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Ireland: Selected Issues and Statistical Appendix

This Selected Issues and Statistical Appendix report on Ireland was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with this member country. As such, the views expressed in this document are those of the staff team and do not necessarily reflect the views of the Government of Ireland or the Executive Board of the IMF.

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IRELAND

Selected Issues and Statistical Appendix

Prepared by a staff team consisting of Andrew Tweedie (RES),
Robert Hagemann, Brian Aitken and Natasha Koliadina (all EU1)

Approved by European I Department

July 19, 2000

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I. IRELAND'S PROPERTY BOOM FROM AN INTERNATIONAL PERSPECTIVE¹

A. Developments in Ireland's Property Markets

House price developments

1. Since the early 1990's Ireland has experienced a dramatic increase in property prices, as rapidly growing demand has outpaced relatively inelastic supply. During 1996-99 the price for the average new house increased at an average rate of 17 percent per year, or a cumulative increase of 90 percent. In real terms, this is equivalent to an annual rate of increase of over 15 percent and a cumulative increase of 77 percent. Price inflation for existing houses has been even higher, with the average price increasing at an annual rate of 22 percent (Figure 1). The boom has been especially pronounced in Dublin, where during the same period prices have more than doubled in real terms. Rising building costs have accounted for only a small part of this growth; since 1994 building cost inflation has averaged one-fifth of house price inflation, with rising land prices accounting for most of the difference. While official data show that average house price inflation slowed to 13-14 percent in the first quarter of 2000, this slowdown may be biased by a sharper slowdown in the high end of the housing market; indeed, the Irish Permanent index, which attempts to control for changes in the composition of house purchases, shows house price inflation continuing in the range of 20 percent in the first quarter.²

The commercial property market

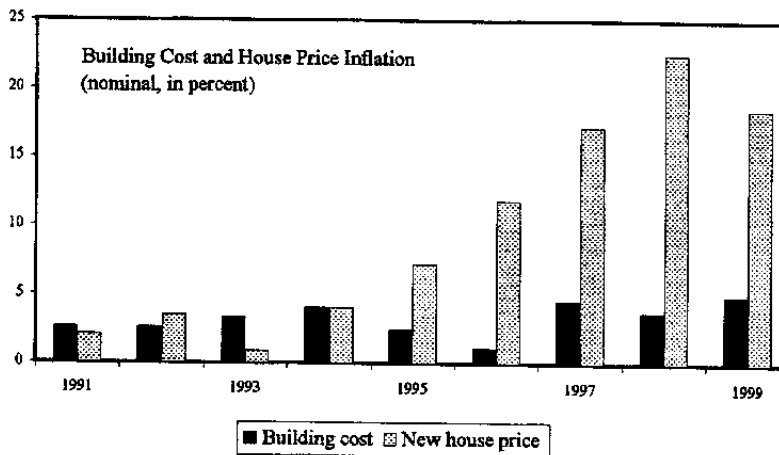
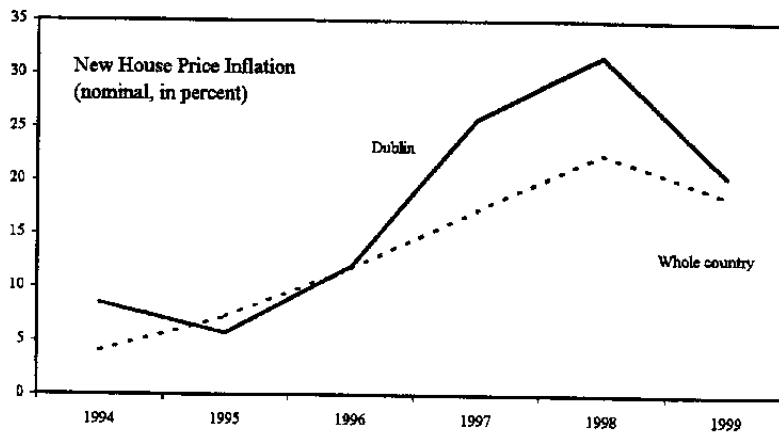
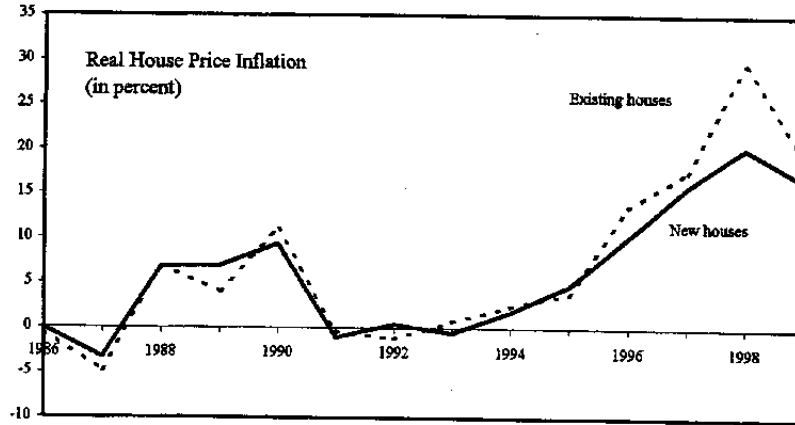
2. Along with residential property, commercial property has also experienced rapid price increases. Capital values for commercial property began to rise slowly from the beginning of 1994 before accelerating sharply from 1996 onwards, with the annual rate of increase peaking at 33 percent in 1998 (Figure 2). Increases have been particularly pronounced in the office and retail sectors. Reflecting the current strong demand in the commercial property market, vacancy rates have fallen sharply and rents have risen. International experience demonstrates that unsustainable commercial property booms associated with high levels of debt financing may involve serious macroeconomic risks (for example, the cases of Japan, Sweden, Norway, Finland, and the U.S. Savings and Loan crisis).³ This does not currently appear to be a

¹ Prepared by Brian Aitken.

² The house price data used in this paper are based on official data on the average house price for which loans were approved by mortgage lenders, as published in the *Housing Statistics Bulletin*. The Irish Permanent index, published together with the Economic and Social Research Institute (ESRI), has methodological advantages but goes back only to 1997. The Irish Permanent index and the official data show the same general pattern of house price inflation, although there are differences at higher frequencies.

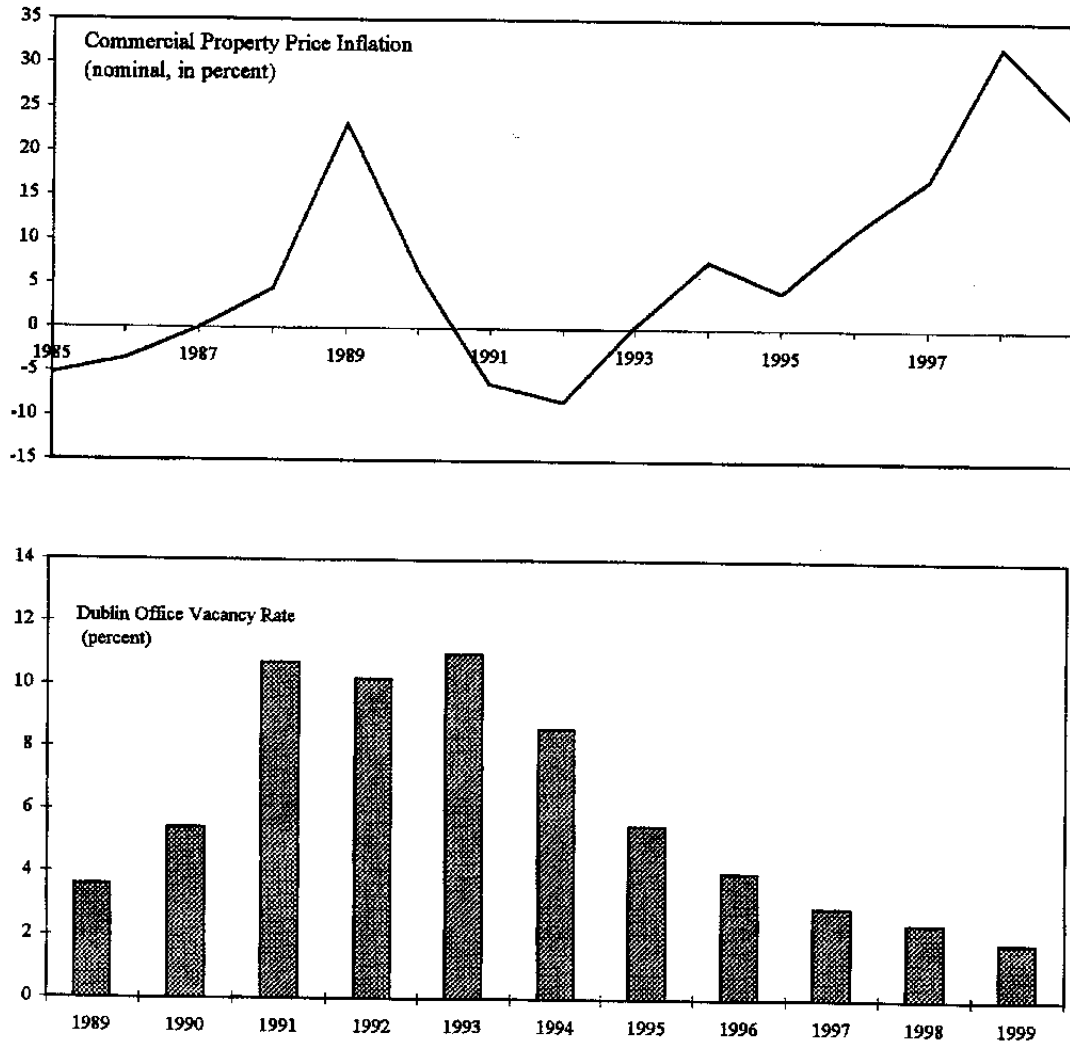
³ See Drees and Pazarbasioglu (1998), and Herring and Watchter (1999).

Figure 1. Ireland: House Prices and Costs



Source: Housing Statistics Bulletin.

Figure 2. Ireland: Commercial Property Market



Source: Jones Lang LaSalle; Hamilton Osborne King.

concern in Ireland, given that overall banking exposure to the commercial property market — while rising rapidly— remains relatively low, at about 10 percent of total bank lending (8 percent of GNP). However, it could become a concern in the future if price inflation and lending growth continue at current rates. Vacancy rates are low at present, but large increases in supply of office space and hotels are planned or currently underway (O'Connell and Quinn, 1998). Historically the commercial property market in Ireland has exhibited many of the characteristics of a cobweb model, where an improvement in business conditions elicits a lagged supply response which then accentuates the downturn when business conditions worsen, projects begin to come on stream, and vacancy rates rise. Given the sensitivity of commercial property to the business cycle, an economic downturn of even modest proportions could have serious consequences for investors in marginal projects.

3. With the factors influencing the residential and commercial property markets similar in many ways, the rest of this paper focuses on the residential property market, which has been a source of much attention in Ireland and where international comparisons are somewhat easier to draw. However, the commercial property market is subject to similar risks, and will need to remain a focus of attention for the authorities and private market lenders alike.

Housing market fundamentals

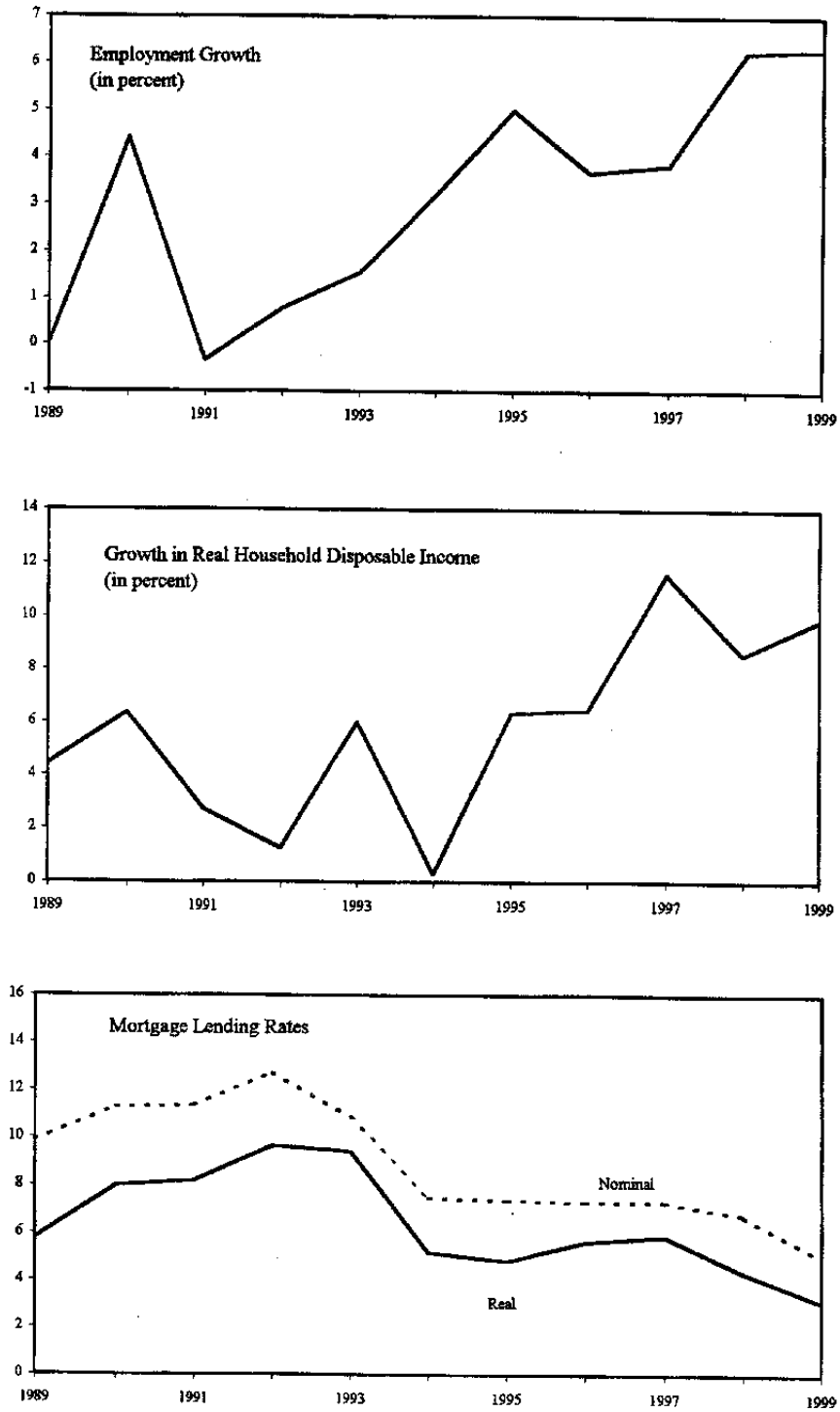
Housing demand

4. Demand for housing in Ireland has been underpinned by longer-term demographic trends, including population growth, a gradual increase in the share of the population in the main household formation group (aged 25-44), and a tendency for the size of the average household to fall towards the European average. The latter tendency has become more important recently as factors associated with Ireland's strong economic performance, including a 30 percent increase in employment during 1993-99 and a 7 percent average annual increase in real household disposable incomes, have led to an increase in the rate of household formation (Figure 3). In addition, housing demand has been boosted by a substantial fall in interest rates, with real mortgage rates falling in 1999 to 1/3 of their peak in 1992. Migration has also contributed to demand growth in recent years as net inflows, particularly in household-forming age groups, have increased sharply in response to improved economic conditions. According to ESRI estimates, about 1/4 of the increase in housing needs between 1991-96 and 1996-01 is accounted for by changes in migration (Duffy et al, 1999).

Housing supply

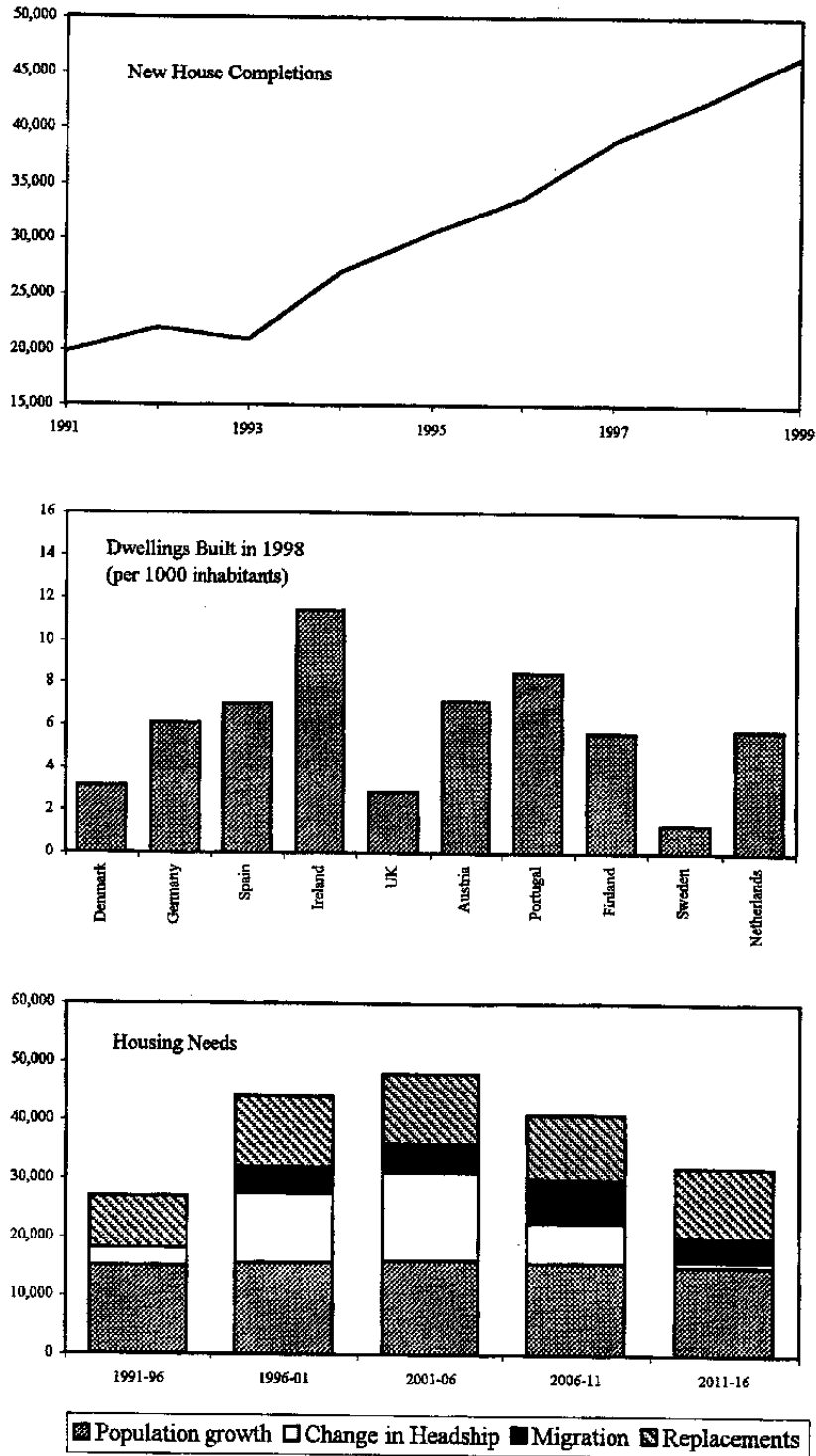
5. Ireland began the property boom with a relatively low housing stock, with the number of houses per capita only about 2/3 of that in the rest of Europe. But accelerating demand has brought about a rapid increase in the rate of supply. The flow of new house completions has grown at an average annual rate of 11 percent in 1993-99, compared to growth of 2 percent for the period 1991-93. Annual flow supply currently represents about 4 percent of the housing stock, and the number of new house completions per capita now exceeds that in the rest of Europe by a large margin (Figure 4).

Figure 3. Ireland: Housing Demand Fundamentals



Source: Central Statistics Office, European Mortgage Federation, and staff estimates.

Figure 4. Ireland: House Supply and Housing Needs



Source: Housing Statistics Bulletin, European Mortgage Federation, Economic and Social Research Institute.

6. Given the initial low housing stock, house construction on this scale is to some extent a natural response to Ireland's long-run demographic convergence. The rapid increase in new house construction has placed considerable strains on infrastructure and planning. As a result, a number of bottlenecks have emerged, including a shortage of land serviced by water, public transport, and roads, and difficulties in securing required planning consents and in proceeding with the development of large-scale housing projects. Nevertheless, supply on this scale is expected to continue for some time as Ireland's headship rate, the number of adults per household, continues to fall towards European averages. At current rates of house completion, flow supply may now be broadly adequate to accommodate this convergence. Duffy et al (1999) of the ESRI estimate that if rates of in-migration remain at levels comparable to those experienced in the last several years, and if Ireland's headship rate falls steadily, reaching U.K. levels by 2011, the underlying rate of household formation over the next 10 years will be on a par with the current rate of new house construction (Figure 4). As discussed in Section C, however, the rate at which the headship ratio declines is not determined by demographics alone, but also depends on how households respond to current and expected future house price inflation.

