turbulence in the markets, especially in the latter part of the year. The balancing item, representing the errors and omissions in the balance of payments as a whole, was a debit of €6.8 billion for the year 2000.

Table 3. Balance of Payments 1999, 2000 and 2001^f

€ million			
Current Account	1999	2000	2001 ^f
• Merchandise trade balance (adjusted)	22,732	27,804	30,404
• Services	-10,697	-14,549	-17,116
• Net factor income from rest of the world	-12,677	-15,171	-16,341
• Current international transfers	1,208	1,039	953
Balance on current account	566	-877	-2,100
(% of GNP)	(¾)	(-1)	(-2¼)
Capital and Financial Account	1999	2000	
Balance on capital account	560	1,207	
• Direct Investment	12,707	19,607	
• Portfolio Investment	-14,042	51	
• Other Investment	-258	-13,132	
• Reserve Assets*	1,746	-87	
Balance on financial account	153	6,439	
Net errors and omissions	-1,280	-6,769	

*Change in reserves on a transactions basis, i.e. excluding valuation adjustments. A minus figure equals a net increase in reserves.

Direct investment into Ireland again showed strong growth in 2000, with inflows of €22.5 billion representing an increase of more than a quarter compared to 1999. Equity capital and reinvested earnings each contributed more than €10 billion, while there was an increase of around €2 billion in other capital liabilities (mainly inter-company balances). Direct investment in IFSC enterprises amounted to €13.7 billion in 2000, with the largest inflows occurring in the last two quarters. Some €8.8 billion was invested outside the IFSC in the year 2000, up from €6.1 billion in 1999. This was largely due to the continuing strong performance of the foreign-owned multinational sector. In contrast, outward direct investment of €2.9 billion by Irish residents in 2000, showed a sharp fall from the corresponding figure of €5.1 billion in 1999.

Outward portfolio investment of €84.9 billion in 2000, was around 9 per cent higher than in 1999. However, this masks a high level of fluctuation over the year, with high outflows in the first and third quarters and much smaller outflows in the other two quarters, particularly in the final three months. Inward portfolio investment of €85 billion, was almost identical in value to outflows, leaving net flows close to zero for the year. Despite a sharp reduction in the final quarter, portfolio investment inflows in 2000 were roughly one third higher than in 1999. IFSC enterprises predominate portfolio investment flows for both assets and liabilities, and most transactions are with counterparties outside the euro area.

Financial transactions other than direct and portfolio investment, resulted in net outflows of more than €13 billion in 2000. There were net outflows of €7.7 billion in the fourth quarter, following net inflows of €2.4 billion in the previous quarter. While changes in loans, currency and deposits constituted by far the largest component of other investment over the year, there were also significant increases in net foreign assets, arising from transactions in trade credits, financial derivatives and life insurance.

The official external reserves amounted to €6,110 million at end-March 2001, including a valuation write-up of €226 million.

Output Trends and the Labour Market

Industry and Services Output

Industrial production data confirm a continuation of strong output growth in the manufacturing sector last year. Following a slowdown in the annual rate of growth in the opening months of the year, the rate of increase rose sharply in the second quarter and this strong growth was maintained for the remainder of the year. In overall terms, total manufacturing output was 15.7 per cent higher than in 1999. Output from the broad high-technology sector, which is largely foreign-owned and whose scale in Ireland has expanded significantly in recent years due to large inflows of foreign direct investment (FDI), continued to be the main driving force behind overall manufacturing output growth. Output from this sector was around 19 per cent higher than in 1999, with particularly strong growth recorded in the electrical machinery (up 42 per cent), medical and precision instrument (up 38 per cent) and the office machinery and computers (up 36 per cent) sub-sectors. In the traditional sectors, where Irish-owned firms have a greater presence, output growth was more modest, rising by an estimated 5¼ per cent last year.

The data for the opening months of this year point to further strong output growth. Including provisional data for March, the data show that in the first quarter of this year, total manufacturing output was 34.1 per cent higher than in the same period last year. However, at least some of this very strong rate of increase is due to a base effect related to the fact that output growth in the first quarter of 2000 was relatively weak. For the year as a whole, output growth is likely to be somewhat lower, largely reflecting the difficulties currently being experienced in the US economy and in the broad information technology sector which may have some impact on the scale of FDI inflows. However, the relatively favourable outlook for the EU economy, together with the fact that a large portion of information technology exports from Ireland are destined for the EU, should continue to underpin further output growth in the high-technology sector, albeit at a more moderate rate than in more recent years. In

Chart 3

Volume of Industrial Production

Year-On-Year % Change -
3 Month Moving Average

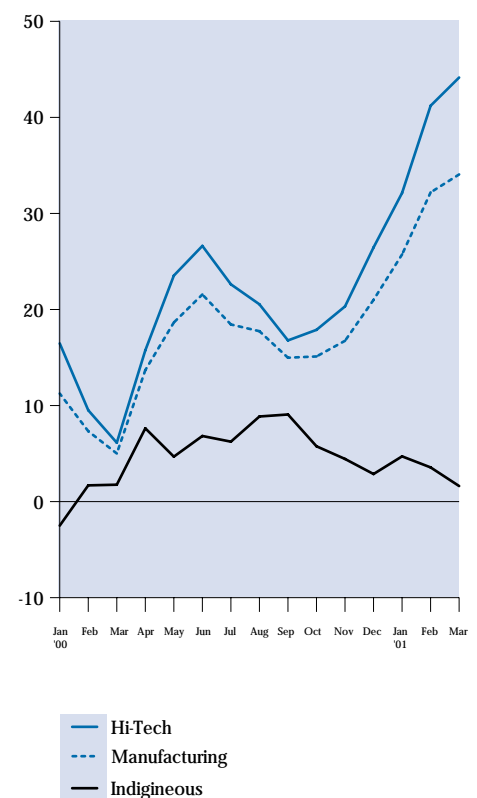


Table 4. Manufacturing Output, Annual Percentage Change

	Total	High-Technology	Traditional
1994	12¾	17¼	6¾
1995	21¼	27¼	12¾
1996	8½	12½	2
1997	19½	27¼	5¼
1998	21¼	29¼	4¼
1999	15	20¾	0
2000	15¾	19	5¼
2001 ^f	10	12	2¾
Average 1994-2001	15½	20½	5

addition, the traditional sector should benefit from the strength of demand in both Ireland and the UK. In overall terms, therefore, the current forecast is for manufacturing output growth of around 10 per cent this year.

As outlined earlier, investment in building and construction rose by an estimated 9 per cent in real terms last year, an outcome which indicates further strong output growth. With investment forecast to rise by around 7¾ per cent this year, it is likely that output in this sector will expand strongly once again. Buoyant domestic demand, underpinned by favourable labour market opportunities, is likely to support service sector output once again this year. Output growth in the public sector, however, is likely to be relatively subdued by comparison, rising broadly in line with modest employment growth in the sector.

Agricultural Output

Last year was a favourable one for the Irish agricultural sector, according to preliminary estimates produced by the CSO. The volume of agricultural output, however, was 1.6 per cent lower than a year earlier, largely reflecting lower output in the livestock sector. Favourable price developments for a broad range of agricultural outputs were sufficiently large to more than offset these negative volume trends. In particular, livestock prices were notably stronger than a year earlier. Cattle prices, for example, were almost 12 per cent higher than in 1999. In addition, strong double-digit price increases were recorded in the pig and sheep sectors, partly reversing the sharp price reductions recorded in these sectors during 1999. Milk prices were almost 1 per cent higher than in 1999, although cereals prices were somewhat lower. As a result, the value of goods output in the agricultural sector was 4.7 per cent higher last year.

Broadly favourable output developments, however, were partly offset by a 5 per cent increase in the value of farm inputs. While the usage of inputs was marginally lower than a year earlier, the price of some inputs increased significantly, the most notable being that for energy due to the rise in oil prices last year. Incomes in the agricultural sector were boosted by significantly higher subsidy payments last year, partly reflecting the *Agenda*

Table 5. Summary of Agricultural Output and Income 1999, 2000 and 2001^f

	1999	Percentage Change in			2000 ^e	Percentage Change in			2001 ^f
	€ million	Value	Volume	Price	€ million	Value	Volume	Price	€ million
Goods Output at Producer Prices ^a	4,581	4¾	-1½	6¼	4,796	3¾	2½	¼	4,970
Intermediate Consumption	2,967	5	- ¼	5¼	3,115	4¾	2¼	2½	3,262
Net Subsidies plus Services Output less Expenses	571	15¼			659	11½			735
Operating Surplus	2,185	7			2,340	4½			2,444

^a Including the value of stock changes.

2000 reforms – net subsidies last year were almost 13 per cent higher than in 1999. In overall terms, therefore, agricultural incomes rose by an estimated 7.1 per cent in nominal terms (around 1.5 per cent in real terms) last year. This follows a decline of 13.3 per cent in nominal income in the previous year.

The outlook for the agricultural sector this year is more uncertain than normal, reflecting the problems associated with animal health. Following the resurfacing of BSE difficulties in November of last year, beef consumption in the EU fell by around 30 per cent. In addition, some important third country markets were closed. However, consumption has improved somewhat in more recent months, while some third country markets have been reopened. The introduction of the Purchase for Destruction Scheme will also provide some support to the market by removing some of the excess supply of beef. In Ireland, a total of 167,000 cattle had been slaughtered under the terms of this scheme in the year to end-March. In addition, the restrictions on animal movement imposed in order to contain the spread of foot-and-mouth disease (FMD) are likely to have had an adverse impact on farm incomes in the early months of this year. Input costs, for instance, are likely to be higher due to increased usage. At present, the risk of a further outbreak appears to have diminished and the various restrictions are being relaxed. In these circumstances, the outlook for the second half of the year remains broadly favourable, with the sector likely to benefit from the strength of demand in the UK and, in the case of lamb, France.

Outside the livestock sector, the outlook remains relatively favourable. In the dairy sector, for instance, some increase in output is expected reflecting the second quota increase under the *Agenda 2000* reforms. In addition, some further increase in net subsidies is expected, again reflecting these reforms. For the year as a whole, incomes will be largely determined by the extent to which the negative impact of the measures taken in the early part of the year are offset by more positive developments later in the year. On balance, therefore, a modest income rise of about 4½ per cent in nominal terms is forecast this year, which

represents a decline of about a $\frac{1}{4}$ per cent when adjusted for the forecast increase in the Consumer Price Index.

The Labour Market

One of the most notable features of labour market developments over the last year or so has been the slowdown in the rate of employment growth. This largely reflects the more moderate evolution of labour force growth. In addition, the recent very low levels of unemployment have reduced the scope for further employment gains resulting from the transfer of the unemployed into employment. Results of the Quarterly National Household Survey (QNHS) for the first quarter of 2001, which were released by the CSO at end-May, point to a continuation of this broad trend in the opening months of this year. The data show that total employment in the first quarter of this year was 59,300 (3.6 per cent) higher than in the same period of last year. The annual rise consisted of increases of 49,400 (3.6 per cent) and 9,900 (also 3.6 per cent) in full- and part-time employment, respectively. Practically all of those who were employed on a part-time basis in the first quarter of this year were satisfied with the number of hours worked, i.e. they were not underemployed. The number of males in employment rose by 28,200 (2.9 per cent) while female employment was 31,100 (4.6 per cent) higher over this period.

Most sectors recorded employment gains over this period. The largest gain was in the construction sector, where employment was 20,200 (12.6 per cent) higher than in the first quarter of last year. Strong employment growth rates were also recorded in the education and health (up 15,800), wholesale and retail (up 13,100) and financial and business services sectors (up 11,300). The exception to these developments was the agricultural sector, where annual employment was over 12,000 lower. While a general downward trend in this sector has been evident for some time now, the magnitude of the decline in the first quarter of this year may be related to the difficulties currently being experienced in the sector, particularly the re-emergence of BSE-related difficulties which were most notable around the time of the current survey.

As outlined above, the main factor underlying the slowdown in employment growth over the last number of quarters is the moderation in the rate of expansion of the labour force. In the first quarter of this year, the labour force was 43,300 (2.5 per cent) higher than in the same period of last year, a slower rate of growth than has been recorded in recent years. Nevertheless, the continued expansion reflects the increase in the population of working age as well as ongoing inward migration. In addition, higher participation rates continue to boost the labour force, although the increase from this source is lower than in recent

Table 6. Employment and Unemployment 1999, 2000 and 2001^f

(annual average '000)	1999	2000	2001 ^f
Agriculture	139	130	130
Industry	459	488	499
Services	1,018	1,075	1,122
Total Employment	1,616	1,692	1,751
Unemployment	95	76	68
Labour Force	1,711	1,768	1,819
Unemployment Rate (%)	5½	4¼	3¾

years – the overall participation rate rose by just 0.3 percentage points in the twelve months to the first quarter of this year.

With the labour force expanding by 43,400 and employment 59,300 higher, unemployment over this period fell by 15,900 to reach 65,600 or 3.7 per cent of the labour force. This is the lowest level of unemployment since the introduction of the annual Labour Force Survey in the early 1980s and the subsequent QNHS in mid-1997. In terms of the duration of unemployment, 21,500 of those unemployed in the first quarter had been without work for one year or longer, i.e. long-term unemployed. This resulted in a long-term unemployment rate of 1.2 per cent; as recently as the mid-1990s the equivalent rate was 7 per cent. The remainder of those unemployed in the first quarter were unemployed for less than one year. In general, the majority of those in this latter category can be classified as ‘frictionally’ unemployed, in that they are likely to be in the process of moving between various jobs.

The outlook for this year as a whole is for a continuation of broadly favourable employment trends, although some moderation in the rate of employment growth from the very high rates recorded in 1999 and last year is expected. This largely reflects a somewhat slower rate of growth of labour supply, which is forecast to expand by around 51,000 (2.9 per cent). In addition, while some further reduction in unemployment is expected, the scope for significant employment gains from this source is more limited than in the past, given the current very low level of unemployment. In overall terms, therefore, total employment growth of around 59,000 (3.5 per cent) is forecast for this year. This forecast assumes that the economy is not more adversely affected by the slowdown in the US economy and the difficulties in the information technology sector than currently envisaged. While employment effects have thus far been limited, deeper or more prolonged difficulties could result in less favourable employment conditions later in the year. Unemployment is forecast to average around 68,000, resulting in an average unemployment rate of around 3¾ per cent for the year as a whole. Looking towards next year, the outlook for the labour market remains favourable, although the moderation in both employment and labour force growth is expected to

Table 7. Exchequer Returns at End-March 2001

	2000	2001 – Budget estimate		First Quarter – Outturn		
	Outturn € million	€ million	% change	€ million	% change year-on- year	% of Budget estimate
Current Expenditure						
– Central Fund Services ^a	3,924	3,403	–13.3	311	–54.5	9.1
– Non-Capital Supply Services ^b	16,710	19,931	+19.3	4,571	+21.5	22.9
Total	20,634	23,334	+13.1	4,882	+9.8	20.9
Current Revenue						
– Tax Revenue	27,072	30,461	+12.5	6,393	+9.2	21.0
– Non-Tax Revenue ^c	534	675	+26.7	106	+3.7	15.8
Total	27,605	31,136	+12.8	6,499	+9.1	20.9
Current Budget Surplus	6,972	7,803		1,617		
Exchequer borrowing for capital purposes	3,794	4,580		160		
Total Exchequer Surplus	3,178	3,222		1,457		
Exchange Surplus (% of GDP)	3.1	2.8				
General Government Surplus (% of GDP)	4.5	4.3				

^a Debt servicing, judicial salaries and pensions and EU Budget contribution.

^b Government current expenditure on areas such as Social Welfare, Health, etc.

^c Central Bank surplus income, National Lottery surplus, interest and dividends, etc.

continue. This, of course, is based on the assumption of a relatively short-lived slowdown in the US economy.

The Public Finances

End-March 2001 Exchequer Outturn

The Exchequer Returns for end-March showed an Exchequer surplus for the first quarter of €1,457 million. This compared with an Exchequer surplus of €1,281 million in the same period in 2000.

Total current expenditure in the first quarter amounted to €4,882 million. Central Fund Services totalled €311 million at end-March. This constituted a significant decrease from the 2000 first quarter outturn of €683 million. The difference was due to most of the debt-servicing costs in the first quarter of this year being made from assets in the Capital Services Redemption Account, as provided for in the Budget. Current supply issues in the first quarter were €4,571 million, compared to €3,762 million in the corresponding period in 2000. This was in line with the estimated increase for voted current expenditure in the Revised Estimates Volume for 2001 as a whole.