B. Are Price Developments Justified by Fundamentals?

7. With growth in the housing stock now more or less in line with projected annual household formation, some analysts had been predicting that by now house price inflation would have slowed to single-digit rates.⁴ Yet prices continue to rise rapidly, with only a modest deceleration now expected in the next couple of years.⁵ This raises concerns about whether property prices are beginning to overshoot levels that can be sustained.

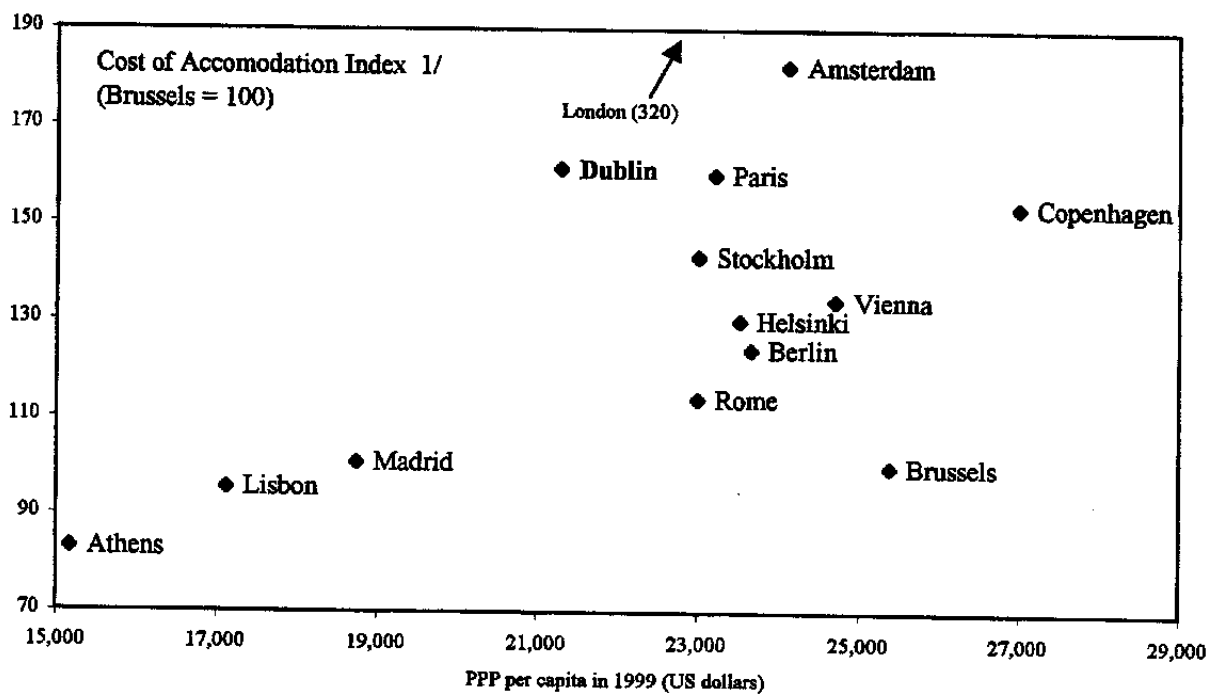
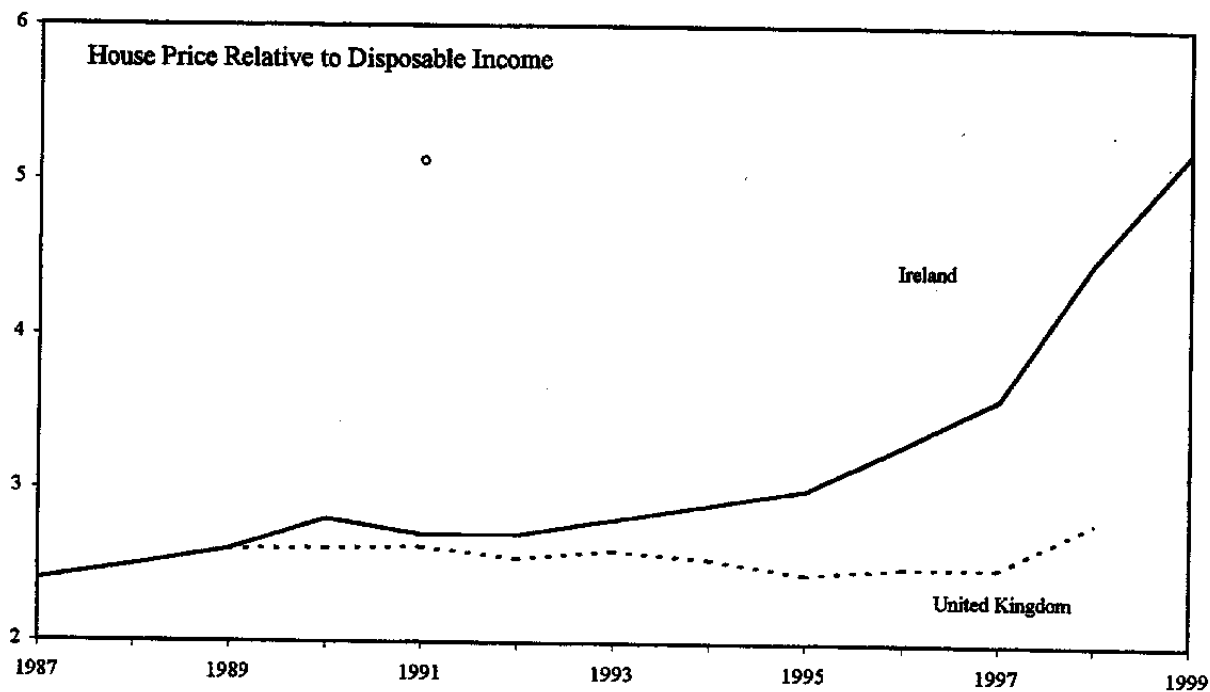
Affordability

8. One way of assessing whether current prices are sustainable is to ask what they imply about the affordability of housing; if house prices become unreasonably expensive, demand can be expected to dry up at some point, forcing prices back down. Some current measures might be interpreted to suggest that house prices in Ireland have already reached levels which are unsustainably high. The ratio of house price to disposable income has reached its highest level since the 1970's and is substantially higher than U.K. levels, both at present and during the U.K.'s property boom of the late 1980s (Figure 5). Moreover, house prices now appear to be among the highest in Europe; comparing across countries the cost of accommodation, a measure which attempts to control for differences in quality, housing costs in Dublin are now

⁴ See for example Bacon (1998) and Davy Stockbrokers (1999).

⁵ Bacon (2000) forecasts real prices for new houses to increase by 17 percent in 2000 and 15 percent in 2001. A similar rate of increase has been projected recently by a number of other analysts, including Irish Permanent, Davy Stockbrokers, and Goodbody Stockbrokers.

Figure 5. House Price and Earnings Comparisons



Source: Central Bank of Ireland, Goodbody Stockbrokers, Eurostat, and staff estimates.

1/ Estimated for end-1999 based on Eurostat data for June 1999 and relative house price growth for July-December.

estimated to exceed costs in Berlin and Paris despite substantially lower income levels in Ireland (although they remain well below those in London) (Figure 5).

9. But price-to-income ratios alone do not adequately capture all aspects of affordability. One reason (discussed below) is that high expected future income growth would ease future mortgage debt service burdens for a given price-to-income ratio today. Another reason is that the fall in mortgage interest rates in recent years has helped to moderate the effect of higher house prices on mortgage debt service. One way of assessing affordability which accounts for changes in interest rates, is to measure the ease with which new entrants to the housing market—or marginal buyers—can service their mortgage. Bacon (2000) calculates one such measure defined as the ratio of net after-tax income of the marginal buyer to mortgage servicing costs, and shows that affordability for the new buyer has deteriorated sharply in recent years, falling to levels comparable to previous lows in the late 1980s (Figure 6). It is worth noting that this measure can deteriorate sharply if interest rates rise; this is particularly relevant for Ireland given that most mortgages carry what are in effect variable rates. Another aspect of affordability is the ease with which potential house buyers can obtain the needed financing. As prices rise, new buyers must either borrow a greater portion of the purchase price or provide more equity at the time of purchase. Since average loan-to-value ratios have remained steady at about 60 percent,⁶ rising house prices have resulted in a rapid increase in equity provided by the buyer, both in absolute terms and as a share of disposable income (Figure 6). This rising equity burden represents an additional aspect in which affordability has fallen for the marginal buyer.

10. It is worth noting that while affordability has been declining rapidly for new house buyers, Ireland began the boom with a relatively low level of indebtedness, and exposure of the household sector as a whole to mortgage financing remains modest by international standards. Falling interest rates have actually reduced the debt service burden for households who owned homes when the boom began, keeping the mortgage debt service burden, when averaged across all households, from rising as rapidly as for marginal households. Despite the sharp deterioration in affordability for new entrants to the housing market, the average mortgage repayment burden measured across all households, at just over 20 percent of disposable income, remains below its previous peak of nearly 30 percent in 1982, and well below ratios of nearly 40 percent in the U.K. during the property boom of the 1980s. Likewise, Ireland's volume of mortgage debt, given its low starting point, remains below that of many other European countries (Table 1).⁷

⁶ Loan-to-value ratios for first time buyers are generally higher than average ratios. Mortgage lender data show that loan-to-value ratios for first-time buyers are generally in the 70 to 90 percent range, with about 1/3 of first-time buyers receiving loan-to-value ratios of about 90 percent (Goodbody, 1999).

⁷ Based on these factors, the European Central Bank (2000) concluded that there appears to be no major systemic threat to the Irish banking system from a decline in real estate prices. A
(continued...)

Table 1. Outstanding Residential Mortgage Debt as a Share of GDP in European Countries
(percent)

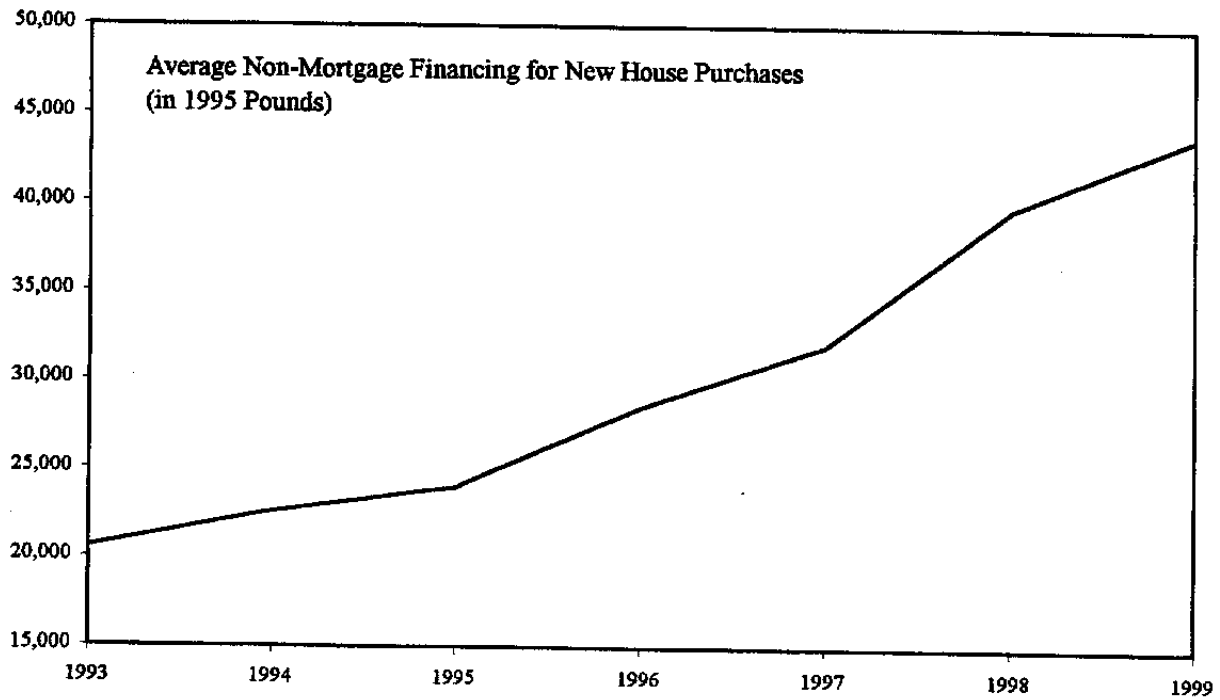
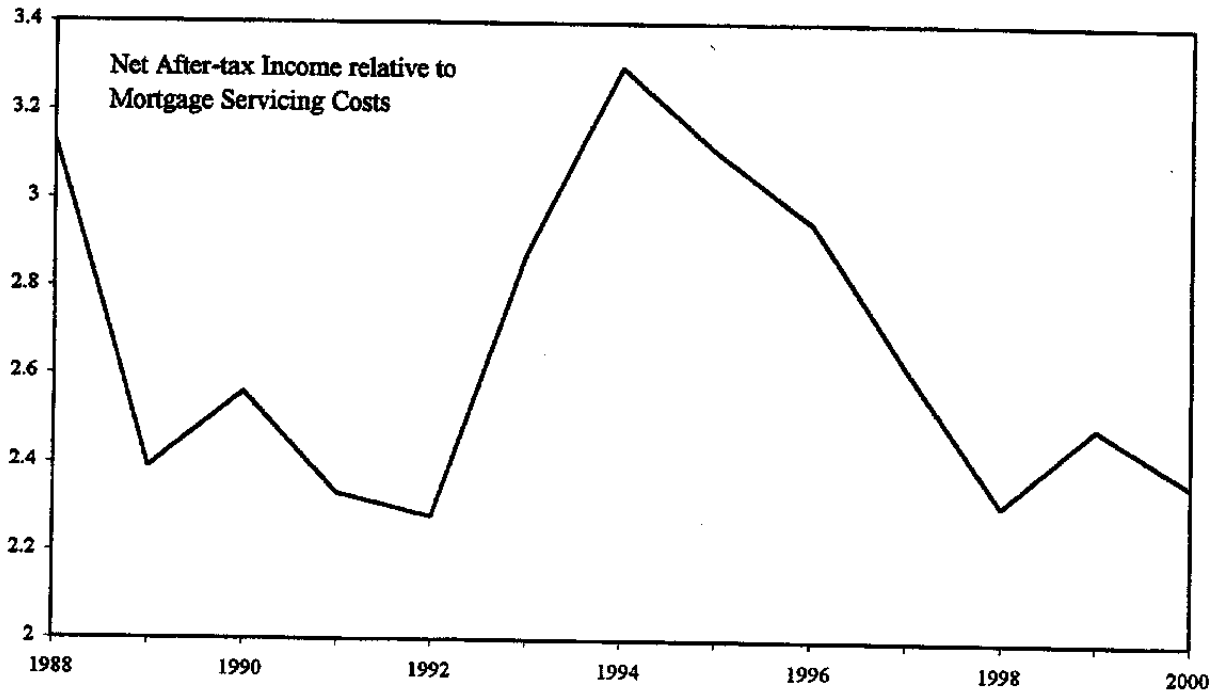
	1990 1/	1998
Denmark	63	69
Netherlands	40	65
United Kingdom	55	57
Germany	43	53
Norway	48	45
Sweden	47	50
Finland	32	30
Ireland (in percent of GNP)	19	37 2/
Portugal	11	26
Belgium	20	25
Spain	14	24
France	24	21
Italy	5	8
Greece	5	7
Austria	4	5

Source: European Mortgage Federation and staff estimates.

1/ For Denmark 1992 is used.

2/ Ratio for 1999.

Figure 6. Ireland: Measures of Affordability for New Buyers



Source: Bacon (2000) and staff estimates.

11. Moderate overall levels of indebtedness do not necessarily imply that house price levels are currently appropriate. Given that an increase in house prices improves the net worth of existing home owners by increasing their assets while leaving their mortgage debt unchanged, what may be more relevant for assessing whether house price increases can be sustained is how these increases affect the demand of new house buyers. Nevertheless, the relatively low average indebtedness does suggest that mortgage lending may continue to expand rapidly for some time before overall debt level concerns become a binding constraint.⁸ If house prices continue to grow at double-digit rates as projected by Bacon (2000), debt-to-GNP ratios would rise to about 42 percent by 2001, high by Irish standards but still well below that in many European countries.

The historical relationship between house prices and fundamentals

12. Another approach to assessing whether the increase in house prices can be justified is to relate historical price developments to a basket of observed fundamentals. In this approach, property prices are estimated as a function of key fundamental variables such as real interest rates and income growth, and in some cases demographic variables and construction costs.⁹ The unexplained component in this relationship is often interpreted as an indication of price misalignment.

13. Along these lines, a recent background study for the May 2000 World Economic Outlook found that based on a relationship between property prices, GDP growth, real interest rates, and inflation estimated using panel data for industrial countries, property prices in Ireland may be overvalued by a margin similar to those estimated for the U.K. and Sweden during their property booms in the late 1980s (Figure 7; top panel). However, this study did not take explicit account of demographic changes which are driving part of Ireland's current price growth.

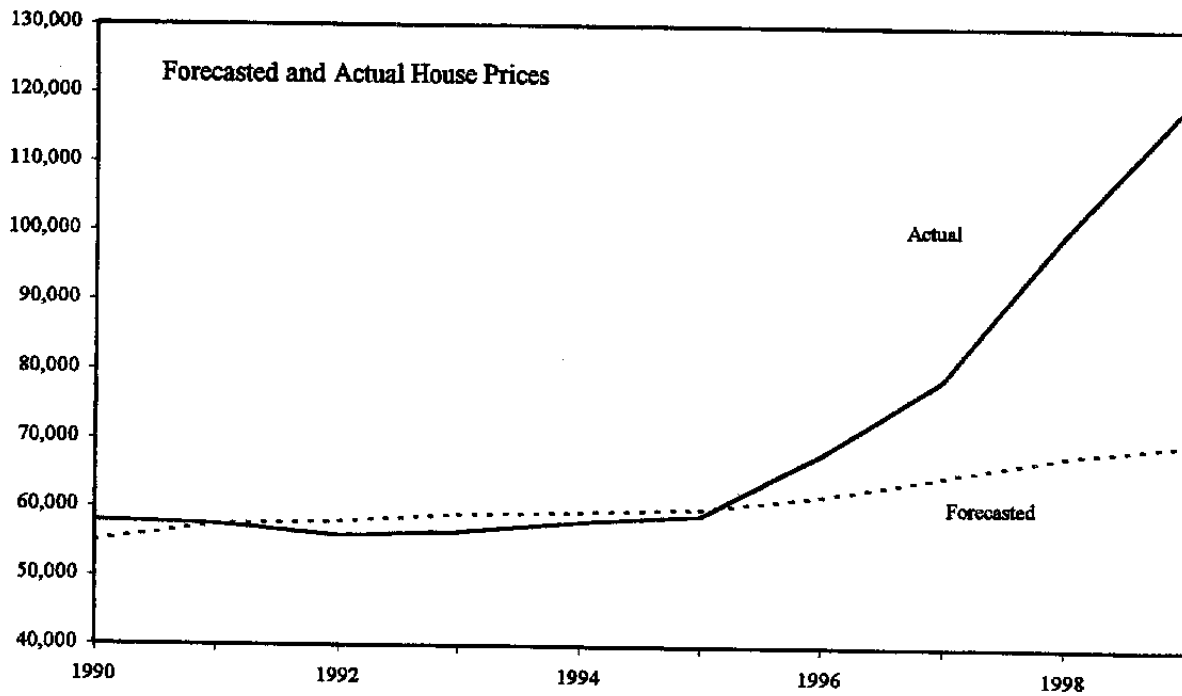
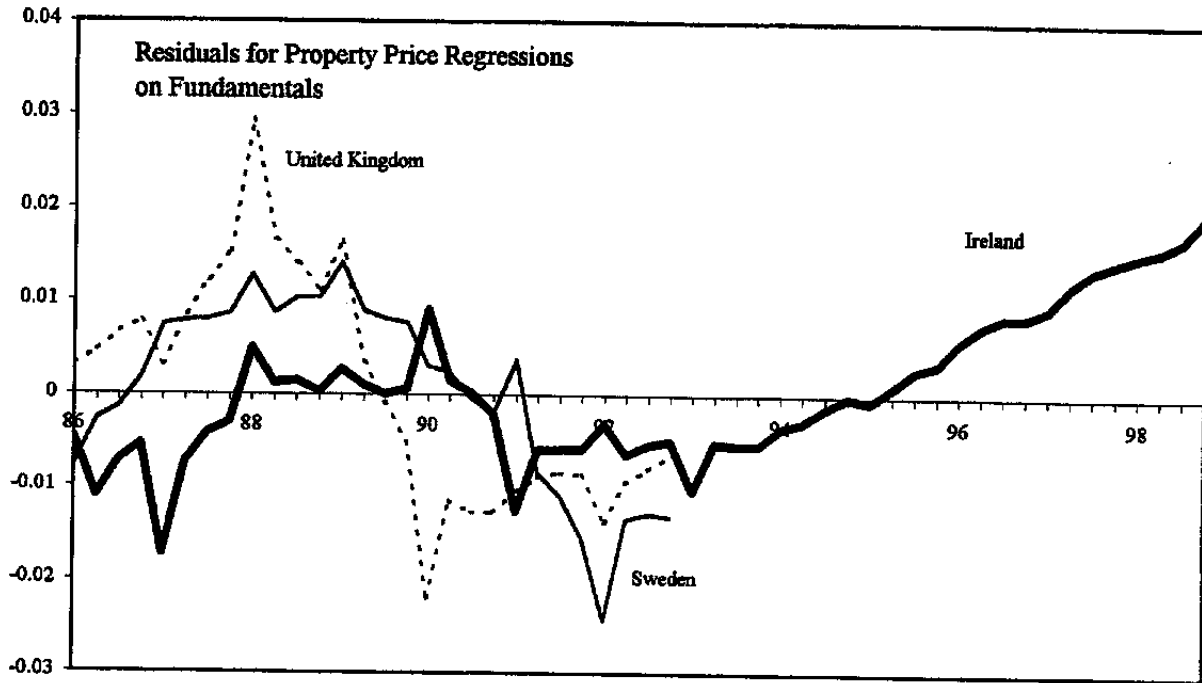
14. Using a similar approach but accounting for factors such as demographics and housing stock, Bacon (2000) estimates a housing demand equation for Ireland over the period 1972-96, and uses the parameters to compare predicted house prices for 1997-1999 with actual price developments. Based on this comparison, demand in the later years has been far

similar conclusion was reached by the recent FSAP mission, on the basis that major banks are well capitalized and have relatively diverse portfolios.