Total current receipts in the first quarter amounted to €6,500 million. Non-tax revenue amounted to €107 million, which was in line with expectations. Tax revenue, at €6,393 million, was up

Table 8. Source and Application of Funds

€ million	January to March 2000	January to March 2001
1. Borrowing (-)/repayments (+):	-2	1,327
Irish Government bonds listed on the Irish Stock Exchange	-209	27
Other Irish Government public bond issues	92	88
EIB loans	76	43
Medium-Term Notes	26	26
Private Placements	128	176
National saving schemes	69	58
Commercial paper	-352	664
Miscellaneous debt	-	-17
Borrowing from ministerial funds	168	263
2. Increase (+)/decrease (-) in Exchequer deposits and other balances:	1,282	130
Increase (+)/decrease (-) in Exchequer balance	167	138
Increase (+)/decrease (-) in other bank deposits	1,035	-1
Increase (+)/decrease (-) in other balances	81	-7
Exchequer Surplus (1+2):	1,281	1,457

9.2 per cent year-on-year. This compared with a Budget target increase of 12.5 per cent for 2001 as a whole. Excise was 8.3 per cent lower year-on-year. This was attributed to a drop in car sales compared with 2000, falling petrol use and lower than expected alcohol sales. The latter two factors may be explained by the foot-and-mouth issue. Income Tax increased by 10 per cent, Corporation Tax was 13 per cent higher, Value Added Tax was up 12 per cent, and Stamps were 29 per cent higher. The Department is of the view that the performance of tax revenue to date this year suggests that the well-above-target outturn of recent years is unlikely to be repeated in 2001.

The overall difference between current revenue and current expenditure gave a current budget surplus of €1,617 million for the first quarter. This compared to a €1,510 million current budget surplus for the same period in 2000.

Exchequer borrowing for capital purposes at €160 million at end-March compared to a figure of €230 million for the first quarter of 2000. Net voted capital spending amounted to €640 million, an increase of 39 per cent year-on-year. These issues were broadly in line with expectations and capital spending is expected to pick up later in the year, coming into line with the budgeted provision. Non-voted capital expenditure was also in line with expectations, as were capital resources which included €323 million received for the sale of ICC.

Exchequer Financing

The Exchequer surplus of €1,457 million in the first quarter of 2001 was broadly similar to the surplus recorded in the same three months of last year. In contrast to last year, when the surplus was almost entirely reflected in an increase in Exchequer deposits and other balances, the predominant use of the first

quarter surplus this year was the repayment of debt amounting to €1,327 million.

Most of the debt repayments in the first quarter were short-term with €664 million in commercial paper repaid. Retirement of medium- and long-term debt amounted to €343 million, of which €27 million was Irish Government bonds listed on the Irish Stock Exchange and the balance was other bonds. There was also a repayment of €263 million to ministerial funds. The contribution of national savings schemes was negative to the tune of €58 million, compared with €69 million in the same quarter in 2000. A fall in Savings Certificates and Savings Bonds in the first quarter of this year was partially offset by an increase in Post Office Savings Bank (POSB) deposits. Exchequer deposits and other balances increased by €130 million over the quarter to a level of €1,610 million at end-March.

Financial Sector Developments

Overview

The rate of private-sector credit growth slowed in the early months of this year, against the background of a slowing in the pace of economic activity, increases in euro area interest rates last year, and repeated urgings from the Central Bank to credit institutions to observe prudence in their lending practices. The adjusted annual growth rate of private-sector credit averaged 18.5 per cent in the first four months of this year, which compares with an average rate of 24.6 per cent in 2000 (excluding the impact of the Irish Life & Permanent merger which significantly boosted the annual rate of credit growth in the first quarter of last year). The slowdown in credit growth was spread across most sectors. Manufacturing was particularly weak in the first quarter and there were also signs of easing in the rate of growth of lending to the real estate and construction sectors. The rate of growth of residential mortgage lending (adjusted for securitisations) maintained a downward trend in the opening months of 2001, while remaining relatively high.

Having been held steady since last October, ECB interest rates were reduced by 0.25 of a percentage point in May. Added to this, the continued weakness of the euro resulted in monetary conditions in the early months of 2001 which were relatively relaxed. Government bond yields firmed modestly, reflecting international trends, leading to a slight steepening of the yield curve. Euro area financial developments are discussed in more detail in the 'Euro Area and International Economy' chapter of this bulletin.

Money Supply

Ireland's contribution to the euro area's broad money stock (M3) increased by €7,604 million, or 7.3 per cent, in the first quarter

Table 9. Monetary Aggregates: Annual Rates of Change (%)

	Residential mortgages ^a	Private-sector credit		Irish contribution to euro area M3 ^c
		Unadjusted	Adjusted ^b	
1999 December	25.6	33.5	n.a.	n.a.
2000 January	25.7	32.6	28.8	20.0 ^e
February	26.0	34.8	32.7	19.2 ^e
March	25.5	34.7	33.1	18.7 ^e
April	25.4	28.6	25.4	14.3 ^e
May	25.3	26.4	23.9	13.7 ^e
June	25.4	25.7	24.3	18.0 ^e
July	25.2	25.3	21.9	18.5 ^e
August	25.2	28.9	26.4	18.5 ^e
September	25.4	26.6	23.7	16.0 ^e
October	25.2	26.1	24.2	15.7 ^e
November	25.0	22.8	22.2	16.7 ^e
December	24.3	20.6	21.3	14.7 ^e
2001 January	24.1	20.1	20.9	16.2 ^e
February	22.9	17.9	18.2	14.6 ^e
March	22.3	14.9	15.8	16.9 ^e
April	21.5	16.7	19.2	15.3 ^e

^a This series is adjusted for securitisations. (See Table A2 in the Statistical Appendix.)

^b Adjusted for transactions between credit institutions and non-MFI IFSC companies and valuation effects arising from exchange-rate movements.

^c After the start of monetary union, it only became possible to produce an annual growth rate calculated on a consistent basis from January 2000.

of 2001.² Ireland's contribution (which was around €112 billion at end-March) accounts for about 2 per cent of the euro area total.³ The annual rate of growth rose to 16.9 per cent in March, compared with 14.7 per cent at the end of last year. This growth rate, which has fluctuated around an average of 15.8 per cent since last September, eased to 15.3 per cent in April (see Table 9).

Non-Government deposits increased by €2.5 billion in the first quarter. This increase was entirely denominated in euro and was predominantly with respect to residents of other monetary union members. The increase in deposits of other monetary union member residents with credit institutions in Ireland in the first quarter reflected a very large increase in January, largely resulting from the reversal of end-year cash management activities of depositors with a small number of IFSC banks. The main contributor to the increase in Ireland's contribution to euro area M3 in the first quarter was debt securities, which are mainly held by non-residents of Ireland and are issued principally by IFSC banks.

Ireland's contribution to euro area M3 was relatively weak in April, increasing by €791 million compared with an increase of over €2 billion in the same month last year. Non-Government deposits rose by €880 million in April but issues of debt securities up to two years maturity fell by €62 million.

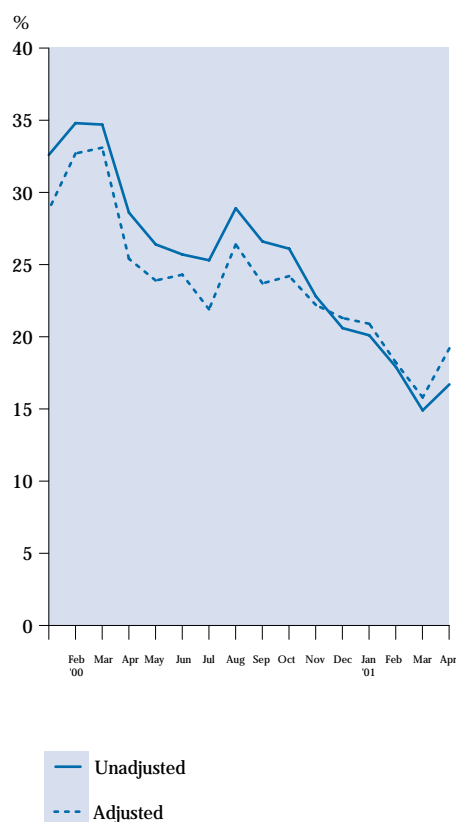
² The discussion of Ireland's contribution to euro area M3 excludes money market fund (MMF) shares and units. See Table A3 in the Statistical Appendix for further details.

³ This share increased from 1.7 per cent at the start of monetary union to 2.1 per cent at end-April 2001.

Chart 4

Changes in Private-Sector Credit

Year-to-year change



Private-Sector Credit

Lending by credit institutions resident in Ireland to non-Government Irish residents (private-sector credit) rose by €4,327 million in the first three months of this year. This represents an increase of 3.9 per cent, which compares with a 9.1 per cent advance in the first quarter of 2000. This discrepancy is partly accounted for by two items which tend to be erratic: lending to non-bank IFSC entities and funds advanced under repurchase agreements (repos). In addition to these factors, an exceptional item boosted private-sector credit in the first three months of last year. The restructuring of a credit institution's inter-company funding resulted in an increase of almost €1,500 million in lending to non-bank affiliates. Adjusting for all of these items, credit growth was still slower in the first quarter of 2001 than in the same quarter last year. The annual rate of credit growth, adjusted for IFSC lending and valuation effects arising from exchange rate changes, fell to 15.8 per cent in March, the slowest adjusted rate of growth since February 1997.

The annual adjusted rate of credit growth rose to 19.2 per cent in April, the first acceleration for six months. This was largely accounted for by an exceptional item during the month which was of the same nature and magnitude as the exceptional item in March of last year, referred to above. Excluding this item, the adjusted growth rate would have been 17.4 per cent in April. In the first four months of the year, the average annual adjusted growth rate for private-sector credit was 18.5 per cent, which compares with an average of 24.6 per cent for last year as a whole (excluding the impact of the Irish Life & Permanent merger which significantly increased the annual growth rate in the first three months of last year).

The amount of residential mortgage lending on the balance sheets of credit institutions in Ireland increased by €1,158 million or 3.9 per cent in the first quarter. Adding back securitised mortgages the increase was 3.3 per cent, the weakest quarterly increase since the first three months of 1997. The adjusted annual growth rate fell for seven consecutive months up to April 2001. The April rate of 21.5 per cent was the slowest adjusted annual rate since January 1999.

Sectoral Breakdown of Credit Growth

Looking at the sectoral distribution of advances, the slowdown of credit growth in the first quarter was evident across a number of sectors (see Table 10). The weakest sector in the first three months was manufacturing, with lending to this sector falling over the period. There were also signs of weakness in lending to the building and construction sectors. Credit to real estate activities grew at a slower rate in the first three months of the year than in the preceding quarter, and was substantially weaker

Table 10. Change in Credit Institutions' Non-Government Credit by Sector*

	End-March 2000/ End-March 2001			End-December 2000/ End-March 2001		
	€ million	% increase	% share of total increase	€ million	% increase	% share of total increase
Agriculture and forestry	79	2.5	0.5	87	2.8	2.0
Fishing	90	52.9	0.6	17	7.0	0.4
Mining and quarrying	31	10.8	0.2	-31	-8.9	-0.7
Manufacturing	653	13.9	4.4	-386	-6.7	-8.9
Electricity, gas and water supply	313	93.7	2.1	85	15.1	1.9
Construction	1,073	38.6	7.2	223	6.1	5.1
Wholesale/retail trade and repairs	411	10.4	2.8	27	0.6	0.6
Hotels and restaurants	555	15.2	3.7	109	2.7	2.5
Transport, storage and communications	217	12.6	1.5	132	7.3	3.0
Financial intermediation	1,739	5.0	11.7	1,288	3.6	29.5
Real estate and business activities	3,012	35.2	20.3	1,026	9.7	23.5
<i>of which:</i>						
– Real estate activities	1,658	26.0	11.2	345	4.5	7.9
Education	13	9.0	0.1	-28	-15.1	-0.6
Health and social work	68	23.4	0.5	9	2.6	0.2
Other community, social and personal services	66	6.4	0.4	41	3.9	0.9
Personal:	6,506	18.9	43.9	1,761	4.5	40.4
– House mortgage finance	5,034	19.8	33.9	1,157	3.9	26.5
– Other housing finance	170	30.6	1.1	6	0.8	0.1
– Other	1,301	15.3	8.8	598	6.5	13.7
Total	14,828	14.8	100.0	4,361	3.9	100.0

* Data are unadjusted for IFSC lending and valuation effects.

than in the first quarter of last year. Advances to the construction sector were stronger than in the previous quarter but considerably weaker than in the first three months of 2000. Having been rather weak last year, lending to the 'Hotels and restaurants' sector was broadly stable in the first quarter. The increase in lending to the financial sector in the first quarter was considerably less than in the same period last year, reflecting the exceptional item in last year's figures, referred to above, and trends in lending to IFSC entities. Lending to the personal sector accounted for about 40 per cent of the increase in private-sector credit in the first three months of the year. The rate of growth in lending to this sector slowed, however, compared both with the preceding quarter and with the first quarter of 2000.

In the year to end-March, lending to the building and construction sector recorded relatively fast rates of growth; however, in the case of lending to both the construction sector and to real estate activities, the annual growth rate slowed significantly compared with last year. Lending to the personal sector accounted for a large share (44 per cent) of the increase in non-Government credit in this period but the annual growth rate in lending to this sector also decelerated.

Financial Markets

Euro area financial market developments are discussed in more detail in the 'Euro Area and International Economy' chapter of this bulletin. On 10 May, the ECB announced reductions in its key interest rates by 0.25 of a percentage point. This move

Chart 5

Selected Interest Rates

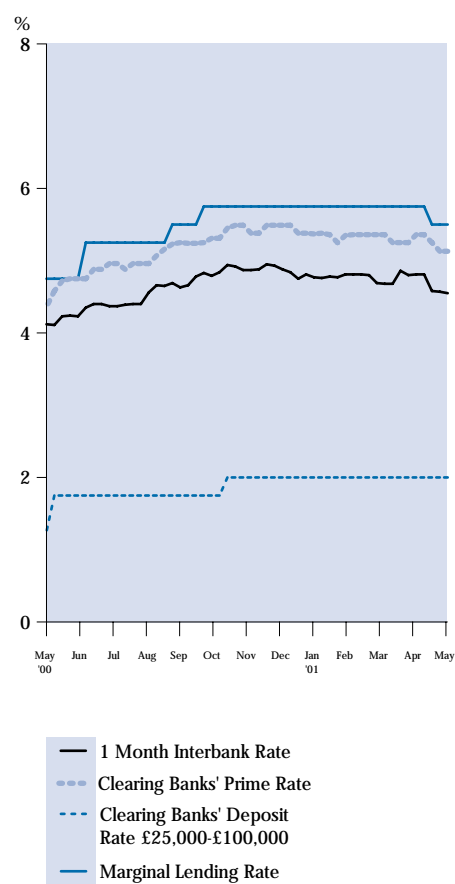


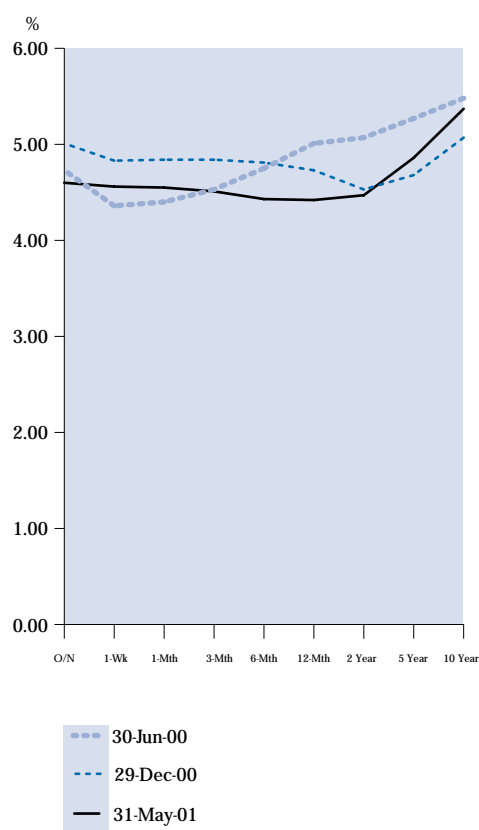
Table 11. Euro Area Retail Bank Interest Rates (Provisional)

Monthly Average, %

	Deposit interest rates	Lending interest rates			
		To enterprise		To households	
	Overnight	Up to 1 year	Over 1 year	Consumer lending	For house purchase
1999 December	0.67	5.81	5.51	9.38	5.80
2000 June	0.83	6.56	6.23	9.84	6.34
July	0.87	6.77	6.37	9.95	6.46
August	0.89	6.81	6.44	10.00	6.51
September	0.94	6.92	6.44	10.03	6.56
October	0.97	7.14	6.60	10.15	6.57
November	0.99	7.17	6.63	10.20	6.56
December	1.01	7.18	6.45	10.19	6.43
2001 January	1.01	7.18	6.40	10.32	6.29
February	1.01	7.10	6.45	10.26	6.24
March	1.02	7.04	6.31	10.22	6.17

Source: ECB Monthly Bulletin. Rates are calculated as the weighted average of national rates. These rates should be used with caution as they are not harmonised across euro area countries.

Chart 6

Irish Yield Curve

brought the minimum bid rate for the main refinancing facility to 4.5 per cent, while also reducing rates on the marginal lending facility and the deposit facility to 5.5 per cent and 3.5 per cent respectively. The ECB attributed these reductions to somewhat lower inflationary pressure expected to prevail over the medium term. Short-term market interest rates in the euro area remained close to the minimum bid rate for the main refinancing facility for most of the first five months of the year, except for a period in late-March/early-April when the markets prematurely anticipated a reduction in official interest rates. The euro generally weakened in the first five months of the year, reversing most of the gains experienced in the final months of 2000. The euro fell by 9.5 per cent against the US dollar from end-December to end-May and fell by 4.7 per cent against sterling in the same period. The notional value of the Irish pound against sterling peaked at around stg£0.81 in the first quarter but by end-May it had fallen to stg£0.76.