⁸ Moreover, low indebtedness might partly explain why housing demand remains strong despite a sharp decline in affordability for the marginal buyer. One apparently common way of increasing affordability for new buyers is for relatively debt-free home-owning parents to take out a mortgage against the capital gains on their own home and apply this to their children's home purchase, thereby reducing the debt service burden their children face.

⁹ See Abraham and Henderschott (1996), Higgins and Ostler (1998), Kalra et al (2000) for recent examples.

Figure 7. Ireland: House Price Deviations from Fundamentals



Source: WEO (2000) and Bacon (2000).

above that which would be predicted by growth in personal income, demographics, interest rate developments, and other factors (Figure 7; bottom panel). Bacon interprets these results as suggesting that current demand for housing is exceptionally high, with expectations of future price increases themselves accelerating the rate of household formation; he estimates that in 1999 the volume of this "speculative/transitory" demand was equivalent to one year's volume of new house completions.

15. While the results of these studies are informative, it is difficult to draw strong conclusions that prices are inappropriately high, particularly in the case of Ireland where the change in the economic environment has been dramatic. It is true that house prices have outpaced growth in personal income, one of the measured fundamentals with the most explanatory power. But in addition to current personal income levels, housing demand is also driven by expected future personal income. If income growth in Ireland is expected to be higher than in the past, which may well be the case given Ireland's growth prospects, this would justify house prices growing faster than current income. Likewise, what drives demand is not just the current cost of house financing, as proxied by the real interest rate, but the expected future cost. In this regard, joining EMU represents something of a regime shift, with increases in real interest rates in the euro area likely to be less dramatic than those occurring in Ireland in the past.¹⁰ Knowing this, households might be expected to take on more mortgage debt than in the past, pushing prices higher than would be explained by current real interest rates alone. These considerations make it difficult to draw any firm conclusions from the fact that house price movements do not appear to be fully explained by movements in observed fundamentals.

C. Expectations-led Overshooting in Housing Markets

16. The above discussion suggests that, while Ireland's fundamentals are strong, it is unclear whether or not these fundamentals can fully justify the recent high rates of house price inflation. However, even with strong underlying fundamentals, at some point rapid sustained price growth itself becomes a concern. The question here is at what point does rapid price growth sustained over several years lead to expectations of further price growth, giving rise to self-fulfilling expectations-driven demand followed by price overshooting?

17. In basic asset price models, expectations can lead to self-fulfilling price movements and overshooting. The process by which this can take place is well-known (see De Long et al., 1990). A shift in investor sentiment towards a given asset, for example, will increase its price. If investors interpret this increase as portending a trend, they will be encouraged to buy, pushing prices up further. In these circumstances, arbitrageurs who would otherwise sell might actually find it advantageous to go along with shifts in sentiment in the short run even if

¹⁰ Between 1981 and 1987, for example, real mortgage interest rates in Ireland increased by some 14 percentage points (O'Connell and Quinn, 1998).

they expect these shifts to be reversed at some point in the future. The result is asset price overshooting and bubble-like booms and busts.

18. The property market may be even more susceptible to overshooting than other asset markets for several reasons. Housing differs from financial investments in that it also confers the service of accommodation, so that for many, the issue is not whether to buy but when. With widespread uncertainty over future price developments, those potential house buyers expecting high house price inflation to continue will want to move forward the date of their purchases, increasing demand now. If enough buyers do this, expected price increases will become self-fulfilling. This process could be self-reinforcing if continued price inflation leads others to revise their expectations in the direction of further increases. Naturally, those who come to see prices as exceeding fundamentals would want to sell short, offsetting higher demand and putting downward pressure on prices. In the case of housing, however, there is no mechanism for these investors to act on their expectations.¹¹

19. Two additional considerations might make Ireland's housing market prone to overshooting. First, the relatively undeveloped rental market limits the scope for those households expecting prices to fall to act on their expectations by selling now with the intent to buy later when prices have fallen. For those expecting price inflation to continue, the underdeveloped rental market also may imply a greater incentive for future house buyers to buy now based on the fear that otherwise they will be priced out of the housing market altogether and will have few options to rent. Second, Ireland's low indebtedness might actually fuel expectations-led demand by giving households who might otherwise wait to buy the scope to act on their expectations and buy now; as discussed earlier, falling affordability for the marginal buyer might be less effective in restraining expectations-led demand if mortgage debt is spread out over a relatively low-indebted population through intergenerational transfers.

20. Finally, Ireland's favorable medium-term outlook may add to the risk of overshooting. Medium-term growth prospects are widely viewed as strong, with equally strong growth prospects for disposable income. In addition, the government is actively promoting inward migration as a means of alleviating labor shortages, and has projected that some 200,000 additional workers may be needed in coming years to sustain buoyant growth. This outlook is likely to give confidence to potential home-buyers that demand will remain strong, and consequently that rapid house price inflation will continue for some time to come. In this case, households might have solid reasons for moving forward their demand.

D. Comparing Ireland's Property Boom with Other House Price Booms

21. In considering whether rapid house price increases sustained over several years tend to lead to price overshooting, it is useful to look at other booms, and compare price behavior in

¹¹ For a model of land prices with heterogeneous real estate investor perceptions, see Carey (1990).

these episodes with Ireland's. Many industrial countries experienced major property booms in the 1980s; most notably the Nordic countries, the United Kingdom, Spain, and Japan, and within the United States, California, and the New England states. The experience in the United States, measured at the state level, may be particularly relevant for Ireland for two reasons: (i) the U.S. states offer a variety of regional property market experiences within a common currency area; and (ii) since houses are fixed in location, property markets are in essence regional markets, and the U.S. states may offer a more appropriate comparison to Ireland's property market than the U.S. or other large countries taken as a whole. All of the episodes of the 1980s, both within the United States and in other countries, ended with price falls, in some cases quite dramatic. In contrast, many euro area countries and western U.S. states are currently experiencing or have experienced significant property price inflation in the 1990s, so far without collapse. If episodes where property prices have grown by an average annual rate of 5 percent or more in real terms for at least 3 years are considered, there have been nearly 40 such episodes of sustained property price inflation among the industrial countries and U.S. states in the last 20 years. A complete list is given in the Appendix Table A1, but the characteristics of these booms are summarized in Table 2.¹²

22. It is clear that recent house price inflation in Ireland has been close to the highest among industrial country episodes in the last 20 years (Figure 8). Only Spain during 1986–91 experienced a noticeably higher annual average growth rate, with Ireland's rate of over 15 percent during the period 1996–99 comparable to rates in Finland and Rhode Island. In terms of cumulative increases, Ireland's 77 percent is again close to the top, exceeded only by Spain, Massachusetts, New York, and Connecticut.

23. Have these booms all ended with collapse, or have there been episodes where high inflation is followed by a soft landing? And how does Ireland's current growth experience fit in with these experiences? Comparing house price inflation during the boom with subsequent growth, it is clear that most high inflation episodes have been followed by price declines. There is a pronounced tendency for these declines to be larger the higher the growth during the boom (Figure 9). This is particularly true when ranking episodes by annual growth rates. Countries and regions experiencing booms comparable to Ireland's have all suffered sizable price declines; the most extreme case was Finland, where prices declined by 46 percent in four years, but even excluding Finland, episodes characterized by real house price inflation of 14 percent or more suffered on average a loss in the next four years of over 40 percent of the cumulative price increase during the boom.

24. The tendency observed in Figure 9 for higher growth to be followed by greater falls is what would be expected if rapid house price inflation gave rise to self-fulfilling expectations-driven demand; the farther prices rise relative to fundamentals as prices overshoot, the farther they must fall later on if they are to return to fundamentals when expectations are reversed.

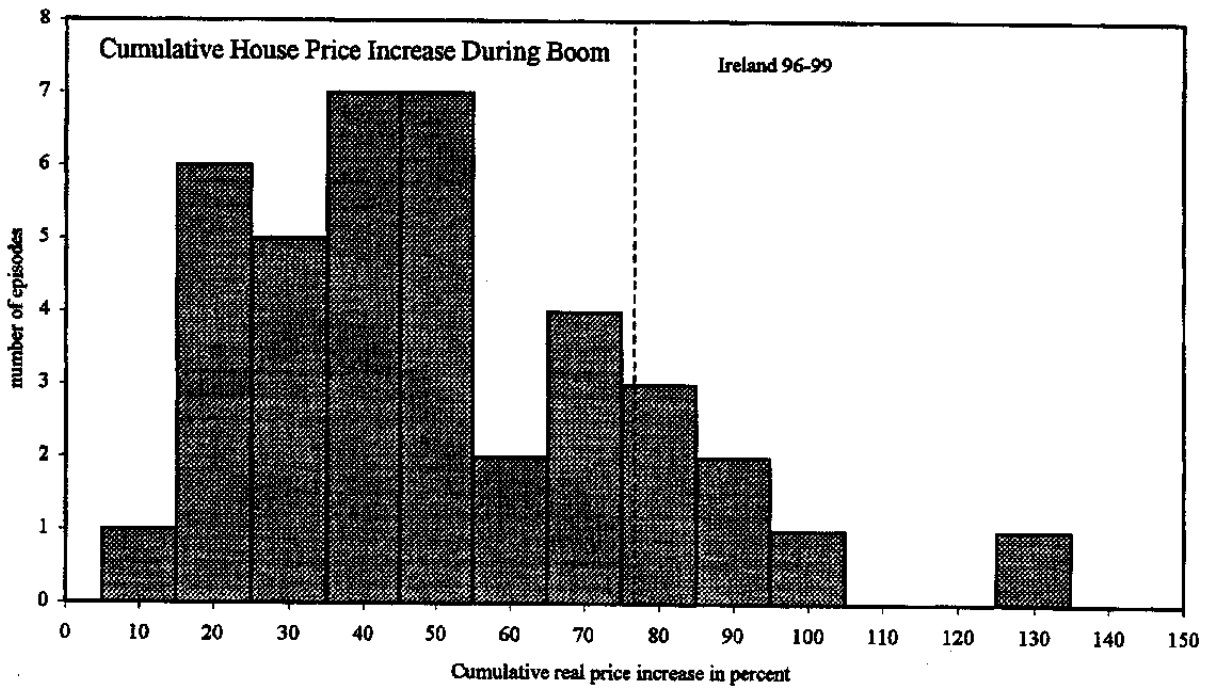
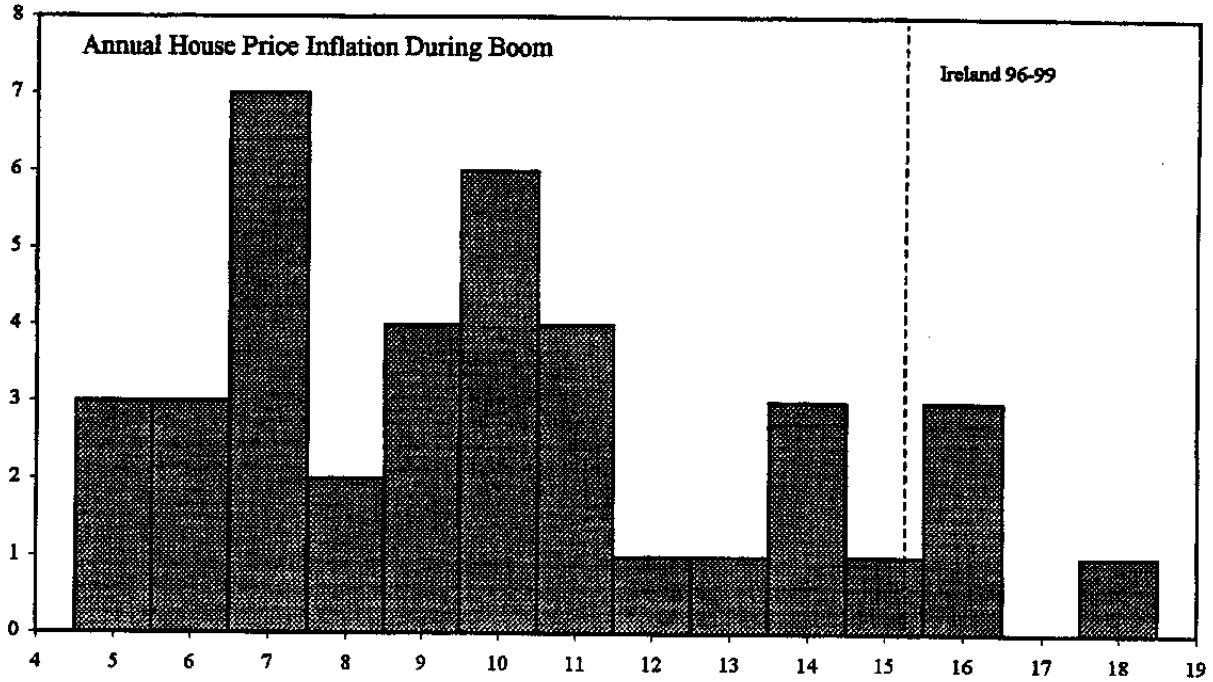
¹² Price data for the U.S. states are from Freddie Mac's Conventional Mortgage Home Price Index, deflated by the CPI. Data for other industrial countries are from the BIS's Real Residential Property Price Index.

Table 2. Summary of Industrial Country Property Booms of the 1980s and 1990s

	Number of episodes	Duration (years)	Average house price inflation	Cumulative house price increase	Change four years after boom	Share of house price increase lost
			(real price change in percent)			
Ireland	...	4	15.3	77	...	...
All booms	38	4.4	10.2	54	...	...
minimum		3	5.3	18	...	...
maximum		9	18.4	133	...	...
Booms that ended with declines	25	4.3	11.7	62	-17	46
minimum		3	6.7	22	-46	9
maximum		7	18.4	133	-2	127
Booms that ended without declines or are currently underway	13	4.6	7.3	37	5	...
minimum		3	5.3	18	0	...
maximum		9	10.9	60	9	...

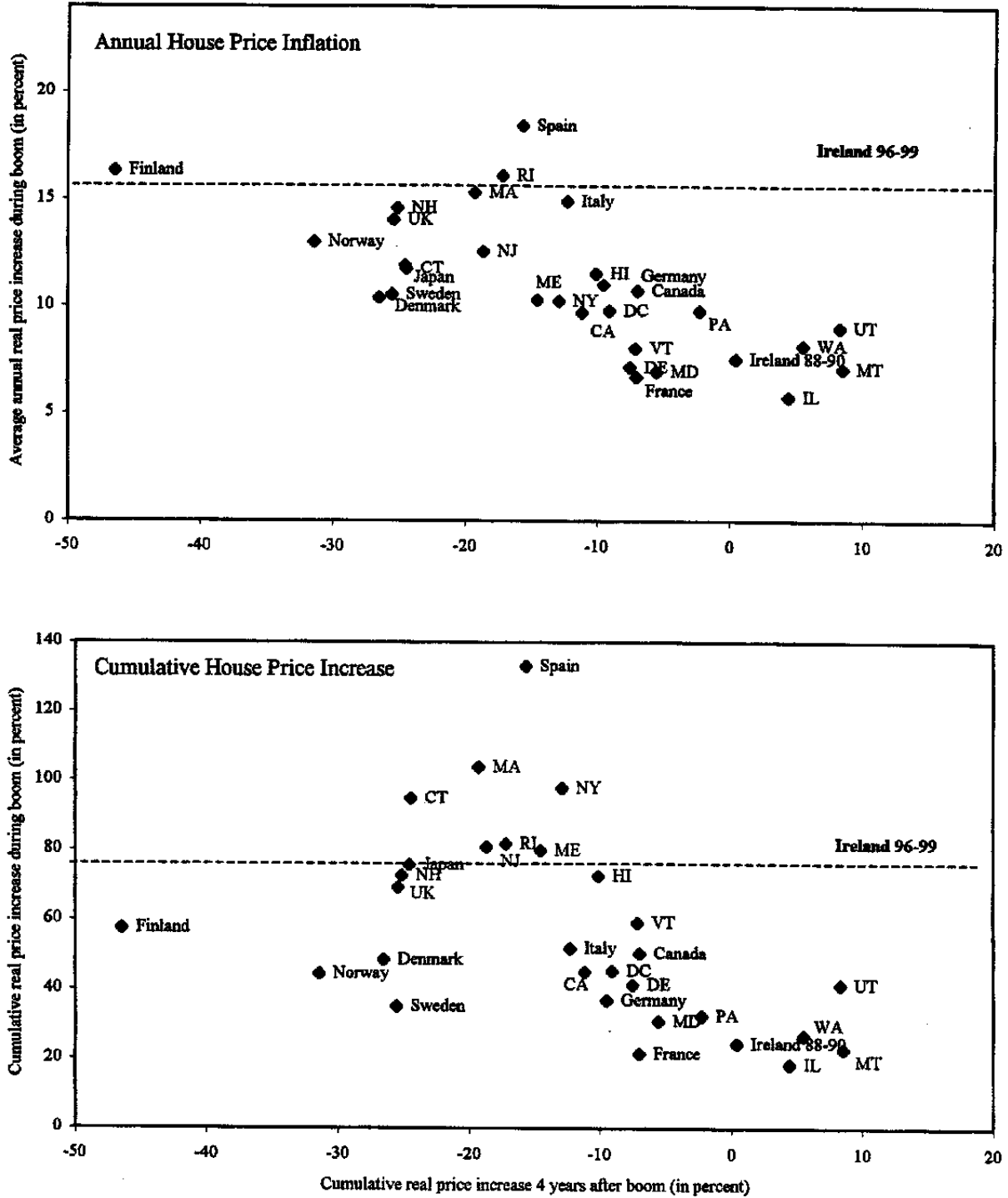
Source: Housing Statistics Bulletin, BIS, and staff estimates.

Figure 8. House Price Increases in Industrial Country Property Booms



Source: Housing Statistics Bulletin, BIS, and staff estimates.

Figure 9. House Price Increases in Industrial Countries During and After Property Booms



Source: Housing Statistics Bulletin, BIS, and staff estimates.

The role of expectations-driven overshooting is also supported by price movements within the United States which suggests that differences in monetary policy across regions cannot account for this tendency. During the 1980s most U.S. regions did not experience property booms, but for those that did, the regions with the highest house price inflation during the boom also suffered the greatest collapses (Figure 10). This tendency appears to hold even after accounting for differences in observed fundamentals such as mortgage rates, construction costs, and per-capita income and employment growth (Higgins and Osler, 1998). While it is possible that unobserved or unmeasured fundamentals were driving these price movements, in order to explain such a phenomenon, those fundamentals would need to have deteriorated most sharply in precisely those regions where they had previously improved most sharply.

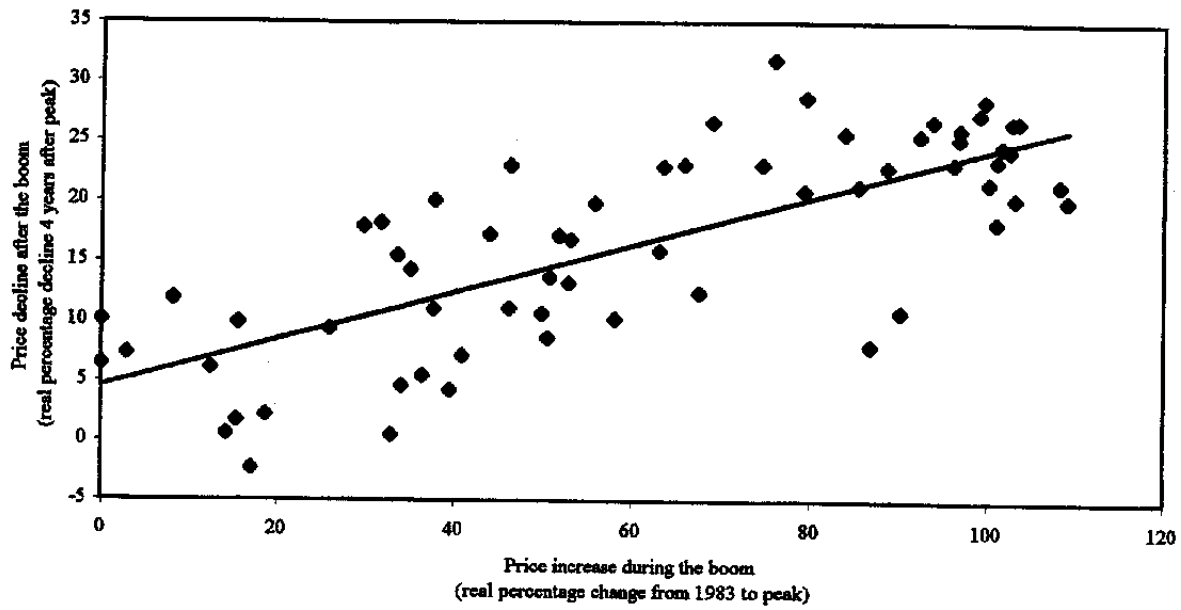
25. While nearly all the 1980s booms ended badly, those in several euro area countries and Western U.S. states in the 1990s are either still underway or have been followed by soft landings. Price inflation in these episodes is driven by many of the same fundamental factors as in Ireland, including high income growth, and in many cases rapid inward migration. In comparing house price inflation in these episodes to Ireland's, it is clear that house price increases in Ireland, in terms of both annual and cumulative increases, have been significantly higher than in all other episodes (Figure 11). Based on rates of increase alone, Ireland's experience looks more like the booms in the 1980s than those of the 1990s.