Following the reduction in ECB rates, retail lending rates were reduced by credit institutions in Ireland. The standard variable mortgage rate for all mortgage lending institutions averaged 5.76 per cent at the end of May, compared with 5.99 per cent at the end of last year. The clearing banks' prime rate, on which the cost of borrowing for many commercial borrowers is based, averaged 5.16 per cent at end-May down from 5.53 per cent at the end of last year.

Bond Yields

Irish Government bond yields moved in line with international trends in the first five months of 2001 (see Table 12). Having been relatively steady at the start of the year, they eased modestly in March but firmed thereafter. The five-year yield rose

Table 12. Irish Government Bond Yields and Differentials

End-month	5-year bond yield %	Differentials against:			10-year bond yield %	Differentials against:		
		Germany	UK	US		Germany	UK	US
1999 December	5.12	0.34	-1.18	-1.20	5.60	0.25	0.10	-0.77
2000 June	5.27	0.23	-0.34	-0.92	5.48	0.28	0.31	-0.52
July	5.36	0.21	-0.35	-0.81	5.46	0.26	0.23	-0.59
August	5.45	0.20	-0.31	-0.60	5.58	0.27	0.24	-0.23
September	5.28	0.22	-0.35	-0.56	5.46	0.23	0.24	-0.32
October	5.26	0.18	-0.31	-0.55	5.48	0.24	0.32	-0.26
November	5.08	0.23	-0.21	-0.37	5.24	0.21	0.33	-0.27
December	4.68	0.16	-0.49	-0.33	5.07	0.22	0.18	-0.03
2001 January	4.67	0.18	-0.42	-0.20	5.02	0.22	0.17	-0.17
February	4.64	0.05	-0.44	-0.07	4.98	0.22	0.09	0.04
March	4.55	0.17	-0.38	-0.12	4.95	0.22	0.07	-0.06
April	4.92	0.17	-0.33	0.02	5.27	0.23	0.15	-0.07
May	4.86	0.13	-0.51	-0.09	5.37	0.20	0.13	-0.05

Note: (–) denotes Irish yields are lower than foreign yields.

from around 4.7 per cent at the end of last year to close to 4.9 per cent at end-May, while the ten-year yield firmed from a little over 5 per cent to around 5.4 per cent in the same period. The differential between Irish and German five-year yields fluctuated around a level of 0.15 of a percentage point for most of the first five months of the year, although it contracted somewhat from late February to mid-March. The ten-year differential, which has generally been steady at around 0.25 of a percentage point since the start of monetary union, averaged 0.22 per cent from January to end-May. Irish ten-year bond yields were slightly below the euro area average from end-December to end-May.

The fall in short-term interest rates in the first five months of the year, allied to the modest firming of bond yields, led to a slight steepening of the yield curve in the period from end-December to end-May. By end-May, the yield curve was broadly flat out to two years and upward sloping thereafter.

Financial Institutions

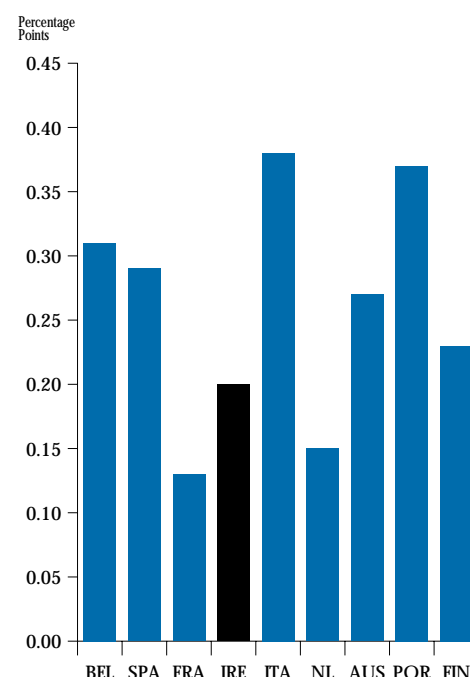
The business of TSB Bank was transferred to Irish Life & Permanent plc on 20 April 2001. The licence of TSB Bank was revoked, at the request of the licence holder, on 31 May 2001. The acquisition of ICC Bank plc and ICC Investment Bank Limited by Bank of Scotland (Ireland) Limited was completed on 15 February 2001.

Monetary Policy Implementation by the Central Bank of Ireland

By end-May 2001, 40 institutions (including some in the IFSC) had met the general eligibility requirements to act as a counterparty for the monetary policy operations conducted by the Bank on behalf of the Eurosystem. In the first five months of this year, 21 of these institutions took part in main refinancing

Chart 7

**Ten-year Yield Differentials
vis-à-vis Germany
end-May 2001**



operations and 10 in longer-term refinancing operations. Lending by the Bank to credit institutions in the euro area amounted to €9.1 billion at the end of the first quarter, compared with €8.4 billion three months earlier. A little over half of the lending at end-March was under longer-term refinancing operations (LTROs). The latter fell by €297 million over the quarter while lending under main refinancing operations (MROs) increased by €935 million. Lending by the Bank increased by just over €2 billion in April to €11.1 billion, all of which was accounted for by an increase in lending under LTROs. The interest rates charged by the Bank on borrowings and paid on deposits are those determined by the Governing Council of the ECB for the whole Eurosystem. Following the changes announced on 10 May 2001, the deposit facility rate was reduced to 3.5 per cent, the minimum bid rate for the main refinancing facility was 4.5 per cent and the marginal lending facility rate was 5.5 per cent.

All 86 credit institutions operating in Ireland, whether under Irish law or on a branch basis, are subject to the minimum reserve requirements of the Eurosystem. The minimum reserve requirement is 2 per cent of specified liabilities and compliance is determined on the basis of average daily reserve holdings over a one-month 'maintenance period'. In the maintenance period from April 24 to May 23, institutions held balances in their minimum reserve accounts with the Bank, which were, on average, €25.2 million more than required. The Bank is responsible for monitoring compliance of credit institutions in Ireland with the minimum reserve system. In the first three maintenance periods of 2001, the Bank imposed sanctions for a breach of minimum reserve obligations on 7 occasions, with the sanction based on the extent of the shortfall.

The Bank participates in the Correspondent Central Banking Model (CCBM), which facilitates the use of eligible assets in euro area monetary policy operations on a cross-border basis. This enables, for example, a counterparty in Ireland to use eligible assets deposited in another monetary union member country as collateral to obtain liquidity from the Central Bank of Ireland. At end-May, 17 of the Bank's counterparties (including IFSC banks) were using the CCBM and collateral with a nominal value of €9.7 billion was held for refinancing purposes in custody accounts with other euro area national central banks on behalf of the Bank. The securities involved were mainly located in Germany, Italy, France, Luxembourg, Belgium and Spain. This compares with €1 billion of domestic collateral for refinancing purposes.

The Irish real-time gross settlement (RTGS) system is linked to those of the other euro area countries through a system called TARGET (Trans-European Automated Real-Time Gross Settlement Express Transfer). This enables large value payments to be settled with the same certainty and timing throughout the euro area,

helping to maintain the integration of the euro area money market and contributing to the smooth implementation of the single monetary policy. In the first quarter of this year, the Irish RTGS system averaged 914 cross-border payments per day with total payments of, on average, just under €6 billion per day. There was an average of 1,013 domestic payments per day in the same period with an average value of €9.3 billion per day. In the three months to end-March, Ireland accounted for around 1.2 per cent of TARGET cross-border payments by value and around 2.1 per cent by number of transactions.

Domestic Prices, Costs and Competitiveness

Overview

The Irish rate of inflation, as measured by the Harmonised Index of Consumer Prices (HICP) rose sharply during the course of last year reaching a peak of 6 per cent in October and November. The average for the year, at 5.3 per cent, was the highest in the euro area. Much of the increase in inflation last year was due to a number of essentially temporary factors including higher energy and unprocessed food prices, the decline in the external value of the euro and higher excise duty on tobacco. In addition, there was a significant increase in underlying inflation reflecting the strength of domestic demand and tight labour market conditions. The rate of increase in the Consumer Price Index (CPI) was further boosted by higher mortgage interest rates. These are included in the CPI but not in the HICP.

The decline in headline inflation in the first quarter of this year is largely accounted for by the fact that some of the temporary factors that boosted the headline rate for most of last year are now having a neutral or negative impact on the index. One exception is unprocessed food prices; these increased sharply in the first quarter mainly because of disruption related to foot-and-mouth disease (FMD). A deceleration in the rate of unprocessed food price inflation combined with an increasing negative contribution from energy prices should result in a gradual decline in the headline rate of HICP inflation in the second half of the year. However, underlying inflationary pressures are not likely to abate given the outlook for wage inflation and domestic demand.

Wage inflation in Ireland at about 7½ per cent was much higher than in our main trading partners last year. Despite this, there was a small gain in cost competitiveness because of an offsetting decline in the value of the euro and higher productivity increases. Taking account of the technical assumption of unchanged exchange rates, higher productivity growth should be just sufficient to offset the likely further acceleration in wage inflation to about 9¾ per cent this year.

On balance, HICP inflation is projected to average 3¾ per cent in 2001. The average increase in the CPI is forecast to be one per cent higher at 4¾ per cent because of the effect of higher mortgage interest payments. This outlook reflects the technical assumptions of unchanged interest rates and exchange rates and an average oil price of \$26.5 per barrel for Brent crude. With external inflationary pressures likely to be somewhat easier and allowing for no further deterioration in domestic inflationary

pressures, HICP inflation is forecast to average about $3\frac{1}{4}$ per cent next year. The average increase in the CPI is likely to be about $\frac{1}{2}$ per cent higher at about $3\frac{3}{4}$ per cent.

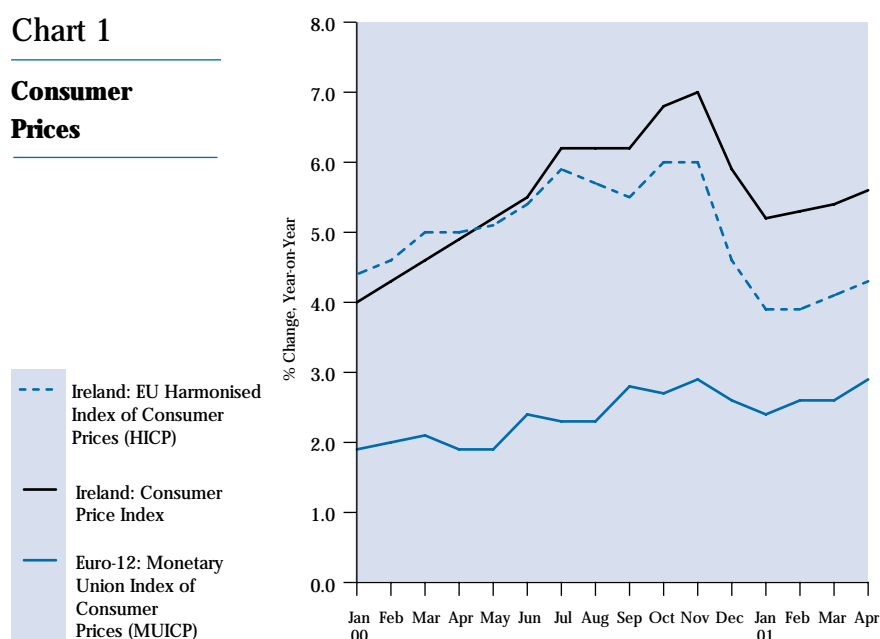
Consumer Prices

The rate of consumer price inflation, as measured by the year-on-year increase in the Harmonised Index of Consumer Prices (HICP), averaged 4 per cent in the first quarter, down from 5.5 per cent in the previous quarter and 4.7 per cent in the first quarter of 2000. The decline in the rate of inflation in the first quarter is mainly accounted for by base effects as previous increases in energy prices and tobacco excise duties dropped out of the year-on-year comparison. In addition, goods price inflation was weaker due to reductions in VAT and excise duty introduced in the Budget.

The HICP increased at a monthly rate of 0.8 per cent in April. As a result, the year-on-year rate increased to 4.3 per cent. The largest contribution to the rise in the index in April came from food prices and in particular unprocessed food prices which were 12.6 per cent higher, year-on-year in April. The sharp rise in unprocessed food prices since the beginning of this year is partly a result of restrictions imposed in order to prevent an outbreak of FMD other than that which occurred in County Louth.

Chart 1

Consumer Prices



Although the worst effects of the foot and mouth crisis appear to have passed, unprocessed food prices are likely to remain strong at least until mid-year. This factor, together with an increase in energy prices should keep HICP inflation above 4 per cent until mid-year. However, it is expected to decline slightly to

an average of about 3½ per cent in the second half of the year. Underlying this forecast is a gradual decline in energy prices in line with trends in oil futures. In addition, given the fixed exchange rate assumption, a lower rate of increase in traded goods prices is likely as the effect of previous exchange rate weakness begins to drop out of the year-on-year comparison.

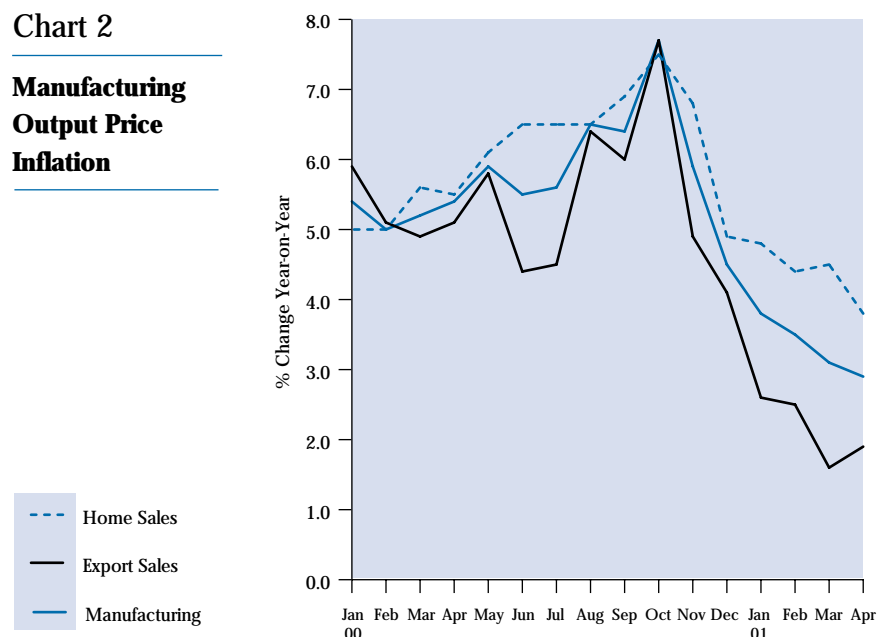
The rate of increase in the CPI also declined in the first quarter to an average of 5.3 per cent, year-on-year, from 6.6 per cent in the previous quarter. The gap between the current rates of increase in the CPI and the HICP is mainly accounted for by mortgage interest rates. These are included in the CPI but not in the HICP.

Producer prices

Industrial and agricultural producer price indices reflect price trends at the factory and farm gate level respectively. They provide potentially useful information regarding future price developments at the retail level. Both indices recorded strong increases last year but their trends have diverged somewhat in the early months of 2001. In the first quarter, manufacturing output prices declined on average while the year-on-year rise in the Agricultural Output Price Index (AOP) has accelerated.

Chart 2

Manufacturing Output Price Inflation



The Manufacturing Output Price Index (OPI) declined by 0.7 per cent in the first quarter following an increase of 1.1 per cent in the previous quarter. On a year-on-year basis, the rate of increase eased from 6 per cent to 3.5 per cent over the same period. The decline in manufacturing output prices reflected weaker export prices due to the relative strength of the euro at the beginning of the year. The export sales sub-index of the OPI declined by 1.5 per cent on average during the quarter. The price of goods

sold on the home market continued to increase (up 0.2 per cent quarter-on-quarter), albeit at a slower pace than in the latter half of 2000.

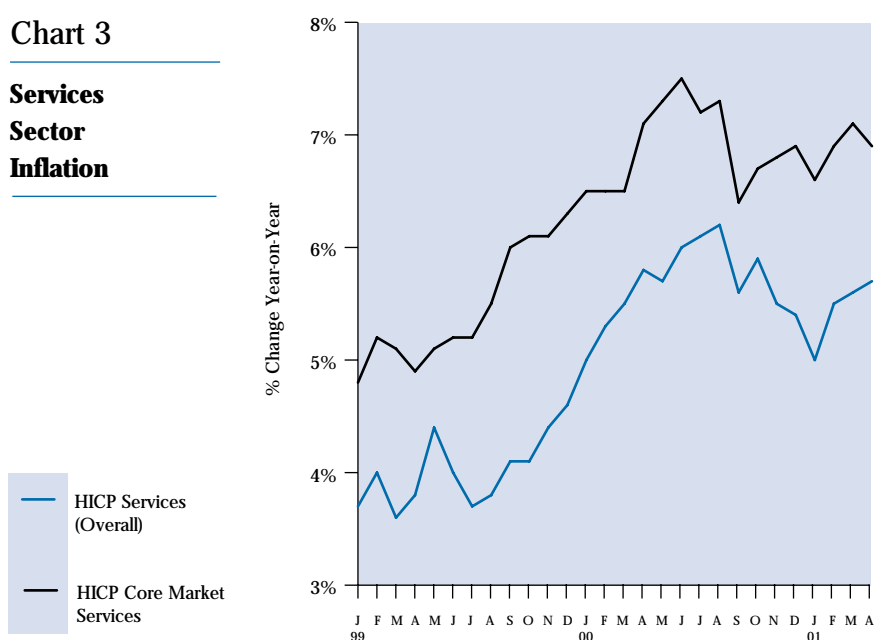
The AOP increased at an average rate of 6.7 per cent last year compared with a decline of 4.2 per cent, on average, in 1999. In the first quarter of this year, the annual rate of increase in the index accelerated to 8.9 per cent. The largest price increases during the first quarter were for sheep and pigs, which were up by 28.6 per cent and 34.9 per cent, year-on-year, respectively. Over the same period, milk prices increased by 5.7 cent, year-on-year, while crop products increased in price by an average of 18 per cent, year-on-year.

Services Prices

High services sector inflation has accounted for much of the increase in overall consumer price inflation in recent years. The higher rate of services sector inflation reflects a combination of strong domestic demand and accelerating wage pressures. Core market services sector inflation (excluding administered services, which are subject to government control, alcohol and telecommunications) has accelerated from an average of 4.2 per cent in 1998 to an average of 6.9 per cent in 2000.

Chart 3

Services Sector Inflation



Note: Core Market Services equals HICP services excluding telecommunications, alcohol and administered services.

Overall HICP services sector inflation has been somewhat lower than this due to the decline in telecommunications prices (see box below). In addition, methodological changes and price restrictions on administered services and alcohol sold in pubs resulted in some fall back in overall services inflation in the second half of last year. In recent months, however, price controls have been lifted and the upward drift in services sector inflation has resumed.

Reflecting the outlook for wage inflation and domestic demand, it is likely that inflation in the services sector will continue to increase for the remainder of this year.

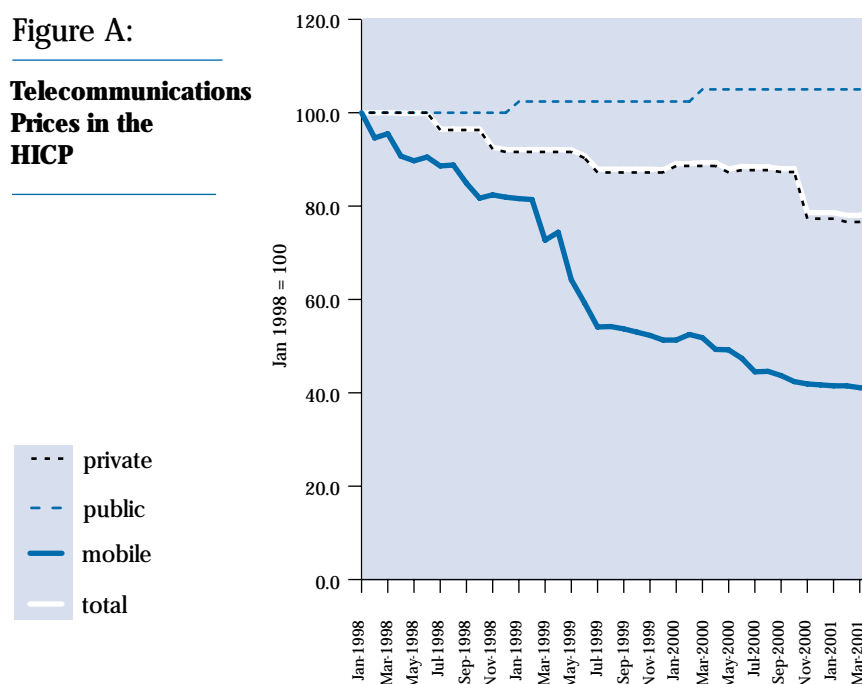
Box 1: Price Effects of Regulatory Reforms in Network Industries in Ireland

The acceleration in headline inflation during 2000 focused attention on the incomplete level of competition in the provision of some goods and services in Ireland. Particularly in the non-traded sector of the economy, anti-competitive practices such as barriers to entry are common, resulting in high prices and low output.¹ In recent years, however, there have been some moves to strengthen competition in previously sheltered sectors. Perhaps the most visible example is that of network industries. These are industries, which depend on a network infrastructure for the distribution of goods and services. As the network infrastructure has natural monopoly characteristics – it does not make sense to construct competing networks – the aim of reforms in these industries is to enhance competition and efficiency in those parts of the industry, which are not natural monopolies, and to ensure non-discriminatory access to the network for all suppliers.

In Ireland, most progress has been made in the telecommunications market, where the market has been fully opened to competition. In addition, competition has been introduced in around 30 per cent of the electricity market, with large users² of electricity free to choose their supplier. It is intended that the electricity market will be fully opened to competition by around 2005.

Figure A:

**Telecommunications
Prices in the
HICP**



From a monetary policy perspective, the introduction of competition results in lower inflation during the transition period to full competition, and a permanently lower price level thereafter, as the pricing power of individual suppliers is reduced. In terms of price developments, initial conclusions can be drawn in relation to telecommunications prices. In the case of electricity, however, partial market liberalisation has had no impact on consumer prices, as residential consumers are not yet in a position to choose supplier.

1 Some examples are contained in the OECD report *Regulatory Reform in Ireland*, 24 April 2001.

2 Those who consume more than 4GWh of electricity per annum, and are known as eligible customers.

The evolution of telecommunications prices in the HICP is shown in figure A. While some of the price reductions may be attributable to increased innovation in this sector, it is undoubtedly the case that increased competition is having a positive impact on Irish telecommunications prices. In overall terms, prices fell by just over 20 per cent between January 1998 and April of this year. Not surprisingly, the largest reductions have been in the mobile market, where competition is strong. There have also been some price declines in the private fixed-line segment, although the overall decline in price has been much lower than in the mobile market. The overall direct effect of these developments has been to reduce the HICP by 0.1 per cent per annum since 1998. *Ceteris paribus* direct price reductions are likely to be accompanied by secondary price effects, through, for example, lower input costs for firms. Other potential secondary price effects include a moderation in wage demands, reflecting real disposable income gains in the household sector resulting from the reductions in utility costs.

Pay

Available sectoral indicators are consistent with the view that the tightening labour market is having an upward impact on wages. In the business and distribution services sector, which includes retail, wholesale, transport, etc., provisional data show that weekly earnings rose by 8.4 per cent last year. Furthermore a noticeable upward trend in the rate of increase was in evidence throughout the year – the year-on-year rate of increase accelerated from 7.2 per cent in the first quarter to 9.5 per cent in the final quarter of last year. In the building and construction sector, where shortages of labour are particularly acute, hourly earnings for all operatives were 12.7 per cent higher last year. Furthermore, the annual rate of increase for unskilled workers exceeded that for skilled workers in each quarter over this period, providing evidence of the generalised nature of labour shortages in this sector.

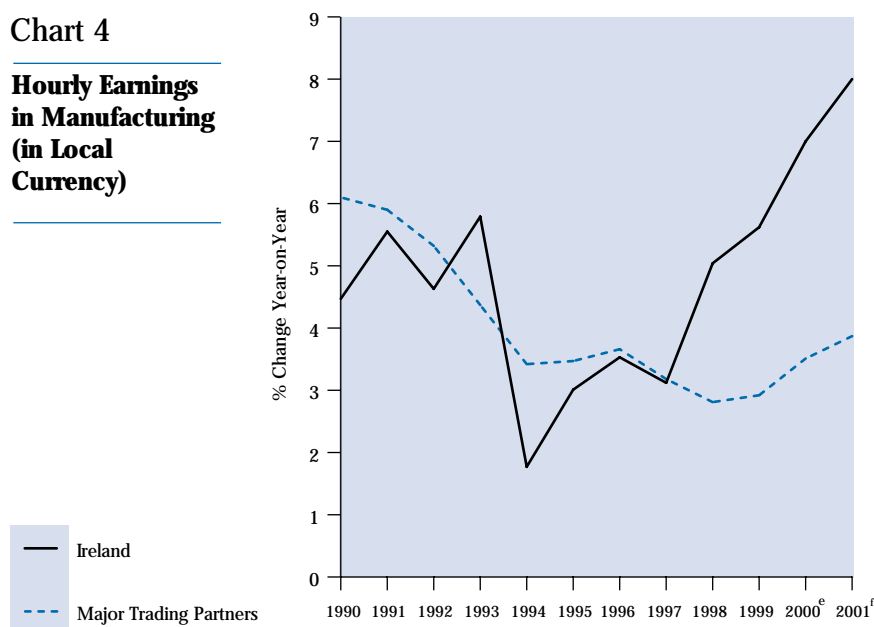
In the manufacturing sector, weekly earnings of all employees (i.e. industrial, clerical and managerial) in the first three quarters of 2000 were 7.9 per cent higher, year-on-year. Elsewhere, the rates of increase in the sectoral indicators have not been as strong. In the financial sector, which includes those employed in banking, insurance and building societies, weekly earnings in the year to end-September 2000 were 4.7 per cent higher than in the same period a year earlier. In the third quarter, however, the rate of increase was 8.1 per cent, considerably higher than the 1.7 per cent rate of increase recorded in the first quarter. In the public sector, weekly earnings in the first half of the year were 4 per cent higher, year-on-year.

The first phase of the *Programme for Prosperity and Fairness* (PPF) – the fifth successive national wage agreement since 1988 – was implemented last year. The pay terms of this allowed for an increase of 5½ per cent in the private sector from the beginning of April. The same rate of increase was applicable in the public sector at the beginning of October. In addition, some public

servants received a further increase of 3 per cent for having settled early under previous agreements. Taking all of these developments into account, it is estimated that average earnings per capita rose by around $7\frac{1}{2}$ per cent last year. With non-agricultural employment rising by $5\frac{3}{4}$ per cent, it is estimated that the non-agricultural wage bill increased by about $13\frac{1}{2}$ per cent in 2000.

Chart 4

**Hourly Earnings
in Manufacturing
(in Local
Currency)**



Looking towards this year, there is little prospect of any significant easing of existing tight labour market conditions, given the likely strength of labour demand together with the expected moderation in labour force growth. However, as outlined earlier, if difficulties in the US economy and/or the broad IT sector become deeper or more prolonged, then conditions in the labour market could ease somewhat during the second half of the year. At this stage, however, it is assumed that employers will continue to experience difficulties in attracting and retaining staff so that the shift in bargaining power towards employees that has occurred in recent years is unlikely to be reversed to any significant degree. As a result, further upward pressure on wage demands is forecast. In addition, the original terms of the PPF allow for a wage increase of $5\frac{1}{2}$ per cent, again from April in the private sector and at the beginning of October in the public sector. However, a further 2 per cent increase is payable from April this year, in order to compensate workers for the erosion of real incomes following the acceleration in headline inflation during last year. As has been the case in recent years, there is likely to be some drift from these terms, particularly in the private sector where the proportion of workers formally covered by the agreement is small. In overall terms, therefore, the outlook is for a higher rate of wage increase this year than in 2000, with

earnings per capita in the non-agricultural sector forecast to rise by about $9\frac{3}{4}$ per cent. Employment in this sector is forecast to expand by $3\frac{3}{4}$ per cent, so that the non-agricultural pay bill is expected to rise by around $13\frac{3}{4}$ per cent this year.

Competitiveness

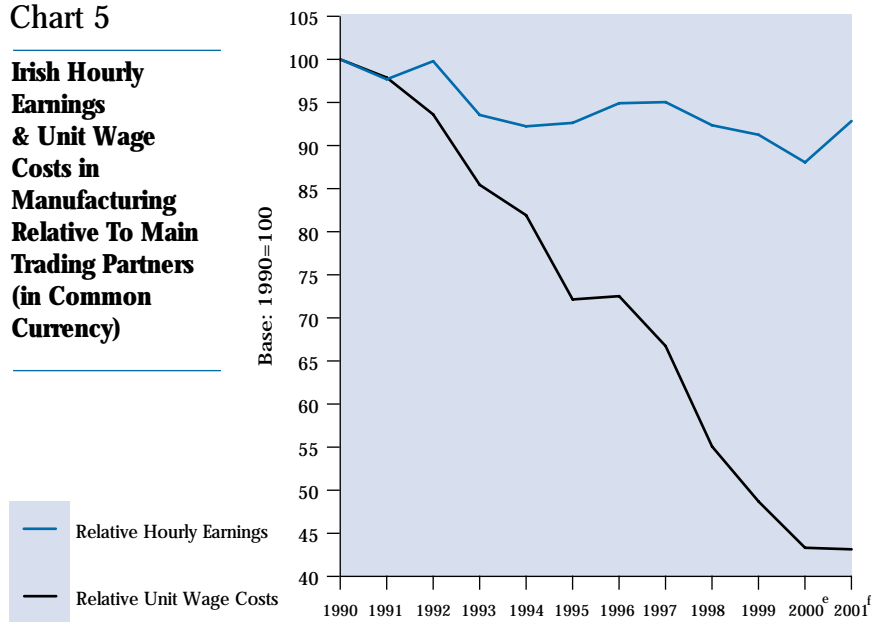
Measuring the competitiveness of an economy is complicated by the large number of variables, which have an impact on an economy's ability to trade. Variables as diverse as telecommunications costs, the standard of education and the level of red tape all have important implications for the competitiveness of enterprises based in a particular economy. Furthermore, many of these variables are non-quantifiable in nature. As a result, the analysis in this section is confined to developments in relation to the exchange rate and wage costs in manufacturing, this being the sector in which the most complete data are available and which is very exposed to international trade. It is estimated that earnings in the Irish manufacturing sector rose more rapidly than in our major trading partners last year. However, the decline in the value of the euro against sterling and the dollar during the course of 2000 more than offset this, so that, in common currency terms, a small improvement in the competitiveness of the Irish manufacturing sector was recorded. Furthermore, productivity growth in Ireland was significantly higher than in our major trading partners, resulting in a decline in unit wage costs in common currency terms and a corresponding improvement in competitiveness. Viewed in overall terms, however, this can result in a somewhat misleading picture. The strong productivity gains of recent years are largely attributable to large inflows of foreign direct investment in high-technology sectors such as chemicals and computing equipment. In other sectors, particularly those in the Irish-owned manufacturing sector, productivity gains have been significantly lower.

The outlook for this year is for a further deterioration in relative wage trends in national currency terms. On the technical assumption of unchanged exchange rates, the current value of the euro against sterling and the dollar will partly offset these adverse wage developments. When assumed productivity gains are taken into account, the resulting unit wage costs are forecast to remain largely unchanged this year. This relatively benign scenario, however, is not without considerable risk. For instance, given relatively subdued productivity growth, the indigenous manufacturing sectors remain exposed to developments in the euro/sterling exchange rate. In addition, given the current tight labour market, there is a risk that wage expectations become too optimistic. The apparent deterioration in the industrial relations climate in recent months suggests that this may already be happening. A particularly difficult trading situation could emerge in the event of a sudden sharp appreciation of the euro occurring

in tandem with overly excessive wage increases. The effect of this would be to lower output growth with consequent adverse implications for employment.

Chart 5

Irish Hourly Earnings & Unit Wage Costs in Manufacturing Relative To Main Trading Partners (in Common Currency)



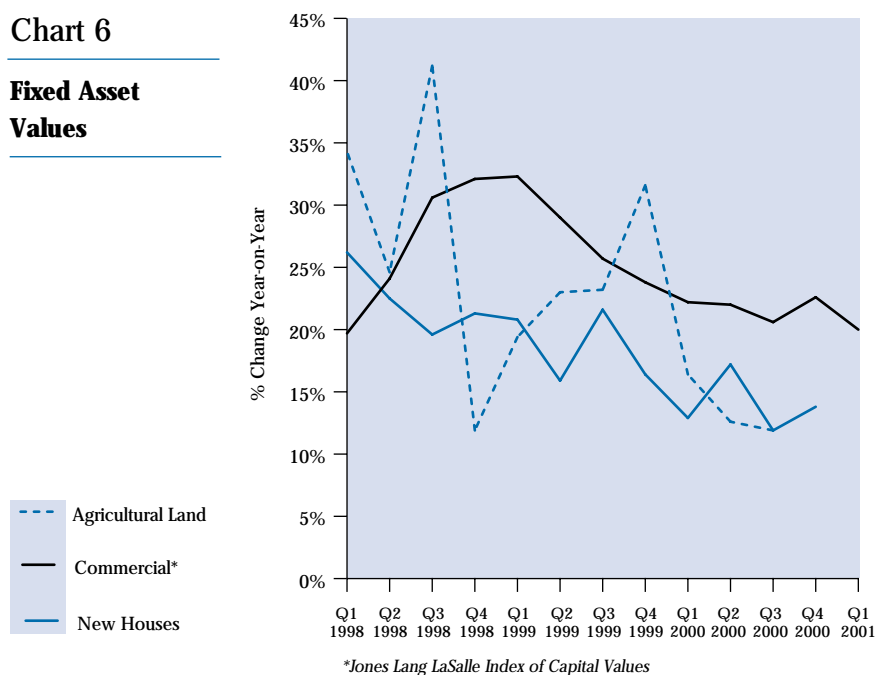
Asset Prices

Available evidence points to a slowdown in the rate of price inflation for fixed assets over the last year. The latest data show lower rates of increase in both capital and rental values in the commercial property market. Similarly in the housing market both official and anecdotal evidence confirm that the rate of increase in prices has decelerated over the last year. In both the commercial and housing market, however, rates of price inflation remain in excess of both wage and consumer price inflation. Irish equity prices have risen strongly in recent months following a decline in prices at the end of the first quarter.