26. In addition to the property booms in industrial countries, several newly-industrialized Asian economies experienced dramatic and prolonged property price inflation beginning in the mid-1980s. Price increases were particularly impressive in Hong Kong SAR and Singapore where prices more than tripled over the course of 10 years. Prices subsequently declined, but still remain about twice the level at the start of the boom. Comparing a few selected episodes for which data are available with Ireland suggests that were price inflation to moderate in Ireland in the near future, the cumulative increases would still be in line with the cumulative increases in Hong Kong SAR and Singapore over the span of their boom-bust cycles. (Figure 12) Given that Ireland shares many characteristics with these economies, such as high rates of economic growth and physical constraints on the capacity to expand housing supply in the short run, these episodes may suggest that there could still be room for further increases in house prices in Ireland before the overall increase would approach the Asian experience. On the other hand, the fact that these episodes ended with significant price declines suggests that this experience may not necessarily be a source of comfort regarding the prospects for a soft landing in the Irish housing market.

E. Interpretation and Implications

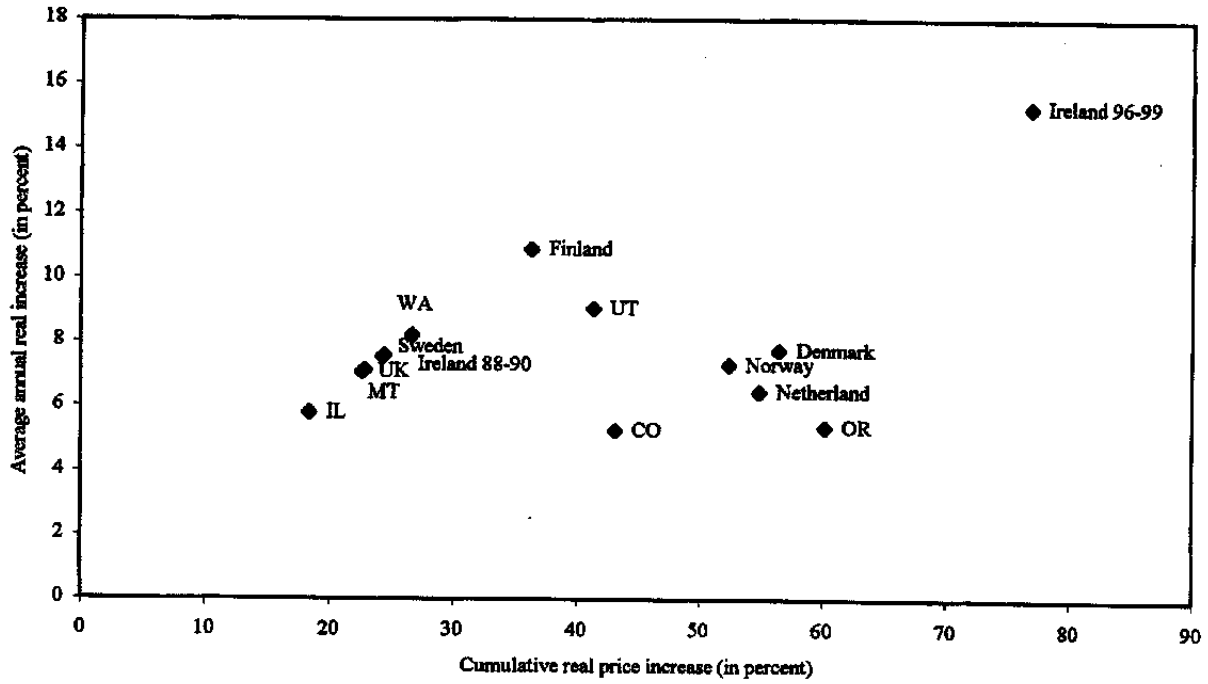
27. The sharp and sustained increase in Ireland's house prices well in excess of income growth, together with rapidly declining affordability for new house buyers, raises concerns that expectations-led demand may have resulted in house prices overshooting their sustainable levels. Taken together, the international experience with property booms suggests that if property prices in Ireland were to level off without a significant fall, it would be an event unprecedented in the last 20 years. Of the nearly 40 episodes of high property price inflation

Figure 10. House Price Increases and Declines in US Regions in the 1980s



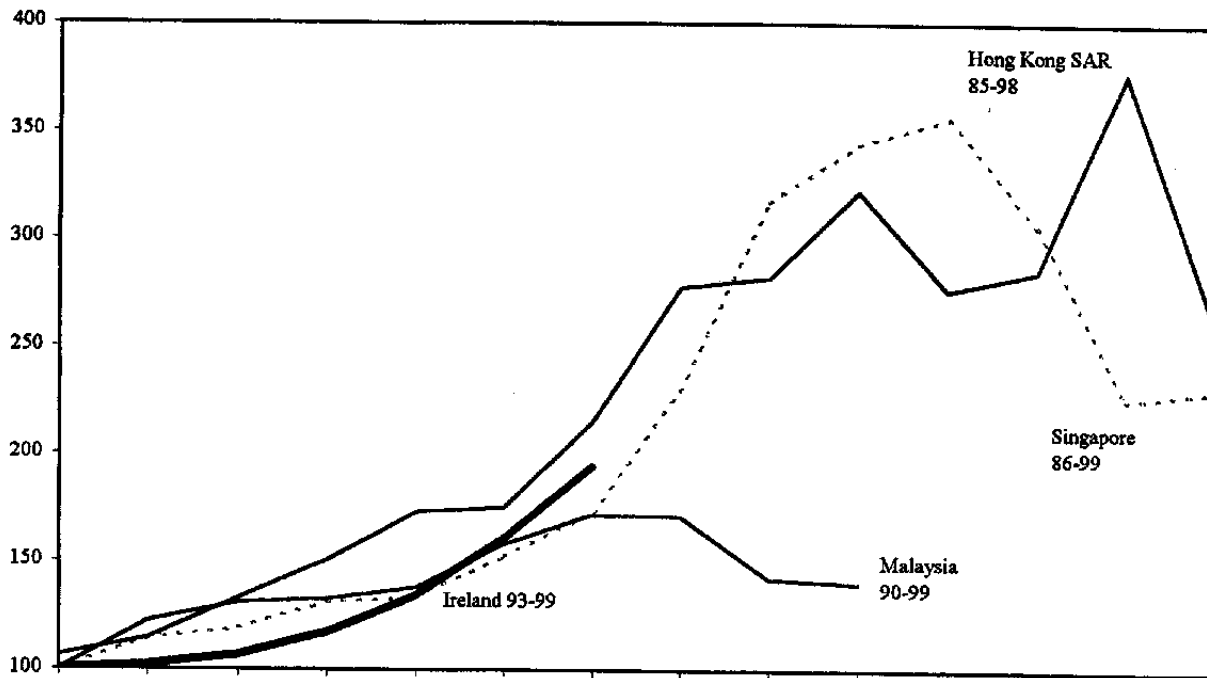
Source: Freddie Mac and staff estimates.

Figure 11. House Price Increases in Industrial Country Property Booms in the 1990s



Source: Housing Statistics Bulletin, BIS, and staff estimates.

Figure 12. House Price Booms in Ireland and Selected Asian Economies
(Index of real house prices)



examined here, there has not been a single experience of price inflation on the scale of Ireland's which did not end in prices falling.

28. It would be wrong to conclude based on this that a price collapse in Ireland is inevitable. While the number of episodes examined is large, Ireland's experience is really only being compared with two distinct periods—the booms and busts of the 1980s and the booms of the 1990s. Whether Ireland's impressive economic performance puts its property boom in a separate category from the episodes of these two periods is not clear. Strong fundamentals clearly justify a sizable increase in house prices, but the issue is how much. On the one hand, fundamentals, to the extent that they can be observed and measured, cannot explain the full extent of the rise in house prices, and affordability for the marginal buyer is deteriorating rapidly. At the same time, Ireland's prospects may have shifted in ways not captured by observed fundamentals. But beyond the influence of fundamentals, the issue is whether price inflation can be sustained for long periods before a speculative element tends to emerge on top of the fundamentals-driven demand. In this regard, the international experience suggests that prolonged property booms on the scale of Ireland's may lead to self-fulfilling expectations-driven demand followed by price overshooting.

29. If Irish property prices were to fall, the aggregate demand effects would probably be substantial, particularly given Ireland's high rate of house ownership. Consumer spending, either through wealth effects or indirectly through consumer confidence, would be sensitive to a fall in property prices. Liquidity effects would also be important; some of the recent household spending boom has been fueled by a sharp increase in consumer borrowing, collateralized in part by the increase in the value of real estate. Likewise, the current investment boom has been fueled in part by very rapid lending to the property sector, and a decline in property values would curtail investment demand.

30. Some analysts have taken comfort in Ireland's relatively low average exposure to the housing market, both for banks and households. Others have noted that with solid prospects for output and disposable income, with the ECB not generally expected to raise interest rates sharply, and with in-migration expected to continue, there does not appear any event on the horizon which would trigger a house price decline in the near future. But these factors may actually heighten the risk of overshooting. If the analysts are correct that strong demand, and consequently high house price inflation, is expected to continue, households would be somewhat justified in moving forward their demand. Ireland's low indebtedness may also suggest that mortgage lending can continue to expand rapidly to meet this demand before debt level concerns become a binding constraint. Given these considerations, the risks may arise not so much from a price decline now, as from the possibility that rapid price increases may persist, leading to greater overshooting and a sharper future decline.

Table A1. Industrial Country Property Booms of the 1980s and 1990s

Region	Period	Duration (years)	Average house price inflation	Cumulative house price increase	Change four years after boom	Share of house price increase lost 1/
1 Ireland	96-99	4	15.3	77	...	...
2 UK	86-89	4	14.1	69	-25	62
3 Canada	86-89	4	10.7	50	-7	21
4 France	88-90	3	6.7	22	-7	40
5 Germany	90-92	3	11.0	37	-9	35
6 Italy	89-91	3	14.9	52	-12	36
7 Japan	86-90	5	11.9	76	-25	57
8 Denmark	83-86	4	10.4	48	-26	81
9 Finland	87-89	3	16.3	57	-46	127
10 Ireland	88-90	3	7.6	24	0	...
11 Norway	85-87	3	13.0	44	-31	102
12 Spain	86-91	5	18.4	133	-16	27
13 Sweden	87-89	3	10.5	35	-26	98
14 UK	97-99	3	7.0	23	...	...
15 Denmark	94-99	6	7.8	57	...	...
16 Finland	97-99	3	10.9	36	...	...
17 Netherland	93-99	7	6.5	55	...	...
18 Norway	94-99	6	7.3	52	...	...
19 Sweden	97-99	3	7.5	24	...	...
20 CA	86-89	4	9.7	45	-11	36
21 CO	93-99	7	5.3	43	...	...
22 CT	83-88	6	11.8	95	-24	50
23 DC	86-89	4	9.8	45	-9	29
24 DE	85-89	5	7.2	41	-8	26
25 HI	87-91	5	11.5	72	-10	24
26 IL	86-88	3	5.8	18	4	...
27 MA	83-87	5	15.3	104	-19	38
28 MD	86-89	4	7.0	31	-6	24
29 ME	83-88	6	10.3	80	-15	33
30 MT	92-94	3	7.1	23	9	...
31 NH	84-88	4	14.6	72	-25	60
32 NJ	84-89	5	12.6	81	-19	42
33 NY	82-88	7	10.2	98	-13	26
34 OR	90-98	9	5.4	60	...	...
35 PA	86-88	3	9.8	32	-2	9
36 RI	85-88	4	16.1	82	-17	38
37 UT	93-96	4	9.0	41	8	...
38 VT	83-88	6	8.1	59	-7	19
39 WA	89-91	3	8.2	27	5	...

Source: Housing Statistics Bulletin, BIS, and staff estimates.

1/ Note that, for any given price decline, the reduction will be larger when expressed in percent of the previous price increase than when expressed in percent of the peak price level. For example, if prices increase from 100 to 200 during the boom, and subsequently fall to 150, this would represent a decline of 25 percent, but would result in the share of the previous house price increase lost of 50 percent.

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II. FISCAL POLICY IN IRELAND: TRENDS AND PROSPECTS¹³

A. Introduction

31. The dramatic improvement in Ireland's economic performance over the past decade has been associated with an equally dramatic strengthening in the public finances. Since 1987, the general government balance has shifted from a deficit of about 8 percent of GDP to a surplus (before one-off costs associated with settlement of pension liabilities in 1999) of almost 4 percent. Over the same period, the public debt to GDP ratio has been more than cut in half. This paper reviews the main factors behind this improvement, and alternative assessments of the stance of fiscal policy during a period of rapidly accelerating economic growth. The paper closes with a review of the major factors that are likely to influence fiscal policy in the period ahead.

B. Fiscal Performance Since 1987

32. The improvement in the public finances of Ireland since the late 1980s has been remarkable (Figure 1). During the first half of the 1980s, the general government overall and primary budget deficits averaged 11 percent and 5¼ percent of GDP respectively. The public debt exploded, reaching over 110 percent of GDP by 1986. Restoration of fiscal sustainability began with a strong consolidation effort launched by the incoming government in 1987. Thereafter, three broad phases can be identified, as discussed below.

33. During the first phase—1988–89—the general government budget balance improved by 6½ percentage points of GDP, and the primary balance moved sharply into surplus, reaching 4¾ percent of GDP by 1989 (Table 1).¹⁴ This improvement was achieved largely through cuts in public expenditures, which declined during the two years combined by slightly more than 9 percentage points of GDP. The public sector wage bill was brought down through reductions in the number of employees, while improvements in benefit targeting and a decline in unemployment contributed to a 4 percentage points of GDP fall in transfers. Spending on goods and services and capital outlays was also sharply constrained. Revenue performance was relatively subdued. The revenue to GDP ratio declined by almost 3 percentage points, as the effects of a tax amnesty in 1988 and relatively buoyant economic growth were offset by cuts in effective income tax rates.¹⁵

¹³ Prepared by Robert Hagemann and Natalia Koliadina.

¹⁴ As noted, the fiscal consolidation began in 1987. However, due to lack of budgetary data for 1986 on a general government basis, budget developments during the late 1980s are assessed in terms of changes during 1988–89.

¹⁵ The coincidence of budgetary consolidation and buoyant economic activity has been interpreted by some as evidence of an “expansionary fiscal contraction” (McAleese, 1990). There is little doubt that the expenditure-based consolidation contributed to its durability and credibility. However, an alternative view puts more emphasis on other factors, including a favorable external economic environment, which helped to offset the adverse short-term effects on demand of fiscal consolidation (see, for instance, Bradley and Whelan, 1997, and Honohan, 1999).

Table 1. Ireland: Three Phases of Fiscal Consolidation
(Changes during subperiods, in percentage points of GDP)

	1987-89	1990-1995	1996-1999
Revenues	-2.8	-0.7	-1.9
Tax (including social security)	-2.0	-0.3	-1.8
Total expenditures 1/ <i>of which</i>	-9.2	0.2	-8.2
Current expenditures	-7.9	-0.7	-7.9
Interest	-1.4	-2.3	-2.5
Goods and services	-0.8	0.7	-0.3
Compensation of employees	-1.5	0.1	-1.8
Transfers	-4.2	0.9	-3.4
Capital outlays, net	-1.3	0.9	-0.3
Capital outlays, gross	-0.8	0.6	0.7
Primary spending 2/	-7.9	2.5	-5.7
Primary current spending 2/	-6.5	1.6	-5.4
Overall balance	6.4	-0.9	6.3
Primary balance	5.2	-2.3	3.8
Memorandum items:			
Average real GDP growth	4.7	5.1 3/	9.8
Debt-GDP ratio (end-period)	97.4	83.6	50.3

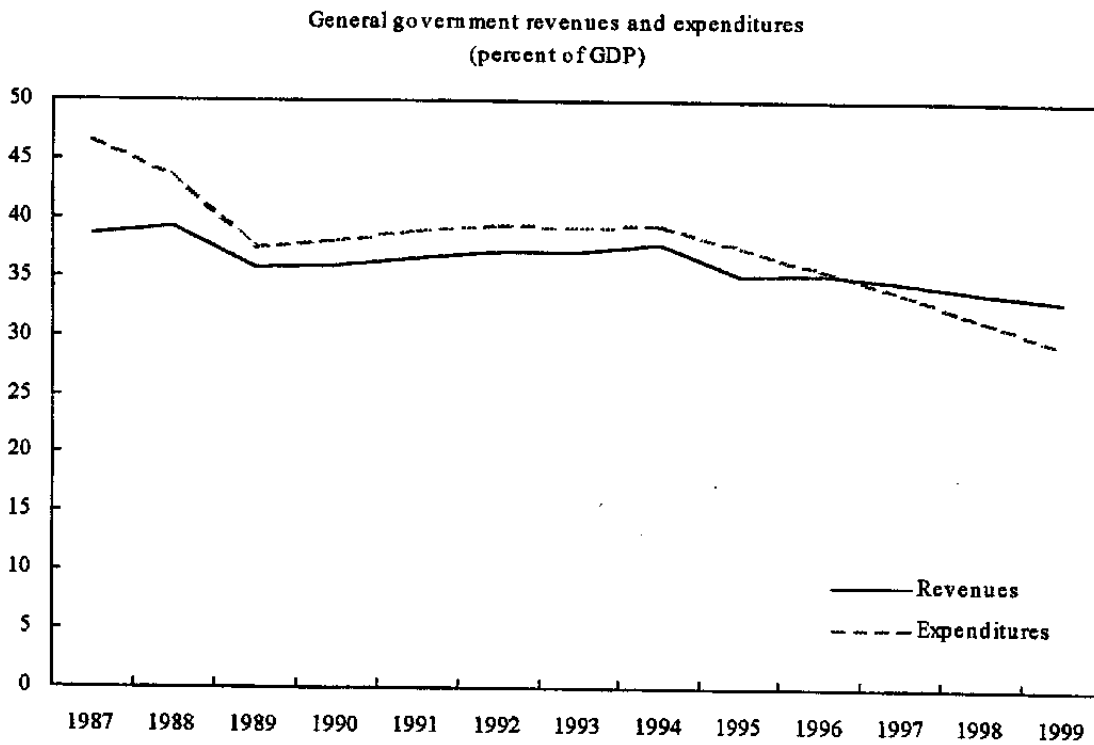
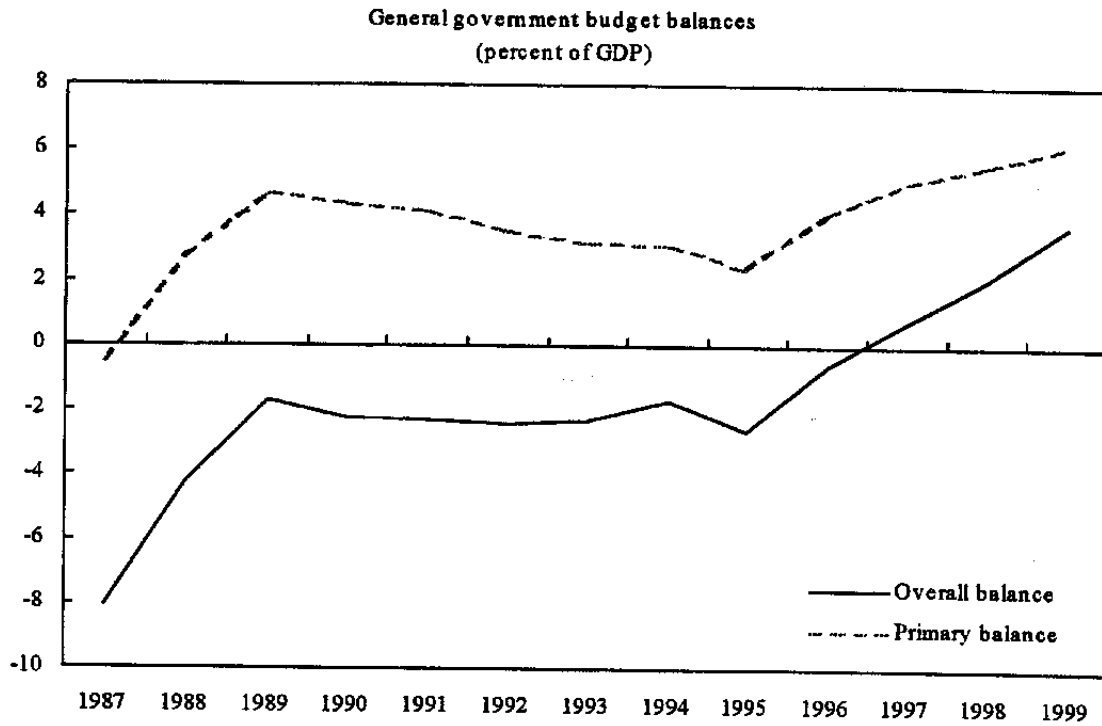
1/ Excluding pre-funding for future pensions and once-off factors in 1999.

2/ Total expenditure less gross interest outlays

3/ Average growth of real GDP in 1991-93 was 2.6 percent.

Source: Department of Finance and staff estimates.

Figure 1. Ireland: Trends in public finances, 1987-99



Source: Department of Finance and staff estimates.

34. The pace of fiscal consolidation slowed markedly during 1990–95, as the overall general government balance weakened by about 1 percent of GDP, and the primary balance declined by almost 2½ percentage points. Following the earlier sharp cutbacks, public consumption (purchases of goods and services plus compensation of employees) rose by ¾ of a percent of GDP, and there were significant increases in both transfers and public investment outlays. However, the deterioration in the overall fiscal position was limited by a substantial decline in interest payments, reflecting both a falling public debt-GDP ratio and lower interest rates.

35. The year 1996 marked the beginning of a third phase in the consolidation process, which saw a further dramatic improvement in the public finances. Over the four year period 1996–99, the overall budget balance, adjusted for pre-funding for future pension funds and once-off factors,¹⁶ shifted from a deficit of 2½ percent of GDP in 1995 to a surplus of around 3¾ percent in 1999, a swing of 6⅓ percentage points. The primary balance also improved by close to 4 percentage points over the same period. This improvement broadly parallels that achieved during the initial consolidation phase in 1988–89, and there are some additional similarities in terms of the composition of the improvement. For example, tax receipts declined by about 2 percent of GDP but this was far outweighed by an 8 percent of GDP decline in current expenditures, similar movements to those recorded in 1988–89.

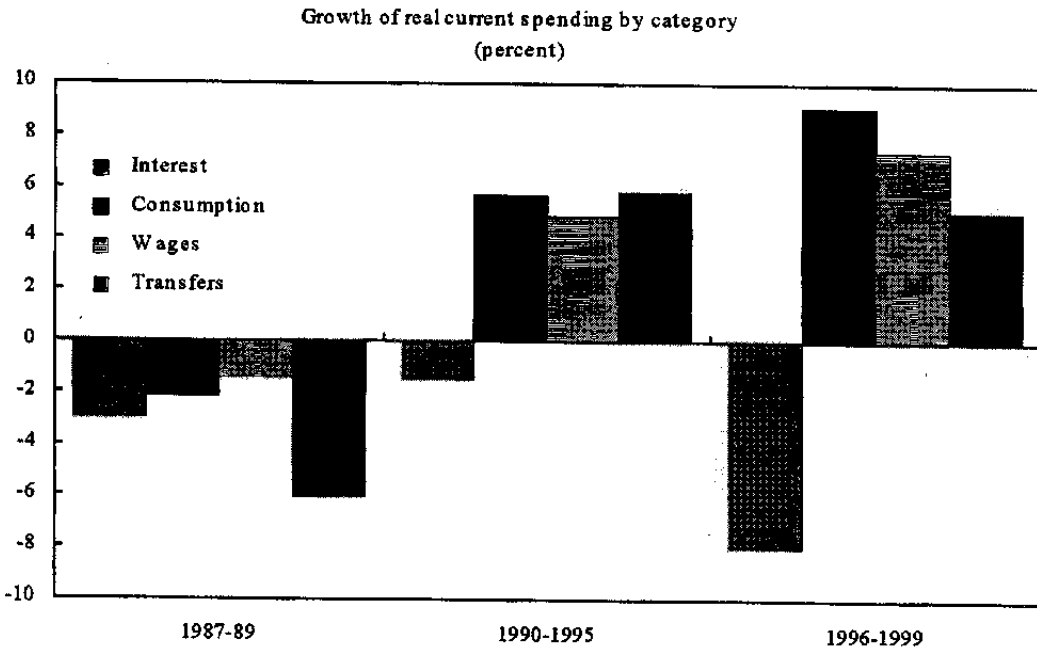
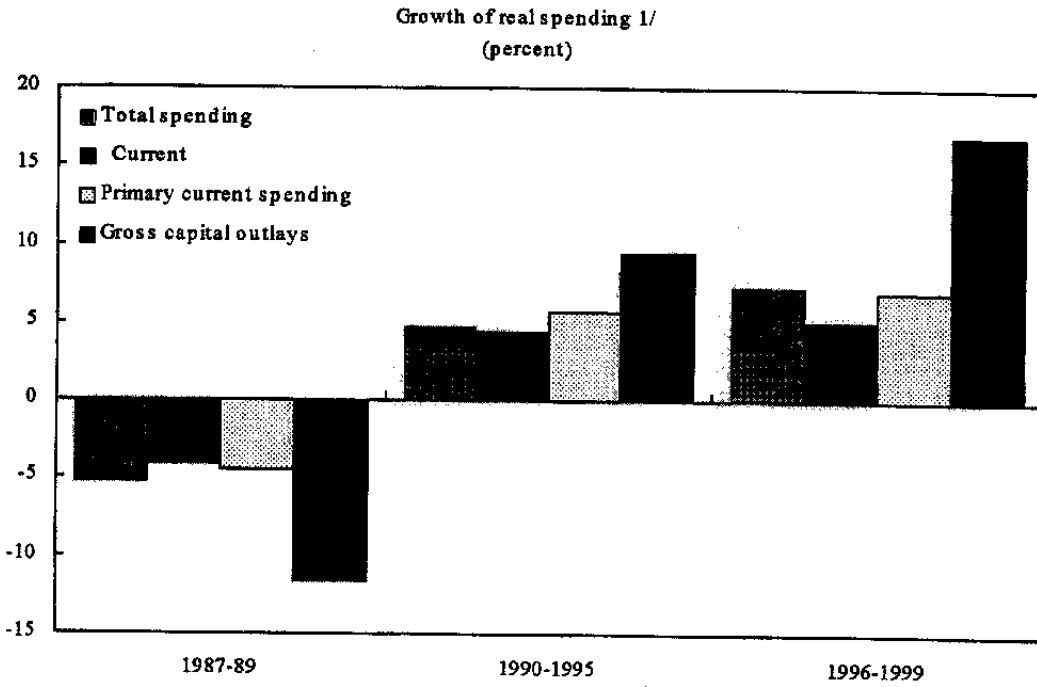
36. While there are striking similarities between the two consolidation phases in terms of ratios to GDP, however, the two episodes look very different when examined in terms of the real rates of growth in government revenues and expenditures underlying this performance. As discussed above, the initial consolidation phase was characterized by steep cuts in public spending, not just in terms of GDP but also in real terms (Figure 2). Sizable declines in real outlays were recorded in all spending categories during this period.¹⁷ In contrast, during the most recent consolidation phase (as well as in 1990–95), public spending growth was strong in real terms (slightly over 6 percent on average), though not out of line with estimated growth in potential output. Real growth in public investment outlays averaged more than 15 percent during 1996–99, and there were also sizable real increases in most components of current outlays (including transfers, notwithstanding the steep decline in unemployment during this period). Interest outlays fell sharply, however, reflecting the combination of lower interest rates and rapidly declining levels of public indebtedness.

37. The other striking difference between the two consolidation phases relates to the buoyancy of public revenues in the most recent period (Figure 3, top panel). After

¹⁶ Beginning in 1999, the government decided to set aside 1 percent of GNP per annum for the pre-funding of future pension liabilities. This set-aside is treated as an expenditure item in official budget figures. The once-off factors refer to the costs of discharging the future pension liability in respect of pre-1984 service of employees of Telecom Eireann and An Post.

¹⁷ Capital outlays were cut in nominal terms in 1988, implying an even sharper cutback in real terms.

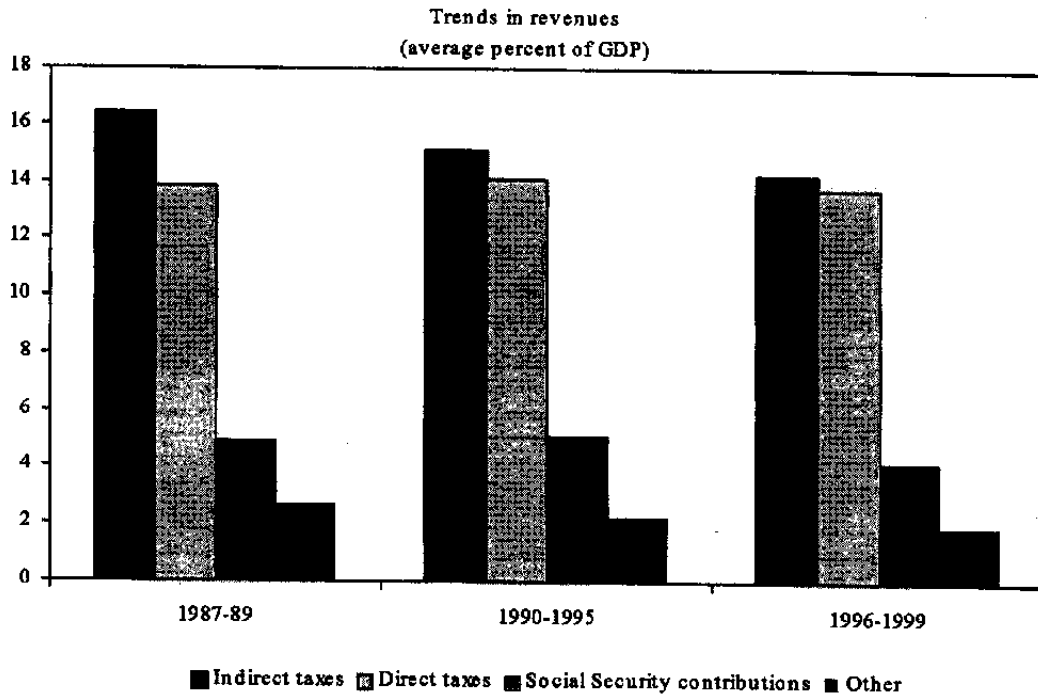
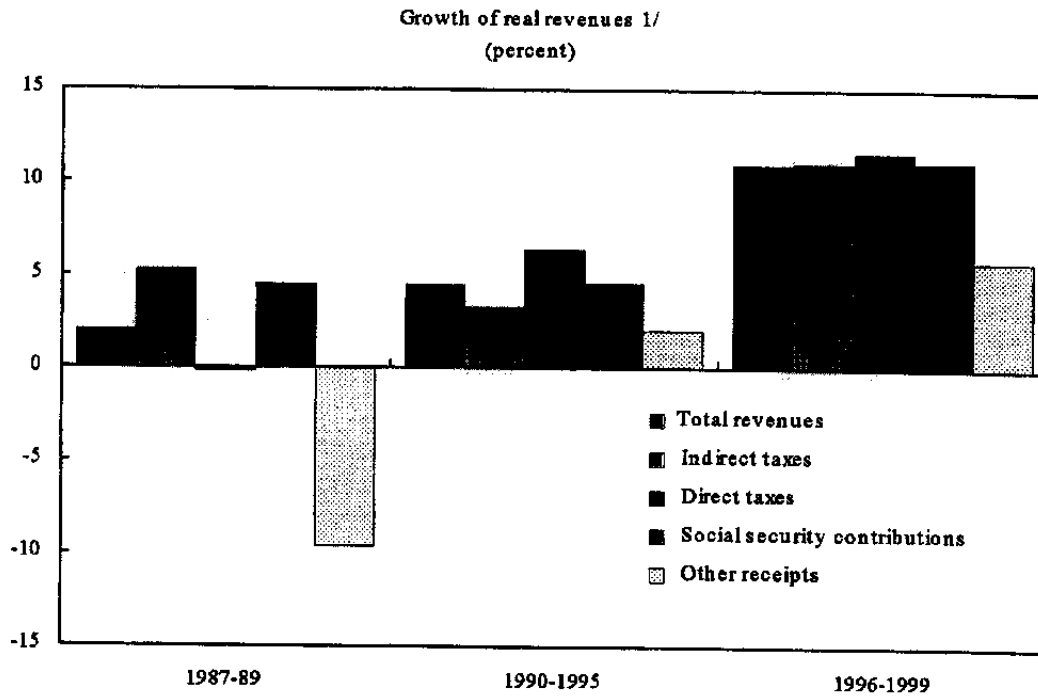
Figure 2. Ireland: Trends in Real Public Spending



1/ Nominal current spending deflated by CPI from 1987-94, and by HICP from 1995-1999. Gross capital spending deflated by capital goods deflator.

Source: Department of Finance and staff estimates.

Figure 3. Ireland: Trends in Real Revenues



Source: Department of Finance and staff estimates

averaging 2 percent in 1988–89, and 4½ percent in 1990–95, annual growth in real government revenues accelerated sharply in the 1996–99 period to average roughly 10¼ percent. This dramatic improvement was achieved at the same time as the government continued to lower effective tax rates with a view to offsetting the effects of fiscal drag and improving the supply side performance of the economy (Appendix 1). The standard corporate tax rate was reduced progressively from 38 to 24 percent, while personal income tax rates were also reduced, tax bands were widened, and the value of personal tax allowances was increased. Based on these developments, the ratio of direct tax receipts to GDP has been relatively stable at slightly below 14 percent throughout the period 1987–99, while there has been a steady decline in the indirect tax ratio (Figure 3, bottom panel).

38. The recent strong growth in revenues in turn was made possible by the dramatic acceleration in economic growth, which averaged more 9 percent during 1996–99 (GDP basis), roughly double that during the earlier two periods. Not only was growth very strong during the latest period, but it also was associated with a 21 percent increase in total employment, adding substantially to the income tax base. This favorable economic performance allowed the government to achieve multiple fiscal objectives, including a reduction in the tax burden (which has played an important role in efforts to promote wage moderation and maintain Ireland's competitiveness through the multi-year national wage agreements), increase public spending, and reduce the public debt ratio. The role played by accelerating economic growth in explaining the recent improvement in the public finances raises the question of how the fiscal stance should be assessed in a case such as Ireland. For example, has fiscal policy contributed to the recent acceleration in growth by providing an additional source of stimulus to demand, or has it been playing a broadly neutral or even a counter-cyclical role? The paper now turns to this issue.

C. Assessing the Stance of Fiscal Policy

Structural budget balance approach

39. The actual budget balance reflects the impacts of both discretionary tax and spending measures, and the feedback effects from economic activity on the budget via automatic stabilizers. Depending on the strength of the stabilizers, the actual budget balance will improve (deteriorate) when output is above (below) its trend level, unless their effects are offset by discretionary measures. Judging the stance of fiscal policy thus requires separating the cyclical from non-cyclical influences on the budget.

40. The most widely accepted method of assessing the stance of fiscal policy—the estimated structural budget (SBB)—consists of purging the actual budget balance of estimated cyclical effects to obtain a residual balance. Changes in the SBB can also be interpreted as an indicator of discretionary impulse to aggregate demand.¹⁸ To the extent

¹⁸ Note that an unchanged SBB does not imply that fiscal policy is having no effect on aggregate demand; automatic stabilizers that are allowed to work fully will provide some counter-cyclical impact on demand.

that the SBB improves when output is below capacity, or vice versa, fiscal policy can be interpreted as being pro-cyclical. A variant of this approach is the primary SBB (i.e., excluding interest payments), which might be justified on the grounds that interest payments may have smaller multiplier effects. This is thought to be the case in Ireland, given that part of the public debt is held offshore. The primary balance can also be a preferred indicator in circumstances where the focus is on discretionary fiscal policy, given that fiscal authorities typically do not directly or fully influence interest rates.

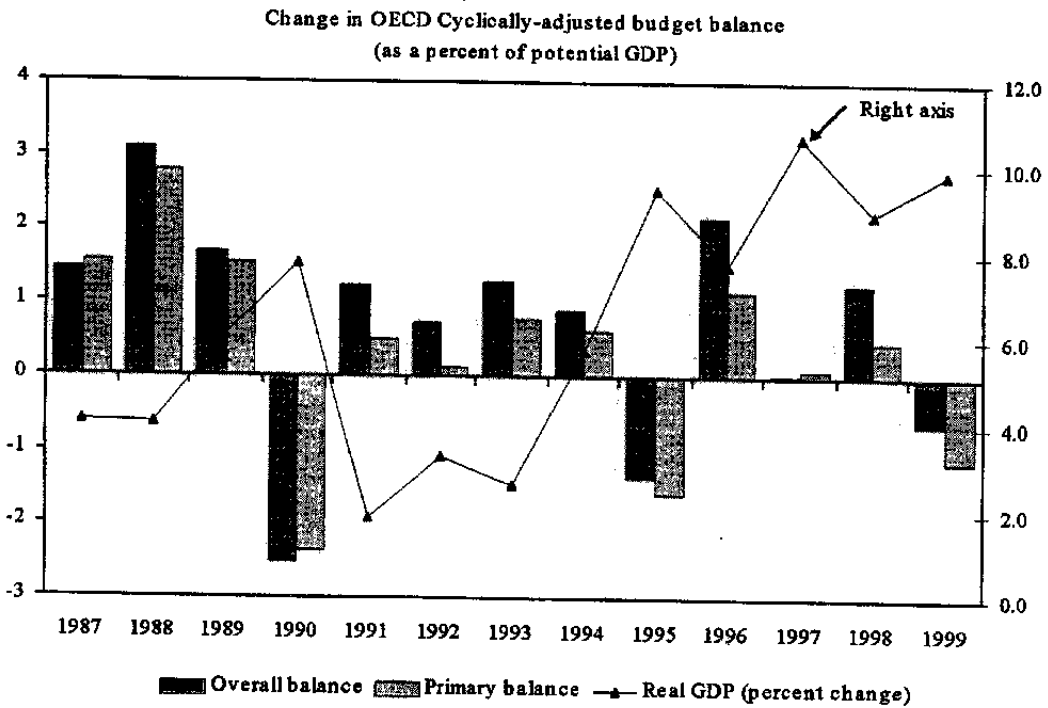
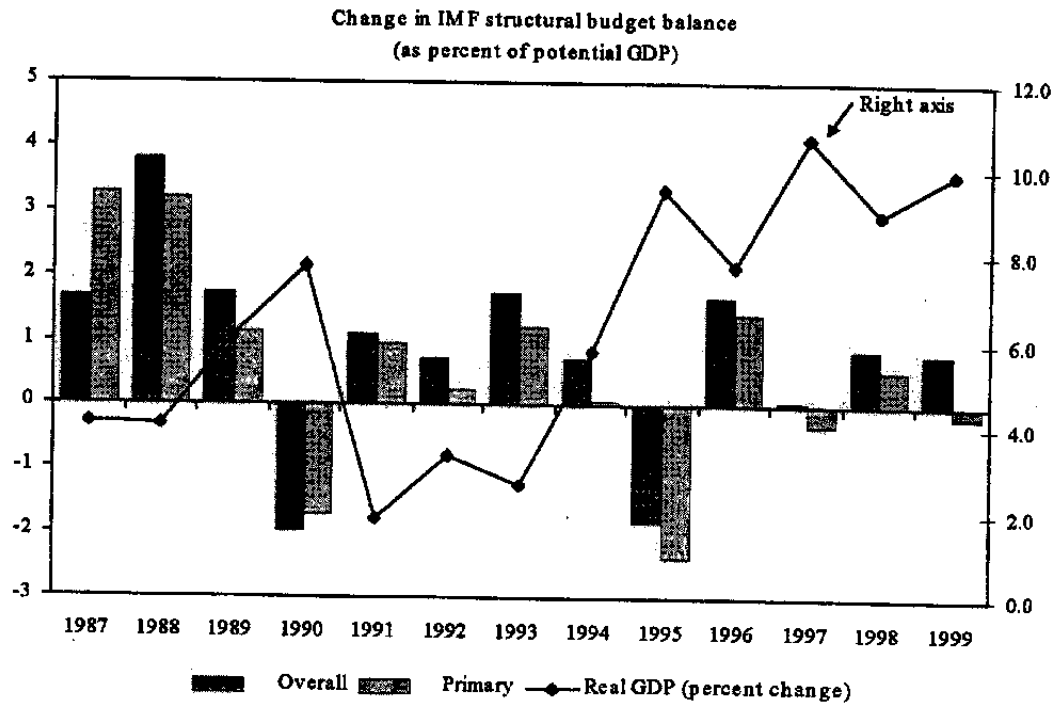
41. The staff's estimates of the SBB and the primary SBB are summarized in the upper panel of Figure 4, using the IMF methodology.¹⁹ Both these measures show that fiscal policy was decidedly contractionary during the initial consolidation phase. During 1990–95 as a whole, policy was broadly neutral (based on the SBB) to modestly expansionary (based on the primary SBB), though this outcome reflects sizable positive fiscal impulses in two years—1990 and 1995—when actual output growth was relatively strong. In this sense, fiscal policy appears to have been somewhat pro-cyclical over the 1990–95 period (there was also a moderate fiscal tightening during 1991–93, when growth was relatively weak). The fiscal stance tightened in 1996, while over the last three years, the stance is estimated to have been moderately contractionary using the SBB measure, and broadly neutral using the staff's preferred measure of the primary SBB. A broadly similar assessment is obtained from the OECD's cyclically-adjusted budget balance (lower panel of Figure 4), although there are some differences from year to year that are likely to reflect differences in potential output growth and, hence, in the output gap. There is a notable difference in 1999, when the OECD measure suggests a sizable *loosening* of fiscal policy.²⁰

42. Interpreting the structural budget balance in Ireland is complicated by the considerable uncertainties surrounding estimates of potential output growth. These uncertainties arise from the variability of capital, labor and total factor productivity in Ireland (Cronin and McCoy, 1999). Although virtually all methods yield similar *signs* of the output gap (Kenny, 1995, 1996), they tend to yield significantly different *sizes* of the gap. Given the weight of the output gap in the calculation of the cyclical component of the budget and, hence, of the structural balance, it is important to interpret the estimates cautiously. The methodology used by the staff to estimate potential output growth is summarized in Box 1. As discussed in the box, if recent growth in potential output were lower than the staff estimates suggest (7½ percent in 1997–99), both the SBB measures would show a looser fiscal stance than indicated in Figure 4.