The latest Department of Environment and Local Government (DoE) data on house prices relate to the last quarter of 2000. According to the DoE statistics, average new house prices nationally increased by 13.8 per cent, year-on-year, during the final quarter of 2000, compared with 16.4 per cent in the same period in 1999. In the second-hand house market, average prices are reported to have risen by 14 per cent, year-on-year, in the fourth quarter of 2000, compared with an increase of 17.9 per cent in the same period in the previous year.

Agricultural land prices increased by 11.9 per cent, year-on-year, in the third quarter of last year, down from 12.6 per cent, year-on-year, in the previous quarter and 23.2 per cent in the same period last year. These data, should be interpreted with some caution, however, since agricultural land sales account for a very small proportion (0.2 per cent) of the total area farmed nationally and the quality and location of land sold can vary considerably.

Chart 6

**Fixed Asset
Values**

First quarter data point to a modest slowdown in the rate of increase in capital values but acceleration in rents in the commercial property market. Rates of increase in both capital values and rents remain very high by historical standards and compared to international trends. Overall, the rate of increase in capital values slowed to about 20 per cent, year-on-year, from 22.6 per cent in the previous quarter and 22.2 per cent in the same period last year.

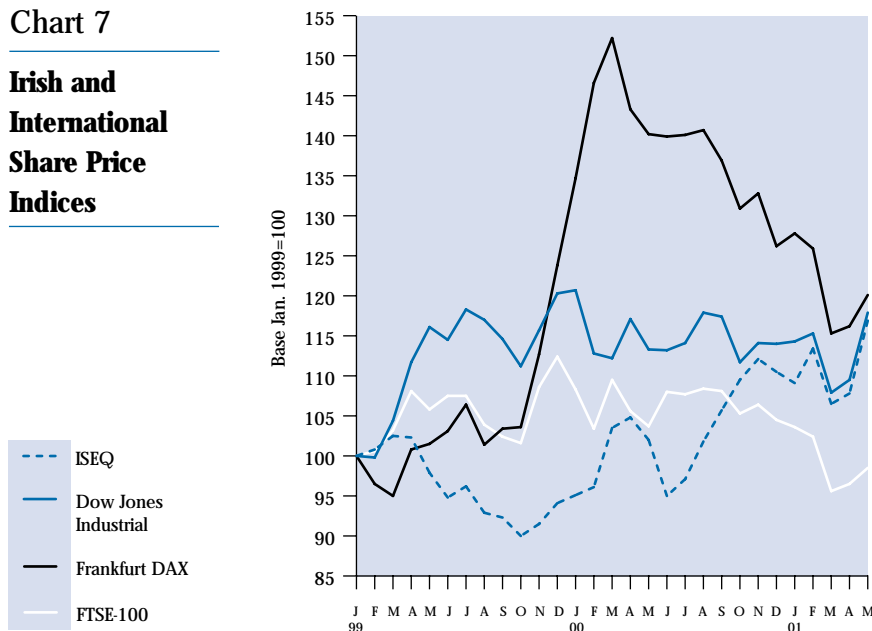
In the office sector, the Jones Lang LaSalle (JLL) index of capital values and rents increased at year-on-year rates of 21.3 per cent and 24.5 per cent, respectively, in the first quarter of this year. This compares with an annual rate of increase in capital values of 26.9 per cent and an increase in rents of 19.8 per cent, year-on-year, in the same period in 2000. In the retail sector, the JLL index of capital values increased by 19.8 per cent, year-on-year, in the first quarter, up from a rate of 16.2 per cent in first quarter of last year. Over the same period, the year-on-year rate of increase in retail rents increased strongly from 9 per cent to 18.3 per cent. In the industrial sector, the JLL index of capital values increased by 13.2 per cent in the year to March 2001 compared with 14 per cent a year earlier. Over this period, the year-on-year rate of increase in industrial rents has accelerated from 4.9 per cent to 16.5 per cent.

Turning to financial assets, the Irish Stock Exchange Index (ISEQ) declined sharply at the end of the first quarter in line with trends internationally. However, the subsequent rebound in the Irish market has been very sharp compared to most international markets. In May, the average value of the ISEQ was 14.6 per

cent higher on a year-on-year basis. Over the same period, the Frankfurt DAX (Germany) declined by 14.3 per cent, the FTSE (UK) was 5 per cent lower and the Dow Jones Index (USA) was 4.1 per cent higher. Over a three-year horizon (since May 1998) the ISEQ has out-performed the FTSE significantly and is broadly in line with the Frankfurt Dax Index but has under-performed relative to the Dow Jones Index.

Chart 7

Irish and International Share Price Indices



In general, Irish bond yields moved in line with those in Germany over the last year. Ten-year differentials with respect to Germany averaged 0.25 percentage points in the year to end-May 2001. A more detailed analysis of the bond market is contained in the euro area chapter.

Summary

Headline inflation as measured by the HICP is forecast to decline from an average of 5.3 per cent in 2000 to $3\frac{3}{4}$ per cent this year. This lower inflation outlook mainly reflects the fact that a number of extraneous factors, which boosted the increase in headline inflation last year, are likely to have a neutral or negative impact this year. By contrast strong domestic demand and high wage inflation will underpin a further increase in inflation in the non-traded sector this year. In 2002, weaker external inflationary pressures combined with a levelling off of domestically generated inflation should allow a modest reduction in HICP inflation to about $3\frac{1}{4}$ per cent.

An Timpeallacht Gheilleagrach

Tar éis seacht mbliana a raibh neart suaithinseach i ngeilleagar na hÉireann, is léir anois go bhfuil ag maolú air. Bhí an meánmhéadú bliantúil ar fhíor-Olltáirgeacht Náisiúnta (GNP) beagán thar 8 faoin gcéad sa tréimhse seacht mbliana, agus bhí méaduithe de 5 faoin gcéad sa bhliain ar fhostaíocht le linn na tréimhse céanna.

Cé gur léir níos mó de réir a chéile an brú atá ar acmhainní an gheilleagair, tá dhá chúinse sheachtracha ag cur leis an moilliú sa bhfás. Is iad seo cúinsí níos boige i ngeilleagar Stáit Aontaithe Mheiriceá agus iarmhairtí na rioscaí do shláinte ainmhithe a bhí ag bagairt ar earnáil na talmhaíochta. Tá roinnt áirithe tosca a rinne an tionchar diúltach a bhain leis an titim sna Stáit Aontaithe a laghdú. Sa chéad áit, is ceimicí agus cógaisí atá i gcomhréir mhór d'easpórtálacha na hÉireann chuig na Stáit Aontaithe agus is in earnáil theicneolaíocht an eolais is mó atá an titim i ngeilleagar na SA. Sa dara háit, is ar mhargadh an Aontais Eorpaigh is mó atá infheistíocht eachtrach dhíreach na SA in Éirinn dírithe. Sa chéad chuid den bhliain seo, lean geilleagar an AE ag fás go measartha maith in ainneoin an chúlaithe sna SA.

Chuir fadhb na rioscaí sláinte d'ainmhithe isteach ar fhás an gheilleagair i mbliana freisin. Chuir costais ardaithe bia ainmhithe, de bharr srianta ar fheirmeoirí maidir lena stoc a dhíol, isteach go suntasach ar earnáil na talmhaíochta. Bhí drochéifeachtaí ar earnáil na turasoíreachta freisin.

Cé go bhfuil comharthaí ann go mb'fhéidir go bhfuil an fás ar an éileamh intíre ag maolú, níl aon bhunús cinnte leo fós. Bhí meánfhás 8.5 faoin gcéad ar an éileamh intíre thar na ceithre bliana seo caite, agus mar sin a bhí an fás anuraidh freisin. Chuir an t-éileamh intíre nach mór an dá oiread leis an bhfás anuraidh thar mar a chuir glanluach easpórtálacha. Cé gur dócha go moilleoidh an fás san olltáirgeacht náisiúnta (GNP) go tuairim is 6.5 faoin gcéad i mbliana, is airde é seo fós ná an ráta fáis poitéinsiúil 5 faoin gcéad atá inbhuanaithe sa mheántearma. Ós rud é go nglactar leis i bhformhór na meastachán go dtí seo go bhfeidhmeoidh an geilleagar go maith thar a acmhainn, is féidir a thuiscint nach móide go laghdóidh brú an bhoilscithe go ceann tamaill.

Séard is tosaíocht do pholasaí eacnamaíochta anois ná fás inbhuanaithe, a mheastar a bheith timpeall is 5 faoin gcéad sa mheántearma, a éascú. Tá cúinsí polasaí airgeadaíochta ró-éasca faoi láthair chomh fada is a bhaineann le geilleagar na hÉireann: tá na fíor-rátaí úis an-íseal, go fiú diúltach de réir miosúr áirithe agus tá an ráta malartaithe meáite ó thaobh trádála do

gheilleagar na hÉireann tite go mór – timpeall is 10 faoin gcéad i gcomórtas le hEanáir 1999 nuair a glacadh leis an euro. Is cuma cén bunús a ghlactar, más ea, tá an polasaí airgeadaíochta ró-fhorleathnaitheach do chúinsí eacnamúla na hÉireann.

Ciallaíonn sé seo nach mór meicníochtaí eile a úsáid chomh fada agus is féidir chun moilliú fáis a éascú. Gléas amháin den chineál is ea an polasaí fíoscach, cé go gcaithfear a aithint nach gléas an-solúbtha é mar go mbraitheann sé go bunúsach ar an bpróiseas cáinainnéise a tharlaíonn uair sa bhliain. Mar sin féin, mar gheall ar neart suntasach an éilimh intíre le gairid, ba léir go bhféadfadh polasaí fíoscach maitheas a dhéanamh maidir le cobhsaíocht a chothú ag an am seo.

Is léir ó na hardaithe móra pá atá á moladh faoi láthair sna codanna sin den gheilleagar atá faoi chosaint cheana féin go bhfuil fíorchontúirt róluaineachta ann. D'fhéadfadh ardaithe móra tuarastail agus pá, á dtiomáint ag ionchais arda, ualach trom a leagan ar earnáil thrádála an gheilleagair. Sa chomhthéacs seo, is cóir a rá freisin gur dóichí go bhfuil ráta malairte an euro, faoi láthair, cuid mhaith faoina luach cothromaíochta sa mheántearma. Léiríonn na hargóintí seo go bhfuil gá le cur chuige cothrom polasaí chun a chinntiú go maolódh ar an bhfás go dtí go sroichfidh sé a ráta inbhuanaithe meántearma.

The Euro Area and International Economy

Overview

The slowdown in world growth, which got underway in the middle of last year, has continued in the first half of 2001 and there remains considerable uncertainty about the outlook for the global economy. In the US, economic weakness has become more widespread and suggests that the sudden and intense downturn may continue for longer than had been generally anticipated. In this uncertain environment and with risks to the outlook weighted towards the downside, the Federal Reserve has undertaken considerable monetary policy easing this year. The euro area has also experienced a slowdown in its pace of growth, albeit to a lesser degree. The Japanese economy continues to weaken and deflationary tendencies remain in place, prompting the Bank of Japan to announce a change in its monetary policy strategy in March to a quasi-inflation targeting framework, while the government announced an Emergency Economic Package to tackle the deep-rooted problems in the financial and corporate sectors on 6 April. Among the emerging economies, the outlook for Eastern Europe and for Latin America is slightly less favourable than last year, although the downside risks for the latter are somewhat greater. Economic prospects for other Asian economies are somewhat weaker, as growth in their main export markets has been quite subdued.

The slowdown in global economic activity is contributing to a lowering of inflationary risks. While this has, so far, had only a limited effect on consumer price inflation in many countries, it should become more evident in inflation figures later in the year as the effects of a number of short term factors fade. Lower inflationary risks have enabled the major economies to undertake monetary policy easing, to differing degrees, during recent months. The euro experienced a weakening against other major currencies in the period, despite its better relative economic performance and a movement of interest rate differentials in its favour.

Economic Developments in the Euro Area

The slowdown in the pace of euro area activity, which began around mid-2000, has continued in the first half of 2001. Contributing factors include the impact of the slowdown in the external environment, the lagged effects of monetary tightening and the deterioration in purchasing power associated with high oil prices. This moderating pace of growth has been most obvious in output data, with industrial production slowing down quite markedly recently as the easing in external demand took

hold. This weakening has been concentrated mainly in the production of intermediate goods; growth in output in the consumer goods sector has remained broadly unchanged and capital goods production has slowed but remains strong. The differing trends in the business and consumer sectors are supported by industrial and consumer confidence surveys, which have shown some divergence. The much larger fall in business confidence supports the assessment that the weaker external environment is having most of its impact on industrial production. While consumer confidence has fallen, it appears that households continue to be quite positive about their future financial situation. This is reflected in relatively solid, if somewhat less buoyant, growth in consumer spending. Contributing factors include positive developments in labour markets, a decline in oil prices from their peak and, in some countries, tax reductions.

Overall, growth in the euro area remains close to estimates of trend potential growth in 2001. The most recent Eurosystem staff macroeconomic projections suggest that the euro area economy will grow by between 2.2 to 2.8 per cent this year and in a range from 2.1 to 3.1 per cent next year. While the contribution of external trade to growth in the euro area is projected to weaken significantly in 2001, the expectation is that economic growth will be supported by domestic demand.

Labour market conditions in the euro area have continued to improve, albeit at a slower pace than last year, bringing the unemployment rate to 8.3 per cent in April. Statistical revisions reported at the time of the March data account for a reduction of around 0.2 percentage points off the rate from mid-1999 onwards. The slower pace of decline in recent months reflects weaker output growth and increased uncertainty about the prospects for economic activity. Employment expectations embodied in surveys support the picture of a positive, but less buoyant, outlook for job creation, with the slowdown in the pace of job growth expected to be most marked in manufacturing. Overall, the improvement in unemployment over the coming months is expected to be modest. Unemployment rates among euro area members remain in a broad range – from 2.4 per cent in the Netherlands and Luxembourg to 13.1 per cent in Spain – although there has been a slight narrowing recently. The disparity in unemployment rates among under- and over-25s (16.4 per cent and 7.2 per cent respectively) is only marginally narrower than a year ago. Reflecting the improving labour market conditions, wage inflation picked up last year, with total hourly labour costs rising at an annual average of 3.9 per cent compared to 2.3 per cent in 1999. However, the pace of wage growth appears to have eased slightly towards the end of the year, with slower growth in monthly earnings and compensation per employee. The outlook for wage inflation depends on whether wage restraint – which has been facilitated by multi-year

Changes in Key Economic Variables in Various Countries

Table 1

	Real GDP Growth		Unemployment Rate		Inflation ^a		Current Balance of Payments as a per cent of GDP	
	2000	2001	2000	2001	2000	2001	2000	2001
	%	%	%	%	%	%	%	%
Belgium	4.0	2.8	7.0	6.8	2.5	1.7	4.4	5.3
Germany	3.0	2.2	7.8	7.3	1.4	1.8	-1.1	-1.3
Spain	4.1	2.9	14.1	13.2	3.6	3.2	-3.1	-3.2
France	3.2	2.6	9.7	8.6	1.2	1.4	1.9	1.7
Ireland^b	10.2	6.5	4.1	3.8	5.6 ^c	4.8 ^c	-0.9	-1.8
Italy	2.9	2.3	10.7	10.0	2.9	2.7	-0.4	-0.3
Netherlands	3.9	3.0	2.4	2.2	2.8	4.0	3.7	3.5
Austria	3.2	2.3	4.6	4.6	1.8	1.7	-3.2	-2.7
Portugal	3.2	2.6	4.0	4.1	2.9	3.7	-10.3	-9.7
Finland	5.7	4.0	9.8	9.1	3.2	2.3	7.8	7.4
Total Euro-Area^d	3.4	2.6	9.0	8.3	2.2	2.2	-0.1	-0.2
Denmark	2.9	2.0	4.8	4.7	3.1	2.2	1.5	2.2
Greece	4.1	4.0	11.3	10.8	3.0	2.8	-7.1	-6.5
Sweden	3.6	2.8	4.7	4.1	0.9	1.6	2.5	2.1
UK	3.0	2.5	5.5	5.4	0.8	1.9	-1.7	-2.1
Total EU	3.3	2.6	8.2	7.7	2.0	2.2	-0.3	-0.4
US	5.0	1.7	4.0	4.6	2.4	1.9	-4.4	-4.2
Canada	4.7	2.3	6.8	7.2	1.8	2.4	1.8	1.6
Japan	1.7	1.0	4.7	4.9	-1.2	-0.7	2.5	2.2

^a Private consumption deflators

^b Central Bank of Ireland estimates

^c Consumer Price Index

^d The euro was introduced in Greece on 1 January 2001

Sources: OECD Economic Outlook, June 2001; estimates and projections of Central Bank of Ireland

agreements in a number of countries – can continue to be maintained in tighter labour markets, and on whether the cyclical decline in productivity growth continues.

Having improved somewhat between November and February, the euro area headline rate of inflation has deteriorated again in recent months, driven largely by developments in food, energy and housing prices. The annual rise in the Harmonised Index of Consumer Prices (HICP) returned to its November peak of 2.9 per cent in April, from 2.6 per cent in March. Recent months have seen a marked acceleration in annual food price inflation, from 0.2 per cent a year ago to 4.8 per cent in April, with the impact on meat prices of reduced supply due to restrictions associated with Foot and Mouth disease being a major contributing factor. The sharp increase in the annual rate of energy price inflation, from 5.6 per cent in March to 7.8 per cent in April, reflects a combination of the recent pick-up in oil prices and the ending of a favourable base effect. The core HICP inflation rate (excluding food and energy) – which rose by 1.9 per cent in the year to April, compared to 1.7 per cent in March – continues its steady upward trend, suggesting that the pass-through from earlier increases in energy and import prices continues.

Euro area HICP inflation rates are likely to remain close to 3 per cent for the next few months, reflecting temporary developments in unprocessed food prices, a continuation of the pass-through of past rises in oil prices and the depreciation of the euro onto final prices, the recent rise in oil prices and base effects. However, the effects of these factors are expected to ease back somewhat later this year. Already, there has been some moderation in price pressures at the intermediate stage of production, which should feed through, in time, to lower pressure on consumer prices. In addition, the futures market points to a significant decline in oil prices over the next twelve months. HICP inflation is likely to fall below 2 per cent in 2002, as a moderation in the inflationary effect of oil and food prices and weaker external demand counter the risks presented by tighter labour markets, pro-cyclical fiscal policy and the potential for past temporary increases in headline inflation to have permanent effects.

At country level, most euro area members are experiencing a moderation in their pace of growth this year, albeit to differing degrees. Among the three largest economies, the slowdown is more marked in Germany than in France and Italy, where solid private consumption has been more supportive of growth.

The marked slowdown in activity in **Germany**, which got underway in the second half of last year, has continued into 2001. GDP expanded by 0.5 per cent in the first quarter of 2001, bringing the year-on-year rate of growth to 1.6 per cent, compared to a peak of 3.4 per cent in the second quarter of last year. This reflects weakening in both external and, to a lesser extent, domestic demand. Although the moderation in the contribution of external demand to growth was, initially, largely felt through rising import costs, subsequently it was lower export growth which had a greater impact. With industry accounting for a larger share of economic activity in Germany than in other euro area members, the sharp downturn in the export-dependent manufacturing sector has had a major impact on growth. The picture presented by business confidence indicators, which point to a marked fall in confidence in the outlook for business activity, has been confirmed by recent industrial production and orders data and indicates that a further slowdown can be expected. Domestic demand has also been slowing, reflecting the impact of the earlier rise in energy and import prices and monetary policy tightening on real disposable income and business profits. Overall investment growth has been held back by the recession in the construction sector, which continues to adjust to over-capacity. Recent developments in unemployment have reflected the weakening in activity; the unemployment rate has risen in four consecutive months to April to 7.7 per cent (revised data). Taking a longer-term perspective, the evolution of the German unemployment rate in the current business cycle has been

disappointing; it appears that much of the new employment creation has been in part-time, lower-paid jobs, which have been largely filled by drawing people from outside the labour force. This also helps to explain why strong job creation did not translate into a more solid boost to private consumption over the cycle.

Official forecasts anticipate German growth of about 2 per cent this year – compared to 3 per cent last year – although the steeper-than-expected decline in the industrial sector poses a risk to these projections. Looking forward, private consumption will benefit from rising real disposable incomes, as income tax reductions, falling energy prices and employment gains take effect. Equipment investment is expected to grow quite strongly, reflecting tax cuts and the favourable investment climate associated with wage moderation. The net trade contribution to growth is expected to weaken further, however, before recovering somewhat next year. The headline rate of inflation has increased quite sharply in recent months – reaching 3.6 per cent in May – largely due to higher energy and food prices. However, with continued moderate wage increases and a decline in oil price inflation expected in coming months, inflation is expected to ease somewhat over the course of this year.

Having experienced accelerating growth in the second half of last year, the **French** economy encountered a slowdown later than many other euro area economies. In the first quarter of 2001, GDP growth fell to 0.5 per cent compared to 0.9 per cent in the fourth quarter last year. An important factor in the weak first quarter performance was an inventory adjustment, as firms ran down stocks in response to slower external demand. Accompanying the decline in export growth has been a weakening in business confidence. However, domestic demand remained quite well underpinned, with consumer spending continuing to benefit from the solid employment and real wage gains of recent years. French employment creation has been impressive over the past two years, reflecting above-trend output growth, structural reforms of the labour market and the short run effects of other public measures. These have contributed to unemployment reaching a 10-year low of 8.5 per cent, although the rate of decline has moderated recently. There have been signs of less buoyancy in the consumer sector recently, however, as consumer confidence has been weakened by reduced disposable incomes from high oil prices and developments in the external economy have raised concerns about job prospects. The economy is expected to expand by around 2.5 per cent this year, compared to 3.4 per cent last year, with domestic demand continuing to underpin growth. France has experienced an increase in its headline inflation rate recently, recording a rise of 2.5 per cent year-on-year in May. Higher energy and food prices recently account for a large part of the rise; underlying price

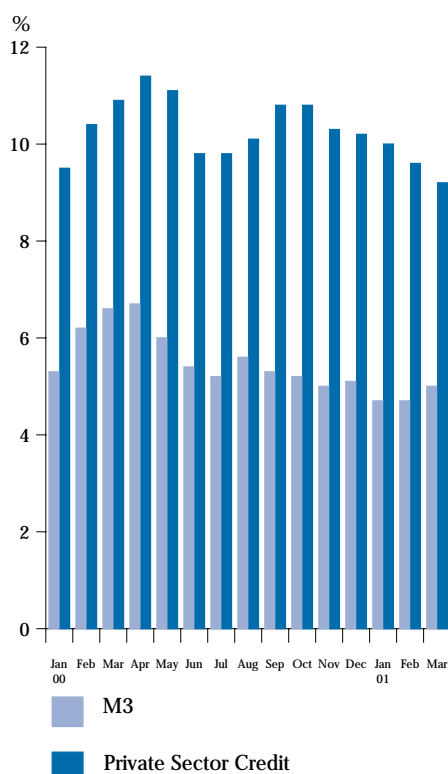
pressures have been kept relatively subdued by greater market competition, wage moderation, indirect tax cuts and administrative measures.

The **Italian** economy has been expanding at a faster-than-expected rate so far this year; strong fourth quarter growth of 0.8 per cent was followed by growth of 0.7 per cent in the first quarter, to bring the year-on-year rate to 2.3 per cent. This relatively buoyant activity has been mainly underpinned by domestic demand, particularly private consumption. Consumer spending has been especially strong in recent months, reflecting the increase in spending power arising out of tax cuts which took effect in March, and the expectation that the newly-elected government will soon undertake further fiscal easing. These factors, combined with solid employment growth over the past year, have helped to fuel a substantial rise in consumer confidence, which is at a 10-year high. There has, however, been some slowing in production since mid-2000, with firms responding to lower demand for exports by trimming production and running down inventories. Although unemployment has continued to fall, from 11.4 per cent in Q1 2000 to 9.9 per cent at present, the pace is slowing. While business orders have shown a slight improvement recently, some weakening in coming months is expected and, with falling business confidence, the outlook for production is for a further weakening. The economy is forecast to grow by around 2 to 2.25 per cent this year, with the effects of weak exports being offset to some extent by solid domestic private consumption and private and public capital investment. Slowing, but still strong, employment growth, combined with rising household disposable incomes, is expected to underpin private consumption. Inflation has continued to rise – the HICP rate recorded 3 per cent in April, and May data point to a further increase – with recent developments in the exchange rate and in oil and food prices being the major contributing factors. Wage inflation, which had been rising at a fairly modest pace as moderate wage growth was accompanied by productivity gains, has been under more upward pressure recently.

Chart 1

Euro Area Monetary Aggregates

Year-to-year change



Monetary Developments in the Euro Area

Having tightened euro area monetary policy by 2.25 percentage points in seven moves between November 1999 and October 2000, the ECB's monetary policy stance then remained unchanged until May 2001. On 10 May, the Governing Council decided to reduce official interest rates by 25 basis points, bringing the minimum bid rate on the Eurosystem's main refinancing operation to 4.5 per cent, and the rates on the marginal lending facility and the deposit facility to 5.5 per cent and 3.5 per cent respectively. This reflects the assessment by the Governing Council that the risks to medium-term price stability in the euro area have eased back somewhat.

Three-Month Interest Rates

Table 2

	Euribor	US Dollar	Japanese Yen	Sterling
	%	%	%	%
28 April 2000	4.09	6.50	0.12	6.25
31 May 2000	4.45	6.86	0.11	6.19
30 June 2000	4.55	6.77	0.23	6.12
31 July 2000	4.64	6.72	0.22	6.12
31 August 2000	4.89	6.68	0.41	6.19
29 September 2000	5.00	6.81	0.54	6.19
31 October 2000	5.14	6.76	0.54	6.06
30 November 2000	5.05	6.72	0.59	6.00
29 December 2000	4.86	6.40	0.58	5.83
31 January 2001	4.74	5.42	0.51	5.72
28 February 2001	4.77	5.05	0.37	5.62
30 March 2001	4.56	4.88	0.11	5.44
30 April 2001	4.80	4.34	0.09	5.25
31 May 2001	4.53	3.99	0.08	5.19

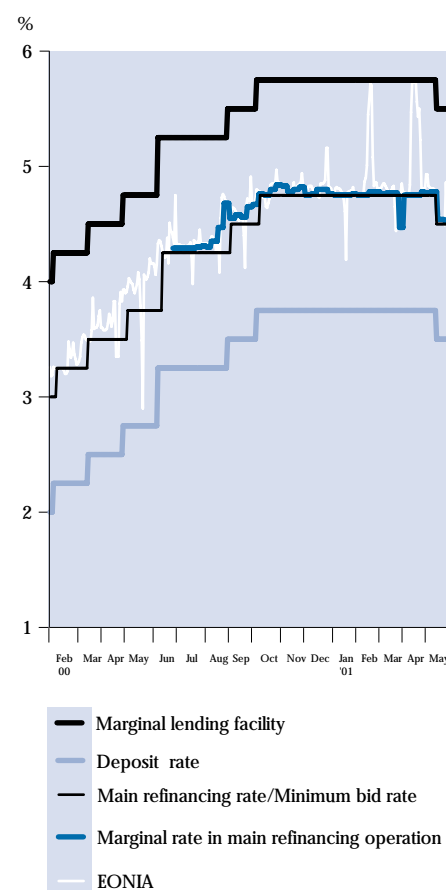
The decision to ease the stance of monetary policy has been taken against the background of reduced inflationary pressures emanating from trends in money supply and credit growth. The pace of money supply growth has been on a downward trend since spring 2000; the year-on-year rate of growth in M3 in April was 5.2 per cent compared to its peak of 6.6 per cent a year earlier, while the three-month average of the annual growth rate of M3 was 5.0 per cent in the February-April 2001 period, compared to a peak of 6.4 per cent a year earlier. Recent months have also seen lower annual rates of growth in credit aggregates, with private sector credit growing by 9.0 per cent in the year to April 2001, its lowest rate since the start of Stage Three of EMU.

There are indications that euro area monetary growth figures have been distorted upwards by non-euro area residents' purchases of negotiable and other marketable paper included in M3. The adjustment for the effects of non-residents' holdings of money market funds/shares is 0.5 percentage points of the annual growth in M3 in April, while preliminary estimates of the distortion from non-residents' holdings of money market paper and debt securities amounts to approximately another half of a percentage point. Taking these factors into account, the slowdown in M3 over the past few months has been more pronounced than earlier thought, leading to the conclusion that there is no longer a risk to medium-term price stability from developments in money growth.

In an environment of slowing global growth and uncertainty about the economic outlook in the short term, money market interest rates in the euro area have continued to ease back in recent months. The 3-month EURIBOR rate fell from around 4.75 per cent at the end of the first quarter to around 4.45 per cent – the same as the minimum bid rate under the marginal lending facility – by early June. Implied interest rates from futures

Chart 2

ECB Interest Rates and Money Market Rates

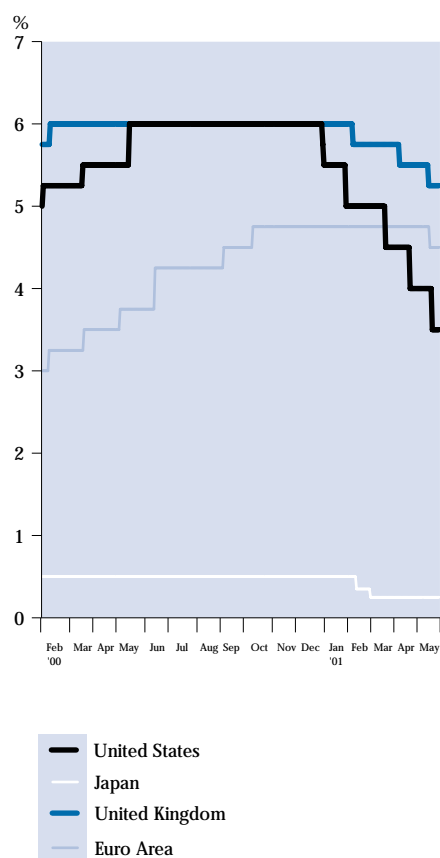


contracts are currently discounting a further slight easing in euro area monetary policy by September 2001.

In the bond markets, the downward trend in euro area long bond yields, which had been underway since mid-2000, came to an end in March. Yields rose quite markedly to end-May but have since eased slightly. Market expectations of a recovery in the global economy over the next year, which have been underpinned by the speed of monetary policy responses in major economies, contributed to equity market gains in recent months; this led to a reversal of some of the earlier “safe haven” flows of funds into bond markets. At the same time, the possibility of a fairly rapid recovery in economic activity contributed to a rise in long-term inflation expectations, amid concern that such an upturn would re-ignite inflationary pressures. Subsequently, however, a reassessment of the prospects for a rapid recovery in the major economies facilitated an easing in bond yields in early June. The 10-year yield differential between the euro area and the US is currently similar to its end-March level. The slope of the euro area yield curve – measured by the difference between 10-year euro area bond yields and the 3-month EURIBOR rate – became more steep over the period, as did the yield curves in the US and UK.

Chart 3

Selected Official Interest Rates



Note:

The rates shown in this chart are the main refinancing rates for the euro-area, discount rates for the US and Japan, and the base rate for the UK.

Economic and Monetary Developments outside the Euro Area

The slowdown in world economic growth, which got underway in the latter half of last year, has continued in recent months. Readjustments taking place in the US and Japanese economies, and their impact on the rest of the world, have meant that the global outlook is characterised by increased uncertainty. Global recessionary risks are still considered to be low, however, but risks to growth seem mainly weighted towards the downside. These include the possibility that the US downturn will be deeper and more protracted than is currently anticipated, and the potential for disruption to financial markets arising out of a reassessment of the outlook for the major economies.

In the **US**, fears of recession, which were raised by the suddenness and intensity of the slowdown, were alleviated somewhat by positive first quarter GDP estimates. These indicate that the economy grew at an annualised rate of 1.3 per cent, compared to 1.1 per cent annualised in the previous quarter. However, the data show that growth was supported primarily by a pick up in net exports as a result of a collapse in import growth. Although private consumption held up quite well, most of this growth was concentrated at the start of the quarter, suggesting that some of the momentum has dissipated since. While private investment recorded some recovery in the first quarter, this followed a slump in late 2000 and was accompanied by cuts in spending by businesses on new technology. More recent

evidence has pointed to widespread weakness in the economy, with sectors which had previously remained resilient to the recession in manufacturing now experiencing a downturn. This is reflected in the deterioration in labour market conditions, where firms' earlier desire to retain staff in the tight labour market and in expectation of a rapid recovery in activity has given way to a more rapid pace of decline in payroll numbers and a rise in the unemployment rate. As the resilience of consumer spending owed much to the strong employment and real wage gains of recent years, job losses are likely to have a negative impact on private consumption going forward. This is particularly the case given the sharp falls in consumer confidence during the current slowdown. These developments suggest that the downturn in growth could continue for longer and the recovery could be more gradual than is generally anticipated. Against this background, the Federal Reserve has moved swiftly to contain downside risks to the economy, following up its two cuts in official interest rates in January with three further cuts to bring the federal funds rate to 4.0 per cent, compared to 6.5 per cent at the start of the year.