¹⁹ See Hagemann (1999) for an overview of the IMF's methodology for calculating the SBB.

²⁰ The OECD's cyclically-adjusted budget balances decline in 1999 due to the fact that the underlying actual general government budget balance used in the calculation includes both the once-off costs and the pension pre-funding noted earlier, both of which *reduce* the measured budget balance and, hence, the cyclically-adjusted balances. The staff excludes these items from the general government balance when calculating the SBB.

Figure 4. Ireland: Measures of Fiscal Stance

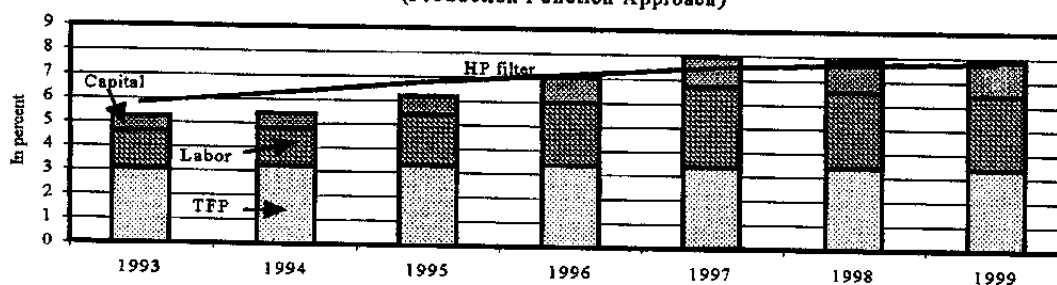


Source: IMF and OECD Analytical Database

Box 1. Sustainability of Recent and Prospective Output Growth

Given the rapid structural changes over the past decade, there is more-than-the-usual degree of uncertainty surrounding recent and prospective potential output growth in Ireland. The staff's preferred method of estimating potential growth is the production function approach, which decomposes potential into changes in the capital stock, labor and productivity. The staff also makes alternative estimates using an HP filter.¹ Both approaches suggest that potential output growth increased significantly during the 1990s. Under the HP filter approach, this primarily reflects the acceleration in actual output growth, and therefore could overstate potential to the extent that the growth partly reflects cyclical factors (the derived trend is also sensitive to the most recent observation). The production function approach suggests that the principal reason for the acceleration in potential growth in the 1990s has been more rapid growth in the labor force. Estimated total factor productivity (TFP) has been relatively constant at about 3½ percent, and there has been an increase in the capital stock, reflecting higher rates of investment.

Ireland: Decomposition of Potential GDP Growth
(Production Function Approach)



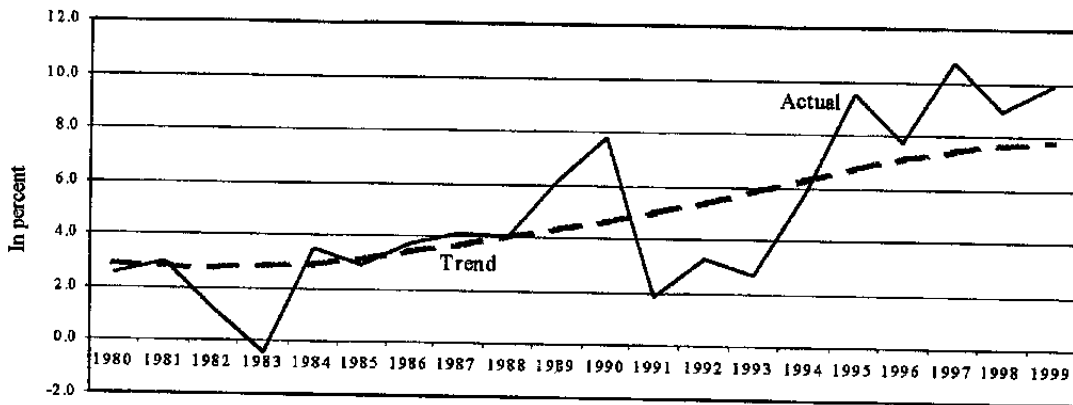
The increase in the contribution of labor to potential reflects the natural increase in the share of the working age population, rising labor force participation (mainly women), immigration, and declining unemployment. This contribution averaged 2.8 percent per year in 1995-99, compared with 1.5 percent in the first half of the decade. Relatively high TFP in Ireland reflects "catch-up" effects associated with the improving quality of human capital, and the shift from low productivity agriculture to high productivity manufacturing industries. However, about one-third of TFP growth might be attributed to high returns on intangible assets—such as research and development—of foreign-owned multinational corporations, which do not represent growth in the productivity of Irish workers, and most of which are repatriated to the home country. Cyclical factors associated with the strong growth in output may also have contributed to estimated TFP growth in recent years.

For 1999, the production function and the HP-filter approaches yield very similar estimates of potential GDP growth—7.9 percent and 7.8 percent, respectively. These estimates suggest that actual GDP exceeded potential in 1999 by about 4.4 percent. By way of comparison, the OECD estimates that output exceeded potential by 2.6 percent in 1999. However, this discrepancy primarily reflects a lower estimate of actual output growth in 1999 (8.7 percent).²

¹ Potential Output Growth in Ireland, by Zenon Kontolemis, IMF Staff Country Report No 99/108.

² OECD Economic Outlook, May 2000, Preliminary Edition 67, p. 77, 150.

Ireland: Rates of GDP Growth



In addition to the uncertainty about the past, there is also considerable uncertainty about sustainable output growth in the future. This reflects questions about future productivity growth, as well as uncertainty about prospects for further increases in labor force participation, sustainable further declines in unemployment, and future trends in net migration (taking account of already pressing infrastructure bottlenecks). The staff's assumption is that potential GDP growth may moderate somewhat to about 6-6½ percent in coming years, reflecting a slowdown in immigration, limits on the scope for further declines in unemployment, and a broadly unchanged rate of TFP growth.

The uncertainty about potential output growth also complicates assessments of changes in the fiscal stance. For example, staff estimates suggest that the fiscal stance was neutral in 1999 (measured by the change in the primary structural balance). However, if potential output growth in 1997-99 was 5 percent rather than 7½ percent, the estimated fiscal impulse would have suggested an easing rather than a broadly neutral stance.

Sensitivity of the Fiscal Stance to the Rate of Potential Output Growth
(In percent of GDP, unless otherwise indicated)

	1997	1998	1999
Baseline (WEO)			
Structural balance	0.3	1.1	2.0
Primary structural balance	3.9	4.5	4.3
Real potential GDP (growth in percent)	7.4	7.6	7.8
Alternative			
Structural balance	-0.8	-1.0	-1.3
Primary structural balance	2.9	2.4	1.1
Real potential GDP (growth in percent)	5.0	5.0	5.0

Source: Staff estimates.

No policy change approach

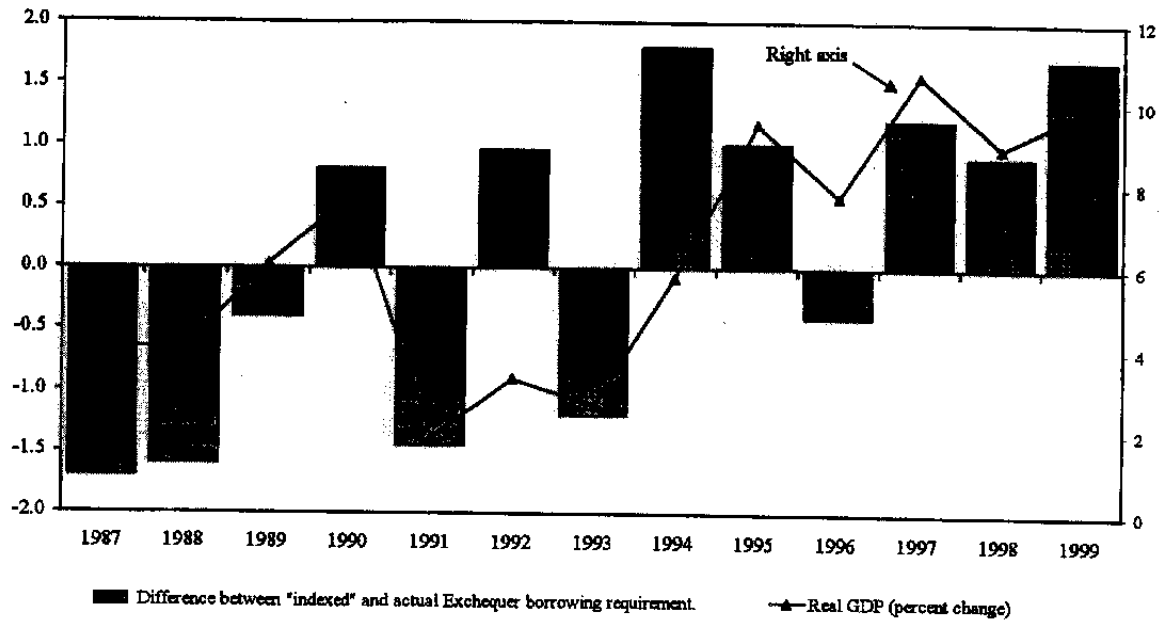
43. Given the caution needed in judging the fiscal stance based on the structural budget balance, it is often useful to complement such assessments with other indicators. One such approach is the so-called “current services” balance. In this framework, the budgetary outturn in each year is compared with the estimated outturn that might have been observed had there been no policy change. Thus, if the simulated budget deficit for a particular year exceeds (falls short of) the observed deficit, discretionary fiscal policy can be interpreted as having been contractionary (expansionary) relative to the previous year’s budget.

44. This is the approach taken by Duffy *et al.* (1999). Using the Economic and Social Research Institute’s (ESRI) macro model of the Irish economy, the authors simulate the counterfactual budget and macroeconomic setting that might have been observed in each year in the absence of any policy change. The model takes account of each of the main revenue and expenditure items. The authors compare the estimated fiscal outcome that might have been observed in the absence of policy changes—the so-called *indexed outcome*—with the actual budget. On this basis, the authors conclude that fiscal policy has been decidedly pro-cyclical in Ireland since the late 1980s (Figure 5); discretionary budgetary expansions have been pronounced in periods of positive growth and falling unemployment, and visa versa.

45. Although the indexed method does not depend directly on estimates of potential output, it is nonetheless subject to some shortcomings. First, the model explicitly allows for no volume growth in public expenditures, which, as the authors recognize, builds in a deflationary bias. To the extent that public spending growth is held below the rate of growth in potential output, for example, this may be considered as a discretionary fiscal tightening even though it may not show up as such under the no policy change approach. Thus, it is not clear that this approach avoids the need to make judgments regarding the rate of growth of potential output. Second, this approach does not allow for the interaction of growth with the existing tax and spending framework. For instance, an approach that treats as *discretionary* tax cuts designed to offset the effects of fiscal drag in a non-indexed tax system (as in Ireland) would seem to be overstating the pro-cyclical element of fiscal policy. Interpretation of the results of the indexed method also requires judgments about the effects of spending initiatives, not all of which may have the same effects on aggregate demand (similar shortcomings arise in the case of the SBB approach). Finally, even in this framework, judgments as to whether or not fiscal policy is pro- or counter-cyclical require judgments about the *sign* of the output gap.

46. While the indexed method suffers a number of limitations—as does the SBB—it still provides a useful complement to the SBB approach in a case such as Ireland. Whereas the SBB approach, for example, suggests that fiscal policy has been broadly neutral in the most recent period, the indexed method highlights the extent to which strong economic growth has enabled the government to undertake a number of discretionary initiatives without weakening the overall budgetary position.

Figure 5. Ireland: Measure of Budgetary Stance
(percent of GDP)



Source: Duffy et al., 1999 and staff estimates.

D. Medium-Term Prospects

47. More than a decade of budgetary consolidation has put Irish public finances on a firm footing, both in absolute terms and relative to its European partners. As the economy enters its fourth year of above-trend growth, however, the government faces the challenge of balancing the short-term stabilization role of fiscal policy—by limiting the fiscal impulse to already buoyant aggregate demand—against the medium-term objective of maintaining sustainable economic and employment growth. This difficult trade-off was acknowledged in the government's Stability Programme 2000–02 (SP), adopted in December 1999:

“Maintaining stability and sustaining economic and employment growth are the primary macroeconomic objectives of budgetary policy in Ireland over the next three years. This involves striking a balance between running a large budgetary surplus, addressing emerging labour supply and infrastructural needs, implementing tax reform and tackling social priorities.” (SP, paragraph 2.5.)

48. While the public finances in Ireland appear to be on a sustainable medium term path, several factors point to the potential for a somewhat less benign environment going forward than has been the case in recent years. First, economic growth is generally expected to slow as labor and capacity constraints become increasingly binding. As discussed above, the recent buoyant revenue performance has been associated with a period of exceptionally rapid economic growth, and growth in revenues can be expected to slow as the pace of economic growth moderates. The overall income elasticity of tax revenues is estimated at about 1.1,²¹ suggesting that the revenue impact of a slowdown is likely to be more than proportionate. The tax elasticities are difficult to estimate with any certainty, however, given the changes in the tax structure implemented in recent years (and those planned for the future). Corporate tax receipts will also be influenced by the profits of multinational corporations, which are heavily influenced by external developments.

49. Second, the government faces significant demands for increased spending on infrastructure and social services to address the strains associated with rapid economic growth. The government's plans in this regard are primarily reflected in the National Development Plan (NDP), which envisages spending of approximately IR£ 40.6 billion over the period 2000–06, concentrated mostly on economic and social infrastructure and employment and human resources.²² The NDP will be implemented in a context of declining capital transfers from the European Union,²³ and therefore will place a sizable claim on budgetary receipts over the coming years.²⁴

²¹ Department of Finance, 1999a.

²² See Annex 1 of the Staff Report for more details.

²³ Net receipts from the European Union (including agricultural receipts) are forecast to decline to around 1 percent of GNP by 2006 from 2 $\frac{1}{4}$ percent of GNP in 1999.

²⁴ The NDP does not rely solely on public funding. It anticipates a degree of private sector participation under the so-called *Public Private Partnerships*.

50. Third, the government is also committed to sizable increases in public sector wages, as well as increases in social spending and further tax reductions, under the terms of the recently concluded national wage agreement—*The Programme for Prosperity and Fairness* (PPF). The PPF covers the period October 2000 to mid-2003, and therefore has budgetary implications beyond the SP.

51. Fourth, as discussed above, declining interest rates have contributed significantly to the strengthening in the public finances over the past decade. However, prospects going forward are for a somewhat less benign interest rate environment as the euro area recovery continues to gain strength. Although Ireland's public debt ratio has declined substantially (Table 1), the fall has been from an extremely high level, and interest payments continue to claim a significant share of revenues due to the still high share of debt in GDP.

52. Fifth, as in other industrialized countries, the public finances in Ireland will be impacted adversely by the aging of its population. The relatively late baby boom and past outward migration imply a later onset of pension-related pressures on the public finances in Ireland than elsewhere. However, the government has taken the prudent step of establishing a fund to partially meet the future pension needs.²⁵

53. The most recent official medium-term fiscal projections are those set out in the SP, which was prepared in late 1999 and covers the period 2000–02 (Table 2). These projections incorporate the effect of many of the above influences. In particular, economic growth was projected to moderate significantly (to 5 percent on a GNP basis by 2002). The SP took account of the budgetary implications of the NDP, under which projected spending on infrastructure amounts to about 3 percent of GDP per year, or the major part of the annual capital expenditure (3.8 percent of GDP) envisaged under the SP. It is important to note, however, that not all of NDP expenditure is for capital projects, and that a number of spending programs under the NDP are not new initiatives *per se*, but a continuation of existing spending programs. The SP also anticipated most—but not all—of the cost of tax and spending initiatives to which the government committed in the PPF when agreement was reached in March 2000. For this purpose, the SP was drawn up with contingencies (0.9 percent of GDP in 2001 and 1.7 percent of GDP in 2002, respectively) to cover the costs of yet-to-be-agreed tax and spending initiatives.

54. The projections under the SP pointed to a general government surplus of about 3 percent of GDP in 2002 (before pension pre-funding). Compared with the estimated outcome for 1999, this would imply a decline in the surplus of about $\frac{3}{4}$ of a percentage point, and a 1½ percentage point decline in the primary surplus. Nonetheless, there would be a further significant decline in the public debt to GDP ratio, which was projected to reach 36 percent by the end of the period.

²⁵ Department of Finance (1999c) and Cronin and McCoy (2000) consider the sustainability of fiscal policy in Ireland, taking into account the aging of its population.

Table 2. Ireland: Stability Program
(As a percent of GDP)

	1999	1999 1/ outcome	2000	2001	2002
Current surplus:	5.2	5.9	5.8	6.4	7.3
Current revenue	34.1	33.1	33.7	32.8	32.6
of which:					
Tax revenue	28.0	27.2	27.8	27.2	27.1
Social Security Receipts	4.2	4.2	4.2	4.0	4.0
Miscellaneous	1.9	1.7	1.7	1.6	1.5
Current expenditure	28.9	27.3	27.9	26.4	25.3
of which:					
Interest payments	2.8	2.5	2.5	2.0	1.7
Goods and services	13.0	11.7	12.7	12.2	11.8
Other transfers	13.1	13.1	12.7	12.2	11.8
Capital deficit	-2.0	-2.2	-2.5	-2.6	-2.7
Government investment	-3.4	-3.0	-3.8	-3.9	-3.7
Capital resources	1.4	0.8	1.3	1.3	1.0
Contingency	...	...	...	-0.9	-1.7
General government surplus after contingency	3.2	3.7	3.3	2.8	2.9
of which primary surplus	6.0	6.2	5.8	4.8	4.6
General government debt	52.0	50.3	46.0	40.0	36.0
<u>Memorandum Items</u>					
GDP	8.4	9.9	7.4	6.5	5.7
GNP	7.4	8.9	6.3	5.7	5.0
Current account 2/	0.4	0.7	-0.9	-1.6	-2.2
Consumer prices	1.6	1.6	3.0	2.3	2.0
Employment	4.8	6.3	3.3	2.4	2.0
Unemployment rate	5.5	5.6	4.8	4.6	4.5

Source: Department of Finance.

1/ Prior to allocations for financing of future pension liabilities and one-off expenditures.

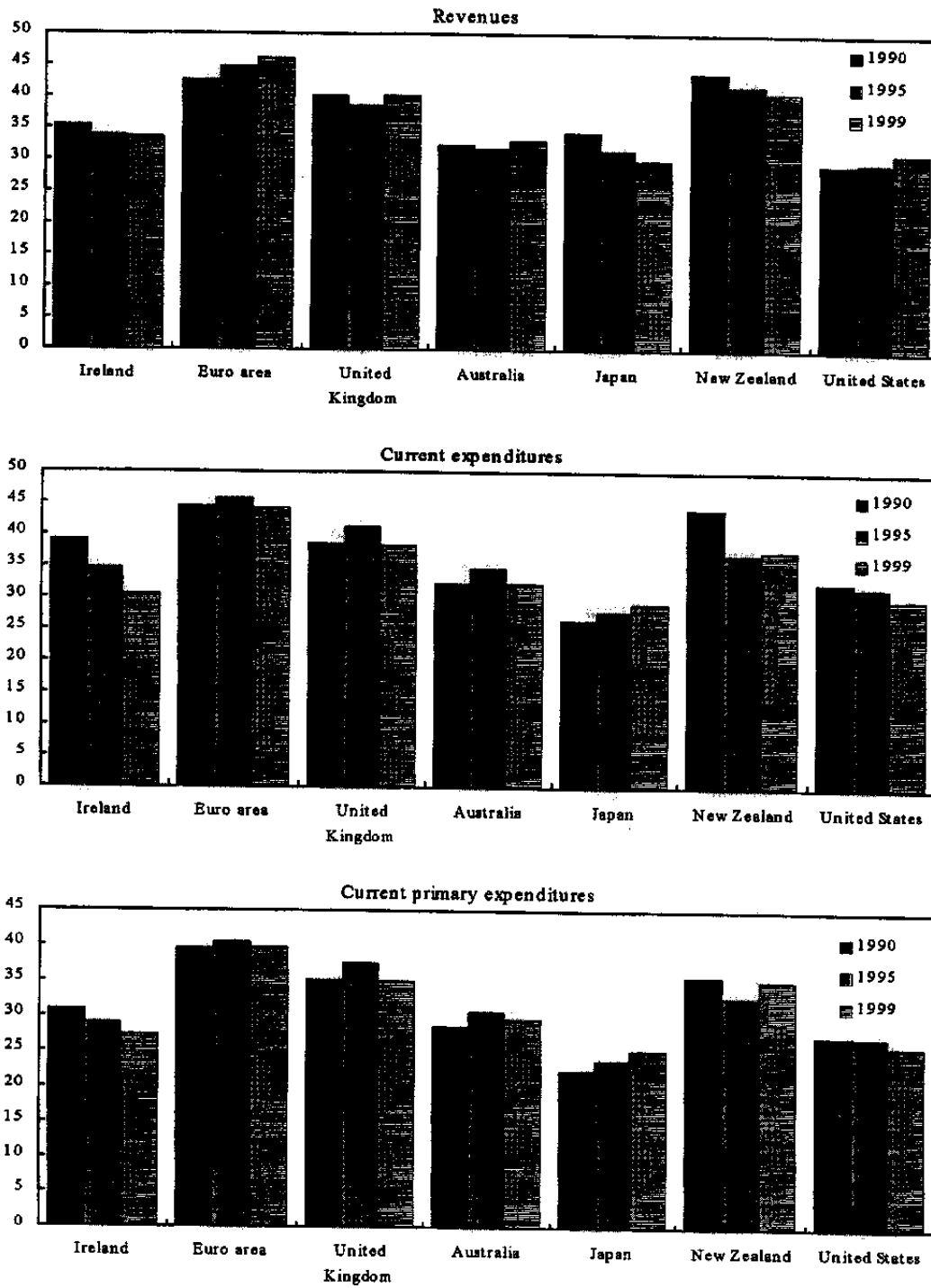
2/ As a percent of GNP.

55. Developments since adoption of the SP can be expected to have an impact on the projections. First, output growth in 1999 was higher than had been assumed (staff estimates put GNP growth at almost 9 percent versus 8.4 percent in the budget), and growth for 2000 also appears to be significantly stronger than was assumed in the SP. As a result, the revenue base on which the SP was quantified now looks stronger than was previously estimated. Second, and with opposite effect, the budgetary costs of the PPF were, in the event, greater than had been allowed for in terms of the contingencies. Taking account of these opposing effects, the authorities anticipated at the time of the Article IV mission that the overall effect in terms of deviations from the path of the general government budget balance through 2002 set out in the SP would be relatively small.

56. These projections highlight the fact that prudent fiscal management by successive governments, together with the "growth dividend" from a dramatically improved economic performance of recent years, has served to put the public finances in Ireland on a solid footing. Based on reasonably conservative assumptions for output growth in coming years, there should be ample scope for the government to implement well-targeted increases in public spending in areas essential to addressing infrastructure bottlenecks and improving medium-term growth potential, while also continuing its efforts to simplify the tax structure, and reduce public sector debt.

57. However, several caveats are also in order. First, structural revenue and expenditure ratios in Ireland have now fallen to levels that are low by European standards, and are broadly on a par with or approaching levels in the United States, Japan and Australia (Figure 6). This may suggest that scope for continuing declines in the overall tax burden will be more limited in the future, given the increased spending on basic services and infrastructure needed to support a rapidly growing economy. Accordingly, consideration may need to be given in the future to tax reforms that are more revenue-neutral in nature. Second, current overheating pressures heighten the risks that Ireland could face a pronounced economic slowdown at some point, and this could have a more than proportionate impact on tax receipts. Particularly given the absence of an independent monetary policy under EMU, it is important that fiscal policy has adequate scope to play a counter-cyclical stabilization role in such circumstances. Third, as discussed in the staff report, there are also concerns about the significant weakening in the structural primary budget balance in 2000-01 implied by the SP. While this weakening does not raise concerns about medium-term fiscal sustainability, it comes at a time when overheating pressures are very strong, and is not appropriate for Ireland's short-term cyclical position.

Figure 6. Ireland: General government expenditures and revenues
(cyclically-adjusted, as a percent of potential GDP)



Source: OECD Analytical database.

Ireland: Summary of Major Tax Measures, 1990-2000

Years	Personal Income Tax					Pay-Related Social Insurance Contributions (PRSI)				Value-Added Tax	Corporate Tax
	Cost in millions of IR£	Tax rates	Standard Rate Tax Band	Personal Allowance	General Exemption Limit	Contribution Rates	Personal Allowance	Income Ceiling			
1990	177	The standard rate reduced from 32% to 30%; the top rate reduced from 56% to 53%.	Widened by 6.6% for married couples and single persons. The band for married couples was IR£ 13,000, twice that for single persons.	Unchanged	Increased by 8.3% to IR£ 6,500 for married couples, twice that for single persons.	Contribution rate for self-employed increased from 4% to 5%.	Renewed	Employer's and employees' earnings ceiling were raised by 3.3% and 3.6% to IR£18,600 and IR£17,300, respectively.	The standard rate reduced from 25% to 23%.		
1991	145	The standard rate reduced to 29%; the top rate reduced to 52%.	Widened by 3.1% for married couples and single persons. The bands were set at IR£ 13,400 and IR£ 6,700, respectively.	The personal tax allowance was increased by 2.4% for married couples and single persons to IR£ 4,200 and IR£2,100, respectively.	Increased by 4.6% to IR£ 6,800 and IR£ 3,400 for married couples and single earners, respectively.	Unchanged	Renewed	Employer's and employees' earnings ceiling were increased by IR£700, or 3.8% and 4.0%, respectively to IR£ 19,300 and IR£ 18,000.	The standard rate reduced from 23% to 21%; the 10% rate was raised to 12½% for most goods.	The standard rate was reduced from 43% to 40%. Accelerated capital allowance was reduced from 50% to 25%.	
1992	168	The standard rate reduced to 27%; the top rate was unified with the middle rate of 48%.	Widened by 11.6% for married couples and single persons to IR£14,950 and IR£7,475, respectively.	Unchanged	Increased by 2.9% for married couples and single persons to IR£7,000 and IR£3,500, respectively.	Unchanged	Renewed	Employer's and employees' earnings ceilings were increased by 5.2% and 5.6% to IR£20,300 and IR£19,000, respectively.	The standard 12½% rate was raised to 16%.	Accelerated allowance was eliminated.	
1993	38	Introduced income levy of 1%, with a full-year yield of IR£130 million.	Widened by 2.7% for married couples and single persons to IR£15,350 and IR£7,675, respectively.	The personal tax allowance was increased by 3.6% for married couples and single persons to IR£ 4,350 and IR£2,175, respectively.	Increased by 2.9% for married couples and single persons to IR£7,200 and IR£3,600, respectively.	Unchanged	Renewed	Employer's and employees' earnings ceilings were increased by 4.9% and 5.3% to IR£21,300 and IR£20,000, respectively.	The standard rates of 16% and 21% were unified at 21%. The lowest 10% rate was raised to 12½%.	Unchanged	
1994	333	Income levy was abolished at a full-year cost of IR£135 million.	Widened by 6.8% for married couples and single persons to IR£16,400 and IR£8,200, respectively.	The personal tax allowance was increased by 8% for married couples and single persons to IR£ 4,700 and IR£2,350, respectively.	Unchanged	Unchanged	Renewed	The employees' earnings ceiling was increased by 4.5% to IR£20,900. The income threshold for the employer's contribution paid at a lower 9% rate was introduced at IR£ 9,000%.	Rates were kept broadly unchanged.	Unchanged	
1995	151	Unchanged	Widened by 8.5% for married couples and single persons to IR£17,800 and IR£8,900, respectively.	Increased by 6.4% for married couples and single persons to IR£ 5,000 and IR£2,500, respectively.	Increased by 2.8% for married couples and single persons to IR£7,400 and IR£3,700, respectively.	Unchanged	Introduced PRSI-free allowance for full rate contributors at IR£ 50.	The income threshold for the employer's contribution paid at a lower 9% rate was increased to IR£ 12,000. The ceilings were kept unchanged.	Rates were kept broadly unchanged.	The standard rate reduced from 40% to 38%.	

Ireland: Summary of Major Tax Measures, 1990-2000 (cont'd)

Years	Personal Income Tax			Pay-Related Social Insurance Contributions (PRSI)			Value-Added Tax	Corporate Tax	
	Unchanged	Widened by 5.6% for married couples and single persons to IR£18,800 and IR£9,400, respectively.	Unchanged	Increased by 5.4% for married couples and single persons to IR£7,800 and IR£3,900, respectively.	The standard and lower rates for employer's contributions were reduced from 12½% to 12%; and from 9% to 8½%, respectively.	The PRSI-free allowance was raised by 60% to IR£ 80 and the old allowance phased out.			The income threshold for the employer's contribution paid at a lower rate was increased by 8.2% to IR£ 14,040. Employer's and employees' earnings ceiling were increased to IR£26,800 and 22,300, respectively
1996	150	Unchanged	Unchanged	Increased by 5.4% for married couples and single persons to IR£7,800 and IR£3,900, respectively.	The standard and lower rates for employer's contributions were reduced from 12½% to 12%; and from 9% to 8½%, respectively.	The PRSI-free allowance was raised by 60% to IR£ 80 and the old allowance phased out.	The income threshold for the employer's contribution paid at a lower rate was increased by 8.2% to IR£ 14,040. Employer's and employees' earnings ceiling were increased to IR£26,800 and 22,300, respectively	Rates were kept broadly unchanged.	Introduced a reduced rate of 30% for small businesses.
1997	285	The standard rate reduced from 27% to 26%.	Widened by 5.3% for married couples and single persons to IR£19,800 and IR£9,900, respectively.	Increased by 10% for married couples and single persons to IR£ 5,500 and IR£2,250, respectively.	Increased by 2.6% for married couples and single persons to IR£8,000 and IR£4,000, respectively.	Unchanged	Employer's and employees' earnings ceiling were increased by 4% to IR£27,900 and 23,200, respectively. The threshold below which 8.5% rate applied was raised to IR£13,520.	Rates were kept broadly unchanged.	The standard rates were reduced from 38% to 36%, and from 30% to 28% for small businesses.
1998	470	The top and standard rates were reduced by 2 pp. to 46% and 24%, respectively.	Widened by 1% for married couples and single persons to IR£20,000 and IR£10,000, respectively.	Increased by 14.5% for married couples and single persons to IR£ 6,300 and IR£3,150, respectively.	Increased by 2.5% for married couples and single persons to IR£8,200 and IR£4,100, respectively.	The PRSI-free allowance was raised to IR£100 per week	The employer's and employee PRSI ceilings were raised by 3.9% and 4.3% to IR£29,000 and IR£24,200, respectively. The threshold below which the 8½% rate applied was raised to IR£ 14,560.	Rates were kept broadly unchanged.	Standard rate was reduced by 4 percentage points to 32%. The rate for small businesses was reduced to 25%.
1999	509	Unchanged	Widened by 40% for married couples and single persons to IR£28,000 and IR£14,000, respectively.	Increased by 33.3% for married couples and single persons to IR£8,400 and IR£4,200, respectively. Introduced tax credits—personal tax allowances were equalized at the standard rate for all taxpayers.	Unchanged	Unchanged	Employer's and employee PRSI ceilings were raised by 20.6% and 5% to IR£35,000 and IR£23,400, respectively.	Rates were kept broadly unchanged.	The standard rate was reduced by 4 percentage points to 28%; the rate for small businesses was not changed, but the profit ceiling was doubled to IR£100,000.
2000	882	The top and standard rates were reduced by 2 pp. to 44% and 22%, respectively.	The standard rate band for a single person was widened by IR£3,000 to IR£17,000, while for married couples it was set at IR£34,000, with transferability between spouses up to a maximum of IR£28,000.	Increased by 11.9% for married couples and single persons to IR£9,400 and IR£4,700, respectively.	Unchanged	Individual earnings less than IR£226 are exempt from contributing to PRSI.	Employer's and employee PRSI ceilings were raised by 4.6% and 4.3% to IR£36,600 and IR£26,500, respectively.	Rates were kept broadly unchanged.	The standard rate was reduced from 28% to 24%. The 12 ½ % rate was brought forward for small businesses with income up to IR£50,000.

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Table A1. Ireland: Summary of Balance of Payments 1/

	1994	1995	1996	1997	1998	1999
	(In millions of U.S. dollars)					
Current account balance	1,495	1,716	2,023	1,949	1,674	316
Trade balance	8,082	11,963	14,013	16,806	20,159	24,081
Exports of goods	33,587	44,422	49,175	55,430	62,064	67,010
Imports of goods	-25,505	-32,459	-35,162	-38,624	-41,904	-42,929
Services	-2,963	-4,797	-6,052	-7,218	-10,100	-12,060
Services: Credit	4,320	5,034	5,791	6,262	12,630	14,207
Services: Debit	-7,283	-9,832	-11,843	-13,480	-22,730	-26,266
of which Royalties	-1,824	-2,593	-3,315	-3,974	-5,937	-6,586
Credit	90	131	101	118	174	420
Debit	-1,914	-2,724	-3,416	-4,093	-6,111	-7,006
Balance on goods and services	5,119	7,165	7,961	9,588	10,060	12,022
Factor incomes	-5,355	-7,230	-8,104	-9,597	-10,080	-12,195
Credit	3,597	5,204	5,666	7,484	20,020	25,323
Debit	-8,952	-12,434	-13,770	-17,081	-30,099	-37,519
Balance on goods, services and incomes	-236	-65	-142	-9	-20	-173
Current transfers (net)	1,731	1,780	2,166	1,958	1,694	489
Capital Account Balance 2/	...	...	...	...	942	597
Financial Account	...	...	...	...	1,148	133
Direct investment	...	...	...	...	4,679	12,921
Portfolio investment	...	...	...	...	-9,505	-15,193
Other investment	...	...	...	...	8,376	-725
Reserve Assets	...	...	...	...	-2,402	3,129
Net residual					-3,764	-1,046
	(In percent of GNP)					
Memorandum items:						
Trade balance	16.4	20.4	21.8	24.3	27.1	29.5
Balance on goods and services	10.4	12.2	12.4	13.9	13.5	14.7
Balance on goods, services and incomes	-0.5	-0.1	-0.2	0.0	0.0	-0.2
Current account balance	3.0	2.9	3.1	2.8	2.2	0.4

Sources: Central Statistics Office; and data provided by Irish authorities.

1/ Owing to changes in the methodology of the compilation of the balance of payments statistics, data from 1998 onward are not comparable with the earlier series.

2/ Not available prior to 1998 under the current classification.

Table A2. Ireland: Merchandise Trade 1/

	1994	1995	1996	1997	1998	1999
	(In millions of Irish pounds)					
Value						
Balance of trade	5,396	7,459	8,755	11,071	14,140	17,778
Exports, f.o.b.	22,424	27,698	30,723	36,515	43,532	49,470
Imports, c.i.f.	17,028	20,239	21,968	25,444	29,392	31,692
	(In percent)					
Growth in value						
Exports, f.o.b.	14.7	23.5	10.9	18.9	19.2	13.6
Imports, c.i.f.	16.1	18.9	8.5	15.8	15.5	7.8
Volume growth						
Exports	14.8	20.1	9.9	14.9	24.1	14.9
Imports	13.2	14.4	10.0	14.9	17.0	6.5
Unit value growth						
Exports	-0.1	1.8	-0.6	1.1	2.6	0.4
Imports	2.6	4.3	-1.2	0.5	2.3	3.0
Terms of trade						
Index (1990 = 100)	96.0	93.7	94.3	94.9	95.2	92.8
Percentage change	-2.6	-2.4	0.6	0.6	0.3	-2.5

Sources: Central Statistics Office, Statistical Bulletin; and data provided by the Irish authorities.

1/ Data on customs basis; not adjusted for balance of payments purposes.

Table A3. Ireland: Exports by Sector of Origin 1/
(In percent)

	1994	1995	1996	1997	1998	1999
Share in total exports						
Agriculture, fishing, and forestry 2/	12.5	11.5	9.2	7.9	6.4	6.0
Industrial exports	84.6	86.1	89.0	90.6	91.7	92.2
Unclassified 3/	2.9	2.4	1.8	1.5	1.9	1.8
Total exports	100.0	100.0	100.0	100.0	100.0	100.0
Of which: High technology 4/	34.2	36.0	36.2	36.4	37.2	39.2
Modern sector/total manufacturing ratio	54.8	54.6	55.9	57.2	60.5	52.3
Total exports (in millions of Irish pounds)	22,753	27,825	30,407	35,336	45,145	52,227
Memorandum item:						
Export volume growth of manufactures	19.6	26.8	7.8	13.0	19.8	16.5

Sources: Central Statistics Office, Statistical Bulletin; IMF, World Economic Outlook; and data provided by the Irish authorities.

1/ Data on a customs basis.

2/ Including the value of EC intervention stocks sent for storage abroad, which is excluded from merchandise exports for balance of payments purposes.

3/ From 1993, includes Intrastat Survey Estimates which are not classified by main use.

4/ Comprises SITC divisions 09, 54, 75, 76, and 87.

Table A4. Ireland: Foreign Trade Shares
(At current prices)

	1993	1994	1995	1996	1997	1998	1999
	(Percentage distribution)						
Exports							
United Kingdom	28.1	27.6	25.5	24.1	24.3	22.0	19.5
Euro area 1/	35.6	36.8	38.6	35.8	34.0	36.7	39.8
Other EU-15 countries	3.2	3.8	3.7	3.7	2.9	3.0	3.3
Total EU-15	67.0	68.1	67.8	63.6	61.1	61.7	62.5
United States and Canada	10.1	9.3	9.1	10.4	12.1	14.1	17.3
Other countries	22.9	22.6	23.1	26.1	26.7	24.2	20.2
Total	100	100	100	100	100	100	100
Imports							
United Kingdom	36.5	36.4	35.5	33.6	33.3	33.4	34.7
Euro area 1/	18.9	18.2	17.4	18.5	17.9	17.4	20.1
Other EU-15 countries	2.3	2.3	1.8	2.0	1.9	1.6	1.7
Total EU-15	57.6	56.9	54.7	54.1	53.1	52.5	56.5
United States and Canada	17.9	19.2	18.5	16.5	15.8	17.1	16.0
Other countries	24.4	23.9	26.8	29.4	31.2	30.4	27.6
Total	100	100	100	100	100	100	100

Source: IMF, Direction of Trade Statistics.

1/ Data excludes Belgium and Luxembourg until 1999.

Table A5. Ireland: Imports Classified by End Use
(Percentage distribution)

	1994	1995	1996	1997	1998	1999			
						Qtr 1	Qtr 2	Qtr 3	Qtr 4
Producers' capital goods ready for use	9.9	10.0	10.7	11.6	13.0	12.7	14.6	14.0	14.7
Consumption goods	22.7	20.4	21.3	21.4	20.8	21.4	21.2	21.3	22.2
Of which:									
Food, drink, and tobacco	6.5	5.8	5.7	5.4	5.1	5.0	5.5	5.2	...
Other	16.2	14.6	15.6	16.0	15.8	16.5	15.7	16.2	...
Materials for further production	60.6	63.5	62.2	62.1	61.1	60.6	58.5	59.7	58.3
Of which:									
Agriculture	3.1	2.7	2.5	2.0	1.6	2.1	1.6	1.3	...
Industry	57.5	60.8	59.7	60.1	59.5	58.5	57.0	58.4	...
Unclassified	6.8	6.2	5.8	4.9	5.0	5.3	5.6	4.9	4.8
Total	100	100	100	100	100	100	100	100	100

Source: Central Statistics Office, Statistical Bulletin.

1/ From 1993, includes Intrastat Survey Estimates which are not classified by main use.

Table A6. Ireland: Consumer, Wholesale, and Tradables Price Indices
(Percentage change from one year earlier) 1/

	1994	1995	1996	1997	1998	1999	2000 Q1
Consumer price index	2.3	2.5	1.7	1.5	2.4	3.4	4.3
Of which:							
Food	3.5	3.0	2.0	1.7	4.2	3.3	2.8
Services	3.6	3.0	1.1	1.6	3.5	4.8	5.6
Fuel and light	0.7	0.1	1.7	-0.1	-0.6	2.0	8.5
Durable household goods	2.3	1.1	1.0	0.1	0.7	-0.5	-0.4
Implicit GDP deflator	1.7	2.7	2.3	3.5	5.6	...	...
Wholesale price index 2/	0.7	2.1	0.5	-0.4	1.6	0.4	...
Of which:							
Manufacturing	1.1	2.5	0.7	-0.6	0.8	1.0	5.3
Capital goods	2.3	3.0	1.3	2.3	2.4	2.7	4.3
Of which:							
Building and construction	2.3	3.6	1.2	3.5	2.8	4.5	1.3
Export unit value	-0.1	1.8	-0.6	1.1	2.6	0.4	1.8
Import unit value	2.6	4.3	-1.2	0.5	2.3	2.9	6.8
Terms of trade	-2.6	-2.3	0.6	0.6	0.3	-2.5	-4.7

Sources: Central Statistics Office, Statistical Bulletin; and data provided by the Irish authorities.