The outlook for the economy remains quite uncertain. A major concern relates to business investment, which after a decade of exceptionally strong growth has now experienced a marked decline. Considerable over-capacity exists in this area and, amid less favourable productivity developments, falling profits and poor growth prospects, willingness to undertake new investment is likely to be significantly reduced. Households, which are showing increasing concern about their future prospects, are likely to cut back on planned consumption. There is a risk that households' high burden of debt and the negative wealth effect which they have experienced from weaker equity markets may lead consumers to try to rebuild their savings by cutting consumption rapidly. Some of this downward pressure on domestic demand should be alleviated by planned fiscal stimulus and the effects of the monetary policy actions taken so far. Financial markets anticipate that the Federal Reserve will undertake a little more monetary policy easing this year, particularly in view of its comment, following the last cut on 15 May, that "the risks are mainly weighted towards conditions that may generate economic weakness in the foreseeable future".

Despite the easing in demand conditions, the rate of inflation has fallen only slightly. Having peaked at 3.7 per cent year-on-year in January, the headline CPI rate rose by 3.6 per cent in the year to May. Wage inflation has continued to rise in recent months, as faster increases in hourly compensation – fuelled by the energy-induced fall in disposable incomes and a long period of labour market tightness – have been coupled with a cyclical slowdown in productivity growth. However, with pressures on labour and product markets now easing, and with the Federal Reserve

indicating that it considers the strong underlying rate of increase in productivity growth to be largely intact, inflation is expected to remain contained.

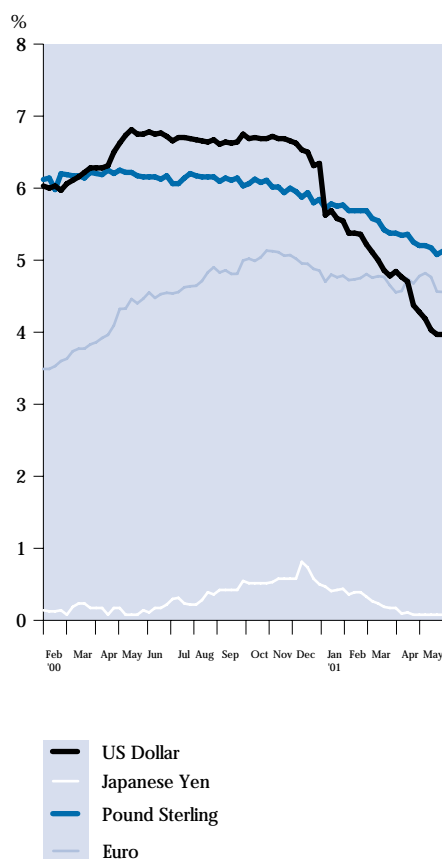
Japan's gradual economic recovery appears to have stalled recently and, amid continuing deflationary tendencies, there are renewed fears about the prospects for activity in the near term. The slowdown in overseas markets has contributed to a sharp fall in industrial production, and firms are anticipating further declines in coming months. The weakness in production has started to spill over onto labour market conditions, with unemployment rising and total earnings falling slightly. Although consumer spending has been relatively steady, this is on a base which has been exceptionally weak for some time. Business investment growth has deteriorated, as falling orders, lower profitability, an overhanging debt burden and considerable uncertainty about future prospects are depressing investment spending. The Bank of Japan returned to a "zero interest rate" policy in March and announced that it was moving to a quasi-inflation targeting framework. It stated that it will keep this interest rate policy in place and increase liquidity in the money market (engage in quantitative easing) until such time as the CPI is stable at zero or above. Deflation remains a major concern, with the annual rate of change in the overall CPI index reaching -0.4 per cent in March, compared to -0.1 per cent in February, while the core index (excluding fresh food prices) was unchanged at -0.6 per cent year-on-year. While the depreciation of the yen in earlier periods is exerting upward pressure on prices, the imbalance between demand and supply in the domestic economy, combined with some price reductions associated with deregulation, means that prices are expected to remain weak for some time.

In recognition of the fact that the economy's inability to achieve self-sustaining growth owes much to the failure to address problems in the financial and corporate sectors, and in view of the limited room for manoeuvre with fiscal and monetary policies, the authorities announced on 6 April a package of reforms aimed at resolving some of these problems. These include, inter alia, proposals to stabilise the financial system by urging the disposal of all bad loans held by financial institutions within 3 years; the set up of a body to purchase shares held by banks in other companies so as to reduce their equity exposure to a maximum of 100 per cent of their capital; agreeing guidelines to promote the process of corporate restructuring; structural reform of the securities market; and enhancing the safety net in the labour market. While these measures should ensure that the functioning of the Japanese economy improves in coming years, they may exacerbate the weak economic situation in the short run by precipitating bankruptcies and falling asset prices. The Bank of Japan announced that it was

Chart 4

Selected Three-Month Interest Rates

End-Week Data



Note:
The rates shown in this chart are London Market mid-closing rates.

downgrading its view of the outlook for most of the key areas of the economy, when it decided to maintain its stance of a quantitative relaxation of liquidity and zero interest rates on 21 May.

UK economic growth has also been easing back recently, with external demand weakening more than domestic demand. Preliminary estimates indicate that GDP rose slightly less-than-expected at 0.4 per cent in the first quarter of this year, bringing the year-on-year rate to 2.5 per cent. This compares to a peak of 0.9 per cent quarter-on-quarter and 3.4 per cent year-on-year in the second quarter of last year. Temporary factors such as foot-and-mouth disease are likely to have played some part in the first quarter underperformance. The effects of the downturn in global demand have been felt most in the manufacturing sector, and industrial production data confirm that the sector is technically in recession. Falling business confidence and manufacturing orders suggest further weakness in industry in the months ahead. Growth in services has remained quite strong, however. Consumer spending was relatively solid, remaining well supported by the strong employment and real disposable income gains and rising financial wealth of recent years. After appearing to stabilise at the end of last year, labour market conditions appear to have tightened a little in 2001, with employment growth picking up again and employment intentions suggesting that this will continue in the short term. Private investment, which grew quite robustly late in 2000, has been somewhat less resilient recently. Weaker prospects for the manufacturing sector, continued falls in business confidence, lower equity prices and a more subdued outlook generally suggest that investment growth may ease further in coming quarters.

The easing in inflationary pressures associated with slowing growth and uncertainty regarding the extent and duration of the slowdown facilitated further monetary policy easing by the Bank of England's Monetary Policy Committee, which followed its 8 February and 5 April interest rate cuts with a further cut of 25 basis points on 10 May. UK inflation, at 2.4 per cent (RPIX) in May, has since risen to a 2-year high, with food and energy price developments being major contributing factors. Although these factors are expected to have a largely temporary impact on inflation, risks to the inflation outlook from the recent exchange rate weakness and the tight labour market have reduced expectations of further interest rate cuts this year.

International Price Developments

Weaker world demand conditions combined with lower oil and non-oil commodity prices contributed to an easing of international inflationary pressures in the early months of this year. The weakening impact of external price pressures was further enhanced by the increase in the external value of the

euro. Although the favourable trends in both oil prices and the exchange rate have recently gone into reverse, the evidence of a slowdown in world demand continues to mount. On balance, therefore, it seems likely that global inflationary pressures will be easier in 2001 as a whole compared to last year.

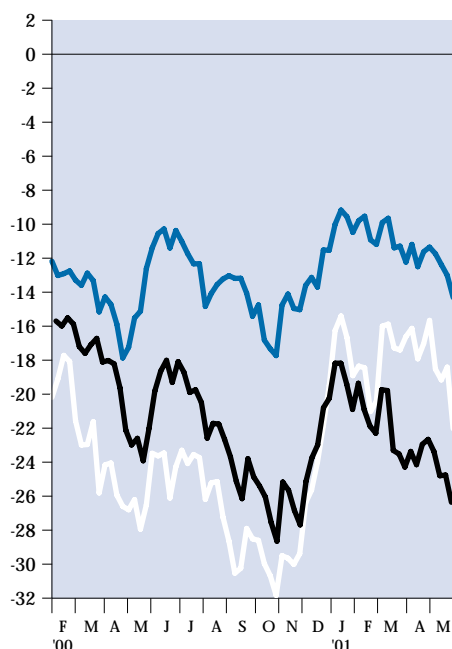
According to IMF statistics the average price of Brent crude oil at \$25.84 per barrel in the first quarter of 2001 was 12.6 per cent lower than in the previous quarter and was 3.5 per cent lower, year-on-year. In recent months, the price has again increased and reached over \$29 per barrel by early June. However, futures markets point to a significant decline in oil prices over the next twelve months. On the basis of the technical assumption of an average oil price of \$26.5 dollars per barrel for 2001, the positive contribution of energy prices to the year-on-year change in the euro-area HICP is likely to disappear during the second half of the year.

Non-oil commodity prices contributed little to global inflationary pressures last year and this trend seems set to continue in 2001. According to IMF statistics, non-oil commodity prices in dollar terms increased by 1.7 per cent on average in 2000 but were 4.1 per cent lower, year-on-year, in the first quarter of this year. This weak trend is likely to persist for some time given the outlook for world demand.

Chart 5

Exchange Rate Changes for the Euro

End-week data



— United States Dollar
— Pound Sterling
— Yen

Note:
This chart shows percentage changes in Euro exchange rates by reference to 31 December 1998.

The improvement in the global inflationary environment has, however, so far had only a limited effect on consumer price inflation. In the euro area, the year-on-year rate of increase in the HICP averaged 2.5 per cent in the first quarter of the year and accelerated to 2.9 per cent in April. This higher than expected outturn reflected a number of short-term factors; unprocessed food prices increased sharply as a result of the impact of the BSE and foot and mouth crises and poor weather conditions, and energy prices have rebounded from a decline at the beginning of the year, mainly because of an increase in refining margins, as stocks of refined products are being rebuilt against a background of very high capacity utilisation in oil refineries. As the effect of such short term factors begins to fade in the latter half of the year, the impact of the more favourable global inflationary trends should become more evident in the headline consumer price figures.

Exchange Rate Developments

The euro weakened against other major currencies in recent months, despite its better relative economic performance and a movement of interest rate differentials in its favour. Negative sentiment towards the currency seemed to be fuelled by market scepticism regarding euro area growth prospects in a less favourable external environment, while the continuing increase in headline inflation is seen as reducing the Eurosystem's scope

for interest rate cuts in the near term and may, therefore, delay its return to more buoyant growth. At the same time, investors showed confidence in US and, to a lesser extent, Japanese assets. This optimism came despite concerns emanating from the central banks of both the US and Japan concerning their economic situation and the implementation of monetary policies that lower present-day rates of return. Official interest rates in the US are now half a percentage point below those of the euro area while the zero interest rate policy of the Bank of Japan is being supplemented by quantitative easing. Financial markets appear to have priced in expectations of a recovery in the US economy within the coming year, with the aggressive monetary policy easing undertaken by the Federal Reserve being a major contributing factor. Thus, the US dollar has remained strong despite the persistence of downside risks to economic growth. The Japanese yen's earlier depreciating trend was arrested by capital inflows in the aftermath of the election of a new Prime Minister. With his strong mandate for reform, this increased expectations that more concerted moves to tackle structural deficiencies in the Japanese economy would be forthcoming, thus increasing its longer term prospects for growth. The yen lost some of its gains in early June, however, as weak economic data caused some reassessment of the outlook for yen-denominated assets.

Sterling initially traded in a relatively narrow band against the euro, although negative sentiment towards the latter and a re-weighting of a prominent equity index in favour of UK equities contributed to subsequent sterling strength. Following the strong election victory by the Labour Party in early June, market expectations of the probability of an early referendum on the UK joining EMU have risen sharply. This contributed to a sharp fall in sterling vis-à-vis the US Dollar – to reach a 15-year low in mid-June – before it recovered slightly.

Section 2

The article in this Section is in the series of signed articles on monetary and general economic topics introduced in the Autumn 1969 issue of the Bank's Bulletin. The views expressed in this article are not necessarily those held by the Bank and are the personal responsibility of the authors.

The Transmission Mechanism of Monetary Policy in Ireland

by Don Bredin and Gerard O'Reilly*

ABSTRACT

The monetary transmission mechanism is the term used to describe the combination of different channels through which monetary policy affects output and prices. The purpose of this article is twofold. Firstly, we briefly review the possible channels through which monetary policy can affect the economy. Secondly, we examine the effect of an unexpected temporary increase in the interest rate on various macroeconomic variables in an attempt to assess the timing and magnitude of the transmission mechanism of monetary policy in Ireland between 1980 and 1996.

Our results are consistent with the qualitative predictions of economic theory regarding the impact of a change in monetary policy in an open economy setting. In particular, we find that a temporary contraction in monetary policy leads to a decline in both output and prices with the latter being somewhat slower to adjust. Secondly, a rise in the interest rate leads to an immediate appreciation of the exchange rate, which is a prelude to a subsequent depreciation of the currency. Overall, the response of macroeconomic variables to this interest rate change is quite small.

1. Introduction

In this article, we firstly review the possible channels through which monetary policy can influence behaviour in the economy. Secondly, we present evidence at an aggregate level on how unexpected changes in short-term interest rates have affected output, prices and the exchange rate both in the short run and long run for the case of Ireland.

The monetary transmission mechanism is the term used to describe the combination of different channels through which monetary policy affects output and prices. With the advent of European Monetary Union, interest rates previously set by the Central Bank of Ireland are now determined at a European level. However, while the Irish central bank no longer has autonomy in the setting of domestic interest rates, an understanding of how interest rate changes impinge on the economy is crucial to understanding the effects of monetary policy on the Irish economy. In addition, it is likely that the channels through which monetary policy influenced the economy prior to European Monetary Union are likely to remain quite similar.¹

*We wish to thank members of the Central Bank of Ireland and the European Central Bank for constructive comments especially, Frank Browne, Michael Ehrmann, John Frain, Tom O'Connell and Maria Valderrama.

¹ Because of data limitations we were unable to examine the effect of monetary policy after the onset of EMU. The assumption that the structures and expectations have not changed before and after the EMU assumes the Lucas critique does not apply.

Instruments of Monetary Policy

A central bank or monetary authority attempts to exercise influence on the economy by manipulating the instruments at its disposal in order to attain certain goals such as stable inflation, output stability or exchange rate stability.² Traditionally, the main instruments at the disposal of the central bank would include the rate it charges banks to borrow from it, the purchase or sale of governments bonds and/or foreign currency or the imposition of liquidity ratios.³ Through its manipulation of these instruments the monetary authority attempts to influence short-term interest rates such as the inter-bank lending rate. Since the late 1980s most central banks seem to target short-term interest rates rather than monetary aggregates as their primary intermediate instrument of monetary policy (see Goodfriend 1991).⁴

As can be seen from Diagram 1, the transmission mechanism primarily operates in two broad stages. In the first stage, changes in the policy instrument leads to changes in market interest rates and retail interest rates.⁵ Simultaneously, these policy actions and announcements change expectations about the future course of the economy and have effects on asset prices and exchange rates.

In the second stage, these changes in financial market conditions lead to changes in spending, savings and investment behaviour of agents in the economy. In a highly open economy such as Ireland, interest rate changes that affect the exchange rate will also affect imports and exports of goods and services. Thus, monetary policy can influence overall demand in the economy and can impact on output and employment in the short and medium term. However, it is generally believed that monetary policy has no long run effect on production capacity in the economy since changes in monetary variables are not expected to have permanent effects on real variables such as productivity. In the long run, monetary policy determines the nominal or monetary value of goods and services i.e. the price level.⁶

With the advent of EMU, there has been substantial debate regarding how the operation of a single monetary policy will affect the real economy in the Euro area. This debate has led

² The primary goal of monetary policy within EMU is to maintain price stability while in the US the Federal Reserve is charged with the role of maintaining output stability as well as price stability. The main goal of Irish monetary policy after 1979 was to maintain the Irish exchange rate within the quasi-fixed exchange rate regime of the European Monetary System.

³ McGettigan (1994) reviews some of the issues regarding the transmission of monetary policy in an Irish context while McGowan (1993) provides an overview on mechanics of the operation of monetary policy in Ireland.

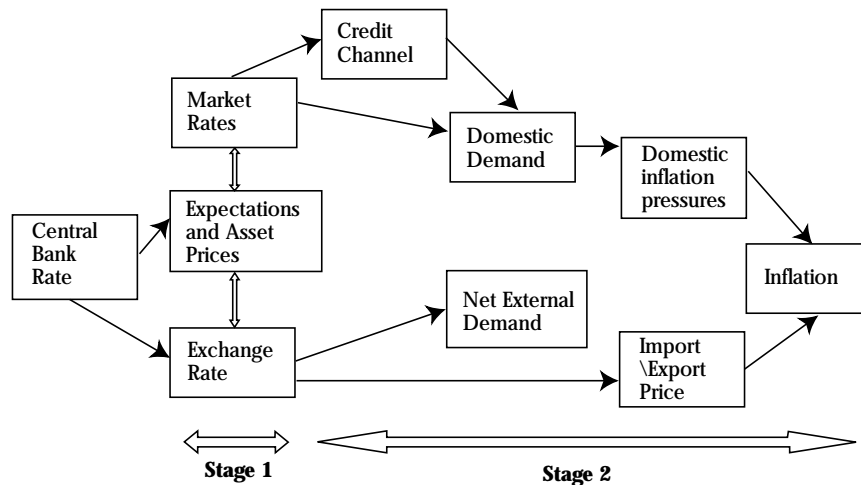
⁴ See Devine & McCoy (1998) for a more detailed distinction between instruments and targets.

⁵ This exposition draws from the presentation in the Quarterly Bulletin of the Bank of England (1999) and the ECB (2000).

⁶ Most economists believe that monetary policy can only have short to medium term real effects, see for example King (2000).

to a number of studies examining how the euro-wide economy responds to changes in short-term interest rates (see for example, Monticelli & Tristani 1999 and Peersman & Smets 2001). The European Central Bank and National Central Banks are currently examining the effects of changes in interest rates on output and prices. They are also interested in the length of time it takes for these effects to materialise. These issues are important given our membership of EMU and the move to a 'one policy fits all' monetary policy for the Euro area.

Diagram 1:
The Transmission Mechanism of Monetary Policy



Increasing attention has also been paid to the country specific effects of a single monetary policy (See Gerlach & Smets 1995, Ramaswamy & Sloek 1997, Ehrmann 2000 and Mojon & Peersman 2001). If differences exist they could have important consequences for the effects of monetary policy across the Euro area. To date there has been very little recent work done in this area in an Irish context. Current research undertaken at the Central Bank attempts to fill some of this void.⁷ The focus of the research is to examine the effect of an unexpected temporary change in the interest rate on various macroeconomic variables and to assess the timing and magnitude of the transmission mechanism of monetary policy. Using recent statistical advances, we analyse the effect of an unexpected temporary change in the short-term interest rate on output, prices and the exchange rate. This research was undertaken as part of an ECB working group examining transmission mechanisms across EMU member states.

Overall our results are consistent with what one would expect regarding the impact of a change in monetary policy in an open economy setting. In particular, we find that a temporary tightening in monetary policy leads to a decline in both output and prices with the latter being somewhat slower to adjust. In addition, the exchange rate increases in value with the onset of higher interest rates.

⁷ See Bredin & O'Reilly (2001).

The remainder of the paper is structured as follows. Section 2 outlines the possible channels through which monetary policy can affect the economy while section 3 discusses previous research in this area. Finally, in section 4 we outline our results with respect to Ireland.

2. Transmission Channels

Below we outline the possible channels through which monetary policy changes may impinge on the economy (see McGettigan 1994, Bank of England 1999 and ECB 2000).

2.1 Interest rate channel

If the central bank changes the interest rate it charges financial institutions for borrowing from it, this will have a knock-on effect over time on the rates financial intermediaries charge their borrowers or give to their depositors. The speed and degree to which the interest rate change is passed on to firms and households depends on a number of factors. Some of these include whether the interest rate movement was anticipated, expectations of the future path of interest rates and the degree of competition in the financial sector.⁸

Changes in retail interest rates are likely to affect consumption/savings decisions of households as well as the investment decisions of firms. What is critical to firms and individuals is the real cost of borrowing i.e. the real interest rate. This is defined as the nominal interest rate less the expected inflation rate. It reflects how much one has to pay back in terms of goods and services over and above the principal borrowed. If the nominal interest rate rises, then the real interest rate will rise if expected inflation doesn't change. If prices don't adjust quickly the latter is likely to be true. Thus, in the short run, a rise in the nominal interest rate will generally lead to a rise in the real interest rate.

Consumption: A rise in the interest rate is likely to reduce consumption because it:

- raises the cost of consuming today and thus increases the incentives to save
- makes lenders better off and borrowers worse off
- can reduce the value of wealth in the form of property, equities or long term bonds (the wealth effect)

Investment: Real interest rates are an important factor in determining the cost of capital. For instance, when the real interest rate on bank loans increases, the cost for firms of holding inventories or investing in equipment financed through bank

8 Current research at the Central Bank is examining the speed of pass through of interest rates and will be reported in a future quarterly bulletin.

loans will increase. This makes investment less profitable and increases the incentives to postpone investment until real interest rates have declined. The impact and speed of the effect of interest rates on investment will differ across industries. For example, capital-intensive industries that have a need for large investments are likely to be affected more strongly than less capital-intensive service industries.

2.2 Exchange Rate Channel

In an open economy, changes in interest rates will affect the exchange rate. Where capital is extremely mobile, any increase in interest rates will generally lead to capital inflow. The higher rates will make domestic denominated assets a more favourable investment leading to increased demand for domestic currency and an immediate appreciation of the exchange rate. A higher exchange rate will make exports more expensive and imports cheaper thus reducing the demand for domestically produced goods and increasing the demand for foreign goods. Thus, higher interest rates, other things being equal, will reduce demand in the economy and reduce the inflation rate via a reduction in import prices. The importance of this channel depends on the share of exports and imports outside the Euro zone. For Ireland, exports and imports outside the Eurozone as a percentage of GDP are 44 per cent and 40 per cent respectively. While external Eurozone trade as a whole is less important, exports amount to 17 per cent of GDP while imports amount to 15 per cent of GDP. Hence, the exchange rate channel is likely to be more important for Ireland compared to the other members of EMU.

2.3 Credit Channel

The credit channel of monetary policy transmission complements the conventional interest rate channel and tends to amplify the standard interest rate effects of monetary policy. In the literature, two views have been put forward regarding how the credit channel may operate. These are:

Bank Lending Channel: Some firms may be dependent for funds from banks with no other external sources of finance available.⁹ Contractionary monetary policy may lead to banks reducing the quantity of loans they make and thus reducing the possibilities of bank finance for firms. This effect would be in addition to that of higher interest rates reducing the demand for loans.

Balance Sheet Channel: This emphasises the potential impact of monetary policy on the borrowers' financial position. The cash flow and net worth of firms are dependent on economic conditions. Firms secure loans by using collateral such as

⁹ It would be predominately small to medium sized firms that are dependent on financial intermediaries. Large firms may be able to raise funds directly from capital markets such as the stock market.

property, bonds or shares. However, the value of collateral fluctuates with economic circumstances and will be lower in recessionary times just when firms may most need credit. This can reduce the amount they can borrow and force a decline in investment. Higher interest rates will lower the value of assets used to secure loans and can reduce the amount of credit available to firms reliant on such credit.

3. Previous Results

Previous research has examined the effects of a temporary change in the central banks' short-term interest rate. Initial work concentrated on the US, a large closed economy, and so ignored any exchange rate effects. Researchers such as Christiano & Eichenbaum (1992) and Bernanke & Blinder (1992) find that output declined as a result of a change in interest rates, and reached its lowest value after 1 year. Prices also declined, but at slower rate.

Subsequent research focused on more open economies where the exchange rate channel alluded to above would come into play (see Sims 1992, Eichenbaum & Evans 1996, Grilli & Roubini 1996, Cushman & Zha 1998 and Kim & Roubini 2000). After some modifications researchers found similar qualitative results as found in the U.S. regarding the effect of interest rate changes on output and prices. In addition, they also found that higher interest rates led to an appreciation of the exchange rate. Previous research in an Irish context is summarised in McGettigan 1994. However, no studies have specifically focused on the impact of a temporary monetary policy changes on output, prices and the exchange rate collectively.

Monetary Policy in Ireland: A Brief Historical Background

Between 1979 and 1999 the Irish monetary authorities had control over domestic monetary policy, albeit with the constraints of being a member of the European Monetary System. They could influence in principle economic activity and the exchange rate by determining the rate of interest they charged to banks and influencing the amount of money in circulation in the economy. Interest rate changes by the central bank could thus impinge on the economy through various channels. With the advent of EMU, monetary policy is determined for the Euro area as a whole by the Governing Council of the ECB. The governing council comprises of the 12 governors of the participating national central banks and the 6 executive directors of the ECB. Interest rate changes made by the ECB now directly affect the activities of agents in the Irish economy. Thus, while monetary policy is now determined for the Euro area as a whole, the relevance of the transmission mechanism of monetary policy on the economy is as relevant as ever.

4. Results for Ireland

Based on current research, using a structural vector autoregressive framework,¹⁰ the effect of a temporary unanticipated increase in the short-term interest rate on output, prices and the exchange rate are plotted in Figure 1.¹¹ The analysis is based on data covering the period 1980 to 1996. Overall, our results are consistent with those found by previous studies in other countries regarding the impact of a change in monetary policy in an open economy setting.¹² In particular, we find that a temporary rise in the interest rate leads to a decline in output, which reaches a trough after one year and then slowly rebounds. In particular, a temporary 2 per cent increase in the interest rate leads to, at a maximum, a half percent reduction in output. The price level falls at a maximum by 0.1 percent. The results are consistent with those for the ECB euro-wide study.¹³ In addition, we witness the Irish pound appreciating against both the deutschmark and sterling with the onset of the interest rate change, over the period of analysis. With the advent of EMU, the exchange rate channel will operate in a different fashion. However, Euro interest rate changes will affect the value of euro vis a vis sterling and the US dollar and thus impinge on the Irish economy.

5. Conclusions

In this paper we outlined the main channels of monetary policy transmission and reported the effect of a temporary change in interest rates on output, prices and exchange rates based on a historical analysis between 1980 and 1996. The results are consistent with similar studies by the Fed in the US and the ECB. Both output and prices decline as a result of a rise in interest rates, with prices declining at a slower rate. However, the quantitative size of these effects are quite small. We also find that the Irish pound appreciates with the onset of the interest rate change. While monetary policy is no longer determined exclusively for Ireland, the transmission mechanism is certainly as relevant as ever and this study represents a first attempt to quantify it.

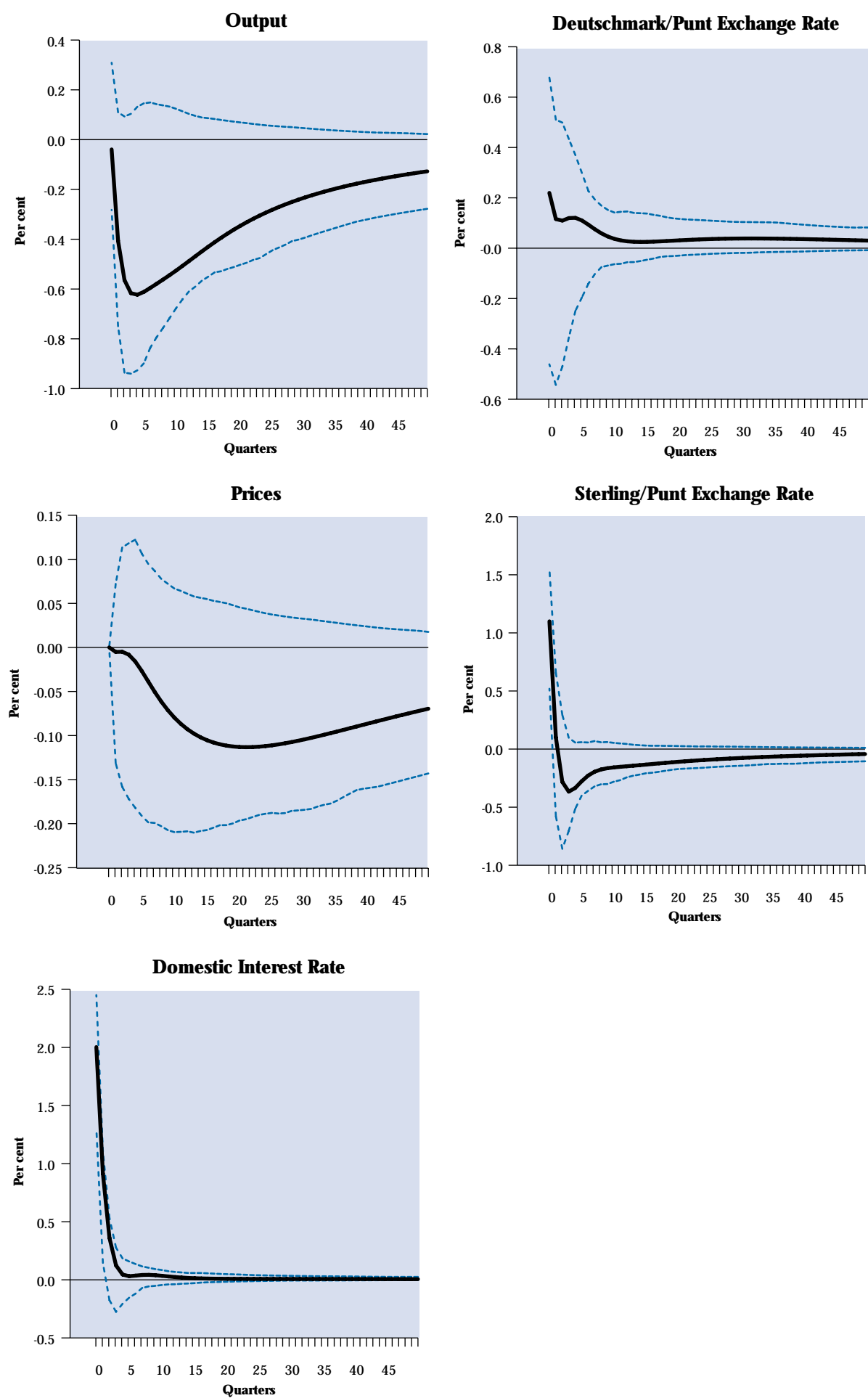
10 A full description of the model and the empirical results is included in Bredin and O Reilly (2001).

11 The solid line represents the response of the variable in question to a change in the interest rate while the surrounding broken lines refer to the 95 per cent confidence interval.

12 The results found here are qualitatively similar to those of the Central Bank's economic model.

13 See ECB Monthly Bulletin, July 2000.

Figure 1. Impulse Responses to Interest Rate Shock



References

- Bank of England (1999), 'The Transmission Mechanism of Monetary Policy' *Bank of England Quarterly Bulletin*, May, 161-170.
- Barran, F., V. Coudertand and B. Mojon (1996), 'The Transmission of Monetary Policy in the European Countries' *CEPR discussion paper*, 96-03.
- Bredin, D. and G. O'Reilly (2001), 'An Analysis of the Transmission Mechanism of Monetary Policy in Ireland', *Central Bank of Ireland Technical Working Paper*, 01/RT/01.
- Bernanke, B.S. and A. Blinder (1992), 'The Federal Funds Rate and the Channels of Monetary Transmission', *American Economic Review*, 82, 902-921.
- Christiano, L.J. and M. Eichenbaum (1992), 'Liquidity Effects and the Monetary Transmission Mechanism', *American Economic Review*, 82(3), 346-353.
- Cushman, D.O. and T.A. Zha (1997), 'Identifying Monetary Policy in a Small Open Economy Under Flexible Exchange Rates', *Journal of Monetary Economics*, 39(3) 433-448.
- Devine, M. and D. McCoy (1998), 'Inflation Targeting: A Review of the Issues', *Central Bank of Ireland Quarterly Bulletin*, 51-71.
- Eichenbaum, M. and C. Evans (1995), 'Some Empirical Evidence on the Effects of Shocks to Monetary Policy on the Exchange Rate', *Quarterly Journal of Economics*, 110(4) 975-1009.
- Ehrmann, M. (2000), 'Comparing Monetary Policy Transmission across European Countries', *Review of World Economics*, 136(1), 58-83.
- European Central Bank (2000), 'Monetary Policy Transmission in the Euro Area', *ECB Monthly Bulletin*, July, 43-58.
- Gerlach, S. and F. Smets (1995), 'The Monetary Transmission Mechanism: Evidence from the G7 Countries' *CEPR discussion paper*, 1219.
- Goodfriend, M. (1991), 'Interest Rates and the Conduct of Monetary Policy', *Carnegie-Rochester Conference Series on Public Policy*, 34, 7-30.
- Grilli, V. and N. Roubini (1995), 'Liquidity and Exchange Rates: Puzzling Evidence from G7 Countries', *Working Paper*, Yale University.

- Kim, S. and N. Roubini (2000), 'Exchange Rate Anomalies in the Industrialised Countries: A Solution with a Structural VAR Approach', *Journal of Monetary Economics*, 45, 561-586.
- King, R. (2000), 'The New IS-LM Model: Language, Logic and Limits', *Federal Reserve of Richmond Quarterly Economic Review*, 86(3), 45-103.
- McGettigan, D. (1994), 'The Monetary Transmission Mechanism and the Operation of Monetary Policy in a Changing Environment: A Review of the Issues', *Central Bank of Ireland Quarterly Bulletin*, Summer, 65-101.
- McGowan, P. (1993), 'The Operation of Monetary Policy in Ireland' *Journal of the Statistical and Social Society of Ireland*, XXVI(5), 1-54.
- Mojon, B. and G. Peersman (2001), 'A VAR Description of the Effects of the Monetary Policy in the Countries of the Euro Area', mimeo.
- Monticelli, C. and O. Tristani (1999), 'What Does the Single Monetary Policy Do? A SVAR Benchmark for the European Central Bank' *European Central Bank working paper* 2.
- Peersman, G. and F. Smets (2001), 'The Monetary Transmission Mechanism in the Euro Area: More Evidence from a VAR Analysis', mimeo.
- Ramaswamy, R. and T Sloek (1997), 'The Real Effects of Monetary Policy in the European Union: What are the Differences?', *IMF working paper*, 97/160.
- Sims, C.A. (1992), 'Interpreting the Time Series Facts. The Effects of Monetary Policy', *European Economic Review*, 36(5), 975-1011.