1/ Annual data are based on period averages.

2/ Wholesale price indices are exclusive of VAT.

Table A7. Ireland: Population and Employment

	1994	1995	1996	1997	1998	1999
(At mid-April in thousands, unless otherwise indicated)						
Population	3,586	3,601	3,626	3,661	3,705	3,745
Natural increase	17.0	17.0	17.0	20.0	21.4	21.2
Net migration	-5.0	-2.0	8.0	15.0	22.8	18.5
Labor force	1,407	1,440	1,489	1,537	1,646	1,711
Employment	1,221	1,282	1,329	1,380	1,521	1,616
Unemployment (labor force survey data)	211	177	179	159	127	95
Long-term unemployed 1/	128	103	103	86	62	40
Live register: annual average	282	278	279	254	227	177
(In percent of labor force)						
Unemployment rate						
Standardized	14.1	12.1	11.5	9.8	7.4	5.6
Long-term unemployed	9.1	7.2	6.9	5.6	3.8	2.3
Participation rate 2/	...	...	54.5	54.7	56.5	58.5
Males	...	...	68.1	67.8	69.4	70.9
Females	...	...	41.4	42.0	44.0	46.5

Source: Central Statistics Office, Live Register and Quarterly National Household Survey.

1/ Numbers for 1998 and 1999 are yearly averages of unemployed for a period exceeding one year.

2/ Defined as persons aged 15 years and over either at work or unemployed (including first time job-seekers) expressed as a percentage of the total population aged 15 years and over.

Table A8. Ireland: Employment by Sector
(In thousands)

	1994	1995	1996	1997	1998	1999	2000 Dec.-Feb.
Total employment 1/	1,221	1,282	1,329	1,380	1,521	1,616	1,651
Agriculture, forestry, and fishing	148	149	141	142	135	139	134
Industry	344	361	367	399	436	459	473
Manufacturing	252	264	267	289	306	312	314
Construction	92	97	101	110	130	147	160
Services	729	772	820	840	950	1018	1044
Commerce, insurance and finance	352	374	393	404	493	532	546
Transport and communications	56	57	61	65	90	98	101
Public administration and defense	66	71	76	72	71	75	77
Education and health	182	192	210	213	209	220	227
Other services	74	78	80	85	87	93	93

Sources: Central Statistics Office, *Labor Force Surveys*, *Quarterly National Household Surveys* and *Quarterly Industrial Inquiry*.

1/ Labor force survey data up to 1997 and Quarterly National Household Survey data from 1998 onward. Some 20,000 of the observed increase in employment between 1997 and 1998 has been attributed to improvements in the survey questionnaire.

Table A9. Ireland: Overview of Public Finances

	1993	1994	1995	1996	1997	1998	1999		2000
							Budget	Outturn	Budget
(In millions of Irish pounds)									
Current budget									
Revenue	10,140	11,203	11,667	12,954	14,619	16,503	17,736	18,992	20,579
Expenditure	10,519	11,188	12,029	12,662	14,015	14,412	15,401	15,553	16,021
Balance	-379	15	-362	292	604	2,091	2,335	3,439	4,558
Capital budget									
Resources	1,905	1,689	2,417	2,490	2,831	2,845	3,342	4,519	2,488
Expenditure 1/	2,216	2,376	2,682	3,219	3,671	4,189	4,752	6,766	5,438
Balance	-311	-687	-265	-729	-840	-1,344	-1,410	-2,247	-2,950
Total									
Revenue/resources	12,045	12,892	14,084	15,444	17,450	19,348	21,078	23,511	23,067
Expenditure	12,735	13,564	14,711	15,881	17,686	18,601	20,153	22,319	21,459
Exchequer balance	-690	-672	-627	-437	-235	747	925	1,192	1,609
General government balance	-775	-616	-882	-120	584	1,410	1,057	1,330	1,150
Memorandum item:									
Service of national debt	2,390	2,227	2,405	2,360	2,755	2,559	2,542	2,512	2,242
(In percent of GDP)									
Current revenue	29.9	30.7	28.4	28.7	28.2	27.7	28.5	27.3	27.8
Current expenditure	31.0	30.7	29.3	28.0	27.0	24.2	24.8	22.4	21.6
Current balance	-1.1	0.0	-0.9	0.6	1.2	3.5	3.8	4.9	6.2
Capital resources	5.6	4.6	5.9	5.5	5.5	4.8	5.4	6.5	3.4
Capital expenditure 1/	6.5	6.5	6.5	7.1	7.1	7.0	7.6	9.7	7.3
Capital deficit	-0.9	-1.9	-0.6	-1.6	-1.6	-2.3	-2.3	-3.2	-4.0
Total revenue/resources	35.5	35.3	34.3	34.2	33.7	32.4	33.9	33.8	31.2
Total expenditure	37.6	37.2	35.9	35.1	34.1	31.2	32.4	32.1	29.0
Exchequer balance	-2.0	-1.8	-1.5	-1.0	-0.5	1.3	1.5	1.7	2.2
General government balance	-2.3	-1.7	-2.1	-0.3	1.1	2.4	1.7	1.9	1.7
Memorandum item:									
Service of national debt	7.0	6.1	5.9	5.2	5.3	4.3	4.1	3.6	3.0

Sources: Department of Finance, and staff estimates.

1/ Capital spending in excess of the budgetary provision in 1999 is accounted for mainly by the transfer for pre-funding and repayment of future pension liabilities.

Table A10. Ireland: Central Government Current Expenditure
(In millions of Irish pounds)

	1993	1994	1995	1996	1997	1998	1999		2000
							Budget	Outturn	Budget
Service of public debt	2,390	2,227	2,405	2,360	2,755	2,557	2,542	2,520	2,242
Interest	2,159	2,004	2,156	2,099	2,468	2,243	2,195	2,166	1,842
Sinking funds, etc.	231	223	249	261	287	314	347	354	399
Economic services	962	989	1,093	1,225	1,290	1,308	1,404	1,405	1,679
Industry and labor	320	389	493	522	574	583	667	658	778
Agriculture, fisheries, and forestry	614	565	564	668	672	673	690	699	836
Tourism	28	35	36	35	44	52	47	48	65
Infrastructure	54	80	81	89	97	99	56	63	67
Social services	7,551	8,049	8,670	8,976	9,764	10,471	11,219	11,333	12,293
Health	1,907	2,121	2,272	2,333	2,678	3,079	3,371	3,598	3,961
Education	1,727	1,876	1,964	2,088	2,362	2,445	2,603	2,648	2,820
Social welfare	3,743	3,879	4,261	4,381	4,567	4,809	5,103	4,974	5,397
Subsidies, etc.	174	173	173	174	157	138	142	113	115
Security	950	1,013	1,032	1,106	1,221	1,358	1,454	1,417	1,597
Other	1,110	1,355	1,344	1,605	1,840	1,858	2,226	2,283	2,367
EU budget	453	507	547	589	517	779	768	836	...
Supply services	631	761	766	804	904	983	1,361	1,347	...
Other Central Fund	26	87	31	212	419	96	97	100	...
Total (gross)	13,017	13,713	14,625	15,361	16,967	17,651	18,901	19,021	20,245
Less supply services and PRSI receipts and Appropriations-in-Aid	2,494	2,540	2,585	2,674	2,939	3,284	3,479	3,462	4,223
Total (net)	10,523	11,173	12,040	12,687	14,028	14,367	15,422	15,559	16,022
Memorandum item:									
Exchequer pay and pensions bill included in above	4,087	4,356	4,560	4,804	5,297	5,766	6,112	6,114	6,692

Sources: Department of Finance, *Budget*; and data provided by Irish authorities.

Table A11. Ireland: Public Capital Program

	1994	1995	1996	1997	1998	1999		2000
						Estimate	Outturn	Estimate
(In Millions of Irish pounds)								
Sectoral economic investment	730	954	1,159	1,298	580	1,629	634	873
Of which:								
Agriculture, fisheries, forestry	263	315	380	272	196	342	241	329
Industry	407	573	697	927	336	1,129	351	427
Tourism	60	66	82	99	48	158	42	117
Productive infrastructure	932	1,031	1,128	1,363	1,679	1,909	1,967	2,479
Of which:								
Energy	227	228	242	301	423	576	516	698
Transport	151	173	149	202	219	344	413	578
Roads, sanitary services, etc.	366	405	444	543	632	598	902	1,082
Telecommunications, broadcasting, post	188	225	293	317	405	391	136	121
Social infrastructure	570	649	723	816	1,106	1,216	1,408	2,086
Of which:								
Housing	283	321	336	355	384	485	517	768
Education	99	101	110	127	280	239	285	451
Hospitals	65	98	122	133	150	155	192	249
Government construction, computerization	123	129	155	201	292	337	414	618
Total 1/	2,232	2,634	3,010	3,477	3,365	4,754	4,009	5,438
(In percent of total)								
Sectoral economic investment	32.7	36.2	38.5	37.3	17.2	34.3	15.8	16.1
Of which:								
Agriculture, fisheries, forestry	11.8	12.0	12.6	7.8	5.8	7.2	6.0	6.1
Industry	18.2	21.8	23.2	26.7	10.0	23.7	8.8	7.9
Tourism	2.7	2.5	2.7	2.8	1.4	3.3	1.0	2.2
Productive infrastructure	41.8	39.1	37.5	39.2	49.9	40.2	49.1	45.6
Of which:								
Energy	10.2	8.7	8.0	8.7	12.6	12.1	12.9	12.8
Transport	6.8	6.6	5.0	5.8	6.5	7.2	10.3	10.6
Roads, sanitary services, etc.	16.4	15.4	14.8	15.6	18.8	12.6	22.5	19.9
Telecommunications, broadcasting, post	8.4	8.5	9.7	9.1	12.0	8.2	3.4	2.2
Social infrastructure	25.5	24.6	24.0	23.5	32.9	25.6	35.1	38.4
Of which:								
Housing	12.7	12.2	11.2	10.2	11.4	10.2	12.9	14.1
Education	4.4	3.8	3.7	3.7	8.3	5.0	7.1	8.3
Hospitals	2.9	3.7	4.1	3.8	4.5	3.3	4.8	4.6
Government construction, computerization	5.5	4.9	5.1	5.8	8.7	7.1	10.3	11.4
Total 1/	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Public Capital Program; and information provided by the Irish authorities.

1/ Excludes Community initiatives.

Table A12. Ireland: Central Government Current Revenue
(In millions of Irish pounds)

	1994	1995	1996	1997	1998	1999	
						Budget	Outturn
Taxes on income	4,973	5,275	5,988	6,916	7,801	8,233	9,033
Personal income tax	3,841	4,129	4,562	5,218	5,736	5,944	6,323
Corporation tax	1,132	1,146	1,426	1,699	2,065	2,289	2,710
Taxes on capital	117	117	178	225	305	316	509
Taxes on goods and services	4,806	5,282	5,683	6,325	7,092	7,928	8,076
Value-added tax	2,598	2,889	3,105	3,718	4,270	4,837	4,878
Excise	1,959	2,139	2,320	2,507	2,822	3,091	3,198
Motor vehicle duties 1/	249	254	258	100	...	...	...
Customs duties	191	200	159	180	160	158	136
Other duties and levies 2/	510	461	512	627	771	700	806
Tax amnesty	238	...	...	...	...	...	...
Total tax revenue	10,835	11,335	12,520	14,274	16,130	17,335	18,560
Nontax revenue	368	332	434	345	374	401	433
Total current revenue	11,203	11,667	12,954	14,619	16,503	17,736	18,993
Memorandum item:							
Taxes on personal income as a percentage of total tax revenue	35.4	36.4	36.4	36.6	35.6	34.3	34.1

Sources: Department of Finance, *Budget*; and information provided by the Irish authorities.

1/ Including road tax; these revenues have been assigned to local authorities since mid-1997.

2/ Including Employment and Training Levy, Income Levy, Agricultural Levies, and Stamp Duties.
Employment and Training Levy was abolished in April 1998.

Table A13. Ireland: Public Sector Employment 1/

	1989-99 Growth in percent over 10 years	1992	1993	1994	1995	1996	1997	1998	1999	2000 proj.
		(In thousands)								
Exchequer financed	17.6	177.7	181.1	183.7	188.8	192.2	192.5	195.6	199.5	207.9
Local authorities	0.0	26.7	26.8	27.1	26.5	26.5	26.5	26.5	26.9	27.4
Public service	15.2	204.4	207.9	210.8	215.3	218.7	219.0	222.1	226.4	235.3
Commercial semi- state bodies	-22.4	66.8	64.7	63.5	62.8	61.9	60.5	58.9	55.9	47.1
Total public sector	5.1	271.2	272.5	274.3	278.1	280.6	279.5	281.0	282.3	282.4
Percent change		-0.8	0.5	0.6	1.4	0.9	-0.4	0.5	0.5	0.0

Source: Information provided by the Irish authorities, and staff estimates.

1/ Figures are for full-time equivalence as of January 1 of each year.

Table A14. Ireland: EU Receipts, Loans and Contributions
(In millions of Irish pounds)

	1995	1996	1997	1998	1999	2000 Budget
Subsidies and grants						
FEOGA:	1,293	1,515	1,686	1,460	1,441	1,339
Guarantee Section	1,150	1,365	1,520	1,275	1,357	1,300
Guidance Section	143	151	166	186	84	39
European Social Fund	256	253	271	313	209	175
European Regional Development Fund	358	297	356	470	209	622
Cohesion Fund	102	137	163	113	228	253
Miscellaneous	14	17	29	19	23	25
Total	2,023	2,220	2,504	2,375	2,110	2,414
(In percent of GDP)	4.9	4.9	4.8	4.0	3.0	3.0
Net of FEOGA guarantees	873	855	985	1,100	753	1,114
(In percent of GDP)	2.1	1.9	1.9	1.8	1.1	1.4
Less Contributions 1/	543	541	514	779	828	822
(In percent of GDP)	1.3	1.2	1.0	1.3	1.2	1.0
Net subsidies and grants	1,480	1,679	1,991	1,596	1,282	1,592
(In percent of GDP)	3.6	3.7	3.8	2.7	1.8	2.0
Loans from EIB	268	150	159	121	77	158
(In percent of GDP)	0.7	0.3	0.3	0.2	0.1	0.2

Sources: Department of Finance, Budget; and information provided by Irish authorities.

1/ Contributions to the budget of the European Communities net of refunds and other small contributions (to EIB and ECSC).

Table A15. Ireland: Exchange Rates and Interest Rates 1/

	Exchange rates				Interest rates		Interest rate differentials	
	US\$/IR£	St/IR£	Real effective exch. rate	Nominal effective exch. Rate	3-month Interbank	10-year bond	Ireland-United Kingdom	
							Short-term	Long-term
1998								
Jan.	1.4	0.8	95.3	95.8	5.9	5.4	-1.6	-0.7
Feb.	1.4	0.8	94.6	95.2	6.1	5.3	-1.5	-0.8
Mar.	1.4	0.8	94.3	94.6	5.7	5.1	-1.8	-0.9
Apr.	1.4	0.8	95.6	95.7	6.0	5.1	-1.5	-0.8
May	1.4	0.9	97.5	97.5	6.2	5.2	-1.3	-0.7
June	1.4	0.9	97.3	97.1	6.3	5.1	-1.4	-0.7
July	1.4	0.9	97.1	96.9	6.2	5.0	-1.6	-0.9
Aug.	1.4	0.9	97.8	97.4	6.0	4.7	-1.7	-0.8
Sep.	1.5	0.9	98.9	98.6	5.7	4.4	-1.8	-0.7
Oct.	1.5	0.9	99.4	99.3	4.5	4.4	-2.7	-0.6
Nov.	1.5	0.9	98.3	98.3	3.9	4.4	-3.1	-0.5
Dec.	1.5	0.9	98.2	98.4	3.4	4.0	-3.1	-0.5
1999								
Jan.	1.5	0.9	97.5	97.8	3.1	3.9	-2.8	-0.4
Feb.	1.4	0.9	96.1	96.6	3.1	4.0	-2.4	-0.4
Mar.	1.4	0.9	95.1	95.4	3.1	4.2	-2.4	-0.5
Apr.	1.4	0.8	94.5	94.8	2.7	4.0	-2.6	-0.6
May	1.3	0.8	94.4	94.4	2.6	4.1	-2.8	-0.8
Jun	1.3	0.8	93.5	93.6	2.6	4.6	-2.6	-0.6
Jul	1.3	0.8	93.7	93.8	2.7	5.0	-2.5	-0.5
Aug	1.3	0.8	94.0	94.1	2.7	5.2	-2.6	-0.4
Sep	1.3	0.8	92.9	93.1	2.7	5.3	-2.7	-0.5
Oct	1.4	0.8	93.2	93.3	3.4	5.6	-2.6	-0.5
Nov	1.3	0.8	92.1	92.2	3.5	5.3	-2.4	-0.2
Dec	1.3	0.8	91.0	91.2	3.5	5.4	-2.6	-0.2
2000								
Jan.	1.3	0.8	...	91.0	3.3	5.8	-2.8	-0.3
Feb.	1.2	0.8	...	90.4	3.6	5.8	-2.7	-0.1
Mar.	1.2	0.8	...	89.8	3.8	5.5	-2.2	-0.2
Apr.	1.2	0.8	...	88.8	4.1	5.5	-1.8	-0.1

Sources: IMF, International Financial Statistics; Research Department.

1/ As of January 1, 1999 the euro is the currency of Ireland; the irrevocably fixed conversion rate between the euro and the Irish pound is 0.787564.

Table A16. Ireland: Monetary Survey
(In millions of Irish pounds; end-of-period data)

	1994	1995	1996	1997	1998	1999	2000 March
Net foreign assets	1,257	998	1,628	1,439	-648	-3,095	-5,922
Official external reserves	4,041	5,472	4,960	4,636	6,448	4,217	4362
Net external position	-2,784	-4,474	-3,332	-3,197	-7,096	-7,313	-10283
Net domestic credit	29,216	33,014	37,172	47,447	57,483	76,038	82,612
Net claims on Government	4,043	3,673	2,918	3,065	3,067	3,399	3,393
Claims on nongovernment sector	25,173	29,342	34,254	44,382	54,416	72,639	79,219
Other items, net	-3,877	-4,109	-4,151	-6,596	-7,221	-1,240	-1,240
Broad Money (M3) 1/	...	...	...	...	...	71,702	75,450
Narrow money (M1) 1/	...	...	...	...	...	13,672	13,298
M3E 2/	26,596	29,903	34,649	42,290	49,614	...	...

Sources: Central Bank, *Quarterly Bulletin*; and data provided by the Irish authorities.

1/ Irish contribution to euro-area money supply. This series was started in January 2000; data for 1999 are official estimates.

2/ The series was discontinued in December 1998.

Table A17. Ireland: Distribution of Private Sector Credit
(Percent share of total, end of period)

	1995	1996	1997	1998	1999
Sectoral distribution					
Agriculture, forestry, and fishing	6.0	5.6	4.8	4.3	3.5
Manufacturing	6.4	6.5	5.8	6.2	5.3
Building and construction	1.8	2.0	1.7	2.6	2.6
Hotels and catering	3.2	3.2	3.4	3.7	3.9
Financial services	21.0	21.4	27.2	27.5	33.1
Personal lending, of which	43.6	42.9	40.7	39.2	35.9
House mortgage finance	32.8	32.5	30.4	29.5	26.5
Business, Distribution and other	18.1	18.3	16.3	16.3	15.8
Total	100	100	100	100	100

Source: Central Bank of Ireland, Quarterly Bulletin.

Table A18. Ireland: External Government Debt 1/

	1993	1994	1995	1996	1997	1998	1999
	(In millions of Irish pounds)						
Government debt outstanding at end of period	12275	11518	10906	8718	8289	7376	1983
	(In percent of total debt)						
Currencies in which loans are repayable							
U.S. dollar	15.6	19.8	20.6	20.0	20.7	...	...
Deutsche mark	32.1	19.2	19.0	15.2	19.6	71.2	...
Pound sterling	7.5	14.3	14.7	27.9	26.4	23.9	100.0
Swiss franc	16.8	11.9	15.0	11.3	13.7	...	...
Japanese yen	10.1	10.4	6.4	4.7	1.7	...	...
French francs	3.4	8.3	12.7	13.9	10.9	2.5	...
Dutch guilder	6.7	7.0	4.4	1.9	2.8	1.9	...
ECU	7.8	9.0	7.0	2.8	2.1	...	...
Other			0.2	2.4	2.2	0.5	...
Total external debt	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Central Bank of Ireland, *Annual Report and Quarterly Bulletin*.

1/ Data for 1999 are not comparable to those published up to December 1998. Prior to the introduction of the euro this table referred to external debt. It now only refers to non-euro denominated debt.